



**SITE INVESTIGATION,
REMEDiation AND FINAL C-141
CLOSURE DOCUMENTATION**

**G-EXTENSION-3 RELEASE SITE
DEFS REF: G-EXTENSION-3 101703 [3]**

**UL-G (SW¼ OF THE NE¼) OF SECTION 31 T21S R36E
~8.3 MILES WEST OF EUNICE
LEA COUNTY, NEW MEXICO**

LATITUDE: N32° 26' 18.34"

LONGITUDE: W103° 18' 05.79"

*facility = FPAC 0602330212
incident = NPAC 0602330516
application = pPAC 0602330753*

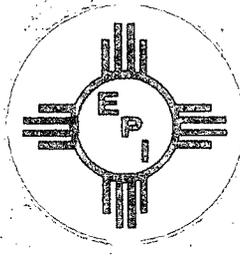
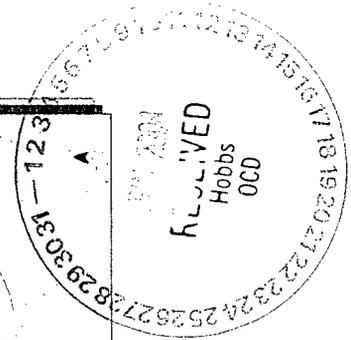
MAY 17, 2004

PREPARED BY:

Duke 229153

Environmental Plus, Inc.

2100 Avenue O
P.O. Box 1558
Eunice, NM 88231
Phone: (505)394-3481
FAX: (505)394-2601



DUKE ENERGY FIELD SERVICES
370 17th Street
Suite 900
Denver, CO 80202

303 595 3331

May 28, 2004

Mr. Larry Johnson
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

**RE: G-Extension-3 101703 {3} Release Site Closure Documentation
Unit G, Section 31, T21S, R36E
Lat: N 32° 26' 18.34" Long: W 103° 18' 05.79"
Duke Energy Field Services, LP
Lea County, NM**

Mr. Johnson:

Enclosed please find for your review, one copy of the G-Extension-3 101703 {3} Release Site Closure Report. The closure report summarizes the remedial activities associated with the clean up of the Duke Energy Field Services, LP (DEFS) pipeline leak that was discovered on October 17 2003.

Based on the information provided in the above referenced closure report, DEFS would like to request no further action for this location.

If you have any questions regarding the information provided in the closure report, please give me a call at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

Stephen Weathers, PG
Sr. Environmental Specialist

cc: Paul Mulkey, DEFS Linam Ranch
Lynn Ward, DEFS Midland
Environmental Files

Enclosure

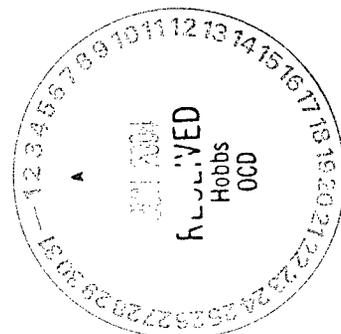


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Project Summary

Site Specific:

- ◆ **Company Name:** Duke Energy Field Services
- ◆ **Facility Name:** G-Extension Natural Gas Gathering Pipeline
- ◆ **Project Reference** G-Extension 101703 [3]
- ◆ **Company Contact:** Paul Mulkey / Steve Weathers
- ◆ **Site Location:** WGS84: N32° 26' 18.34"; W103° 18' 05.79"
- ◆ **Legal Description:** Unit Letter G, (SW¼ of the NE¼), Section 31, T21S, R36E
- ◆ **General Description:** approximately 8.3-miles west of Eunice, NM
- ◆ **Elevation:** 3638-ft amsl **Depth to Ground Water:** >220-ft
- ◆ **Land Ownership:** DASCO Cattle Co. (Atlee Snyder)
- ◆ **EPI Personnel:** Technical Manager – Pat McCasland
 Project Consultant – John Good
 Site Foreman – Morris Burkett

Release Specific:

- ◆ **Product Released:** Natural Gas & NGL
- ◆ **Volume Released:** 4-bbl reported **Volume Recovered:** 0-bbl
- ◆ **Time of Occurrence:** Unknown **Time of Discovery:** 17-Oct-03
- ◆ **Release Source:** 12" steel NG pipeline; integrity lost due to internal corrosion; repaired by clamping with ultimate replacement of section.
- ◆ **Initial Surface Area Affected:** 2,015-ft²

Remediation Specific:

- ◆ **Final Vertical extent of contamination:** 10-ft bgs; Remaining depth to ground water: >210-ft
- ◆ **Water wells within 1000-ft:** 0 **Surface water bodies within 1000-ft:** 0
- ◆ **NMOCD Site Ranking Index:** 0 points (>100-ft to top of water table)
- ◆ **Remedial goals for Soil:** TPH – 5000 mg/kg; BTEX – 50 mg/kg; Benzene – 10 mg/kg; Chlorides – 250 mg/kg; Sulfates – 600 mg/kg
- ◆ **RCRA Waste Classification:** Exempt
- ◆ **Remediation Option Selected:** a) Excavation and disposal of contaminated soil above NMOCD remedial goals; b) analytical confirmation of bottom-hole and sidewall contaminant levels; c) backfill with clean caliche and topsoil.
- ◆ **Disposal Facility:** South Monument **Volume disposed of:** 708-yd³
- ◆ **Project Completion Date:** January 27, 2004
- ◆ **Additional Commentary:** None

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "G-Extension-3 101703 [3]" 12-inch natural gas gathering line remediation site. On December 9, 2003, Environmental Plus, Inc. (EPI) was notified by DEFS regarding four recently discovered natural gas and associated natural gas liquid (NGL) releases along the G-Extension-3 pipeline. This site is located approximately ¼-mile north of the southern-most of the sites (#1) and was designated #3 for ease of identification. The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on December 19, 2003 reports the release volume (NGL) as 4-bbl with 0-bbl recovered. EPI performed GPS surveying, photography and characterization of the site on December 9, 2003. The initial site consisted of an approximate 2,015-ft² visibly affected surface area (*Plates 3 and 4, Attachments*). Remediation of this site consisted of excavation and disposal of 708-yd³ of contaminated soil from what was ultimately a 2,250-ft² excavation extending to 10-ft bgs (*Plate 4, Attachments*). The contaminated soil was disposed of at the South Monument approved surface waste facility. The excavation bottom(s) and sidewalls were composite sampled on December 23, 2003 and submitted to Cardinal Laboratory, Hobbs, NM for analysis of TPH⁸⁰¹⁵, BTEX⁸⁰²⁰, chloride ions and sulfate ions. The construction phase of the site remediation commenced on December 22, 2003 and was completed with backfilling and contouring on January 6, 2004.

The site is associated with the DEFS G-Extension-3 natural gas gathering pipeline. This release site is located in Unit Letter G, (SW¼ of the NE¼), Section 31, T21S, R36E, N32° 26' 18.34" and W103° 18' 05.79". The site is approximately 8.3-miles west of Eunice, NM. The property is owned by Atlee Snyder, d.b.a. DASCO Cattle Company. A site location map, site topographical map and detailed GPS site renderings are included in the Attachments as *Plates 1, 2, 3 and 4*.

The natural gas and associated NGL release at this site was discovered on October 17, 2003. The Initial NMOCD C-141 Form was submitted to the Hobbs District Office on December 19, 2003. The release was less than four barrels, and as such, did not qualify as a mandatory reportable release. The Initial NMOCD C-141 Form was submitted for informational purposes only. The leak was the result of internal pipe corrosion. The pipeline was initially repaired with a temporary clamp and eventually replaced with poly pipeline by DEFS personnel.

2.0 Site Description

2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil."

The release site is located in the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas.

2.2 Ecological Description

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

2.3 Area Ground Water

The unconfined ground water aquifer at this site is projected to be >220-ft bgs based on limited water depth data obtained from the New Mexico State Engineers Office data base and information provided by the landowner. Groundwater gradient in this area is generally to the east-southeast.

2.4 Area Water Wells

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

2.5 Area Surface Water Features

No surface water bodies exist within 1,000 horizontal feet of the site.

3.0 NMOCD Site Ranking

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water	
Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
Depth to GW 50 to 99 feet: 10 points		200-1000 horizontal feet: 10 points	
Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground Water Score = 0	Wellhead Protection Score= 0	Surface Water Score= 0	
Site Rank (1+2+3) = 0 + 0 + 0 = 0 points (for soil 0-120'-bgs)			
Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Parameter	20 or >	10	0
Benzene¹	10 ppm	10 ppm	10 ppm
BTEX¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- ◆ *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- ◆ *Unlined Surface Impoundment Closure Guidelines (February 1993)*

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH^{8015m}, benzene, and the mass sum of benzene, toluene, ethylbenzene, and total xylenes (BTEX), were determined based on the NMOCD Ranking Criteria as follows:

- ◆ *Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.*
- ◆ *Wellhead Protection Area, i.e., distance from fresh water supply wells.*
- ◆ *Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.*

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 0 points with the soil remedial goals highlighted in the Site Ranking table presented at the beginning of this section.

4.0 Subsurface Soil Investigation

The vertical extent of hydrocarbon contamination at the site was determined with a test excavation of the release area associated with the POR to a depth of 10-ft bgs on December 16, 2003. It was determined from that sampling event that the NGL had penetrated the soil 7-8-ft in the area near the test excavation (*Plate 5, Attachments*). The lateral extent of contamination was determined with measurements of organic vapor concentrations as the excavation progressed outwardly from the POR. Organic vapor concentrations were measured in the field utilizing an UltraRae photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. Final bottom-hole and sidewall contaminant concentrations were determined with 5-point composite sampling on December 23, 2003 (*Plate 5, Attachments*). The samples were submitted for quantification of TPH via EPA method 8015M, BTEX via EPA methods 8021b and 5030b, sulfates via EPA method 600 and chlorides via EPA method 4-79-020. Analytical results for TPH and BTEX were non-detectable (ND) for all analytes, at or above each analytes respective method detection limit (MDL) with the exception of the sample collected from the bottom-center of the excavation. Analytical results for this sample indicated TPH concentrations of 70.5 mg/Kg, while BTEX concentrations were reported as ND at or above each analytes respective MDL.

The initial 10-ft composite bottom-hole sample (12-16-03) was analyzed for chloride contamination and was found to be below the remedial goal of 250-ppm. The final bottom-hole composite sample was analyzed for chlorides and sulfates, results of which indicate that both chlorides and sulfates are below remedial goals and pose no threat to ground water at this site. All laboratory analyses for this project were performed by Cardinal Laboratories, Hobbs, New Mexico. An analytical summary is provided (*Plate 5, Attachments*) and all laboratory analytical reports are provided in the attachments.

5.0 Groundwater Investigation

The projected depth to groundwater at this site is >220-ft bgs. Excavation of the site was to a maximum depth of 10-ft. Final CoC levels of the bottom-hole of the excavation were confirmed to be below remedial goals for Benzene, TPH and BTEX (*Plate 5, Attachments*).

The excavation was backfilled with clean caliche and topsoil purchased from the property owner. Based on the removal the Constituents of Concern (CoC) to below remedial goal concentrations and adequate depth to ground water, there will be no need for further ground water investigation at this site.

6.0 Remediation Process

Remediation of the site commenced on December 16, 2003 and continued through January 6, 2004. Remedial activities at the site consisted of excavation and disposal of 708-yd³ of NGL contaminated soil from the site. All contaminated soil removed from the site was disposed of in the NMOCD approved South Monument land farm located south of Monument, NM. After laboratory confirmation that NMOCD remedial goals had been achieved, the excavation was backfilled with clean caliche and topsoil purchased from the property owner. The backfilling and contouring of the site was completed on January 6, 2004.

The excavation was composite sampled (bottom-hole and sidewalls) on December 23, 2003. Results of the analyses (*Plates 5, Attachments*) indicate that remedial goals for hydrocarbon contamination, chlorides and sulfates have been achieved in all areas of the excavation.

7.0 Closure Justification

This report documents successful implementation of the Remediation Plan approved by NMOCD for this release site. Soil contaminated above acceptable CoC remedial concentrations was excavated and removed from the location. Disposal of RCRA exempt contaminated soils was at the South Monument approved land farm. The excavation was backfilled with clean caliche and topsoil and properly contoured to provide adequate drainage. Based on the data presented in this report, Environmental Plus, Inc., on behalf of Duke Energy Field Services, requests that the NMOCD require "no further action" at this site.

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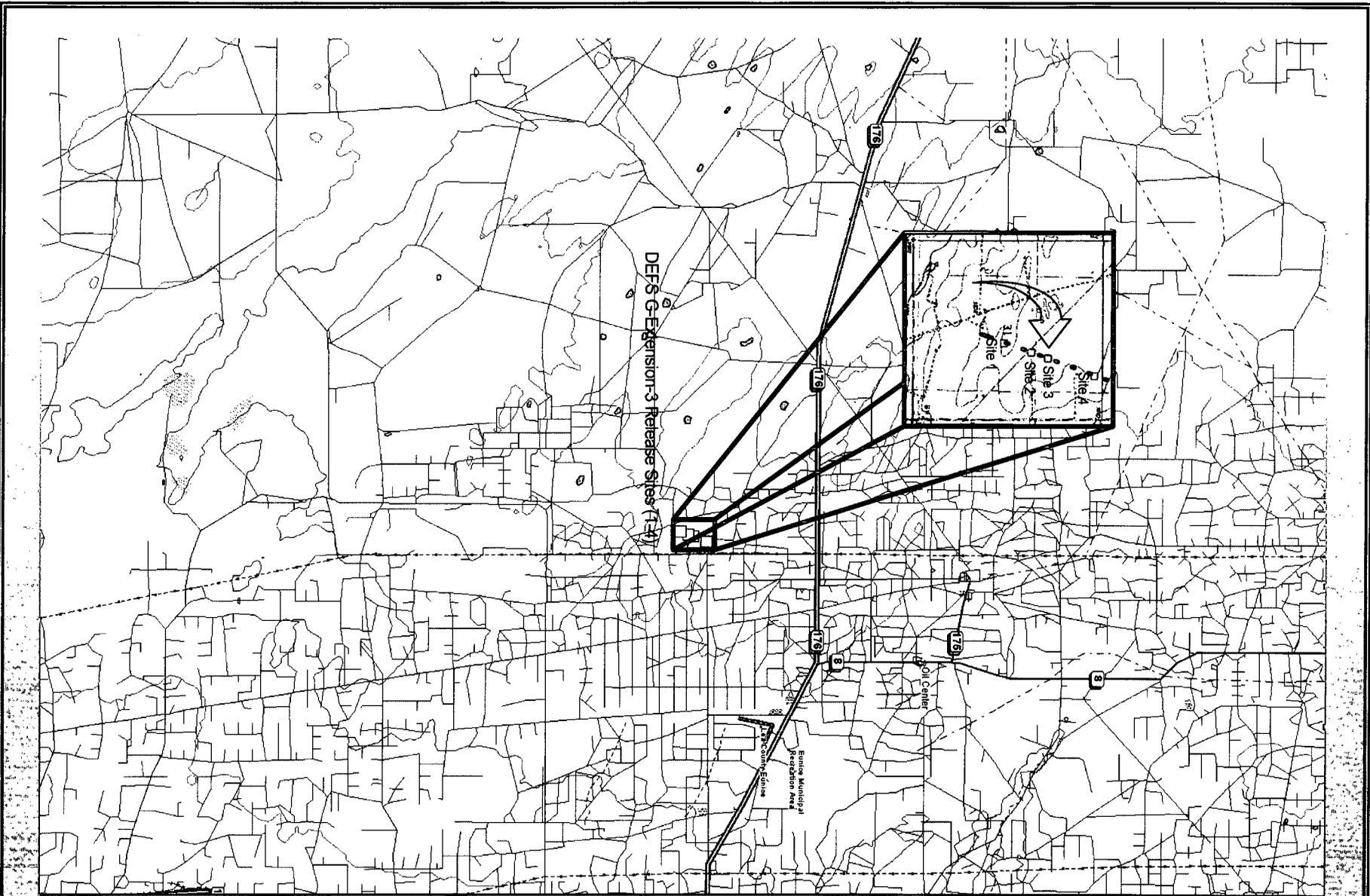


Plate 1 - Release Site Location
 Duke Energy Field Services
 G-Extension-3 101703 (Site 3)

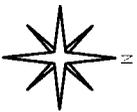
Lea County, New Mexico
 UL-G Section 31 T21S R36E
 N32° 26' 18.34" W103° 18' 05.79"
 Elevation: 3638-ft amsl

DWG BY: John Good
 December - 2003

REVISED:



SHEET
 1 of 1



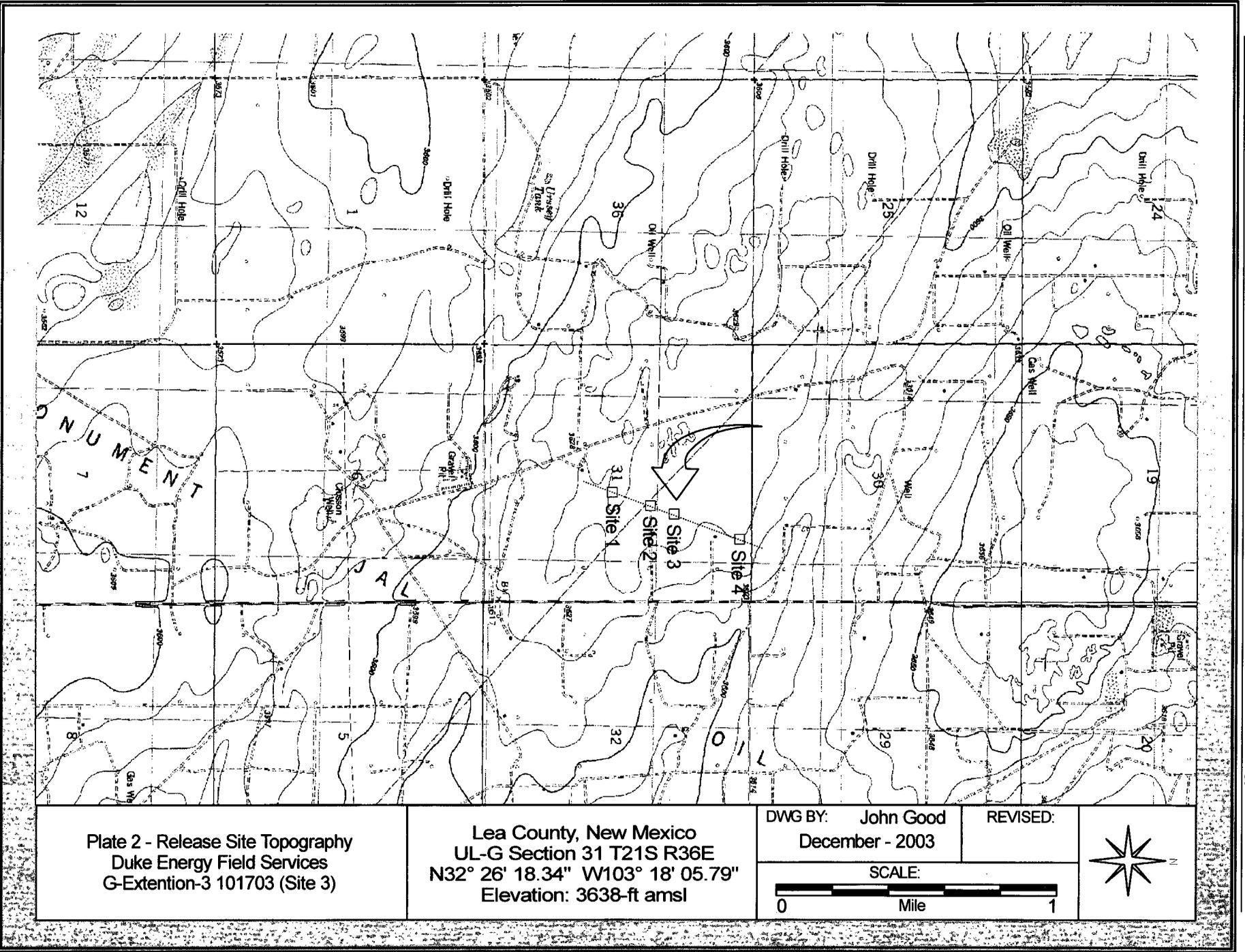
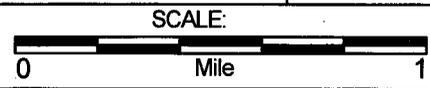


Plate 2 - Release Site Topography
Duke Energy Field Services
G-Extension-3 101703 (Site 3)

Lea County, New Mexico
UL-G Section 31 T21S R36E
N32° 26' 18.34" W103° 18' 05.79"
Elevation: 3638-ft amsl

DWG BY: John Good
December - 2003

REVISED:



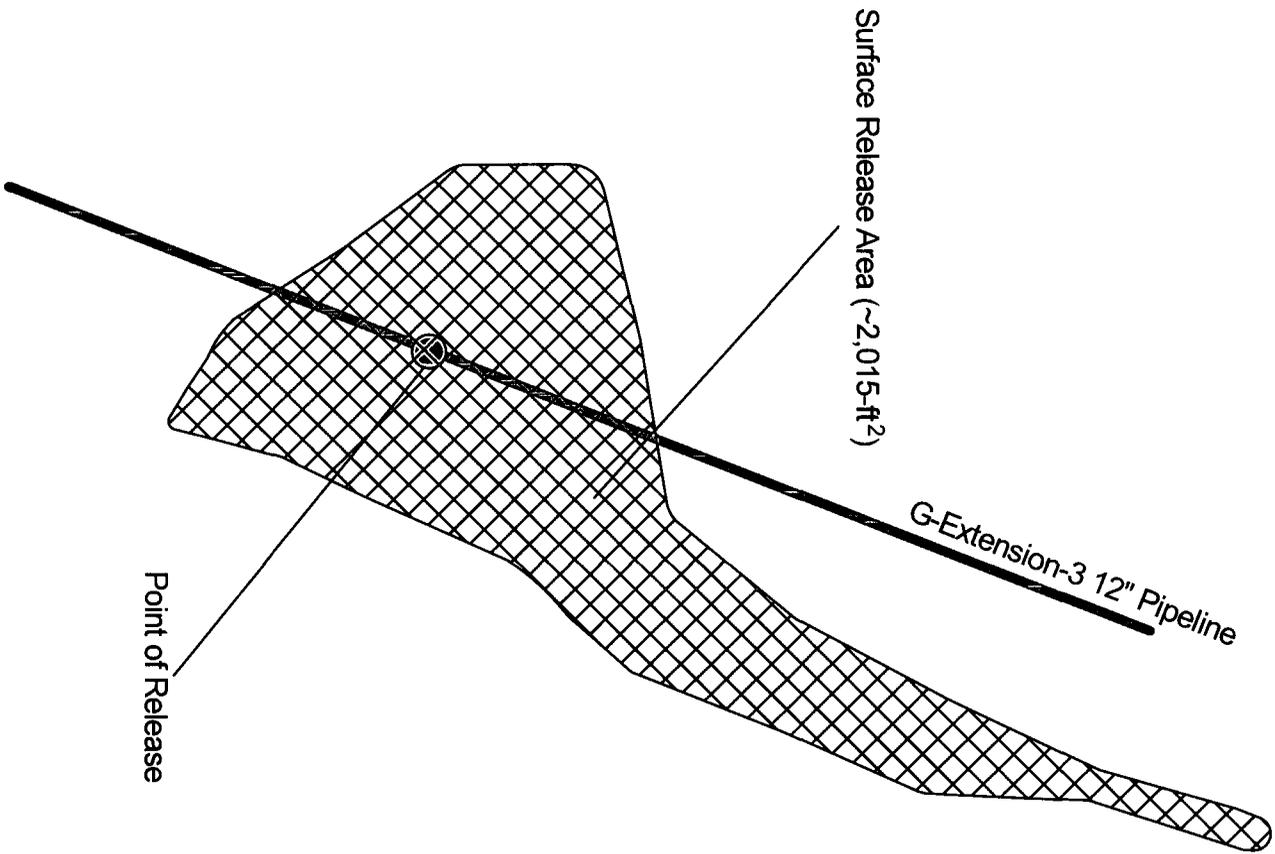
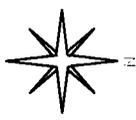


Plate 3 - Initial Site GPS Demarcations Duke Energy Field Services G-Extension-3 101703 [3]	Lea County, New Mexico UL-G Section 31 T21S R36E N32° 26' 18.34" W103° 18' 05.79" Elevation: 3638-ft amsl	DWG BY: John Good December - 2003	REVISED:	
		SCALE: 		

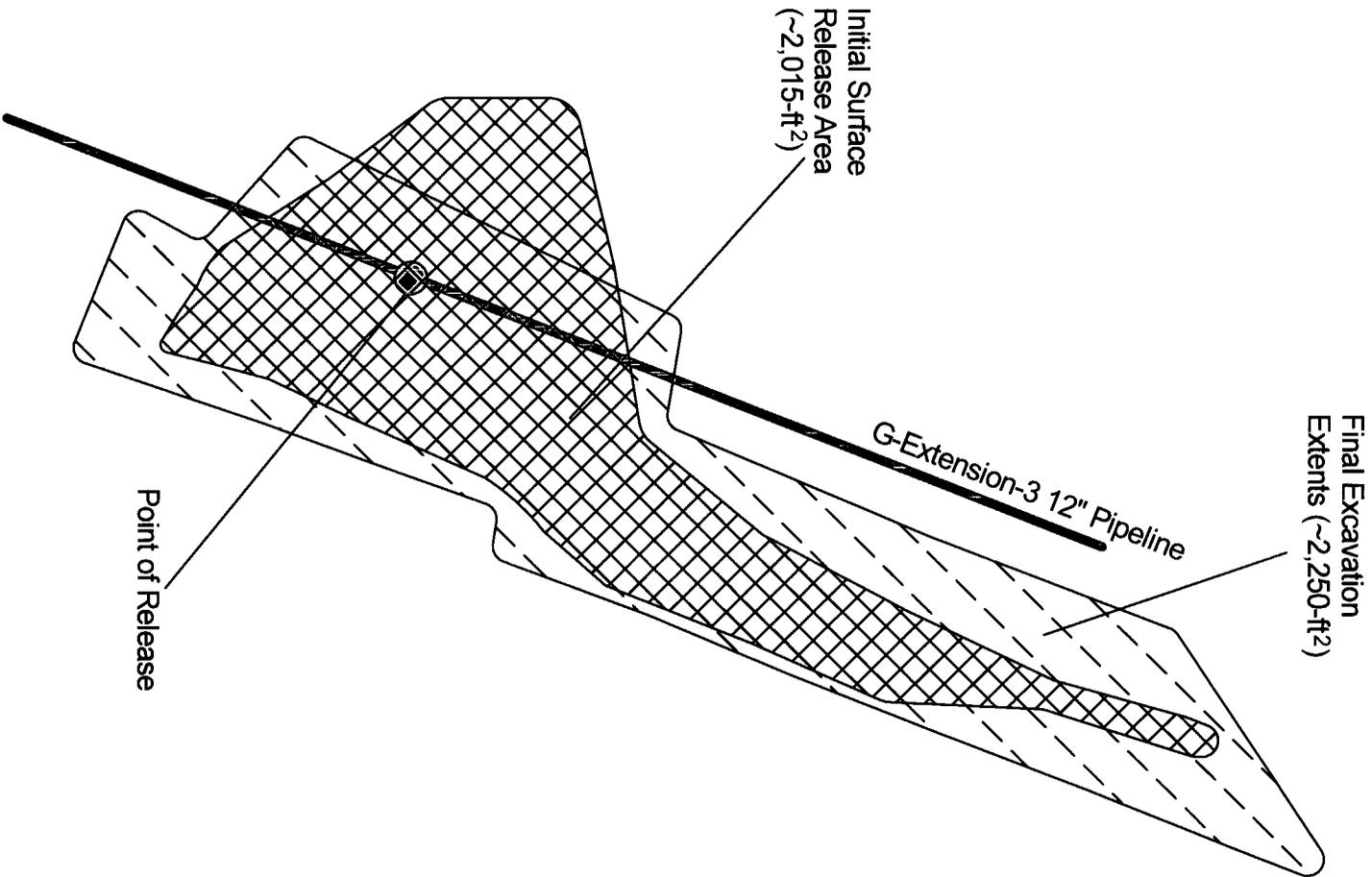


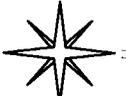
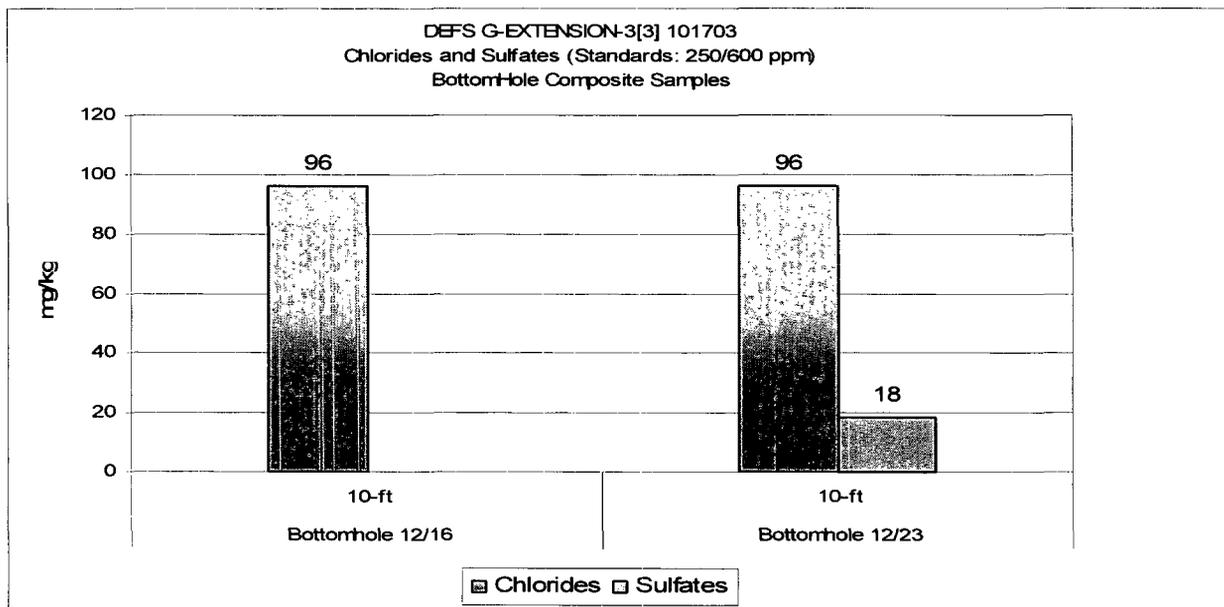
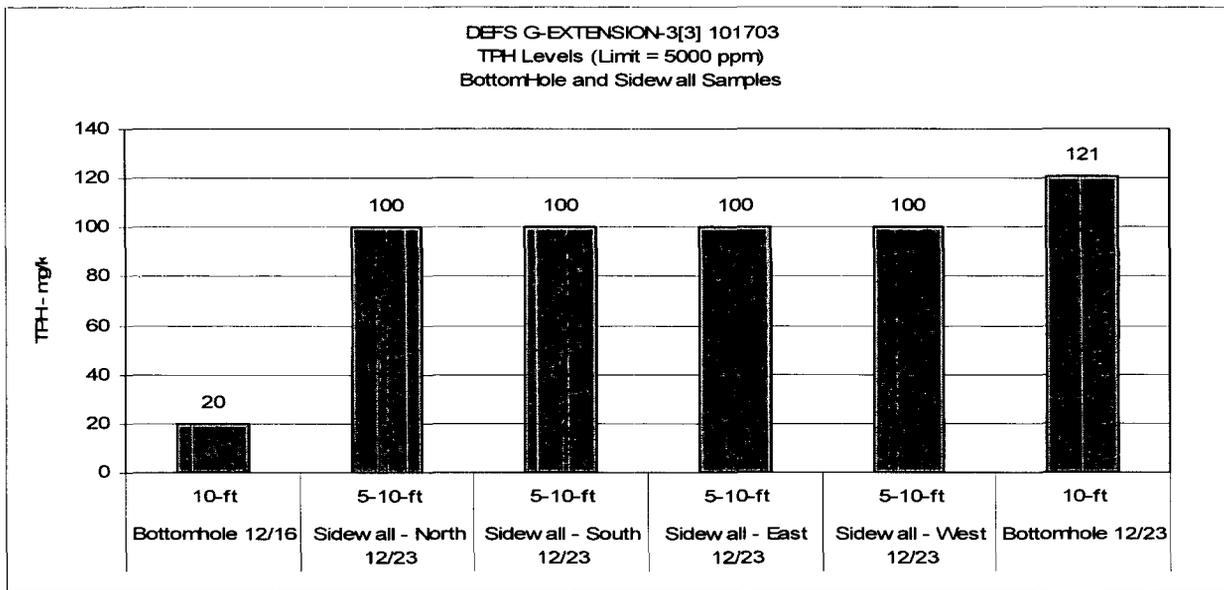
Plate 4 Final Combined Site GPS Demarcations Duke Energy Field Services G-Extension-3 101703 [3]	Lea County, New Mexico UL-G Section 31 T21S R36E N32° 26' 18.34" W103° 18' 05.79" Elevation: 3638-ft amsl	DWG BY: John Good	REVISED:	
		January - 2004		
		SCALE: 		

Plate 5: Soil Analytical Data

Duke Energy Field Services - G-Extension-3 [3] 101703 - Excavation Sampling Results														
Sample Date	Excavation Sampling Area	Depth (ft - bgs ¹)	SAMPLE ID#	VOC ppm	GRO ² mg/Kg	DRO ³ mg/Kg	TPH ⁴ mg/Kg	BTEX ⁵ mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Total Xylenes mg/Kg	Cl ⁻ mg/Kg	SO ₄ mg/Kg
12/16/03	Bottomhole-POR	5-ft	SDGE33121603BH-5	372.0										
12/16/03	Bottomhole-POR	10-ft	SDGE33121603BH-10	10.1	10	10	20	0.030	0.005	0.005	0.005	0.015	96	
12/23/03	Sidewall - North	5-10-ft	SDGE3122303NSWC	0.0	50	50	100	0.012	0.002	0.002	0.002	0.006		
12/23/03	Sidewall - South	5-10-ft	SDGE3122303SSWC	0.0	50	50	100	0.012	0.002	0.002	0.002	0.006		
12/23/03	Sidewall - East	5-10-ft	SDGE3122303ESWC	0.0	50	50	100	0.012	0.002	0.002	0.002	0.006		
12/23/03	Sidewall - West	5-10-ft	SDGE3122303WSWC	0.0	50	50	100	0.012	0.002	0.002	0.002	0.006		
12/23/03	Bottomhole	10-ft	SDGE3122303BHC	10.9	50	71	121	0.012	0.002	0.002	0.002	0.006	96	18.4

¹ bgs = below ground surface ² GRO - Gasoline Range Organics (Detection Limit = 10/50 mg/Kg) ³ DRO - Diesel Range Organics (Detection Limit = 10/50 mg/Kg)
⁴ TPH - Total Petroleum Hydrocarbon (GRO+DRO) ⁵ BTEX = Sum of Benzene, Toluene, Ethyl Benzene (Detection Limits = 0.005 mg/Kg) and Total Xylenes (Detection Limit = 0.015 mg/Kg)
 Note: Reported detection limits are considered "de minimus" values and are included in the TPH and BTEX summations.



LABORATORY ANALYTICAL DATA



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: JOHN GOOD
 P.O. BOX 1558
 EUNICE, NM 88231
 FAX TO: (505) 394-2601

Receiving Date: 12/17/03

Reporting Date: 12/19/03

Project Owner: DUKE ENERGY FIELD SERVICES

Project Name: G-EXTENSION-3 PIPELINE

Project Location: NOT GIVEN

Sampling Date: 12/18/03

Sample Type: SOIL

Sample Condition: COOL & INTACT

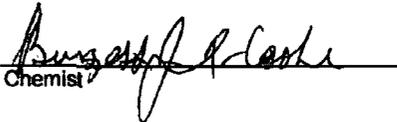
Sample Received By: GP

Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO	DRO	CI*
		(C ₆ -C ₁₀) (mg/Kg)	(>C ₁₀ -C ₂₈) (mg/Kg)	(mg/Kg)
ANALYSIS DATE		12/18/03	12/18/03	12/18/03
H8263-1	SDGE33121603BH-10	<10.0	<10.0	96
Quality Control		744	810	940
True Value QC		800	800	1000
% Recovery		93.0	101	94.0
Relative Percent Difference		6.7	1.2	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB

*Analysis performed on a 1:4 w:v aqueous extract.


 Chemist

12/19/03
 Date

H8263A.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.



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

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

Receiving Date: 12/17/03
 Reporting Date: 12/19/03
 Project Owner: DUKE ENERGY FIELD SERVICES
 Project Name: G-EXTENSION-3 PIPELINE
 Project Location: NOT GIVEN

Sampling Date: 12/16/03
 Sample Type: SOIL
 Sample Condition: COOL & INTACT
 Sample Received By: GP
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		12/18/03	12/18/03	12/18/03	12/18/03
H8263-1	SDGE33121603BH-10	<0.005	<0.005	<0.005	<0.015
Quality Control		0.099	0.100	0.099	0.302
True Value QC		0.100	0.100	0.100	0.300
% Recovery		99.1	100	98.7	101
Relative Percent Difference		3.2	3.6	3.1	2.5

METHOD: EPA SW-846 8260


 Chemist

12/19/03
 Date

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

H8263B.XLS



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

ANALYTICAL RESULTS FOR
 ENVIRONMENTAL PLUS, INC.
 ATTN: JOHN GOOD
 P.O. BOX 1558
 EUNICE, NM 88231
 FAX TO: 505-394-2601

Receiving Date: 12/23/03
 Project Owner: DUKE ENERGY FIELD SERVICES
 Project Number: G-EXTENSION-3 101703
 Project Name: G-EXTENSION-3 (SITE 3)
 Project Location: NOT GIVEN

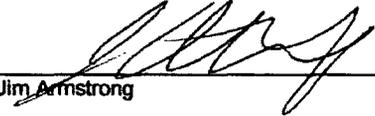
Sampling Dates: 12/23/03
 Sample Type: SOIL
 Sample Condition: 4°C & INTACT
 Sample Received By: AH
 Analyzed By: JA

LAB ID	SAMPLE ID	TPH GRO (mg/Kg)	TPH DRO (mg/Kg)	TPH TOTAL (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
H8291-1	SGE3122303NSWC	<50.0	<50.0	<50.0	<0.002	<0.002	<0.002	<0.006
H8291-2	SGE3122303SSWC	<50.0	<50.0	<50.0	<0.002	<0.002	<0.002	<0.006
H8291-3	SGE3122303ESWC	<50.0	<50.0	<50.0	<0.002	<0.002	<0.002	<0.006
H8291-4	SGE3122303WSWC	<50.0	<50.0	<50.0	<0.002	<0.002	<0.002	<0.006
H8291-5	SGE3122303BHC	<50.0	70.5	70.5	<0.002	<0.002	<0.002	<0.006

Extraction Date	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03
Analysis Date	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03	12/24/03
Method Blank (mg/Kg)	<50.0	<50.0	<50.0	<0.002	<0.002	<0.002	<0.002
True Value LCS (mg/Kg)			200	0.100	0.100	0.100	0.300
LCS % Recovery			94.4%	96.0%	96.0%	101.0%	93.7%
Matrix Spike RPD			2.1%	8.3%	12.2%	8.5%	6.9%

DATA FLAGS:

Methods: TPH SW-846 8015M; BTEX SW-846 8021b, 5030b



 Jim Armstrong

12-29-03

 Date

H8291BTEX8015MENPLUS.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.



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: JOHN GOOD
 P.O. BOX 1558
 EUNICE, NM 88231
 FAX TO: (505) 394-2601

Receiving Date: 12/23/03	Sampling Date: 12/23/03
Reporting Date: 12/24/03	Sample Type: SOIL
Project Owner: DUKE ENERGY FIELD SERVICES	Sample Condition: COOL & INTACT
Project Name: G-EXTENSION-3 (SITE 3)	Sample Received By: AH
Project Location: G-EXTENSION-3 101703	Analyzed By: HM

LAB NUMBER	SAMPLE ID	SO ₄ (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		12/24/03	12/24/03
H8291-5	SGE3122303BHC	18.4	96
Quality Control			
True Value QC		53.65	980
% Recovery		50.00	1000
Relative Percent Difference		107	98.0
		1.5	3.1
METHODS: EPA 600/4-79-020		375.4	SM 4500-Cl B

Amy Hill

 Chemist

12/24/03

 Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.
 H8291

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141

Revised June 10, 2003

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

Release Notification and Corrective Action - INFORMATION ONLY

OPERATOR

Initial Report Final Report

Name of Company	DUKE ENERGY FIELD SERVICES	Contact	Steve Weathers
Address	370 17th Street, Ste 2500 Denver, CO 80202	Telephone No.	(303) 605-1718
Facility Name	G-Extension-3 101703 [3]	Facility Type	Natural Gas Gathering Pipeline

Surface Owner	DASCO Cattle Co.	Mineral Owner	NA	Lease No.	NA
---------------	-------------------------	---------------	-----------	-----------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County
G	31	21S	36E	3740	3375	W103° 18' 05.79"	N32° 26' 18.34"	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Natural Gas release and associated NGL's	4 bbl	0 bbl

Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
12" Steel Pipeline		10/17/03

Was Immediate Notice Given?	If YES, To Whom?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	NA

By Whom?	Date and Hour
NA	NA

Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	NA

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Internally Corroded pipeline, repaired by replacing steel pipeline with poly.

Describe Area Affected and Cleanup Action Taken.*
~2,015-ft² spill affected area excavated to maximum 10 ft depth. RCRA Exempt Non-hazardous contaminated soil as excavated and disposed of at an NMOCD approve surface waste facility.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION		
Printed Name:	Steve Weathers	Approved by District Supervisor:	
Title:	Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address:	swweathers@duke-energy.com	Conditions of Approval: <input type="checkbox"/> Attached	
Date:	4/5/04 Phone: (303) 605-1718		

* Attach Additional Sheets If Necessary



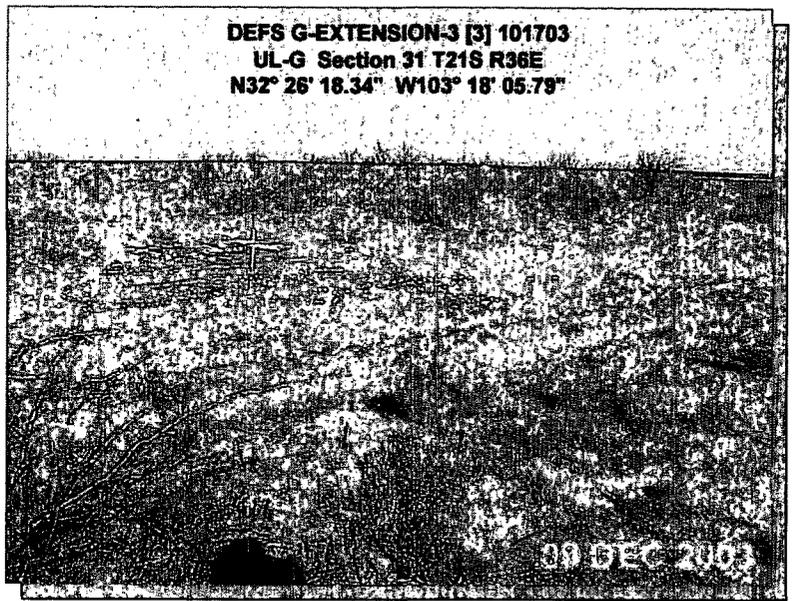
Incident Date and NMOCD Notified?

10/17/03

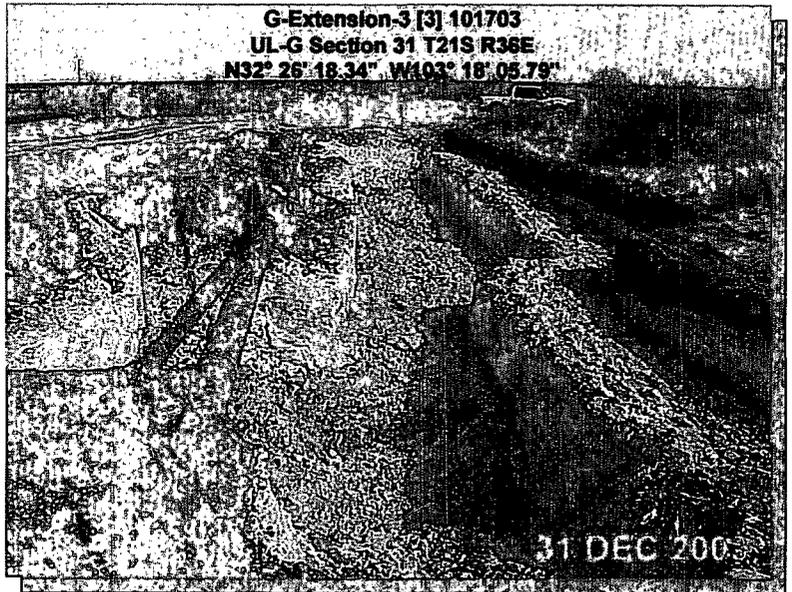
NA

SITE: G-Extension-3 101703 [3]		Assigned Site Reference 101703 [Site 3]	
Company: DUKE ENERGY FIELD SERVICES			
Street Address: 5805 East Highway 80			
Mailing Address: 370 17th Street, Ste 2500			
City, State, Zip: Denver, CO 80202			
Representative: Steve Weathers			
Representative Telephone: (303) 605-1718			
Telephone:			
Fluid volume released (bbls): 4	Recovered (bbls): 0		
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: 101703 [Site 3]			
Source of contamination: 12" Steel Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: DASCO Cattle Co. 225 E. Bender, Suite 150, Hobbs, NM 88240			
LSP Dimensions: (GPS Site Diagram attached)			
LSP Area: 2,015 -ft ²			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: N32° 26' 18.34"			
Longitude: W103° 18' 05.79"			
Elevation above mean sea level: 3638 -ft amsl			
Feet from South Section Line: 3740			
Feet from West Section Line: 3375			
Location - Unit and 1/4 1/4: UL- G SW 1/4 of NE 1/4			
Location - Section: 31			
Location - Township: 21S			
Location - Range: 36E			
Surface water body within 1000' radius of Site: 0			
Surface water body within 1000' radius of Site: 0			
Domestic water wells within 1000' radius of Site: 0			
Domestic water wells within 1000' radius of Site: 0			
Agricultural water wells within 1000' radius of Site: 0			
Agricultural water wells within 1000' radius of Site: 0			
Public water supply wells within 1000' radius of Site: 0			
Public water supply wells within 1000' radius of Site: 0			
Depth (ft) from land surface to ground water (DG): 220			
Depth (ft) of contamination (DC): 20			
Depth (ft) to ground water (DG - DC = DtGW): 200			
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points			
If Depth to GW >100 feet: 0 points		If >1000' from water source, or, >200' from private domestic water source: 0 points	
Ground water Score: 0		Wellhead Protection Area Score: 0	
Site Rank (1+2+3) = 0		Surface Water Score: 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	20 or >	10	0
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

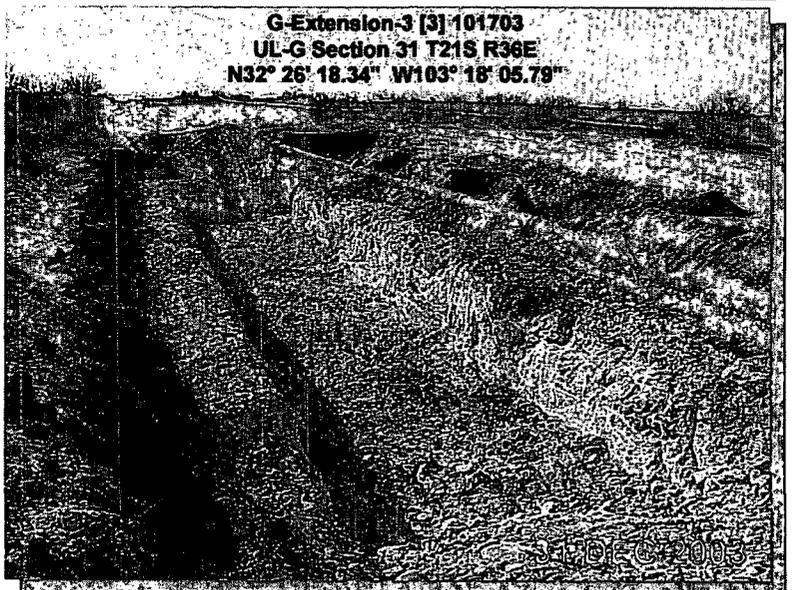
Initial Response: east looking west



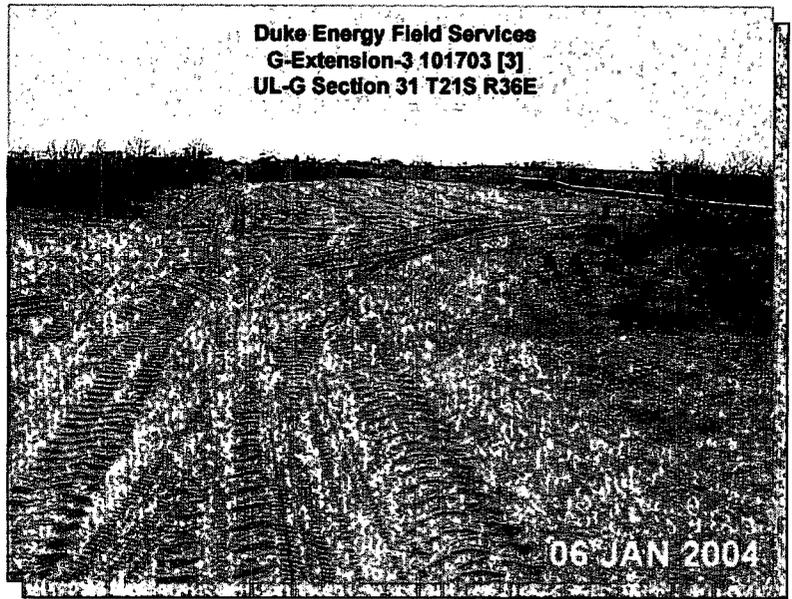
Final excavation with G-Extension-3 12\"/>



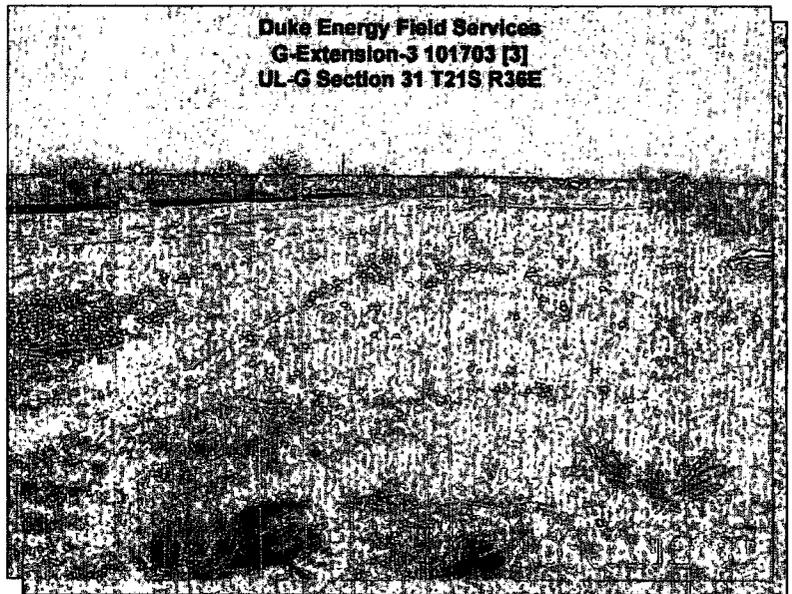
Final excavation – from north looking south



Closed Site: backfilled and contoured
(north looking south)



Closed Site: backfilled and contoured
(south looking north)





NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Lori Wrotenberg

Director

Oil Conservation Division

January 13, 2004

Mr. Paul Mulkey pdmulkey@duke-energy.com
Duke Energy Field Services

Re: Plan Approval, G-Extension-3 101703 (**Site 3**)
Site Reference UL-G Sec-31 T-21S R-36E
Initial C-141 Dated: 12-19-03
Request Plan Dated: 12-19-03

Dear Mr. Mulkey,

The Remediation Work Plan Proposal submitted to the New Mexico Oil Conservation Division (OCD) by Environmental Plus, Inc. for Duke Energy Field Services is **hereby approved** for 120 days with the following considerations:

- 48 hour notification to OCD prior to final sampling
- Disturbed areas to be seeded for re-vegetation of native grasses and other plants and demonstrate growth within a reasonable time after site remediation operations cease

Please be advised that OCD approval of this plan does not relieve Duke Energy Field Services of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. Additionally, OCD approval does not relieve Duke Energy Field Services of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please call (505) 393-6161, x111 or e-mail lwjohnson@state.nm.us

Sincerely,

Larry Johnson - Environmental Engineer

Cc:

Chris Williams - District I Supervisor
Bill Olson - Hydrologist
Paul Sheeley-Environmental Engineer
John Good – EIP Project Consultant jcgood4614@aol.com



December 19, 2003

Mr. Larry Johnson
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services G-Extension-3 101703 (Site 3) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division Form C-141 for the above referenced leak site located on land owned by DASCO Cattle Company (Atlee Snyder). The release volume is estimated to be 4-bbl of NGL with 0-bbl recovered. The site is located in the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$ (Unit Letter G), Section 31, Township 21 South, and Range 36 East. The geographic location is N32°26'18.34"; W103°18'05.79". The site is ~8.3 miles west of Eunice, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database and the land owner, ground water level beneath this site is >220-feet below ground surface (bgs). The ranking for this site is 0 for soils down to 120-ft bgs.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas and liquids release, excavate and dispose of, and/or attenuate on-site the RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site and/or off-site from private or public sources. Any RCRA exempt contaminated soils excavated and removed from the site will be disposed of in a NMOCD approved land farm.

The Constituents of Concern (CoC's) and associated NMOCD acceptable remedial levels are as follows:

- BTEX⁸⁶²⁰ (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH^{8015m} (Total Petroleum Hydrocarbon): 5000 mg/kg (0-120-ft bgs); 1000 mg/kg (> 120-ft bgs)
- Benzene⁸⁶²⁰: 10 mg/kg

It is EPI's standard operating procedure to evaluate natural gas release sites for the presence of elevated levels of SO₄⁻ and Cl⁻ ions. These inorganic contaminants are often present in subsurface soils associated with sour gas releases and/or releases containing a brine component. Due to the anticipated shallow depth of contamination and >200-ft depth to groundwater at this release site, it is EPI's intent to presume that sulfates and chlorides will not be an issue in the remediation of this site. Bottom hole composite samples will be analyzed for chlorides and sulfates to confirm this presumption.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at (505) 390-0288 and (505) 390-9804, respectively or Mr. Paul Mulkey at (505) 397-5716. All official written communications should be addressed to:



ENVIRONMENTAL PLUS, INC. ~~Micro-Blaze~~ ~~Micro-Blaze Out~~

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Mr. Paul Mulkey
Duke Energy Field Services
11525 West Carlsbad Highway
Hobbs, New Mexico 88240

Sincerely,

John Good

EPI Environmental Consultant

cc: Paul Mulkey, Duke Energy Field Services, w/enclosure
Lynn Ward, Duke Energy Field Services – Midland, TX, w/enclosure
Steve Weathers, Duke Energy Field Services – Denver, CO, w/enclosure
Pat McCasland, EPI Technical Manager
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
File

ENVIRONMENTAL PLUS, INC.

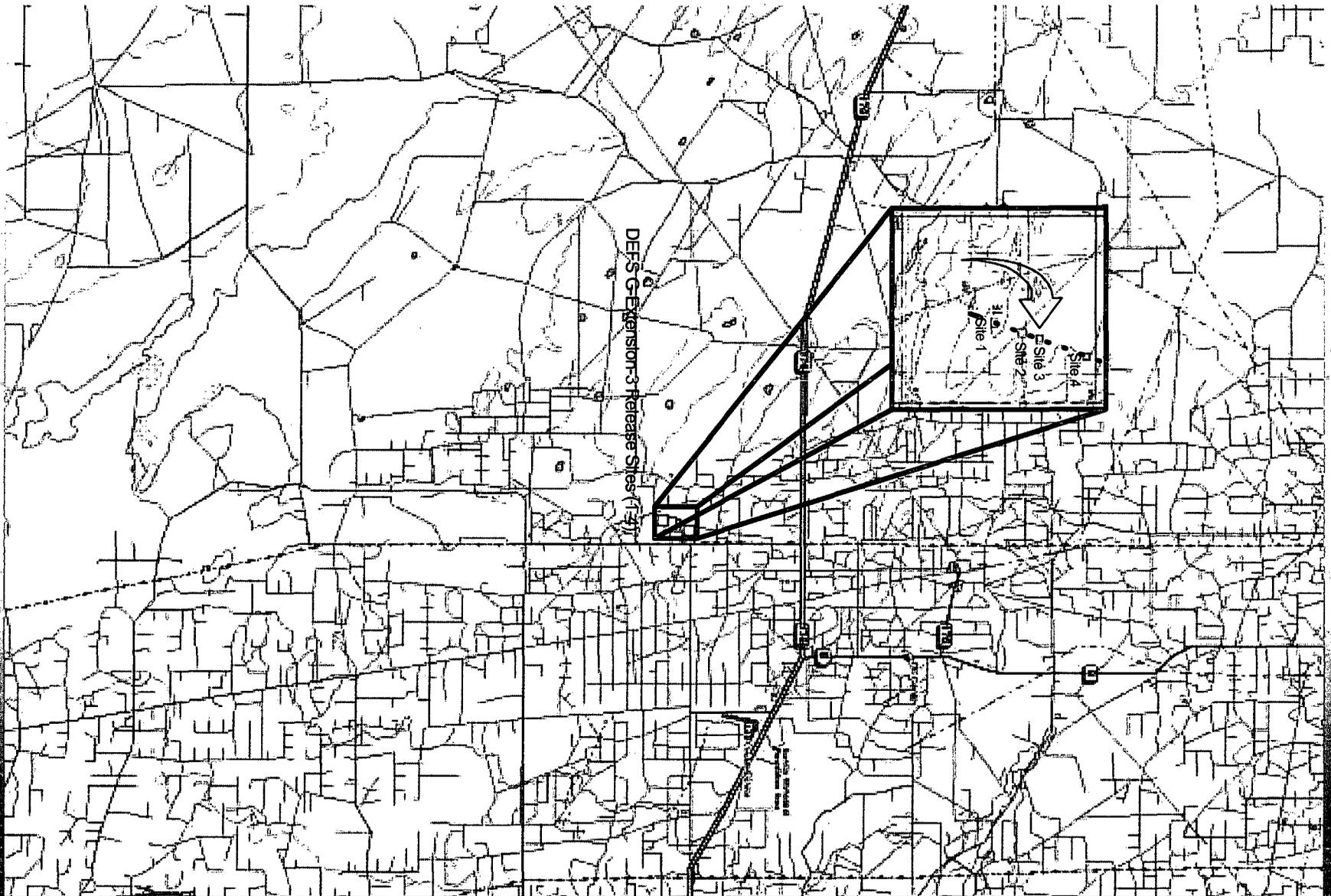


Plate 1 - Release Site Location
 Duke Energy Field Services
 G-Extension-3 101703 (Site 3)

Lea County, New Mexico
 UL-G Section 31 T21S R36E
 N32° 26' 18.34" W103° 18' 05.79"
 Elevation: 3638-ft amsl

DWG BY: John Good
 December - 2003

REVISED:



SHEET
 1 of 1



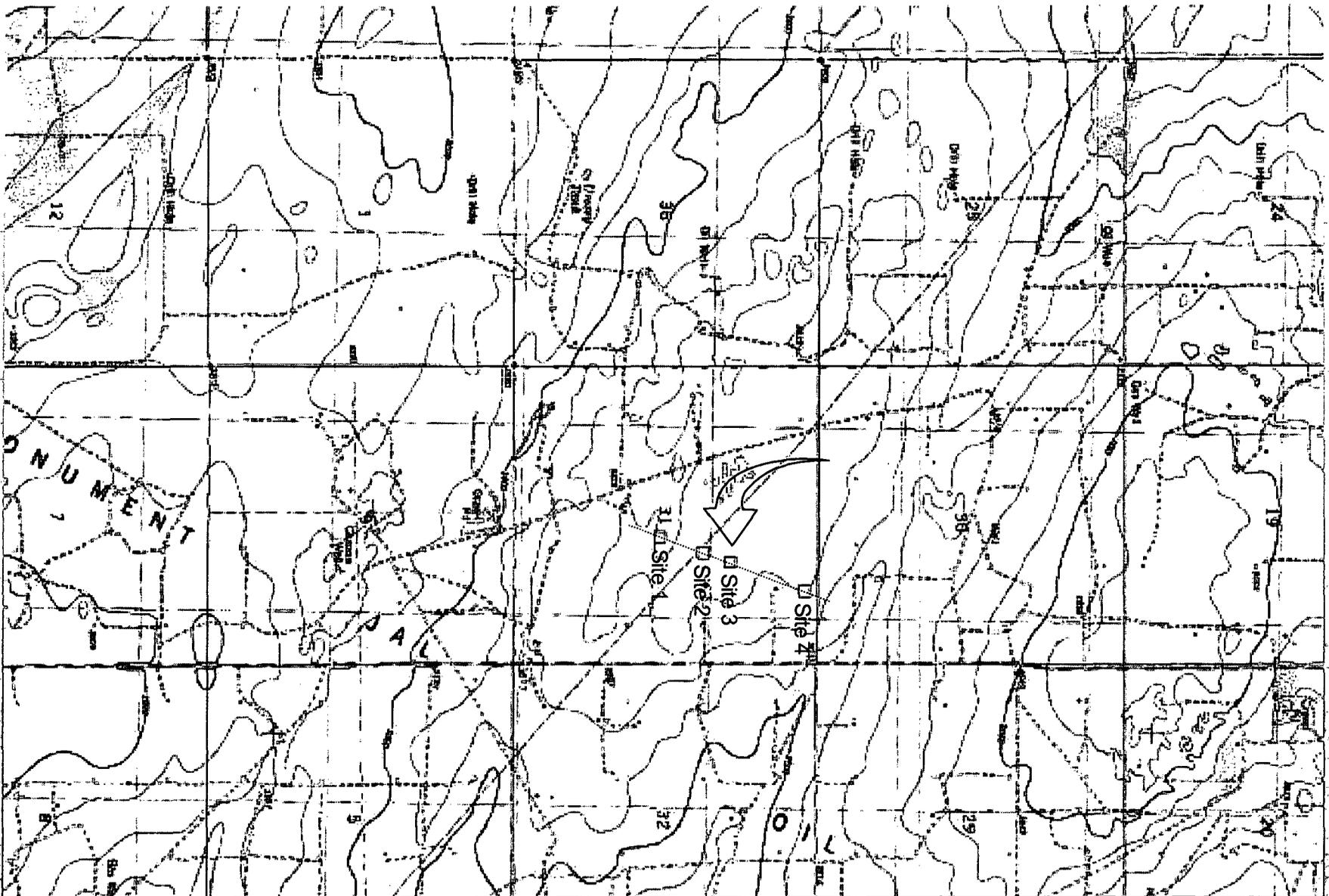
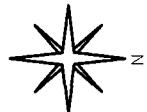


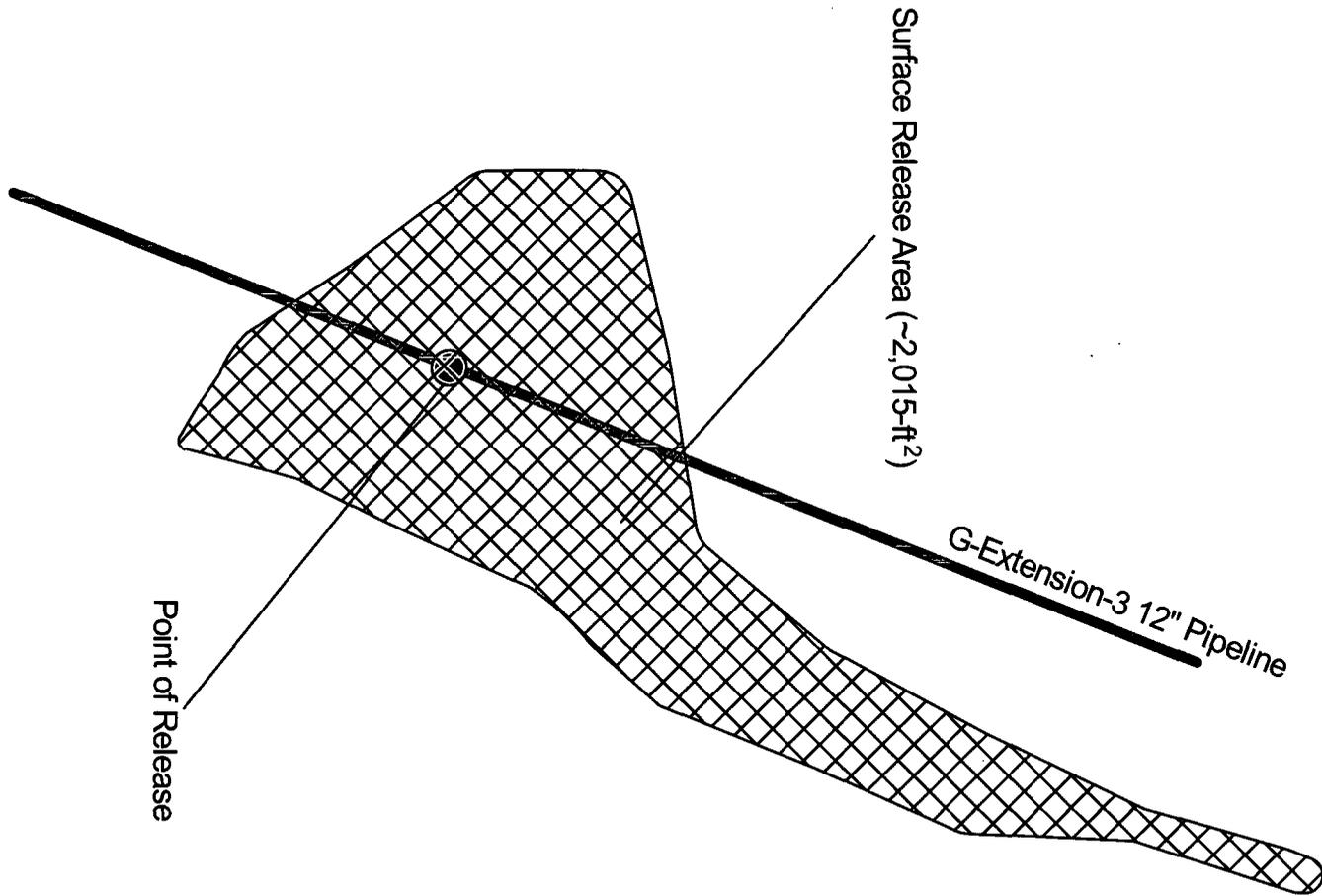
Plate 2 - Release Site Topography
 Duke Energy Field Services
 G-Extension-3 101703 (Site 3)

Lea County, New Mexico
 UL-G Section 31 T21S R36E
 N32° 26' 18.34" W103° 18' 05.79"
 Elevation: 3638-ft amsl

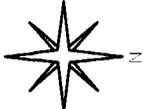
DWG BY: John Good
 December - 2003

REVISED:





5

Plate 3 - Initial Site GPS Demarcations Duke Energy Field Services G-Extension-3 101703	Lea County, New Mexico UL-G Section 31 T21S R36E N32° 26' 18.34" W103° 18' 05.79" Elevation: 3638-ft amsl	DWG BY: John Good	REVISED:	
		December - 2003	SCALE: 	

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

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

**State of New Mexico
Energy Minerals and Natural Resources**

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

Form C-141

Revised June 10, 2003

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

Release Notification and Corrective Action - INFORMATION ONLY

OPERATOR

Initial Report Final Report

Name of Company	DUKE ENERGY FIELD SERVICES	Contact	Paul Mulkey
Address	11525 W. Carlsbad Hwy. Hobbs, NM 88240	Telephone No.	505-397-5716
Facility Name	G-Extension-3	Facility Type	Natural Gas Gathering Pipeline

Surface Owner	DASCO Cattle Co.	Mineral Owner	NA	Lease No.	NA
---------------	-------------------------	---------------	-----------	-----------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
G	31	21S	36E	3740	3375	W103° 18' 05.79"	N32° 26' 18.34"	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Natural Gas release and associated NGL's	4 bbl	0 bbl

Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
12" Steel Pipeline		10/17/03

Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? NA
--	-------------------------------

By Whom? NA	Date and Hour NA
--------------------	-------------------------

Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA
---	--

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Internally Corroded pipeline, repaired by clamping leak

Describe Area Affected and Cleanup Action Taken.*
~2015-ft² surface spill area affected; 0-bbl of NGL recovered from 4-bbl release. RCRA Exempt Non-hazardous contaminated soil above remedial goals will be excavated and disposed of, or remediated on-site by EPI.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: John Good	Approved by District Supervisor:		
Title: Project Consultant - EPI	Approval Date:	Expiration Date:	
E-mail Address: jgood4614@aol.com	Conditions of Approval:		<input type="checkbox"/> Attached .
Date: 12/19/03 Phone: 505-394-3481			

SITE: G-Extension-3		Assigned Site Reference 101703 [Site 3]	
Company:		DUKE ENERGY FIELD SERVICES	
Street Address:		5805 East Highway 80	
Mailing Address:		11525 W. Carlsbad Hwy.	
City, State, Zip:		Hobbs, NM 88240	
Representative:		Paul Mulkey	
Representative Telephone:		505-397-5716	
Telephone:			
Fluid volume released (bbls):		4	Recovered (bbls): 0
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. 5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name:		101703 [Site 3]	
Source of contamination:		12" Steel Pipeline	
Land Owner, i.e., BLM, ST, Fee, Other:		DASCO Cattle Co. 225 E. Bender, Suite 150, Hobbs, NM 88240	
LSP Dimensions:		(GPS Site Diagram attached)	
LSP Area:		2,015 -ft ²	
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude:		N32° 26' 18.34"	
Longitude:		W103° 18' 05.79"	
Elevation above mean sea level:		3638 -ft amsl	
Feet from South Section Line:		3740	
Feet from West Section Line:		3375	
Location - Unit and 1/4 1/4:		UL- G SW 1/4 of NE 1/4	
Location - Section:		31	
Location - Township:		21S	
Location - Range:		36E	
Surface water body within 1000' radius of Site:		0	
Surface water body within 1000' radius of Site:		0	
Domestic water wells within 1000' radius of Site:		0	
Domestic water wells within 1000' radius of Site:		0	
Agricultural water wells within 1000' radius of Site:		0	
Agricultural water wells within 1000' radius of Site:		0	
Public water supply wells within 1000' radius of Site:		0	
Public water supply wells within 1000' radius of Site:		0	
Depth (ft) from land surface to ground water (DG):		220	
Depth (ft) of contamination (DC):		20	
Depth (ft) to ground water (DG - DC = DtGW):		200	
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points			
If Depth to GW >100 feet: 0 points		If >1000' from water source, or, >200' from private domestic water source: 0 points	
Ground water Score: 0		Wellhead Protection Area Scor 0	
Site Rank (1+2+3) = 0		Surface Water Score: 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	20 or >	10	0
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

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

DEFS G-EXTENSION-3 [3] 101703
UL-G Section 31 T21S R36E
N32° 26' 18.34" W103° 18' 05.79"

