1R - 334

REPORTS

DATE:

10/03 - FIELD ACTIVITIES

Remediacon Incorporated
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Telephone: 303.674.4370
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October 22, 2003

Mr. Stephen Weathers
Duke Energy Field Services, LP
370 17th Street, Suite 900
Denver, CO 80202

Re: Report on the Field Activities Associated with the NMG-148C Pipeline Release, New Mexico State Land, Lea County New Mexico (Unit N, Section 16, Township 19 South Range 37 East: North 32° 39'21", West 103° 15',33")

Dear Mr. Weathers:

This letter summarizes the characterization and remediation activities completed at the NMG-148C release location in Lea County New Mexico. Conclusions and a suggested plan to complete the remediation activities are also presented at the end of the letter.

The NMG-148C location is located approximate 2 miles north and 0.75 miles east of Monument in Lea County (Figure 1). The original NMG-148C release was discovered by a DEFS contractor on December 10, 2002 while he was marking the pipeline alignment. The source was located near original monitor well NMG-MW-1 (Figure 2).

The characterization and remediation activities completed at this location since discovery of the leak include:

1. Excavation and remediation of hydrocarbon-affected soils;
2. Installation of monitoring wells in January and February 2003;
3. Groundwater monitoring in February, June and September 2003; and
4. Installation of a water treatment system in the excavation in August 22 2003.

Activity 1 was completed by Environmental Plus Incorporated (EPI), and it is summarized in the attached letter. Activities 2, 3 and 4 were completed by Remediacon Incorporated (Remediacon) and Trident Environmental (Trident), and they are summarized below.

SUMMARY OF THE MONITORING WELL INSTALLATION ACTIVITIES

The activities completed by Remediacon and Trident include well installation and well development and sampling. Each activity is described separately below.

Well Installation

Four monitoring wells were installed at the site at the locations shown on Figure 1. Information on these wells is summarized in Table 1.

Wells NMG MW-1 and NMG-MW-2 were installed in December 2002 immediately after discovery of the release. Well NMG-MW-1 was installed at the release locations and was subsequently destroyed during the soil remediation activities. Well NMG-MW-2 was installed in the drainage approximately 400 feet south of the release site.

Well NMG MW-3 was installed as a background well northwest of the NMG-148C site. Well NMG MW-4 at another potential release location on State land (Figure 2). Both wells were installed on February 5, 2003 in accordance with a work plan that was reviewed and approved by the New Mexico Oil Conservation Division (OCD).

All four borings were advanced using air-rotary drilling with a 6 1/8 inch tricone bit. All drilling and installation procedures were supervised experienced personnel. The wells that did not contain free product (NMG-MW-2, 3 and 4) were developed using a submersible pump until a minimum of 10 casing volumes of water were removed and the field parameters of temperature, pH and conductivity for the last three casing volumes were stable. The wells were then allowed to sit overnight before they were sampled for the first time.

Well Gauging, Development and Sampling

Wells NMG MW-2, NMG MW-3 and NMG MW-4 were purged in sampled in February, June and September 2003. The wells were sampled for both inorganic and organic parameters in February 2003 and for the organic constituents in June and September 2003. The results of the February 2003 inorganic sampling were discussed in detail in a report that was submitted to the OCD on or about February 21, 2003 so additional inorganic constituent evaluation is not necessary.

The three wells were sampled for benzene, toluene, ethylbenzene and total xylenes (BTEX) on February 7th, June 2nd and September 23rd 2003 by Trident Environmental. The February 2003 samples were also analyzed for total petroleum hydrocarbons for gasoline range organics (GRO) and for diesel range organics (DRO).

Sampling was completed in the following fashion:

1. The depth to water in all of the wells was measured;
2. The saturated water column data was used to calculate each well's casing volume;
3. The wells were then purged using disposable bailers for a minimum of three casing volumes and until the field parameters of temperature, pH and conductivity equilibrated;
4. Samples were collected upon equilibration using the disposable bailer; and

5. The samples were placed in an ice-filled cooler immediately after collection.

Duplicate samples were collected from well NMG MW-4 in June and September 2003. Trip blanks were used in all three monitoring episodes. The samples remained in the cooler until they were delivered directly to Environmental Labs of Texas in Midland Texas.

Environmental Plus Incorporated (EPI) collected samples from the water in the excavation on February 13, and April 17, 2003. The samples were submitted for analysis for the BTEX constituents. Excavation water samples were also collected during the June and September 2003 monitoring episodes, and they were also analyzed for BTEX.

EXCAVATION TREATMENT SYSTEM

An aeration system was installed on August 22, 2003 to enhance removal of the hydrocarbon constituents in the excavation water. The aeration system was manufactured by Koenders Windmills of Englefeld Saskatchewan. A windmill mounted on a 12-foot mast is attached directly to a compressor. The windmill begins to operate at a wind speed of 5 miles per hour (mph), and it furls at 27 mph to minimize damage. The compressor pumps approximately 1.5 cubic feet per minute of air at a pressure of 5 pounds per square inch. Both the pressure and flow rate increase as the wind speed increases.

The windmill was installed on the northwest corner of the excavation (Figure 3). The discharge line was attached to a porous stone that was place at base of the excavation in the middle of the source excavation (Figure 3). The stone was placed inside a bucket to negate the potential for scouring by the air bubbles. The completed installation is shown on Figure 4. Note that bubbles can be seen rising from the porous stone in this picture. The system has operated continuously since August 22, 2003.

CONCLUSIONS AND REMEDIATION COMPLETION

The water table elevations for all wells are summarized in Table 2. The analytical results are summarized in Table 3. Remediacon concludes the following based upon the data collected during this investigation:

1. The groundwater declined approximately 0.1 feet between January and September 2003. The relative head differences between the three wells remained essentially constant over the period as shown in Figure 5.

2. The original release has not impacted the groundwater in downgradient wells NMG MW-3 and NMG MW-4.

3. The potential release identified in January 2003 at the site of NMG MW-4 did not impact the groundwater.

4. Natural degradation substantially reduced the BTEX concentrations in the excavation water between February and June 2003 (Table 3). The active aeration produced by the windmill further reduced the concentrations by an approximate order of magnitude in the 5-week period between when the windmill was installed and when the pond was sampled.

5. The treatment system for the excavation should remove the BTEX constituents to below detection limits as active aeration continues.

6. EPI has remediated the affected soils to below the required standards (see attached report).

Based upon the above conclusions, Remediacon recommends that the groundwater present in the excavation be resampled near the end of October 2003 to assess the effects of further aeration. If BTEX is found at or below the New Mexico Water Quality Control Commission groundwater standards, the treatment system will be shut off for approximately two weeks to test for potential BTEX rebound. Aeration will be reinitiated if rebound occurs. Final closure can commence if the water exhibits no rebound. DEFS will provide an alternative plan if either the aeration process cannot treat the water to appropriate standards or if rebound continues through January 2004.

Thank you for allowing me to complete this work. Do not hesitate to contact me if you have any questions or comments on this work plan.

Respectfully Submitted,
REMEDIACON INCORPORATED

Michael H. Stewart

Michael H. Stewart, P.E.
Principal Engineer

TABLES

Table 1 – NMG-148C Well Completion Information

Well	Date Installed	Total Depth	Screened Interval	Sand Interval	Bentonite Interval	Comments
NMG MW-1	12/13/02	40	20-40	18-40	3-18	Destroyed, water samples now collected from excavation
NMG MW-2	12/16/02	35	20-35	18-35	3-18	
NMG MW-3	2/5/03	37	17-37	15-37	3-15	
NMG MW-4	2/5/03	37	17-37	15-37	3-15	

All units are feet

Table 2 – Measured Groundwater Elevations in The NMG-148C Wells

Well	2/7/03	6/2/03	9/23/03
NMG MW-2	3,617.05	3,617.00	3,616.93
NMG MW-3	3,620.02	3,619.99	3,619.94
NMG MW-4	3,615.77	3,615.71	3,615.64

All units are feet

Table 3 – Summary of Organic Data from The NMG-148 Study Area Wells

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH GRO	TPH DRO
Excavation	2/14/03	4.25	3.15	1.63	0.463		
Excavation (dup)	2/14/03	4.46	3.01	1.54	0.436		
Excavation (north)	4/17/03	0.055	0.043	<0.002	0.003		
Excavation (south)	4/17/03	0.048	0.038	<0.002	0.003		
Excavation	6/2/03	0.154	0.260	0.039	1.25		
Excavation	9/23/03	0.013	0.014	0.001	0.003		
NMG MW-2	12/17/02	<0.001	<0.001	<0.001	<0.001	<1.00	<1.00
NMG MW-2	6/2/03	<0.001	<0.001	<0.001	<0.001		
NMG MW-2	9/23/03	<0.001	<0.001	<0.001	<0.001		
NMG MW-3	2/7/03	<0.001	<0.001	<0.001	<0.001	<3.00	<3.00
NMG MW-3	6/2/03	<0.001	<0.001	<0.001	<0.001		
NMG MW-3	9/23/03	<0.001	<0.001	<0.001	<0.001		
NMG MW-4	2/7/03	<0.001	<0.001	<0.001	<0.001	<3.00	<3.00
NMG MW-4	6/2/03	<0.001	<0.001	<0.001	0.001		
NMG MW-4	9/23/03	<0.001	<0.001	<0.001	<0.001		

All units ug/l

FIGURES

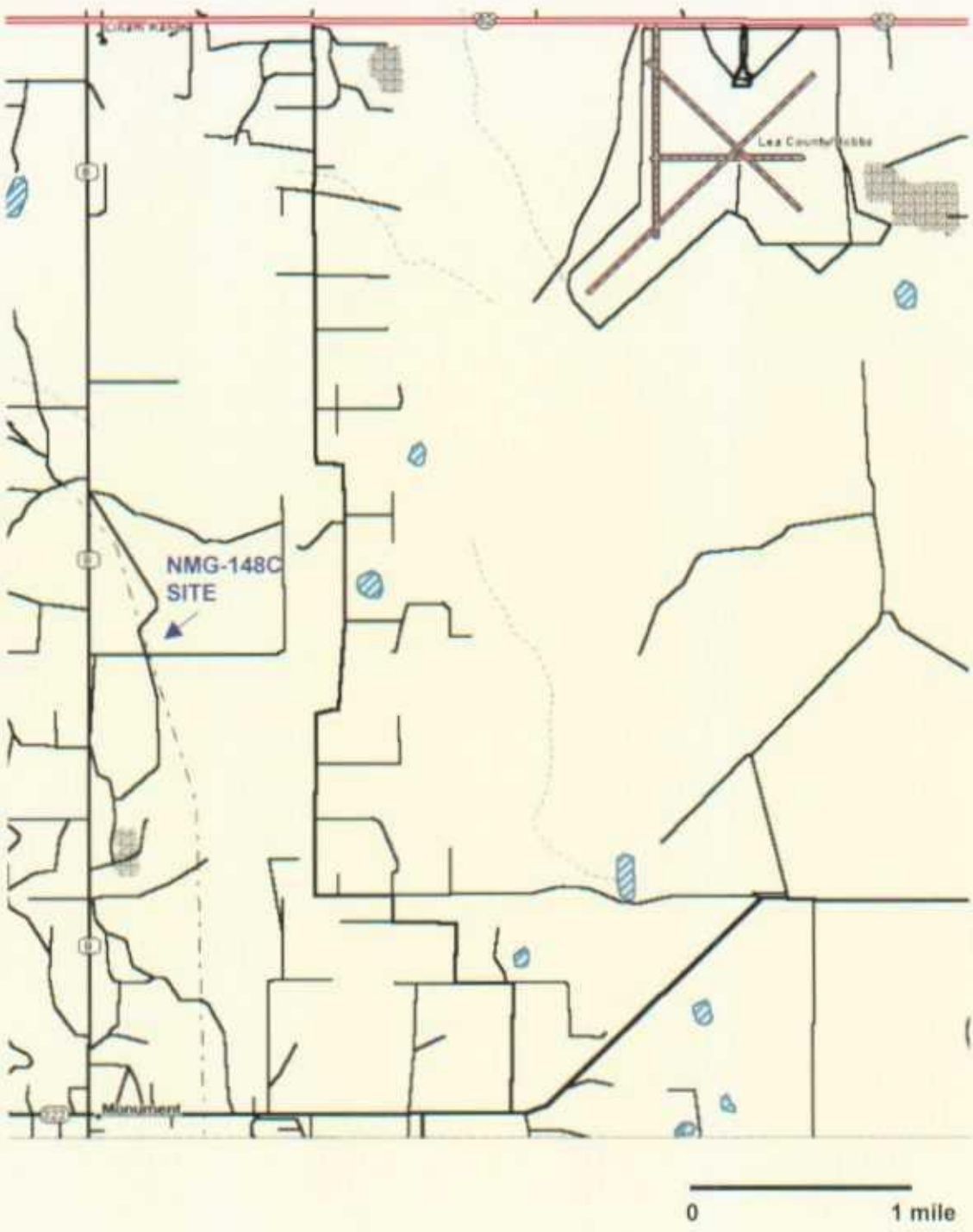


Figure 1 – Site Location Map
NMG-148C REMEDIATION PROGRAM

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 10/03

Figure 2 – NMG-148 Study Area Layout and Well Locations

NMG-148C REMEDIATION PROGRAM

Duke Energy Field Services.

DRAWN BY: MHS

DATE: 10/03

Figure 3 – Remedation Area Detail
NMG-148C REMEDIATION PROGRAM

Duke Energy Field Services

DRAWN BY: MHS
REVISED
DATE: 10/03

View from southwest corner of excavation looking northeast

Figure 4 – Windmill Installation
NMG-148C REMEDIATION PROGRAM

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 10/03

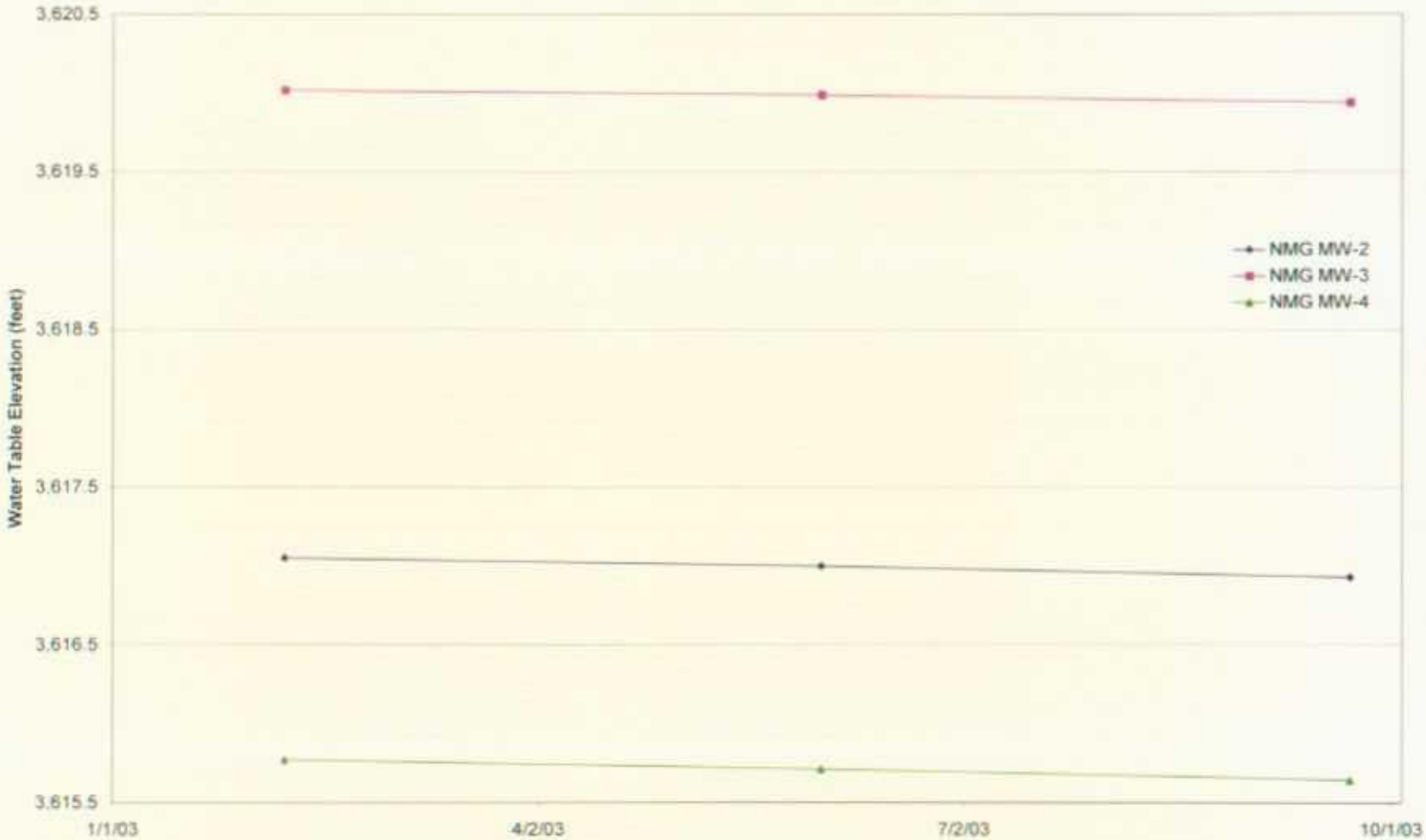


Figure 5 – Monitoring Well Hydrographs

NMG-148C REMEDIATION PROGRAM

Duke Energy Field Services

DRAWN BY: MHS

DATE: 10/03

DUKE NMG-148 C-LINE

SITE REMEDIATION STATUS AS OF OCTOBER 10, 2003

UL-N SE¼ of the SW¼, Section 16, T19S, R37E
Latitude 32°39'21.32"N - Longitude 103°15'32.90"W
-2.25 miles north northeast of Monument
Lea County, New Mexico

OCTOBER 2003

PREPARED BY

ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
P.O. BOX 1558
EUNICE, NEW MEXICO

Table of Contents

1.0 BACKGROUND SUMMARY

Duke Energy Field Services contracted Environmental Plus, Inc. (EPI) of Eunice, New Mexico to delineate the extent of pipeline fluid contamination and remediate the historical NMG-148 C-Line release site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993). The land is owned by the State of New Mexico. The initial form C-141 submitted to the NMOCD by DUKE reported an assumed natural gas pipeline fluid release of >25 barrels (bbls) with 0 bbls recovered. The NMG-148 C-Line is part of the DUKE gas gathering system and as such is exempt from the EPA Resource Conservation and Recovery Act 40 CFR (RCRA) Subtitle C hazardous waste characterization requirements. The ground water depth at the site is ~28 feet below ground surface ('bgs) and is based on water level measurements of a temporary monitor well (MW) installed adjacent to what is believed to be the leak origin. On December 31, 2002, 1.34' of petroleum hydrocarbon was observed floating atop the ground water inside the MW bore. The NMOCD site ranking thresholds for the "Constituents of Concern" (CoCs) in soil are as follows:

Soil from the surface to 28'bgs

- 100 mg/Kg = Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m})
- 10 mg/Kg = Benzene
- 50 mg/Kg = BTEX (mass sum of Benzene, Toluene, Ethyl Benzene, and m, o, & p Xylenes)
- 250 mg/Kg = Chloride

In December 2002, Duke received "Right of Entry" permit #707 from the New Mexico State Land Commissioner allowing for use of the State Land for remediation purposes.

On January 24, 2003, Duke submitted site delineation documentation and a soil remediation proposal, i.e., "Duke NMG-148 C-Line Site Characterization and Soil Remediation Proposal, January 2003" to the NMOCD for consideration and approval. The proposal was approved by Mr. William Olson on February 4, 2003 with the following stipulations.

1. Duke shall take final soil confirmation samples from the bottom and sidewalls of the excavated area for laboratory analysis upon completion of the excavation activities. The samples will be obtained and analyzed for concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) and total petroleum hydrocarbons (TPH) using EPA approved methods and quality assurance/quality control (QA/QC) procedures.

2. Duke shall take final soil confirmation samples for laboratory analysis from every 200 yards of landfarmed soils returned to the excavated area to verify that the soils meet the proposed remediation levels. The samples will be obtained and analyzed for concentrations of BTEX and TPH using EPA approved methods and QA/QC procedures. A field soil vapor headspace measurement of less than 100 ppm may be substituted for a laboratory analysis of BTEX for the purposes of compliance with the proposed BTEX soil remediation limits.

3. Duke shall submit a soil remediation report upon completion of the remedial activities. The report shall be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office and shall include:

a. A description of the investigation and remediation activities which occurred including conclusions and recommendations.

b. Maps showing the locations of all pipelines, excavated areas, landfarmed areas, sample locations and release areas as well as any other pertinent features.

c. Summary tables of all soil sampling results and copies of all laboratory analytical data sheets and associated QA/QC data.

d. Photographs of the various phases of the remedial activities.

e. The disposition of all wastes generated

f. Any other relevant information generated during implementation of the work plans.

4. Duke shall notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and split samples.

2.0 Soil Remediation Plan Implementation

Implementation of the soil remediation plan was completed on 4-22-03. Approximately 18,156 yd^3 of soil was removed from the excavation. The excavation is oriented along the cardinal radians and measures approximately 120' x 120' at the surface tapering to 25'bgs where the ground water is exposed forming a 50' x 50' water pool with maximum depth of ~6'. The excavation was benched at 4' x 4' intervals to accommodate the excavation safety plan developed for the site. During the initial response and delineation phase of the project, 1,140 yd^3 of contaminated soil was disposed of in the NMOCD approved and permitted South Monument Surface Waste Management Facility #NM-01-0032. Consistent with the approved plan excavated soil was shredded to aerate the soil and separate the landfarmable soil from the rock. The rock was stockpiled northwest of the site and the soil to the northeast. Highly contaminated soil excavated from just above the ground water in the bottom of excavation, after being shredded, was spread into an 8"-12" lift to promote volatilization and aeration. The soil lift was tilled weekly for 5 weeks.

2.1 Land Spread Soil Lift Data

Three-5 point composite samples of the north, middle, and south sectors of the soil lift were collected on 4-17-03. The analytical results were below detection limits for TPH^{8015m} and the BTEX compounds. Subsequently, the soil was deemed to be adequately remediated and would not require further disking.

2.2 Shredded Soil Data

Nominal VOC headspace survey data and laboratory analytical results less than the instrument detection limits for TPH^{8015m} and BTEX, supports the conclusion that the shredding process adequately remediated the contaminated soil and therefore was not land spread.

3.0 Water Pool Information

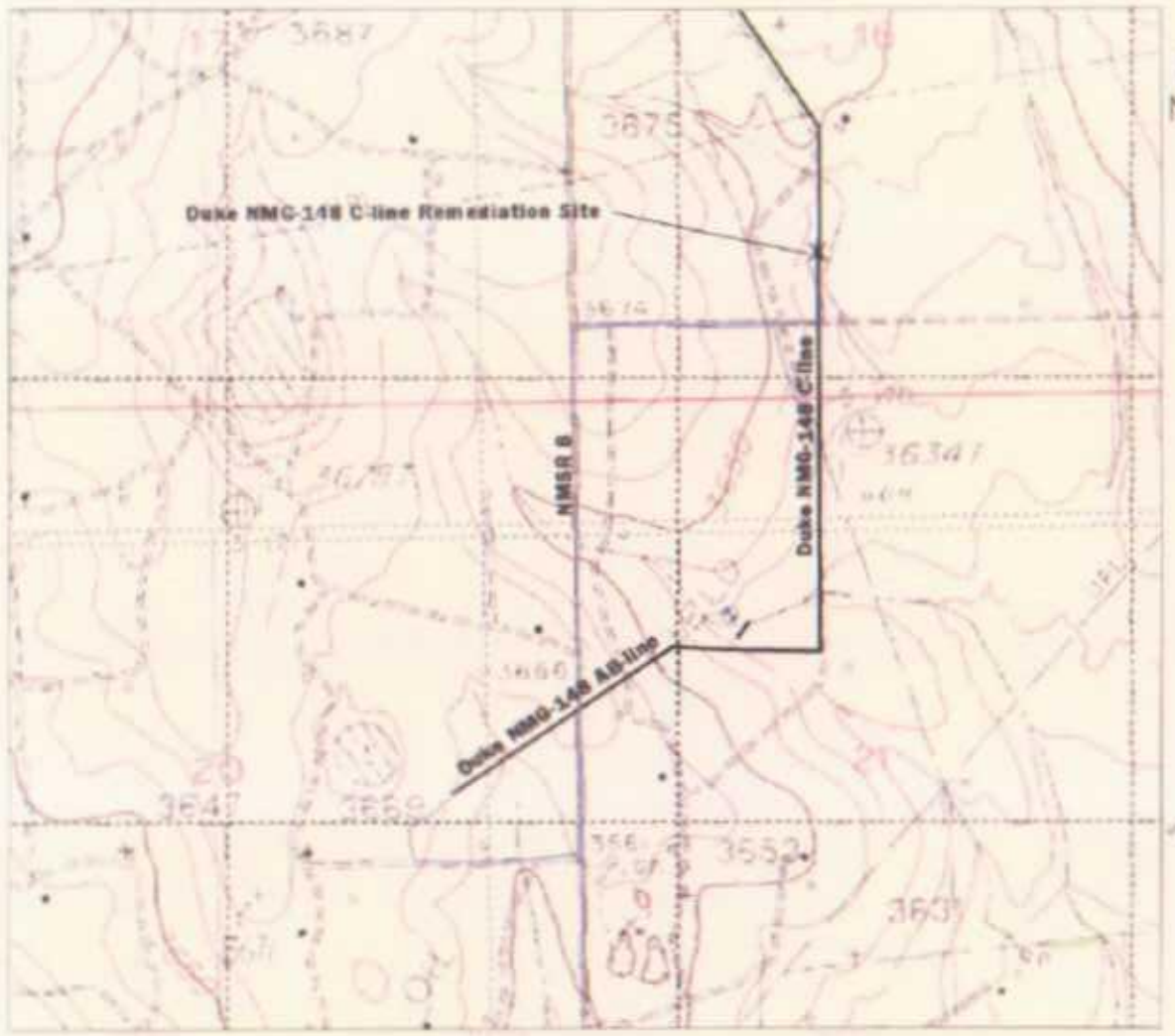
In support of the ground water remediation plan, initial sampling of the water pool occurred on 2-14-03 with follow-up sampling on 4-17-03. The data is presented below.

Location	Date	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Xylene mg/L	MTBE mg/L
Water Pool North	2/14/2003	4.25	3.15	0.163	0.463	na
	4/17/2003	0.0545	0.0429	<0.002	<0.006	0.00278
Water Pool South	2/14/2003	4.46	3.01	0.154	0.436	na
	4/17/2003	0.0475	0.0378	<0.002	<0.006	0.0028

4.0 FUTURE ACTIVITIES

The excavation will be backfilled in accordance with the NMOCD soil remediation plan approval stipulations and the site contoured to grade and reseeded after groundwater quality standards have been achieved. For reference, Maps and Figures, Photographs, the Site Information and Metrics form, and the New Mexico State Land Office Right of Entry Permit #707, and excavation diagram are included in Attachments I, II, III, IV, and V, respectively.

Attachment I: Figures and Maps



DUKE ENERGY
FIELD SERVICES
NMG-148 C-LINE
UL-N
SE/4 OF THE
SW/4
SECTION 16
T19S R37E

N

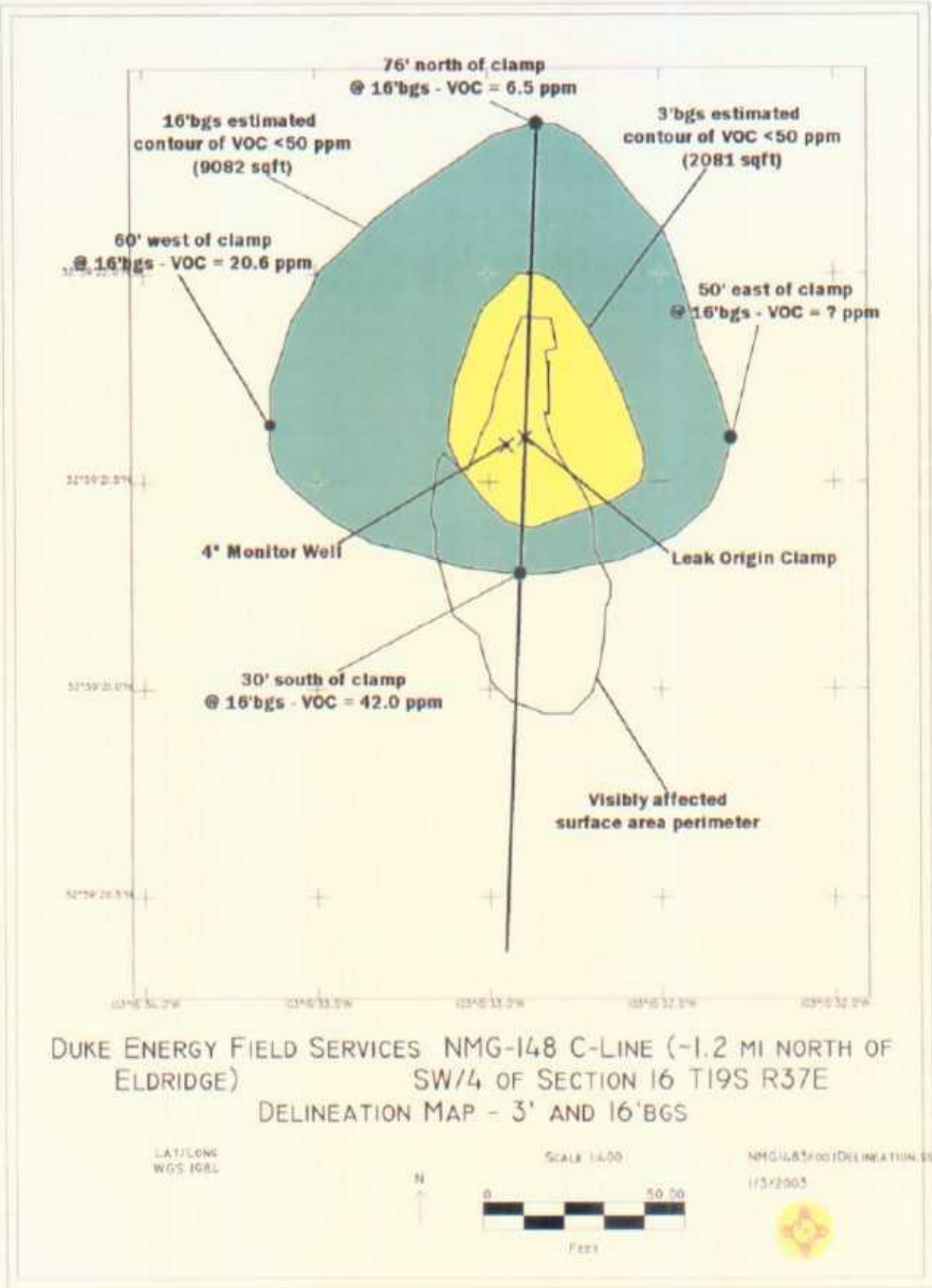
SCALE 1:15,000

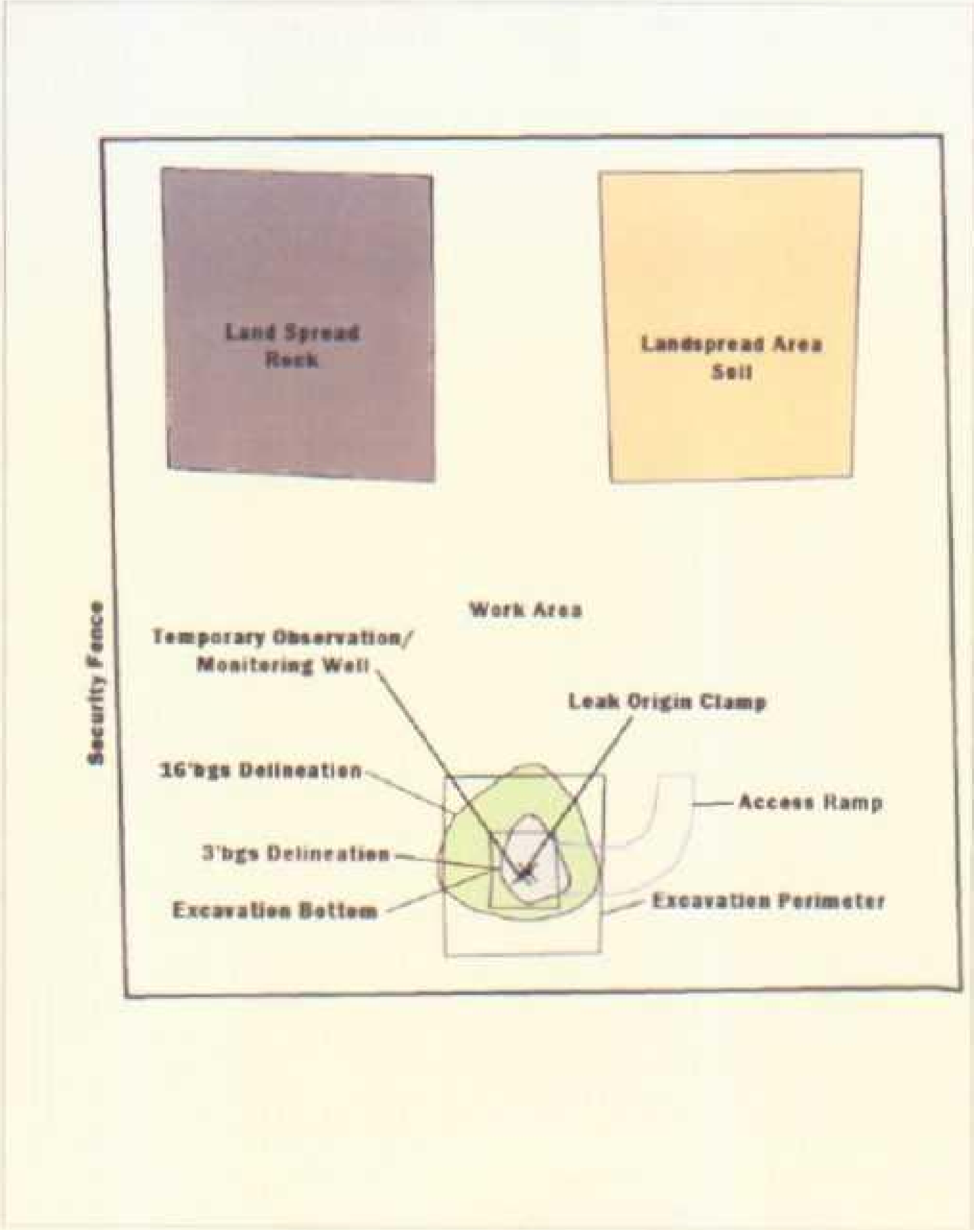
0 1500

FEET

MULTIPLE FILES

1/5/2003


76' north of clamp
@ 16'bgs - VOC = 6.5 ppm
16'bgs estimated
contour of VOC <50 ppm
(9082 sqft)
3'bgs estimated
contour of VOC <50 ppm
(2081 sqft)
60' west of clamp
@ 16'bgs - VOC = 20.6 ppm
50' east of clamp
@ 16'bgs - VOC = ? ppm
4" Monitor Well
Leak Origin Clamp
30' south of clamp
@ 16'bgs - VOC = 42.0 ppm
Visibly affected
surface area perimeter
DUKE ENERGY FIELD SERVICES NMG-148 C-LINE (~1.2 MI NORTH OF ELDRIDGE) SW/4 OF SECTION 16 T19S R37E
DELINEATION MAP - 3' AND 16'BGS
LAT/LONG
WGS 1984
SCALE 1:400
N
0
50 00
Feet
1/3/2003



DUKE ENERGY FIELD SERVICES NMG-148 C-LINE
SECTION 16 T19S R37E
SITE MAP

UNIVERSAL TRANSVERSE MERCATOR
NAD 1927 (WESTERN US)

N

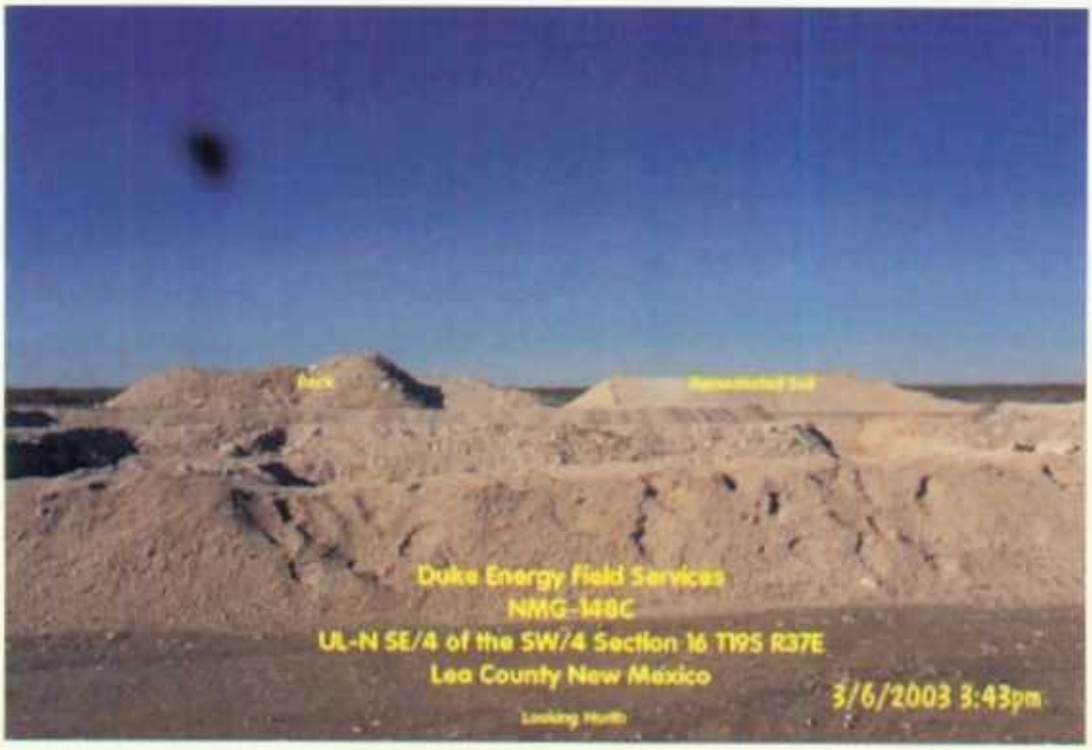
SCALE 1:1500

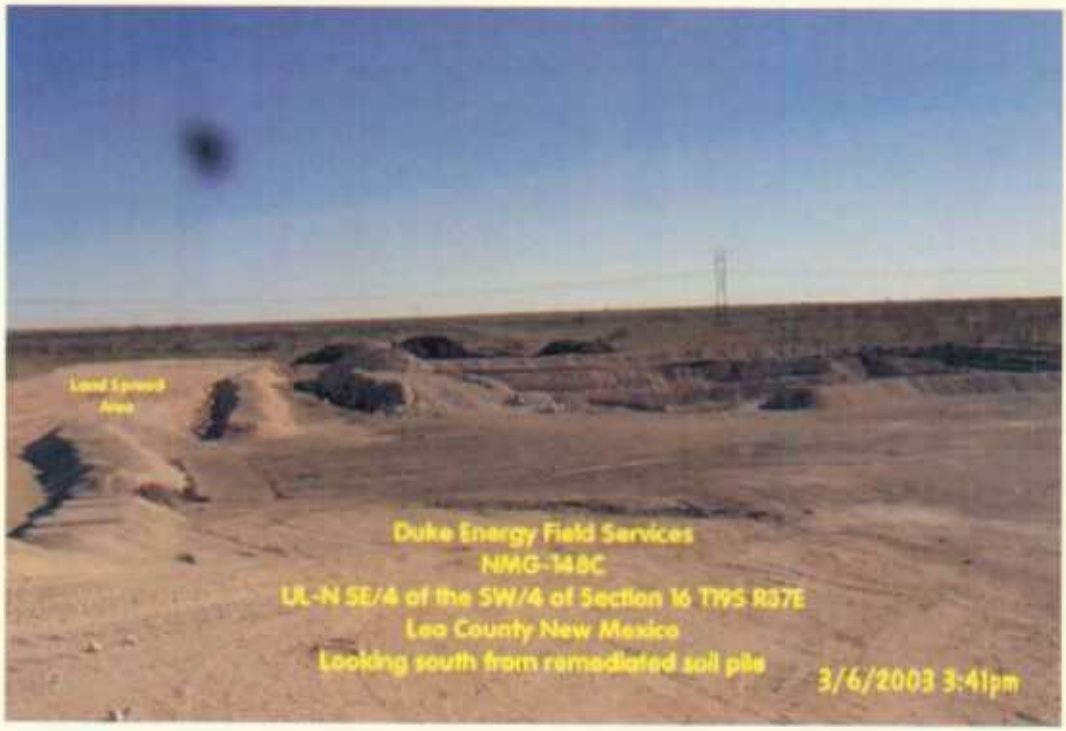
FEET

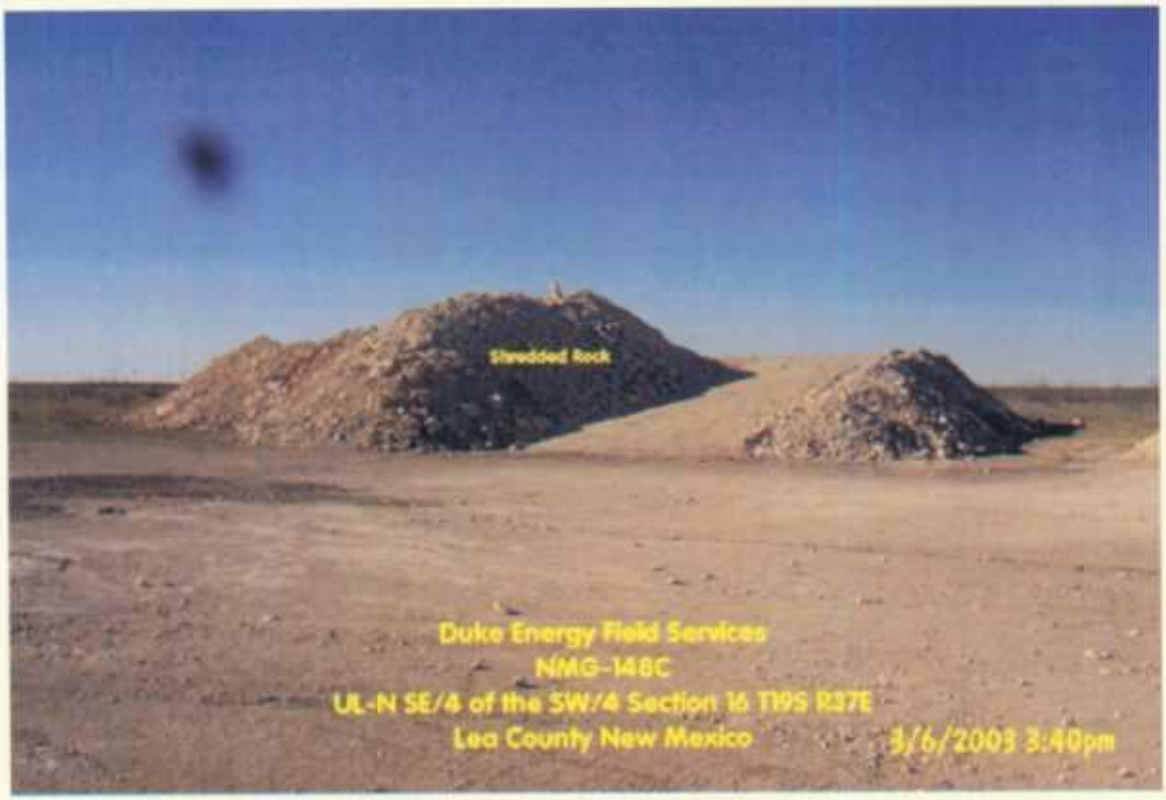
Attachment II: Site Photographs

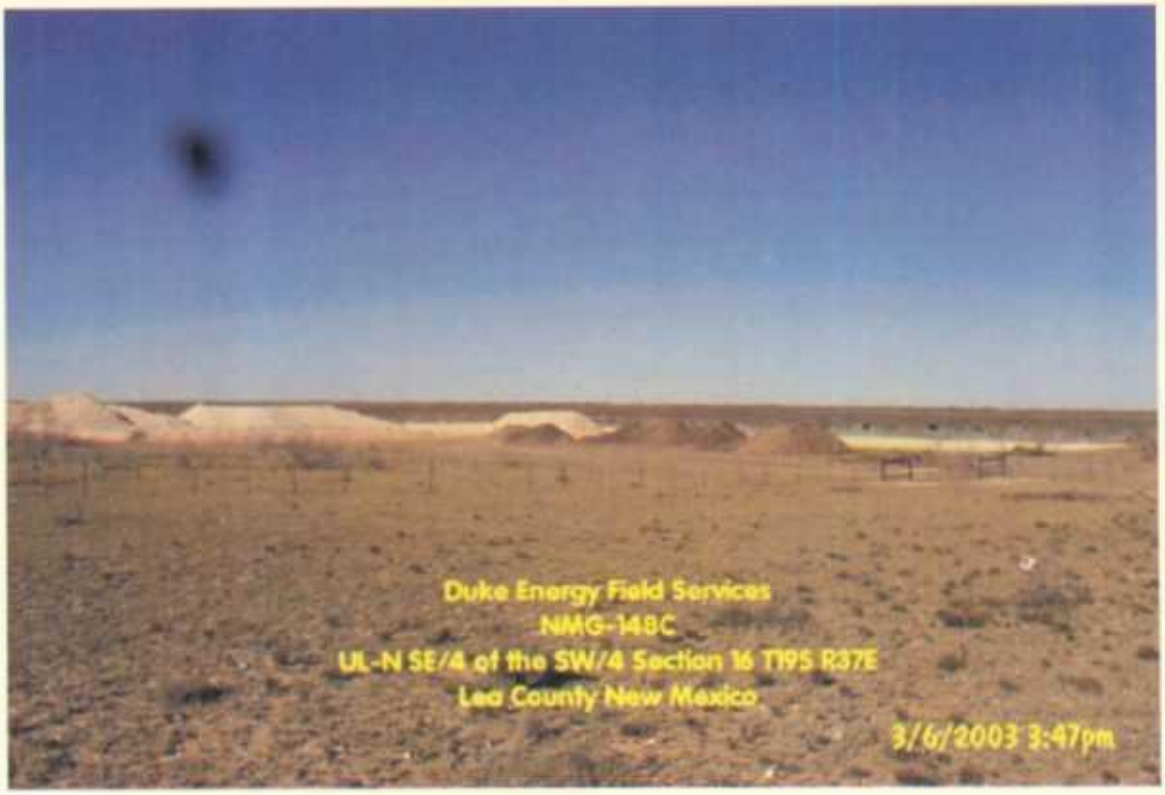

Water and Product Saturated Soil
Ground Water - Free Product Present
Duke Energy Field Services
NMG-148C


Berm
Water Pool
Duke Energy Field Services
NMG-148C
UL-N SE/4 of the SW/4 Section 16 T19S R37E
Lea County New Mexico
Looking South
3/6/2003 3:39pm


Duke Energy Field Services
NMG-148C
UL-N SE/4 of the SW/4 Section 16 T19S R37E
Lea County New Mexico
3/6/2003 3:43pm


Duke Energy Field Services
NMG-148C
UL-N SE/4 of the SW/4 of Section 16 T19S R37E
Lea County New Mexico
Looking south from remediated soil pile
3/6/2003 3:41pm


Shredded Rock
Duke Energy Field Services
NMG-148C
UL-N SE/4 of the SW/4 Section 16 T19S R37E
Lea County New Mexico
3/6/2003 3:40pm


Duke Energy Field Services
NMG-148C
UL-N SE/4 of the SW/4 Section 16 T19S R37E
Lea County New Mexico
3/6/2003 3:47pm

Attachment II: Site Information and Metrics Form

Duke Energy Field Services Site Information and Metrics	Incident Date and NMOCD Notified? 12-23-02 NMOCD notified immediately
SITE: NMG-148 C-Line	Assigned Site Reference #:
Company: Duke Energy Field Services	
Street Address: 11525 West Carlsbad Highway	
Mailing Address: 11525 West Carlsbad Highway	
City, State, Zip: Hobbs, NM 88240	
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilchrest	
Representative Telephone: 505.397.5716 / 505.397.5561	
Telephone:	
Fluid volume released (bbls): >25 bbls	Recovered (bbls): 0
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)	
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)	
Leak, Spill, or Pit (LSP) Name: NMG-148 C-Line	
Source of contamination: Natural Gas Gathering Line	
Land Owner, i.e., BLM, ST, Fee, Other:: State of New Mexico leased by Foley	
LSP Dimensions ~95' x 40'	
LSP Area: 2,536 ft^2	
Location of Reference Point (RP)	
Location distance and direction from RP	
Latitude: 32°39'21.32" N	
Longitude: 103°15'32.90" W	
Elevation above mean sea level: 3,648'amsl	
Feet from South Section Line	
Feet from West Section Line	
Location- Unit or ¼¼: SE¼ of the SW ¼	Unit Letter: N
Location- Section: 16	
Location- Township: 19S	
Location- Range: 37E	
Surface water body within 1000 ' radius of site: None	
Domestic water wells within 1000' radius of site: None	
Agricultural water wells within 1000' radius of site: None	
Public water supply wells within 1000' radius of site: None	
Depth from land surface to ground water (DG) ~25'bgs	
Depth of contamination (DC) –	
Depth to ground water (DG – DC = DtGW) - 0.0	

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water Body
If Depth to GW <50 feet: *20 points*	If <1000' from water source, or;<200' from private domestic water source: *20 points*	<200 horizontal feet: *20 points*
If Depth to GW 50 to 99 feet: *10 points*		200-100 horizontal feet: *10 points*
If Depth to GW >100 feet: *0 points*	If >1000' from water source, or; >200' from private domestic water source: *0 points*	>1000 horizontal feet: *0 points*
Ground water Score = 20	*Wellhead Protection Area Score= 0*	*Surface Water Score= 0*
Site Rank (1+2+3) = 20		

Total Site Ranking Score and Acceptable Concentrations

Parameter	**>19**	10-19 (surface to 43'bgs)	0-9
Benzene[1]	**10 ppm**	10 ppm	10 ppm
BTEX[1]	**50 ppm**	50 ppm	50 ppm
TPH	**100 ppm**	1000 ppm	5000 ppm

[1]100 ppm field VOC headspace measurement may be substituted for lab analysis

Attachment IV: New Mexico State Land Office Right of Entry Permit #707

NEW MEXICO STATE LAND OFFICE
Ray B. Powell, Commissioner of Public Lands
New Mexico State Land Office Building
P.O. Box 1148, Santa Fe, NM 87504-1148

RIGHT OF ENTRY PERMIT
CONTRACT NO. 707

1. RIGHT OF ENTRY PERMIT
This permit is hereby issued under the authority established by Section 19-1-2 NMSA (1985). Therefore, and in consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights, the Commissioner of Public Lands, New Mexico State Land Office, State of New Mexico, hereinafter called "COMMISSIONER," grants to **Duke Energy Field Services c/o Environmental Plus, Inc. of PO Box 1558, Eunice, NM 88231 hereinafter** called "PERMITTEE," authorized use of a specific tract(s) of state trust land described in this permit.

2. TERM AND LAND DESCRIPTION
Right of entry is granted for a term of 3 months commencing **December 18, 2002 to March 18, 2003** to the following state lands: **NE4SW4 of Section 16, Township 19 South, Range 37 East.** SE

3. FEE.
$300.00 (Three Hundred Dollars)

4. PERMITTED USE
Permitted use is for the purpose of: **Delineate and characterize the extent pipeline fluid contamination and excavate soil for remediation purposes, i.e., off-site disposal, mechanically shred/aerate, land spread, blend and treat the released pipeline fluids. An undetermined number of ground water observation monitor wells will be installed. The granting of this permit does not allow access across private lands.**

5. IMPROVEMENTS
No improvements shall be placed on the premises without the prior written consent of the Commissioner.

6. RESERVATIONS
Commissioner reserves the right to execute permits on the land granted by this permit for mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits therefrom and the right to go upon, explore for, mine, remove and sell same.

Commissioner further reserves the right to sell or dispose of natural surface products of said lands and to grant such other right-of-way and easements as provided for by law.

7. COMPLIANCE WITH LAWS

Permittee shall at its own expense comply fully with and be subject to all regulations, rules, ordinances, and requirements of the Commissioner including, but not limited to the Cultural Properties Act, NMSA 1978 as amended. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

8. HOLD HARMLESS

Permittee shall have, save, and hold harmless, indemnify and defend Commissioner and the State of New Mexico, and their agent or agents, in their official and individual capacities, of and from any and all liability claims, losses, or damages arising out of or alleged to arise out of or indirectly connected with the operations of Permittee under this permit off or on the Commissioner' premises or arising out of the presence on the Commissioner's premises of any agent, contractor or subcontractor of Permittee.

9. AMENDMENT

This permit shall not be altered, changed or amended except by an instrument in writing executed by Commissioner and Permittee.

10. WITHDRAWAL

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

11. CANCELLATION

The violation by Permittee of any of the terms, conditions or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

12. PRESERVE AND PROTECT

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation.

13. RECLAMATION

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

14. SPECIAL INSTRUCTIONS AND OR RESTRICTIONS

1. No off road traffic allowed

2. No wood collection or tree cutting allowed.

3. Disturbing, dislodging, damaging, defacing, destroying or removing historical archaeological, paleontological or cultural sites or artifacts is prohibited.

4. Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.

5. Entries to lands are limited to those State Lands with public access.

6. Any other activities not listed are not allowed unless prior written approval from the Commissioner of Public Lands is granted.

WITNESS the hands and seals of PERMITTEE and COMMISSIONER on the day and year first above written.

John Hook Telephone: 505 394 3491

PERMITTEE

ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)
COUNTY OF Lea)

The foregoing instrument was acknowledged before me this 27th day of December, 2002.

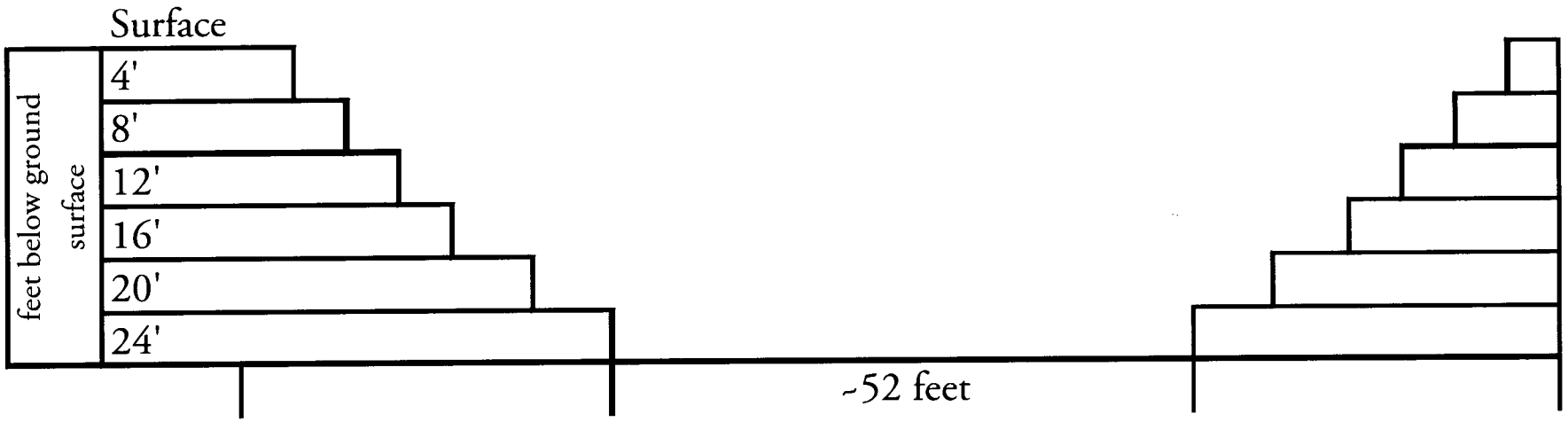
My Commission Expires: 8-21-2004 Linda Carol Cox

NOTARY PUBLIC

Patrick H. Lyons

COMMISSIONER OF PUBLIC LANDS

Attachment V: Excavation Diagram



Lateral View of the proposed excavation at the Duke NMG-148 C-Line remediation site.

![Duke Energy Field Services]

(915) [illegible]-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page ____ of ____

[illegible]any Name: Environmental Plus	BILL TO
[illegible]ct Manager: Pat McCasland	P.O. #:
[illegible]: 2100 Ave O	Company:
Eunice State: NM Zip: 88231	Attn:
[illegible] #: 505-394-3481 Fax #: 505-394-2601	Address:
[illegible]ct #: Project Owner: Duke Energy	City:
[illegible]ct Name: NMG 148	State: Zip:
[illegible]ct Location:	Phone #:
[illegible]pler Name: Bradley Bl[illegible]	Fax #:

LAB USE ONLY

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	BTEX 8021B	Btex 8021	TPH 8015M									
17604-1	WDNMG14841703NPA	G	2	X							X		4-17-03	1:00	X											
-2	WDNMG14841703SPA	G	2	X							X		4-17-03	1:05	X											
-3	SDNMG14841703NC	C	1			X					X		4-17-03	2:00		X	X									
-4	SDNMG14841703MC	C	1			X					X		4-17-03	2:15		X	X									
-5	SDNMG14841703SC	C	1			X					X		4-17-03	2:30		X	X									

[illegible]

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[illegible]mpler Relinquished: Bradley Bl[illegible]	Date: 4/17-03 Time:	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
[illegible]linquished By:	Date: 4/17/03 Time:	Received By: (Lab Staff) Amy Hill	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition: Cool ☑ Yes ☐ No; Intact ☐ Yes ☐ No — CHECKED BY: (Initials)	REMARKS:

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