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GENERAL CORRESPONDENCE

YEAR(S):

12/2003 ⇒ 7/2003

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DEC 15 2003

December 12, 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

**RE: Duke Energy Field Services, LP
Eldridge Ranch Study Area (AP-33)
Humble Geochemical Report**

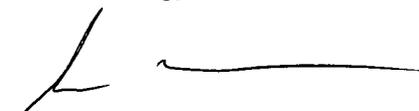
Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the Humble Geochemical Report. This report was referenced in a letter dated November 5, 2003 to Mr. Roger Anderson in which DEFS advised the New Mexico Oil Conservation Division that DEFS does not believe that hydrocarbon contamination in the Study Area can be effectively abated without investigating and abating contamination from potential sources beyond DEFS's control.

If you have any questions regarding this Humble Geochemical Report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP



Stephen Weathers
Sr. Environmental Specialist

Enclosure

cc: Environmental Files



Humble Geochemical Services

Division of Humble Instruments & Services, Inc.

P.O. Box 789 Humble, Texas 77347

218 Higgins Street Humble, Texas 77338

Telephone: 281-540-6050 Fax: 281-540-2864

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Chemical and Isotopic Characterization of Hydrocarbons in Six Floating Oil Phase Collected from Eldridge Ranch located in Lea County, New Mexico

**Prepared for
Duke Energy Field services
370 17th Street, Suite 900
Denver, Colorado 80202**

Conclusions

- Sulfur content in the oil samples submitted is relatively low falling in the 0.07-0.25 wt % range.
- All six oils analyzed show a narrow hydrocarbon fingerprints characteristic of condensates and/or light distillate products.
- Based on the weathering level the oil pooled at MW-27 appears to be the least altered whereas the oil pooled at MW-18 is the most altered.
- The GC data submitted by the client for the sample 148C suggest that this sample appears to be the least altered compared to other six samples investigated by Humble Geochemical Services.
- Based on the isotopic composition, oils pooled at monitoring wells MW-23, MW-26 and MW-27 appear to be source related and could have been derived from the same source (or reservoir).
- The oils from monitoring wells MW-8 and MW-11 are enriched in the heavy (¹³C) isotope showing less negative $\delta^{13}\text{C}$ value relative to the oils pooled at the latter three monitoring wells. This is indicative of a different source (or reservoir).
- Based on its isotopic composition the oil pooled at MW-18 could be either a mixture of group #1 and #2 oils identified in this study, or belongs to group #1 oils but slightly enriched (about 0.5 o/oo) in the heavy (¹³C) isotope, which could be attributed to the biodegradation. We believe that the latter conclusion is more plausible.

- Based on ROF results the best plot matching can be seen between MW-26 and MW-27 as one group, and MW-8 and MW-11 as another group with oil samples MW-23 and MW-18 showing differences due to their environmental degradation.

Introduction

A total of six floating oil samples collected from the monitoring wells MW-8, MW-11, MW-18, MW-23, MW-26, and MW-27 located at the Eldridge Ranch in Lea County, New Mexico were submitted by Duke Energy Field Services to Humble Geochemical Services for a chemical and isotopic characterization. The main objectives of the study were to perform fingerprinting investigations on the oil phase samples, as well as to determine their likely source relationship. Gas chromatography results (only peak areas of the light hydrocarbons) of the sample 148C (possibly an oil) were also submitted to be evaluated and compared with those of the other six oils.

Analytical Program

The oils were analyzed for the sulfur content and fractionated into saturated, aromatic, and resin fractions by open column liquid chromatography, using activated silica gel and specific solvents for each fraction. The samples were analyzed for whole oil (C₄₊) gas chromatography to obtain fingerprints of the yield and distribution of resolvable compounds. The saturate, aromatic and the resin fractions of the oils were further investigated for their stable carbon isotopic compositions.

Results

Results presented in Table 1 show that the sulfur contents in the oil samples submitted are relatively low falling in the 0.07-0.25 wt % range with sample MW-27 showing the least and sample MW-18 the highest sulfur contents.

Whole oil gas chromatography results are presented in Appendix 1. All six oil samples show relatively similar distribution patterns in the C₄ (butane) up to C₁₀ (decane) range with hydrocarbons below heptane (n-C₇) representing the dominant compounds. Such a narrow hydrocarbon fingerprint is characteristic of condensates and/or light distillate products. This finding can be confirmed by the results of liquid chromatography (Table 1 and Figure 1) which indicate that the oils analyzed are rich in saturated and aromatic hydrocarbons, but very lean in resin and no asphaltenes.

By comparing the hydrocarbon compositions of the oil samples, some slight differences could be observed which were possibly caused by their exposure to the environmental conditions such as evaporation and/or water washing. This can be seen by the removal and/or partial depletion of some light hydrocarbons below n-C₆ (Appendix 1), as well as

by the differences in their compound ratios shown in Table 2 and Figures 2 and 3. Based on their weathering levels the oils analyzed sample (including sample 148C although only GC peak areas were submitted) show the following trend from the least altered sample (148C) to the most altered sample (MW-18):

$$148C \ll MW-27 = MW-26 \ll MW-11 = MW-8 = MW-23 \ll MW-18$$

Carbon Isotope Results

Carbon exists as a mixture of two stable isotopes, ^{12}C and ^{13}C , with the approximate natural abundance of $^{12}\text{C} / ^{13}\text{C}$ ratio being 99:1. Fossil fuels and crude oils are formed as a result of a series of very complex and long-term reactions which result in hydrocarbons with isotopic signatures. From an environmental forensic point of view the fact that it is not possible to relate the isotopic numbers to a specific source of organic material is not critical since the more important application is the ability to use these isotopic values for correlation of the spilled oil its suspected source(s).

Whilst the bulk isotopic numbers represent weighted average of all components in a mixture they have still been used successfully in many exploration/production, as well as environmental applications. For example, in the case of oils, like those analyzed in this study, correlations can be made using the bulk isotopic composition of the saturate, aromatic and polar (resin) fractions rather than the whole oil itself. In order to do this the oils were fractionated by a column (liquid) chromatography. It should be noted that in this application, the saturate and aromatic fractions are typically comprised of C_{10+} fraction since the lighter components are lost during topping and/or fractionation. It is a very simple application, since the isotopic values for the fractions to be correlated are plotted against each other. Samples that are related will plot very close to each other, whereas those that are not related will plot in different areas.

In order to determine if the oils pooled at monitoring wells in Eldridge Ranch are related to each other, their saturate, aromatic, and resin fractions were analyzed for carbon isotope ratio ($^{13}\text{C}/^{12}\text{C}$ or $\delta^{13}\text{C}$) using isotope ratio mass spectrometer (IRMS). The carbon isotope results presented in Table 3 show two groups: one group with saturate $\delta^{13}\text{C}$ values of about -29.9‰ (for the samples MW-23, MW-26, MW-27), and another group with saturate $\delta^{13}\text{C}$ values of about -28.4‰ (for the samples MW-8 and MW-11) with sample MW-18 showing a $\delta^{13}\text{C}$ value some where in between.

The isotopic data have been plotted in Figures 4 and 5. Two significant groups have been developed to show relationship. Group #1 illustrates the close relationship between oils pooled at MW-23, MW-26 and MW-27, whereas group # 2 is reserved for the oils pooled at MW-11 and MW-8. This observation provides strong evidence that the oils MW-23, MW-26 and MW-27 are source related and could have been derived from the same source (or reservoir), whereas the oils MW-8 and MW-11 are isotopically heavier (i.e., they are enriched in the ^{13}C isotope showing less negative $\delta^{13}\text{C}$ values) and may have been derived from a different source (or reservoir).

Oil sample from the monitoring well MW-18 appears to be the most weathered sample showing $\delta^{13}\text{C}$ values which fall between those of group #1 and group #2, but slightly close to the group #1. By not knowing the locations of the monitoring wells and the groundwater flow direction, the latter finding suggests that the oil pooled at MW-18 is either a mixture of group #1 and #2 oils, or belongs to group #1 oils but slightly enriched in the heavy (^{13}C) isotope (about 0.5 ‰) as a result of isotope fractionation attributed to the weathering processes such as biodegradation. We believe that the latter conclusion is more plausible.

Comparison between sample 148C and the other six oils analyzed

Similar compound ratios computed for the six oil phase samples were also calculated for the sample 148C and compared with those of the other 6 oils (Table 2). The result of this comparison is presented in Figures 2 and 3. As shown in these figures, the oil 148C exhibit totally different compositions compared to those of other six oils analyzed. This can be seen from its bulk n-alkanes / isoalkanes / cycloalkanes composition (Figure 3), as well as from the calculated ratios (Figure 2). Based on the results provide the sample 148C appears to represent a refined product (probably gasoline). This conclusion is based on its relatively high benzene and toluene contents and the presence of olefins because condensates contain no olefins.

Oil sample 148C also appears to be less altered compared to other six oils investigated. This finding suggests that the oil 148C most probably represents a very recent spill which has undergone a very minor environmental degradation. This can be supported by its higher percent n-alkanes relative to cycloalkanes, as well as higher benzene / toluene, pentane / butane, and pentane / hexane ratios.

Reservoir Oil Fingerprinting (ROF)

The six oil samples from Eldridge Ranch, Lea County, New Mexico were further investigated for Reservoir Oil fingerprinting (ROF) with the main objective to describe the genetic relationship between and among these six samples.

The approach has been described by Kaufman *et al.* (1990), Hwang and Baskin (1994) and Halpern (1995), for example. Simply stated, it is based on the presumption that oils emplaced in separate reservoir compartments will exhibit differences in their chromatographic signatures. This is due, in part, to the fact that oil composition changes with time during generation, even for oils from the same source rock. Additionally, source rocks are not wholly homogeneous, and discrete organic facies differences in a single source rock exist regionally. Oils generated from a source rock will reflect those facies differences in their chromatographic signatures, and may follow different migration conduits. Since no two compartments are of identical geometry, they will

reflect different filling histories, and therefore different signatures, reflecting the subtle differences of the oils that fill them.

For this study, 19 components eluting between n-C₈ and n-C₁₀ (Figure 6) were selected from which 18 different ratios were computed for each individual oil sample. To monitor the reproducibility of the analysis, samples MW-23, MW-27 and MW-18 were run duplicates. Ratios between the selected components were then plotted as a "star" diagram (Figure 7) in order to help assess differences or similarities among the oils.

As can be seen in Figure 7, the plots for the oil sample MW-18 show a significant difference relative to other samples analyzed, especially in the low-range hydrocarbons. This finding supports its high degree of environmental degradation (weathering).

The plots for the samples MW-23, MW-26, and MW-27 overlay one another for most of the ratios (about 65% of the ratios), testifying to close similarity in the signatures of these three oils. The slight differences observed (especially in case of ME-23) are most probably attributed to the environmental alteration.

The best plot matching (> 85% of the ratios) can be seen between MW-26 and MW-27 as one group, and MW-8 and MW-11 as another group. This finding further supports the conclusions reached based on the carbon isotope ratios.

References

- Halpern, H. I., 1995: Development and applications of light-hydrocarbon-based star diagrams. AAPG Bull., v. 79, p. 801-815.
- Hwang R. J. and Baskin D. K., 1994: Reservoir connectivity and oil homogeneity in a large-scale reservoir. Middle East Petroleum Geoscience Geo94 2, 529-541.
- Kaufman, R. L., A. S. Ahmed, and R. J. Elsinger, 1990: Gas chromatography as a development and production tool for fingerprinting oils from individual reservoirs: applications in the Gulf of Mexico. In D. Schumaker, and B. F. Perkins, eds., Proceedings of the 9th Annual Research Conference of the Society of Economic Paleontologists and Mineralogists, October 1, 1990: New Orleans, p. 263-282.

Hossein Alimi, Ph.D.
Mark Tobey, Ph.D.
Humble Geochemical Services
August 23, 2003

TABLES

Table 1. Sulfur content and Fractionation results obtained for six oil phase samples

DUKE ENERGY Eldridge Ranch, New Mexico															
HGS ID.	Well ID.	Sulfur Content (wt%)	OIL WT. (mg)	TOPPED OIL WT. (mg)	%C15+	LC WT. (mg)	SATURATES WT. (mg)	%	AROMATICS WT. (mg)	%	RESINS WT. (mg)	%	ASPHALTENES WT. (mg)	%	RECOVERY in %
64535	MW-23	0.15	2816.8	17.3	0.61	17.3	11.5	66.5%	4.5	26.0%	0.9	5.2%	0.0	0.0%	97.7%
64536	MW-26	0.21	3908.7	22.9	0.59	22.9	12.7	55.5%	6.5	28.4%	1.5	6.6%	0.0	0.0%	90.4%
64537	MW-27	0.07	3967.1	24.7	0.62	24.7	14.3	57.9%	7.3	29.6%	1.6	6.5%	0.0	0.0%	93.9%
64538	MW-11	0.20	1861.0	23.2	1.25	23.2	9.7	41.8%	7.1	30.6%	2.6	11.2%	0.0	0.0%	83.6%
64539	MW-18	0.25	4588.6	19.8	0.43	19.8	12.1	61.1%	3.9	19.7%	0.8	4.0%	0.0	0.0%	84.8%
64540	MW-8	0.18	2647.0	15.3	0.58	15.3	7.1	46.4%	5.1	33.3%	1.6	10.5%	0.0	0.0%	90.2%

HGS Project 03-2073

**Table 2: Gross composition and gasoline range hydrocarbon compound ratios for six condensate samples
(Duke Energy Project)**

Parameter / Sample ID	MW-8	MW-11	MW-18	MW-23	MW-26	MW-27	148C
n-alkanes (Rel.%)	26.5	26.3	22.2	25.2	29.2	31.0	43.7
Isoalkanes (Rel.%)	27.2	26.3	24.1	25.6	28.5	30.0	38.6
Cycloalkanes (Rel.%)	46.3	47.3	53.7	49.2	42.3	39.0	17.7
Benzene / Toluene	0.34	0.36	0.02	0.16	0.67	0.58	1.75
Benzene / n-hexane	0.09	0.11	0.01	0.06	0.26	0.20	0.25
Toluene / n-heptane	0.28	0.3	0.07	0.27	0.62	0.55	0.63
n-alkanes/cycloalkanes	0.57	0.55	0.41	0.51	0.69	0.79	2.5
isoalkanes/cycloalkanes	0.59	0.55	0.45	0.52	0.67	0.77	2.1
n-hexane / cyclohexane	0.98	0.92	0.35	0.79	1.25	1.26	1.9
n-heptane / methylcyclohexane	0.63	0.63	0.49	0.58	0.67	0.66	0.62
(2,methyl-C ₆ +3,methyl-C ₆) / (t1,3+c1,3+t1,2)-DMCP	1.26	1.25	1.27	1.29	1.31	1.30	1.97

DMCP = dimethylcyclopentane

Table 3. Stable Carbon Isotope Report

DUKE ENERGY						
ATTN: Steve Weathers						
HGS NO:	Sample Information			$\delta^{13}\text{C}$ per mil	$\delta^{13}\text{C}$ per mil	$\delta^{13}\text{C}$ per mil
	Sample Id	Operator	Location	Saturate	Aromatic	Resin
03-2073-064535	MW-23	Trident Envir.	Eldridge Ranch	-29.8	-29.6	-29.1
03-2073-064536	MW-26	Trident Envir.	Eldridge Ranch	-29.9	-29.2	-28.1
03-2073-064537	MW-27	Trident Envir.	Eldridge Ranch	-29.9	-29.4	-28.2
03-2073-064538	MW-11	Trident Envir.	Eldridge Ranch	-28.3	-28.5	-27.9
03-2073-064539	MW-18	Trident Envir.	Eldridge Ranch	-29.4	-29.0	-28.0
03-2073-064540	MW-8	Trident Envir.	Eldridge Ranch	-28.6	-28.3	-27.4

Figures

Figure: 1

Ternary diagram showing the bulk composition of the oils studied
(Eldridge ranch/ New Mexico)

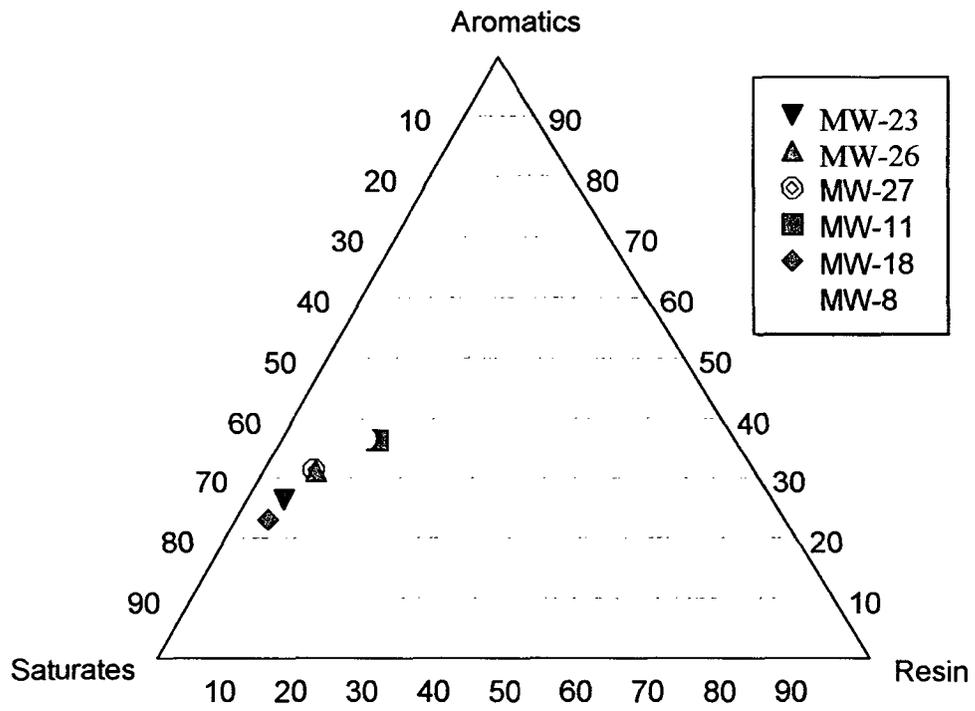


Figure 2: Star-diagram showing correlation among the floating products based on Gasoline Range Hydrocarbon Ratios (Eldridge Ranch/Lea County/New Mexico)

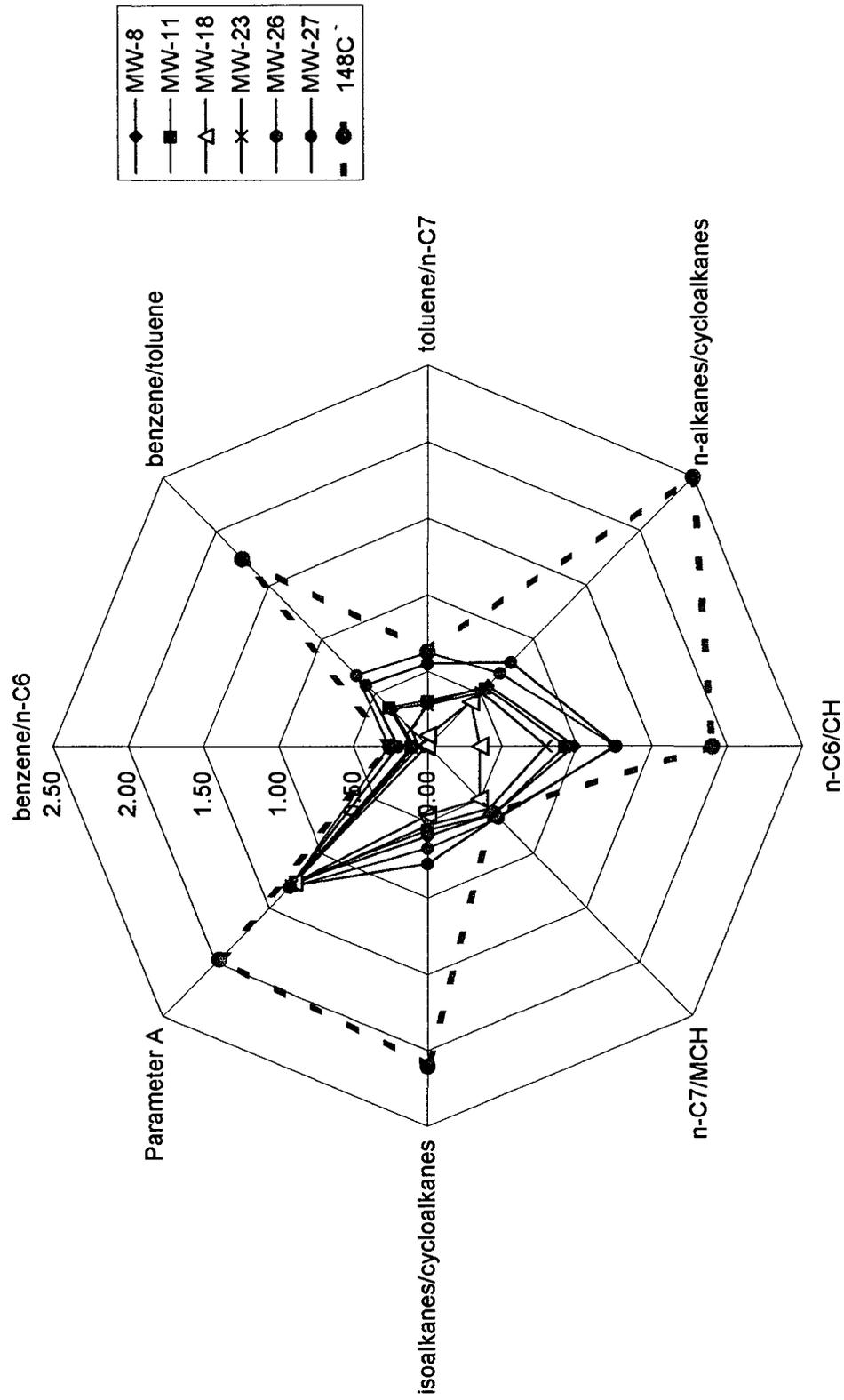


Figure: 3

Ternary diagram showing the light hydrocarbon composition of the seven oil phase samples

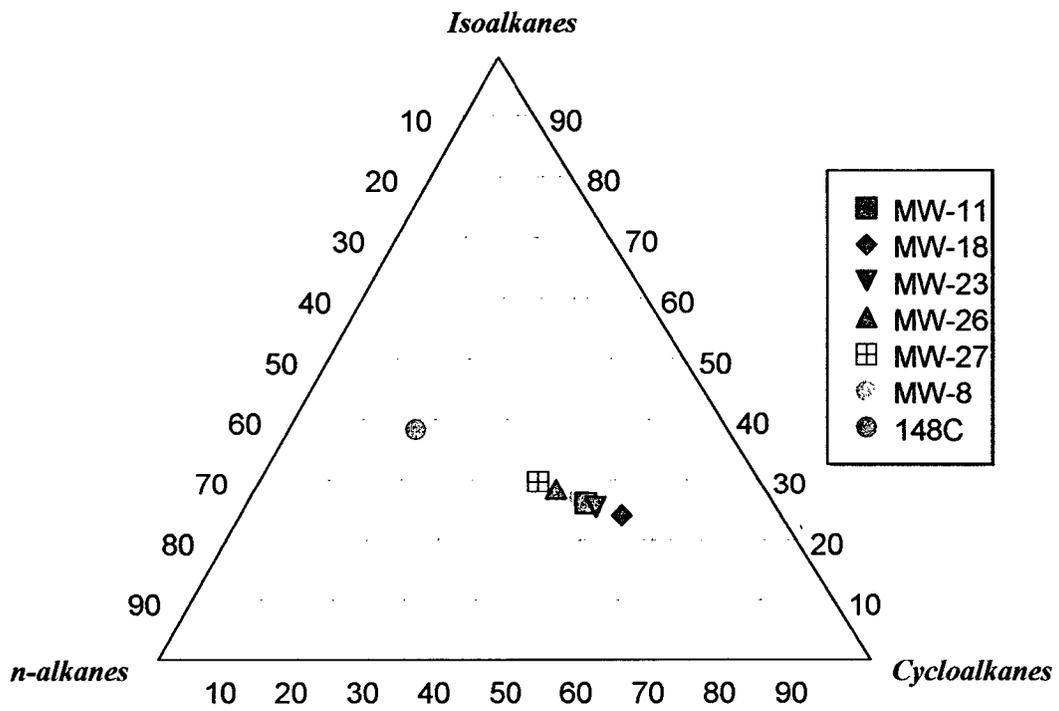
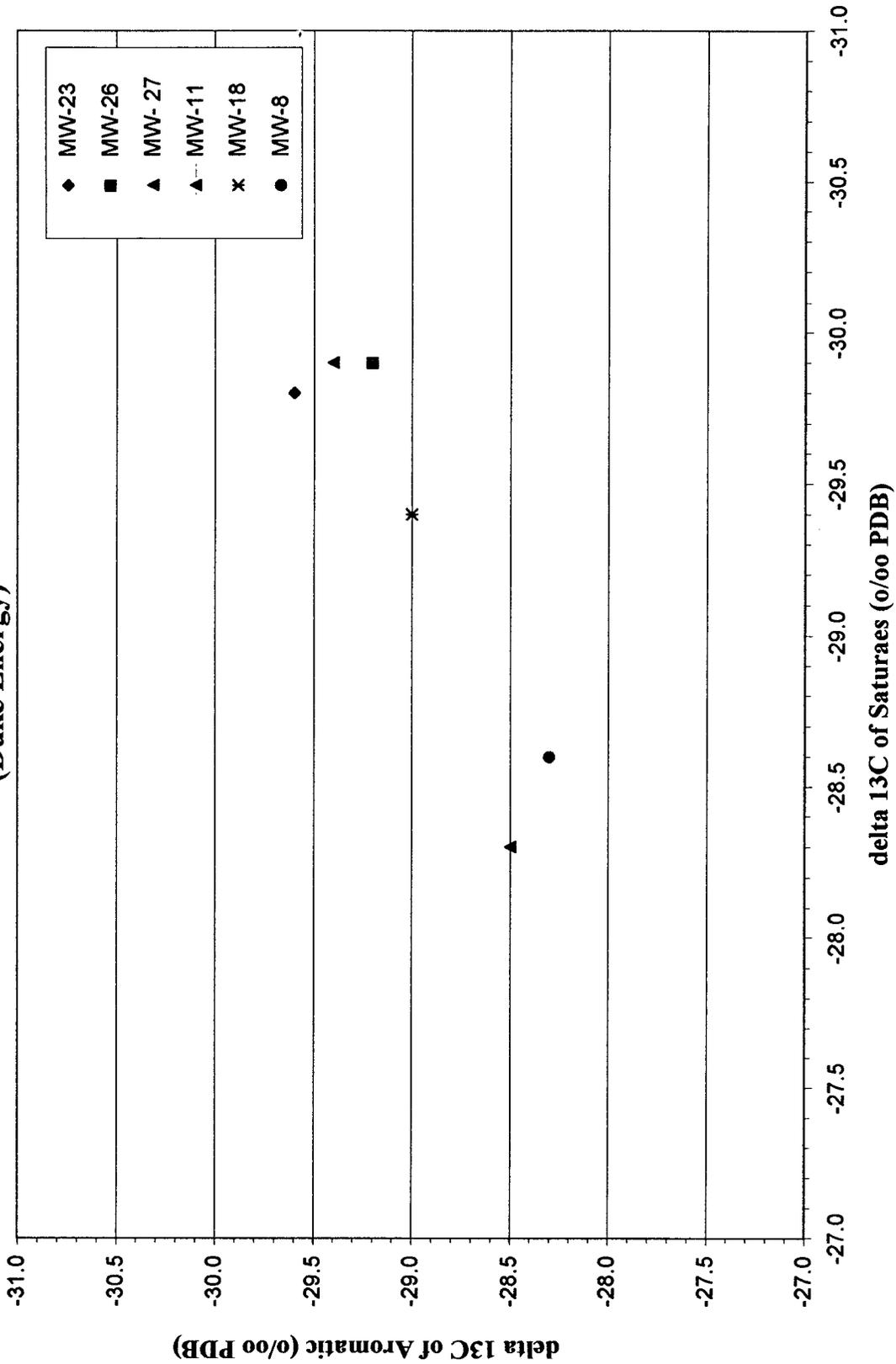


Figure 4: Stable carbon isotope values for six floating oil phase
(Duke Energy)



**Figure 5: Stable carbon isotope values for six floating oil phase
(Duke Energy)**

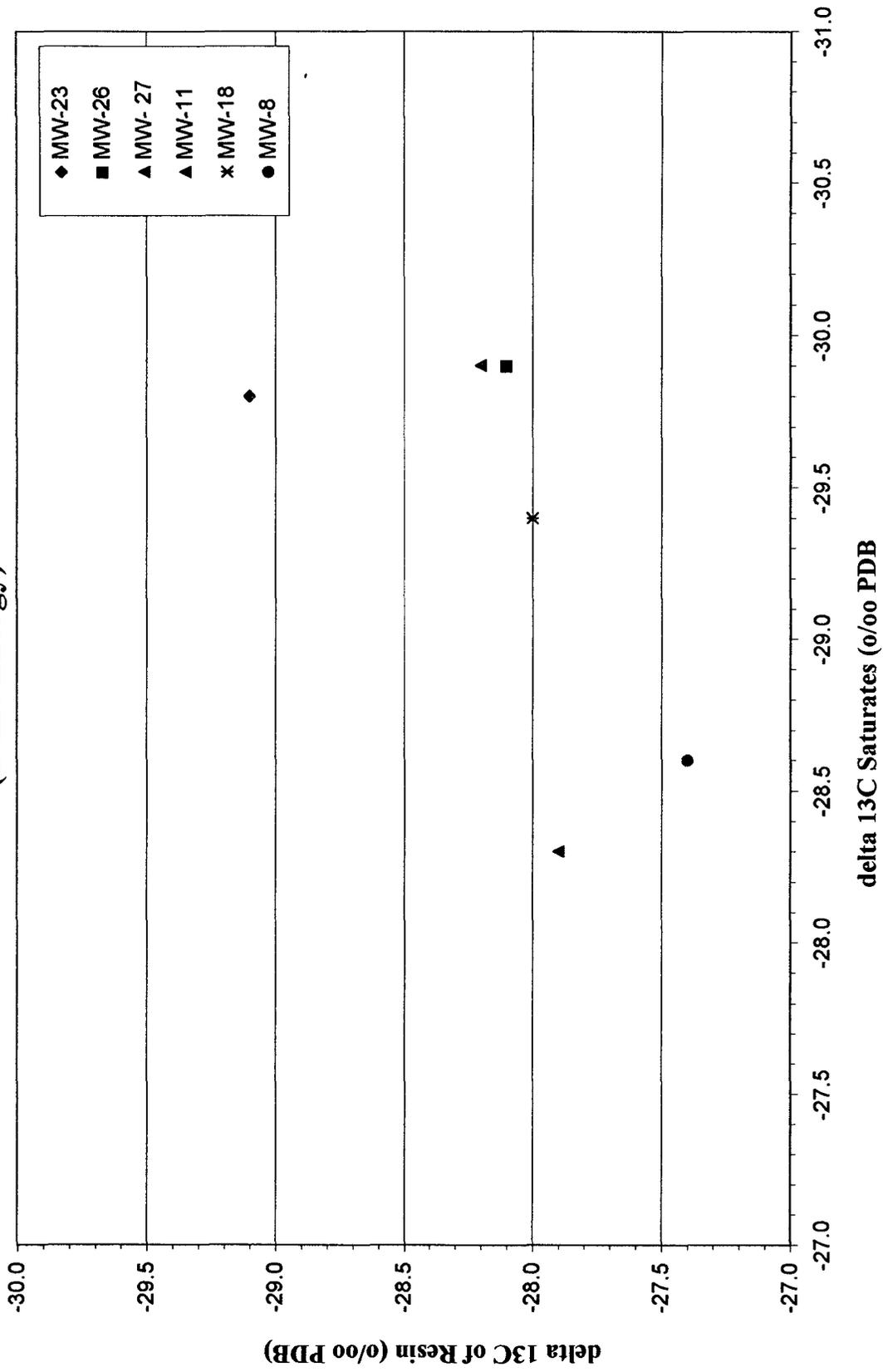


Figure 6: Representative chromatogram (MW-23) showing the compounds selected for ROF ratio calculations (Eldridge Ranch/ New Mexico)

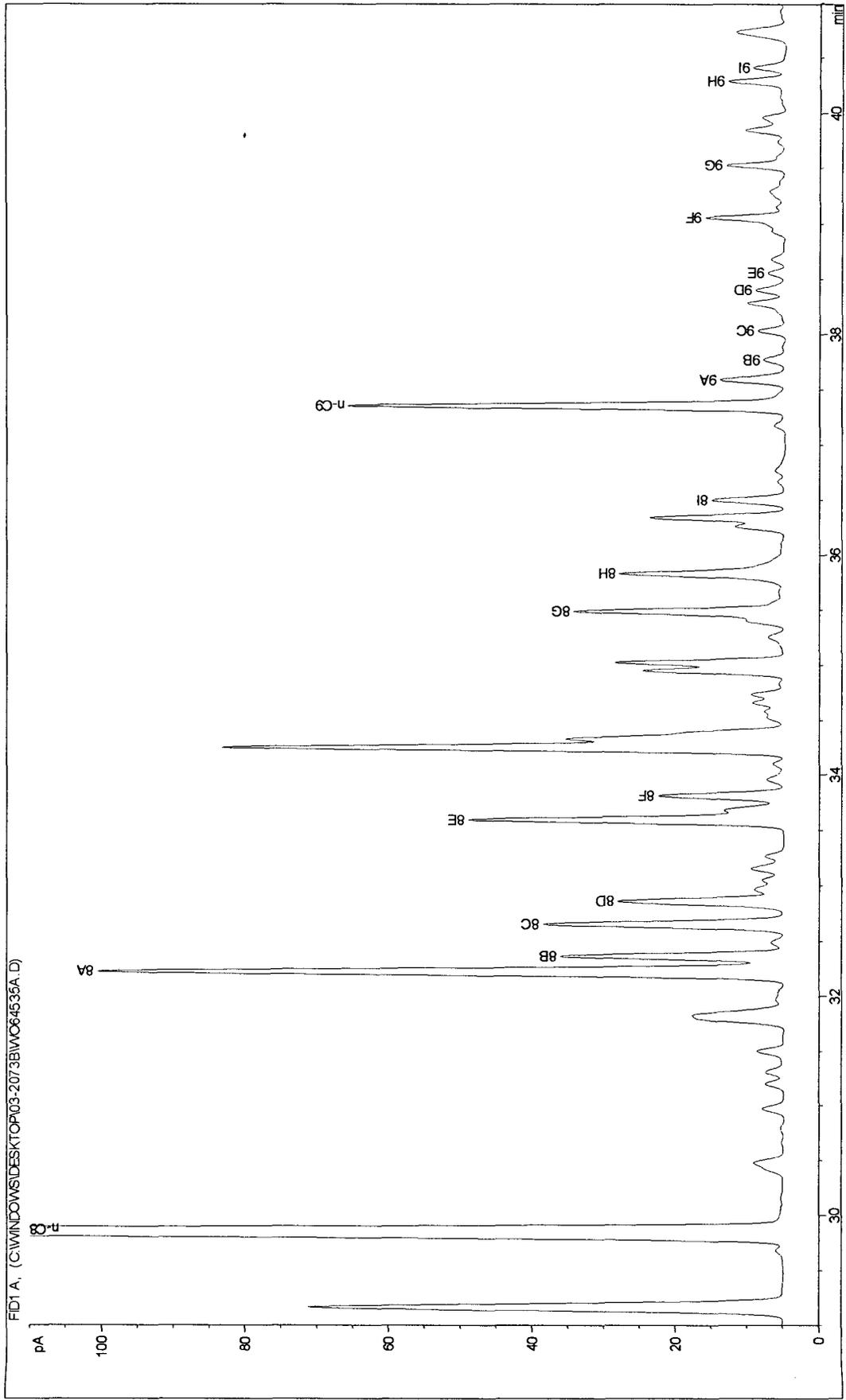
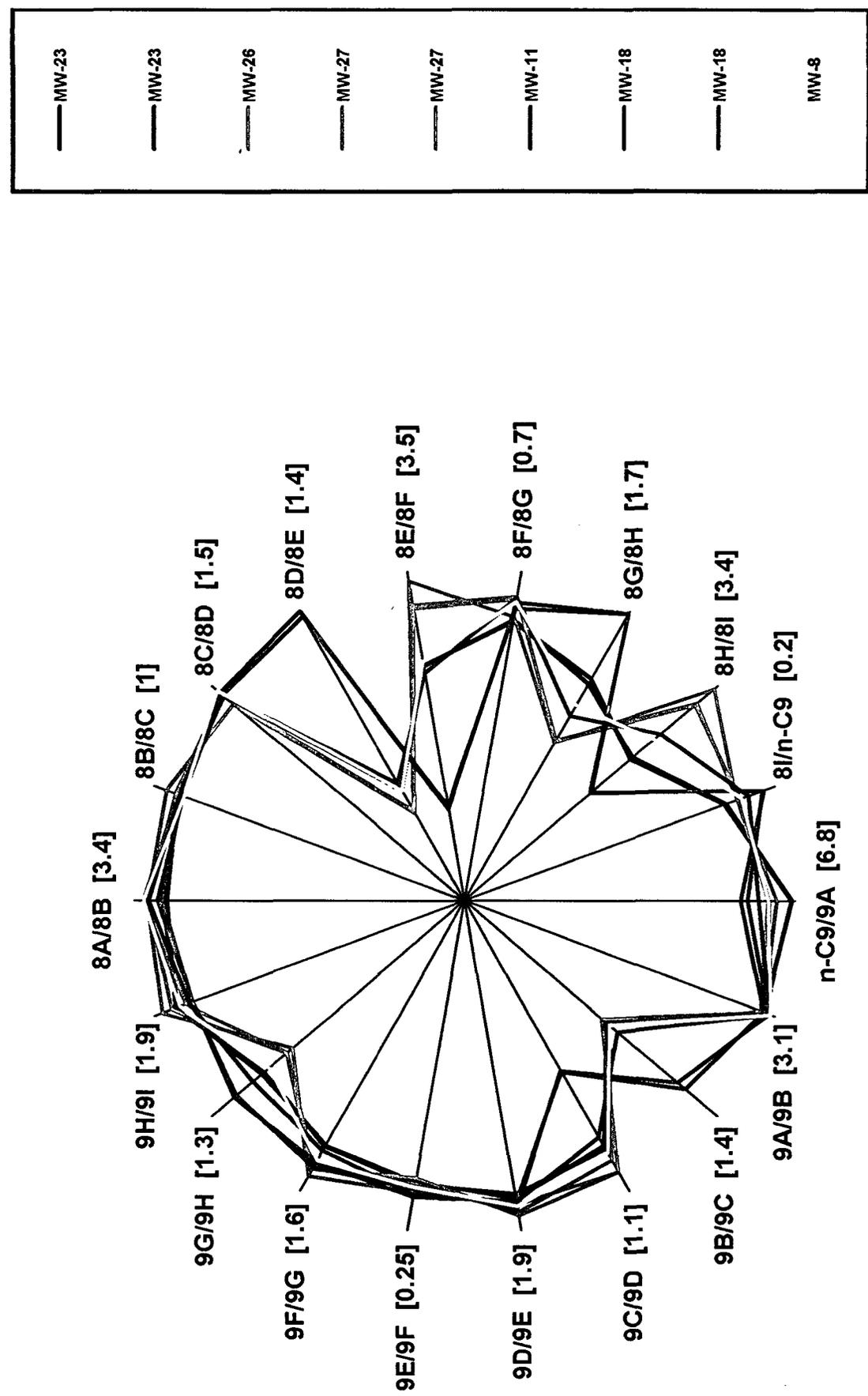


Figure 7: C8-C9 Star Diagram for six oil samples analyzed
 (Peak Ht. Ratios)

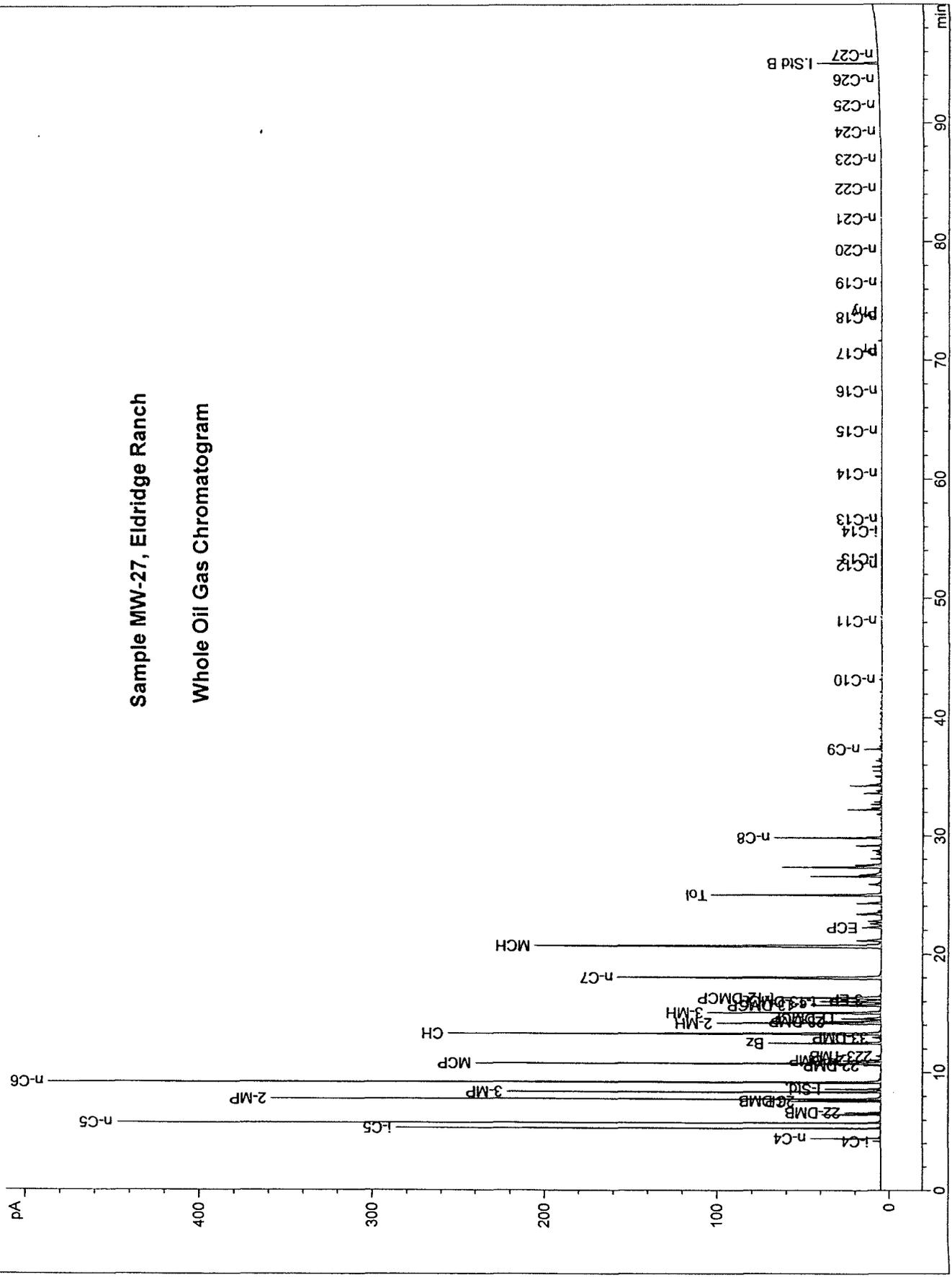


Appendix 1

Whole Oil Gas Chromatograms of the Oil Samples Analyzed

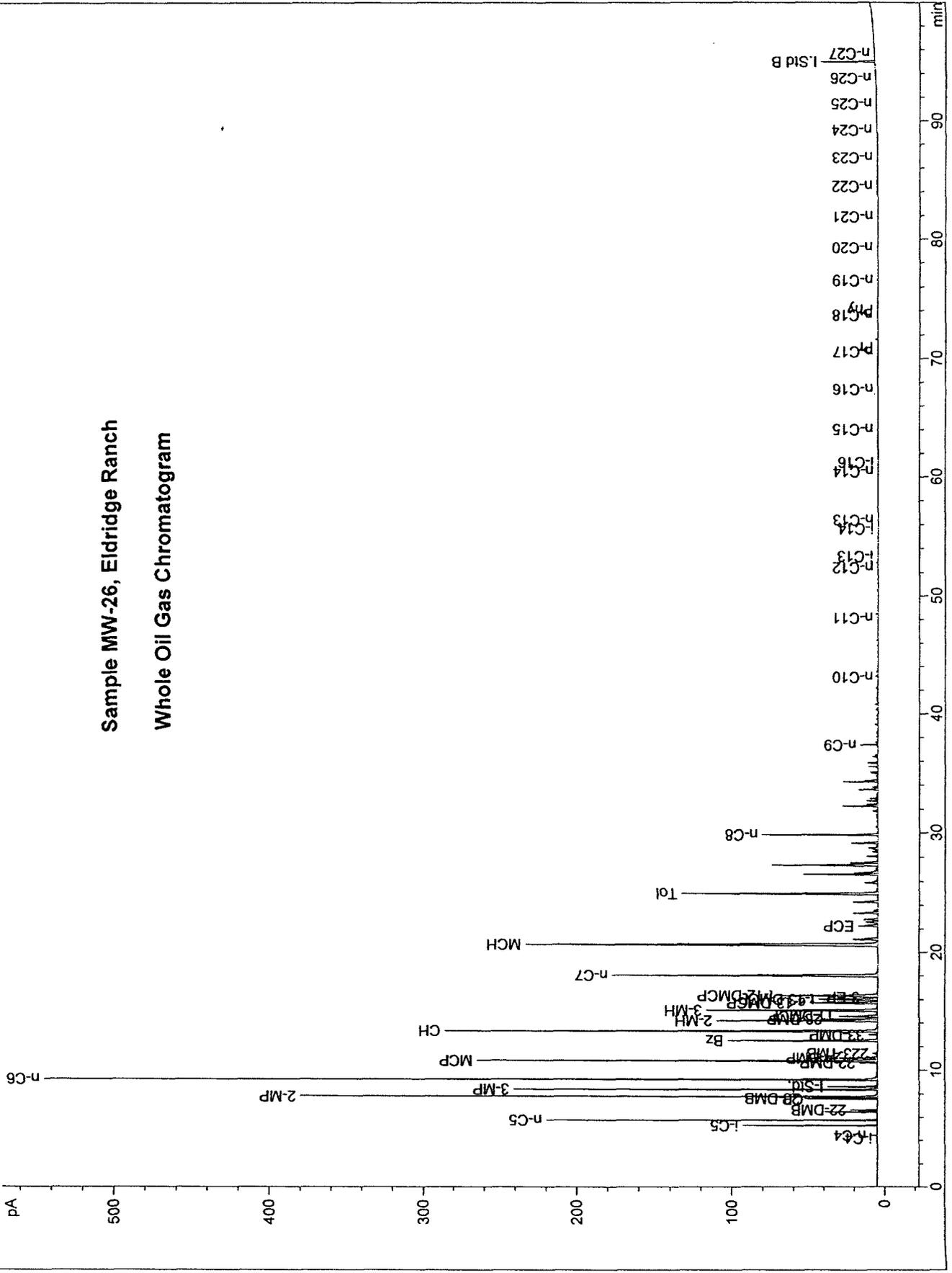
Current Chromatogram (s)
FID1 A, (M:\DATA\03-2073B\WO64537A.D)

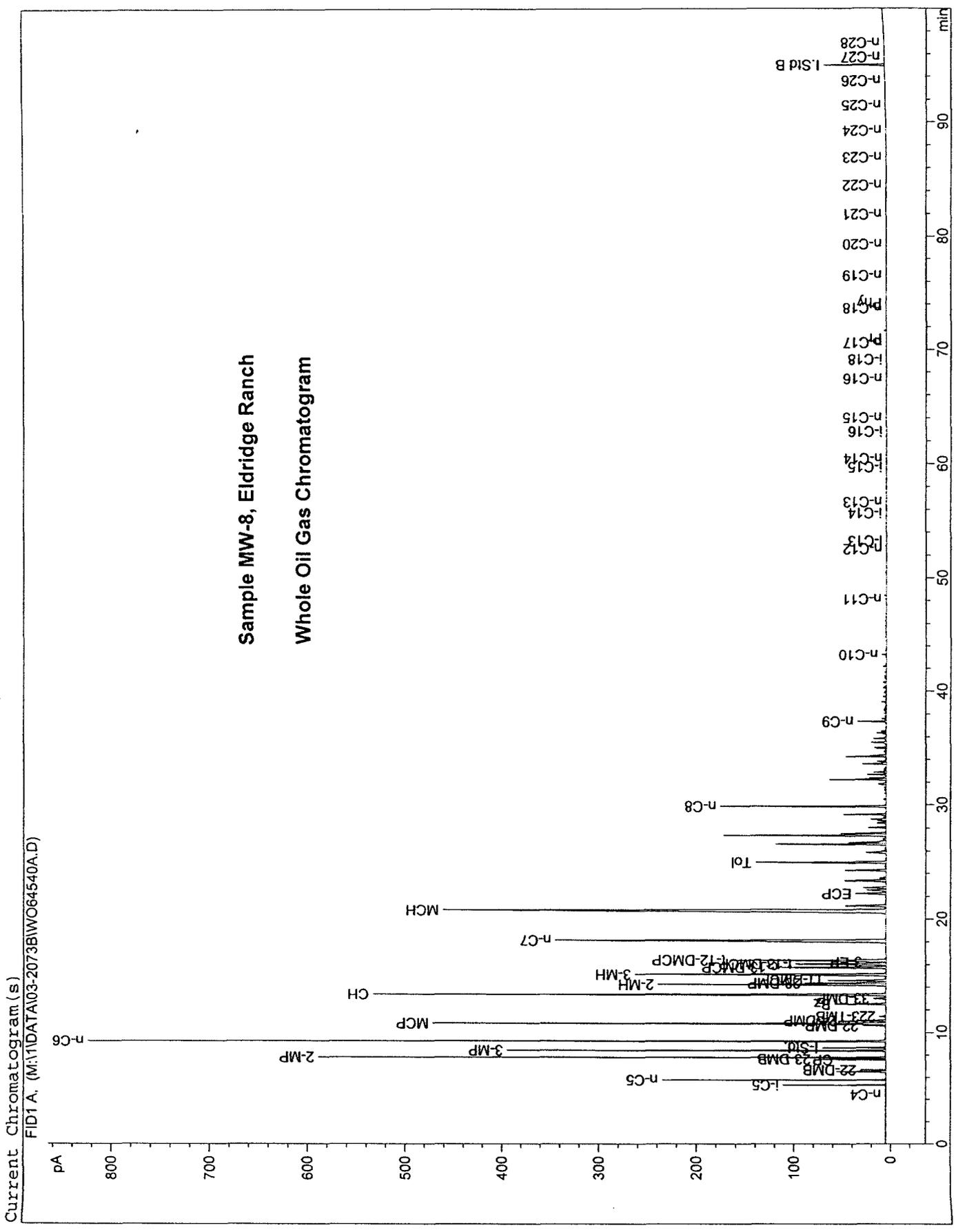
Sample MW-27, Eldridge Ranch Whole Oil Gas Chromatogram



Current Chromatogram (s)
FID1 A, (M:\11DATA\03-2073BIW\064536A.D)

Sample MW-26, Eldridge Ranch Whole Oil Gas Chromatogram





Sample MW-8, Eldridge Ranch
Whole Oil Gas Chromatogram

Current Chromatogram (s)
FID1 A. (M:\1\DATA\03-2073B\WO64540A.D)



State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
 Santa Fe, New Mexico 87505

STATE OF
 NEW MEXICO
 DEPARTMENT OF
 CONSERVATION
 DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 1500 hrs	Date 12/11/03
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Originating Party

Other Parties

Bill Olson - Envir. Bureau

Louis Rose - Montgomery & Andrews

SUBJECT

Eldridge Ranch - Duke Energy

DISCUSSION

Informal info that OCD has reviewed 11/5/03 correspondence
 Figures 445 of document were taken from an August
 2003 report by Humble Geotechnical Services.

In order to complete a review OCD needs a copy of
 this report

CONCLUSIONS OR AGREEMENTS

He will provide copy of report

DISTRIBUTION

Signed

Bill Olson

Olson, William

From: Michael Stewart [mstewart@remediacon.com]
Sent: Friday, December 05, 2003 1:16 PM
To: William Olson; Larry Johnson
Cc: Steve Weathers; sarah singleton; Joshua B Epel
Subject: Completion of Quarterly Groundwater Monitoring at the Eldridge Study area and the NMG-148C site

Quarterly groundwater monitoring at the Eldridge Study Area and the NMG-148C site will commence Tuesday morning December 9th. The activities will include measurement of groundwater levels, purging and sampling of groundwater wells and sampling of the water in the NMG-148C excavation. These activities will be completed in conjunction with ongoing Stage 1 Abatement Field activities.

Do not hesitate to contact me if you have any questions or comments on these activities.

=====
Michael Stewart
303-638-0001 (mobile)
303-674-4370 office
720-528-8132 (fax)



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

December 2, 2003

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: ABATEMENT PLAN #AP-33
ELDRIDGE RANCH SITE
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services LP (Duke) October 31, 2003 "PROTOCOL TO SAMPLE THE ELDRIDGE HISTORIC DOMESTIC WELL, #AP-33 – (UNIT P, SECTION 21, T19S, R37E)". This document contains Duke's protocol for sampling ground water from the former household domestic water well at the Eldridge Ranch as part of the implementation of the previously approved Stage 1 Abatement Plan for the Eldridge Ranch Site.

The above-referenced ground water sampling protocol for the Eldridge Ranch former household domestic water well is approved with the following conditions:

1. Ground water from the well shall be purged, sampled and analyzed for concentrations of BTEX (benzene, toluene, ethylbenzene and xylene), polynuclear aromatic hydrocarbons, total dissolved solids (TDS), major cations and anions and New Mexico Water Quality Control Commission (WQCC) metals using EPA approved methods and quality assurance/quality control (QA/QC) procedures.
2. In order to provide a point in time snapshot of overall ground water conditions throughout the site, water quality sampling of the house well shall be coordinated to coincide with a quarterly sampling event of all site monitoring wells
3. All wastes generated shall be disposed of at an OCD approved facility or in an OCD approved manner.
4. Duke shall notify the OCD at least 48 hours in advance of the sampling activities such that the OCD has the opportunity to witness the events and split samples.

Please be advised that OCD approval does not relieve Duke of responsibility if the plan fails to adequately determine the extent of contamination related to Duke's activities, or if contamination exists which is outside the scope of the plan. In addition, OCD approval does not relieve Duke of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 476-3491.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

cc: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahon
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb

1R334

Olson, William

From: John Ferguson [jmfergerson@grandecom.net]
Sent: Tuesday, November 11, 2003 8:46 PM
To: Bill Olson; Chris Williams; Larry Johnson
Cc: Mike Stewart; Steve Weathers
Subject: Notification to Complete Drilling Activity at the DEFS-Eldridge Ranch Project Site

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, will complete the following field activities at the DEFS-Eldridge Ranch project site. The activities include:

1. Drill soil borings and install monitoring wells. All borings will be sampled on a continuous basis with a minimum 5-foot-long split barrel sampler or equivalent. Drilling will commence 0900 MST on Monday, November 17th, at site. Work will continue each day (including the weekend) until about noon on Wednesday, November 26.

The project site is located at the following legal description:

1. Section 21, T 19 S, R 37 E

If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John M. Ferguson, PG
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
432-682-0008 (Main)
432-262-5216 (Office)
432-638-7333 (Cell)
270-518-8081 (Fax)
John@trident-environmental.com

MONTGOMERY & ANDREWS
PROFESSIONAL ASSOCIATION
ATTORNEYS AND COUNSELORS AT LAW

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Santa Fe, New Mexico 87504-2307

LOUIS W. ROSE
Direct Line (505) 986-2506
E-Mail lrose@montand.com
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November 5, 2003

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Santa Fe, New Mexico 87501

BY HAND DELIVERY

Telephone (505) 982-3873
Telecopy (505) 982-4289

Roger Anderson, Chief
Environmental Bureau
Oil Conservation Division
Energy, Minerals & Natural Resources Dept.
1220 S. St. Francis Dr.
Santa Fe, NM 87505

**Re: Duke Energy Field Services, LP—Eldridge Ranch Study Area,
Monument, New Mexico (Case #1R334)**

Dear Mr. Anderson:

This letter is a follow-up to our May 5, 2003 meeting concerning Duke Energy Field Services, LP's ("DEFS") Stage 1 abatement plan for the Eldridge Ranch Study Area ("Study Area"), near Monument, New Mexico. As we advised you during the meeting, DEFS does not believe that hydrocarbon contamination in the Study Area can be effectively abated without investigating and abating contamination from potential sources beyond DEFS's control. DEFS requested that the Oil Conservation Division ("OCD") initiate appropriate action to assure that such investigation and abatement be completed. Based on the information explained below, DEFS hereby renews its request.

In late 2000 and early 2001 DEFS evaluated its gathering and distribution lines in the Section 21 of T19S-R37E and determined that none of the lines were leaking. The charts from the pressure tests conducted were sent to OCD in early 2001.

In 2002 at OCD's direction DEFS undertook an extensive investigation, which determined that its distribution line (DEFS ZZ) did not leak. DEFS advised OCD of the evaluation and its results. In addition, when DEFS did not locate a leak on the ZZ line, it inspected and pressure tested its gathering line known as NMG-148 which lies on State property and on the Huston property, both of which are to the north of the Eldridge property. DEFS notified OCD of the testing and the results. That testing identified a loss of pressure on NMG-148C, and dead vegetation was observed. Excavation in the area revealed a leak in the NMG-148C line on State land. Upon detection of the leak, DEFS removed residual liquids from

Roger Anderson
November 5, 2003
Page 2

the line. This leak site appears to be unrelated to the hydrocarbon contamination detected in the Eldridge well.

As you are aware in early 2003, DEFS re-tested approximately 4,000 feet of its gathering lines on the Huston property. The testing identified five additional leaks. One leak (NMG-148C#5) was detected on State land. A well drilled at this location produced no free product, excluding the potential for this leak to have significantly affected soil or groundwater on the Huston and Eldridge properties. The remaining four leak sites were on the Huston property. DEFS installed monitor wells at each of these four sites to evaluate their potential impact on the groundwater. One potential leak was also identified in the NMG-148A&B line in the section that runs from the producing Chevron well and southwest to Highway 8 (NMGAB#1). Soil samples from a test pit excavated at this location (NMG-AB#1) were measured with a photo-ionization detector. The samples did not exhibit evidence of substantial hydrocarbon contamination. Figure 1 shows the general location of the Eldridge and Huston properties, as well as the locations of monitor wells and other features.

In July and September 2003, DEFS sampled free product and groundwater from monitoring wells in the Study Area. DEFS has undertaken an extensive evaluation of chemical and isotopic data from those groundwater and product samples. Figure 2 shows the relative ratios of benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater samples collected in September 2003, as well as the total BTEX in each sample. Figure 3 shows chromatograms of product collected from MW-8, 11, 23, 26 and 27, along with color photographs of the product samples. Based on that evaluation, DEFS believes that there are at least two (2), and possibly three (3) separate sources for the hydrocarbons observed in groundwater in the Study Area, and that two of these sources are unrelated to DEFS or the potential leaks identified above.

First, free product samples from monitor wells MW-8, 11, 18, 23, 26 and 27 were analyzed for stable carbon isotopes (^{13}C and ^{12}C) in August, 2003. Isotopic analyses were performed on saturated, aromatic and resin fractions of the product samples. As seen in Figures 4 and 5, wells MW-23, 26 and 27 are distinct from wells MW-8 and 11, and MW-18 is distinct from either group. This strongly indicates that the free product found in MW-23, 26 and 27 is from a different source than MW-8 and 11, and MW-18 may be from a third distinct source.

Second, the relative concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater samples indicate that contamination in the

Roger Anderson
November 5, 2003
Page 3

northwest part of the affected area is younger and less degraded than groundwater contamination in the southeast part of the affected area (Figure 2). That this product pool is from a more recent leak is consistent with the pressure testing in 2000 that demonstrated that the gathering line held pressure. This degree of degradation is also visible in the product samples shown in Figure 3. In general, wells northeast of a line connecting MW-6 and MW-18 are rich in benzene and toluene, while containing relatively little ethylbenzene or xylenes. Wells south of the line connecting MW-6 and MW-18 contain relatively more ethylbenzene or xylenes, again indicating a more degraded, older separate source.

Third, the highest overall BTEX levels (greater than 45,000 $\mu\text{g/l}$) are found in the vicinity of MW-8 and 11 (Figure 2). These higher concentrations may represent the effects of greater BTEX solution resulting from longer contact times between free product and groundwater in this area.

The free product observed in MW-8 and MW-11 is distinctly different from the product observed in MW-23, 26 and 27. The product observed in MW-8 and MW-11 is distinctly different from the product sampled at NMG-148C. The product sampled at NMG-148C is somewhat similar to the product observed in the vicinity of MW-23, 26 and 27; however, both of these are dramatically different than the product observed in the vicinity of MW-8 and MW-11.

Further, benzene concentrations in groundwater (Figure 6) indicate multiple sources of the contamination. The benzene distribution is centered near the small area where five pipelines intersect.

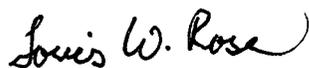
As a result of its extensive work, DEFS has concluded that abatement of hydrocarbon contamination in the Study Area cannot be completed without effectively investigating, and if necessary abating, potential sources of the contamination beyond DEFS's control. Those sources include a ConocoPhillips line, two Sid Richardson lines, a Dynegy line, an historic Chevron pipeline and an historic Chevron pit. Each of these potential sources should be made to undertake the same type of investigation that DEFS has conducted – pressure testing lines, excavating lines to permit inspection, providing historical information on leaks, and such site characterization as is warranted as a result of such testing and inspection. DEFS will continue to investigate under its recently approved Stage I Abatement Plan, but OCD must also initiate appropriate actions to assure that all potential sources of hydrocarbon contamination in the Study Area be properly evaluated and that any discovered contamination from those sources be abated.

Roger Anderson
November 5, 2003
Page 4

Such OCD initiatives need to be undertaken as soon as possible if abatement is to proceed in a timely fashion.

If you have any questions concerning this request or the information developed by DEFS concerning hydrocarbon contamination in the Study Area, please contact me.

Sincerely,



Louis W. Rose

LWR

#12284-0301

cc: Carol Leach, Esq.
William C. Olson
Joshua B. Epel, Esq.
Stephen Weathers
Robert G. McCorkle, Esq.

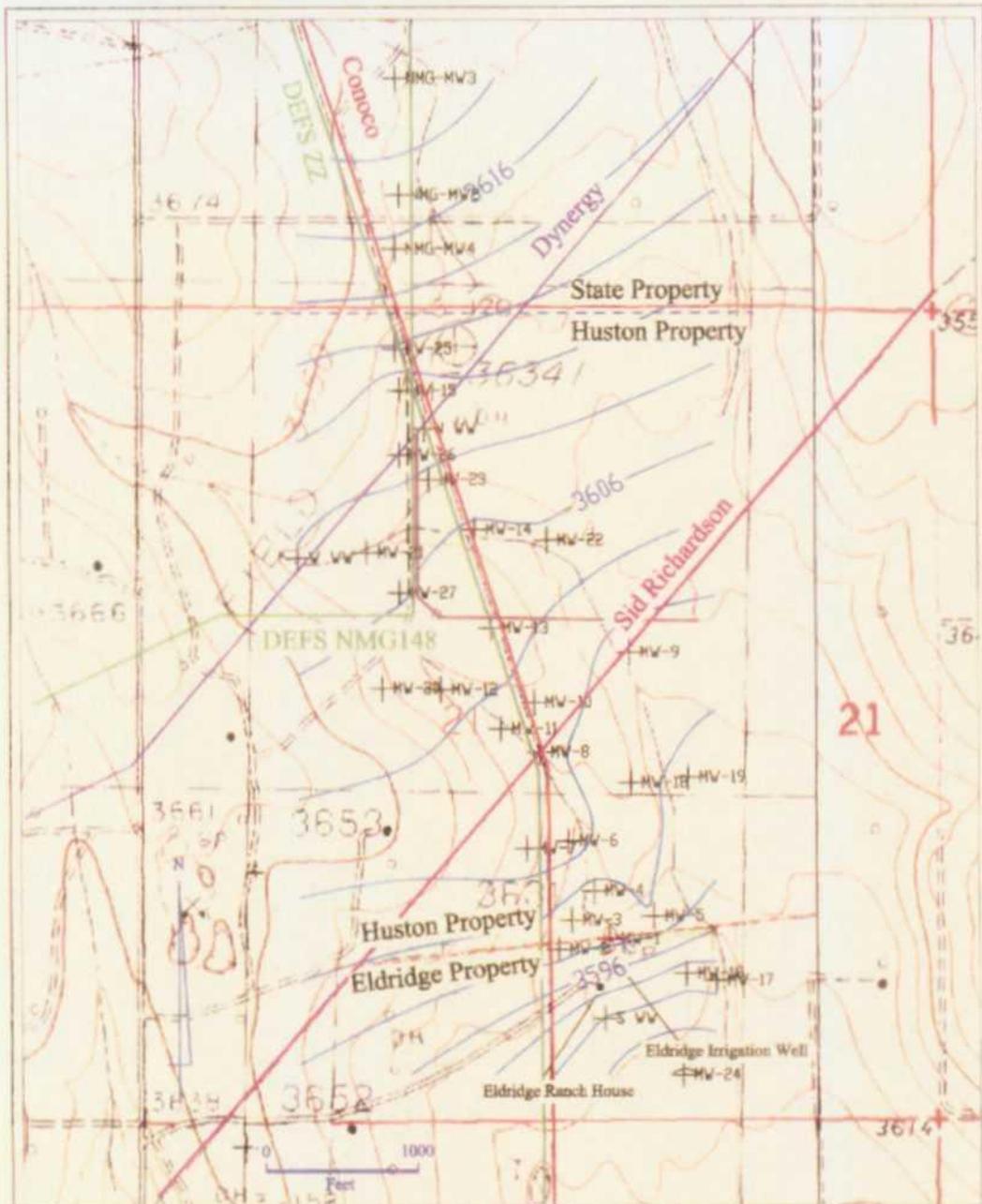
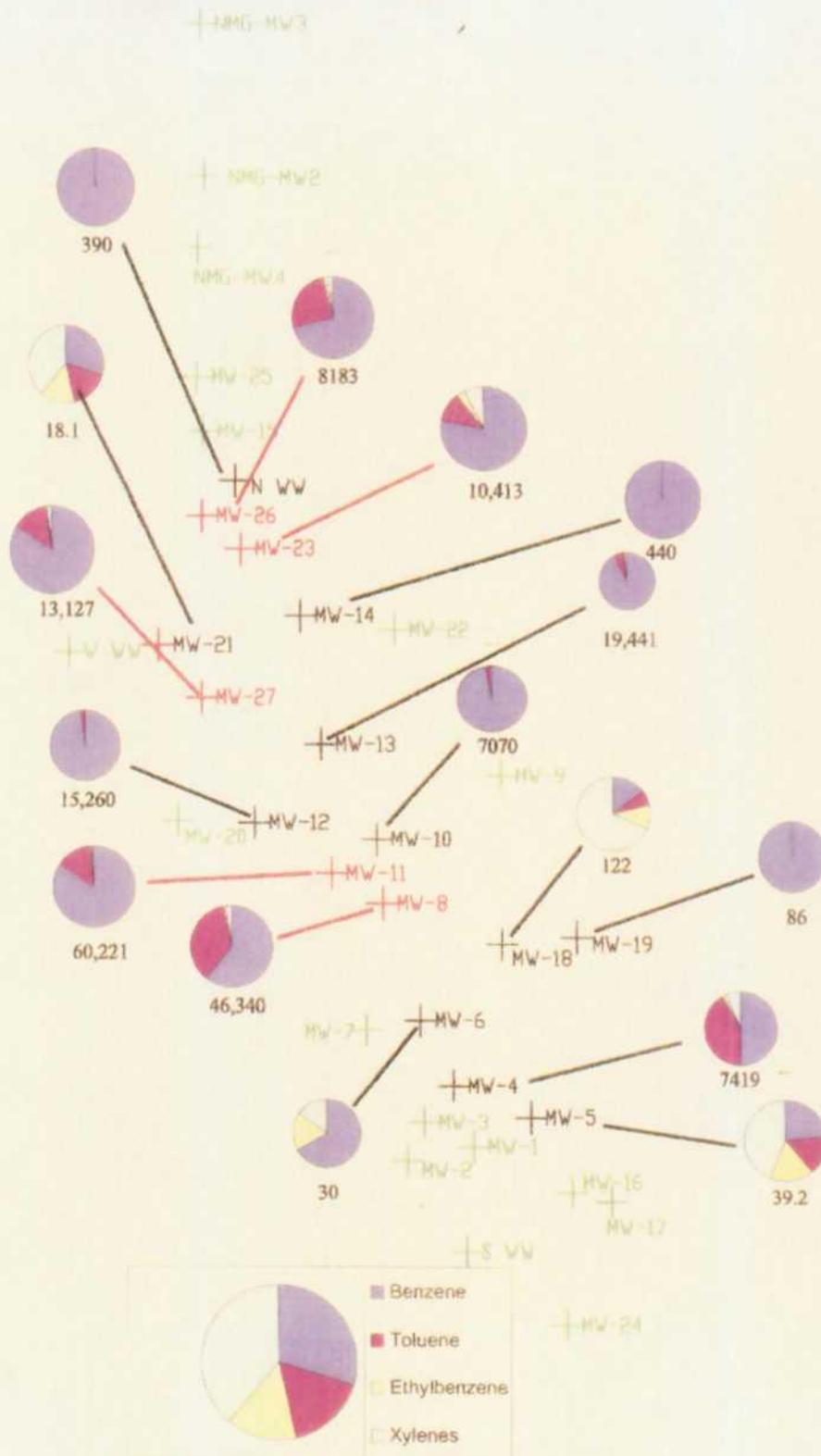


Figure 1: General Location Map, Eldridge Ranch Area, New Mexico

- | | | | |
|---|--|---|-------------------------|
| + | Monitor Well | — | DEFS Pipeline |
| — | Groundwater Elevation Contour
(Interval = 2 Feet) | — | Conoco Pipeline |
| | | — | Sid Richardson Pipeline |
| | | — | Dynergy Pipeline |
| | | — | Chevron Pipeline |

Base Map From USGS Hobbs SW and Monument N 7.5" Quadrangles

Figure 2: BTEX Ratios in Selected Monitor Wells



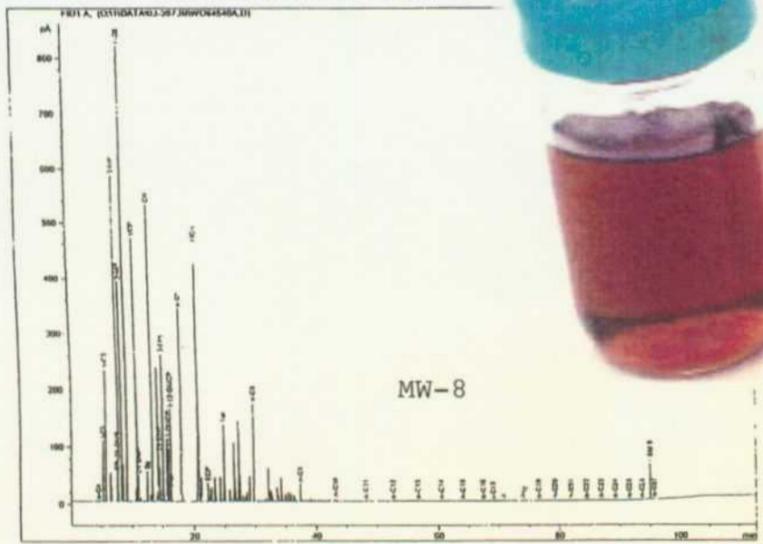
7419 (Total BTEX in µg/L)

Wells With Non-Detect BTEX Shown in Green

Wells with Free Product (Sept. 2003) in Red

Data from 9/23/03 Sampling

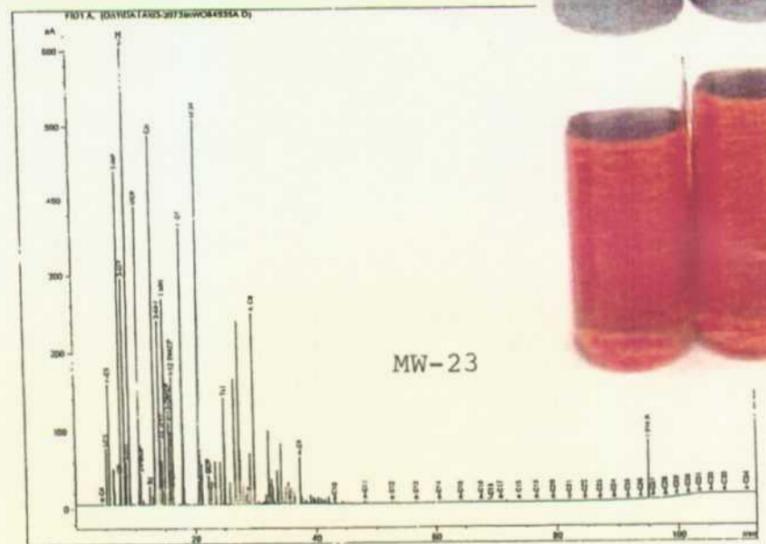
Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-8

Sample Name: MW-8
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 51.608 ISTD Amount: 0.141

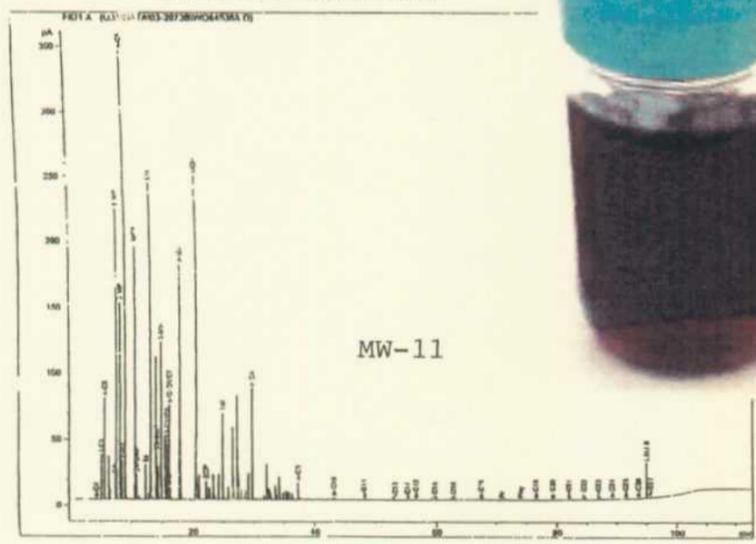
Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-23

Sample Name: MW-23
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 51.359 ISTD Amount: 0.144

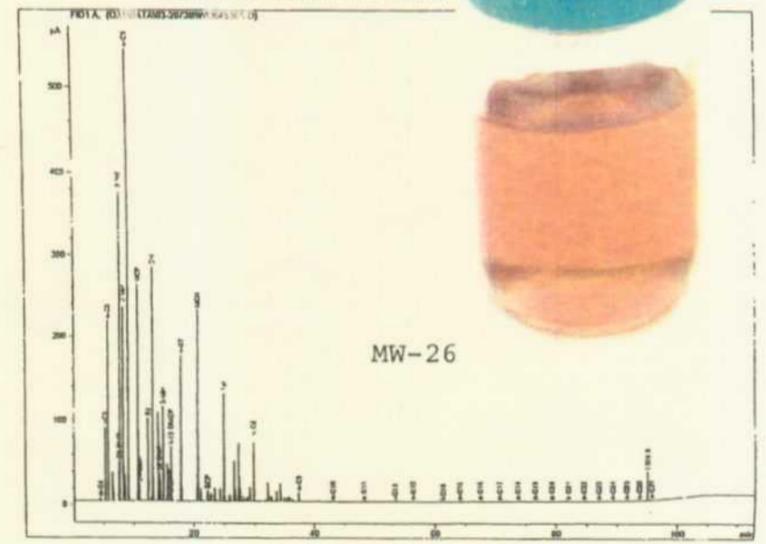
Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-11

Sample Name: MW-11
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 49.788 ISTD Amount: 0.117

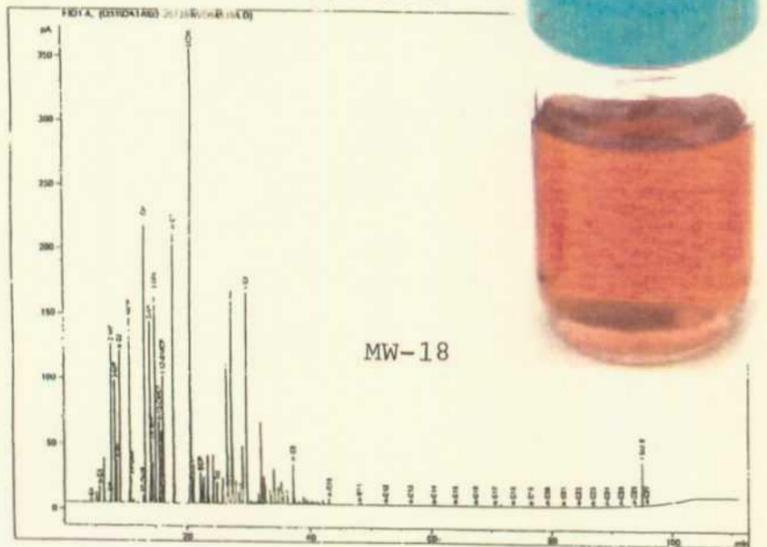
Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-26

Sample Name: MW-26
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 51.350 ISTD Amount: 0.142

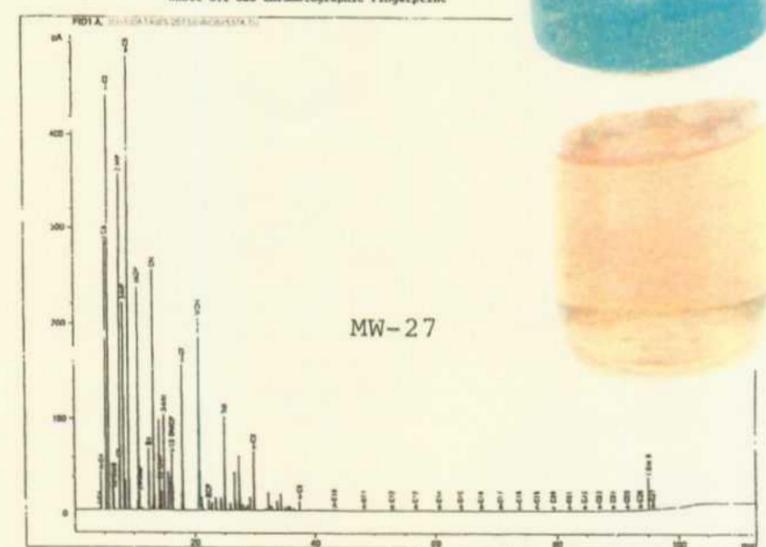
Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-18

Sample Name: MW-18
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 50.065 ISTD Amount: 0.174

Humble Geochemical Services
Whole Oil Gas Chromatographic Fingerprint



MW-27

Sample Name: MW-27
Sample Info: Operator: Trident Envir.; Location: Eldridge Ranch
Sample Amount: 51.008 ISTD Amount: 0.144

Figure 3: Chromatograms and Photographs of Product Samples

Figure 4: Stable carbon isotope values for six floating oil phase (Duke Energy)

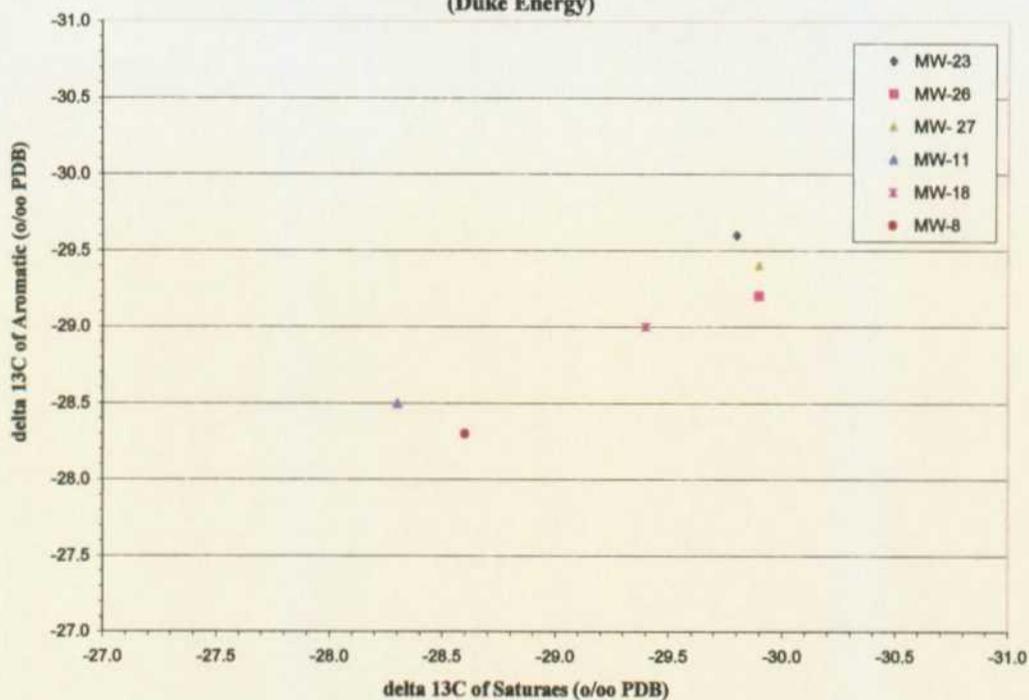
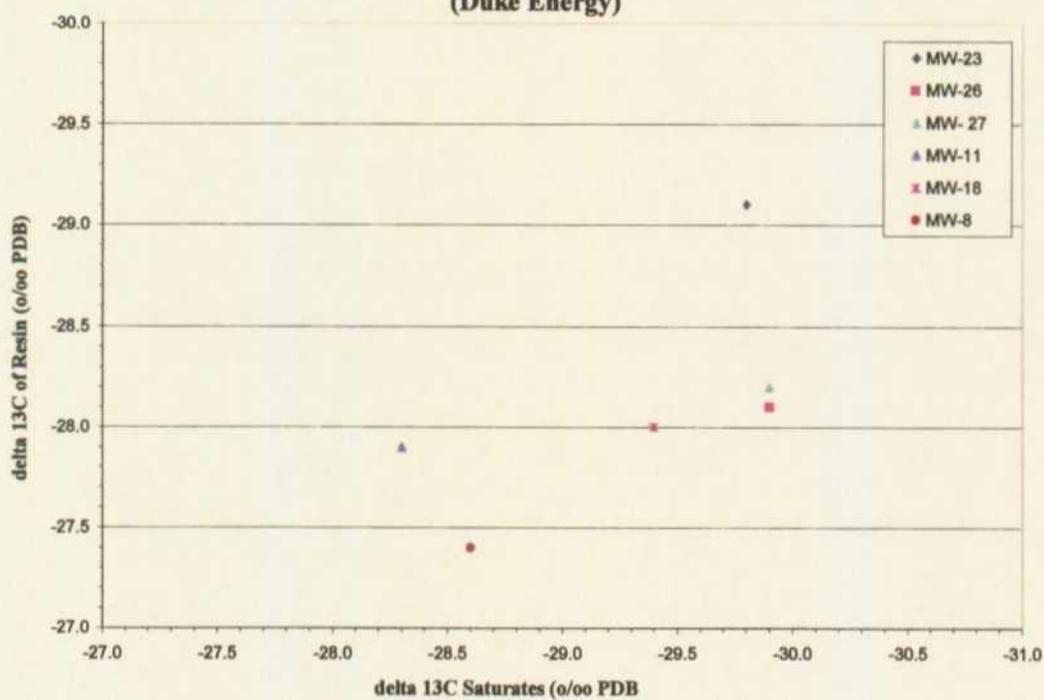


Figure 5: Stable carbon isotope values for six floating oil phase (Duke Energy)



From: *Chemical and Isotopic Characterization of Hydrocarbons in Six Floating Oil Phase Collected from Eldridge Ranch (Study Area) located in Lea County, New Mexico*; Humble Geochemical Services, August 2003

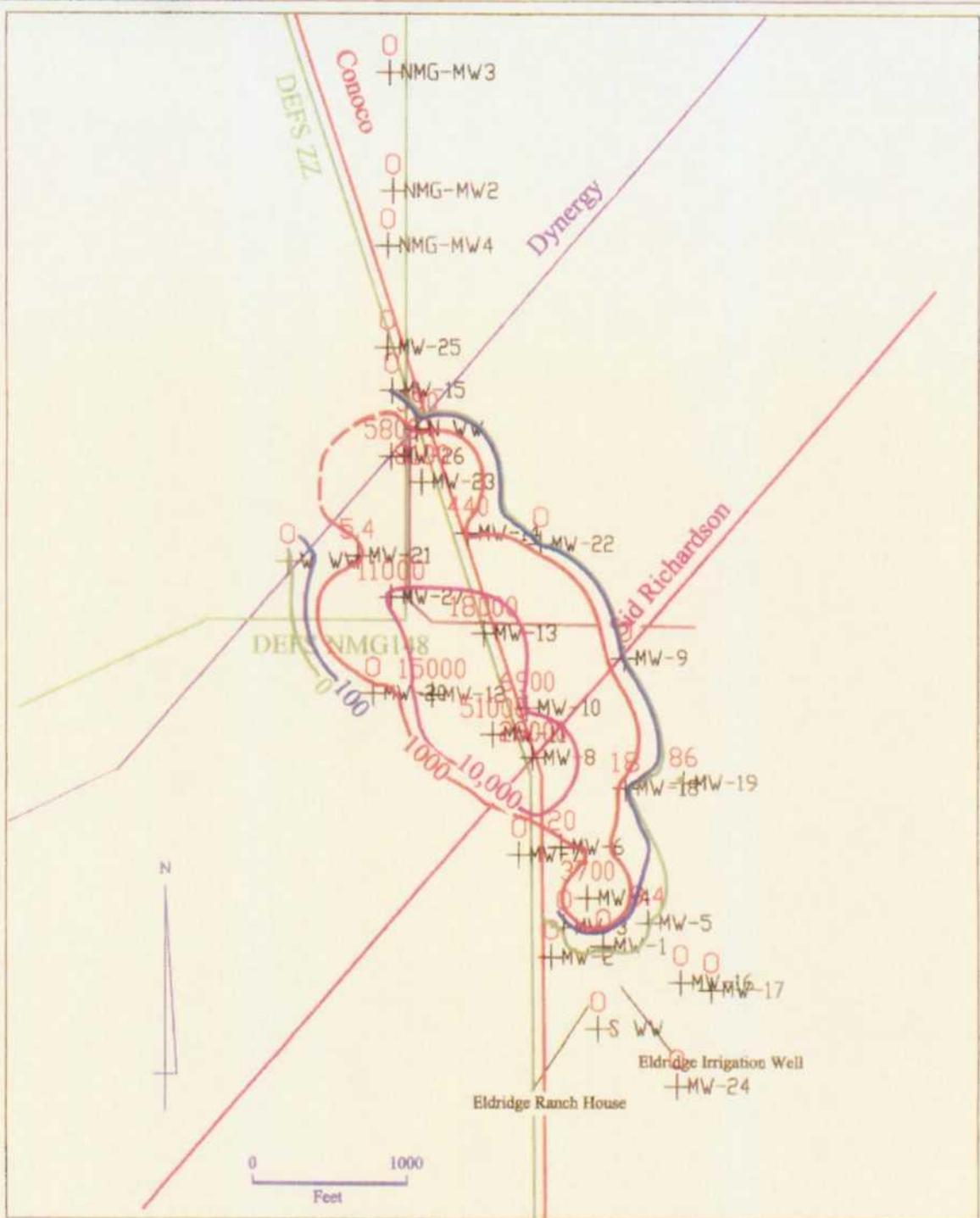


Figure 6: Groundwater Benzene Concentrations (ug/L), September 2003 Sampling

- 11000
- + MW-13
- Monitor Well with Benzene Concentration
- DEFS Pipeline
- Conoco Pipeline
- Sid Richardson Pipeline
- Dynergy Pipeline
- Chevron Pipeline

Base Map From USGS Hobbs SW and Monument N 7.5" Quadrangles

RECEIVED

NOV 03 2003

October 31, 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Oil Conservation Division
Environmental Bureau

**RE: Groundwater Monitoring Update for Eldridge Ranch Study Area
#AP-33 - (Unit P, Section 21, T19S, R37E)**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review the Groundwater Monitoring Update for the Eldridge Ranch Study Area located near in Lea County New Mexico. The enclosed letter summarizes the groundwater data for the June and September, 2003 groundwater sampling events.

If you have any questions regarding this letter, please don't hesitate to call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP



Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Larry Johnson – Hobbs OCD District Office
Environmental Files

Remediakon Incorporated

Geological and Engineering Services
mstewart@remediakon.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 720.528.8132

October 27, 2003

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

Re: Groundwater Monitoring Update for Eldridge Ranch Study Area,
Monument, New Mexico (Unit P, Section 21, Township 19 South,
Range 37 East, Case #1R334)

Dear Mr. Weathers:

This letter summarizes the data gathered during the June and September groundwater monitoring episodes at the Eldridge Ranch study area (coordinates referenced above). Groundwater monitoring was completed on June 5, 2003 and September 24, 2003. The activities completed during each episode included:

1. Measuring the depth to water and depth to product (if present) in the 27-groundwater monitoring wells present within the study area.
2. Measuring the depth to water and depth to product (if present) in the three historic water wells present within the study area.
3. Purging the wells that did not contain free product until the field parameters of temperature, pH and conductivity equilibrated
4. Collecting samples from each well after it equilibrated using a disposable bailer.
5. Submitting the samples using appropriate preservation techniques and chain-of-custody protocol to Environmental Labs of Texas in Midland Texas for analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX).

The results are summarized in the following tables:

1. Table 1 includes well construction information on the 27 monitoring wells and approximate well depths for the three historic wells. No other information is available on the historic wells.
2. Table 2 provides the measured groundwater elevations from all sampling episodes. Some of the values were corrected for free product.
3. Table 3 shows the wells that contained free product during each sampling episode. The August 2001 and March 2002 episodes are not included because Amec did not detect any free product according to their reports.

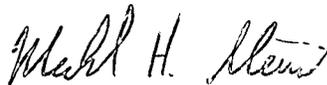
4. Table 4 summarizes all of the organic data collected since initiation of investigative activities at the study area. The June 2003 and September 2003 data is included in this table rather than summarized separately.
5. Table 5 is a compilation of the benzene data from all of the sampling episodes that is provided for comparative purposes.

The following figures were prepared to assist in your evaluation:

1. Figure 1 shows the well locations in the study area overlain on a recent (August 2003) aerial photograph. The June 2003 and September 2003 measured free product thicknesses, shown at their respective locations, are also included on this figure.
2. Figures 2 and 3 show the June 2003 and September 2003 water-table contours for the study area based upon the data in Table 2. The contours were generated using the Surfer program applying the kriging option.
3. Figures 4 and 5 show the June 2003 and September 2003 laboratory benzene concentrations.

Do not hesitate to contact me if you have any questions or comments on this submittal.

Respectfully Submitted,
REMEDIACON INCORPORATED



Michael H. Stewart, P.E.
Principal Engineer



Note: E Water Well was discovered in September 2003. It has a welded cover so it cannot currently be accessed.

Figure 1 – Monitoring Wells and June/September 2003 Product Thicknesses
Eldridge Study Area

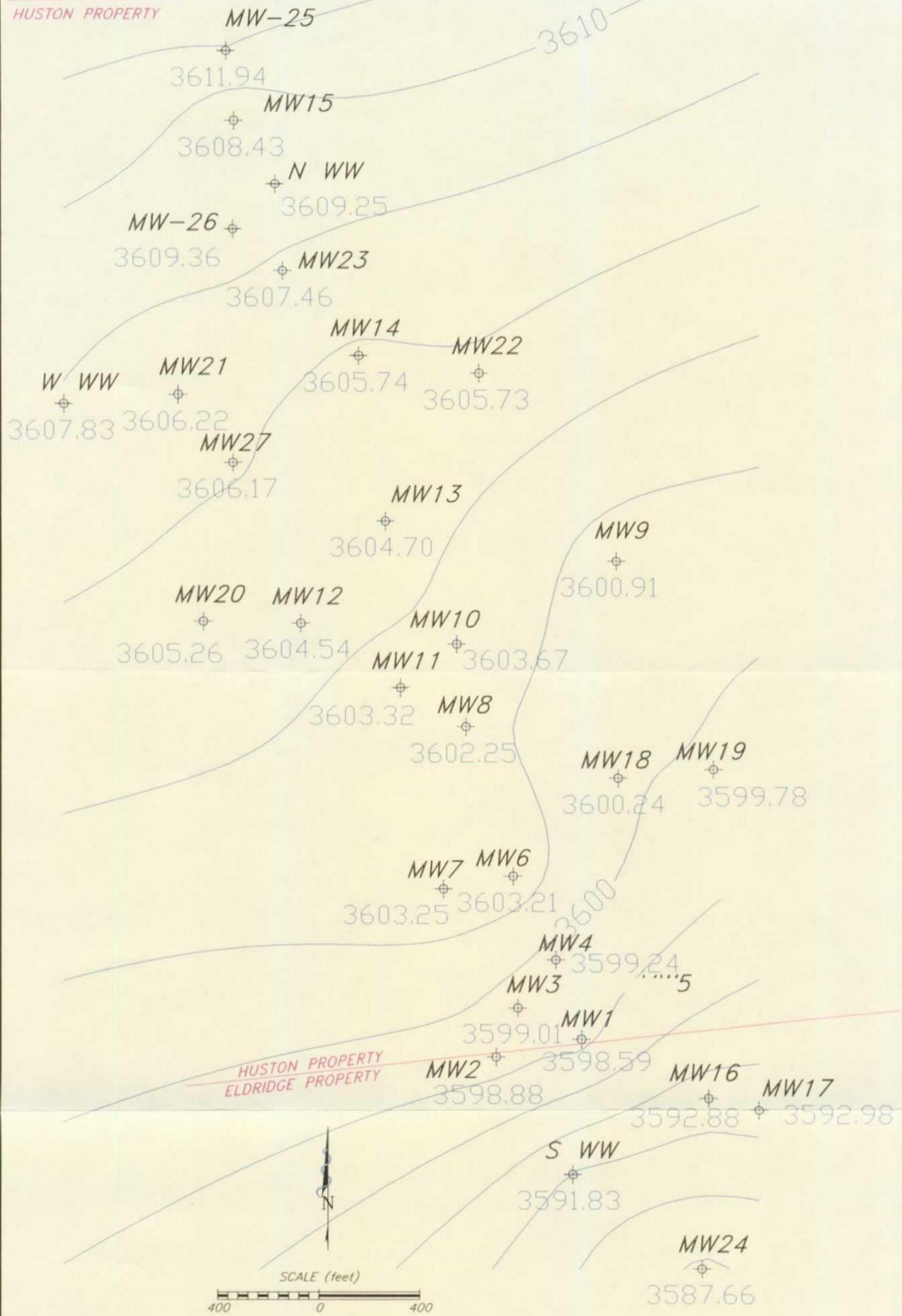


DRAWN BY: MHS

REVISED:

DATE: 10/03

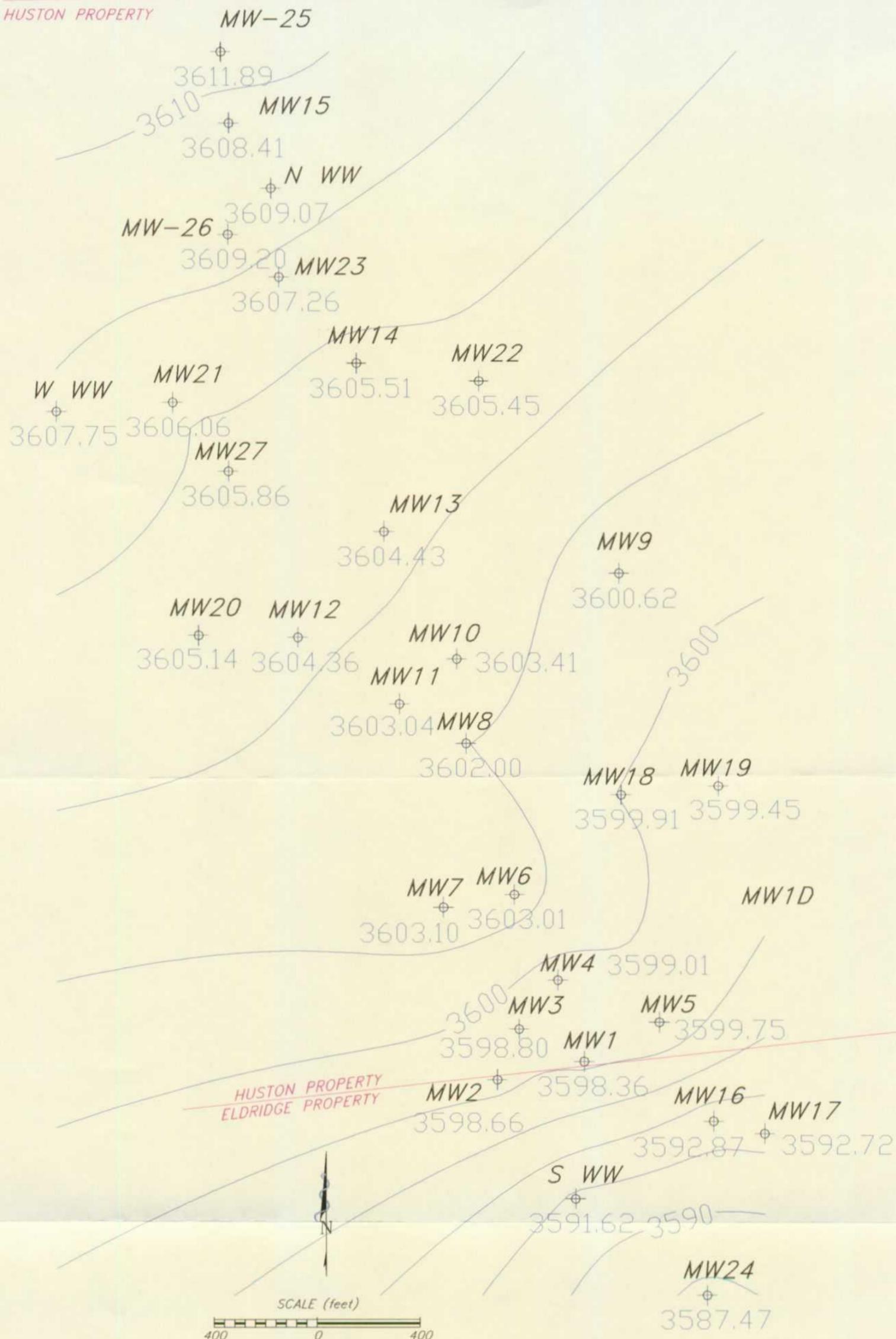
STATE LAND
HUSTON PROPERTY



Contour Interval is 2 Feet

Figure 2 - June 2003 Water Table Contour Map
Eldridge Study Area
Duke Energy Field Services. DRAWN BY: MHS
DATE: 10/03

STATE LAND
HUSTON PROPERTY



Contour Interval is 2 Feet

Figure 3 – September 2003 Water Table Contour Map

Eldridge Study Area

Duke Energy
Field Services.

DRAWN BY: MHS
DATE: 10/03

STATE LAND
HUSTON PROPERTY

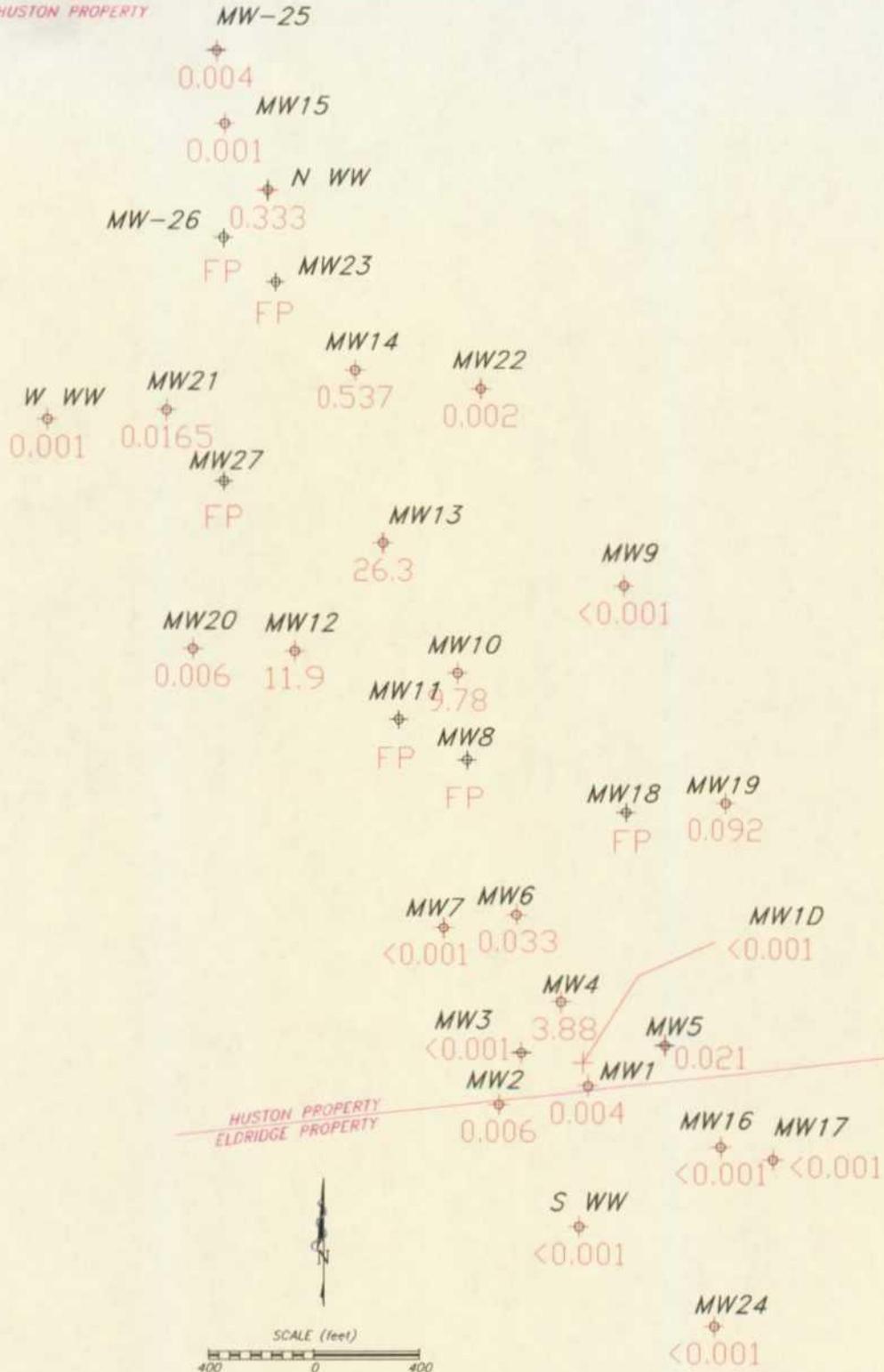


Figure 4 – June 2003 Benzene Concentrations (mg/l)
Eldridge Study Area



STATE LAND
HUSTON PROPERTY

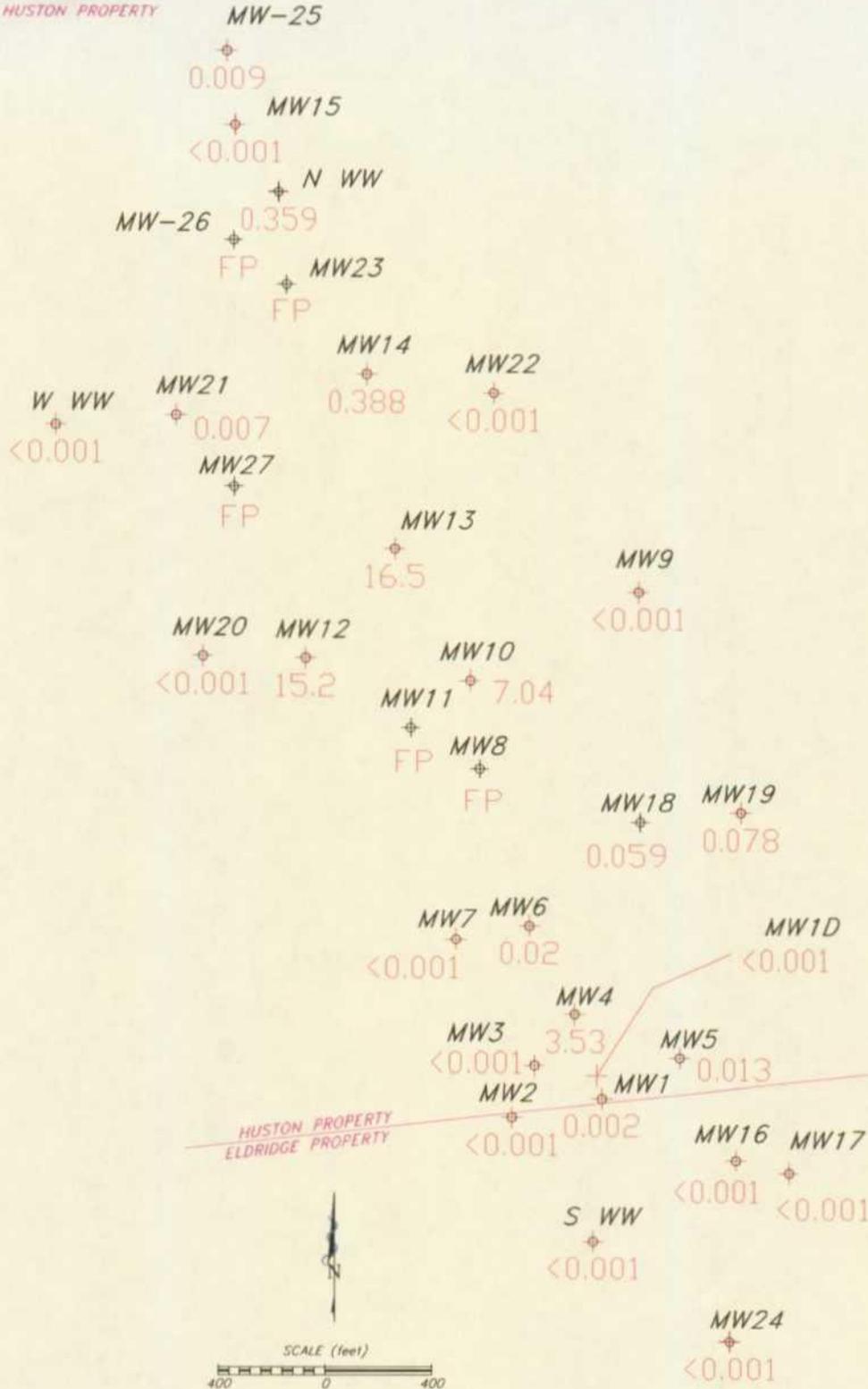


Figure 5 – September 2003 Benzene Concentrations (mg/l)
Eldridge Study Area



DRAWN BY: MHS
REVISED:
DATE: 10/03

RECEIVED

October 31, 2003

NOV 03 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Oil Conservation Division
Environmental Bureau

**RE: Protocol to sample the Eldridge Historic Domestic Well.
#AP-33 - (Unit P, Section 21, T19S, R37E)**

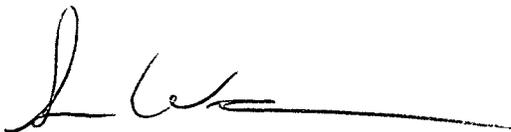
Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit "**Protocol to Sample the Eldridge Historic Domestic Well**" for your review and approval. Once you have approved the domestic well sampling protocol, DEFS will move forward with sampling the domestic well. Proper notifications to the OCD will be given before any sampling is completed.

If you have any questions regarding this letter, please don't hesitate to call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP



Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Larry Johnson – Hobbs OCD District Office
Environmental Files

PROTOCOL TO SAMPLE THE ELDRIDGE HISTORIC DOMESTIC WELL

The objective of this protocol is to collect a representative sample from the former Eldridge domestic water well. The well is located approximately 180 feet east of the house in a separate well house. The discharge point of this well has been modified to include the new water supply pipeline. Valves are present to route the water from either the original or the replacement well to the house. The valve must be set by Mr. Eldridge or one of his representatives with knowledge of their proper settings to ensure that water from the original well is not routed into the piping that leads to the house.

The depth of the well is assumed at +/- 45 feet absent more specific information. The casing diameter is assumed to be 8 inches. The depth to water is assumed at +/- 15 feet based upon the shallowest measured depth to water in the five nearest wells (south water well, MW-2, MW-16, MW-17 and MW-24), resulting in a 30 foot saturated water column. A 30 foot saturated water column in an 8-inch diameter well results in an estimated casing volume of 78.3 gallons. This value will be rounded up to 80 gallons for use in this protocol.

The well will be sampled in the following fashion:

1. Mr. Eldridge or his representative will open the well house and inspect and set the valves on the piping as necessary to ensure that no water from the historic domestic well can enter the house piping system.
2. A hose will be attached to an outlet (spigot) that lies between the outlet point on the well and any type of treatment system (water softener, reverse osmosis unit, etc.) that remains on the piping for the original well.
3. A drum or tank will be placed to receive the purge water.
4. The well will be turned on, and flow will be allowed to equilibrate (~1 to 2 minutes). The discharge will be placed in the drum/tank.
5. The equilibrated flow rate will be measured using a 5-gallon bucket and a watch or stopwatch. The maximum allowable rate of purging will be set to 2.5 gallons per minute using the valve at the spigot to regulate flow.
6. The estimated casing volume (80 gallons) will be divided by the equilibrated flow rate to derive the time necessary to extract a single casing volume.
7. Field samples will be collected after the appropriate elapsed times. The field parameters of temperature, pH and conductivity will be measured after the first, second and third casing volumes. The purge hose will be disconnected and the flow from the spigot will be reduced to between 100 ml/min and 800 ml/min prior to

PROTOCOL TO SAMPLE THE ELDRIDGE HISTORIC DOMESTIC WELL

October 20, 2003

Page 2 of 2

collecting samples. This will be done to minimize volatilization of contaminants in the sample water. Samples will not be collected from the purge hose.

8. A laboratory sample will be collected when the parameters have equilibrated to +/- 10 percent for temperature and conductivity and 0.2 pH units following extraction of three casing volumes. Extraction will continue with measurements every ½ casing volume after the third volume until the above criteria are achieved.
9. The discharge rate will be decreased and a sample will be collected in the containers provided by the laboratory. Split samples will also be collected as necessary by alternating sample containers.
10. The containerized purge water will be disposed of at a DEFS facility.
11. The valves will be reinspected and reset as necessary by Mr. Eldridge or his representative.
12. The well house will be re-secured to its original (presampling) state.
13. DEFS will provide counsel for Eldridges the results of all tests or analyses as soon as such results are available.

RECEIVED

October 28, 2003

OCT 29 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Oil Conservation Division
Environmental Bureau

**RE: Report on the Field Activities at the NMG-148C Pipeline Release,
Lea County, New Mexico (Unit N Section 16, T19S R37E).**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review one copy of the Report on the Field Activities at the NMG-148C Pipeline Release located on New Mexico State Land in Lea County, New Mexico. This report summarizes the characterization and remediation activities associated with impacted soils and groundwater at the site.

If you have any questions regarding this report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP



Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Larry Johnson – OCD District Office Hobbs.
Environmental Files



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

October 22, 2003

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: ABATEMENT PLAN #AP-33
ELDRIDGE RANCH SITE
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed the following Duke Energy Field Services LP (Duke) documents:

- September 23, 2003 "ABATEMENT PLAN #AP-33, ELDRIDGE RANCH, MONUMENT, NEW MEXICO, PROOF OF PUBLICATION/PROOF OF WRITTEN NOTICE".
- July 18, 2003 "STAGE 1 ABATEMENT PLAN ADDENDUM FOR THE ELDRIDGE RANCH STUDY AREA, MONUMENT, NEW MEXICO (UNIT P, SECTION 21, TOWNSHIP 19 SOUTH, RANGE 37 EAST, CASE #1R334)".
- May 30, 2003 "INITIAL STAGE 1 ABATEMENT PLAN, ELDRIDGE RANCH STUDY AREA, MONUMENT, NEW MEXICO (CASE # 1R334)".

These documents contain Duke's Stage 1 Abatement Plan and proof of public notice for the investigation of petroleum contaminated ground water at the Eldridge Ranch Site related to Duke's pipeline activities in Section 16 and Section 21 of Township 19 South, Range 37, East, Lea County, New Mexico.

The Stage 1 Abatement Plan for investigation of ground water contamination at the Eldridge Ranch Site, as contained in the above-referenced documents, is approved with the following conditions:

1. Each monitor well shall be completed with at least five feet of the well screen above the water table interface.
2. All wells installed for the purposes of determining lateral extent of free phase products shall be completed as monitoring wells.

3. If no shallow saturated soils are encountered during drilling of monitoring wells, drilling shall continue until the underlying redbed is reached.
4. All monitor wells, including those containing free phase products, shall be developed upon completion using EPA approved procedures.
5. No less than 24 hours after well development, ground water from all newly installed monitor wells shall be purged, sampled and analyzed for concentrations of BTEX (benzene, toluene, ethylbenzene and xylene), total dissolved solids (TDS) and major cations and anions using EPA approved methods and quality assurance/quality control (QA/QC) procedures.
6. In order to provide a point in time snapshot of overall ground water conditions throughout the site, water quality sampling of the newly installed wells shall be coordinated to coincide with a quarterly sampling event of all previously installed monitoring wells
7. All wastes generated shall be disposed of at an OCD approved facility or in an OCD approved manner.
8. A single comprehensive Stage 1 investigation report containing the results of all site investigation activities shall be submitted to the OCD Santa Fe Office by February 22, 2004 with a copy provided to the OCD Hobbs District Office. The report shall contain:
 - a. A comprehensive description and summary of the results of all past and present soil and ground water investigation and monitoring activities.
 - b. An inventory and map of water wells within one mile of the site.
 - c. Geologic/lithologic logs and well construction logs for all site monitor wells.
 - d. Geologic cross-sections of the site created using the geologic/lithologic logs from the drilling of all site monitor wells.
 - e. Water table potentiometric contour maps showing the location of pipelines, excavations, spills, monitoring wells, recovery wells, and any other pertinent site features, as well as, the direction and magnitude of the hydraulic gradient.
 - f. Isopleth maps for contaminants of concern.
 - g. Summary tables of all past and present ground water quality monitoring results including copies of all recent laboratory analytical data sheets and associated QA/QC data.
 - h. The disposition of all wastes generated.

9. 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.

Please be advised that OCD approval does not relieve Duke of responsibility if the plan fails to adequately determine the extent of contamination related to Duke's activities, or if contamination exists which is outside the scope of the plan. In addition, OCD approval does not relieve Duke of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact Bill Olson of my staff at (505) 476-3491.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/wco

cc: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahan
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb

Olson, William

From: Robert McCorkle [rgmccork@rodey.com]
Sent: Tuesday, October 21, 2003 2:42 PM
To: Olson, William
Subject: RE: Eldridge Ranch



Memo to Olson
clean returned 1...

Dear Mr. Olson:

Thank you for your e-mail of earlier today with your redline changes. For your file I am attaching a clean copy with your changes. Thank you again for your cooperation.

-----Original Message-----

From: Olson, William [mailto:WOLSON@state.nm.us]
Sent: Tuesday, October 21, 2003 10:57 AM
To: Robert McCorkle
Cc: MacQuesten, Gail; Anderson, Roger
Subject: Eldridge Ranch

Dear Mr. McCorkle:

I had some clarifications and corrections to your October 17, 2003 memorandum about my discussions with you on the Eldridge Ranch site. Attached is a copy of the document with my changes tracked in stike and bold format so that you can see the changes.

If you have any questions please let me know.

Sincerely,

William C. Olson
Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
(505) 476-3491

<<Memo to Olson.doc>>



Rodey, Dickason, Sloan,
Akin & Robb, P.A.

M E M O

DATE: October 17, 2003
TO: William Olson
FROM: Robert McCorkle
RE: Eldridge Ranch

MEMORANDUM

I met with Bill Olson of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, on October 16, 2003. Mr. Olson told me that the OCD had not agreed with Duke's proposal in its report of January 7, 2003 to separate the NMG-148 and the Eldridge projects. Mr. Olson stated that he did not understand why Duke had suggested separating the projects and that the OCD considered the area where Duke's NMG-148 lines leaked and the water contamination at the Eldridge ranch to be one site. Remediacon, Inc. proposed Initial Stage 1 Abatement Plan activities for the Eldridge Ranch study area of May 30, 2003, which was submitted to Mr. Olson, specifically includes the DEFS gathering line NMG 148-C, 148-A and B, and the Eldridge Ranch. The map of the study area attached to the proposed abatement plan submitted by Duke shows that the NMG 148-C Duke line and the Eldridge property to be within the approximate study area boundary.

The OCD considers the Duke line to be the source of the contamination. The Duke line which leaked is the only known source of contamination of the Eldridge Ranch. Duke has argued to Mr. Olson that because there are differences in the signatures or fingerprints of the known leak in the Duke line, and the benzene contamination at the Eldridge Ranch, such establishes that the Duke line may not be the source of the Eldridge Ranch contamination. Duke also argued to Mr. Olson that an old small pit could have been the source of the contamination at the Eldridge Ranch. Mr. Olson suggested that the difference in benzene concentrations at the known source of the leak at the Duke line and at the Eldridge property could be a result of preferential ground water migration pathways, or multiple leaks over time and biodegradation due to the time and distance of the migration of the underground water. Mr. Olson also believes that the old small pit should not account for the magnitude of contamination at the Eldridge Ranch.

Duke voluntarily agreed to submit the abatement plan and to undertake the remediation activities it is currently engaged in. Mr. Olson had told Duke that the OCD considered Duke to be a responsible party at the site and would require Duke to submit an abatement plan under Rule 19

if Duke did not voluntarily submit a plan. Duke has published notice pursuant to Rule 19 to invite public comment on the initial Stage 1 proposed Abatement Plan activities. Duke has been voluntarily engaging in remediation efforts at the Eldridge Ranch study area which includes the underground water at the Eldridge Ranch.

Mr. Olson has told Duke that the OCD will consider any evidence Duke chooses to submit of some entity other than Duke, or in addition to Duke, as the responsible party for the leak and contamination at the Eldridge Ranch, but as of October 17, 2003, Duke has not made any showing as to any other person or entity being responsible for the release and contamination of the Eldridge water and property.

Olson, William

From: Olson, William
Sent: Tuesday, October 21, 2003 10:57 AM
To: Robert McCorkle (E-mail)
Cc: MacQuesten, Gail; Anderson, Roger
Subject: Eldridge Ranch

Dear Mr. McCorkle:

I had some clarifications and corrections to your October 17, 2003 memorandum about my discussions with you on the Eldridge Ranch site. Attached is a copy of the document with my changes tracked in stike and bold format so that you can see the changes.

If you have any questions please let me know.

Sincerely,

William C. Olson
Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
(505) 476-3491



Memo to Olson.doc



Rodey, Dickason, Sloan,
Akin & Robb, P.A.

M E M O

DATE: October 17, 2003
TO: William Olson
FROM: Robert McCorkle
RE: Eldridge Ranch

MEMORANDUM

I met with Bill Olson of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, on October 16, 2003. Mr. Olson told me that the OCD had not agreed with Duke's proposal in its report of January 7, 2003 to separate the NMG-148 and the Eldridge projects. Mr. Olson stated that he did not understand why Duke had suggested separating the projects and that the OCD considered the area where Duke's NMG-148 lines leaked and the water contamination at the Eldridge ranch to be one site. Remediacon, Inc. proposed Initial Stage 1 Abatement Plan activities for the Eldridge Ranch study area of May 30, 2003, which was submitted to Mr. Olson, specifically includes the DEFS gathering line NMG 148-C, 148-A and B, and the Eldridge Ranch. The map of the study area attached to the proposed abatement plan submitted by Duke shows that the NMG 148-C Duke line and the Eldridge property to be within the approximate study area boundary.

The OCD considers the Duke line to be the source of the contamination. The Duke line which leaked is the only known source of ~~known~~ contamination of the Eldridge Ranch. Duke has argued to Mr. Olson that because there are differences in the signatures or fingerprints of the known leak in the Duke line, and the ~~benzine in the~~ benzene contamination at the Eldridge Ranch, such establishes that the Duke line may not be the source of the Eldridge Ranch contamination. Duke also argued to Mr. Olson that an old small pit could have been the source of the contamination at the Eldridge Ranch. Mr. Olson ~~disputed those arguments offered by Duke as suggested that~~ the difference in ~~the benzine~~ benzene concentrations at the known source of the leak at the Duke line and at the Eldridge property ~~is easily explained by~~ could be a result of preferential ground water migration pathways, or multiple leaks over time and biodegradation due to the time and distance of the migration of the underground water. Mr. Olson also believes that the old small pit ~~could~~ should not account for the ~~high level~~ magnitude of contamination at the Eldridge Ranch.

Duke voluntarily agreed to submit the abatement plan and to undertake the remediation activities it is currently engaged in. Mr. Olson had told Duke that ~~if it did not agree that it was the responsible party the OCD would have instigated proceeding against it the OCD considered Duke to be a responsible party at the site and would require Duke to submit an abatement plan under Rule 19 if Duke did not voluntarily submit a plan.~~ The OCD- Duke has published notice pursuant to Rule 19 to invite public comment on the ~~Duke~~ initial Stage 1 proposed Abatement Plan activities. Duke has been voluntarily engaging in remediation efforts at the Eldridge Ranch study area which includes the underground water at the Eldridge Ranch.

Mr. Olson has told Duke that the OCD will consider any evidence Duke chooses to submit of some entity other than Duke, or in addition to Duke, as the responsible party for the leak and contamination at the Eldridge Ranch, but as of October 17, 2003, Duke has not made any showing as to any other person or entity being responsible for the release and contamination of the Eldridge water and property.

Olson, William

From: June Mayer [jamayer@rodey.com]
Sent: Friday, October 17, 2003 11:56 AM
To: WOLSON@state.nm.us
Cc: Robert McCorkle
Subject: Eldridge Ranch

Dear Mr. Olson:

Thank you for meeting with me on Thursday, October 16th, 2003. I am attaching a memo of our conversation. If this memo is correct for you, please e-mail me back a verification that the memo correctly reflects our conversation. If any part of the memo needs to be modified or changed to make it correct, please make such changes and e-mail it back to me. Thank you again for your cooperation. Robert McCorkle.

<<Memo to Olson.doc>>



Rodey, Dickason, Sloan,
Akin & Robb, P.A.

M E M O

DATE: October 17, 2003
TO: William Olson
FROM: Robert McCorkle
RE: Eldridge Ranch

MEMORANDUM

I met with Bill Olson of the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, on October 16, 2003. Mr. Olson told me that the OCD had not agreed with Duke's proposal in its report of January 7, 2003 to separate the NMG-148 and the Eldridge projects. Mr. Olson stated that he did not understand why Duke had suggested separating the projects and that the OCD considered the area where Duke's NMG-148 lines leaked and the water contamination at the Eldridge ranch to be one site. Remediacon, Inc. proposed Initial Stage 1 Abatement Plan activities for the Eldridge Ranch study area of May 30, 2003, which was submitted to Mr. Olson, specifically includes the DEFS gathering line NMG 148-C, 148-A and B, and the Eldridge Ranch. The map of the study area attached to the proposed abatement plan submitted by Duke shows that the NMG 148-C Duke line and the Eldridge property to be within the approximate study area boundary.

The OCD considers the Duke line to be the source of the contamination. The Duke line which leaked is the only known source of known contamination of the Eldridge Ranch. Duke has argued to Mr. Olson that because there are differences in the signatures or fingerprints of the known leak in the Duke line, and the benzene in the contamination at the Eldridge Ranch, such establishes that the Duke line may not be the source of the Eldridge Ranch contamination. Duke also argued to Mr. Olson that an old small pit could have been the source of the contamination at the Eldridge Ranch. Mr. Olson disputed those arguments offered by Duke as the difference in the benzene at the known source of leak at the Duke line and at the Eldridge property is easily explained by the time and distance of the migration of the underground water. Mr. Olson also believes that the old small pit could not account for the high level of contamination at the Eldridge Ranch.

Duke voluntarily agreed to submit the abatement plan and to undertake the remediation activities it is currently engaged in. Mr. Olson had told Duke that if it did not agree that it was the responsible party the OCD would have instigated proceeding against it under Rule 19. The OCD

has published notice pursuant to Rule 19 to invite public comment on the Duke initial Stage 1 proposed Abatement Plan activities. Duke has been voluntarily engaging in remediation efforts at the Eldridge Ranch study area which includes the underground water at the Eldridge Ranch.

Mr. Olson has told Duke that the OCD will consider any evidence Duke chooses to submit of some entity other than Duke, or in addition to Duke, as the responsible party for the leak and contamination at the Eldridge Ranch, but as of October 17, 2003, Duke has not made any showing as to any other person or entity being responsible for the release and contamination of the Eldridge water and property.



DUKE ENERGY FIELD SERVICES
370 17th Street
Suite 900
Denver, CO 80202
303 595 3331

September 23, 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

**RE: Abatement Plan #AP-33
Eldridge Ranch, Monument, New Mexico
Proof of Publication/Proof of Written Notice**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit proof of public notice for the Abatement Plan #AP-33 (Eldridge Ranch) as required in the Oil Conservation Division (OCD) letter dated August 18, 2003 and under Rule 19.G. Enclosed are the following:

1. Affidavit of Publication (3) for the following papers:
The Albuquerque Journal
Hobbs News Sun
The Lovington Daily Leader
2. Affidavit of Mailing for the listing of "those persons, as identified by the Director, who have requested notification" pursuant to OCD Rule 19.g(1)(d).
3. Copy of the Certified Return Receipt for Notice of Publication submitted to the NM Trustee for Natural Resources.
4. Copy of Certified Return Receipt for Notice of Publication submitted to the Lea County Commissioner.
5. Copy of Certified Return Receipts for Notice of Publication submitted to the surface owners located within 1 mile radius of the Eldridge Ranch with the exception of Lyman Arnsperger in which the Certified Letter was returned as unclaimed (Copy of Envelope attached) and Manfred Barakosky Estate in which Certified Return Receipt has not been received.
6. Map of the surface owners of record.

If you have any questions regarding this letter or enclosures, please don't hesitate to call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP



Stephen Weathers
Sr. Environmental Specialist

enclosures

cc: Environmental Files

STATE OF NEW MEXICO

County of Bernalillo

SS

Bill Tafoya, being duly sworn, declares and says that he is Classified Advertising Manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 4 day of Sept, 2003, and the subsequent consecutive publications on _____, 2003.

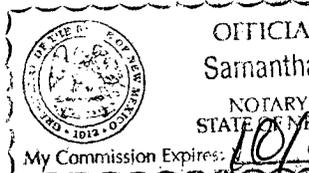
Sworn and subscribed to before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this day of 4 Sept of 2003.

PRICE 37.71

Statement to come at end of month.

ACCOUNT NUMBER 80411

CLA-22-A (R-1/93)



NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT.
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

Duke Energy Field Services, LP, Stephen Weathers, Project Manager, Telephone (303) 605-1718, 370 17th Street, Suite 900, Denver, Colorado 80202, has submitted a Stage 1 Abatement Plan Proposal for the Eldridge Ranch Site located in Unit P of Section 21, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico. Duke Energy Field Services, LP operates a natural gas gathering line at the site. Free-phase petroleum, benzene, toluene, ethylbenzene and xylene contamination in excess of New Mexico Water Quality Control Commission standards has been observed in ground water at the site. The Stage 1 Abatement Plan Proposal presents the following activities: determine site geology and hydrogeology; conduct a registered water well search within a 1 mile radius of the site; install monitoring wells; collect ground water samples for laboratory analysis from each monitoring well; obtain depth to ground water measurements; calculate the ground water gradient and direction; survey all well locations by a professional land surveyor registered in the State of New Mexico; a monitoring and sampling plan for soils and ground water; preparation of reports; and, a schedule for implementation of all investigation and monitoring activities.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 Abatement Plan Proposal may be viewed at the above address or at the Oil Conservation Division Hobbs District Office, 1625 N. French Drive, Hobbs, New Mexico 87240, Telephone (505) 393-6161 between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on the proposed Stage 1 Abatement Plan Proposal, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written comments may be submitted.
Journal - September 4, 2003

RECEIVED

SEP 18 2003

Duke Energy
Environmental Health & Safety

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that she is Advertising Director of **THE LOVINGTON DAILY LEADER**, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

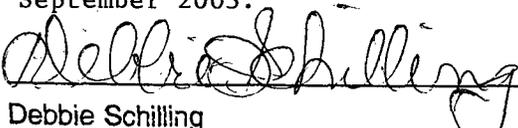
Legal Notice

was published in a regular and entire issue of **THE LOVINGTON DAILY LEADER** and not in any supplement thereof, for one (1) day, beginning with the issue of September 2, 2003 and ending with the issue of September 2, 2003.

And that the cost of publishing said notice is the sum of \$ 51.36 which sum has been (Paid) as Court Costs.



Subscribed and sworn to before me this 15th day of September 2003.



Debbie Schilling
Notary Public, Lea County, New Mexico
My Commission Expires June 22, 2006

LEGAL NOTICE
NOTICE OF
PUBLICATION

STATE OF
NEW MEXICO
ENERGY, MINERALS
AND NATURAL
RESOURCES
DEPARTMENT.
OIL CONSERVATION
DIVISION

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Published in the Lovington Daily Leader September 2, 2003.

AFFIDAVIT OF MAILING

STATE OF COLORADO)
) ss.
CITY & COUNTY OF DENVER)

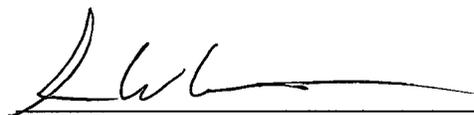
I, Stephen W. Weathers, being first sworn upon oath, state as follows:

I hereby certify that on the 28-29 day of August, 2003, a true and correct copy of the New Mexico Oil Conservation Division Public Notice Mailing List was mailed via First Class Mail, postage prepaid to the following:

See Exhibit A

Further, Affiant sayeth not.

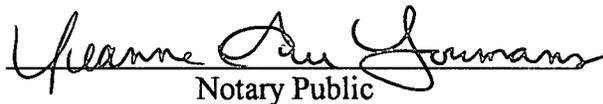
Dated this 5 day of September, 2003.



Stephen W. Weathers
Environmental Specialist
Duke Energy Field Services, LP

The foregoing was sworn to before me this 5th day of September, 2003
by Stephen W. Weathers.

Witness my hand and official seal.


Notary Public

My Commission expires:

April 14, 2005

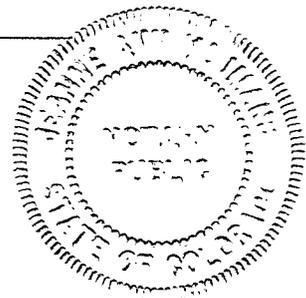


Exhibit A
OCD Notification List

Southwest Research & Information Center
Attn: Chris Shuey
P.O. Box 4524
Albuquerque, NM 87106

Lee Wilson & Associates
P.O. Box 931
Santa Fe, NM 87501

Department of Game & Fish
Attn: Director
Villagra Building
Santa Fe, NM 87503

Soil and Water Conservation Bureau
New Mexico Department of Agriculture
Agriculture Programs and Resources Division
Box 30005/APR
Las Cruces, NM 88003-8005

Bureau of Land Management
Attn: State Director
P.O. Box 27115
Santa Fe, NM 87502-0115

US Fish & Wildlife Service
Attn: Field Supervisor
2105 Osuna Raod, Northeast
Albuquerque, NM 87113-1001

Mike Matush
State Land Office Building
Santa Fe, NM 87503

NM Bureau of Mines & Mineral Resources
Attn: Lynn Brandvold
NM Institute of Mining & Tech.
Socorro, NM 87801

State Parks & Recreation
Attn: Director
1220 S. St. Francis
Santa Fe, NM 87505

New Mexico Environment Department
Attn: Secretary
P.O. Box 26110
Santa Fe, NM 87504

Southwestern Public Service
Attn: Ron Dutton
P.O. Box 1261
Amarillo, TX 79170

Water Resources Division
Attn: State Engineer
Bataan Building
Santa Fe, NM 87503

Jay Lazarus
P.O. Box 5727
Santa Fe, NM 87502

Bruce S. Garber
Attorney at Law
P.O. Box 0850
Santa Fe, NM 87504-0850

Dr. Harry Bishara
P.O. Box 748
Cuba, NM 87013

USFS Regional Office
Attn: Regional Forester
517 Gold Avenue SW
Albuquerque, NM 87102

Exhibit A
OCD Notification List

Colorado River Board of California
Attn: Gerald R. Zimmerman
770 Fairmont Ave., Ste. 100
Glendale, CA 91203-1035

Colorado River Basin Ctrl. Forum
Attn: Jack A. Barnett
106 West 500 South, Suite 101
Bountiful, UT 84010

Groundwater Bureau
Attn: Chief
Runnels Building
Santa Fe, NM 87504

Hazardous Waste Bureau
Attn: Chief
Runnels Building
Santa Fe, NM 87504

State Historic Preservation Officer
Attn: Elmo Baca
228 East Palace Avenue
Villa Rivera Room 101
Santa Fe, NM 87503

Attorney General's Office
P.O. Box 1508
Santa Fe, NM 87504

Environmental Counsel
Public Service Company of New Mexico
Attn: Colin Adams
414 Silver, Southwest
Albuquerque, NM 87158

International Technology Corp.
Attn: Mike Schulz
5301 Central Avenue, N.E.
Suite 700
Albuquerque, NM 87108

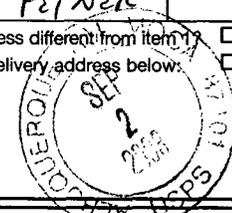
NM Oil & Gas Association
P.O. Box 1864
Santa Fe, NM 87504-1864

Mr. Jim Baca
NM Trustee for Natural Resources
610 Gold Ave SW Suite 236
Albuquerque, NM 87102

Ned Kendrick
Attorney at Law
325 Paseo de Peralta
Santa Fe, NM 87501

Eddie W. Seay
601 W. Illinois
Hobbs, NM 88240

A.E. Schmidt Environmental
Attn: Martin Nee
906 San Juan Blvd., Suite D
Farmington, NM 87401

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature X <i>William Fetner</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	
1. Article Addressed to: Mr. Jim Baca NM Trustee for Natural Resources 600 Gold Ave Suite 236 Albuquerque, NM 87102	B. Received by (Printed Name) WILLIAM FETNER	C. Date of Delivery
2. Article Number (Transfer from service label)	D. Is delivery address different from item 1? If YES, enter delivery address below: <input type="checkbox"/> Yes <input type="checkbox"/> No <div style="text-align: center;">  </div>	
	3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
	4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
	7002 2030 0006 2399 8175	

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr Ross Black, County Commissioner
 c/o Dennis Holmberg, County Manager
 Lea County Courthouse
 100 N Main ST
 Lovington NM 88260

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *K McLaughlin*

- Agent
 Addressee

B. Received by (Printed Name)

K McLaughlin

C. Date of Delivery

9-2-03

- D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee)

- Yes

2. Article Number

(Transfer from service label)

7002 2030 0006 2399 8182

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. Frank Eldridge
 P.O. Box 153
 Monument, NM 88265

ISS # DENVER CO P&DC

2. Article Number (Transfer from service label) 7002 2030 0006 2399 8106

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
 X *Shelly Eldridge*
 B. Received by (Printed Name) Shelly Eldridge C. Date of Delivery 9/2/03
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. James Foley
 513 Chaparral Dr.
 Belen NM 87002

2. Article Number (Transfer from service label) 7002 2030 0006 2399 8113

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
 X *James H. Foley*
 B. Received by (Printed Name) JAMES H. FOLEY C. Date of Delivery 9/2/03
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Jimmy Cooper
 P.O. Box 55
 Monument NM 88265

2. Article Number (Transfer from service label) 7002 2030 0006 2399 8083

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
Jimmy Cooper
 B. Received by (Printed Name) Jimmy Cooper C. Date of Delivery 9/2/03
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Terry Israel
 % Bill Gardner
 P.O. Box 154
 Monument, NM 88265

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) Agent
 Addressee

C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label) **7002 2030 0006 2399 8137**

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Harry Gaither Estate
 % John E Gaither
 3194 CR 435
 Seymour, Tx 76380

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) Agent
 Addressee

C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label) **7002 2030 0006 2399 8151**

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

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1. Article Addressed to:

Mr. Matush
 State Land Office
 State Land Office Building
 Santa Fe, NM 87503

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 Addressee

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PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540



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



REASON CHECKED

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- Insufficient Address
- No such street
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Lyman K. Armspiger
Box 464
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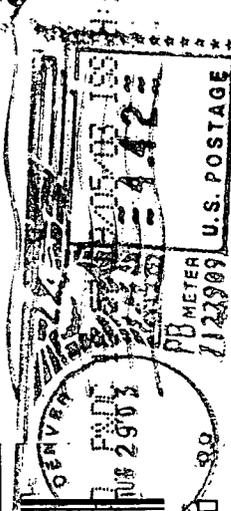
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9-17

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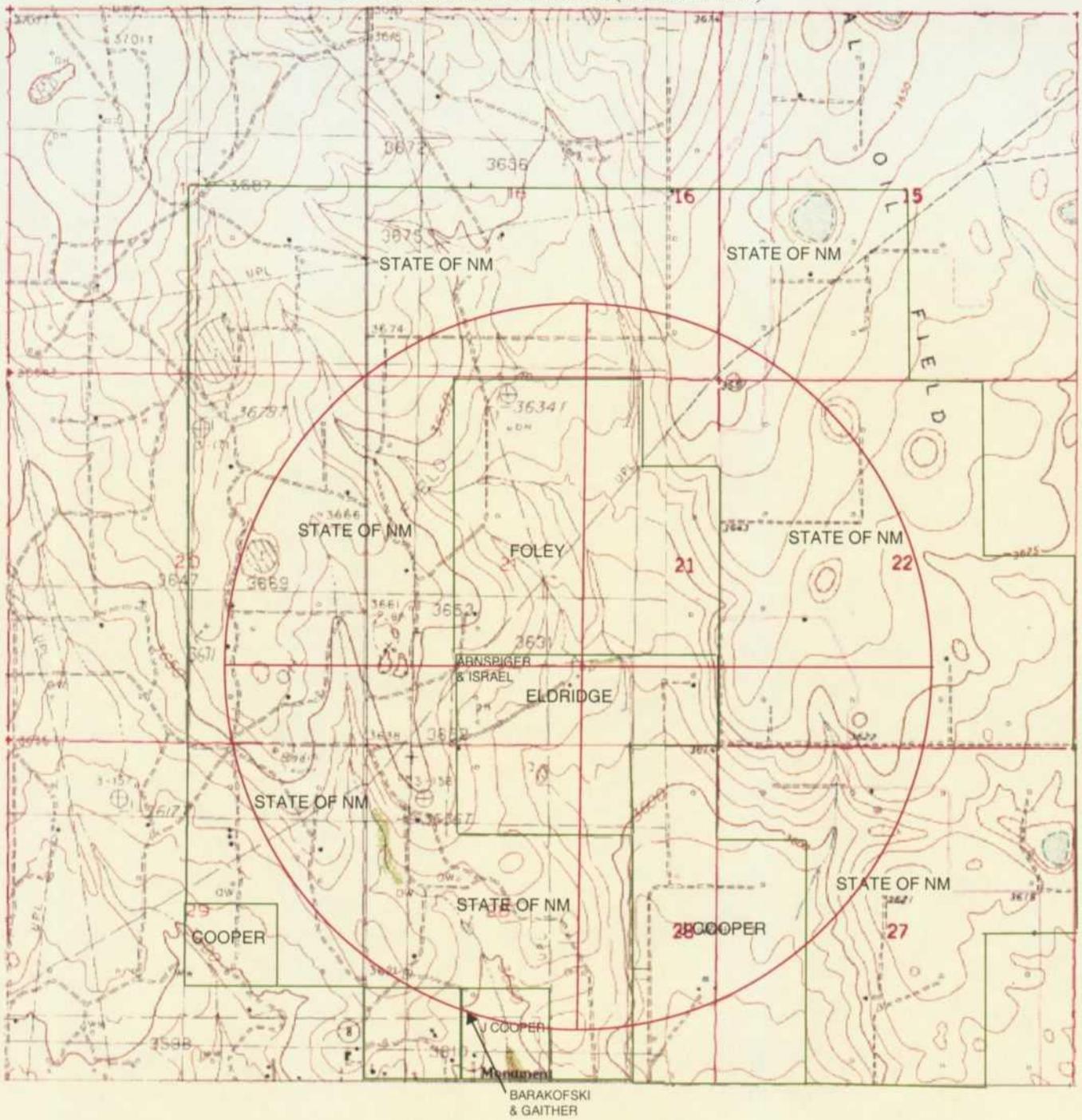
RECEIVED

SEP 08 2003

Duke Energy
Environmental Health & Safety



Surface Owners of Record (1 mile radius)



Olson, William

From: Olson, William
Sent: Tuesday, September 16, 2003 9:32 AM
To: 'Stephen W. Weathers'
Subject: RE: Stage 1 Abatement Plan Notification

Steve,

The below requested extension is approved.

If you have any questions please let me know.

Sincerely,

William C. Olson
Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
(505) 476-3491

-----Original Message-----

From: Stephen W. Weathers [mailto:swweathers@duke-energy.com]
Sent: Monday, September 15, 2003 3:40 PM
To: Olson, William
Subject: Stage 1 Abatement Plan Notification

Bill

I have yet to receive the Affidavit of Publication from Lovington Daily Leader and Alb Journal. I have called them and I should be seeing the Affidavits late this week. I am also waiting on one more certified receipt to make it back.

Under the letter I received from Mr. Roger Anderson dated August 18, 2003, I should provide the OCD with proof of publication and proof of written notice by September 17, 2003.

I request an extension and will submit the proper notifications as soon as I receive them.

If you have any questions, please give me a call at 303-605-1718.

Thanks

Olson, William

From: John Ferguson [jmfergerson@grandecom.net]
Sent: Monday, September 15, 2003 1:56 PM
To: Bill Olson; Larry Johnson
Cc: Mike Stewart; Steve Weathers
Subject: DEFS-NMG 148C (4" Line) Notification to Complete Quarterly Groundwater Sampling

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, will complete the following field activities at the DEFS-NMG 148C (4" Line) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all non-product wells using a water level indicator. Measure depth to product and

depth to water in product wells using an oil-water interface probe.
2. Purge all non product wells. Parameter readings to be recorded during purging activity.
3. Collect groundwater samples, for BTEX, after parameter readings have stabilized and a minimum of three well casing volumes of water have been removed. Wells that bail dry will be bailed and allowed time to recover a total of three times before sample collection. A grab groundwater sample will be collected from the excavation at the NMG 148C site.
4. Deliver samples to the analytical lab using standard chain of custody protocol. A duplicate sample and trip blanks will

accompany the samples and will be used to evaluate quality control.
5. Purge water will be disposed of at an approved OCD facility.

The project site is located at the following legal description:

1. Section 16, T 19 S, R 37 E

All activities are scheduled to begin at 0800-0900 MST on September 23, 2003. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John Ferguson
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
432-682-0008 (Main)
432-262-5216 (Office)
432-638-7333 (Cell)

Olson, William

From: John Ferguson [jmfergerson@grandecom.net]
Sent: Monday, September 15, 2003 2:07 PM
To: Bill Olson; Larry Johnson
Cc: Mike Stewart; Steve Weathers
Subject: DEFS-Eldridge Ranch Notification to Complete Quarterly Groundwater Sampling and O&M

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, will complete the following field activities at the DEFS-Eldridge Ranch project site. The activities include:

1. Measure fluid levels and total depth in all non-product wells using a water level indicator. Measure depth to product and

depth to water in product wells using an oil-water interface probe.
2. Purge all non product wells. Parameter readings to be recorded during purging activity.
3. Collect groundwater samples, for BTEX, after parameter readings have stabilized and a minimum of three well casing volumes of water have been removed. Wells that bail dry will be bailed and allowed time to recover a total of three times before sample collection.
4. Deliver samples to the analytical lab using standard chain of custody protocol. Duplicate samples and trip blanks will

accompany the samples and will be used to evaluate quality control.
5. Purge water will be disposed of at an approved OCD facility.
6. Perform monthly O&M.

The project site is located at the following legal description:

1. Section 21, T 19 S, R 37 E

All activities are scheduled to begin at 0800-0900 MST on September 23, 2003. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John Ferguson
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
432-682-0008 (Main)
432-262-5216 (Office)
432-638-7333 (Cell)

9/16/2003

GOVERNOR
Bill Richardson



DIRECTOR AND SECRETARY
TO THE COMMISSION
Dr. Bruce Thompson

STATE OF NEW MEXICO

DEPARTMENT OF GAME & FISH

One Wildlife Way
P.O. Box 25112
Santa Fe, NM 87504

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SEP 18 2003

OIL CONSERVATION
DIVISION

Visit our Web Site home page at www.gmfsh.state.nm.us
For basic information or to order free publications: 1-800-862-9310

STATE GAME COMMISSION
Tom Arvas, Chairman
Albuquerque, NM

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Santa Fe, NM

Jennifer Atchley Montoya
Las Cruces, NM

Alfredo Montoya
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Peter Pino
Zia Pueblo, NM

Guy Riordan
Albuquerque, NM

Leo Sims
Hobbs, NM

15 September 2003

Director, Oil Conservation Division
1220 St. Francis Drive
Santa Fe NM 87505

Re: Duke Energy Field Services Stage 1 Abatement Plan Proposal for the Eldridge Ranch Site
NMGF No. 8909

Dear Director:

Regarding the above referenced project, enclosed is a list of species of concern which occur in Lea County. Based on the information provided, the Department of Game and Fish cannot assess the impact of your project on wildlife and is not able to conduct site specific searches. We recommend that investigation and monitoring activities utilize existing access roads to the extent possible. Other sources of information are

1. <http://fwie.fw.vt.edu/states/nm.htm> for species accounts and searches.
2. To download New Mexico Species of Concern (wildlife species by county) go to <http://www.gmfsh.state.nm.us/PageMill/Images/NonGame/wildlifeofconcern.pdf>
3. <http://nrmhp.unm.edu/> for custom, site-specific database searches on plants and wildlife. Go to Data then to Free On-Line Data and follow the directions.
4. New Mexico State Forestry Division (505-827-5830) or <http://nmrareplants.unm.edu/index.html> for state-listed plants
5. U.S. Fish and Wildlife Service (505-346-2525) or <http://ifw2es.fws.gov/NewMexico/> for federally listed wildlife species

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Rachel Jankowitz at (505) 476-8159 or rjankowitz@state.nm.us.

Sincerely,

Janell Ward, Assistant Chief
Conservation Services Division

JW/rjj

cc: Joy Nicholopolous (Ecological Field Services, USFWS)
Roy Hayes (SE Area Operations Chief, NMGF)
Alexa Sandoval, (SE Area Habitat Specialist, NMGF)

New Mexico Species of Concern - Lea County

Common Name.....	SCIENTIFIC NAME.....	FWS..	NM...	FS.	BLM..	NM...	FWS.
		ESA	WCA	R3	NM	Sen	SOC
Texas Horned Lizard	Phrynosoma cornutum	-	-	S	S	-	-
Sand Dune Lizard	Sceloporus arenicolus	C	T	-	S	-	-
Desert Kingsnake	Lampropeltis getula splendida	-	-	S	-	-	-
Mississippi Kite	Ictinia mississippiensis	-	-	S	-	-	-
Bald Eagle	Haliaeetus leucocephalus	AD, T mg	T	S	-	-	-
Swainson's Hawk	Buteo swainsoni	-	-	S	-	-	-
Ferruginous Hawk	Buteo regalis	-	-	S	S	-	-
Aplomado Falcon	Falco femoralis septentrionalis	E mg	E	S	-	-	-
American Peregrine Falcon	Falco peregrinus anatum	DM m	T	S	-	-	S
Lesser Prairie-Chicken	Tympanuchus pallidicinctus	C	-	-	S	S	-
Upland Sandpiper (no data)	Bartramia longicauda	-	-	S	-	-	-
Western Snowy Plover	Charadrius alexandrinus nivosus	-	-	S	-	-	-
Mountain Plover	Charadrius montanus	PT	-	S	-	S	-
Yellow-billed Cuckoo	Coccyzus americanus occidentalis	-	-	S	-	S	S
Flammulated Owl	Otus flammeolus	-	-	S	-	-	-
Burrowing Owl	Athene cunicularia hypugaea	-	-	-	S	-	S
Belted Kingfisher	Ceryle alcyon	-	-	S	-	-	-
Loggerhead Shrike	Lanius ludovicianus	-	-	-	S	S	-
Bell's Vireo	Vireo bellii	-	T	S	-	-	S
Gray Catbird	Dumetella carolinensis ruficrissa	-	-	S	-	-	-
Sprague's Pipit	Anthus spragueii	-	-	S	-	-	-
American Redstart	Setophaga ruticilla tricolora	-	-	S	-	-	-
Baird's Sparrow	Ammodramus bairdii	-	T	S	S	-	S
McCown's Longspur	Calcarius mccownii	-	-	S	-	-	-
Cave Myotis Bat	Myotis velifer	-	-	S	S	S	S
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	C m	-	-	-	S	-
Swift Fox	Vulpes velox velox	-	-	S	-	S	S
Western Spotted Skunk	Spilogale gracilis	-	-	-	-	S	-
Sandhill White-tailed Deer	Odocoileus virginianus texana	-	-	-	-	S M	-

NATIVE SPECIES APPARENTLY NO LONGER OCCURRING IN LEA COUNTY

Mexican Gray Wolf	Canis lupus baileyi	
Black-footed Ferret	Mustela nigripes	(extirpated from NM)
Merriam's Elk	Cervus elaphus merriami	(extinct)
American Bison	Bos bison	



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

August 18, 2003

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: ABATEMENT PLAN #AP-33
ELDRIDGE RANCH
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services LP (Duke) July 18, 2003 "STAGE 1 ABATEMENT PLAN ADDENDUM FOR THE ELDRIDGE RANCH STUDY AREA, MONUMENT, NEW MEXICO (UNIT P, SECTION 21, TOWNSHIP 19 SOUTH, RANGE 37 EAST, CASE #1R334)", and May 30, 2003 "INITIAL STAGE 1 ABATEMENT PLAN, ELDRIDGE RANCH STUDY AREA, MONUMENT, NEW MEXICO (CASE # 1R334)". These documents contain Duke's Stage 1 Abatement Plan for the investigation of petroleum contamination of ground water on the Eldridge Ranch and Huston property related to Duke's pipeline activities in Section 16 and Section 21 of Township 19 South, Range 37, East, Lea County, New Mexico.

The OCD has determined that the above referenced Stage 1 Abatement Plan Proposal is administratively complete. Before the OCD can continue to process the Stage 1 proposal, the OCD requires that:

1. Duke issue by September 2, 2003 the enclosed Stage 1 notice of publication in the Albuquerque Journal, Lovington Daily Leader and Hobbs News Sun pursuant to OCD Rule 19.G.(2).
2. Prior to issuing public notice, Duke shall issue written notice of the Stage 1 proposal pursuant to OCD Rule 19.G.(1). A listing of "those persons, as identified by the Director, who have requested notification" pursuant to OCD Rule 19.G(1)(d) can be found at www.emnrd.state.nm.us/ocd/Bureaus/environm.htm.

3. Duke provide the OCD with proof of publication and proof of written notice by September 17, 2003. Proof of notice shall include a map of the surface owners of record within one (1) mile of the perimeter of the site and shall identify compliance with each of the provisions of OCD Rule 19.G.

If you have any questions, please contact Bill Olson of my staff at (505) 476-3491.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/wco

enclosure

xc w/enclosure: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahan
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb

NOTICE OF PUBLICATION

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

Duke Energy Field Services, LP, Stephen Weathers, Project Manager, Telephone (303) 605-1718, 370 17th Street, Suite 900, Denver, Colorado 80202, has submitted a Stage 1 Abatement Plan Proposal for the Eldridge Ranch Site located in Unit P of Section 21, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico. Duke Energy Field Services, LP operates a natural gas gathering line at the site. Free-phase petroleum, benzene, toluene, ethylbenzene and xylene contamination in excess of New Mexico Water Quality Control Commission standards has been observed in ground water at the site. The Stage 1 Abatement Plan Proposal presents the following activities: determine site geology and hydrogeology; conduct a registered water well search within a 1 mile radius of the site; install monitoring wells; collect ground water samples for laboratory analysis from each monitoring well; obtain depth to ground water measurements; calculate the ground water gradient and direction; survey all well locations by a professional land surveyor registered in the State of New Mexico; a monitoring and sampling plan for soils and ground water; preparation of reports; and, a schedule for implementation of all investigation and monitoring activities.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 Abatement Plan Proposal may be viewed at the above address or at the Oil Conservation Division Hobbs District Office, 1625 N. French Drive, Hobbs, New Mexico 87240, Telephone (505) 393-6161 between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on the proposed Stage 1 Abatement Plan Proposal, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written comments may be submitted.

1R334

Olson, William

From: John Fergerson [jmfergerson@grandecom.net]
Sent: Monday, July 14, 2003 8:44 AM
To: Bill Olson; Larry Johnson
Cc: Mike Stewart; Steve Weathers
Subject: Notification of Field Work to be Completed at DEFS-Eldridge Ranch project site

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, will complete the following field activities at the DEFS-Eldridge Ranch project site. The activities for this site include:

1. Measure depth to product and depth to water in MW-8, MW-11, MW-18, MW-23, MW-26, MW-27 using an oil-water interface probe.
2. Install passive bailers into MW-8, MW-11, MW-18, MW-23, MW-26 for product recovery.
3. Install a Xitech product recovery system into MW-27.

The project site is located at the following legal description:

1. Section 21, T 19 S, R 37 E

All activities are scheduled to begin on July 16, 2003. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John Fergerson
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
432-682-0008 (Main)
432-262-5216 (Office)
432-638-7333 (Cell)



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

June 19, 2003

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: ABATEMENT PLAN #AP-33
ELDRIDGE RANCH
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services LP (Duke) May 30, 2003 "INITIAL STAGE 1 ABATEMENT PLAN, ELDRIDGE RANCH STUDY AREA, MONUMENT, NEW MEXICO (CASE # 1R334)". This document contains Duke's Stage 1 Abatement Plan for the investigation of petroleum contamination of ground water on the Eldridge Ranch and Huston property related to Duke's pipeline activities in Section 16 and Section 21 of Township 19 South, Range 37 East, Lea County, New Mexico.

The above-referenced Stage 1 Abatement Plan is not administratively complete because it does not contain the following information pursuant to 19.15.1.19.E(3) NMAC:

1. A plan to define the site geology and hydrogeology.
2. A plan to define the magnitude and extent of vadose zone and dissolved phase contamination.
3. An inventory of water wells inside and within one mile of the perimeter of the area where the standards are exceeded and the number of such wells actually or potentially affected by the pollution.
4. A quality assurance plan, consistent with the sampling and analytical techniques listed in 20.6.3107.B NMAC for all work to be conducted pursuant to the abatement plan.

The OCD requires that Duke submit the above information to the OCD Santa Fe Office by July 19, 2003 with a copy provided to the OCD Hobbs District Office.

In the interim, in order to limit the spread of phase-separated hydrocarbons (PSH) on ground water, the OCD approves of the portion of Duke's plan for recovery of PSH from ground water, and requires that this activity commence as soon as possible.

If you have any questions, please call me at (505) 476-3491.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

cc: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahon
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb

Olson, William

From: Stephen W. Weathers [swweathers@duke-energy.com]
Sent: Friday, May 30, 2003 2:13 PM
To: Olson, William
Cc: Joshua B Epel; LRose@montand.com
Subject: Initial Stage 1 Abatement Plan for the Eldridge Study Area (Case #1R334)



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03.doc

(See attached file: OCDstageone5-30-03.doc) (See attached file: 503

[f] eld
text.pdf)



370 17th Street, Suite 900
Denver, Colorado 80202
303-595-3331 – main
303-389-1957 – fax

May 30, 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Via E Mail

**RE: Initial Stage 1 Abatement Plan
Eldridge Ranch Study Area, Monument, New Mexico (Case # 1R334).**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review the Initial Stage 1 Abatement Plan as required under Rule 19 for the Eldridge Ranch Study Area, Monument, New Mexico (Unit P, Section 21, Township 19 South, Range 37 East).

If you have any questions regarding this report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Joshua Epel, DEFS Legal
Louis Rose, Montgomery & Andrews, P.A.

Remediacon Incorporated

Geological and Engineering Services
mstewart@remediacon.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 720.528.8132

May 30, 2003

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

Re: Proposed Initial Stage 1 Abatement Plan Activities for the Eldridge Ranch Study Area, Monument, New Mexico (Unit P, Section 21, Township 19 South, Range 37 East, Case #1R334)

Dear Mr. Weathers:

This letter proposes the initial field activities that will be completed for the Stage 1 Abatement Plan for the Eldridge Study area. The study area includes two properties (Figure 1). The locations of the two properties relative to the surrounding topography are shown on Figure 2. The study area boundaries are also approximately located on Figure 2. The surface drainages are approximately delineated on Figure 3.

Seven natural gas gathering and distribution pipelines also transverse the study area. The pipelines are shown on the aerial photograph in Figure 4. Figure 4 was also used to delineate the surface drainage boundaries shown in Figure 3. The pipelines include:

1. A DEFS distribution line (DEFS ZZ, Figure 4);
2. A Conoco distribution line (Conoco, Figure 4);
3. Two northeast trending Sid Richardson gathering lines (Sid Richardson, Figure 4);
4. A Dynegy northeast trending gathering line (Dynegy, Figure 4);
5. An historic pipeline that extends east from the Chevron well (Chevron, Figure 4);
6. The north-trending DEFS gathering line (NMG-148C, Figure 4); and
7. The west trending DEFS gathering line (NMG-148A&B, Figure 4)

The primary component of this plan is to delineate the lateral extent of the locations known to contain free product. A program to characterize the hydrogeologic regime and the distribution of dissolved phase constituents beneath the Huston and/or Eldridge properties must be postponed until the free product releases from all of the pipelines transecting the study area have been identified and investigated.

Three additional activities are also proposed as part of the Stage 1 abatement process. First, a deep well will be installed in a cluster with existing well MW-24 on the southern study area boundary. Second, a regular program to collect free product will be initiated. Finally, the quarterly groundwater monitoring program will be continued.

FREE PRODUCT CHARACTERIZATION

The purpose of the first task is to delineate the areal extent of free product at each site where it is known to be present. The well locations are shown on Figure 5. The free product thicknesses measured in the study area wells in February 2003 were:

- MW-11: 1.35 feet
- MW-18: 0.40 feet
- MW-23: 0.57 feet
- MW-26: 0.71 feet
- MW-27: 1.25 feet

An initial well will be advanced at each of the five locations at a distance approximate 25 feet down gradient (southeast) from each of the above wells. These wells should be outside the product saturated zone unless more product leaked into the subsurface or enhance migration is occurring along a preferential pathway.

Additional wells will be installed at the following locations to provide supplemental information:

- MW-11: in the existing drainage to evaluate the potential for free product migration in the drainage above MW-11.
- MW-18: Approximately 25 feet northwest to evaluate product migration from source up the groundwater gradient.
- MW-23: No additional wells proposed until leak testing is completed on the Dynege line.
- MW-26: No additional wells proposed unless free product is encountered in the initial offset well.
- MW-27: No additional wells proposed unless free product is encountered in the initial offset well.
- A well will be installed at location NMGAB#1 (Figure 4) to complete characterization at all leaks identified on the DEFS gathering lines.

Additional wells will also be installed further down gradient at each location where free product is encountered in the initial 25-foot offset well. The distance to the new well will depend upon the thickness of free product present in the 25-foot offset well.

Each boring will be advanced approximately 10 feet into the water table. Fifteen feet of 2-inch, factory slotted Schedule 40 PVC screen will then be installed to span the top of the water table with blank casing placed to the surface. Artificially-graded sand will be placed to approximately 1 foot above the top of the slots. A minimum 1-foot thick bentonite seal will then be placed on top of the sand. A locking cap will then be placed on each well.

The location and elevation of each well will be surveyed. The depth to product and water will be measured in each new well during the subsequent monitoring episode. Product will be periodically removed from each well as part of the product recovery program presented below.

The depths to water and product will then be measured in each well a minimum of 1 week after it is installed. Those wells that do not contain free product will be developed to ensure that caking on the wall during drilling has not sealed the well and then remeasured in another week.

All wells that contain free product will be converted to permanent monitoring locations by sealing the annular space to the surface and installing a protective case and a minimum 2-foot by 2-foot concrete pad. DEFS will either abandon the wells that do not have free product or convert them to permanent wells. Wells will be abandoned by pulling the casing and sealing them to the surface with palletized bentonite or a neat-cement grout.

DEEP MONITORING WELL INSTALLATION

A deep well similar to MW-1d will be installed at MW-24 to monitor for dissolved hydrocarbons in the deeper part of the saturated materials. The well (MW-24D) will be installed to tap the interval from 35 to 50 feet. The well will be installed in a similar fashion as MW-1D. The location and elevation of well MW-24D will be surveyed. The well will then be sampled during each subsequent monitoring episode.

FREE PRODUCT COLLECTION

Free product removal will be initiated on a regular basis. Product-only bailers will be placed in each well and emptied on a weekly basis. The period of removal may be adjusted after an initial assessment period depending upon the ability of each well to produce product and the rate in decline in product thickness. The product will be placed in 55-gallon drums for collection and recycling at one of the DEFS facilities.

QUARTERLY GROUNDWATER MONITORING

Quarterly groundwater sampling for BTEX will be completed on all wells that do not contain free product in June and in August to provide data for all four seasons. The monitoring program will be reviewed after the completion of August sampling event. The revised program will include fluid measurement of all wells and quarterly monitoring of the boundary wells. The monitoring frequency may be decreased on some of the interior wells.

Mr. Stephen Weathers
May 30, 2003
Page 4

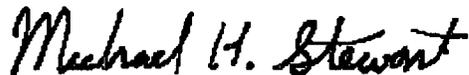
IMPLEMENTATION SCHEDULE

The above activities will be completed according to the following schedule:

- The free product characterization activities will be completed within 45 days after receiving permission to proceed from OCD. A report on these activities will be provided to OCD within 30 days after completing the field activities.
- The deep monitoring well will be installed, developed and sampled at the same time the free product characterization wells are installed. The data from the sampling will be forwarded to OCD within five business days of receipt and validation. The well will then be added to the quarterly groundwater monitoring program.
- Collection of free product will be initiated by the end of June.
- The next quarterly groundwater monitoring episode is scheduled to begin on June 2, 2003.

Do not hesitate to contact me if you have any questions or comments on this letter.

Sincerely,
REMEDIACON INCORPORATED



Michael H Stewart, PE
Principal Engineer

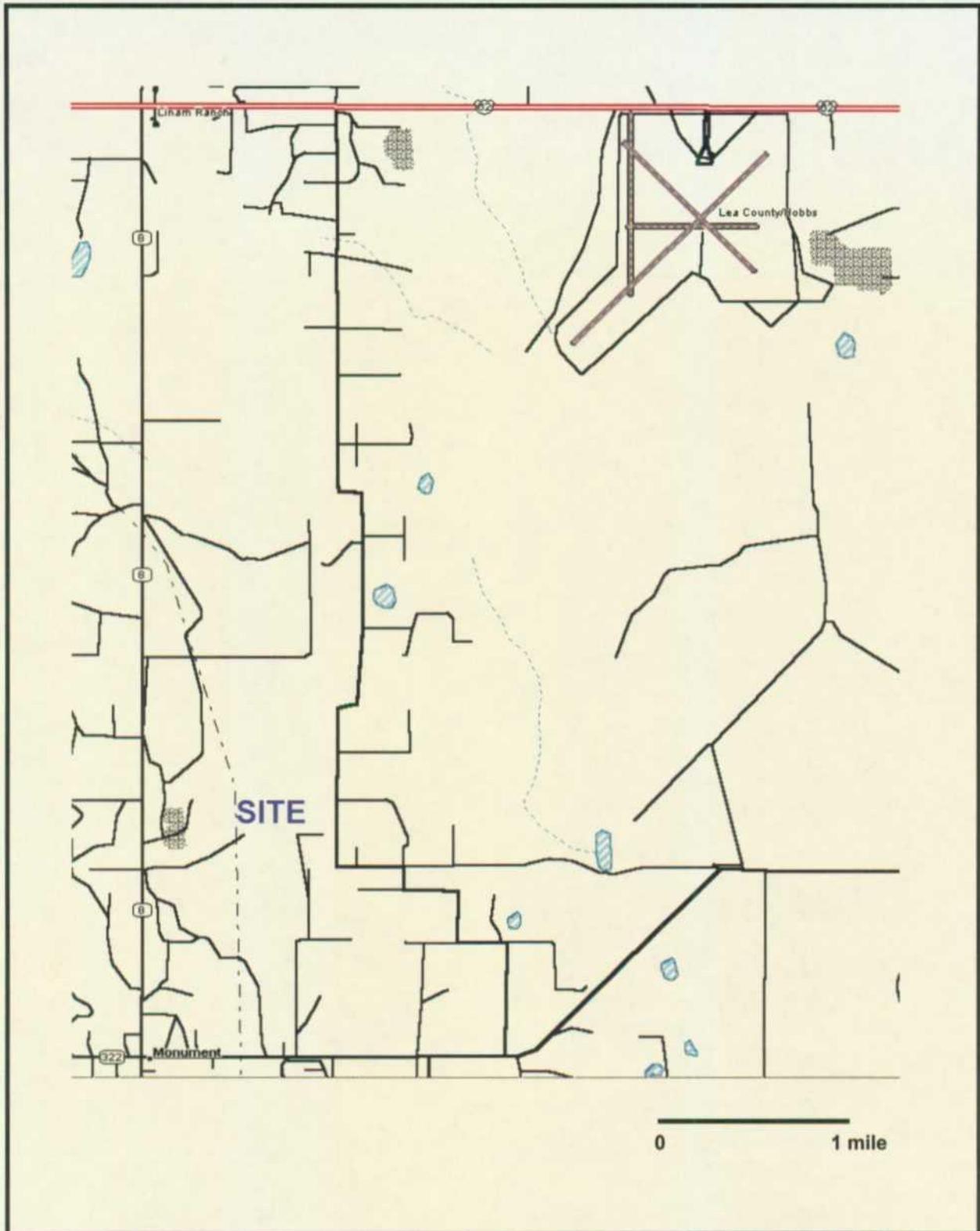


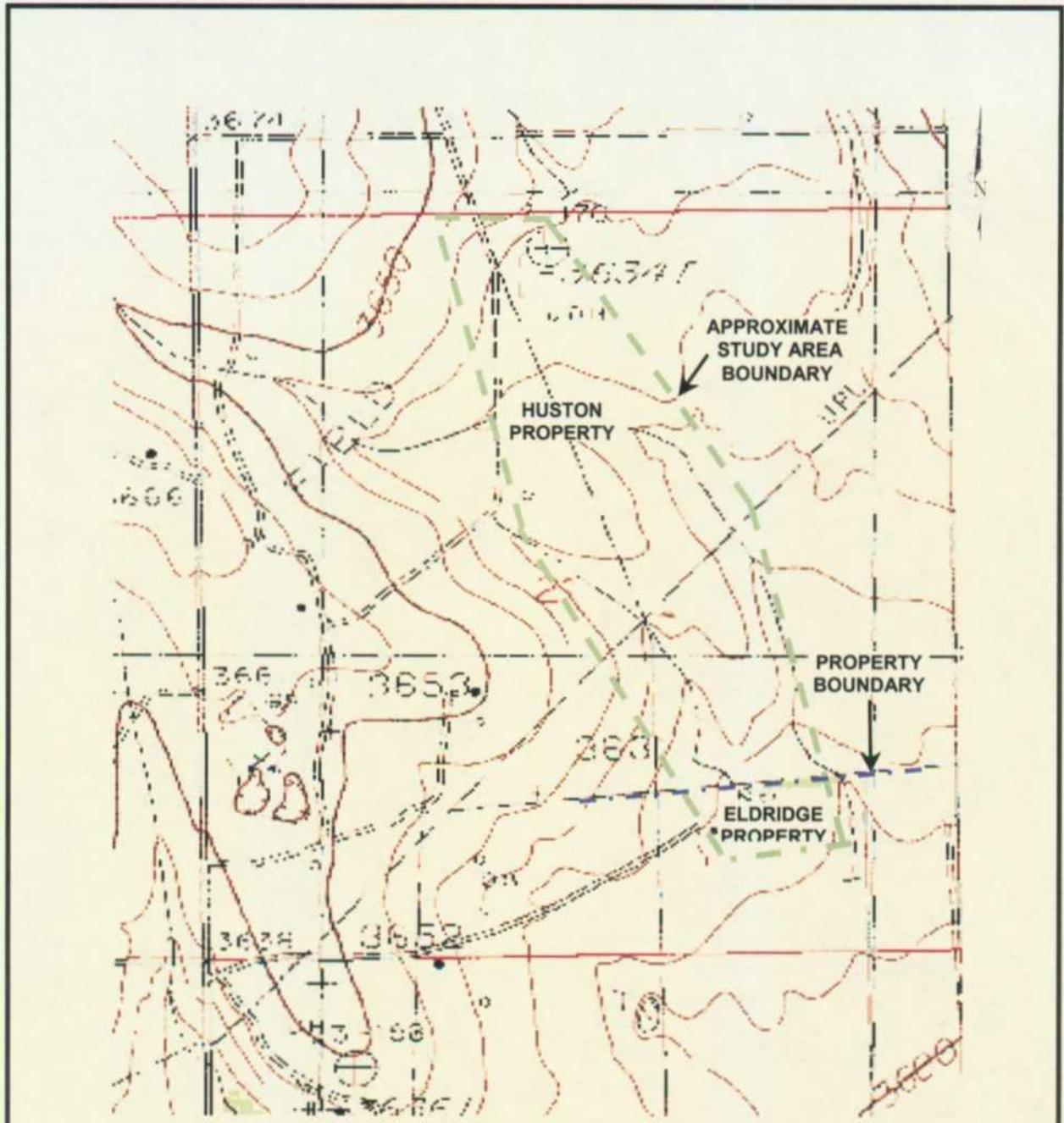
Figure 1 – Site Location Map
Eldridge Study Area



DRAWN BY: MHS

REVISED:

DATE: 5/03



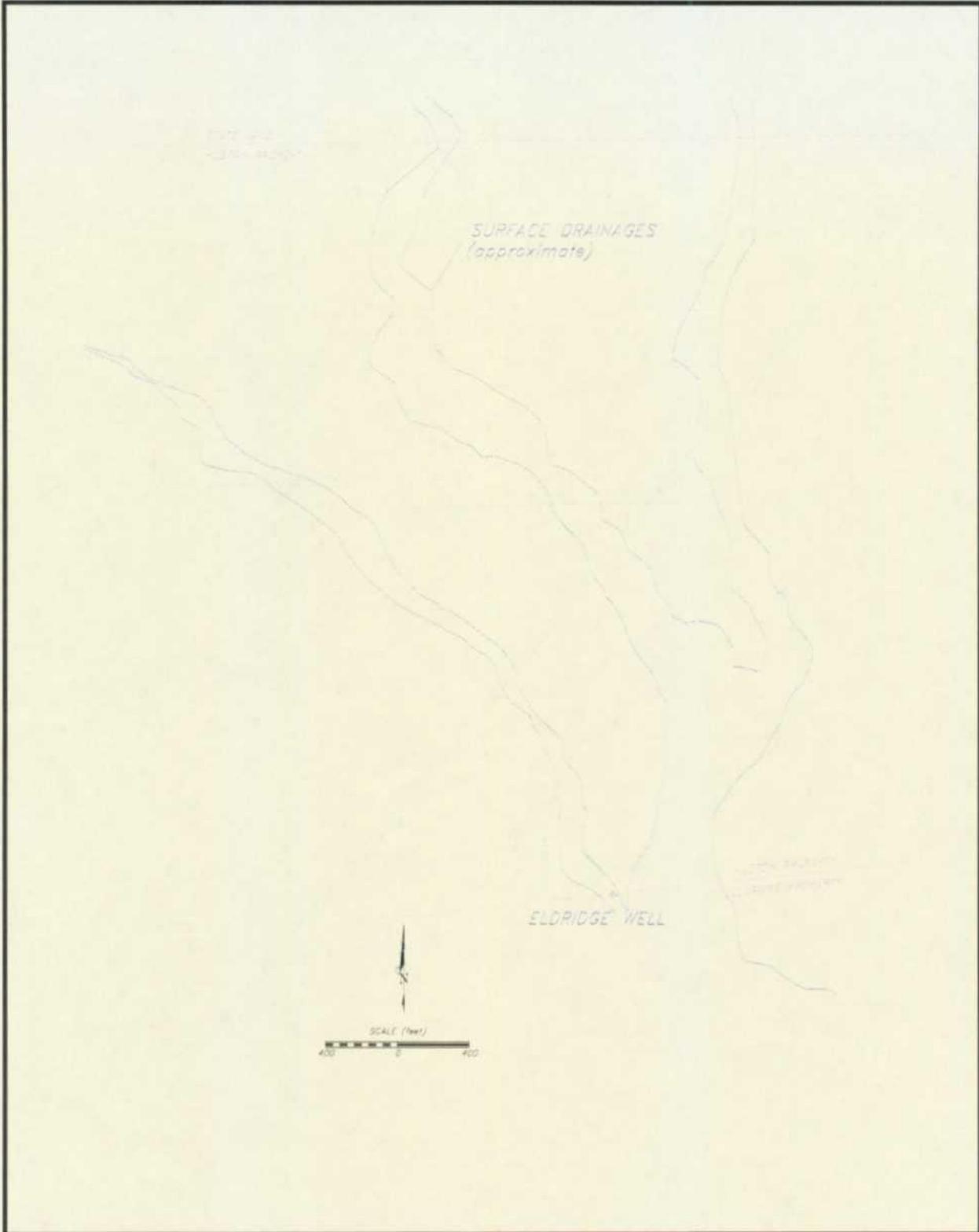
SCALE



Figure 2 – Topographic Setting
Eldridge Study Area



DRAWN BY: MHS
REVISED:
DATE: 5/03



**Figure 3 – Surface Drainage Locations
Eldridge Study Area**



DRAWN BY: MHS

REVISED:

DATE: 5/03

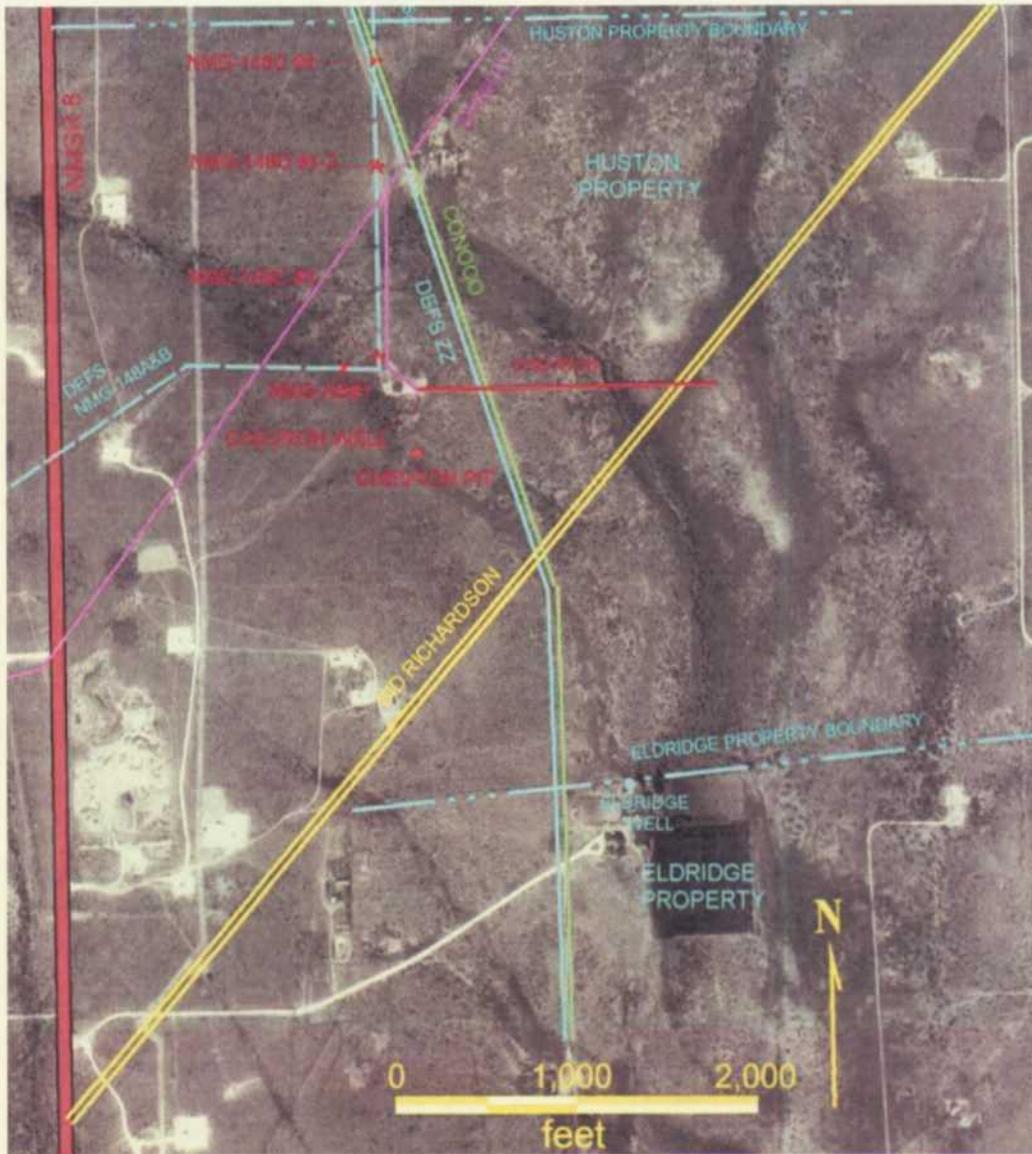


Figure 4 – Pipeline Locations and Alignments
Eldridge Study Area



DRAWN BY: MHS

REVISED:

DATE: 5/03



**Figure 5 – Monitor Well Locations
Eldridge Study Area**



DRAWN BY: MHS

REVISED:

DATE: 5/03

112334

Olson, William

From: John Ferguson [jmfergerson@grandecom.net]
Sent: Tuesday, May 27, 2003 8:01 AM
To: Bill Olson; Larry Johnson
Cc: Mike Stewart; Steve Weathers
Subject: Notification of Groundwater Sampling at the DEFS-Eldridge & NMG 148C Study Areas

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, will complete the following field activities at the DEFS-Eldridge Ranch & NMG 148C project sites. The activities for both sites include:

1. Measure fluid levels and total depth in all non-product wells using a water level indicator. Measure depth to product and

depth to water in product wells using an oil-water interface probe.
2. Purge all non product wells. Parameter readings to be recorded during purging activity.
3. Collect groundwater samples, for BTEX, after parameter readings have stabilized and a minimum of three well casing volumes of water have been removed. Wells that bail dry will be bailed and allowed time to recover a total of three times before sample collection. A grab groundwater sample will be collected from the excavation at the NMG 148C site.
4. Deliver samples to the analytical lab using standard chain of custody protocol. Duplicate samples and trip blanks will

accompany the samples and will be used to evaluate quality control.
5. Purge water will be disposed of at an approved OCD facility.

The project sites are located at the following legal description:

1. Section 21, T 19 S, R 37 E
2. Section 16, T 19 S, R 37 E

All activities are scheduled to begin at 0800-0900 MST on June 2, 2003. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John Ferguson
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
915-682-0008 (Main)
915-262-5216 (Office)
915-638-7333 (Cell)

6/19/2003

Olson, William

From: Joshua B Epel [JBEpel@duke-energy.com]
Sent: Friday, May 23, 2003 2:26 PM
To: wolson@state.nm.us
Cc: lrose@montand.com
Subject: Extension of Time

Dear Mr. Olson:

This is to confirm your telephone conversation of May 23, 2003 with Steve Weathers of DEFS in which you approved an extension request for delivering the Stage I Abatement plan for the Eldridge Ranch Study area (Case #1R334) until the end of business May 30, 2003.

Joshua B. Epel
Assistant General Counsel
Duke Energy Field Services
370 17th Street, Suite 900
Denver, CO 80202
jbepel@duke-energy.com
(720) 944-9324 - phone
(303) 893-8902 - fax



370 17th Street, Suite 900
Denver, Colorado 80202
303-595-3331 - main
303-389-1957 - fax

RECEIVED

MAR 28 2002

Mr. William Olson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

**RE: Stage I Abatement Plan
Eldridge Study Area
Case #1R334**

Dear Mr. Olson:

As per our phone conversation yesterday (March 25, 2003), Duke Energy Field Services, LP will submit a Stage I Abatement Plan for the Eldridge Study Area (Case #1R334) by May 26, 2003. The workplan will incorporate the requirements as directed under Rule 19 Section E (3).

If you have any questions pertaining to this letter, please give me a call at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

A handwritten signature in black ink, appearing to read 'Stephen Weathers', with a long horizontal flourish extending to the right.

Stephen Weathers
Sr. Environmental Specialist

cc: Joshua Epel, DEFS Legal Department
Environmental File, Denver



370 17th Street, Suite 900
Denver, Colorado 80202
303-595-3331 - main
303-389-1957 - fax

February 21, 2003

RECEIVED

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

FEB 24 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: Report on the Field Activities at the Eldridge Ranch Study Area, Monument, New Mexico (Case # 1R334).

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review the Report on the Field Activities at the Eldridge Ranch Study Area, Monument, New Mexico (Case # 1R334).

Based on the conclusions and recommendations in this report, DEFS is moving forward voluntarily to continue the remediation of the Eldridge Ranch Study Area under Rule 19 and will look at submitting a Stage 1 Abatement Plan as required under Rule 19 in the very near future.

If you have any questions regarding this report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

A handwritten signature in black ink, appearing to read 'Stephen H. Weathers'.

Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Environmental Files

Remediacon Incorporated

Geological and Engineering Services
mstewart@remediacon.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 720.528.8132

February 21, 2003

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

Re: Report on the February 2003 Field Activities at the Eldridge Ranch Study Area,
Monument, New Mexico (Case #1R334)

Dear Mr. Weathers:

This letter summarizes the activities completed at the Eldridge Ranch Study Area in Lea County New Mexico. The work was completed in accordance with the modified work plan that was prepared for the adjacent NMG-148 Study Area. The New Mexico Oil Conservation Division (OCD) approved that work plan with a condition for a February 24, 2003 report. The following sections summarize the work completed and present the resulting data for the Eldridge Ranch Study Area in compliance with that condition.

SUMMARY OF FEBRUARY 2003 CHARACTERIZATION ACTIVITIES

This section summarizes the characterization program that were completed in February 2003 in the Eldridge Ranch Study Area. The program objective was assess potential groundwater impacts at the recently identified NMG-148C#1 (combined), NMG-148C#3 and the NMG-148C#4 release locations. This information will be used in conjunction with the preexisting information to generate a comprehensive dissolved-phase characterization program.

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

Well Installation

Three additional wells were installed in the Eldridge Study Area at the locations shown on Figure 1. The locations are also shown relative to the pipeline alignments on Figure 2. Well MW-25 was installed at release location NMG-148C#4 as required in the approved work plan. Well MW-25 was referred to as well MW-5 in the February 2003 field notes. Well MW-26 was installed at combined release locations NMG-148C#1. Well MW-26 was referred to as well MW-6 in the February 2003 field notes. Well MW-27 was installed at release location NMG-148C#3. Well MW-27 was referred to as well MW-7 in the February 2003 field notes.

All three borings were advanced using air-rotary drilling with a 6 1/8 inch tricone bit. All drilling and installation procedures were supervised by experienced personnel. Lithologic logs for the borings are attached.

Samples were collected on 5-foot intervals from 5 to 25 feet in all three new wells. Each sample was screened for the presence of volatiles using a photoionization detector (PID). The readings for the 15 samples from all three wells are summarized in Table 1.

The five soil samples each of the three wells were submitted to Environmental Lab of Texas for analyses for TPH as gasoline and diesel range organics because the boring was installed in a potential source area. The sample from wells MW-26 and MW-27 with the highest PID readings and the 25 foot (vadose zone) soil samples were also submitted for analysis for benzene, toluene, ethylbenzene, and total xylenes.

The well completion information for the three new wells is summarized in Table 2. The wells were screened from the base of the boring to above the first indication of saturation using threaded, factory-slotted Schedule 40 PVC casing. Sand was then placed in the annular space to a minimum of 2 feet above the top of the slots. The annular space from the top of the sand to 3 feet below ground surface (bgs) was then backfilled with hydrated bentonite pellets. The uppermost 3 feet on annular space was filled with concrete. An above-ground well protector and a 2 foot by 2 foot concrete apron were installed at the surface to ensure the integrity of the well. The wells were allowed to sit overnight before they were developed.

Well Gauging, Development and Sampling

The three new wells were first gauged. Wells MW-26 and MW-27 both contained free product so they were not developed and sampled. Well MW-25 was 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 well was then allowed to sit overnight before it was purged and sampled. The stabilized field parameters were:

TEMP.	COND.	PH	DO
(°C)	(mS/cm)	(units)	(mg/L)
19.3	0.679	7.15	9.76

Well MW-25 was then sampled using a disposable bailer. An unfiltered sample was collected and analyzed for the organic constituents benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons as gasoline and diesel. An additional unfiltered sample was also collected from each well and analyzed for the inorganic constituents calcium, magnesium, sodium, potassium, bicarbonate alkalinity,

chlorides, sulfate, and fluoride. Finally, both unfiltered and field filtered samples were analyzed for barium, iron and manganese. A duplicate sample was collected from well MW-25 to evaluate quality control. The laboratory also provided a trip blank. The trip blank that was analyzed for the BTEX constituents and none were detected.

The water and soil samples were placed in an ice-filled chest immediately upon collection. The samples were delivered directly to the analytical laboratory using standard chain-of-custody protocol.

The fluid level measurements for all wells are summarized in Table 3. The analytical results are summarized in Tables 4 (soil) and 5 (groundwater). The well development forms, well purging forms and a copy of the recent soil and groundwater analytical results are attached.

CONCLUSIONS AND RECOMMENDATIONS

Remediacon concludes the following based upon the data collected during this investigation:

1. The release from the NMG-148C#4 site has not impacted the groundwater based upon the PID measurements and soil analyses from well MW-25. The groundwater sample from well MW-25 contained trace concentrations of benzene, toluene and xylenes that may indicate minimal migration of hydrocarbons to the groundwater.
2. Releases from the NMG-148C#1 (MW-26) and NMG-148C#3 (MW-27) leaks have probably impacted the groundwater based upon the presence of free product in the wells.
3. The Eldridge study area will ultimately be subject to the requirements of Rule 19 because the site either cannot be remediated or cannot be remediated in under 1 year without an unrealistic expenditure of funds.

Remediacon recommends that the following activities be completed:

1. Additional groundwater sampling from well MW-25 be completed to verify the trace hydrocarbon concentrations measured during this program.
2. A work plan (or Stage 1 Abatement Plan under Rule 19) should be prepared and submitted to the OCD in a timely fashion. The plan should address the free product and affected groundwater beneath the Huston and Eldridge properties. The plan should consider these two properties as separate areas as their contaminant issues differ.
3. The NMG-148 site to the north should continue to be treated as a separate location.

Mr. Stephen Weathers
February 21, 2003
Page 4

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

Attachments

Table 1 – Photoionization Detector Measurements for the February 2003 Eldridge Ranch Study Area Wells

Sample Depth (feet)	Photoionization Detector Results (ppm)		
	MW-25	MW-26	MW-27
5	0	143	0
10	0	347	0
15	0	439	1
20	0	359	73
25	0	341	338

Table 2 – Well Completion Information

Well	Date Installed	Total Depth	Screened Interval	Sand Interval	Bentonite Interval
MW-25	2/5/03	37	17-37	15-37	3-15
MW-26	2/5/03	35	15-35	13-35	3-13
MW-27	2/5/03	37	17-37	15-37	3-15

All units are feet

Table 3 – Summary of Fluid Level Measurements from The Eldridge Study Area Wells

Well	2/7/2003		
	Depth to Product	Depth to Water	Product Thickness
MW-25	NP	28.85	0.0
MW-26	25.14	26.03	0.89
MW-27	29.31	30.60	1.29

NP: Not present
 All units in feet

Table 4 – Laboratory Analytical Data for the February 2003 Eldridge Ranch Study Area
Soil Samples

Well	Sample Depth (feet)	TPH as GRO (ppm)	TPH as DRO (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
MW-25	5	<10	<10				
MW-25	10	<10	<10				
MW-25	15	<10	<10				
MW-25	20	<10	<10				
MW-25	25	<10	<10				
MW-26	5	<10	52.6				
MW-26	10	360	<10				
MW-26	15	613	<10	21.7	50	4.54	13.88
MW-26	20	101	<10				
MW-26	25	<10	<10	<0.025	<0.025	<0.025	<0.025
MW-27	5	<10	<10				
MW-27	10	<10	<10				
MW-27	15	<10	<10				
MW-27	20	<10	<10	<0.025	<0.025	<0.025	<0.025
MW-27	25	<10	<10	<0.025	<0.025	<0.025	<0.025

Table 5 – Laboratory Analytical Data for the February 2003 Eldridge Ranch Study Area Groundwater Samples

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH GRO	TPH DRO
MW-25		0.004	0.002	<0.001	0.001	<3.00	<3.00
MW-25 (duplicate)		0.004	0.002	<0.001	0.001	<3.00	<3.00

Well	Calcium	Magnesium	Potassium	Sodium	Bicarbonate	Chloride	Sulfate	Total Dissolved Solids
MW-25	69.9	8.81	4.17	45.2	179	40.8	54.3	290

Well	Barium	Barium (dissolved)	Iron	Iron (dissolved)	Manganese	Manganese (dissolved)
MW-25	0.88	0.565	12.6	0.009	0.242	0.003

All units mg/l:

TPH GRO Total petroleum hydrocarbons as gasoline range organics:

TPH DRO Total petroleum hydrocarbons as diesel range organics

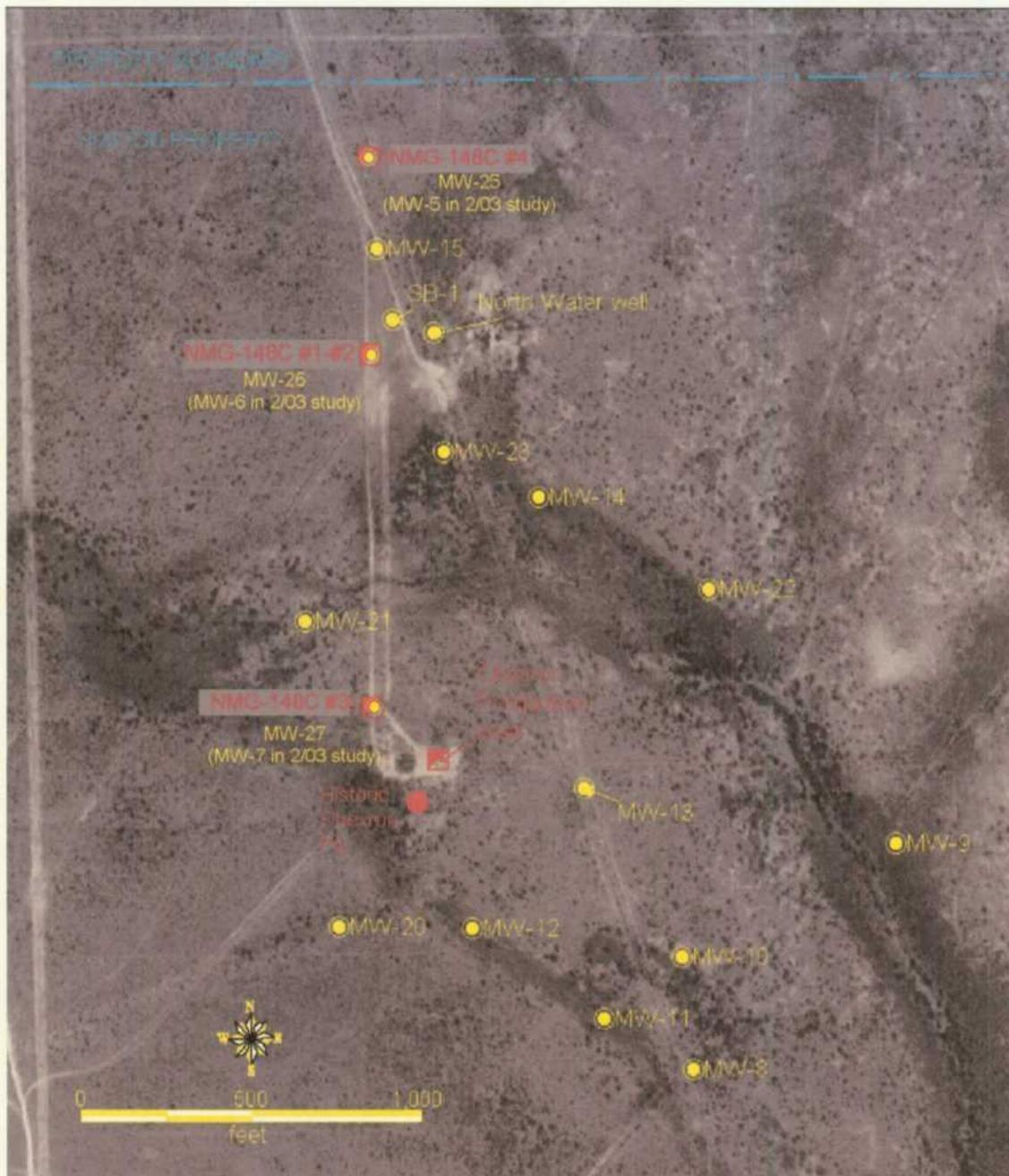


Figure 1 – Eldridge Study Area Layout and Components
 Eldridge Study Area



DRAWN BY: MHS

REVISED:

DATE: 2/03



Figure 2 – Pipeline Alignments and February 2003 Well Locations
Eldridge Study Area



DRAWN BY: MHS

REVISED:

DATE: 2/03



2/28/02

Eldridge Ranch

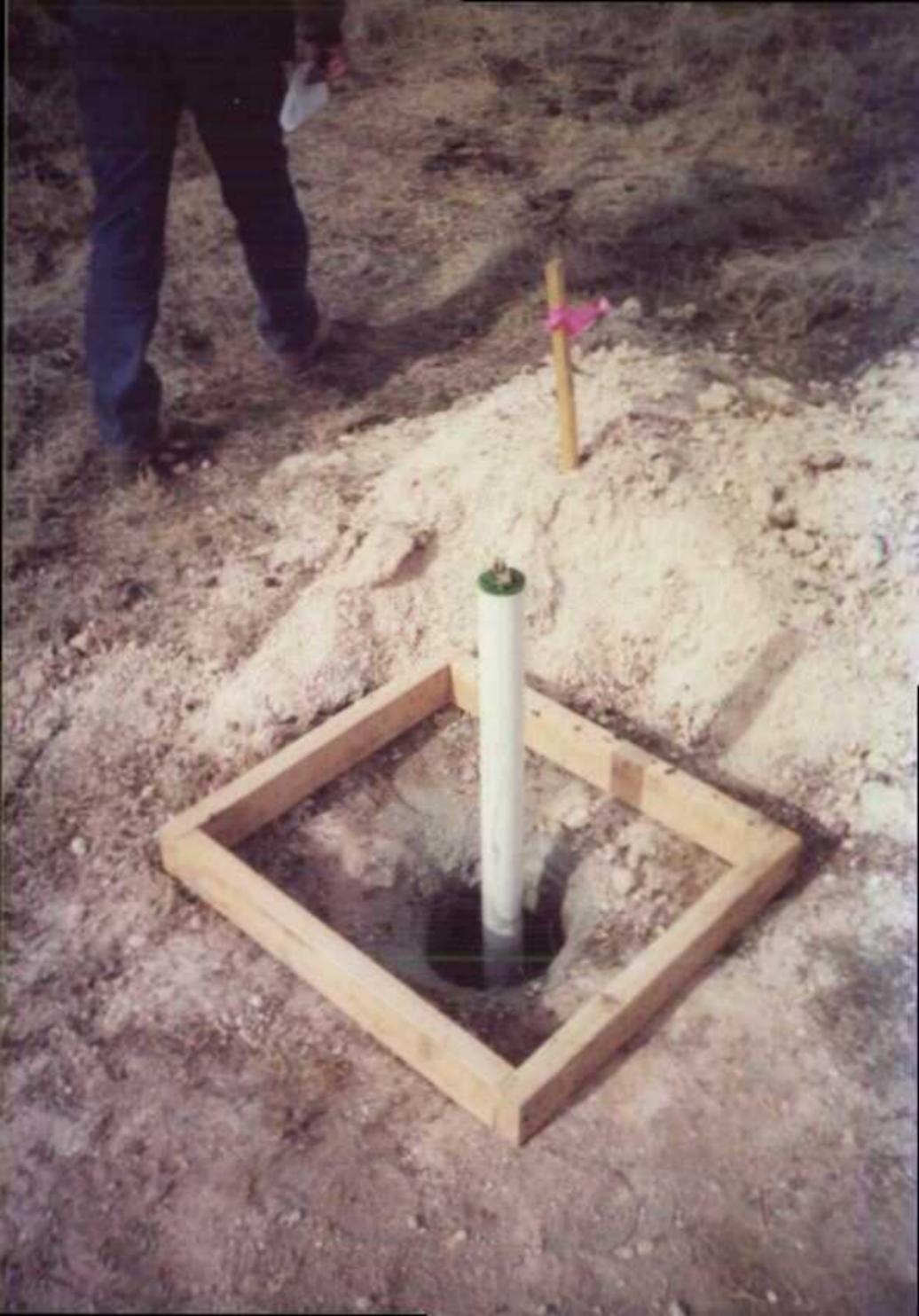
OCO drilling



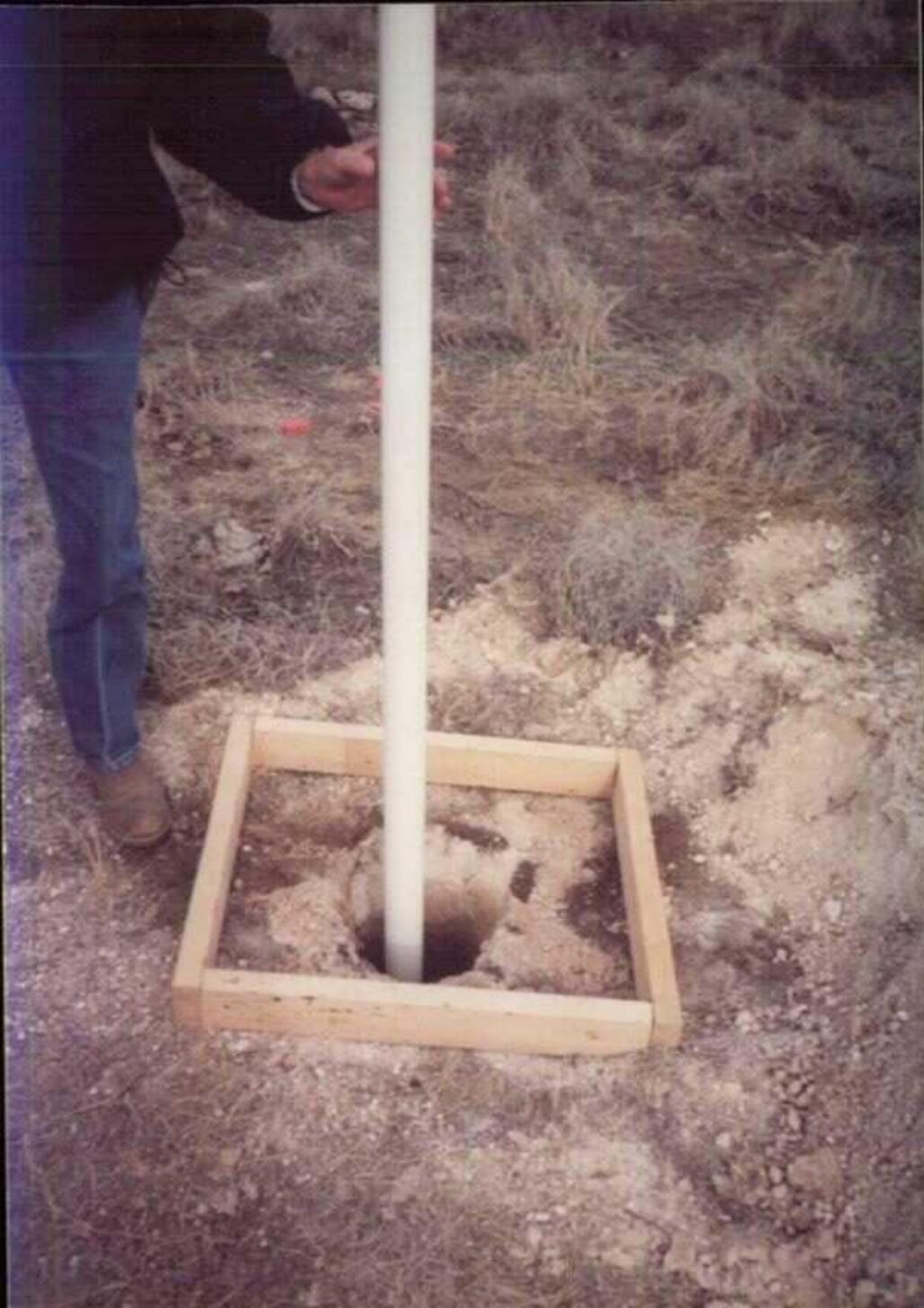
2/28/02

Elbridge Ranch

OCD drilling



2/28/02
Eldridge Ranch
OCD drilling



2/28/02
Eldridge Ranch
OCD drilling

**FEBRUARY 2003 WELL DEVELOPMENT FORMS
FEBRUARY 2003 WELL PURGING FORMS
FEBRUARY 2003 SOIL AND GROUNDWATER ANALYTICAL
RESULTS**

Note: The sample names on the attached analyses reflect the field names. The names were changed in the report to the correct project names. The proper names are

Field Name	Project Name
MW-3 on February 3, 2003 lab report	Not part of this project
MW-4 on February 3, 2003 lab report	Not part of this project
MW-5 on February 3, 2003 lab report	MW-25
MW-6 on February 3, 2003 lab report	MW-26
MW-7 on February 3, 2003 lab report	MW-27

ENVIRONMENTAL **LAB OF**



12600 WEST INTERSTATE 20 EAST
ODESSA, TEXAS 79765
PHONE: 915-563-1800
FAX: 915-563-1713

FAX TRANSMITTAL

DATE: 02-18-03

TO: Mike Stewart

FAX NUMBER: 720-528-8132

FROM: Jeanne

SUBJECT: DEFS

NUMBER OF PAGES (INCLUDING THIS SHEET)

41

COMMENTS:

ANALYTICAL REPORT

Prepared for:

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Project: DEFS NMG-148

PO#:

Order#: G0305666

Report Date:

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217
303-389-1957

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u>		<u>Container</u>	<u>Preservative</u>
			<u>Collected</u>	<u>Received</u>		
0305666-01	MW-3 (0302071000)	WATER	2/7/03	2/7/03	See COC	See COC
			10:00	17:15		
<u>Lab Testing:</u>		Rejected: No	Temp: 1.5 C			
8015M						
8021B/5030 BTEX						
Anions						
Cations						
Barium						
Barium,Dissolved						
Iron						
Iron, Dissolved						
Manganese						
Manganese, Dissolved						
Total Dissolved Solids (TDS)						
0305666-02	MW-4 (0302071115)	WATER	2/7/03	2/7/03	See COC	See COC
			11:15	17:15		
<u>Lab Testing:</u>		Rejected: No	Temp: 1.5 C			
8015M						
8021B/5030 BTEX						
Anions						
Cations						
Barium						
Barium,Dissolved						
Iron						
Iron, Dissolved						
Manganese						
Manganese, Dissolved						
Total Dissolved Solids (TDS)						
0305666-03	MW-5 (0302071200)	WATER	2/7/03	2/7/03	See COC	See COC
			12:00	17:15		
<u>Lab Testing:</u>		Rejected: No	Temp: 1.5 C			
8015M						
8021B/5030 BTEX						
Anions						
Cations						

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217
303-389-1957

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	Barium					
	Barium, Dissolved					
	Iron					
	Iron, Dissolved					
	Manganese					
	Manganese, Dissolved					
	Total Dissolved Solids (TDS)					
0305666-04	Duplicate (0302072000)	WATER	2/7/03 20:00	2/7/03 17:15	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 1.5 C		
	8021B/5030 BTEX					
0305666-05	Trip Blank	WATER	2/7/03	2/7/03 17:15	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 1.5 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-01
Sample ID: MW-3 (0302071000)

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/12/03	1	1	CK	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	<3.00	3.00
DRO, >C12-C35	<3.00	3.00
TOTAL, C6-C35	<3.00	3.00

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	97%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0004602-02		2/11/03	1	1	CK	8021B
		20:52				

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	85%	80	120
Bromofluorobenzene	87%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-02
Sample ID: MW-4 (0302071115)

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CK	8015M
		2/12/03	1	1	CK	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	<3.00	3.00
DRO, >C12-C35	<3.00	3.00
TOTAL, C6-C35	<3.00	3.00

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	89%	70	130
1-Chlorooctadecane	93%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CK	8021B
0004602-02		2/12/03	1	1	CK	8021B
		11:11				

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	89%	80	120
Bromofluorobenzene	91%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-03
Sample ID: MW-5 (0302071200)

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/12/03	1	1	CK	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	<3.00	3.00
DRO, >C12-C35	<3.00	3.00
TOTAL, C6-C35	<3.00	3.00

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	92%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0004602-02		2/11/03	1	1	CK	8021B
		21:34				

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Toluene	0.002	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	86%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lca Co., NM

Lab ID: 0305666-04
Sample ID: Duplicate (0302072000)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004602-02		2/11/03 21:55	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Toluene	0.002	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	93%	80	120

Lab ID: 0305666-05
Sample ID: Trip Blank

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004602-02		2/11/03 22:16	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	95%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Approval: Raland K Tuttle 2-13-03
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G030S666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-01
Sample ID: MW-3 (0302071000)

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u>		<u>Analyst</u>
						<u>Prepared</u>	<u>Analyzed</u>	
Calcium	49.8	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM
Magnesium	7.02	mg/L	1	0.001	6010B	02/11/2003	2/12/03	SM
Potassium	3.64	mg/L	1	0.050	6010B	02/11/2003	2/12/03	SM
Sodium	39.4	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u>		<u>Analyst</u>
						<u>Prepared</u>	<u>Analyzed</u>	
Barium	0.726	mg/L	1	0.001	3005/6010B	02/11/2003	2/12/03	SM
Barium, Dissolved	0.591	mg/L	1	0.001	6010B		2/12/03	SM
Iron	12.6	mg/L	1	0.002	3005/6010B	02/11/2003	2/12/03	SM
Iron, Dissolved	0.015	mg/L	1	0.002	6010B		2/12/03	SM
Manganese	0.214	mg/L	1	.001	3005/6010B	02/11/2003	2/12/03	SM
Manganese, Dissolved	0.009	mg/L	1	0.001	6010B		2/12/03	SM

Lab ID: 0305666-02
Sample ID: MW-4 (0302071115)

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u>		<u>Analyst</u>
						<u>Prepared</u>	<u>Analyzed</u>	
Calcium	57.5	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM
Magnesium	8.40	mg/L	1	0.001	6010B	02/11/2003	2/12/03	SM
Potassium	4.36	mg/L	1	0.050	6010B	02/11/2003	2/12/03	SM
Sodium	52.5	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u>		<u>Analyst</u>
						<u>Prepared</u>	<u>Analyzed</u>	
Barium	1.18	mg/L	1	0.001	3005/6010B	02/11/2003	2/12/03	SM
Barium, Dissolved	0.079	mg/L	1	0.001	6010B		2/12/03	SM
Iron	26.5	mg/L	10	0.020	3005/6010B	02/11/2003	2/12/03	SM
Iron, Dissolved	0.036	mg/L	1	0.002	6010B		2/12/03	SM
Manganese	0.452	mg/L	1	.001	3005/6010B	02/11/2003	2/12/03	SM
Manganese, Dissolved	0.046	mg/L	1	0.001	6010B		2/12/03	SM

Lab ID: 0305666-03
Sample ID: MW-5 (0302071200)

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u>		<u>Analyst</u>
						<u>Prepared</u>	<u>Analyzed</u>	
Calcium	69.9	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM
Magnesium	8.81	mg/L	1	0.001	6010B	02/11/2003	2/12/03	SM
Potassium	4.17	mg/L	1	0.050	6010B	02/11/2003	2/12/03	SM

N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-03
Sample ID: MW-5 (0302071200)

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Sodium	45.2	mg/L	10	0.10	6010B	02/11/2003	2/12/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Barium	0.880	mg/L	1	0.001	3005/6010B	02/11/2003	2/12/03	SM
Barium, Dissolved	0.565	mg/L	1	0.001	6010B		2/12/03	SM
Iron	12.6	mg/L	1	0.002	3005/6010B	02/11/2003	2/12/03	SM
Iron, Dissolved	0.009	mg/L	1	0.002	6010B		2/12/03	SM
Manganese	0.242	mg/L	1	.001	3005/6010B	02/11/2003	2/12/03	SM
Manganese, Dissolved	0.003	mg/L	1	0.001	6010B		2/12/03	SM

Approval: Raland K. Tuttle 2-18-03
 Raland K. Tuttle, Lab Director, QA Officer Date
 Celey D. Keene, Org. Tech. Director
 Jeanne McMurrey, Inorg. Tech. Director
 Sandra Biezugbc, Lab Tech.
 Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Lab ID: 0305666-01
Sample ID: MW-3 (0302071000)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	141	mg/L	1	2.00	310.1	2/10/03	CK
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
Chloride	31.9	mg/L	1	5.00	9253	2/10/03	CK
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
SULFATE, 375.4	55.1	mg/L	1	0.5	375.4	2/12/03	TAL

<i>Test Parameters</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Total Dissolved Solids (TDS)	64	mg/L	1	5.0	160.1	2/12/03	TAL

Lab ID: 0305666-02
Sample ID: MW-4 (0302071115)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	152	mg/L	1	2.00	310.1	2/10/03	CK
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
Chloride	40.8	mg/L	1	5.00	9253	2/10/03	CK
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
SULFATE, 375.4	90.7	mg/L	1	0.5	375.4	2/12/03	TAL

<i>Test Parameters</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Total Dissolved Solids (TDS)	295	mg/L	1	5.0	160.1	2/12/03	TAL

Lab ID: 0305666-03
Sample ID: MW-5 (0302071200)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	179	mg/L	1	2.00	310.1	2/10/03	CK
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
Chloride	40.8	mg/L	1	5.00	9253	2/10/03	CK
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/10/03	CK
SULFATE, 375.4	54.3	mg/L	1	0.5	375.4	2/12/03	TAL

<i>Test Parameters</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Total Dissolved Solids (TDS)	290	mg/L	1	5.0	160.1	2/12/03	TAL

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305666
Project:
Project Name: DEFS NMG-148
Location: Lea Co., NM

Approval: Roland K Tuttle 2-13-03
Roland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0305666

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004601-02			<3.00		
CONTROL	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004601-03		95.2	98.1	103.7%	
CONTROL DUP	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004601-04		95.2	98.7	103.7%	0.6%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004601-05		200	191	95.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0305666

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Benzene-mg/L		0004602-02			<0.001		
Toluene-mg/L		0004602-02			<0.001		
Ethylbenzene-mg/L		0004602-02			<0.001		
p/m-Xylene-mg/L		0004602-02			<0.001		
o-Xylene-mg/L		0004602-02			<0.001		
MS		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Benzene-mg/L		0305667-04	0	0.1	0.088	88.%	
Toluene-mg/L		0305667-04	0	0.1	0.085	85.%	
Ethylbenzene-mg/L		0305667-04	0	0.1	0.087	87.%	
p/m-Xylene-mg/L		0305667-04	0	0.2	0.190	95.%	
o-Xylene-mg/L		0305667-04	0	0.1	0.085	85.%	
MSD		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Benzene-mg/L		0305667-04	0	0.1	0.087	87.%	1.1%
Toluene-mg/L		0305667-04	0	0.1	0.086	86.%	1.2%
Ethylbenzene-mg/L		0305667-04	0	0.1	0.086	86.%	1.2%
p/m-Xylene-mg/L		0305667-04	0	0.2	0.187	93.5%	1.6%
o-Xylene-mg/L		0305667-04	0	0.1	0.086	86.%	1.2%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Benzene-mg/L		0004602-05		0.1	0.088	88.%	
Toluene-mg/L		0004602-05		0.1	0.085	85.%	
Ethylbenzene-mg/L		0004602-05		0.1	0.088	88.%	
p/m-Xylene-mg/L		0004602-05		0.2	0.192	96.%	
o-Xylene-mg/L		0004602-05		0.1	0.085	85.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0305666

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0004578-01			<2.00		
Carbonate Alkalinity-mg/L		0004578-01			<0.10		
Chloride-mg/L		0004581-01			<5.00		
Hydroxide Alkalinity-mg/L		0004578-01			<0.10		
SULFATE, 375.4-mg/L		0004615-01			<.5		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0305666-01	141		141		0.0%
Carbonate Alkalinity-mg/L		0305666-01	0		<0.10		0.0%
Hydroxide Alkalinity-mg/L		0305666-01	0		<0.10		0.0%
SULFATE, 375.4-mg/L		0305666-01	55.1		67		19.5%
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0305666-02	40.8	100	144	103.2%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0305666-02	40.8	100	144	103.2%	0.0%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0004578-04		0.05	0.0524	104.8%	
Carbonate Alkalinity-mg/L		0004578-04		0.05	0.0524	104.8%	
Chloride-mg/L		0004581-04		5000	5140	102.8%	
Hydroxide Alkalinity-mg/L		0004578-04		0.05	0.0524	104.8%	
SULFATE, 375.4-mg/L		0004615-04		50	52.5	105.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0305666

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0004604-01			<0.010		
Magnesium-mg/L		0004604-01			<0.001		
Potassium-mg/L		0004604-01			<0.050		
Sodium-mg/L		0004604-01			<0.010		
DUPLICATE		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0305666-02	57.5		56.8		1.2%
Magnesium-mg/L		0305666-02	8.4		8.45		0.6%
Potassium-mg/L		0305666-02	4.36		4.45		2%
Sodium-mg/L		0305666-02	52.5		52.4		0.2%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0004604-04		2	2.08	104%	
Magnesium-mg/L		0004604-04		2	2.05	102.5%	
Potassium-mg/L		0004604-04		2	1.86	93%	
Sodium-mg/L		0004604-04		2	1.93	96.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0305666

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004616-01			<0.001		
Barium,Dissolved-mg/L		0004617-01			<0.001		
Iron-mg/L		0004616-01			<0.002		
Iron, Dissolved-mg/L		0004617-01			<0.002		
Manganese-mg/L		0004616-01			<.001		
Manganese, Dissolved-mg/L		0004617-01			<0.001		
Total Dissolved Solids (TDS)-mg/L		0004614-01			<5.0		
CONTROL	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004616-02		0.2	0.215	107.5%	
Barium,Dissolved-mg/L		0004617-02		0.5	0.508	101.6%	
Iron-mg/L		0004616-02		0.2	0.219	109.5%	
Iron, Dissolved-mg/L		0004617-02		0.5	0.506	101.2%	
Manganese-mg/L		0004616-02		0.2	0.216	108.%	
Manganese, Dissolved-mg/L		0004617-02		0.5	0.501	100.2%	
CONTROL DUP	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004616-03		0.2	0.215	107.5%	0.%
Barium,Dissolved-mg/L		0004617-03		0.5	0.499	99.8%	1.8%
Iron-mg/L		0004616-03		0.2	0.219	109.5%	0.%
Iron, Dissolved-mg/L		0004617-03		0.5	0.497	99.4%	1.8%
Manganese-mg/L		0004616-03		0.2	0.217	108.5%	0.5%
Manganese, Dissolved-mg/L		0004617-03		0.5	0.497	99.4%	0.8%
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0305666-03	290		302		4.1%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004616-04		1	1.06	106.%	
Barium,Dissolved-mg/L		0004617-04		1	1.06	106.%	
Iron-mg/L		0004616-04		1	0.959	95.9%	
Iron, Dissolved-mg/L		0004617-04		1	0.959	95.9%	
Manganese-mg/L		0004616-04		1	0.954	95.4%	
Manganese, Dissolved-mg/L		0004617-04		1	0.954	95.4%	

ANALYTICAL REPORT

Prepared for:

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Project: DEFS-NMG 148C

PO#:

Order#: G0305673

Report Date: 02/14/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217
303-389-1957

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0305673-01	MW-4 (5')	SOIL	2/5/03 11:16	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-02	MW-4 (10')	SOIL	2/5/03 11:23	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-03	MW-4 (15')	SOIL	2/5/03 11:30	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-04	MW-4 (20')	SOIL	2/5/03 11:40	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-05	MW-4 (25')	SOIL	2/5/03 12:00	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-06	MW-5 (5')	SOIL	2/5/03 14:22	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-07	MW-5 (10')	SOIL	2/5/03 14:27	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		
0305673-08	MW-5 (15')	SOIL	2/5/03 14:32	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 2.5 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217
303-389-1957

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time Collected</u>	<u>Date / Time Received</u>	<u>Container</u>	<u>Preservative</u>
0305673-09	MW-5 (20')	SOIL	2/5/03 14:37	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-10	MW-5 (25')	SOIL	2/5/03 14:45	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-11	MW-6 (5')	SOIL	2/5/03 15:31	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-12	MW-6 (10')	SOIL	2/5/03 15:36	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-13	MW-6 (15')	SOIL	2/5/03 15:40	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
	8021B/5030 BTEX					
0305673-14	MW-6 (20')	SOIL	2/5/03 15:44	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-15	MW-6 (25')	SOIL	2/5/03 15:55	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
	8021B/5030 BTEX					
0305673-16	MW-7 (5')	SOIL	2/5/03 16:34	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217
303-389-1957

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	8015M					
0305673-17	MW-7 (10')	SOIL	2/5/03 16:38	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-18	MW-7 (15')	SOIL	2/5/03 16:42	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
0305673-19	MW-7 (20')	SOIL	2/5/03 16:46	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
	8021B/5030 BTEX					
0305673-20	MW-7 (25')	SOIL	2/5/03 16:54	2/10/03 13:00	4 oz Glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2.5 C		
	8015M					
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-01
Sample ID: MW-4 (5')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	106%	70	130

Lab ID: 0305673-02
Sample ID: MW-4 (10')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	98%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-03
Sample ID: MW-4 (15')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	101%	70	130
1-Chlorooctadecane	105%	70	130

Lab ID: 0305673-04
Sample ID: MW-4 (20')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	112%	70	130
1-Chlorooctadecane	114%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
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Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-05
Sample ID: MW-4 (25')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor		
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	106%	70	130

Lab ID: 0305673-06
Sample ID: MW-5 (5')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor		
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	97%	70	130
1-Chlorooctadecane	98%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-07
Sample ID: MW-5 (10')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	101%	70	130
1-Chlorooctadecane	103%	70	130

Lab ID: 0305673-08
Sample ID: MW-5 (15')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	106%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-09
Sample ID: MW-5 (20')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>CDH</u>	<u>8015M</u>
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	109%	70	130
1-Chlorooctadecane	111%	70	130

Lab ID: 0305673-10
Sample ID: MW-5 (25')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>CDH</u>	<u>8015M</u>
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	100%	70	130

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-11
Sample ID: MW-6 (5')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	52.6	10.0
TOTAL, C6-C35	52.6	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	97%	70	130
1-Chlorooctadecane	100%	70	130

Lab ID: 0305673-12
Sample ID: MW-6 (10')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	360	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	360	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	100%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
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P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-13
Sample ID: MW-6 (15')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Factor</u>	<u>Method</u>
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	613	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	613	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	105%	70	130
1-Chlorooctadecane	107%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Factor</u>	<u>Method</u>
0004627-02		2/13/03 15:00	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	21.7	0.025
Toluene	50.0	0.025
Ethylbenzene	4.54	0.025
p/m-Xylene	11.7	0.025
o-Xylene	2.18	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	6370%	80	120
Bromofluorobenzene	97%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property I State Land

Lab ID: 0305673-14
Sample ID: MW-6 (20')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	101	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	101	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	109%	70	130
1-Chlorooctadecane	112%	70	130

Lab ID: 0305673-15
Sample ID: MW-6 (25')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
Blank	Prepared	Analyzed	Amount	Factor	CDH	8015M
		2/10/03	1	1		

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	100%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-15
Sample ID: MW-6 (25')

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004627-02		2/13/03 15:21	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	96%	80	120

Lab ID: 0305673-16
Sample ID: MW-7 (5')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	114%	70	130
1-Chlorooctadecane	117%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-17
Sample ID: MW-7 (10')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/10/03	1	1	CDH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	101%	70	130
1-Chlorooctadecane	100%	70	130

Lab ID: 0305673-18
Sample ID: MW-7 (15')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		2/11/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	100%	70	130
1-Chlorooctadecane	101%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-19
Sample ID: MW-7 (20')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u> </u>	<u> </u>
		2/11/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	106%	70	130
1-Chlorooctadecane	103%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u> </u>	<u> </u>
0004627-02		2/13/03 16:04	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	96%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

STEVE WEATHERS
DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673
Project: None Given
Project Name: DEFS-NMG 148C
Location: Houston Property 1 State Land

Lab ID: 0305673-20
Sample ID: MW-7 (25')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Factor</u>	<u>Method</u>
		2/11/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	98%	70	130
1-Chlorooctadecane	98%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Factor</u>	<u>Method</u>
0004627-02		2/13/03 16:25	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	100%	80	120

Approval: Raland K. Tuttle 2-14-03
 Raland K. Tuttle, Lab Director, QA Officer Date
 Celey D. Keene, Org. Tech. Director
 Jeanne McMurrey, Inorg. Tech. Director
 Sandra Biezugbe, Lab Tech.
 Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0305673

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0004583-02			<10.0		
TOTAL, C6-C35-mg/kg		0004597-02			<10.0		
CONTROL	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0004597-03		1000	932	93.2%	
CONTROL DUP	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0004597-04		1000	936	93.6%	0.4%
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0305670-01	0	952	935	98.2%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0305670-01	0	952	949	99.7%	1.5%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0004583-05		1000	909	90.9%	
TOTAL, C6-C35-mg/kg		0004597-05		1000	913	91.3%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0305673

BLANK		SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg			0004627-02			<0.025		
Toluene-mg/kg			0004627-02			<0.025		
Ethylbenzene-mg/kg			0004627-02			<0.025		
p/m-Xylene-mg/kg			0004627-02			<0.025		
o-Xylene-mg/kg			0004627-02			<0.025		
MS		SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg			0305650-01	0	0.1	0.088	88.%	
Toluene-mg/kg			0305650-01	0	0.1	0.088	88.%	
Ethylbenzene-mg/kg			0305650-01	0	0.1	0.087	87.%	
p/m-Xylene-mg/kg			0305650-01	0	0.2	0.188	94.%	
o-Xylene-mg/kg			0305650-01	0	0.1	0.088	88.%	
MSD		SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg			0305650-01	0	0.1	0.085	85.%	3.5%
Toluene-mg/kg			0305650-01	0	0.1	0.085	85.%	3.5%
Ethylbenzene-mg/kg			0305650-01	0	0.1	0.083	83.%	4.7%
p/m-Xylene-mg/kg			0305650-01	0	0.2	0.175	87.5%	7.2%
o-Xylene-mg/kg			0305650-01	0	0.1	0.083	83.%	5.8%
SRM		SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg			0004627-05		0.1	0.089	89.%	
Toluene-mg/kg			0004627-05		0.1	0.091	91.%	
Ethylbenzene-mg/kg			0004627-05		0.1	0.090	90.%	
p/m-Xylene-mg/kg			0004627-05		0.2	0.196	98.%	
o-Xylene-mg/kg			0004627-05		0.1	0.092	92.%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673**Project:** DEFS-NMG 148C

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
MW-4 (5')	0305673-01	SOIL	02/05/2003	02/10/2003
MW-4 (10')	0305673-02	SOIL	02/05/2003	02/10/2003
MW-4 (15')	0305673-03	SOIL	02/05/2003	02/10/2003
MW-4 (20')	0305673-04	SOIL	02/05/2003	02/10/2003
MW-4 (25')	0305673-05	SOIL	02/05/2003	02/10/2003
MW-5 (5')	0305673-06	SOIL	02/05/2003	02/10/2003
MW-5 (10')	0305673-07	SOIL	02/05/2003	02/10/2003
MW-5 (15')	0305673-08	SOIL	02/05/2003	02/10/2003
MW-5 (20')	0305673-09	SOIL	02/05/2003	02/10/2003
MW-5 (25')	0305673-10	SOIL	02/05/2003	02/10/2003
MW-6 (5')	0305673-11	SOIL	02/05/2003	02/10/2003
MW-6 (10')	0305673-12	SOIL	02/05/2003	02/10/2003
MW-6 (15')	0305673-13	SOIL	02/05/2003	02/10/2003
MW-6 (20')	0305673-14	SOIL	02/05/2003	02/10/2003
MW-6 (25')	0305673-15	SOIL	02/05/2003	02/10/2003
MW-7 (5')	0305673-16	SOIL	02/05/2003	02/10/2003
MW-7 (10')	0305673-17	SOIL	02/05/2003	02/10/2003
MW-7 (15')	0305673-18	SOIL	02/05/2003	02/10/2003
MW-7 (20')	0305673-19	SOIL	02/05/2003	02/10/2003
MW-7 (25')	0305673-20	SOIL	02/05/2003	02/10/2003

Surrogate recoveries on the 8021B BTEX are outside control limits due to matrix interference from coeluting compounds. (0305673-13)

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

DUKE ENERGY FIELD SERVICES
P.O. BOX 5493
DENVER, CO 80217

Order#: G0305673

Project: DEFS-NMG 148C

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: Ronald K. Jurek Date: 2-14-03
Environmental Lab of Texas I, Ltd.

LITHOLOGIC BORING LOGS

LITHOLOGIC LOG (MONITORING WELL)



MONITORING WELL NO: MW-25
 SITE ID: NMG 148C (4" Line)
 SURFACE ELEVATION: _____
 CONTRACTOR: Scarborough Drilling
 DRILLING METHOD: Air Rotary
 START DATE: 2/5/2003
 COMPLETION DATE: 2/5/2003
 COMMENTS: _____

TOTAL DEPTH: 37 Feet
 CLIENT: Duke Energy Field Services
 COUNTY: Lea
 STATE: New Mexico
 LOCATION: Houston Property/State Land
 FIELD REP.: J. Ferguson
 FILE NAME: C:\DEFS-NMG 148C\Lithology Logs

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	USCS	FROM	TO	TYPE		
Cement	CAL	5	6	S Spoon	0.0ppm	5
						Caliche, v pale orange-lt brown, weathered-dense, w/tr silt in matrix, no odor.
3/8 Bentonite Hole Plug	CAL	10	11	S Spoon	0.0ppm	10
						Caliche, v pale orange-lt brown, weathered-dense, w/tr silt in matrix, no odor.
2 Inch Sched 40 Risers	ML	15	16	S Spoon	0.0ppm	15
						Silty Sand, lt brown, vf grain, unconsol, w sorted, interbedded w/weathered-dense caliche, no odor.
2 Inch Sched 40 Screen 0.010 Slot	SW	20	21	S Spoon	0.0ppm	20
						Sand, lt-mod yellowish brown, vf-fine grain, mod-well sorted, interbedded w/mod-well cemented vf-fine grain sand, no odor.
8/16 Silica Sand Pack	SW	25	26	S Spoon	0.0ppm	25
						Encountered Groundwater
Sump	SW					30
						Sand, lt-mod yellowish brown, vf-fine grain, mod-well sorted, interbedded w/mod-well cemented vf-fine grain sand, no odor, wet.
						35
Borehole TD @ 37 Feet						
						40
						45
						50

LITHOLOGIC LOG (MONITORING WELL)



MONITORING WELL NO: MW-26
 SITE ID: NMG 148C (4" Line)
 SURFACE ELEVATION: _____
 CONTRACTOR: Scarborough Drilling
 DRILLING METHOD: Air Rotary
 START DATE: 2/5/2003
 COMPLETION DATE: 2/5/2003
 COMMENTS: _____

TOTAL DEPTH: 35 Feet
 CLIENT: Duke Energy Field Services
 COUNTY: Lea
 STATE: New Mexico
 LOCATION: Houston Property/State Land
 FIELD REP.: J. Ferguson
 FILE NAME: C:\DEFS-NMG 148C\Lithology Logs

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES	
	USCS	FROM	TO	TYPE			PID
Cement	CAL					Caliche, v pale orange-lt brown, weathered-dense, w/tr silt in matrix, no odor.	
	CAL	5	6	S Spoon	143ppm	5 Caliche, v pale orange-lt brown, weathered-dense, w/tr silt in matrix, strong hydrocarbon odor.	
3/8 Bentonite Hole Plug	ML	10	11	S Spoon	347ppm	10 Silty Sand, light brown, vf grain, unconsol, w sorted, interbedded w/weathered-dense caliche, strong hydrocarbon odor.	
		15	16	S Spoon	439ppm	15 Sand, light brown-mod reddish brown, vf-fine grain, unconsol, mod-well sorted, strong hydrocarbon odor.	
8/16 Silica Sand Pack	SW	20	21	S Spoon	359ppm	20 Sand, light brown-mod reddish brown, vf-fine grain, unconsol, Encountered Groundwater med-well sorted, interbedded w/med-well cemented vf-fine grain sand, w/tr chert in matrix, wet, strong hydrocarbon odor.	
	SW	25	26	S Spoon	341ppm	25 Sand, light brown, vf-fine grain, unconsol, med-well sorted, wet, strong hydrocarbon odor.	
						30	
						35	Borehole TD @ 35 Feet
Sumpt						40	
						45	
						50	

LITHOLOGIC LOG (MONITORING WELL)



MONITORING WELL NO: MW-27
 SITE ID: NMG 148C (4" Line)
 SURFACE ELEVATION: _____
 CONTRACTOR: Scarborough Drilling
 DRILLING METHOD: Air Rotary
 START DATE: 2/5/2003
 COMPLETION DATE: 2/5/2003
 COMMENTS: _____

TOTAL DEPTH: 37 Feet
 CLIENT: Duke Energy Field Services
 COUNTY: Lea
 STATE: New Mexico
 LOCATION: Houston Property/State Land
 FIELD REP.: J. Fergerson
 FILE NAME: C:\DEFS-NMG 148C\Lithology Logs

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	USCS	FROM	TO	TYPE		
Cement	CAL					Caliche, v pale orange-tt brown, weathered-dense, w/tr silt in matrix, no odor.
3/8 Bentonite Hole Plug		5	6	S Spoon	0.0ppm	5 Sand, light brown, vf grain, unconsol, w sorted, interbedded w/weathered-dense caliche, no odor.
	SW	10	11	S Spoon	0.0ppm	10
		15	16	S Spoon	1.0ppm	15
	SW	20	21	S Spoon	73.0ppm	20 Sand, light brown-mod reddish brown, vf grain, unconsol, w sorted, no odor.
	SW	25	26	S Spoon	338ppm	25 Sand, light brown-mod reddish brown, vf-f grain, unconsol, mod-well sorted, w/mod-well cemented vf grain sand interbedded, sl hydrocarbon odor.
						Encountered Groundwater
	SW					30 Sand, light brown-gray, vf-fine grain, unconsol, mod-well sorted, interbedded w/mod-well cemented fine-med grain sand, tr chert in matrix, wet, strong hydrocarbon odor.
						35
						Borehole TD @ 37 Feet
						40
						45
						50

Sump

Koger



CT System

Service of Process Transmittal Form

Santa Fe, New Mexico

02/03/2003

Via Federal Express (2nd Day)

TO: Stacey A Metcalfe Legal Assistant
DUKE ENERGY FIELD SERVICES INC
370 17th Street
900 Republic Plaza
Denver, CO 80202-0000

RE: PROCESS SERVED IN NEW MEXICO

FOR DUKE ENERGY FIELD SERVICES INC Domestic State: Co

ENCLOSED ARE COPIES OF LEGAL PROCESS RECEIVED BY THE STATUTORY AGENT OF THE ABOVE COMPANY AS FOLLOWS:

- 1. TITLE OF ACTION: FRANK AND SHELLY ELDRIDGE, PLAINTIFFS vs DUKE ENERGY FIELD SERVICES, INC., ET AL., DEFENDANTS
- 2. DOCUMENT(S) SERVED: SUMMONS, DEMAND FOR JURY AND COMPLAINT
- 3. COURT: FIRST JUDICIAL DISTRICT COURT, SANTA FE COUNTY, NEW MEXICO
Case Number D-0101-CV-2003-00203
- 4. NATURE OF ACTION: NEGLIGENCE
- 5. ON WHOM PROCESS WAS SERVED: CT Corporation System, Santa Fe, New Mexico
- 6. DATE AND HOUR OF SERVICE: By Process server on 02/03/2003 at 10:15
- 7. APPEARANCE OR ANSWER DUE: THIRTY (30) DAYS
- 8. ATTORNEY(S): ROBERT G. MCCORKLE
P.O. BOX 1888
ALBUQUERQUE, NM 87103
- 9. REMARKS: According to the records of our office our services have been discontinued in this state. SERVICE WAS ACCEPTED BECAUSE THE STATE STILL LISTS CT CORPORATION SYSTEM AS REGISTERED AGENT.
i-Note sent 02/03/2003 to BLBACKES@DUKE-ENERGY.COM
i-Note sent 02/03/2003 to SAMETCALFE@DUKE-ENERGY.COM
An Imaged copy of the Lawsuit Document is available thru our Website (CTADVANTAGE.com).

CC: Brent Backes General Counsel
DUKE ENERGY FIELD SERVICES INC
370 17th Street
900 Republic Plaza
Denver, CO 80202-0000
EMAIL: BLBACKES@DUKE-ENERGY.COM

SIGNED CT Corporation System
PER Supervisor of Process /SP
ADDRESS 123 East Marcy Street
Santa Fe, NM 87501
SOP:WS 0005113752

Information contained on this transmittal form is recorded for CT Corporation System's record keeping purposes only and to permit quick reference for the recipient. This information does not constitute a legal opinion as to the nature of action, the amount of damages, the answer date, or any information that can be obtained from the documents themselves. The recipient is responsible for interpreting the documents and for taking the appropriate action.

FIRST JUDICIAL DISTRICT COURT
COUNTY OF SANTA FE
STATE OF NEW MEXICO

CASE No. D-0101-CV-2003-00203

FRANK AND SHELLY ELDRIDGE,

Plaintiffs,

vs.

DUKE ENERGY FIELD SERVICES, INC.; et al.

Defendants.

SUMMONS

TO: Duke Energy Field Services, Inc.
c/o CT Corporation System
119 East Marcy
Santa Fe, NM

Greetings:

You are hereby directed to serve a pleading or motion in response to the Complaint within 30 days after service of the Summons, and file the same, all as provided by law.

You are notified that, unless you so serve and file a responsive pleading or motion, the Plaintiff(s) will apply to the Court for the relief demanded in the Complaint.

Attorney For Plaintiff: Robert G. McCorkle, Esq.
Rodey, Dickason, Sloan, Akin & Robb, P.A.
Post Office Box 1888
Albuquerque, NM 87103

WITNESS the Honorable CAROL J. VIGIL, District Judge of said Court of the State of New Mexico and the Seal of the District Court of said County,

JAN 31 2003

WILLIAM T. PARRIS
CLERK OF THE DISTRICT COURT

(SEAL)

By: W. M. WESSLER
Deputy

NOTE: This summons does not require you to see, telephone or write to the District Judge of the court at this time. It does require you or your attorney to file your legal defense to this case in writing with the Clerk of the District Court within 30 days after the summons is legally served on you. If you do not do this, the party suing may get a Judgment by default against you.

If you want the advice of a lawyer and don't know one, you may wish to call The State Bar Statewide Lawyer Referral Service at 797-6010

STATE OF NEW MEXICO)
) ss.
COUNTY OF _____)

RETURN FOR COMPLETION BY SHERIFF OR DEPUTY:

I certify that I served the within Summons in said County on the _____ day of _____, 19____, by delivering a copy thereof, with copy of Complaint attached, in the following manner:

RETURN FOR COMPLETION BY OTHER PERSON MAKING SERVICE:

I, being duly sworn, on oath, say that I am over the age of 18 years and not a party to this lawsuit, and that I served the within Summons in said County on the _____ day of _____, 19____, by delivering a copy thereof, with copy of Complaint attached, in the following manner:

(check one box and fill in appropriate blanks)

To Defendant _____
(used when Defendant receives copy of Summons, is read Summons or Complaint or refuses to receive Summons or hear reading.)

To _____, a person over the age of 15 years and residing at the usual place of abode of Defendant _____, who at the time of such service was absent therefrom.

By posting a copy of the Summons and Complaint in the most public part of the premises of Defendant _____ (used if no person found a dwelling house or usual place of abode.)

To _____, an agent authorized to receive service of process for Defendant _____

To _____, (parent) (guardian) of Defendant _____ (used when Defendant is a minor or an incapacitated person.)

To _____
(Used when Defendant is a corporation or association subject to a suit under a common name, a land grant board of trustees, the State of New Mexico or any political subdivision.)

Fees:

<Signature of Private Citizen Making Service>

SHERIFF OF _____
COUNTY State of New Mexico

Subscribed and sworn to before me this
_____ day of _____, 19__

Sheriff

Notary or Other Officer
Authorized to Administer Oaths

By: _____
Deputy

Title

STATE OF NEW MEXICO
COUNTY OF SANTA FE
FIRST JUDICIAL DISTRICT COURT

Cause No.: *D-0101-CV-2003-00203*

FRANK ELDRIDGE and
SHELLY ELDRIDGE,

Plaintiffs,

v.

DUKE ENERGY FIELD SERVICES, INC.;
DUKE ENERGY FIELD SERVICES, L.P.;
DUKE ENERGY, INC.; STAN SHAVER;
PAUL MULKEY; and JOHN DOES 1-5,

Defendants.

DEMAND FOR TRIAL BY JURY

PLEASE TAKE NOTICE that the Plaintiffs demand trial by a six (6)
person jury in the above entitled cause of action.

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

By *James P. B. [Signature]*
Robert G. McCorkle
Brian H. Lematta
Attorneys for Plaintiffs
Post Office Box 1888
Albuquerque, NM 87103
(505) 765-5900

STATE OF NEW MEXICO
COUNTY OF SANTA FE
FIRST JUDICIAL DISTRICT COURT

urt

Cause No.:

02-0101-CV-2003-00303

FRANK ELDRIDGE AND
SHELLY ELDRIDGE,

Plaintiffs,

v.

DUKE ENERGY FIELD SERVICES, INC.;
DUKE ENERGY FIELD SERVICES, LP;
DUKE ENERGY, INC.; STAN SHAVER;
PAUL MULKEY; and JOHN DOES 1-5,

Defendants.

COMPLAINT FOR NEGLIGENCE, PRIVATE NUISANCE, COMMON LAW
PUBLIC NUISANCE, COMMON LAW TRESPASS, STATUTORY TRESPASS, STRICT
LIABILITY, RES IPSA LOQUITUR AND PUNITIVE DAMAGES

Plaintiffs Frank Eldridge and Sally Eldridge ("Plaintiffs"), by and through their attorneys, Rodey, Dickason, Sloan, Akin & Robb, P.A. (Robert G. McCorkle and Brian H. Lematta), complain against Defendants as follows:

1. Plaintiffs are, and were at all times material hereto, residents of Lea County, New Mexico.
2. Defendants Duke Energy Field Services, Inc., Duke Energy Field Services, LP, and Duke Energy, Inc. are foreign corporations doing business in the State of New Mexico. Defendants Duke Energy Field Services, Inc. and Duke Energy Fields Services LP are wholly owned subsidiaries of, and are agents for, Duke Energy, Inc. These entities are collectively referred to hereinafter as the "Duke Defendants".
3. Defendants Stan Shaver and Paul Mulkey are, and were at all times material hereto, residents of Lea County, New Mexico.

4. Defendants John Doe 1-5 are other unknown affiliates, subsidiaries and partners of the Duke Defendants.

5. Venue is proper under NMSA 1978 §38-3-1.F. because Duke Energy Field Services, Inc. has designated and maintained CT Corporation, whose principal offices in New Mexico are located in Santa Fe County, as its statutory agent in this state for whom service of process may be had. Further, Duke Defendants are non-resident corporations subject to venue in any county in the State of New Mexico.

6. Plaintiffs own and operate a farm and ranch operation known as the Eldridge Ranch located in Lea County, New Mexico (the "Property"). The Property consists of approximately 195 acres which Plaintiffs purchased in 1995. When Plaintiffs purchased the Property, it had a residence, two domestic wells, an irrigation well, and one out-building. After purchasing the Property, the Plaintiffs, personally, built several out-buildings including a large garage, barns, stalls, pens, corrals, fish ponds, irrigation ponds and an almost completed rodeo facility.

7. Plaintiffs conducted farming and ranching operations including growing and selling hay, using hay for their livestock, cultivating a pecan orchard, raising cattle, calves, pigs, chickens, guinea hens and rodeo horses, all of which provided income for Plaintiffs and would have provided sufficient income to provide for Plaintiffs' retirement.

8. Plaintiffs own substantial valuable water rights which are appurtenant to the Property, with points of diversion consisting of an irrigation well and two domestic wells.

9. In April and May 2000, Plaintiff Shelly Eldridge became seriously ill and required emergency room and hospital treatment. In June 2000, the farm crops, trees, and pecan orchard on the Property began to die. On Father's Day 2000 all the fish in the pond on the

Property died. The farm animals on the Property became ill. At about the same time, the irrigation and domestic wells on the Property begin to develop a foul smell and taste.

10. Plaintiffs had their water tested and were advised that the ground water beneath the Property was polluted and contaminated, with among other pollutants and contaminants, dangerous, unlawful, and highly toxic levels of Benzene, a Class A carcinogen.

11. The water pollution and contamination was reported to state agencies having appropriate jurisdiction including the New Mexico Department of Health and the Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department ("OCD").

12. The Plaintiffs were told by representatives of the New Mexico Department of Health that because of dangerously high levels of Benzene in the ground water at the Property that they could not have their minor grandchildren or any elderly people visit the Property, and if they failed to prevent minor children and elderly people from being on the Property, the State would take action to prevent children and elderly people from being on the Property.

13. The OCD determined that the most likely and probable source of the contamination was underground pipelines crossing the Property and the property adjoining the Property to the north. These pipelines were and are owned, operated, maintained, and controlled by Duke Defendants. The exact nature and relationship between Duke Defendants and their affiliates, subsidiaries, and partners in the ownership of the pipelines are not known to Plaintiffs but will be determined in the course of discovery. Plaintiffs are informed and believe there are other entities who by partnership, joint venture, or other arrangement are involved in the ownership or operation of the pipelines, and these are designated Defendants John Does 1-5.

14. Defendants Stan Shaver and Paul Mulkey are and were at all times material supervisory and managerial employees of the entity or entities which owned, operated,

controlled, maintained, and are legally responsible for the pipelines which were suspected of and have now been determined to be the source of the leaks and releases of pollutants and contaminants which have caused the injuries and damages to Plaintiffs as alleged in this complaint.

15. The OCD requested that the Duke Defendants do preliminary testing of their pipelines to determine whether their pipelines, in fact, leaked.

16. Plaintiff Frank Eldridge was told by Defendants Stan Shaver and Paul Mulkey that the Duke Defendants would "shut-in" the for a weekend, pressure test the pipelines, and have snifter tests done periodically throughout the weekend.

17. Plaintiff Frank Eldridge observed that his Property was not snifted during the weekend. He rode his horse up the draw under which the pipelines ran to try to determine for himself the source of the pollution and contamination. Plaintiff Frank Eldridge, an experienced and skilled horseman, had great difficulty in getting his horse to ride up the draw, on information and belief because of the odors detected by the horse. Mr. Eldridge personally observed a leak of pollutants and contaminants coming from a riser from a buried pipeline and also discovered a large area in the vicinity of Duke Defendants' pipeline in which all of the vegetation was completely dead.

18. Plaintiff Frank Eldridge was informed by Defendants Stan Shaver and Paul Mulkey that pursuant to their direction, the Duke Defendants' pipeline had been tested, that it had not leaked, that the adjoining areas had been snifted, and that no contamination was noted. Plaintiff Frank Eldridge then informed Defendants Stan Shaver and Paul Mulkey of his observations of the day before, drew them a map showing the location of the riser on the pipeline and the location of the adjacent large area where the vegetation was dead, and asked that they continue their efforts to locate the leak. Although, the riser was later removed and that leak

repaired, on information and belief, Defendants Stan Shaver and Paul Mulkey did nothing further to determine the source of the leak for almost two years until required to do so by the OCD.

19. After learning that the ground water at their Property was contaminated, Plaintiffs have had to haul water for domestic use, purchase a new clean water source for domestic and limited livestock use, abandon their irrigation and farming operation, dispose of their breeding cattle operation, and have not been able to engage in any income producing activities at the Property.

20. Upon requirement of the OCD, the Duke Defendants have now uncovered and located five leaks from their gathering pipelines, have discovered and located substantial pollutants and contaminants, including condensate from natural gas production, in and floating on the groundwater. These pollutants and contaminants, which contain deadly levels of Benzene, have migrated to and beneath the Property.

21. Plaintiffs have now been told that they must leave the Property while the Duke Defendants attempt remediation of certain newly located leaks because wind blowing from the remediation areas toward the Property may expose Plaintiffs to increased additional health hazards.

COUNT I - NEGLIGENCE

22. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 21 as if fully set forth herein.

23. At all times material hereto, Defendants had a duty to maintain their gas gathering transmission and pipeline facilities, including all underground pipelines, to prevent the release of pollutants and contaminants into subsurface soil and ground water, and a duty to promptly clean up any pollution and contamination resulting from any such releases to prevent its reasonably

foreseeable migration onto the Property and into the aquifers penetrated by Plaintiffs' wells and to prevent reasonably foreseeable harm to Plaintiffs.

24. At all times material hereto, Defendants had a duty to inform Plaintiffs of the releases of pollutants and contaminants into the soil and ground water which posed and continues to pose a serious and substantial threat to Plaintiffs and the Property.

25. Defendants have breached and continue to breach their duty to Plaintiffs, by failing to properly maintain, operate, and supervise their gas gathering and transmission pipelines, by causing and/or allowing their gas gathering and transmission pipeline operations to pollute and contaminate soil, and ground and surface water, including the aquifers penetrated by Plaintiffs' wells, by failing to remediate the condition which is polluting the soil and water, and otherwise failing to exercise due care in the maintenance, operation, and supervision of their gas gathering and transmission pipeline operations, some or all of which acts and omissions constitute negligence, and proximately caused Plaintiffs' injuries as hereinafter alleged.

26. Duke Defendants, knew, or by the exercise of reasonable diligence and care, should have known that their gas gathering and transmission pipelines were negligently designed, constructed, modified, assembled, maintained and/or operated in that they caused and/or allowed the pollution and contamination of soil and ground and surface water in and about the Property including the aquifers penetrated by Plaintiffs' wells, and that they could injure Plaintiffs and other persons.

27. Duke Defendants' breach of their duties has delayed the cleanup of the contamination, resulting in extensive migration of the contamination through the soils and surface and ground water at and beneath the Property. The extensive migration of the contamination has substantially increased the cost of the cleanup to Plaintiffs.

28. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, soil at the Property, and the aquifers penetrated by Plaintiffs' wells beneath the Property is polluted and contaminated, and the water therefrom is hazardous and dangerous to Plaintiffs' health, and not suitable for drinking, cooking, bathing, hygiene, irrigation or livestock watering purposes.

29. As a direct and proximate cause of Defendants' negligence, Plaintiffs have and will incur costs to purchase water from alternate and more expensive sources, to assess the extent of pollution and contamination to their water supplies, to maintain and protect their domestic, agricultural and livestock wells and to otherwise respond to the pollution and contamination caused by Defendants. There also is a substantial continued threat to Plaintiffs' use of their water supply and an impairment of their water rights.

30. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, Plaintiffs have been exposed to polluted and contaminated water, have drunk this water, bathed in this water and cooked with this water, which has exposed them to and caused physical harm, illness, sickness, emotional distress and loss of enjoyment of life, and which has caused an increased likelihood of future physical harm, illness, sickness, emotional distress and loss of enjoyment of life.

31. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, Plaintiffs' animals and livestock have been exposed to polluted and contaminated water, and have drunk this water, which has exposed them to and caused physical harm, illness and sickness.

32. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, Plaintiffs' crops and trees have been exposed to polluted and contaminated water, and have taken up this water, which has caused damage and destruction to said crops and trees.

33. Plaintiffs' exposure to the contaminated and polluted soils and water at the Property water has been through medically sound channels of transmission so as to create the existence of physical problems and illnesses, and the risk, danger, and possibility of, contracting or developing physical problems and illnesses.

34. Plaintiffs' fear of contacting or developing physical problems and illnesses caused by their exposure to and consumption of contaminated and polluted water at the Property is reasonable.

35. As a direct and proximate result of the reasonable fear and apprehension of contacting or developing any of the illnesses or sicknesses which can be caused by exposure to and consumption of the contaminated and polluted water at the Property, Plaintiffs have suffered emotional distress.

36. As a direct and proximate result of the aforesaid negligent acts and omission of Defendants, Plaintiffs can no longer drink, cook, bathe, irrigate crops and trees or water livestock with the contaminated and polluted water on the Property, for fear that they will harm themselves, their family and visitors, and their crops, trees, animals and livestock.

37. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, Plaintiffs have suffered economic damages, including, but not limited to, loss of use and quiet enjoyment of property, lost profits, livestock, crop and tree losses, diminution in the fair market value of the Property, impairment of the ability to market and sell the Property and damage to water and their water rights, as well as personal injuries, including but not limited to medical and related bills and exposure, anxiety and apprehension caused by reasonable fear of contacting or developing an illness or sickness as a result of their consumption and exposure to the polluted and contaminated soil and water. As a direct and proximate result of the aforesaid negligent acts and omissions of Defendants, Plaintiffs will in the future require medical

monitoring to determine the presence or development of any illness or sickness, and have suffered the loss of enjoyment of life.

COUNT II - PRIVATE NUISANCE

38. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 37 as if fully set forth herein.

39. Duke Defendants' actions and/or omissions to act which have caused and/or allowed the pollution and contamination of the Property and the aquifers penetrated by Plaintiffs' wells, were and continue to be intentional and unreasonable, which Duke Defendants knew, or should have known, would interfere with Plaintiffs' use and enjoyment of the Property and their other rights of private occupancy, and has caused diminution in value and use of the Property, thereby constituting a nuisance which nuisance is continuing and abatable.

40. As a direct and proximate result of Duke Defendants' wrongful acts and omissions as aforesaid, Plaintiffs have suffered economic damages, including but not limited to loss of useful and quiet enjoyment of property, lost profits, crop, tree and livestock losses, diminution of the fair market value of the Property, impairment of the ability to market and sell the Property and losses related to residual toxic contamination, which has caused the Property to be stigmatized.

41. Duke Defendants have failed to abate the continuing nuisance on the Property.

42. Plaintiffs have not consented and do not consent to this nuisance. Duke Defendants knew or should have known that Plaintiffs did not consent to this nuisance.

43. Duke Defendants had actual knowledge of the nuisance they created at the Property. The conduct of Duke Defendants in causing and failing to abate the nuisance demonstrates a willful and conscious disregard for the rights and safety of Plaintiffs and others.

44. As a direct and proximate result of the continuing nuisance, Plaintiffs have incurred and will continue to incur expenses, losses, and damages, as set forth above.

COUNT III – COMMON LAW PUBLIC NUISANCE

45. Plaintiffs incorporate by reference Paragraphs 1 through 44 as if fully set forth herein.

46. Duke Defendants' acts and omissions have unreasonably interfered and continue to unreasonably interfere with the rights common to the general public to, without limitation, pure and safe surface and ground water, safe healthful surroundings that are consistent with economic vitality, alienation of property and the ability to put real property to the widest range of beneficial uses without undesirable and unexpected consequences.

47. By their continuing acts and omissions, Duke Defendants have allowed pollutants and contaminants to migrate into and through the Property and through and in the soil and water beneath the Property, proximately causing the damages complained. These damages constitute an unlawful condition and a public nuisance.

48. Duke Defendants have refused to properly and timely abate this public nuisance. Duke Defendants' continuing failure to abate this public nuisance creates a condition that is so hazardous as to make ongoing and increasing damage to the public and environment so probable as to be almost a certainty.

COUNT IV – COMMON LAW TRESPASS

49. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 48 as if fully set forth herein.

50. Plaintiffs have a possessory interest in the Property.

51. Duke Defendants had no lawful right, authority, or consent to dispose or cause the disposal of pollutants and contaminants into the Property or the soils and waters under the Property.

52. Duke Defendants entered onto the Property without consent and contaminated Plaintiffs' soil and water by intentionally causing and or allowing pollutants and contaminants to be discharged into the soils and ground water in and about the area of the Property, including the aquifers which supply the Property with domestic, agricultural and livestock water. The continuing migration of pollutants and contaminants through the soils and ground water at, above, and beneath the Property constitutes a wrongful entry onto the Property and constitutes a trespass because said pollution and contamination has interfered with and continues to interfere with the possession, use, and enjoyment by Plaintiffs of the Property

53. At all times material hereto, Duke Defendants' acts and/or omissions have caused pollutants and contaminants to be discharged into the ground and surface water in and about the Property, including the aquifers penetrated by Plaintiffs' wells. The pollution and contamination continues to leak into and contaminate the Property and Plaintiffs' drinking, agricultural and livestock water supplies, which threatens Plaintiffs' health, safety and welfare, thereby interfering with Plaintiffs' free use and enjoyment of the Property and causing diminution in value thereof.

54. Duke Defendants had a duty not to permit or allow the continuance of this trespass. Duke Defendants breached that duty by allowing pollutants and contaminants to be released or to remain on the Property and by failing to take action to prevent further migration of pollutants and contaminants at or in the vicinity of the Property

55. As a direct and proximate result of Duke Defendants' entry onto the Property, it and Plaintiffs have been damaged as alleged herein.

56. Plaintiffs have been injured in their health and well being, and now require, and in the future may require, medical monitoring for which they are entitled to damages.

57. Plaintiffs are informed and believe, and thereon allege that the injuries described above have and will continue to result in medical sickness, or illness, all to their damage in an amount to be determined at trial.

58. Plaintiffs are informed and believes, and on the basis of such information and belief alleges, that Duke Defendants knew or should have known that the release of pollutants and contaminants would result in the entry of foreign matter at and beneath the Property.

59. As a result of Duke Defendants' trespass, Plaintiffs have suffered damages including, but not limited to, personal injury all investigative and remedial costs, diminution of the value of and loss of use of the Property.

60. As a direct and proximate result of the continuing trespass by the Duke Defendants, Plaintiffs have incurred and will continue to incur expenses, losses, and damages, as set forth above.

61. Plaintiffs seeks monetary damages to compensate them for the injuries they has suffered. In the alternative, unless the pollutants and contaminants are removed, the trespass complained of will continue to cause irreparable injury to Plaintiffs and, as well, the environment in, at, around, and in the vicinity of the Property; legal damages in this case fail to provide an adequate remedy at law.

COUNT V- STATUTORY TRESPASS

62. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 61 as if fully set forth herein.

63. Plaintiffs have a possessory interest in the Property. The continuing migration of pollutants and contaminants through the soil and water at and beneath the Property constitutes a wrongful entry onto the Property.

64. NMSA 1978 § 30-14-1.1, entitled "Types of trespass; injury to realty; civil damages" states, in pertinent part:

A. Any person who enters and remains on the lands of another after having been requested to leave is guilty of a misdemeanor.

B. Any person who enters upon the lands of another when such lands are posted against trespass at every roadway or apparent way of access is guilty of a misdemeanor.

C. Any person who drives a vehicle upon the lands of another except through a roadway or other apparent way of access, when such lands are fenced in any manner, is guilty of a misdemeanor.

D. In the event any person enters upon the lands of another without prior permission and injures, damages or destroys any part of the realty or its improvements, including buildings, structures, trees, shrubs or other natural features, he shall be liable to the owner, lessee or person in lawful possession for damages in an amount equal to double the amount of the appraised value of the damage of the property injured or destroyed.

65. Duke Defendants' wrongful use, storage and disposal, as well as their failure to remove, contain, remediate or otherwise immobilize the pollutants and contaminants on and beneath the Property was substantially certain to and did cause the migration of by water transport and migration through the soil.

66. The acts of Duke Defendants have caused pollutants and contaminants to be deposited in the soil and water at and beneath the Property without Plaintiffs' knowledge or consent in a manner that has caused significant damage to the Property and its improvements.

67. Duke Defendants had a duty under NMSA 1978 §30-14-1.1 and otherwise not to permit or allow the continuance of this trespass. Duke Defendants breached that duty and this statute by allowing pollutants and contaminants to be released or to remain on the Property and

by failing to take action to prevent further migration of pollutants and contaminants at or in the vicinity of the Property.

68. Plaintiffs are informed and believe, and on the basis of such information and belief allege, that Duke Defendants knew or should have known that the release of pollutants and contaminants would result in the entry of foreign matter at and beneath the Property.

69. The aforesaid migration of pollutants and contaminants onto and beneath the Property constitutes a trespass under NMSA 1978 §30-14-1.1 because said pollution and contamination has interfered with and continues to interfere with the possession, use and enjoyment of the Property by Plaintiffs.

70. As a direct and proximate result of Duke Defendants' trespass, Plaintiffs have suffered and will continue to suffer damages including, but not limited to, investigative and remedial costs and diminution of the value of and loss of use of the Property. Pursuant to the provisions of NMSA 1978 §30-14-1.1, Plaintiffs are entitled to damages equal to double the amount of the appraised value of the damage of the property injured or destroyed by Duke Defendants' trespass.

71. Plaintiffs seeks monetary damages and double damages to compensate them for the injuries they have suffered. In the alternative, unless the foreign matter is removed, the trespass complained of will continue to cause irreparable injury to Plaintiffs; legal damages in this case fail to provide an adequate remedy at law.

COUNT VI - STRICT LIABILITY

72. Plaintiffs incorporate by reference Paragraphs 1 to 71 as if fully set forth herein.

73. The handling, use, storage, and disposal of pollutants and contaminants in their gas gathering and transmission pipeline operations on and in the vicinity of the Property by the Duke Defendants constitute abnormally dangerous and ultra-hazardous activities.

74. Duke Defendants are strictly liable for the damages caused by their ultra-hazardous activities.

75. As a proximate cause of abnormally dangerous and ultra-hazardous activities of Duke Defendants, Plaintiffs and the Property have suffered damages as set forth above.

COUNT VII - RES IPSA LOQUITUR

76. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 75 as if fully set forth herein.

77. The pollution and contamination of the Property by the Duke Defendants' gas gathering and transmission pipeline operations was of a kind which does not ordinarily occur in the absence of negligence on the part of the Duke Defendants.

78. Duke Defendants are in exclusive control and management of the operation of their gas gathering and transmission pipeline operations.

79. The injuries to Plaintiffs were proximately caused by the gas gathering and transmission pipeline operations of Duke Defendants.

80. Under the doctrine of Res Ipsa Loquitur, Duke Defendants are liable to Plaintiffs for their damages and injuries as set forth above.

COUNT IX - PUNITIVE DAMAGES

81. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 80 as if fully set forth herein.

82. Plaintiffs are informed and believe that Duke Defendants have records regarding maintenance and repairs of the leaking pipelines and should have been able to locate the leaks when the contaminated water was first discovered.

83. The actions of Duke Defendants, described above were wanton, reckless, and/or willful, and in disregard to the rights and interests of Plaintiffs and the Duke Defendants ratified

and approved the wanton, reckless, willful, and utter disregard of the continued contamination and pollution of Plaintiffs for almost two years, and as a consequence thereof, Plaintiffs are entitled to and demand punitive and exemplary damages in an amount that will adequately punish Duke Defendants for their actions and deter them and other parties similarly situated from repeating the conduct complained of.

WHEREFORE, Plaintiffs respectfully request judgment and relief as follows:

1. As to Count I, an award for medical monitoring costs and health care for each of Plaintiffs whose health has been negatively impacted by Defendants' actions and negligence.
2. As to Count V, an amount equal to double the amount of the appraised value of the damage of the Property injured or destroyed by Duke Defendants' trespass.
3. As to all Counts, an award of all direct, indirect, consequential, incidental, special compensatory, punitive, exemplary and other costs, expenses and damages resulting from the acts and omissions of Defendants as appropriate, in an amount to be determined at trial, and, as necessary or appropriate, equitable or injunctive relief.
4. As to all Counts, an award of prejudgment and post judgment interest against all Defendants as allowed by law.
5. Such other relief as this Court may deem just and proper.

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

By Brian H. Lematta

Robert G. McCorkle
Brian H. Lematta
Attorneys for Plaintiffs
Post Office Box 1888
Albuquerque, NM 87103
(505) 765-5900

Olson, William

From: Johnson, Larry
Sent: Friday, February 21, 2003 9:36 AM
To: Olson, William
Cc: Bayliss, Randy
Subject: Duke/Eldridge

Pit filling - product visible, light ends producing strong odor.



DCP03308.JPG



Olson, William

From: Stephen W. Weathers [swweathers@duke-energy.com]
Sent: Thursday, February 06, 2003 2:52 PM
To: WOLSON@state.nm.us
Subject: NMG-148 Groundwater Quality

Mr. Olson

This email is to inform you that free product was encountered on 2/6/03 around 10 am in two groundwater wells installed to characterize groundwater quality at the NMG 148 pipeline leak sites. The groundwater wells were installed under the OCD approved workplan, "Complete Additional Characterization Activities at the NMG-148 Release Site and Eldridge Study Area (CASE #1R334), Lea County New Mexico".

The specific leak locations where free product was encountered on the groundwater are identified as NMG-148C #1-2 and NMG-148C #3.

If you have any questions pertaining to the notification, please give me a call at 303-605-1718.

Stephen Weathers
Sr. Environmental Specialist

Olson, William

From: Stephen W. Weathers [swweathers@duke-energy.com]
Sent: Thursday, February 06, 2003 1:12 PM
To: Olson, William
Subject: NMG Workplan



NMGWP2-5-03.pdf



NMGWP2-5-03figs.

pdf



Figure.doc

Bill - Attached you will find a copy of the amended workplan for the groundwater characterization of the NMG - 148 pipeline leaks. The workplan incorporates changes in the original workplan that were made via email between yourself and Mike Stewart (DEFS Environmental Consultant). I had the workplan amended to address those approved changes so they can be found under one workplan document.

If you have any questions, please give me a call at 303-605-1718.

Thanks

Stephen Weathers

(See attached file: NMGWP2-5-03.pdf) (See attached file: NMGWP2-5-03figs.pdf) (See attached file: Figure.doc)

February 5, 2003

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

Re: Workplan to Complete Additional Characterization Activities at the NMG-148
Release Site and Eldridge Study Area (CASE #1R334), Lea County New Mexico

Dear Mr. Weathers:

This letter summarizes the current status and proposes additional groundwater characterization activities at the NMG-148 site and the Eldridge Study Area in Lea County New Mexico. This plan was revised to incorporate the conditions that were set forth in the February 3, 2003 OCD approval plan for this investigation.

Environmental Plus Incorporated (EPI) has prepared a work plan for the soil excavation activities. This document was provided to the New Mexico Oil Conservation Division (OCD) under separate cover and approved by them.

PROJECT STATUS

This section describes the current status of site activities. Included are subsections on the site setting and a summary of the characterization activities completed to date.

Site Setting

The NMG-148 study area is in the southeastern quarter of the southwestern quarter of Section 16, Township 19 South, Range 37 East approximately 2 miles north of and 0.75 miles east of the town of Monument in Lea County New Mexico (Figure 1). The approximate coordinates of the release point are 32 degrees 29.33 minutes north, 103 degrees 15.5 minutes west. The Eldridge Study Area adjoins the NMG-148 study area to the south.

Overall, the land within and surrounding the study area slopes very gently to the southeast. Comparison of the approximate surface elevation of 3,650 to published information¹ indicates that this area is underlain by approximately 100 feet of Ogallala Formation.

¹ Ncholson, A. Jr. and Cldbsch, A. Jr., 1961, Geology and Ground-Water Conditions in Southern Lea County, New Mexico, State Bureau of Mines and Mineral Resources, Ground-Water Report 6.

The original NMG-148C release was discovered by a DEFS contractor on December 10, 2002. He was marking the alignment of the DEFS NMG-148 line prior to testing it for leaks and noticed a barren spot that can be symptomatic of an historic release. This location is noted as NMG-148C on the annotated aerial photograph included as Figure 2.

DEFS completed the leak testing of the NMG-148C line the week of January 20, 2003. Their efforts identified five leaks in addition to the NMG-148C leak. These leaks were named NMG-148C#1, NMG-148C#2, NMG-148C#3, NMG-148C#4 and NMG-148C#5 by DEFS. The locations are shown on Figure 2 except locations NMG-148C#1 and NMG-148C#2 were combined and called NMG-148C#2 because they are only separated by approximately 12 feet.

Figure 2 also shows the approximate boundary between the State lands and the Houston property. The original NMG-148C site and location NMG-148C#5 are on State lands. Locations NMG-148C#1, NMG-148C#2, NMG-148C#3 and NMG-148C#4 are on the Huston property.

DEFS decided to separate the NMG-148 and the Eldridge projects based upon the properties for the following reasons:

1. The NMG-148 site is on State land with the Eldridge study area is currently all on private lands.
2. Some or all of the releases may be independent and may thus proceed on separate schedules.
3. The nature and extent of the releases may differ so they may involve independent and distinct remediation programs.

DEFS does however recognize that the groundwater remediation activities at the locations may have to be coordinated once the full extent of hydrocarbon releases and their impacts on groundwater have been identified and delineated.

Summary of NMG-148 Characterization Activities

This subsection discusses the characterization activities completed to date at the NMG-148C release location. The soils remediation activities are still ongoing. Environmental Plus Incorporated (EPI) is completing these activities and reporting upon them under separate cover.

Hand excavation revealed stained and odorous soils within the barren area when the lead was first discovered. DEFS then installed a monitor well near the center of the release. The activities were completed on December 13, 2002. Continuous samples were logged for lithology and screened with a photoionization detector (PID) until saturated materials were encountered at approximately 28 to 29 feet below ground surface (bgs). The sample with the highest PID reading and the sample immediately above the saturated materials

were submitted for testing by an analytical laboratory. The results are summarized below:

Summary of Soil Sampling Results From Boring MW-1

Depth Interval (feet)	FIELD PID Reading (PPM)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
5-7	452	---	---	---	---	---	---
10-12	526	---	---	---	---	---	---
15-17	577	14.3	60.1	10.2	41.2	657	14.9
20-22	534	---	---	---	---	---	---
23-25	355	---	---	---	---	---	---
25-27	252	48.4	84.4	11.4	37.7	1,320	21.8

The well, identified as NMG MW-1 to differentiate it from the wells on the Eldridge Study Area currently has a measured product thickness of approximately 1.33 feet. The depth to the top of the product was measured at 30.33 feet below top of casing (btoc) on December 31, 2002. Trident submitted a sample of the product for laboratory analyses but the results have not yet been received.

Trident installed an additional well (NMG MW-2) on December 16, 2002 at the location shown on Figure 2. This location was selected because it is in the same swale as the release, and this swale discharges directly onto the Huston property to the south. This well was developed on December 17, 2002, and it was purged and sampled on December 18, 2002. The analytical results indicate that the both the BTEX constituents and the total petroleum hydrocarbons are not present above the method detection limits.

EPI completed test trenches and begin excavating the hydrocarbon affected soils the week of December 16, 2002. EPI continues their remediation activities under a separate work plan that was approved by the OCD. EPI will report separately according to the conditions set forth by OCD relative to the approved EPI work plan.

Based upon the initial results of their trenching activities, EPI generated a map showing both the area of surface impacts as well as their best estimate of the probable limits of excavation. Those boundaries are shown on Figure 3.

PROPOSED ADDITIONAL GROUNDWATER CHARACTERIZATION ACTIVITIES

This section presents the proposed groundwater characterization activities to be completed during this phase of the investigation. The objective of these activities is to identify the release locations that either have free product or evidence that groundwater impacts are likely. This information will be used to generate a comprehensive dissolved phase characterization program.

The activities described in the remainder of this section include well installation, well sampling, and summary preparation. Each activity is described separately below.

Well Installation

The proposed phase includes the installation of five additional wells. One well will be installed as a background well northwest of the NMG-148C site. The other four wells will be installed at the four release locations (NMG-148C#1 and NMG-148C#2 are combined) shown on Figure 2.

Each boring will be advanced using either auger or air rotary drilling. All drilling and installation procedures will be supervised by an experienced geologist or engineer with an appropriate background.

Samples will be collected on a regular basis (maximum separation of 5 feet) and screened for the presence of volatiles using a PID and submitted for analyses for BTEX and TPH unless OCD approves their exclusion. Lithologic logs will be compiled for each boring based upon the cuttings and/or samples produced.

Each well will be drilled to a depth approximately 10 feet below the first evidence of saturated materials or to a maximum depth of 40 feet if no saturated materials are encountered. Fifteen feet of 2-inch, threaded, factory-slotted Schedule 40 PVC will be placed in the well (20 feet if no saturated materials are encountered). The annular space will then be backfilled with artificially-graded sand to a minimum depth of 2 feet above the top of the slotted PVC interval. The remaining annular space will then be backfilled with hydrated bentonite. The surface completion for each well will include an aboveground well protector and a minimum 2 foot by 2 foot concrete pad. Well completion forms will be prepared for each well and included in the report. Each well will be sit undisturbed a minimum of 10 hours (overnight) before it is measured for free product and, if necessary, developed and sampled.

Well Gauging, Development and Sampling

The five wells will first be gauged for the presence of free product. The wells that contain free product will not be developed and sampled; however, the product thickness will be measured on a daily basis for the duration of the project and then during every subsequent quarterly monitoring episode.

Each new well that does not contain free product will be developed using either a disposable bailer or a submersible pump. Well development will be completed when a minimum of 10 casing volumes of water are removed and the field parameters of temperature, pH and conductivity for the last three casing volumes are stable. In the event the well cannot be continuously purged, it will be bailed dry a minimum of three times.

Each developed well will be sampled using a disposable bailer following the completion of development. Unfiltered samples will be collected from each well and will be analyzed for the organic constituents benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons as oil and diesel. An additional unfiltered samples will be collected from each well will also be analyzed for the inorganic constituents calcium, magnesium, sodium, potassium, bicarbonate alkalinity, chlorides, sulfate and fluoride and other bioremediation indicator parameters. All samples will be placed in an ice-filled chest immediately upon collection and delivered to the analytical laboratory using standard chain-of-custody protocol.

A field duplicate and a trip blank will be used to evaluated quality control. The field blank will be collected from a well with detectable constituents so that the relative percentage difference can be calculated. The laboratory will provide the trip blank. The trip blank and the field duplicate will both be analyzed for BTEX.

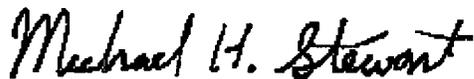
Summary Preparation

A written summary will be prepared to present the results of the field investigation. The report will include the following components:

- A summary of the data collected during the field program.
- A listing of all of the wells that either contain free product or show evidence of hydrocarbon impacts at the water table.

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

Respectfully Submitted,
REMEDIA.COM INCORPORATED



Michael H. Stewart, P.E.
Principal Engineer

Attachments

FIGURES

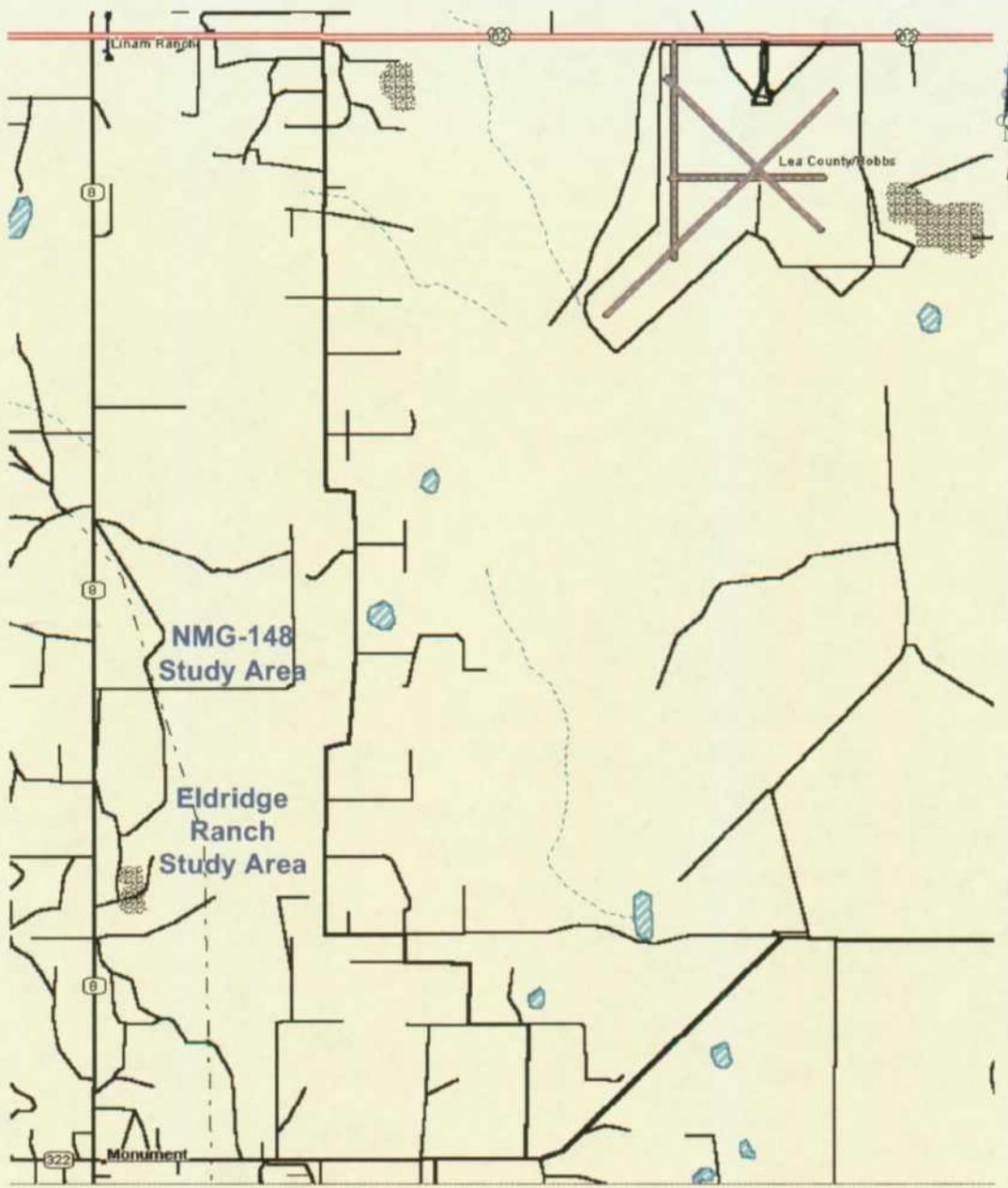


Figure 1 – NMG-148 and Eldridge Ranch Study Area Locations

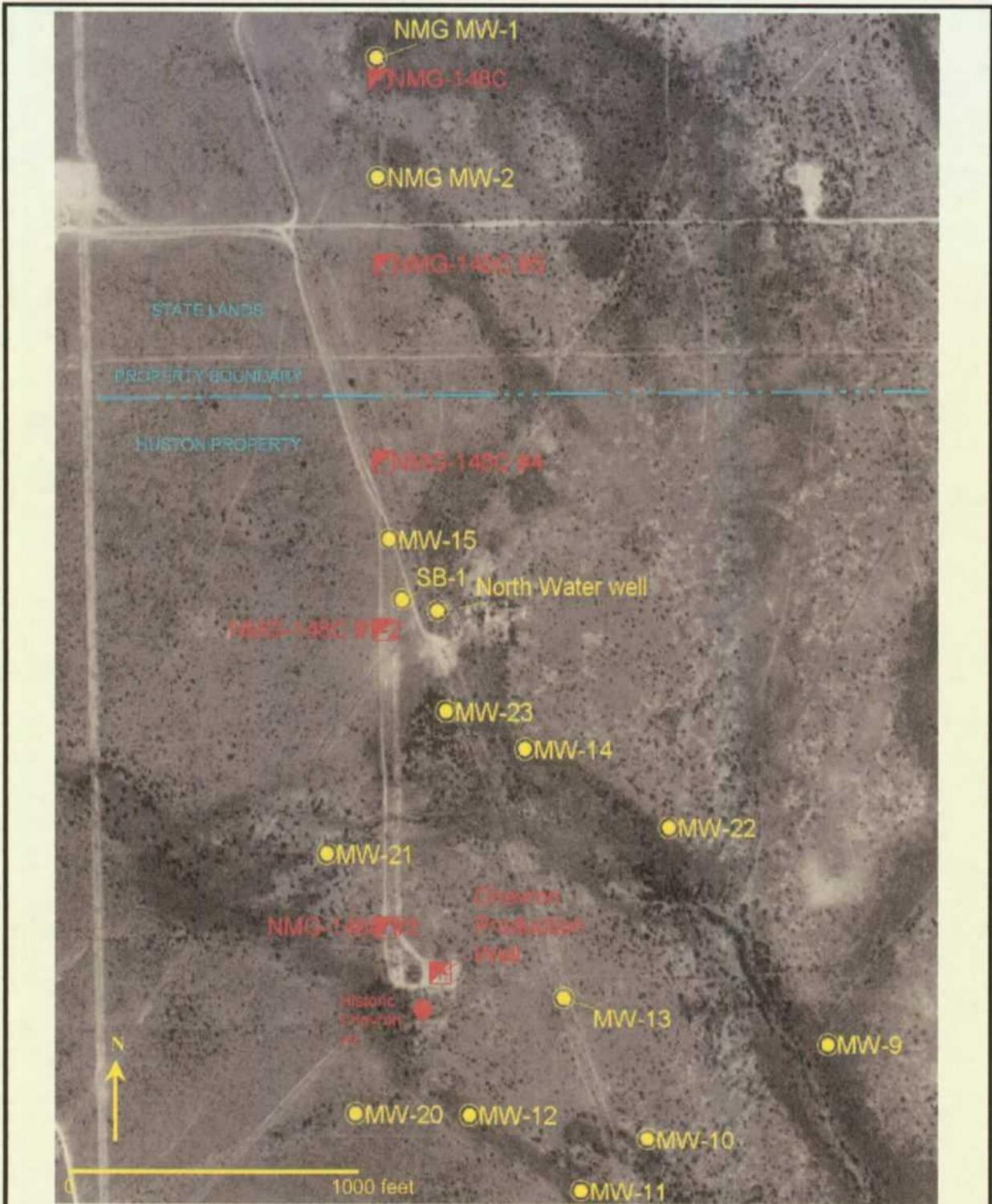
NMG-148 Study Area



DRAWN BY: MHS

REVISED:

DATE: 1/03



Note: The NMG-148C#1 and NMG-148C#2 sites are both at the NMG-148C#2 location

Figure 1 – NMG-148 Study Area Location

NMG-148 Study Area



DRAWN BY: MHS

REVISED:

DATE: 1/03

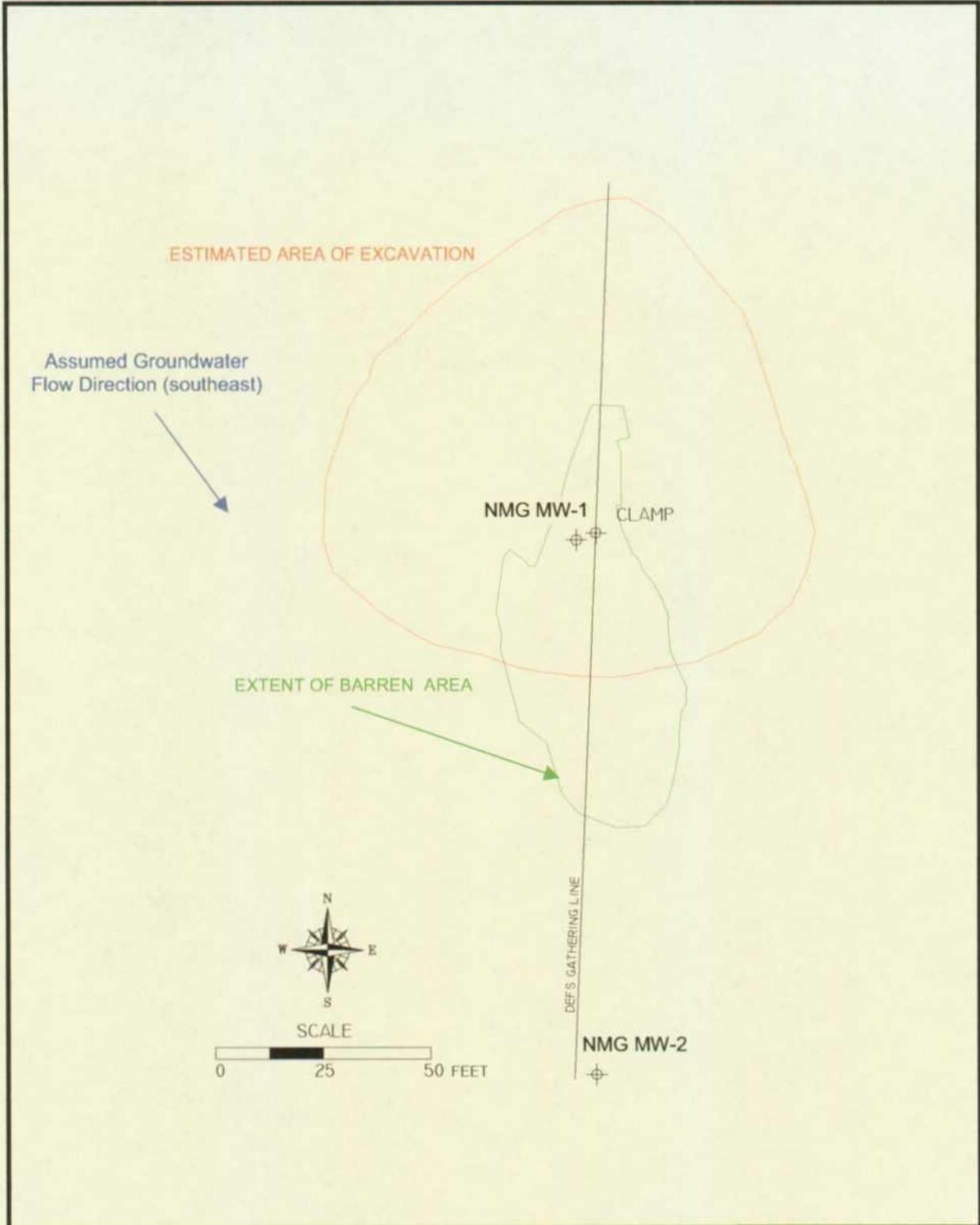


Figure 3 – NMG-148C Site Details

NMG-148 Study Area



DRAWN BY: MHS

REVISED:

DATE: 1/03



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

February 4, 2003

CERTIFIED MAIL

RETURN RECEIPT NO. 7001-1940-0004-7923-0681

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: CASE #1R334 - ELDRIDGE RANCH
NMG-148 C-LINE SOIL REMEDIATION WORK PLAN
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services, Inc. (Duke) January 24, 2003 "SITE CHARACTERIZATION AND SOIL REMEDIATION PLAN, DUKE ENERGY FIELD SERVICES NMG-148 C-LINE, UL-N SE1/4 OF THE SW1/4 OF SECTION 16 T19S R37E, LATITUDE: 32° 39' 21.32"N LONGITUDE: 103° 15' 32.90"W, LAND OWNER: STATE OF NEW MEXICO" which was submitted on behalf of Duke by their consultant Environmental Plus, Inc. This document contains Duke's work plan for excavation and remediation of contaminated soil at Duke's NMG-148 C-Line Site as part of the Eldridge Ranch project located in Section 16 and Section 21 of Township 19 South, Range 37 East, Lea County, New Mexico.

The above referenced work plan is approved with the following conditions:

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.

Please be advised that OCD approval does not relieve Duke of responsibility should the work plan fail to adequately remediate contamination related to Duke's operations, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve Duke of responsibility for compliance with any other federal, state or local laws

If you have any questions, please call me at (505) 476-3491.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

cc: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahon
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb
Pat McCasland, Environmental Plus, Inc.

Olson, William

From: John Ferguson [jmfergerson@grandecom.net]
Sent: Monday, February 03, 2003 9:44 AM
To: Bill Olson
Cc: Dale Littlejohn; Mike Stewart; Steve Weathers; Larry Johnson
Subject: 48 Hour Notification-DEFS-Eldridge Ranch North (NMG-148)

Mr. Olson,

Please consider this email as a 48 hour notification to the NMOCD for the following activities listed on the DEFS-NMG-148 workplan:

1. Drill and complete one upgradient well North or Northwest of original release location.
2. Drill and complete one well at release points of 4 new-identified releases:
3. Develop, purge & sample any well determined to be free of free phase hydrocarbon (FPH).

The new well locations are located at the following legal descriptions:

1. Section 21, T 19 S, R 37 E
2. Section 16, T 19 S, R 37 E

All activities are scheduled to begin at 0800-0900 MST on February 5, 2003. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John Ferguson
Trident Environmental
P.O. Box 7624
Midland, Texas 79708
915-682-0008 (Main)
915-262-5216 (Office)
915-638-7333 (Cell)



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

February 3, 2003

CERTIFIED MAIL

RETURN RECEIPT NO. 7001-1940-0004-7923-0681

Mr. Stephen Weathers
Duke Energy Field Services, Inc.
370 17th St., Suite 900
Denver, Colorado 80202

**RE: CASE #1R334
ELDRIDGE RANCH
MONUMENT, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services, Inc. (Duke) January 7, 2003 "WORKPLAN TO COMPLETE ADDITIONAL CHARACTERIZATION ACTIVITIES AT THE NMG-148 RELEASE SITE, LEA COUNTY, NEW MEXICO" and January 24, 2003 email titled "PROPOSED CHANGE IN THE SCOPE OF WORK FOR THE DEFS NMG-148C PIPELINE". These documents contain Duke's work plan for installation of ground water monitoring wells for investigating petroleum contamination from Duke's NMG-148 pipeline located in Section 16 and Section 21 of Township 19 South, Range 37 East, Lea County, New Mexico.

The above referenced work plan is approved with the following conditions:

1. All monitor wells shall be constructed and developed consistent with the work plans previously approved by the OCD.
2. Duke shall take soil samples from each monitor well every five feet from surface to the top of the water table. 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.
3. All soil and water quality samples shall be obtained and analyzed consistent with the work plans previously approved by the OCD.
4. All wastes generated during the investigation shall be disposed of at an OCD approved facility.

5. Duke shall submit a report on the investigation to the OCD by February 24, 2003. The report shall be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office.
6. 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.

Please be advised that OCD approval does not relieve Duke of responsibility should the investigation actions fail to adequately define the extent of contamination related to Duke's operations, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve Duke of responsibility for compliance with any other federal, state or local laws

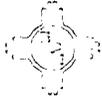
If you have any questions, please call me at (505) 476-3491.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

cc: Chris Williams, OCD Hobbs District Office
Frank Eldridge
Gene Samberson, Heidel, Samberson, Newell, Cox & McMahon
Robert G. McCorkle, Rodey, Dickason, Sloan, Akin & Robb



ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

McCasland



January 28, 2003

Mr. Paul Sheeley
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services Initial C-141

Re: NMG-148C #1-2
NE¼ of the NW¼ (Unit Letter C), Section 21, Township 19 South, and Range 37 East
Latitude 32°39'01.92"N and Longitude 103°15'33.11"W

Dear Mr. Sheeley,

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division (NMOCD) form C-141 for the above referenced leak site located on land owned by Harry Houston, approximately 1.5 miles northeast of Monument, Lea County, New Mexico. Ground water in the area is known from monitor well measurements to occur between 25 and 28 feet below ground surface ('bgs). There is an abandoned windmill water well located 960 horizontal feet southwest at a bearing of 223°. The attached site information and metrics form ranks the site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993).

A remediation plan will be developed and submitted for NMOCD approval and will address issues identified during delineation of the vertical and horizontal extents of contamination of the Constituents of Concern (CoCs), i.e., Chloride, Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m}), Benzene, BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes. The contaminated soil is RCRA exempt.

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716.

All official communication should be addressed to:

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

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Paul Mulkey, Duke, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

Duke Energy Field Services Site Information and Metrics		Incident Date and NMOCD Notified? 1-17-03 NMOCD notified immediately P. Sheeley	
SITE: NMG-148C #1-2		Assigned Site Reference #: Historical	
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/Stam Shaver/Ronnie Gilchrest			
Representative Telephone: 505.397.5716 / 505.397.5561			
Telephone:			
Fluid volume released (bbls): >25		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-148C #1-2			
Source of contamination: 4" Steel Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Harry Houston			
LSP Dimensions no surficial impact			
LSP Area: ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°39'01.92"N			
Longitude: 103°15'33.11"W			
Elevation above mean sea level: 3640'amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: NE¼ of the NW ¼		Unit Letter: C	
Location- Section: 21			
Location- Township: 19S			
Location- Range: 37E			
Surface water body within 1000' radius of site: None			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: None			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: 960' southwest at bearing 223°			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~25'bgs			
Depth of contamination (DC) -			
Depth to ground water (DG - DC = DtGW) -			
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		If >1000' from water source, or; >200' from private domestic water source: 0 points	200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points		Wellhead Protection Area Score= 20	>1000 horizontal feet: 0 points
Ground water Score = 20		Surface Water Score= 0	Site Rank (1+2+3) = 40
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Duke Energy Field Services	Contact Paul Mulkey
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name NMG-148 #1-2	Facility Type Natural Gas Pipeline

Surface Owner Harry Houston	Mineral Owner	Lease No.
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LOCATION OF RELEASE

Unit Letter C	Section 21	Township 19S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32° 39' 01.92" N Lon. 103° 15' 33.11" W
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NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release unknown	Volume Recovered 0 barrels
Source of Release 4" Steel pipeline	Date and Hour of Occurrence Historical	Date and Hour of Discovery 1-17-03 @ 9:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Pat McCasland	Date and Hour 1-17-03 2:00 PM	
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

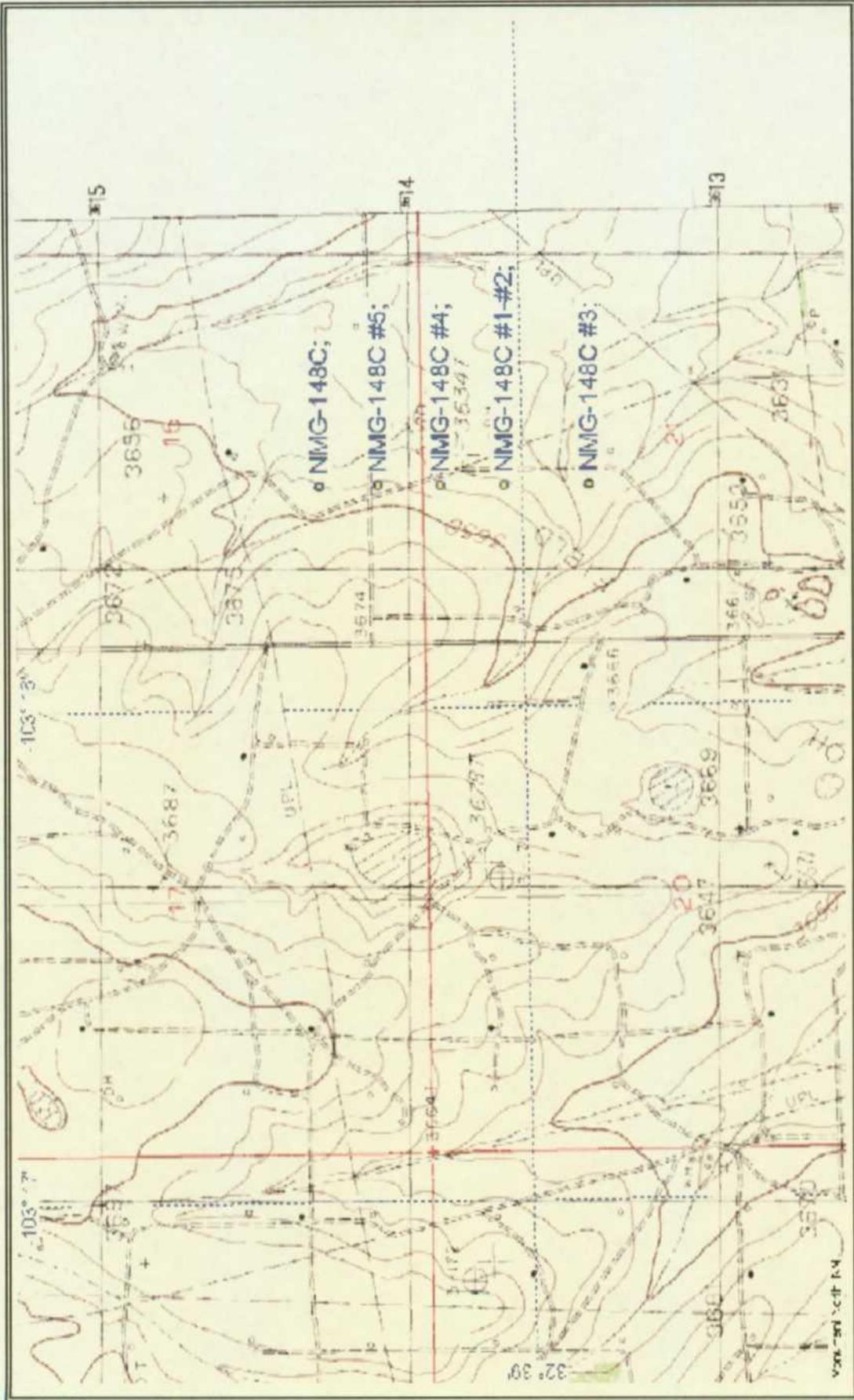
Describe Cause of Problem and Remedial Action Taken.*
Internal corrosion. Line is out of service and being removed.

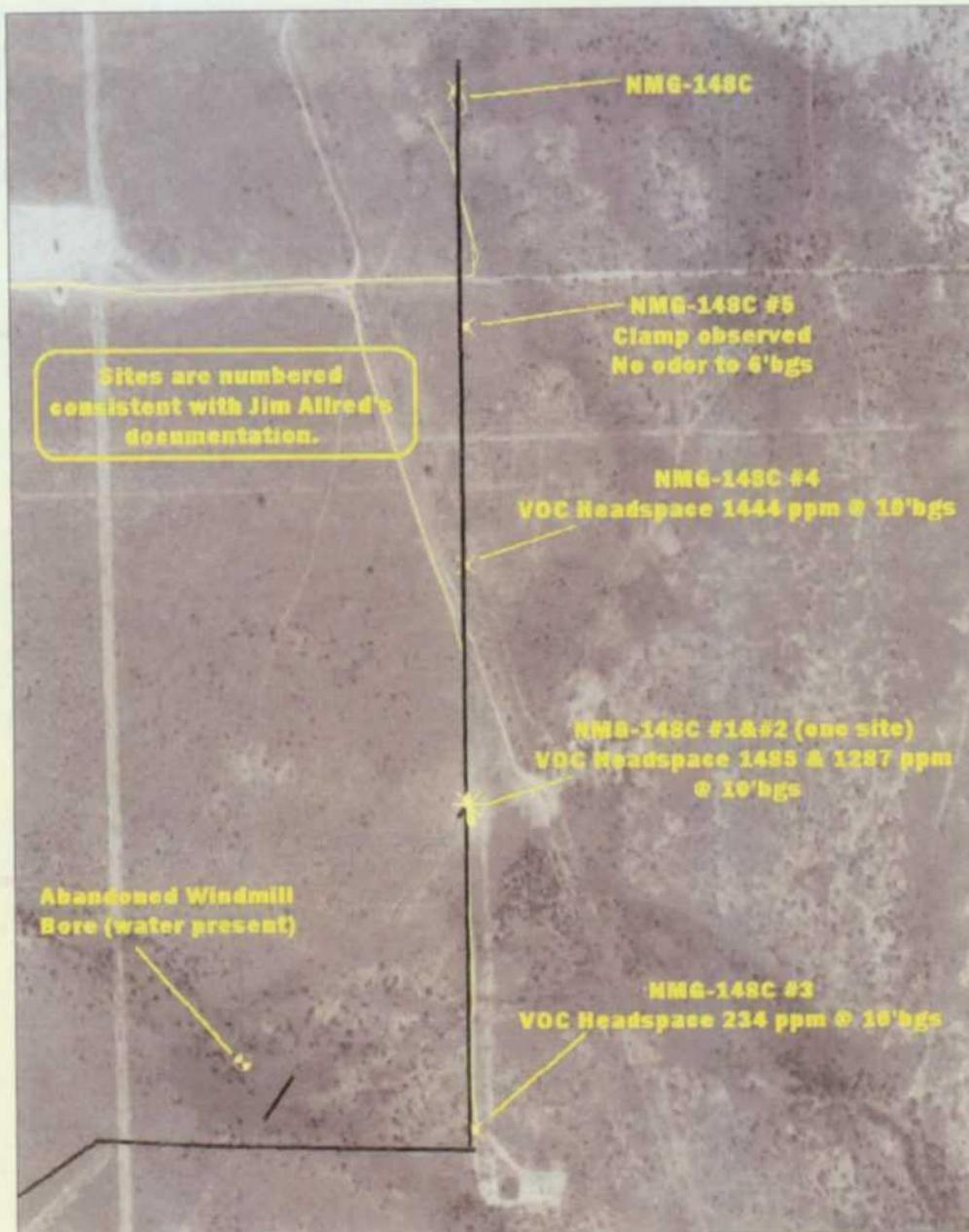
Describe Area Affected and Cleanup Action Taken.*
No visible surface was impacted. Ground water occurs at ~25 feet below ground surface. The site rank is 40 points. Contaminated soil above the site remedial goals will be delineated and remediation plan developed and submitted. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and the sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

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

Signature:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Paul Mulkey	Approved by District Supervisor:		
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:	
Date: January 29, 2003 Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary





DUKE NMG-I48 C-LINE LEAK SITES
"NMG-I48C" - "NMG-I48C #1"
"NMG-I48C #3" - "NMG-I48C #4"
"NMG-I48C #5"

UNIVERSAL TRANSVERSE MERCATOR
15 NORTH
NAD 1983 HPGN (NEW MEXICO)

SCALE 1:6,000

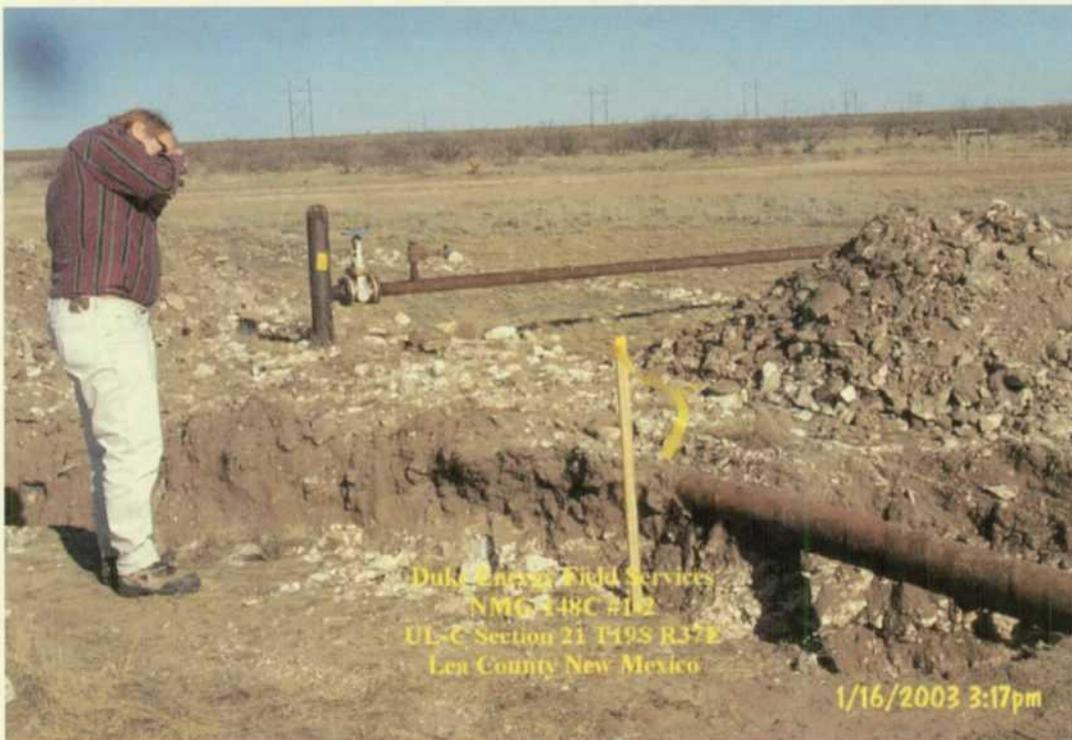
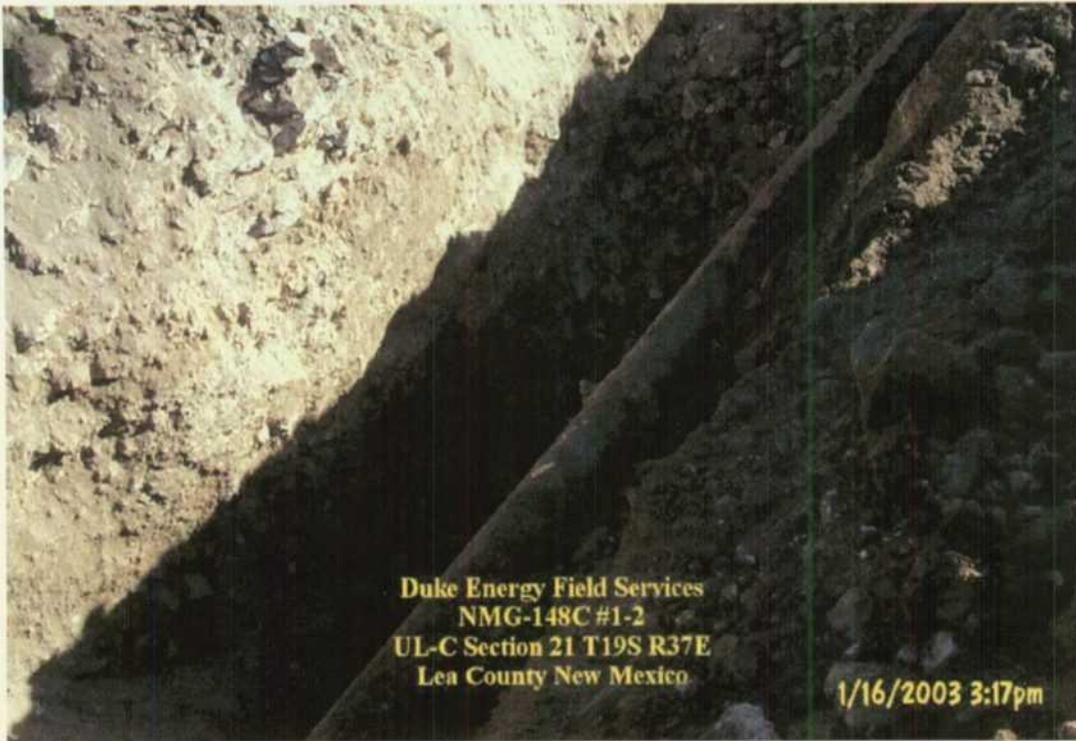


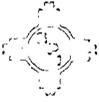
FEET

MULTIPLE FILES

1/17/2005







ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Mr. Miller

Mr. Miller

January 28, 2003

Mr. Paul Sheeley
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services Initial C-141

Re: NMG-148C #3
SE¼ of the NW¼ (Unit Letter F), Section 21, Township 19 South, and Range 37 East
Latitude 32°38'52.96"N and Longitude 103°15'33.20"W

Dear Mr. Sheeley,

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division (NMOCD) form C-141 for the above referenced leak site located on land owned by Harry Houston, approximately 1.5 miles northeast of Monument, Lea County, New Mexico. Ground water in the area is known from monitor well measurements to occur between 25 and 28 feet below ground surface ('bgs). There is an abandoned windmill water well located 686 horizontal feet west northwest at a bearing of 287°. The attached site information and metrics form ranks the site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993).

A remediation plan will be developed and submitted for NMOCD approval and will address issues identified during delineation of the vertical and horizontal extents of contamination of the Constituents of Concern (CoCs), i.e., Chloride, Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m}), Benzene, BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes. The contaminated soil is RCRA exempt.

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716.

All official communication should be addressed to:

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

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Paul Mulkey, Duke, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

Duke Energy Field Services Site Information and Metrics		Incident Date and NMOCD Notified? 1-17-03 NMOCD notified immediately P. Sheeley	
SITE: NMG-148C #3		Assigned Site Reference #: Historical	
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		Recovered (bbls): 0	
<small>>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)</small>			
<small>5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)</small>			
Leak, Spill, or Pit (LSP) Name: NMG-148C #3			
Source of contamination: 4" Steel Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Harry Houston			
LSP Dimensions no surficial impact			
LSP Area: ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°38'52.96"N			
Longitude: 103°15'33.20"W			
Elevation above mean sea level: 3640'amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: SE¼ of the NW¼		Unit Letter: F	
Location- Section: 21			
Location- Township: 19S			
Location- Range: 37E			
Surface water body within 1000' radius of site: None			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: None			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: 686' north northwest at bearing 287°			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~25'bgs			
Depth of contamination (DC) -			
Depth to ground water (DG - DC = DtGW) -			
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 >1000' from water source, or; >200' from private domestic water source: 0 points	
If Depth to GW >100 feet: 0 points		Wellhead Protection Area Score= 20	
Ground water Score = 20		Surface Water Score= 0	
Site Rank (1+2+3) = 40			
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Duke Energy Field Services	Contact Paul Mulkey
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name NMG-148 #3	Facility Type Natural Gas Pipeline

Surface Owner Harry Houston	Mineral Owner	Lease No.
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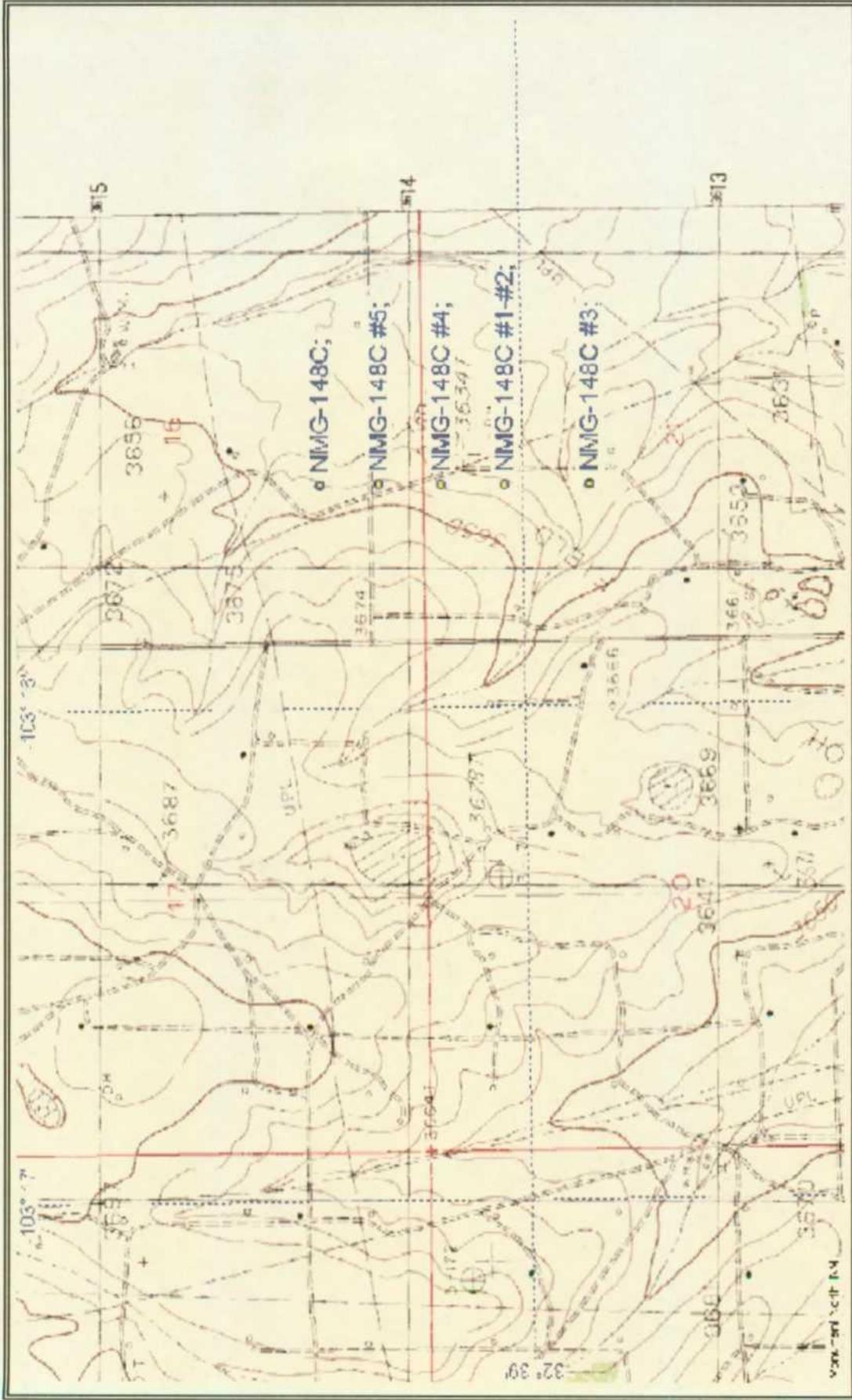
LOCATION OF RELEASE

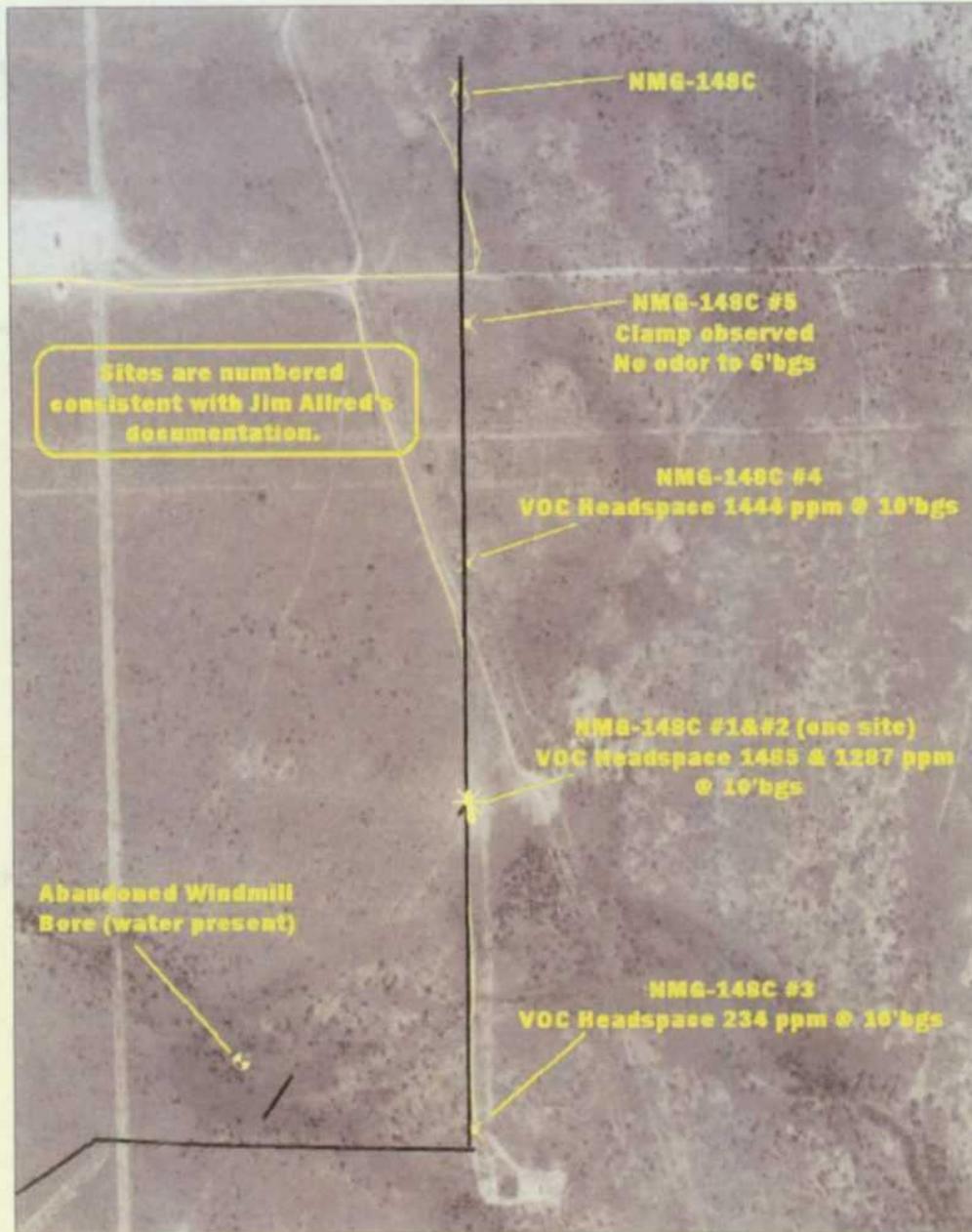
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
F	21	19S	37E					Lat. 32° 38' 52.96" N Lon. 103° 15' 33.20" W

NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release unknown barrels	Volume Recovered 0 barrels
Source of Release 4" Steel pipeline	Date and Hour of Occurrence historical	Date and Hour of Discovery 1-17-03 @ 9:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Pat McCasland	Date and Hour 1-17-03 2:00 PM	
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.* Internal corrosion. Line is out of service and being removed.		
Describe Area Affected and Cleanup Action Taken.* No visible surface was impacted. Ground water occurs at ~25 feet below ground surface. The site rank is 40 points. Contaminated soil above the site remedial goals will be delineated and remediation plan developed and submitted. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and the sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature:	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:
Date: January 29, 2003 Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary





DUKE NMG-I48 C-LINE LEAK SITES
"NMG-I48C" - "NMG-I48C #1"
"NMG-I48C #3" - "NMG-I48C #4"
"NMG-I48C #5"

UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1983 HPGN (NEW MEXICO)

SCALE 1:6,000



FEET

MULTIPLE FILES

1/17/2005







ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

More-Data

More-Data

January 28, 2003

Mr. Paul Sheeley
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services Initial C-141

Re: NMG-148C #4
NE¼ of the NW¼ (Unit Letter C), Section 21, Township 19 South, and Range 37 East
Latitude 32°39'08.51"N and Longitude 103°15'33.04"W

Dear Mr. Sheeley,

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division (NMOCD) form C-141 for the above referenced leak site located on land owned by Harry Houston, approximately 1.5 miles northeast of Monument, Lea County, New Mexico. Ground water in the area is known from monitor well measurements to occur between 25 and 28 feet below ground surface ("bgs). There is an abandoned windmill water well located 1,520 horizontal feet southwest at a bearing of 205°. The attached site information and metrics form ranks the site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993).

A remediation plan will be developed and submitted for NMOCD approval and will address issues identified during delineation of the vertical and horizontal extents of contamination of the Constituents of Concern (CoCs), i.e., Chloride, Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m}), Benzene, BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes. The contaminated soil is RCRA exempt.

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716.

All official communication should be addressed to:

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

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Paul Mulkey, Duke, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

Duke Energy Field Services Site Information and Metrics		Incident Date and NMOCD Notified? 1-17-03 NMOCD notified immediately P. Sheeley	
SITE: NMG-148C #4		Assigned Site Reference #: Historical	
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		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-148C #4			
Source of contamination: 4" Steel Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Harry Houston			
LSP Dimensions no surficial impact			
LSP Area: ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°39'08.51"N			
Longitude: 103°15'33.04"W			
Elevation above mean sea level: 3640' amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: NE¼ of the NW¼		Unit Letter: C	
Location- Section: 21			
Location- Township: 19S			
Location- Range: 37E			
Surface water body within 1000' radius of site: None			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: None			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: 1520' southwest at bearing 205°			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~25'bgs			
Depth of contamination (DC) -			
Depth to ground water (DG - DC = DtGW) -			
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 >1000' from water source, or; >200' from private domestic water source: 0 points	
If Depth to GW >100 feet: 0 points		Wellhead Protection Area Score= 20	
Ground water Score = 20		Surface Water Score= 0	
Site Rank (1+2+3) = 40			
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised March 17, 1999

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

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Duke Energy Field Services	Contact Paul Mulkey
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name NMG-148 #4	Facility Type Natural Gas Pipeline

Surface Owner Harry Houston	Mineral Owner	Lease No.
--------------------------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
C	21	19S	37E					Lat. 32° 39' 08.51" N Lon. 103° 15' 33.04" W

NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release unknown barrels	Volume Recovered 0 barrels
Source of Release 4" Steel pipeline	Date and Hour of Occurrence historical	Date and Hour of Discovery 1-17-03 @ 9:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Pat McCasland	Date and Hour 1-17-03 2:00 PM	
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

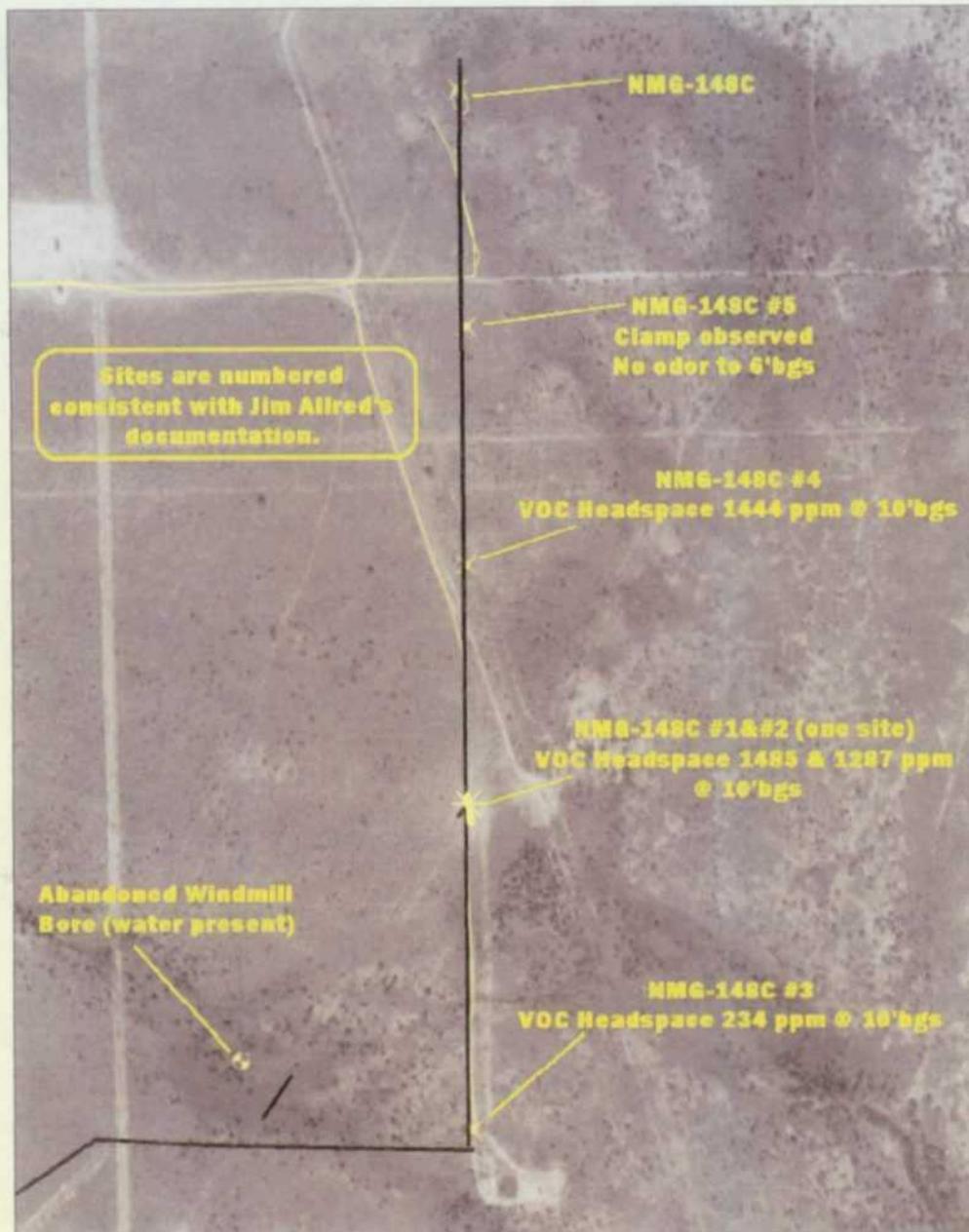
Describe Cause of Problem and Remedial Action Taken.*
Internal corrosion. Line is out of service and being removed.

Describe Area Affected and Cleanup Action Taken.*
No visible surface was impacted. Ground water occurs at ~25 feet below ground surface. The site rank is 40 points. Contaminated soil above the site remedial goals will be delineated and remediation plan developed and submitted. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and the sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

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

Signature:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Paul Mulkey	Approved by District Supervisor:		
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:	
Date: January 29, 2003 Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>	

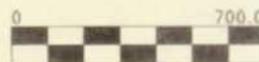
* Attach Additional Sheets If Necessary



DUKE NMG-I48 C-LINE LEAK SITES
"NMG-I48C" - "NMG-I48C #1"
"NMG-I48C #3" - "NMG-I48C #4"
"NMG-I48C #5"

UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1983 HPGN (NEW MEXICO)

SCALE 1:6,000



FEET

MULTIPLE FILES

1/17/2005







ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Miss-Disc

Miss-Disc

January 28, 2003

Mr. Paul Sheeley
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services Initial C-141

Re: NMG-148C #5
SE¼ of the SW¼ (Unit Letter N), Section 16, Township 19 South, and Range 37 East
Latitude 32°39'15.08"N and Longitude 103°15'32.86"W

Dear Mr. Sheeley,

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division (NMOCD) form C-141 for the above referenced leak site located on land owned by the State of New Mexico, approximately 1.5 miles northeast of Monument, Lea County, New Mexico. Ground water in the area is known from monitor well measurements to occur between 25 and 28 feet below ground surface ('bgs). There is an abandoned windmill water well located 2,142 horizontal feet southwest at a bearing of 198°. The attached site information and metrics form ranks the site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993).

A remediation plan will be developed and submitted for NMOCD approval and will address issues identified during delineation of the vertical and horizontal extents of contamination of the Constituents of Concern (CoCs), i.e., Chloride, Sulfate, Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m}), Benzene, BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes. The contaminated soil is RCRA exempt.

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716.

All official communication should be addressed to:

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

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Paul Mulkey, Duke, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

Duke Energy Field Services Site Information and Metrics		Incident Date and NMOCD Notified? 1-17-03 NMOCD notified immediately P. Sheeley	
SITE: NMG-148C #5		Assigned Site Reference #: Historical	
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): ?		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-148C #5			
Source of contamination: 4" Steel Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico			
LSP Dimensions no surficial impact			
LSP Area: ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°39'15.08"N			
Longitude: 103°15'32.86"W			
Elevation above mean sea level: 3640' amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: SE¼ of the SW¼		Unit Letter: N	
Location- Section: 16			
Location- Township: 19S			
Location- Range: 37E			
Surface water body within 1000' radius of site: None			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: None			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: 2142' southwest at bearing 198°			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~25'bgs			
Depth of contamination (DC) -			
Depth to ground water (DG - DC = DtGW) -			
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 >1000' from water source, or; >200' from private domestic water source: 0 points	
If Depth to GW >100 feet: 0 points			
Ground water Score = 20		Wellhead Protection Area Score = 20	
Site Rank (1+2+3) = 40		Surface Water Score = 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Duke Energy Field Services	Contact Paul Mulkey
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name NMG-148 #5	Facility Type Natural Gas Pipeline

Surface Owner State of New Mexico	Mineral Owner	Lease No.
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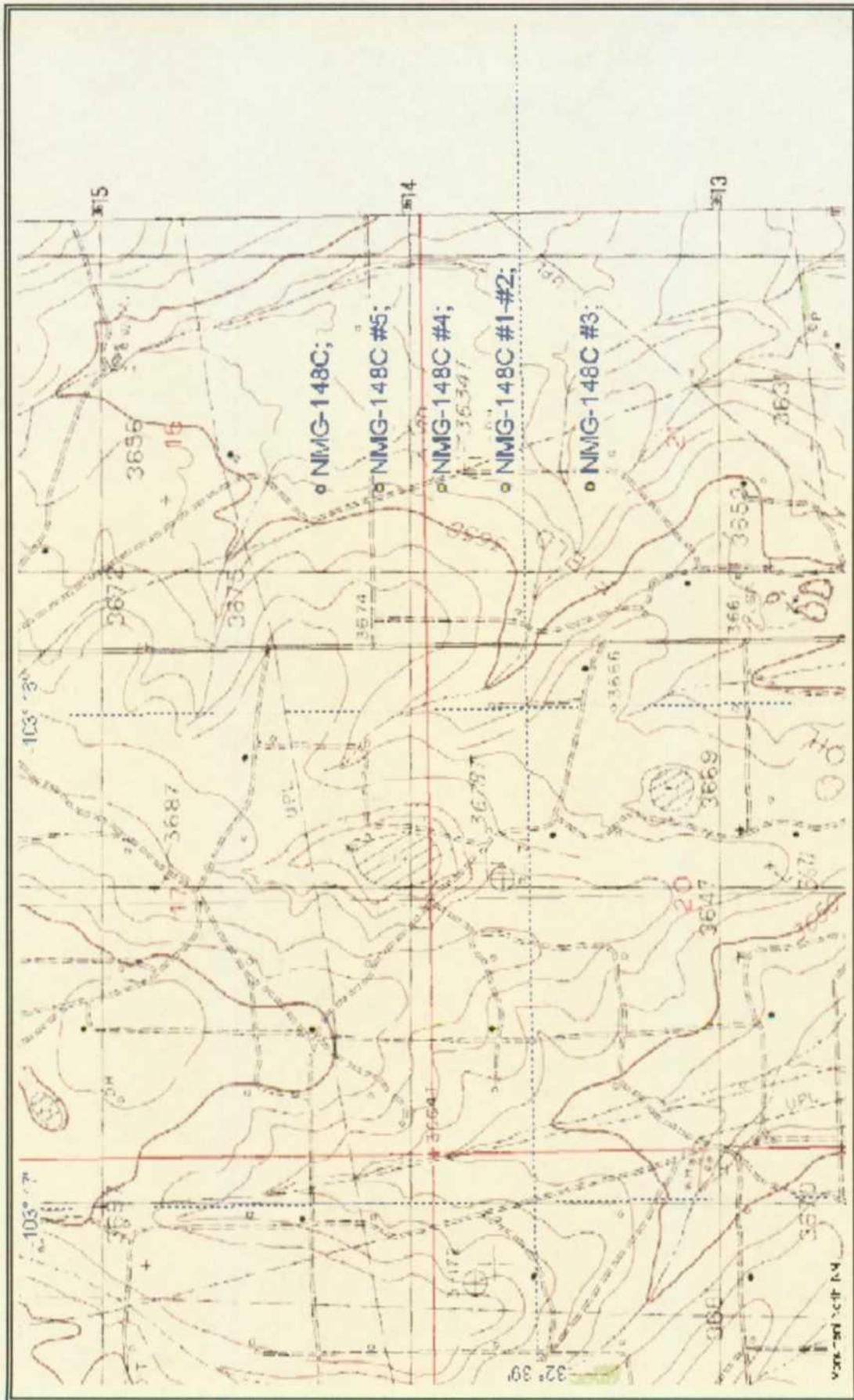
LOCATION OF RELEASE

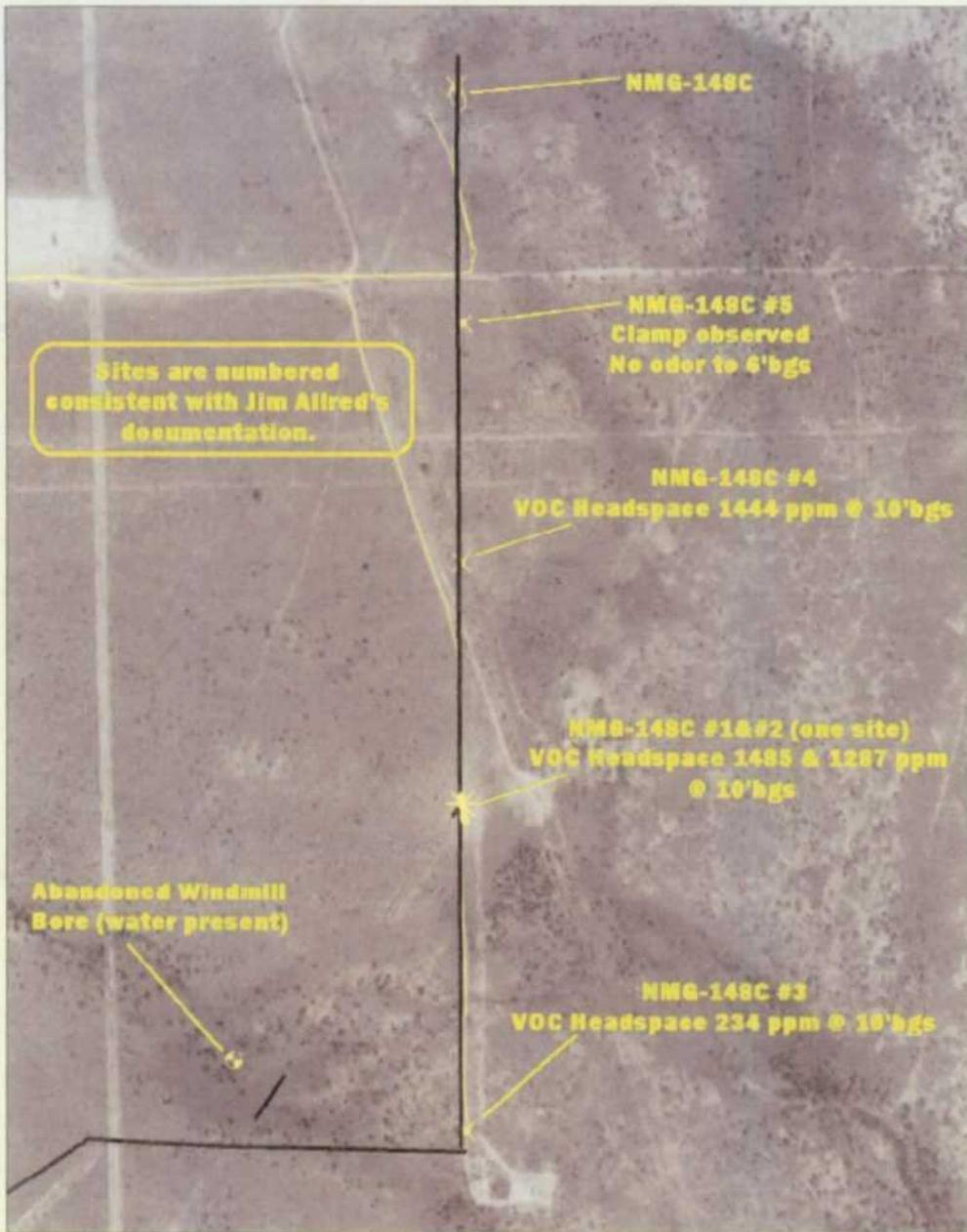
Unit Letter C	Section 21	Township 19S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32° 39' 08.51" N Lon. 103° 15' 33.04" W
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NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release unknown barrels	Volume Recovered 0 barrels
Source of Release 4" Steel pipeline	Date and Hour of Occurrence historical	Date and Hour of Discovery 1-17-03 @ 9:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Pat McCasland	Date and Hour 1-17-03 2:00 PM	
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.* Internal corrosion. Line is out of service and being removed.		
Describe Area Affected and Cleanup Action Taken.* No visible surface was impacted. Ground water occurs at ~25 feet below ground surface. The site rank is 40 points. Contaminated soil above the site remedial goals will be delineated and remediation plan developed and submitted. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and the sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature:	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:
Date: January 29, 2003 Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary





DUKE NMG-148 C-LINE LEAK SITES
"NMG-148C" - "NMG-148C #1"
"NMG-148C #3" - "NMG-148C #4"
"NMG-148C #5"

UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1983 HPGN (NEW MEXICO)

SCALE 1:6,000

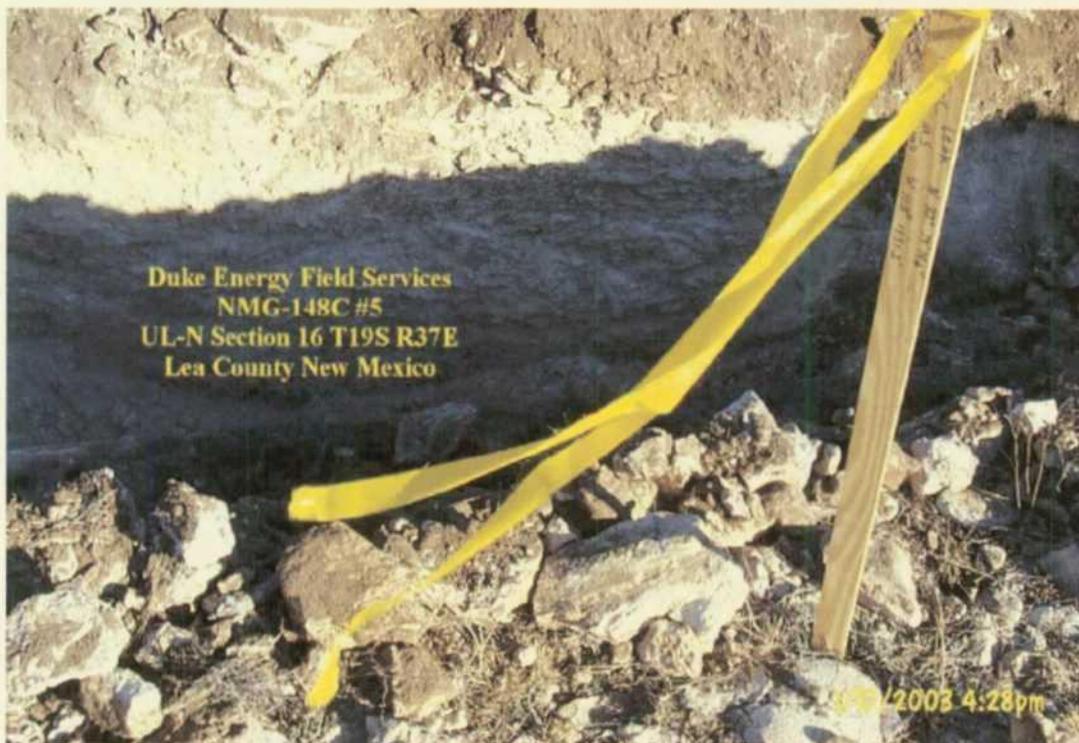
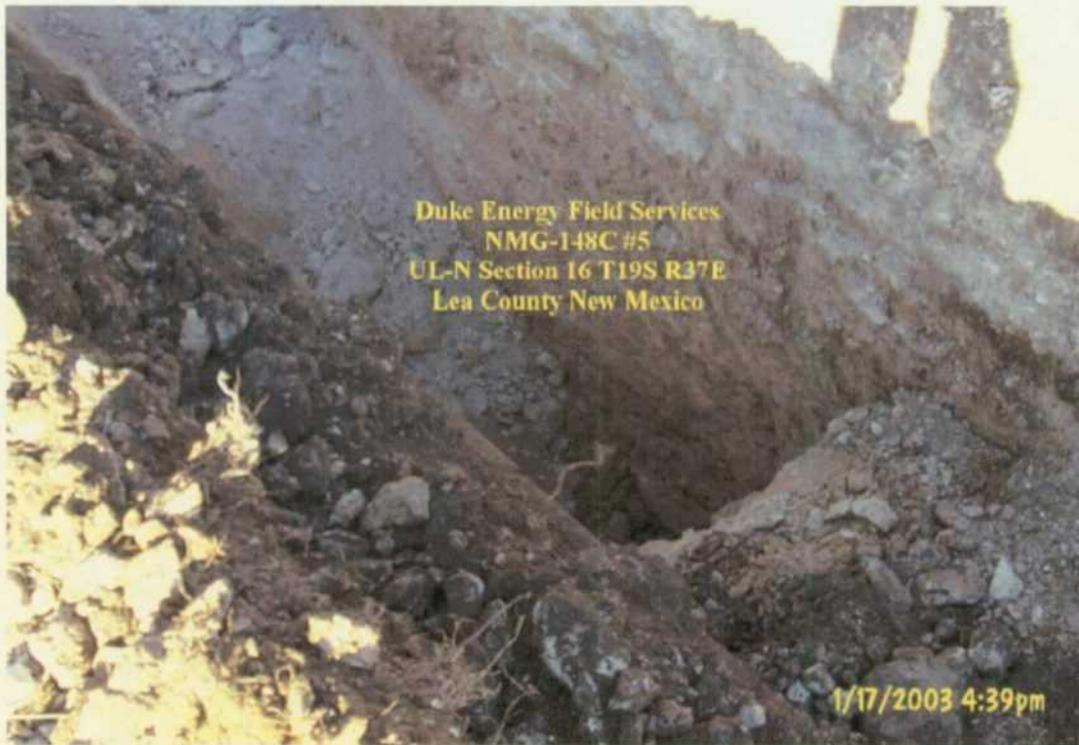
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1/17/2003



FEET







370 17th Street, Suite 900
Denver, Colorado 80202
303-595-3331 – main
303-389-1957 – fax

RECEIVED

January 27, 2003

JAN 30 2003

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: Status Report on Characterization Activities at the Eldridge Ranch Study Area,
Monument, New Mexico (Case # 1R334).

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review the Status Report on Characterization Activities at the Eldridge Ranch Study Area, Monument, New Mexico (Case # 1R334).

If you have any questions regarding this report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

A handwritten signature in cursive script that reads 'Stephen H. Weathers'.

Stephen Weathers
Sr. Environmental Specialist

enclosure

cc: Environmental Files

Remediacon Incorporated

Geological and Engineering Services
remediacon@yahoo.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 617.507.6178

January 27, 2003

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

Re: Status Report on Characterization Activities at the Eldridge Ranch Study Area,
Monument, New Mexico (Case #1R334)

Dear Mr. Weathers:

This letter summarizes the activities started in December 2002 and continuing through the date of this letter at the Eldridge Ranch Study Area. The letter was prepared to fulfill Condition 8 of the November 26, 2002 approval letter from the New Mexico Oil Conservation Division (OCD) to Duke Energy Field Services, LP (DEFS). This letter provides the majority of the information requested by OCD. Clarifications to the applicable conditions contained in that letter are included in Attachment A. Some information, specifically interpretations and conclusions, cannot be provided because of the expanded scope that resulted from: 1) the uncovering of the entire lengths of both the DEFS 26-inch ZZ distribution line and the DEFS NMG-148C gathering line; 2) the characterization and remediation activities that are currently ongoing at the NMG-148C site, now considered an independent site, and 3) the impending characterization activities that will be completed at four other locations that were identified by DEFS during the recent testing of their NMG-148C line.

The remainder of this letter is divided into four sections. The next section describes the additional groundwater characterization activities completed in the Eldridge Ranch study area. The following section summarizes the pipeline characterization activities. The third section reviews the NMG-148C activities and the final section summarizes the current project status.

DECEMBER 2002 GROUNDWATER CHARACTERIZATION ACTIVITIES

The groundwater characterization activities that were completed included the installation of two additional monitoring wells, the development and sampling of the two new monitor wells and two historic wells. The activities are summarized below.

Monitor Well Installation

Two monitor wells were installed as originally proposed in the November 2002 Remediation report (Figure 1). Well MW-1d was installed adjacent to MW-1 so that it would tap a deeper interval (33-45 feet) than well MW-1. Well MW-24 was installed south of the former irrigation well on the Eldridge property to tap the interval between approximately 17 and 34 feet. The formal lithologic/well completion logs have not been completed for these two wells, and they will be included in a subsequent report.

Well MW-1d was completed using the protocol approved by the OCD. Surface casing was set from ground surface to 30 feet below ground surface (bgs) and cement was circulated from 30 feet to the surface in the annular space between the surface casing and the boring walls.

The cement was then allowed to set for approximately 72 hours. The plug was drilled out at the base of the casing and the boring was advanced to a depth of 45 feet to minimize the screen length. Slotted casing was inserted from 45 to 35 feet and the annular space was then backfilled from 45 feet to 33 feet with an artificially-graded sand. The remaining void space both below and within the surface casing was backfilled with pelletized bentonite. The well was finished with above-ground well protector and a concrete apron.

Well MW-24 was installed in the same fashion as the other wells for this project. The boring was advanced to 34 feet and 15 feet of slotted PVC was installed from 34 to 19 feet bgs. Artificially-graded sand was placed from 34 to 17 feet bgs and the remaining annular space was filled with pelletized bentonite chips. This well was also finished with above-ground well protector and a concrete apron.

The two wells were developed in December 17, 2002 by removing water until the field parameters of temperature, pH and conductivity stabilized. The two wells were then purged to constant field parameters and sampled.

Three historic wells that have not been sampled during this investigation were also sampled on December 18, 2002. The samples were collected using the protocols described above. These wells, highlighted in cyan on Figure 1, included:

1. The original Eldridge residence well (House Well);
2. A well that is located south of the Eldridge residence (South Water Well); and
3. An old water well that is located near the northern boundary of the study area on the Huston property (North Water Well).

The results are summarized for the two new wells and the three historic wells are summarized in Table 1. The analytical results are included in Attachment B. The only obvious anomaly noted during preliminary inspection of the data is the lack of benzene, toluene, ethylbenzene and xylenes (BTEX) in MW-1d. There were no BTEX constituents detected in MW-24 or the South Water Well; therefore the dissolved

hydrocarbon plume attenuates north of these two locations. The BTEX detected in the house well is believed to originate from the irrigation of the field rather than migration within a groundwater plume.

DECEMBER 2002 AND JANUARY 2003 PIPELINE CHARACTERIZATION

DEFS subcontractors completed assessment investigations along all of the DEFS pipelines within the Eldridge Study Area. The 26-inch high-pressure ZZ discharge line was investigated the first half of the month of December 2002. The alignment of the pipeline is shown on Figure 2. Figure 2 also shows the approximate alignments of all of the pipelines known to traverse the study area. The line was completely exposed from Eldridge road to immediately west of well MW-15 (Figure 3). Remediacon inspected the entire length of this line for visual evidence of a release. Remediacon also surveyed the entire length of the line for leaks using a photoionization detector (PID) when the line had a pressure of approximately 10 psi. No evidence of leaks was noted along the entire alignment. No soil samples were collected and analyzed because the absence of leaks.

DEFS pressurized the ZZ line to 100 psi after it was completely exposed and had an independent company complete a detailed gas assessment. Remediacon has not seen the report but Duke personnel stated that no gas was detected within the exposed area during the test. DEFS then had a subcontractor repair all of the areas where the pipe coating was not intact, place a blanket of sand where necessary at the base of the pipe to ensure that it did not come in contact with any rocks and then recover the entire alignment.

DEFS also tested the entire NMG-148C gathering line that is also present in the area along the alignment shown on Figures 2 and 3. This gathering line is inactive but is still connected to the remainder of the system.

The surface expression of a leak was identified during the initial marking of the NMG-148C alignment prior to making the one-call. This leak is located north of and outside of the Eldridge Study area. OCD was notified and assessment activities were completed. These assessment activities are discussed separately below.

The residual liquids were removed from the NMG-148C line The week of January 6, 2003 before it was segmented for hydrotesting. A total of 140 barrels of a water-condensate mixture were removed from the entire NMG-148 alignment. The liquids were placed into a vacuum truck and disposed of off site at an approved location by a subcontractor other than Remediacon.

Hydrotesting of the NMG-148C line began the week of January 13, 2003 after the alignment was isolated into five segments and continued through the week of January 20, 2003. Each segment was tested by pressuring the segment to 100 psi with fresh water and then noting the pressure declines. The segments that could not hold a sustained pressure were then inspected for evidence of leaks through wet spots at the surface. No wet areas appeared, so DEFS exposed the entire segment alignments where appreciable

pressure drops were present. Each exposed segment was continually repressurized with water to 100 psi and visually inspected for leaks. The activities revealed four leaks in addition to the NMG-148C leak discussed above. The five leak locations are shown on Figure 4. DEFS subcontractor Environmental Plus Incorporated (EPI) verbally notified OCD about the four leaks. EPI is currently preparing the C-141 forms for each leak and will submit them within the required 45-day time frame.

NMG-148C CHARACTERIZATION ACTIVITIES

This subsection discusses the characterization activities completed to date at the NMG-148 leak site. Remediation and initial characterization activities are still ongoing. A more comprehensive report on the NMG-148 study area will be prepared at the conclusion of the initial field program.

Characterization activities have not been completed on the other release sites along the NMG-148C pipeline. Remediation is working with OCD to try and initiate expedited free product characterization activities at these four locations.

The NMG-148C release was discovered by a DEFS contractor on December 10, 2002. He was marking the alignment of the DEFS NMG-148 line prior to testing it for leaks and noticed a barren spot that can be symptomatic of an historic release. Hand excavation revealed stained and odorous soils within the barren area.

Based upon the above evidence, DEFS directed Trident Environmental (Trident) to advance a boring near the center of the release area and to install a monitor well if the potential for groundwater impacts existed. The activities were completed on December 13, 2002. Continuous samples were logged for lithology and screened with a photoionization detector (PID) until saturated materials were encountered at approximately 28 to 29 feet below ground surface (bgs). The sample with the highest PID reading and the sample immediately above the saturated materials were submitted for testing by an analytical laboratory. The results are summarized below:

Summary of Soil Sampling Results From Boring MW-1

Depth Interval (feet)	FIELD PID Reading (PPM)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
5-7	452	---	---	---	---	---	---
10-12	526	---	---	---	---	---	---
15-17	577	14.3	60.1	10.2	41.2	657	14.9
20-22	534	---	---	---	---	---	---
23-25	355	---	---	---	---	---	---
25-27	252	48.4	84.4	11.4	37.7	1,320	21.8

Trident completed MW-1 as a well based upon the presence of the hydrocarbon in the soils immediately above the saturated zone (Figure 5). MW-1 currently has a measured product thickness of approximately 1.33 feet. The depth to the top of the product was measured at 30.33 feet below top of casing (btoc) on December 31, 2002. Trident submitted a sample of the product for laboratory analyses but the results have not yet been received.

Trident installed an additional well (MW-2) on December 16, 2002 at the location shown on Figure 5. This location was selected because it is in the same swale as the release, and this swale discharges directly onto the Huston property to the south. This well was developed on December 17, 2002, and it was purged and sampled on December 18, 2002. The analytical results indicate that the both the BTEX constituents and the total petroleum hydrocarbons are not present above the method detection limits.

EPI completed test trenches and begin excavating the hydrocarbon affected soils the week of December 16, 2002. EPI continues their excavation activities, and they are currently preparing a soils remediation plan that will be submitted to the Oil Conservation Division (OCD) under separate cover.

Based upon the results of their trenching activities, EPI generated a map showing both the area of surface impacts as well as their best estimate of the probable limits of excavation. Those boundaries are shown on Figure 5.

DEFS has submitted a work plan to the OCD proposing additional characterization activities at the NMG-148C site. DEFS decided to separate the NMG-148 and the Eldridge projects for the following reasons:

1. The NMG-148 site is on State land with the Eldridge study area is currently all on private lands.
2. The two releases may be independent and may thus proceed on separate schedules.
3. The nature and extent of the releases may differ so the two releases may involve independent and distinct remediation programs.

CURRENT PROJECT STATUS

Remediacon currently has a verbal proposal to OCD to characterize the free product thickness at the four additional NMG-148C releases. That work is scheduled to be completed the week of February 3, 2002. Remediacon will prepare a work plan following the installation of those wells and the receipt and validation of the data. The work plan will focus on the relationship between the newly-identified releases and the free and dissolved phase hydrocarbons found on both the Huston and Eldridge properties. Remediacon still recommends that all lines in the Eldridge study area be tested to ensure that all of the potential contributing releases have been identified.

Mr. Stephen Weathers
January 27, 2003
Page 6

Do not hesitate to contact me if you have any questions or comments on this work document.

Respectfully Submitted,
REMEDIA COM INCORPORATED

Michael H. Stewart

Michael H. Stewart, P.E.
Principal Engineer

Table 1 - Summary of December 2002 Groundwater Sampling Results

Well	Benzene	Toluene	Ethylbenzene	Xylenes	GRO*	DRO**
MW-24	<0.001	<0.001	<0.001	<0.001	<1	<1
MW-1D	<0.001	<0.001	<0.001	<0.001	<1	<1
North Water Well	0.385	0.001	0.002	0.005	<1	<1
South Water Well	<0.001	<0.001	<0.001	<0.001	<1	<1
House Well	0.59	<0.001	0.005	<0.001	<1	<1

	Calcium	Magnesium	Sodium	Potassium
MW-24	138	21.1	68.5	6.78
MW-1D	36.8	4.68	52.9	5.61
North Water Well	122	23.1	94.4	7.96
South Water Well	175	25.2	88.6	6.84
House Well	161	26.4	70.4	6.42

	Bicarbonate	Carbonate	Chloride	Sulfate
MW-24	195	<0.1	62	93.8
MW-1D	4	20	39	86
North Water Well	161	<0.1	115	72.8
South Water Well	229	<0.1	88.6	104
House Well	261	<0.1	106	31.2

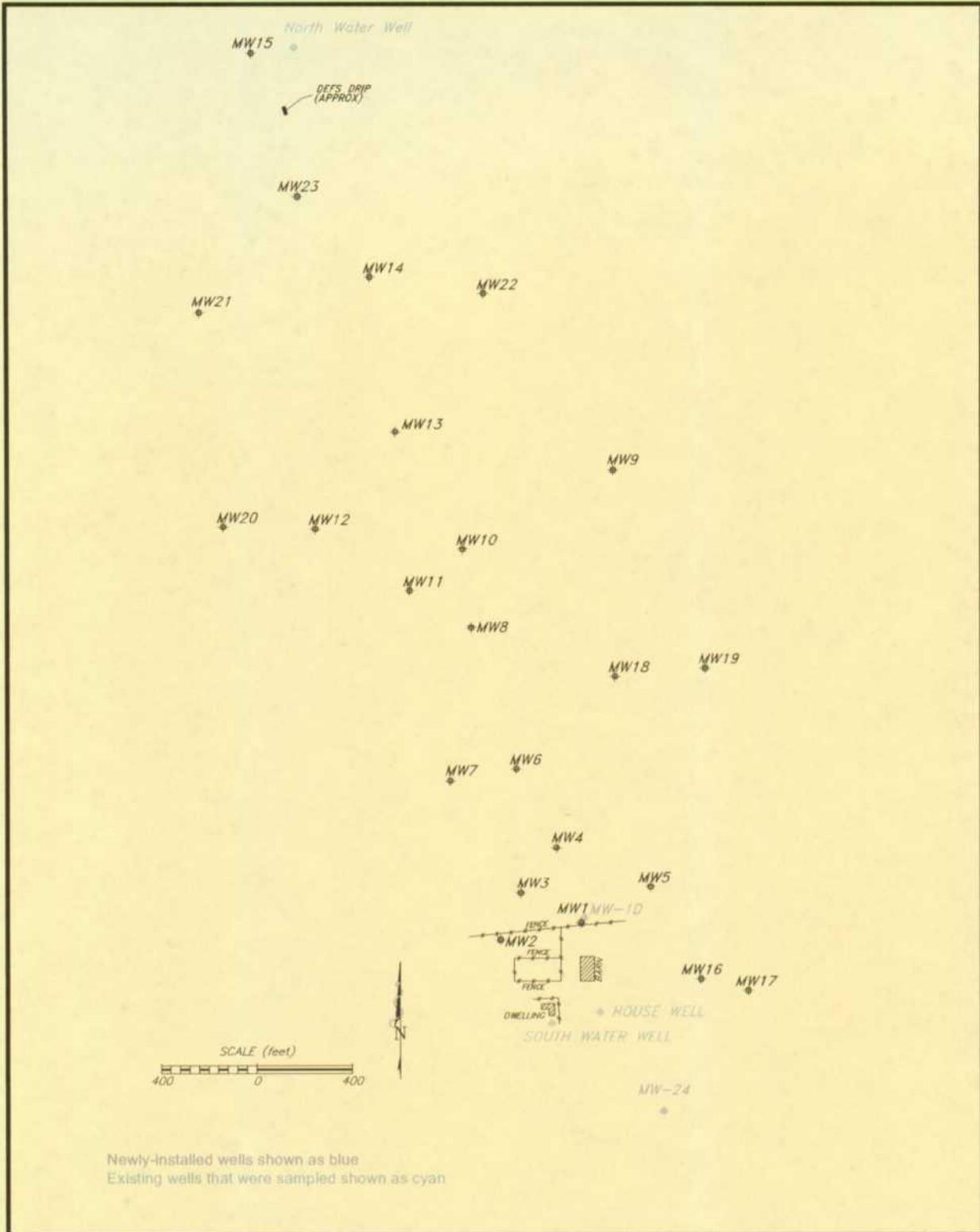
	Barium (total)	Barium (dissolved)	Iron (total)	Iron (dissolved)	Manganese (total)	Manganese (dissolved)
MW-24	7.45	0.496	88.8	0.148	0.787	0.018
MW-1D	0.115	0.111	7.1	0.025	0.096	<0.001
North Water Well	0.41	0.393	20	8.02	0.0221	0.189
South Water Well	0.067	0.065	0.038	0.01	<0.001	<0.001
House Well	1.35	1.32	0.513	0.473	0.089	0.082

* Total Petroleum Hydrocarbons as gasoline range organics

** Total Petroleum Hydrocarbons as diesel range organics

All units are mg/l

FIGURES



**Figure 1 – New Well Location-Existing Well Sampling Map
Eldridge Ranch Study Area**



DRAWN BY: MHS
 REVISED:
 DATE: 10/02



Figure 2 – Pipeline Alignments
Eldridge Ranch Study Area



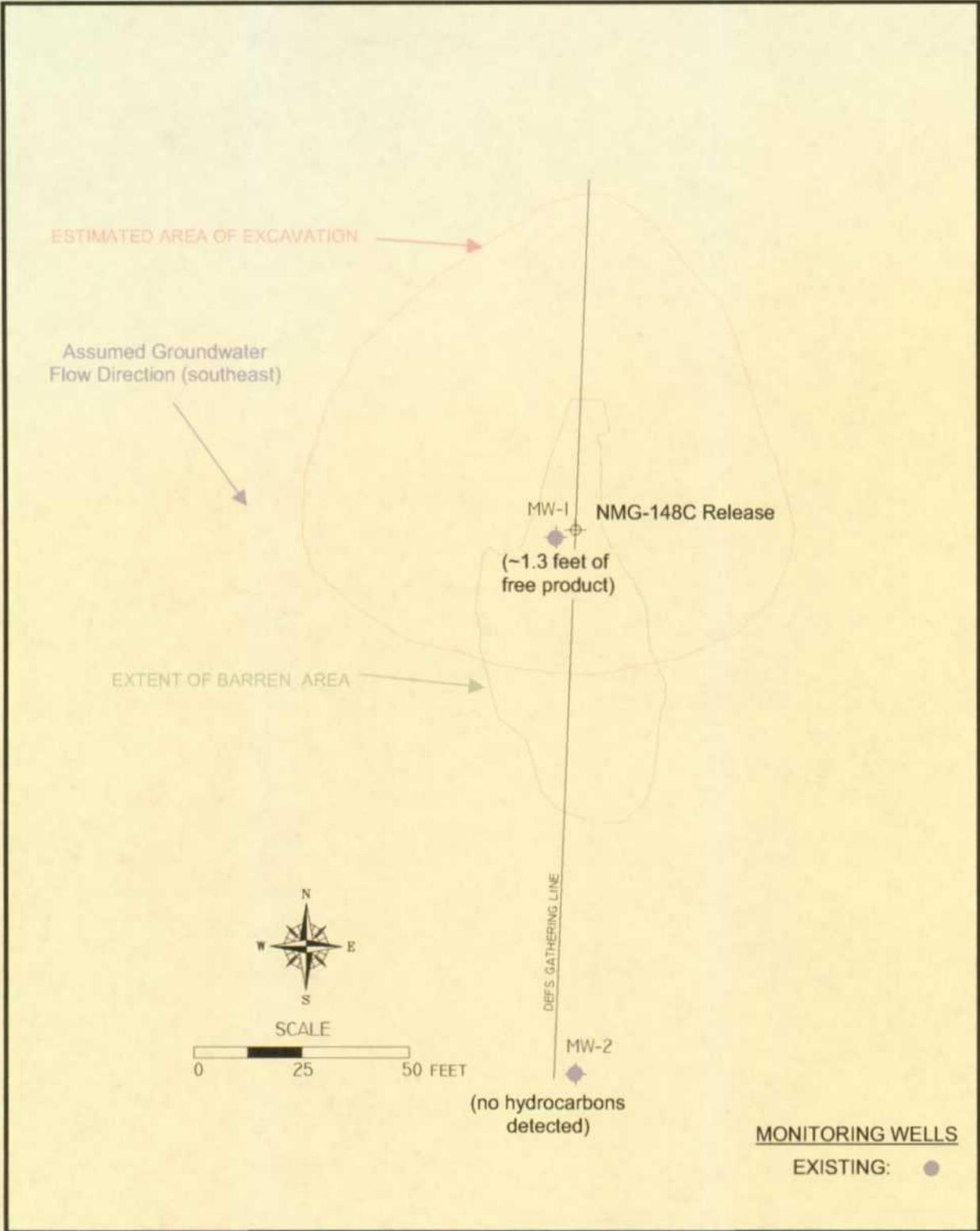
DRAWN BY: MHS
REVISED:
DATE: 10/02



Figure 3 – DEFS Lines and Site Monitoring Wells
Eldridge Ranch Study Area



DRAWN BY: MHS
REVISED:
DATE: 10/02



**Figure 5 – Preliminary NMG-148C Characterization Information
Eldridge Ranch Study Area**



DRAWN BY: MHS

REVISED:

DATE: 10/02

ATTACHMENT A

CLARIFICATION FOR APPLICABLE CONDITIONS
INCLUDED IN THE NOVEMBER 26, 2002 OCD LETTER

The OCD included 9 conditions in their November 26, 2002 letter for the Eldridge study area. This attachment contains clarifications on the some of the conditions in that letter. The numbers refer to the OCD's numbering scheme in their letter. The numbers that are not included are for conditions that did not need to be clarified.

Each applicable OCD condition is presented first and bolded to set it apart from the response. The response then follows.

- 1) **Duke shall install an additional monitor well at the site of the former subsurface pipeline drip tank. During the drilling soil samples shall be obtained on 5-foot depth intervals and analyzed for concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) and total petroleum hydrocarbons (TPH).**

The site of the former drip was characterized by excavating a trench to an approximate depth of 14 feet. No subsurface impacts were noted in either the backfill or the underlying native materials. Samples were screened at the site and no evidence of petroleum hydrocarbons were noted; therefore, no samples were submitted for analysis.

- 2) **Duke shall install an additional monitor well south of MW-1 to determine the southern limits of ground water contamination in this area.**

Well MW-24 was installed immediately south of the formerly-irrigated field. No BTEX or TPH was detected in the groundwater sample.

- 5) **Soil samples shall be obtained for analysis of TPH, from all pipelines excavation areas which have elevated PID measurements in soil or show evidence of visual staining.**

These activities are being completed during the on going investigation of leaks from the Duke gathering line system at both the Eldridge and NMG-148 study areas. The results will be provided upon conclusion of the initial characterization phase at each site.

- 8) **Duke shall submit the results of the investigations to the OCD by January 26, 2003. 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 activities which occurred including conclusions and recommendations.**

A description of the activities is included in the body of this document. Further conclusions and recommendations will be formulated and provided at the end of the initial soil and groundwater characterization activities at the leaks identified on the DEFS NMG-148C line.

b) A site map of the locations of all pipeline drip stations in the area and any other potential sources of contamination.

The pipeline drip location is included on Figure 1. The other potential DEFS sources are included on Figure 4.

c) A water table map showing the locations of pipelines, monitor wells, private water wells and any other pertinent sources of contamination

A water table map will be prepared following the completion and surveying of the sampling of all of the existing and soon-to-be-installed wells. This sampling will be completed in conjunction with the initial characterization activities at the recently identified leaks.

d) A site map showing the excavated area along the pipeline, the locations of all sampling points and any areas with visual evidence of leaks or spills.

The map is included in this document. Further documentation from other DEFS subcontractors will be provided when it is received or sent directly by DEFS under separate cover.

e) Isopleth maps for contaminants of concern observed during the investigations

The isopleth maps included in the November 2002 report are remain current because no additional complete sampling program has been completed. Applicable isopleth maps will be prepared following the completion of the sampling of all of the existing and soon-to-be-installed wells. This sampling will be completed in conjunction with the initial characterization activities at the recently identified leaks.

f) Summary tables of all soils and ground water quality sampling results and copies of laboratory analytical data sheets and associated QA/QC data.

This information was provided in this letter as Table 1 and Attachment B.

g) All available historical aerial photographs of the site

Historical photographs were not used to identify sources at the Eldridge site. A contemporary aerial photograph is used as a base map for Figures 2 and 3.

h) Information of the operational history of oilfield-related activities at the site

Duke has no access to information other than the dates that they acquired the discharge and gathering lines at the site. Operation history information was not used to identify sources at the Eldridge site.

i) The disposition of all wastes generated

The groundwater was containerized and is disposed of at the Duke Linam Ranch facility. The soil cuttings have or will be disposed of by Environmental Plus Incorporated (EPI) in conformance with State regulations.

j) Any other relevant information generated during implementation of the recommendations and work plan.

All other relevant information is included in the body of the letter to which this document is attached.

ATTACHMENT B
LABORATORY ANALYTICAL RESULTS

ANALYTICAL REPORT

Prepared for:

**JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708**

Project: Duke Energy Field Services

PO#:

Order#: G0205302

Report Date: 12/30/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708
262-5216

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time Collected</u>	<u>Date / Time Received</u>	<u>Container</u>	<u>Preservative</u>
0205302-01	0212171115 (N. Water Well)	WATER	12/17/02 11:15	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 0 C		
	8015M					
	8021B/5030 BTEX					
	Anions					
	Cations					
	Barium					
	Barium,Dissolved					
	Iron					
	Iron, Dissolved					
	Manganese					
	Manganese, Dissolved					
0205302-02	0212171335 (House Well)	WATER	12/17/02 13:35	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 0 C		
	8015M					
	8021B/5030 BTEX					
	Anions					
	Cations					
	Barium					
	Barium,Dissolved					
	Iron					
	Iron, Dissolved					
	Manganese					
	Manganese, Dissolved					
0205302-03	0212181050 (MW-25)	WATER	12/18/02 10:50	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 0 C		
	8015M					
	8021B/5030 BTEX					
	Anions					
	Cations					
	Barium					
	Barium,Dissolved					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708
262-5216

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	Iron Iron, Dissolved Manganese Manganese, Dissolved					
0205302-04	0212181255 (S. Water Well)	WATER	12/18/02 12:55	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Anions Cations Barium Barium,Dissolved Iron Iron, Dissolved Manganese Manganese, Dissolved	Rejected: No		Temp: 0 C		
0205302-05	0212181505 (DMW-01)	WATER	12/18/02 15:05	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Anions Cations Barium Barium,Dissolved Iron Iron, Dissolved Manganese Manganese, Dissolved	Rejected: No		Temp: 0 C		
0205302-06	0212181615 (MW-26)	WATER	12/18/02 16:15	12/19/02 16:30	See COC	See COC
	<u>Lab Testing:</u> 8015M	Rejected: No		Temp: 0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708
262-5216

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	8021B/5030 BTEX					
	Anions					
	Cations					
	Barium					
	Barium,Dissolved					
	Iron					
	Iron, Dissolved					
	Manganese					
	Manganese, Dissolved					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-01
Sample ID: 0212171115 (N. Water Well)

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	87%	70	130
1-Chlorooctadecane	90%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004163-02		12/24/02 17:30	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.386	0.001
Toluene	0.001	0.001
Ethylbenzene	0.002	0.001
p/m-Xylene	0.005	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	198%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 1 of 6

ENVIRONMENTAL LAB OF TEXAS

12600 West Interstate 20 East

Odessa, Texas 79765

Phone: 915-563-1800

Fax: 915-563-1713

FAX TRANSMITTAL

Date: 12-30-02

To: Mike Stewart
720-528-8132

FROM: Jeanne

SUBJECT: DEFS

NUMBER OF PAGES: (including this sheet) 23

COMMENTS:

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-02
Sample ID: 0212171335 (House Well)

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	81%	70	130
1-Chlorooctadecane	82%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0004163-02		12/24/02 17:52	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.590	0.001
Toluene	<0.001	0.001
Ethylbenzene	0.005	0.001
p/m-Xylenc	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	104%	80	120
Bromofluorobenzene	96%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-03
Sample ID: 0212181050 (MW-25)

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	85%	70	130
1-Chlorooctadecane	86%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004163-02		12/24/02 18:14	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aa-Toluene	97%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-04
Sample ID: 0212181255 (S. Water Well)

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	79%	70	130
1-Chlorooctadecane	79%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0004163-02		12/24/02 18:36	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	90%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 4 of 6

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-05
Sample ID: 0212181505 (DMW-01)

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	80%	70	130
1-Chlorooctadecane	80%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0004163-02		12/24/02 18:38	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	93%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 5 of 6

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-06
Sample ID: 0212181615 (MW-26)

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/20/02	1	1	RKT	8015M

Parameter	Result mg/L	RL
GRO, C6-C12	< 1.0	1.0
DRO, >C12-C35	< 1.0	1.0
TOTAL, C6-C35	< 1.0	1.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	96%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004163-02		12/24/02 19:20	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	98%	80	120

Approval: Jeanne McMurray 12-30-02
 Raland K. Tuttle, Lab Director, QA Officer Date
 Celey D. Keene, Org. Tech. Director
 Jeanne McMurray, Inorg. Tech. Director
 Sandra Biezugbe, Lab Tech.
 Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-01
Sample ID: 0212171115 (N. Water Well)

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	122	mg/L	100	1.0	6010B	12/27/2002	12/27/02	SM
Magnesium	23.1	mg/L	10	0.010	6010B	12/27/2002	12/27/02	SM
Potassium	7.96	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM
Sodium	94.4	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Barium	0.410	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	0.393	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	20.0	mg/L	10	0.020	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	8.02	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	0.221	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	0.189	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Lab ID: 0205302-02
Sample ID: 0212171335 (House Well)

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	161	mg/L	100	1.0	6010B	12/27/2002	12/27/02	SM
Magnesium	26.4	mg/L	10	0.010	6010B	12/27/2002	12/27/02	SM
Potassium	6.42	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM
Sodium	70.4	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Barium	1.35	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	1.32	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	0.513	mg/L	1	0.002	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	0.473	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	0.089	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	0.082	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Lab ID: 0205302-03
Sample ID: 0212181050 (MW-25)

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	138	mg/L	100	1.0	6010B	12/27/2002	12/27/02	SM
Magnesium	21.1	mg/L	10	0.010	6010B	12/27/2002	12/27/02	SM
Potassium	6.78	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM

N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-03
Sample ID: 0212181050 (MW-25)

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Sodium	68.5	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Barium	7.45	mg/L	10	0.010	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	0.496	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	88.8	mg/L	10	0.020	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	0.148	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	0.787	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	0.018	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Lab ID: 0205302-04
Sample ID: 0212181255 (S. Water Well)

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Calcium	175	mg/L	100	1.0	6010B	12/27/2002	12/27/02	SM
Magnesium	25.2	mg/L	10	0.010	6010B	12/27/2002	12/27/02	SM
Potassium	6.84	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM
Sodium	88.6	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Barium	0.067	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	0.065	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	0.038	mg/L	1	0.002	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	0.010	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	<0.001	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	<0.001	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Lab ID: 0205302-05
Sample ID: 0212181505 (DMW-01)

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Calcium	36.8	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM
Magnesium	4.68	mg/L	1	0.0010	6010B	12/27/2002	12/27/02	SM
Potassium	5.61	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM
Sodium	52.9	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-05
Sample ID: 0212181505 (DMW-01)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date		Analyst
						Prepared	Analyzed	
Barium	0.115	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	0.111	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	7.10	mg/L	1	0.002	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	0.025	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	0.096	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	<0.001	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Lab ID: 0205302-06
Sample ID: 0212181615 (MW-26)

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date		Analyst
						Prepared	Analyzed	
Calcium	81.3	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM
Magnesium	10.1	mg/L	10	0.010	6010B	12/27/2002	12/27/02	SM
Potassium	5.07	mg/L	1	0.050	6010B	12/27/2002	12/27/02	SM
Sodium	59.1	mg/L	10	0.10	6010B	12/27/2002	12/27/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date		Analyst
						Prepared	Analyzed	
Barium	1.53	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Barium, Dissolved	0.534	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM
Iron	16.7	mg/L	10	0.020	3005/6010B	12/26/2002	12/27/02	SM
Iron, Dissolved	0.016	mg/L	1	0.002	6010B	12/23/2002	12/23/02	SM
Manganese	0.244	mg/L	1	0.001	3005/6010B	12/26/2002	12/27/02	SM
Manganese, Dissolved	0.003	mg/L	1	0.001	6010B	12/23/2002	12/23/02	SM

Approval: Jeanne McMurrey 12-30-02
 Roland K. Tuttle, Lab Director, QA Officer Date
 Celey D. Keene, Org. Tech. Director
 Jeanne McMurrey, Inorg. Tech. Director
 Sandra Biczugbe, Lab Tech.
 Sara Molina, Lab Tech.

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-01
Sample ID: 0212171115 (N. Water Well)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	161	mg/L	1	2.00	310.1	12/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
Chloride	115	mg/L	1	5.00	9253	12/27/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
SULFATE, 375.4	72.8	mg/L	2	1.0	375.4	12/27/02	TAL

Lab ID: 0205302-02
Sample ID: 0212171335 (House Well)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	261	mg/L	1	2.00	310.1	12/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
Chloride	106	mg/L	1	5.00	9253	12/27/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
SULFATE, 375.4	31.2	mg/L	1	0.5	375.4	12/27/02	TAL

Lab ID: 0205302-03
Sample ID: 0212181050 (MW-25)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	195	mg/L	1	2.00	310.1	12/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
Chloride	62.0	mg/L	1	5.00	9253	12/27/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
SULFATE, 375.4	93.8	mg/L	2.5	1.25	375.4	12/27/02	TAL

Lab ID: 0205302-04
Sample ID: 0212181255 (S. Water Well)

<i>Anions</i>							
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Bicarbonate Alkalinity	229	mg/L	1	2.00	310.1	12/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
Chloride	88.6	mg/L	1	5.00	9253	12/27/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB
SULFATE, 375.4	104	mg/L	2.5	1.25	375.4	12/27/02	TAL

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

JOHN FERGERSON
TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302
Project: F-104
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0205302-05
Sample ID: 0212181505 (DMW-01)

<i>Anions</i>								
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>	
Bicarbonate Alkalinity	4.00	mg/L	1	2.00	310.1	12/20/02	SB	
Carbonate Alkalinity	20.0	mg/L	1	0.10	310.1	12/20/02	SB	
Chloride	39.0	mg/L	1	5.00	9253	12/27/02	SB	
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB	
SULFATE, 375.4	86	mg/L	2	1.0	375.4	12/27/02	TAL	

Lab ID: 0205302-06
Sample ID: 0212181615 (MW-26)

<i>Anions</i>								
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>	
Bicarbonate Alkalinity	142	mg/L	1	2.00	310.1	12/20/02	SB	
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB	
Chloride	19.5	mg/L	1	5.00	9253	12/27/02	SB	
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/20/02	SB	
SULFATE, 375.4	81	mg/L	2	1.0	375.4	12/27/02	TAL	

Approval: Jeanne McMurrey 12-30-02
 Roland K. Tuttle, Lab Director, QA Officer Date
 Celey D. Keene, Org. Tech. Director
 Jeanne McMurrey, Inorg. Tech. Director
 Sandra Biezugbe, Lab Tech.
 Sara Molina, Lab Tech.

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ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0205302

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004154-02			< 1.0		
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0205302-01	0	100	108	108%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0205302-01	0	100	95.5	95.5%	12.3%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/L		0004154-05		100	116	116%	

ENVIRONMENTAL LAB OF TEXAS**QUALITY CONTROL REPORT****8021B/5030 BTEX**

Order#: G0205302

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0004163-02			<0.001		
Toluene-mg/L		0004163-02			<0.001		
Ethylbenzene-mg/L		0004163-02			<0.001		
p/m-Xylene-mg/L		0004163-02			<0.001		
o-Xylene-mg/L		0004163-02			<0.001		
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0205302-06	0	0.1	0.116	116%	
Toluene-mg/L		0205302-06	0	0.1	0.117	117%	
Ethylbenzene-mg/L		0205302-06	0	0.1	0.117	117%	
p/m-Xylene-mg/L		0205302-06	0	0.2	0.236	118%	
o-Xylene-mg/L		0205302-06	0	0.1	0.116	116%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0205302-06	0	0.1	0.107	107%	8.1%
Toluene-mg/L		0205302-06	0	0.1	0.106	106%	9.9%
Ethylbenzene-mg/L		0205302-06	0	0.1	0.109	109%	7.1%
p/m-Xylene-mg/L		0205302-06	0	0.2	0.219	109.5%	7.5%
o-Xylene-mg/L		0205302-06	0	0.1	0.108	108%	7.1%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0004163-05		0.1	0.108	108%	
Toluene-mg/L		0004163-05		0.1	0.108	108%	
Ethylbenzene-mg/L		0004163-05		0.1	0.110	110%	
p/m-Xylene-mg/L		0004163-05		0.2	0.223	111.5%	
o-Xylene-mg/L		0004163-05		0.1	0.110	110%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0205302

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0004124-01			<2.00		
Carbonate Alkalinity-mg/L		0004125-01			<0.10		
Chloride-mg/L		0004182-01			<5.00		
Hydroxide Alkalinity-mg/L		0004126-01			<0.10		
SULFATE, 375.4-mg/L		0004184-01			<0.5		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0205302-01	161		162		0.6%
Carbonate Alkalinity-mg/L		0205302-01	0		<0.10		0%
Hydroxide Alkalinity-mg/L		0205302-01	0		<0.10		0%
SULFATE, 375.4-mg/L		0205296-01	251		225		10.9%
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0205293-01	97.5	250	346	99.4%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0205293-01	97.5	250	350	101.9%	1.1%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0004124-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L		0004125-04		0.05	0.0496	99.2%	
Chloride-mg/L		0004182-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L		0004126-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L		0004184-04		50	53.9	107.8%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0205302

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0004180-01			<0.010		
Magnesium-mg/L		0004180-01			<0.001		
Potassium-mg/L		0004180-01			<0.050		
Sodium-mg/L		0004180-01			<0.010		
DUPLICATE		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0205302-01	122		118		3.3%
Magnesium-mg/L		0205302-01	23.1		22.8		1.3%
Potassium-mg/L		0205302-01	7.96		8.08		1.5%
Sodium-mg/L		0205302-01	94.4		95.2		0.8%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
WATER							
Calcium-mg/L		0004180-04		2	2.04	102.%	
Magnesium-mg/L		0004180-04		2	2.11	105.5%	
Potassium-mg/L		0004180-04		2	1.94	97.%	
Sodium-mg/L		0004180-04		2	2.03	101.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203302

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004187-01			<0.001		
Barium,Dissolved-mg/L		0004151-01			<0.001		
Iron-mg/L		0004187-01			<0.002		
Iron, Dissolved-mg/L		0004151-01			<0.002		
Manganese-mg/L		0004187-01			<0.001		
Manganese, Dissolved-mg/L		0004151-01			<0.001		
CONTROL	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004187-02		0.2	0.209	104.5%	
Barium,Dissolved-mg/L		0004151-02		0.5	0.512	102.4%	
Iron-mg/L		0004187-02		0.2	0.209	104.5%	
Iron, Dissolved-mg/L		0004151-02		0.5	0.513	102.6%	
Manganese-mg/L		0004187-02		0.2	0.205	102.5%	
Manganese, Dissolved-mg/L		0004151-02		0.5	0.523	104.6%	
CONTROL DUP	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004187-03		0.2	0.209	104.5%	0%
Barium,Dissolved-mg/L		0004151-03		0.5	0.506	101.2%	1.2%
Iron-mg/L		0004187-03		0.2	0.210	105.5%	0.5%
Iron, Dissolved-mg/L		0004151-03		0.5	0.517	103.4%	0.8%
Manganese-mg/L		0004187-03		0.2	0.206	103.5%	0.5%
Manganese, Dissolved-mg/L		0004151-03		0.5	0.524	104.8%	0.2%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Barium-mg/L		0004187-04		1	1.04	104.5%	
Barium,Dissolved-mg/L		0004151-04		1	0.982	98.2%	
Iron-mg/L		0004187-04		1	1.02	102.5%	
Iron, Dissolved-mg/L		0004151-04		1	1.07	107.5%	
Manganese-mg/L		0004187-04		1	1.03	103.5%	
Manganese, Dissolved-mg/L		0004151-04		1	1.08	108.5%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

TRIDENT ENVIRONMENTAL
P.O BOX 7624
MIDLAND, TX 79708

Order#: G0205302

Project: Duke Energy Field Services

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
0212171115 (N. Wat	0205302-01	WATER	12/17/2002	12/19/2002
0212171335 (House	0205302-02	WATER	12/17/2002	12/19/2002
0212181050 (MW-2	0205302-03	WATER	12/18/2002	12/19/2002
0212181255 (S. Wate	0205302-04	WATER	12/18/2002	12/19/2002
0212181505 (DMW-	0205302-05	WATER	12/18/2002	12/19/2002
0212181615 (MW-2	0205302-06	WATER	12/18/2002	12/19/2002

Surrogate recoveries on the 8021B BTEX are outside control limits due to matrix interference from coeluting compounds. (0205302-01)

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By:

Jane McManey
Environmental Lab of Texas I, Ltd.

Date: 12-30-02

Olson, William

From: Mike Stewart [mstewart@remediacon.com]
Sent: Friday, January 24, 2003 7:30 AM
To: William Olson
Cc: Steve Weathers
Subject: Proposed Change in the Scope of Work for the DEFS NMG-148C Pipeline



NMG148CSitesInfor
mation[1].doc...

Mr. Olson,

I provided you with a work plan to complete additional groundwater characterization activities at the NMG-148C location during your site visit on January 16, 2003. Since that time, Pat McCasland of Environmental Plus Incorporated provided me with the attached letter. The letter summarizes the coordinates and approximate locations of four additional leaks that were identified by Duke during their voluntary testing of the NMG-148C line. My understanding is the EPI has provided verbal notification and is preparing the appropriate written documentation.

Based upon this new data, I would like to modify the scope of work to assess the each of the four source locations prior to proceeding with plume definition. I propose to install a well at each of the four identified leak locations to groundwater and then assess for the presence of free product. The leak locations are identified as

NMG-148C #1-2 (on the Houston property)
NMG-148C #3 (on the Houston property)
NMG-148C #4 (on the Houston property)
NMG-148C #5 (on state land)

I also want to install the upgradient well at the NMG-148C site that I originally proposed. The installation and testing protocols that were included in the original work plan would be used to complete this investigation.

Based upon these results, I will prepare a separate work plan or work plans that for plume definition at each of the above four sites and the NMG-148C site.

We have scheduled this work to be completed either next week (January 27) or the week thereafter depending upon contractor availability. I then plan on preparing and submitting the work plans so that plume definition can continue the middle to later part of February.

Thank you for considering this proposal. I apologize for the informal nature of this submission but the dynamics of the site and accelerated timeframe requested by Duke makes this the best way to communicate with you.

Sincerely,
Remediacon

Michael H. Stewart, PE

=====
Michael Stewart
303-638-0001 (mobile)
303-674-4370 office
720-528-8132 (note new fax #)



January 22, 2003

Remediatecon Incorporated
GEOLOGICAL AND ENGINEERING SERVICES
ATT: MIKE STEWART
264 BLUE SPRUCE DRIVE
EVERGREEN COLORADO 80439

Subject: Duke NMG-148 C-Line Site metrics

Dear Mr. Stewart,

Included below are the site names, coordinates, and legal descriptions for the NMG-148 C-line sites. A topographical map is also included.

Site Name / Land owner	Coordinates	Legal Description
"NMG-148C" NM State (initial site)	32°39'21.32"N 103°15'32.90"W	SE¼ of the SW¼ Section 16 T19S R37E
"NMG-148C #1-2" Houston	32°39'01.92"N 103°15'33.11"W	NE¼ of the NW¼ Section 21 T19S R37E
"NMG-148C #3" Houston	32°38'52.96"N 103°15'33.20"W	SE¼ of the NW¼ Section 21 T19S R37E
"NMG-148C #4" Houston	32°39'08.51"N 103°15'33.04"W	NE¼ of the NW¼ Section 21 T19S R37E
"NMG-148C #5" NM State	32°39'15.08"N 103°15'32.86"W	SE¼ of the SW¼ Section 16 T19S R37E

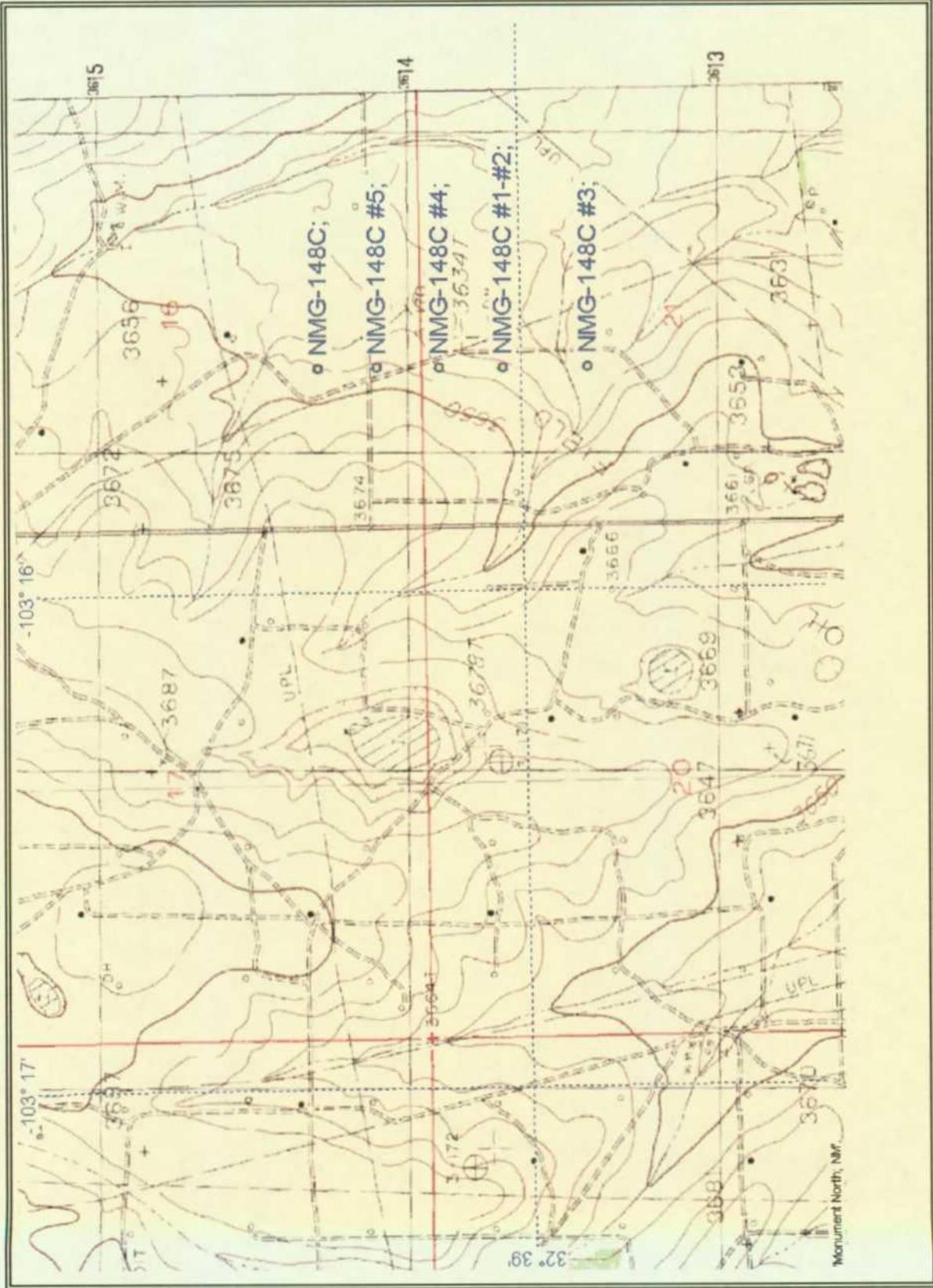
If there are any questions or more information is needed please contact me at the office or at 505.390.7864.

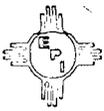
Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Steve Weathers, Duke
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President

ENVIRONMENTAL PLUS, INC.





ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Micro-Blaze

Micro-Blaze GM™

January 24, 2003

Mr. Larry Johnson, Environmental Engineer
State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division, Environmental Bureau
1625 North French
Hobbs, New Mexico 88240

Subject: Response to request for information; land surface to be utilized in 'land spread' scenario

Re: Duke Energy Field Services NMG-148 C-Line
UL-N SE¼ of the SW¼ of Section 16 T19S R37E
Latitude: 32° 39' 21.32"N Longitude: 103° 15' 32.90"W
Land owner: State of New Mexico

Dear Mr. Johnson,

Maximum anticipated soil and rock volumes, assuming 20% expansion, will be 6,660 yd³ and 3,608 yd³, respectively. Creating segregated 6" thick lifts will consume approximately 12.8 acres. Currently, a security fence is being constructed around the site enclosing approximately 30 acres. The New Mexico State Land Office Right of Entry permit #707 allows for land spreading of contaminated soil for remediation purposes.

All official communication should be addressed to;

Mr. Steve Weathers
Duke Energy Field Services
P.O. Box 5493
Denver, Colorado 80217
e-mail: swweathers@duke-energy.com
FAX: 303.389.1957

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively, or Mr. Steve Weathers at 303.605.1718(office) or 303.619.3042.

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Steve Weathers, Duke, w/enclosure
Mike Stewart, Remediacon, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.



ENVIRONMENTAL PLUS, INC. *McCasland*
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

January 24, 2003

Mr. Larry Johnson, Environmental Engineer
State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division, Environmental Bureau
1625 North French
Hobbs, New Mexico 88240

Subject: Site Characterization and Soil Remediation Plan

Re: Duke Energy Field Services NMG-148 C-Line
UL-N SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 16 T19S R37E
Latitude: 32° 39' 21.32"N Longitude: 103° 15' 32.90"W
Land owner: State of New Mexico

Dear Mr. Johnson,

Enclosed herewith, please find two copies of the report titled, "Duke NMG-148 C-Line Site Characterization and Soil Remediation Proposal, January 2003." This plan is being submitted by Environmental Plus, Inc. of Eunice, New Mexico on behalf of Mr. Steve Weathers, Duke Energy Field Services, Denver, Colorado, for your consideration and approval. The proposal describes the processes to be employed at the above referenced site to achieve the site specific New Mexico Oil Conservation Division Guideline remedial goals for the Constituents of Concern (CoC).

All official communication should be addressed to;

Mr. Steve Weathers
Duke Energy Field Services
P.O. Box 5493
Denver, Colorado 80217
e-mail: swweathers@duke-energy.com
FAX: 303.389.1957

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively, or Mr. Steve Weathers at 303.605.1718(office) or 303.619.3042.

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Steve Weathers, Duke, w/enclosure
Mike Stewart, Remediacon, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.



DUKE NMG-148 C-LINE
SITE CHARACTERIZATION
AND
SOIL REMEDIATION PROPOSAL

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

JANUARY 2003

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



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1.0 EXECUTIVE 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 ground water issues will be addressed under a site specific ground water delineation/remediation plan to be submitted by DUKE. 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

All soil contaminated above these thresholds will be excavated and remediated to acceptable CoC levels. DUKE proposes to initially shred and monitor the contaminated soil, i.e., aerate and separate the landfarmable soil from the rock. Volatile Organic Constituent (VOC) headspace survey monitoring will be conducted with a calibrated Photoionization Detector (PID) and confirmed with laboratory analyses. If the laboratory results confirm that the shredding process achieves the NMOCD remedial guidelines, the soil and rock will be stockpiled and used to backfill the excavation. Soil that cannot be adequately remediated by shredding will either be disposed of in the New Mexico Oil Conservation Division (NMOCD) approved and permitted South Monument Solid Waste Management Facility #NM-01-0032 or spread into a 6" thick lift, tilled weekly, and monitored. The rock portion will likewise be spread in a 6" lift on site and allowed to weather. DUKE has received "Right of Entry" permit #707 from the New Mexico State Land Commissioner and allows for landspreading of contaminated soil for remediation purposes. Should it be necessary to implement the land spreading operation, implementation will be consistent with NMOCD Rule 711 and with NMOCD approval.

2.0 SITE DESCRIPTION

The property is owned by State of New Mexico and located ~2.25 miles of Monument, Lea County, New Mexico. Duke secured Right of Entry Permit #707, included in Attachment V. The DUKE site is known as the "NMG-148 C-Line."

2.1 HISTORICAL USE

The area has been used historically for livestock grazing and access to oil and gas production facilities.

2.2 LEGAL DESCRIPTION

The legal description of the site is Unit Letter -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. Site elevation is ~3,648 feet above mean sea level.

2.3 PHOTOGRAPHIC DOCUMENTATION

Photographs are provided in Attachment II.

2.4 ECOLOGICAL DESCRIPTION

The area is typical of the transition zone between the Great Plains Province and the Upper Chihuahuan Desert Biome consisting primarily of low rolling hills interspersed with Honey Mesquite (*Prosopis glandulosa*), Harvard Shinoak (*Quercus harvardii*), Netleaf Hackberry, and typical desert grasses. Mammals represented include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Pronghorn Antelope, and the Mule Deer. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted. The site surface trends to the southeast.

3.0 ENVIRONMENTAL MEDIA CHARACTERIZATION

Chemical parameters of the soil and ground water will be characterized consistent with the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents as applicable;

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

Acceptable thresholds for contaminants of concern (CoCs), i.e., TPH and BTEX are determined based on the following;

- 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 down gradient surface water bodies.

However, site specific risk based thresholds may be developed.

3.1 AREA GROUND WATER LEVELS AND GRADIENT

The locally measured water level is consistent with those on record with the New Mexico State Engineers Office and occurs at 25 'bgs. An active windmill well is located feet ~2,400 feet northeast of the and is not accessible for measurement. Generally, the ground water gradient is to the southeast according the USGS Ground Water Report #6, Nicholson and Clebsch, 1961.

3.2 DEPTH TO GROUND WATER CALCULATION

The NMOCD requires the site be ranked to determine which soil TPH^{8015m}, Benzene, and BTEX thresholds apply and defines depth to ground water as, "the vertical distance from the lowermost contaminants to the seasonal high water elevation of the ground water." The uppermost occurrence of

ground water is at ~25.0' bgs. The lower most contamination occurs at the ground water interface at ~25' bgs. The calculated NMOCD depth to ground water is essentially 0.0' bgs.

3.3 WELLHEAD PROTECTION AREA

There are no water wells within 1,000 horizontal feet of the site.

3.4 DISTANCE TO NEAREST SURFACE WATER BODY

None present.

3.5 IDENTIFICATION OF REMEDIAL ACTION LEVELS

Remedial goals for soil in this area are determined in accordance with NMOCD Guidelines. The NMOCD depth to ground water is calculated to be 0.0' bgs.

3.5.1 Site Ranking

The area has the following score and site ranking;

NMOCD Depth to Groundwater / surface to 50' = 20

Wellhead Protection Area / >200' = 0

Distance to Surface Water Body / >200' = 0

Site Ranking = 20

3.5.2 Remedial Action Levels

The remedial action objectives for soil at this site according to the NMOCD guidelines are as follows.

Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19 (surface' to 25'bgs)	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

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

The New Mexico Water Quality Control Commission (WQCC) ground water Maximum Contaminant Levels for the CoCs will apply to site ground water.

- TPH – no standard
- Benzene – 0.01 mg/L
- Toluene – 0.75 mg/L
- Ethyl Benzene – 0.75 mg/L
- m, p, o-Xylene – 0.62 mg/L
- Chloride – 250 mg/L
- Sulfate – 650 mg/L

4.0 PRELIMINARY SITE DELINEATION

The historical release occurred in the 4" steel NMG-148 C-Line. Initially, delineation occurred during excavation of a barren area in the right of way that exposed a previously installed line repair clamp. Subsequent excavation to 10' bgs indicated hydrocarbon contamination. Given the shallow ground water in the area, a temporary monitor/observation well was installed 10 feet west of the clamp, sampling the soil discretely at 5 foot intervals. The bore was found to be contaminated with volatile hydrocarbon

characteristic of raw natural gas pipeline condensate down to the ground water interface with a measurable thickness of liquid phase hydrocarbon observed atop the ground water. The NMOCD was immediately notified. To delineate the horizontal extent of contamination, initial sample trenches were excavated to 3' bgs and sampled from the leak origin clamp and oriented along the cardinal radials. Volatile Organic Constituent (VOC) headspace surveys of the samples indicated an affected area at 3' bgs of 2,081 ft² and extended 40' north, 30' east, 18' west, and 20' south. The trenches were deepened to 16' bgs sampled and surveyed. At 16' bgs an affected area of 9,082 ft² was identified to be affected, i.e., 76' north, 50' east, 60' west, and 30' south. A site delineation map is included in Attachment I. Selected samples analyzed for TPH^{8015m} and BTEX by Cardinal Laboratories in Hobbs, New Mexico were below instrument detection limits and attest to the volatility of the source term. It also suggests that the VOC headspace readings well away from the leak origin clamp collected during the subsurface delineation were actually due to vapor phase hydrocarbon in the pore space that is dissipating from the liquid phase atop the ground water rather than having been inundated by the condensate liquid similar to the soil beneath the leak origin where the contaminants are adsorbed to the soil. The vapor pressure of the condensate has not been determined. Analyses of hydrocarbon contaminated soil samples from the leak origin did not indicate that Sulfate or Chloride will be issues at this site.

4.1 REMEDIATION PROPOSAL

It is proposed to excavate and remediate affected soil down to the ground water interface remediating the soil by shredding/aerating and/or land spreading. The hydrocarbon source term at this site is an extremely volatile and odorous condensate with only nominal detections of TPH^{8015m} and BTEX in laboratory analyses, i.e., the volatility of the soil samples compromise sample quality and therefore laboratory analytical results. It is proposed to rely on VOC headspace surveys with a calibrated PID to verify achievement of the NMOCD remedial goals in the shredded soil and the excavation sidewalls, and bottom hole. The NMOCD Guidelines accept a VOC headspace reading of <100 ppm "in lieu" of laboratory BTEX analyses.

4.1.1 Soil Shredding/Aeration

To determine the effectiveness of shredding the soil, a pilot study using VOC headspace as the determinant, was conducted on the unshredded and shredded soil, the results are below.

SAMPLE FROM BUCKET AT ~7' BGS WITHIN 10' OF THE CLAMP = 219 PPM
SAMPLE FROM SPOILS PILE BEFORE SHREDDING = 30.6 PPM
SAMPLE FROM SHREDDED PILE = 10.1 PPM

Subsequent laboratory analyses for TPH^{8015m} and BTEX were less than the instrument detection limits. Based on this study it is proposed that the excavated soil be remediated to below the acceptable NMOCD remedial guidelines and used to backfill the excavation at the appropriate time. The excavation will be bermed to prevent run-in during storm events and backfilled as consistent with the ground water remediation plan. The VOC headspace data and laboratory reports are included in Attachment IV.

4.1.2 Land Spreading

Land spreading of rock to allow weathering is proposed in an area northwest of the site. A location northeast of the site will be used to land spread the shredded soil if required. The land spread areas will be constructed consistent with NMOCD Rule 711 and Operational guidelines. The New Mexico State Land Office Right of Entry Permit #707 allows for land spreading of contaminated soil for remediation purposes.

4.1.2.1 Landfarm Construction

The land spread areas will be enclosed within the site perimeter security fence.

4.1.2.1.1 Cell Perimeter Restrictions

- Berm perimeters must be more than 25 feet from the facility boundary.
- Berm perimeters must be more than 100 feet from the neighboring property boundary.

4.1.2.1.2 Restricted Use Areas

The surface of restricted areas will be marked and waste placement and equipment activity restricted to 50 feet from pipelines, well pads, equipment, and existing or former pit locations.

4.1.2.1.3 Berm Criteria

Berms must be capable of preventing runoff or run-on from a one-hundred year storm event (6.0 inches/24 hours) and will be constructed to a height of not less than one and a half (1½) feet above grade on level surface and proportionally higher in cells constructed in areas of topographical down dip.

4.1.2.2 Spreading and Disking Frequency

Waste is typically dumped in piles within the cells and must be spread to facilitate disking. The land farm attendant will document spreading and disking.

4.1.2.2.1 Spreading

Piles of waste will be spread into a lift no more than 6 inches in depth.

4.1.2.2.2 Disking

Each active cell will be disked at least every 14 days.

4.1.2.3 Attenuation Monitoring

A successive lift may be applied to a cell only after “authorization from the NMOCD.” This authorization is obtained by providing analytical data that documents achievement of the following lift remediation objectives.

- Total Petroleum Hydrocarbons (TPH) is <100 ppm
- BTEX (Sum of all aromatic hydrocarbons is <50 ppm
- Benzene is <10 ppm

4.1.2.4 Ponding

Ponds or pools that may occur in the lower areas of the active cells will be removed within 24 hours of discovery.

4.1.2.5 Bio-remediation Enhancement

The NMOCD must pre-approve the application of any amendment, i.e., microbes, fertilizer, etc. The request for approval must include the following information.

- Specific location
- Composition of Additives or Amendments
- Method, amount, and frequency of application

4.1.2.6 Landfarm Inspection and Maintenance

The landfarm facility will be inspected at least weekly and immediately following consequential storm events. The status of fencing, security gate, sign, access roads, and berms will be documented and the presence of ponds or pools will be noted and monitored.

4.1.2.7 Environmental Monitoring

The "Treatment Zone" (TZ) of each cell will be sampled according to the NMOCD permit stipulations. The lifts will be sampled annually to determine remediation status.

4.1.2.7.1 Treatment Zone (TZ) Monitoring

Prior to operation the center portion of the land farm will be sampled at an interval 2-2.5 feet below the surface for TPH, BTEX, Anions/Cations, and EPA metals.

4.1.2.7.2 Cell lift Monitoring

Each cell lift will be sampled and analyzed as needed.

4.1.2.8 Reporting

Analytical results obtained from Treatment Zone monitoring must be summarized and provided to the NMOCD Santa Fe office annually or as stipulated, along with a site map illustrating sample locations. The Site map is provided in Attachment I.

4.2 EXCAVATION DIMENSIONS

The excavation at the ground surface will be approximately 120 feet square and centered around the leak origin. The excavation will be benched in 4' increments down to 16'bgs and 6'x4' increments to 25'bgs with an access ramp constructed on the east side. The pipeline will be removed and, if possible, the monitor well will remain in place. This excavation will be greater than 20' deep and will require an "excavation safety plan" signed by a Professional Engineer. The NMG-148 C-Line Excavation Safety Plan is included in Attachment VII.

5.0 GROUND WATER

Ground water is known to be impacted at the site, to what extent will be determined during implementation of a ground water investigation plan to be submitted to the NMOCD.

Attachment I: Figures and Maps

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



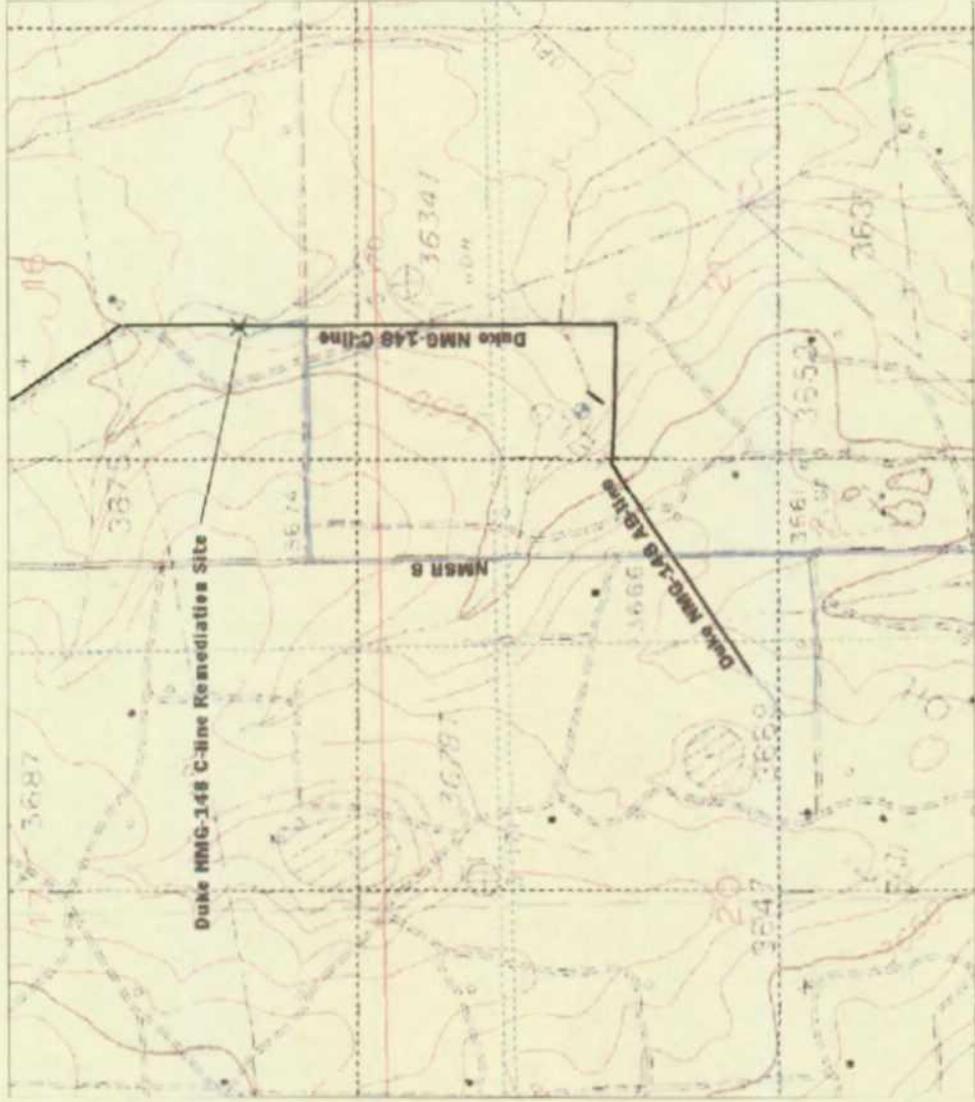
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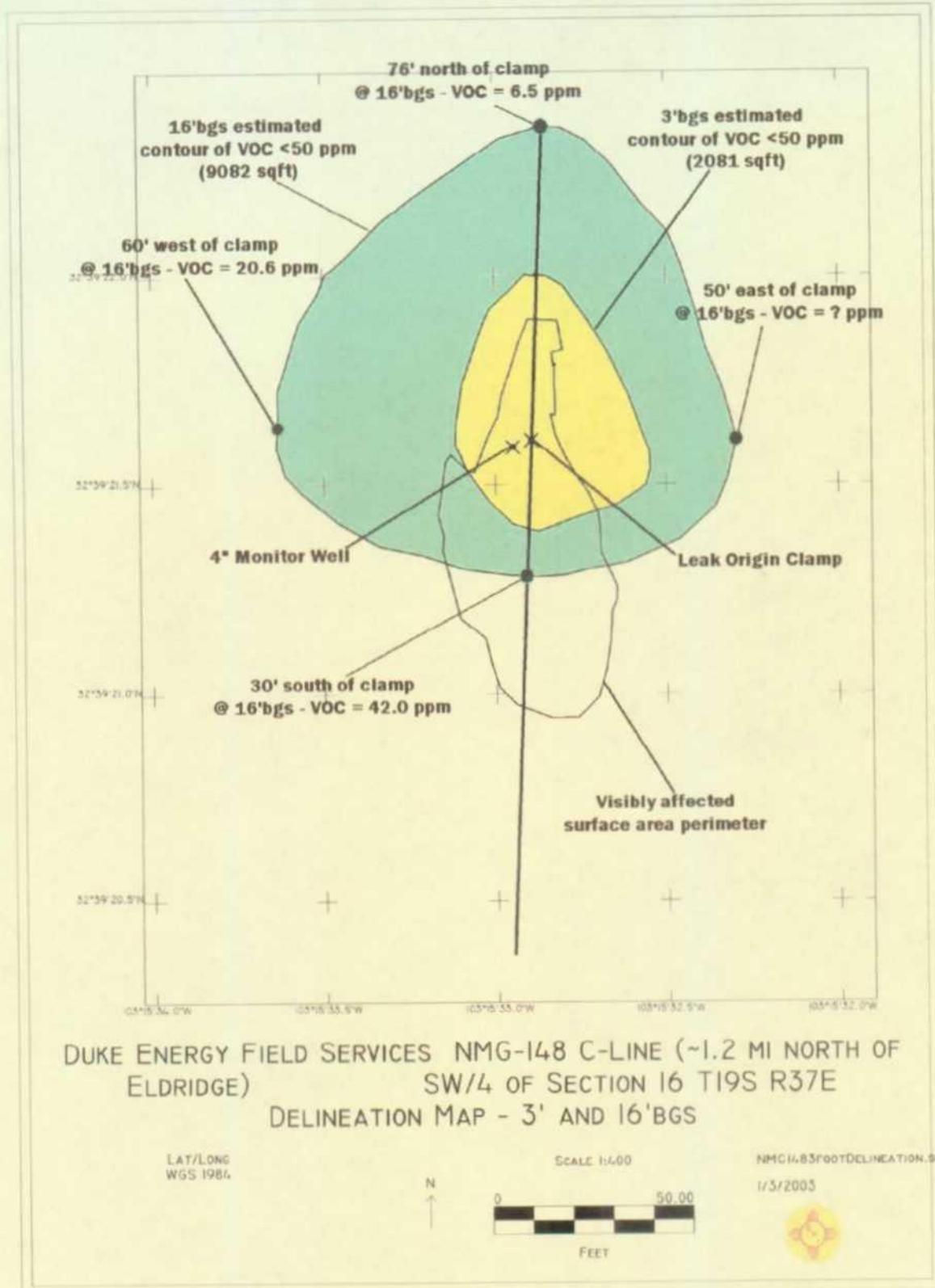


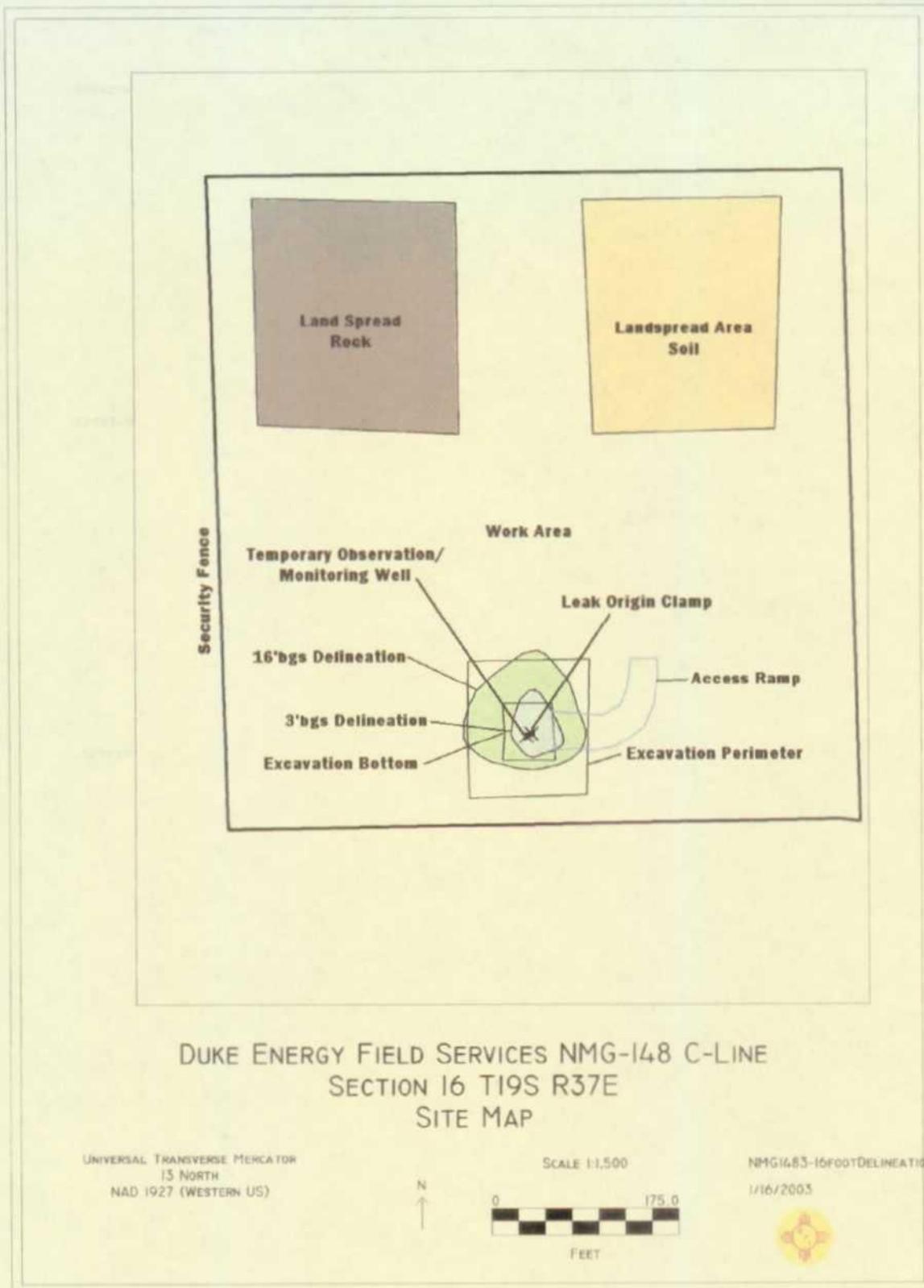
FEET

UNIVERSAL TRANSVERSE MERCATOR
31N
NAD 1983 (NAD 83)

PLAT FILE
17/3/2003







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

UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1927 (WESTERN US)



SCALE 1:1,500



FEET

NMG1483-16FOOTDELINEATION.SSF

1/16/2003



Attachment II: Site Photographs

Attachment III: 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/Stam 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 1/4: SE 1/4 of the SW 1/4		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	
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 >1000' from water source, or; >200' from private domestic water source: 0 points	
If Depth to GW >100 feet: 0 points			
Ground water Score = 20		Wellhead Protection Area 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: Analytical Summary and Reports (reserved)

(reserved)

Attachment V: 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's 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.

Attachment VI: Excavation Safety Plan

1.0 DUKE NMG-148 C-LINE EXCAVATION SAFETY PLAN

The excavation will begin as a 120 foot square at the surface and bottomed at 25' bgs forming a 65 foot square. The attached "Excavation Safety Checklist" will be completed daily by the "competent person." This excavation safety plan will be approved by a registered professional engineer.

1.1 REGISTERED PROFESSIONAL ENGINEER

I, _____, registered professional engineer in New Mexico, hereby attest to the adequacy of this excavation safety plan consistent with 29 CFR 1926.652, which, when implemented and monitored accordingly will achieve construction of a safe excavation.

1.2 SOIL TYPES

Sandy Clay Loam - from the surface to approximately 3.0' bgs
Indurated, fractured, siliceous sandstone with caliche interbeds - 3.0 to 16' bgs
Fine sand - 16 to 25' bgs

The soil and conditions at this site will conservatively be classified as Type B from the surface to 16' bgs and Type C from 16' bgs to 25' bgs.

1.3 SLOPING AND BENCHING REQUIREMENTS

The excavation will be configured with 4 foot benches constructed at 4 foot intervals, i.e., 1:1, down to 16' bgs and with 6 foot benches constructed at 4 foot vertical intervals, i.e., 1.5:1 down to 25' bgs consistent with 29 CFR 1926.652(b)(2). Because the excavation is greater than 20' bgs a registered professional engineer will approve the sloping and benching design consistent with Appendix B to 29 CFR 1926.652(b)(2).

1.4 HAZARD IDENTIFICATION

The open excavation will be a confined space with a potential hazardous atmosphere and will be a fall hazard. The "competent person" will verify and document that the excavation hazards.

1.4.1 Confined Space

The excavation will initially be a regulated confined space with no access allowed. After the confined space entry and excavation safety checklist have documented the absence of hazards the confined space will be unregulated precluding the necessity for on site rescue personnel.

1.4.2 Access/Escape Ramp

A 100 foot bottom access ramp will be constructed on the east side as the excavation progresses. This will also be the escape path during an occurrence.

1.4.3 Hazardous Atmosphere Monitoring

Before declaring the excavation safe to enter and at 3 hour intervals or as conditions change and warrant, the atmosphere will be monitored remotely for H₂S, O₂, CO, and LEL with a calibrated four gas monitor and recorded on the excavation safety checklist. Personnel working on site will have on their person calibrated H₂S monitors.

1.4.4 Falling Hazard

The excavation will be bermed and fenced to exclude livestock and personnel from the non-ramped perimeter of the excavation.

1.5 EXCAVATION DIMENSIONS

The proposed excavation will be 120 feet square and excavated in 4' lifts, inseting 4' with each successive lift down to 24'bgs. The bottom of the excavation will be approximately 65' square. A lateral view of the excavation is attached.

EXCAVATION CHECKLIST (29 CFR 1926.650)

№ 3301

FACILITY _____ DATE _____

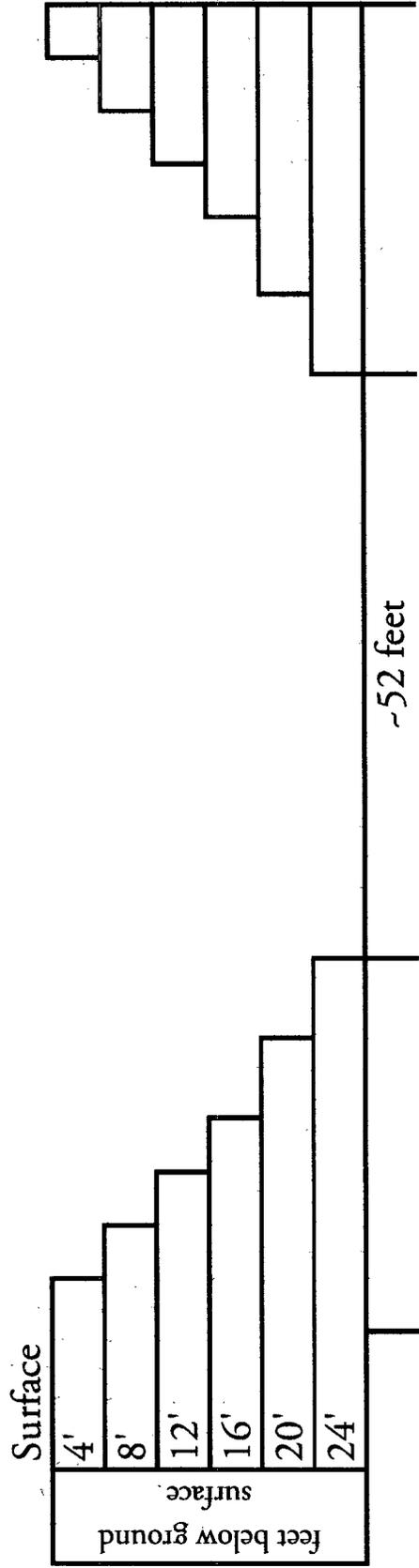
LOCATION _____

COMPETENT PERSON _____

ACKNOWLEDGE BY _____

YES NO	SURFACE ENCUMBRANCES 1 ARE SURFACE ENCUMBRANCES (TREES, BOULDERS, BUILDINGS, MACHINERY) AT A SAFE DISTANCE AWAY FROM THE EXCAVATION AREA OR SUFFICIENTLY SUPPORTED FOR SAFE EXCAVATION?	YES NO	EMERGENCY RESCUE EQUIPMENT 1. IS EMERGENCY RESCUE EQUIPMENT NECESSARY?
YES NO	UNDERGROUND INSTALLATIONS 1. HAVE UNDERGROUND PIPING, UTILITY LINES AND/OR OTHER INSTALLATIONS BEEN IDENTIFIED AND LOCATED? (ONE CALL)		2. EQUIPMENT NECESSARY: SCBA HARNESSES WIND SOCK LIFELINE COMMUNICATION EQUIPMENT
YES NO	2. HAVE WORKERS BEEN ADVISED OF THE INSTALLATION?		
YES NO	3. HAVE OWNERS OF UNDERGROUND INSTALLATIONS BEEN NOTIFIED? WHO? WHEN?	YES NO	ADJACENT STRUCTURES AND LOOSE ROCK/SOIL 1. ARE SUPPORT SYSTEMS NECESSARY DUE TO STRUCTURES LOCATED NEAR EXCAVATION?
YES NO	4. ARE UNDERGROUND INSTALLATIONS PROPERLY SUPPORTED OR REMOVED DURING EXCAVATION?	YES NO	2. IS EXCAVATED MATERIAL OR OTHER MATERIAL KEPT TWO FEET OR MORE AWAY FROM THE EDGE OF THE EXCAVATION?
YES NO	OVERHEAD INSTALLATION 1 HAS THE AREA OVER THE WORKSITE BEEN CHECKED FOR POWER LINES OR OTHER OBSTACLES THAT WOULD INTERFERE WITH EXTENDABLE EQUIPMENT (BACKHOE BOOMS, CRANES, ETC.)?	YES NO	3. IS SOME TYPE OF BARRIER OR SCALING NECESSARY? IF YES, WHAT TYPE? _____
YES NO	2. HAVE WORKERS BEEN ADVISED OF THE INSTALLATIONS?	YES NO	4. DOES SYSTEM REQUIRE REGISTERED PROFESSIONAL ENGINEER DESIGN?
YES NO	ACCESS AND EGRESS 1 IF THE TRENCH IS FOUR FEET OR MORE IN DEPTH, HAS A MEANS OF EGRESS BEEN PROVIDED?	YES NO	FALL PROTECTION 1. ARE HANDRAILS AND/OR BARRIERS USED WHERE NECESSARY?
YES NO	2 IS THE MEANS OF EGRESS PROPERLY SPACED? (25 FEET LATERAL TRAVEL/MAX)		
YES NO	3 WHAT TYPE OF EGRESS IS PROVIDED? _____ LADDERS _____ SLOPING WALKWAYS	YES NO	WATER ACCUMULATION 1. WHERE WATER ACCUMULATION IS PRESENT, ARE NECESSARY PRECAUTIONS BEING USED?
YES NO	VEHICULAR TRAFFIC 1 IS WARNING VEST OR HIGH VISIBILITY CLOTHING PROVIDED?	YES NO	SOIL TYPE 1. ARE SOIL TESTS NECESSARY?
YES NO	2 ARE TRAFFIC WARNING SIGNS PROVIDED?		2. TYPE TEST: SHEAR / PENETRATION / HAND (CIRCLE ONE)
YES NO	FALLING LOADS AND MOBILE EQUIPMENT 1 HAVE WORKERS BEEN INSTRUCTED THAT THEY ARE NOT PERMITTED TO WORK UNDER LOADS?		3. TYPE SOIL: STABLE ROCK / A / B / C (CIRCLE ONE)
YES NO	2 HAVE WORKERS BEEN INSTRUCTED CONCERNING EQUIPMENT OPERATED NEAR THE EDGE OF THE EXCAVATION?		4. PROJECTED DEPTH OF EXCAVATION: _____
YES NO	HAZARDOUS ATMOSPHERE 1 IF EXCAVATION IS FOUR FEET OR MORE IN DEPTH, IS ATMOSPHERIC TESTING NECESSARY?		
	2 IF ATMOSPHERIC TESTING IS NECESSARY, COMPLETE THE FOLLOWING: GAS % LEL _____ OXYGEN % _____ H2S PPM _____ INSTRUMENT TYPE _____ SERIAL NO. _____ CONDUCTED BY _____ TIME _____		PERMITS ARE OTHER PERMITS REQUIRED FOR JOB? (CIRCLE ALL THAT APPLY) SAFE WORK / CONFINED SPACE / HOT WORK
	3 IS PERIODIC TESTING NECESSARY? INITIAL / PERIODIC / CONTINUOUS MONITORING REQUIRED		

NOTES: _____



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

Olson, William

From: Mike Stewart [mstewart@remediacon.com]
Sent: Sunday, January 19, 2003 8:14 PM
To: wolson@state.nm.us
Cc: swweathers@duke-energy.com
Subject: Annotated Eldridge Aerial Photo in MS Word

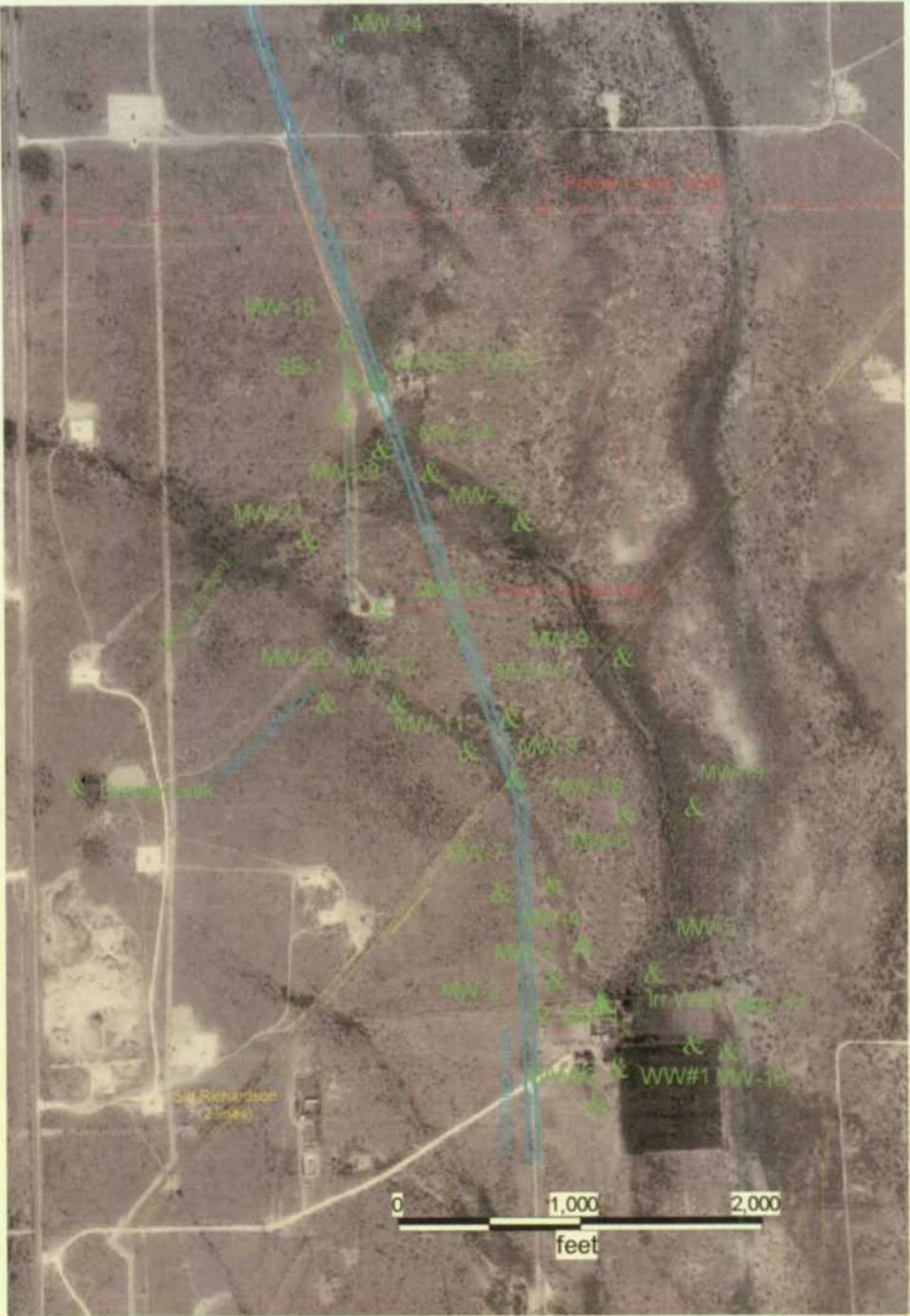


Base photo.doc

Bill, This photo is current as of 12/31 so the new
eldridge wells are not shown. In addition, the
NMG-148 site was not segregated when I made this
figure. The pipeline alignments are correct.

=====

Michael Stewart
303-638-0001 (mobile)
303-674-4370 office
720-528-8132 (note new fax #)



IMPORTANT MESSAGE

FOR _____

DATE 1/10 TIME 10:15 A.M.
P.M.

M Larry
OF _____

PHONE _____
AREA CODE NUMBER EXTENSION

FAX

MOBILE _____
AREA CODE NUMBER TIME TO CALL

TELEPHONED		PLEASE CALL	
CAME TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		RUSH	
RETURNED YOUR CALL		SPECIAL ATTENTION	

MESSAGE
Tested line & Ported
100 psi
2 psi/min loss
120 bbl distillate in line

SIGNED _____

Remediacon Incorporated

Geological and Engineering Services
remediacon@yahoo.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 617.507.6178

January 7, 2003

RECEIVED

DRAFT

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

JAN 16 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Re: Workplan to Complete Additional Characterization Activities at the NMG-148
Release Site, Lea County New Mexico

Dear Mr. Weathers:

This letter summarizes the current status and proposes additional groundwater characterization activities at the NMG-148 site in Lea County New Mexico. Currently, Environmental Plus Incorporated (EPI) is preparing a work plan that addresses the ongoing soil excavation activities. This document will be provided under separate cover.

PROJECT STATUS

This section describes the current status of site activities. Included are subsections on the site setting and a summary of the characterization activities completed to date.

Site Setting

The NMG-148 study area is in the southeastern quarter of the southwestern quarter of Section 16, Township 19 South, Range 37 East approximately 2 miles north of and 0.75 miles east of the town of Monument in Lea County New Mexico (Figure 1). The approximate coordinates of the release point are 32 degrees 29.33 minutes north, 103 degrees 15.5 minutes west.

Overall, the land within and surrounding the study area slopes very gently to the southeast. Comparison of the approximate surface elevation of 3,650 to published information¹ indicates that this area is underlain by approximately 100 feet of Ogallala Formation.

This release is on State lands. The release and the affected materials associated with it are north of the Eldridge study area that is currently under investigation by DEFS. Figure 2 shows the location of the release relative to the northernmost wells and soil boring locations on the Eldridge property. Examination of Figure 2 indicates that the NMG-148 release is approximately 1,900 feet north of well MW-15, the current northern extent of characterization of the Eldridge study area.

¹ Ncholson, A, Jr. and Cldbsch, A, Jr., 1961, Geology and Ground-Water Conditions in Southern Lea County, New Mexico, State Bureau of Mines and Mineral Resources, Ground-Water Report 6.

DEFS decided to separate the NMG-148 and the Eldridge projects for the following reasons:

1. The NMG-148 site is on State land with the Eldridge study area is currently all on private lands.
2. The two releases may be independent and may thus proceed on separate schedules.
3. The nature and extent of the releases may differ so the two releases may involve independent and distinct remediation programs.

DEFS does however recognize that the groundwater remediation activities at both locations may have to be coordinated once the full extent of hydrocarbon releases and their impacts on groundwater have been identified and delineated.

Summary of NMG-148 Characterization Activities

This subsection discusses the characterization activities completed to date at the NMG-148 site. Most of the activities are still ongoing. A more comprehensive report on the NMG-148 study area will be prepared at the conclusion of the field program described in this document.

The release was discovered by a DEFS contractor on December 10, 2002. He was marking the alignment of the DEFS NMG-148 line prior to testing it for leaks and noticed a barren spot that can be symptomatic of an historic release. Hand excavation revealed stained and odorous soils within the barren area.

Based upon the above evidence, DEFS directed Trident Environmental (Trident) to advance a boring near the center of the release area and to install a monitor well if the potential for groundwater impacts existed. The activities were completed on December 13, 2002. Continuous samples were logged for lithology and screened with a photoionization detector (PID) until saturated materials were encountered at approximately 28 to 29 feet below ground surface (bgs). The sample with the highest PID reading and the sample immediately above the saturated materials were submitted for testing by an analytical laboratory. The results are summarized below:

Summary of Soil Sampling Results From Boring MW-1

Depth Interval (feet)	FIELD PID Reading (PPM)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
5-7	452	---	---	---	---	---	---
10-12	526	---	---	---	---	---	---
15-17	577	14.3	60.1	10.2	41.2	657	14.9
20-22	534	---	---	---	---	---	---
23-25	355	---	---	---	---	---	---
25-27	252	48.4	84.4	11.4	37.7	1,320	21.8

Trident completed MW-1 as a well based upon the presence of the hydrocarbon in the soils immediately above the saturated zone. MW-1 currently has a measured product thickness of approximately 1.33 feet. The depth to the top of the product was measured at 30.33 feet below top of casing (btoc) on December 31, 2002. Trident submitted a sample of the product for laboratory analyses but the results have not yet been received.

Trident installed an additional well (MW-2) on December 16, 2002 at the location shown on Figure 2. This location was selected because it is in the same swale as the release, and this swale discharges directly onto the Huston property to the south. This well was developed on December 17, 2002, and it was purged and sampled on December 18, 2002. The analytical results indicate that the both the BTEX constituents and the total petroleum hydrocarbons are not present above the method detection limits.

EPI completed test trenches and begin excavating the hydrocarbon affected soils the week of December 16, 2002. EPI continues their excavation activities, and they are currently preparing a soils remediation plan that will be submitted to the Oil Conservation Division (OCD) under separate cover.

Based upon the results of their trenching activities, EPI generated a map showing both the area of surface impacts as well as their best estimate of the probable limits of excavation. Those boundaries are shown on Figure 3.

PROPOSED ADDITIONAL GROUNDWATER CHARACTERIZATION ACTIVITIES

This section presents the proposed groundwater characterization activities to be completed at the NMG-148 site. The objectives of these activities include:

1. To delineate the extent of free product associated with this release;
2. To define the horizontal and vertical boundaries of the dissolved phase hydrocarbon plume;
3. To measure the groundwater flow direction and velocity;
4. To evaluate the degree of attenuation provided by natural biodegradation; and
5. To assess the relationship between this release and the hydrocarbon distribution present beneath the Huston and Eldridge properties.

Characterization of this site will progress in an iterative fashion that will probably include a minimum of two phases of monitoring well installation. The results of the first phase of field activities, described herein, will be used to formulate an appropriate follow-up for the second phase of field activities.

The activities described in the remainder of this section include well installation, well sampling, physical properties measurement, and report preparation. Each activity is described separately below.

Well Installation

The proposed phase includes the installation of four additional wells at the locations shown on Figure 3. The sites shown on Figure 3 were assigned by assuming that the groundwater flowed to the southeast parallel to the general topography. Wells MW-3, MW-4 and MW-5 will be located in the down-gradient direction. Well MW-6 is located up-gradient and outside the affected materials based upon the boundaries assigned by EPI.

Each boring will be advanced using either auger or air rotary drilling. All drilling and installation procedures will be supervised by an experienced geologist or engineer with an appropriate background.

Samples will be collected on a regular basis (maximum separation of 5 feet) and screened for the presence of volatiles using a PID. Lithologic logs will be compiled for each boring based upon the cuttings and/or samples produced.

Each well will be drilled to a depth approximately 10 feet below the first evidence of saturated materials or to a maximum depth of 40 feet if no saturated materials are encountered. Fifteen feet of 2-inch, threaded, factory-slotted Schedule 40 PVC will be placed in the well (20 feet if no saturated materials are encountered). The annular space will then be backfilled with artificially-graded sand to a minimum depth of 2 feet above the top of the slotted PVC interval. The remaining annular space will then be backfilled with hydrated bentonite. The surface completion for each well will include an aboveground well protector and a minimum 2 foot by 2 foot concrete pad. Well completion forms will be prepared for each well and included in the report. Each well will be sit undisturbed a minimum of 10 hours (overnight) before it is developed and sampled.

Well Development and Sampling

Each new well will be developed using either a disposable bailer or a submersible pump. Well development will be completed when a minimum of 10 casing volumes of water are removed and the field parameters of temperature, pH and conductivity for the last three casing volumes are stable. In the event the well cannot be continuously purged, it will be bailed dry a minimum of three times.

Each new well will be sampled using a disposable bailer following the completion of development. Unfiltered samples will be collected from each well and will be analyzed for the organic constituents benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons as oil and diesel. An additional unfiltered samples will be collected from each well will also be analyzed for the inorganic constituents calcium, magnesium, sodium, potassium, bicarbonate alkalinity, chlorides, sulfate and fluoride and other bioremediation indicator parameters. All samples will be placed in an ice-filled chest immediately upon collection and delivered to the analytical laboratory using standard chain-of-custody protocol.

Any well that produces free product at a thickness in excess of 0.1 feet either after construction or development will not be sampled. Instead, a product sample will be collected and submitted for PIANO analysis.

A field duplicate and a trip blank will be used to evaluated quality control. The field blank will be collected from a well with detectable constituents so that the relative percentage difference can be calculated. The laboratory will provide the trip blank. The trip blank and the field duplicate will both be analyzed for BTEX.

Physical Property Measurement

The physical properties to measured include the well locations, the groundwater gradient and the hydraulic properties. Well locations and elevations will be measured by a licensed surveyor. The depths to product and water will be gauged after allowing sufficient time for the wells to fully equilibrate. This data will then be used to produce a groundwater contour map.

Slug and/or pumping tests may also be completed depending upon the materials encountered. No hydraulic testing will be completed if the material composition is similar to that beneath the Huston and Eldridge properties. Hydraulic testing will be completed if pronounced material differences exist.

Report Preparation

A report will be prepared to present the results of the field investigation and discuss important conclusions. The report will include the following components:

- A summary of the field methods used to install the wells and collect the data.
- A summary of the data collected during the field program.
- A summary of all of the data collected.
- Interpretations of the data collected.
- Conclusions on groundwater flow direction and velocity, constituent origin, fate and transport, and source locations.

All analytical laboratory reports, pump and slug test analyses, boring logs, and well completion diagrams will be appended to the report.

The report will also include recommendations for additional characterization activities to fulfill the program objectives presented toward the beginning of this document and to begin to evaluate potential remediation options.

DEFS would like to complete the installation of the wells by the end of January 2003. Well development and sampling would follow soon thereafter. The final report should be completed by March 4 assuming if the field activities can be completed on time and there are no delays from the analytical laboratory or the surveyors.

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

Respectfully Submitted,
REMIACOM INCORPORATED

Michael H. Stewart, P.E.
Principal Engineer

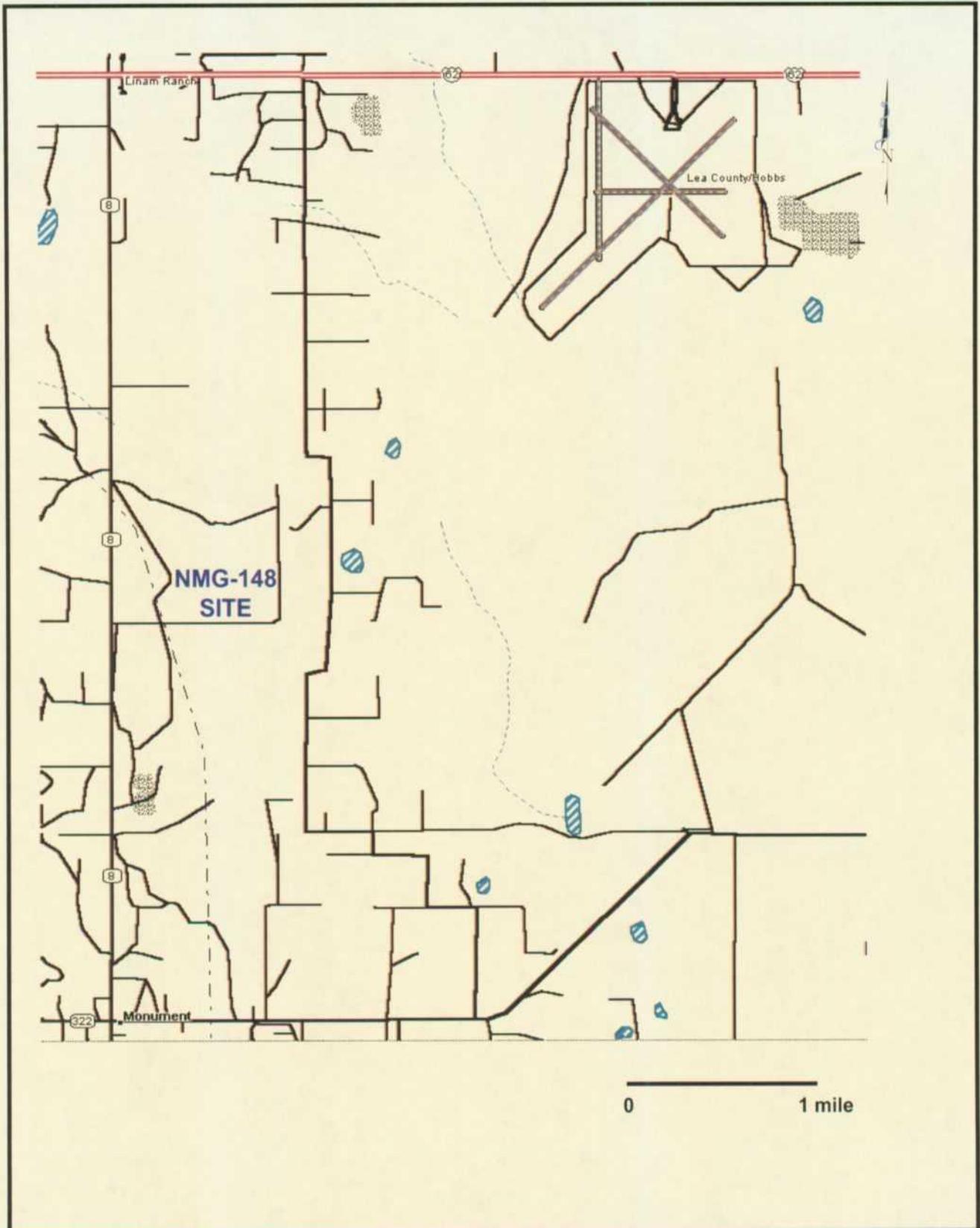


Figure 1 – NMG-148 Study Area Location

NMG-148 Study Area



DRAWN BY: MHS

REVISED:

DATE: 1/03

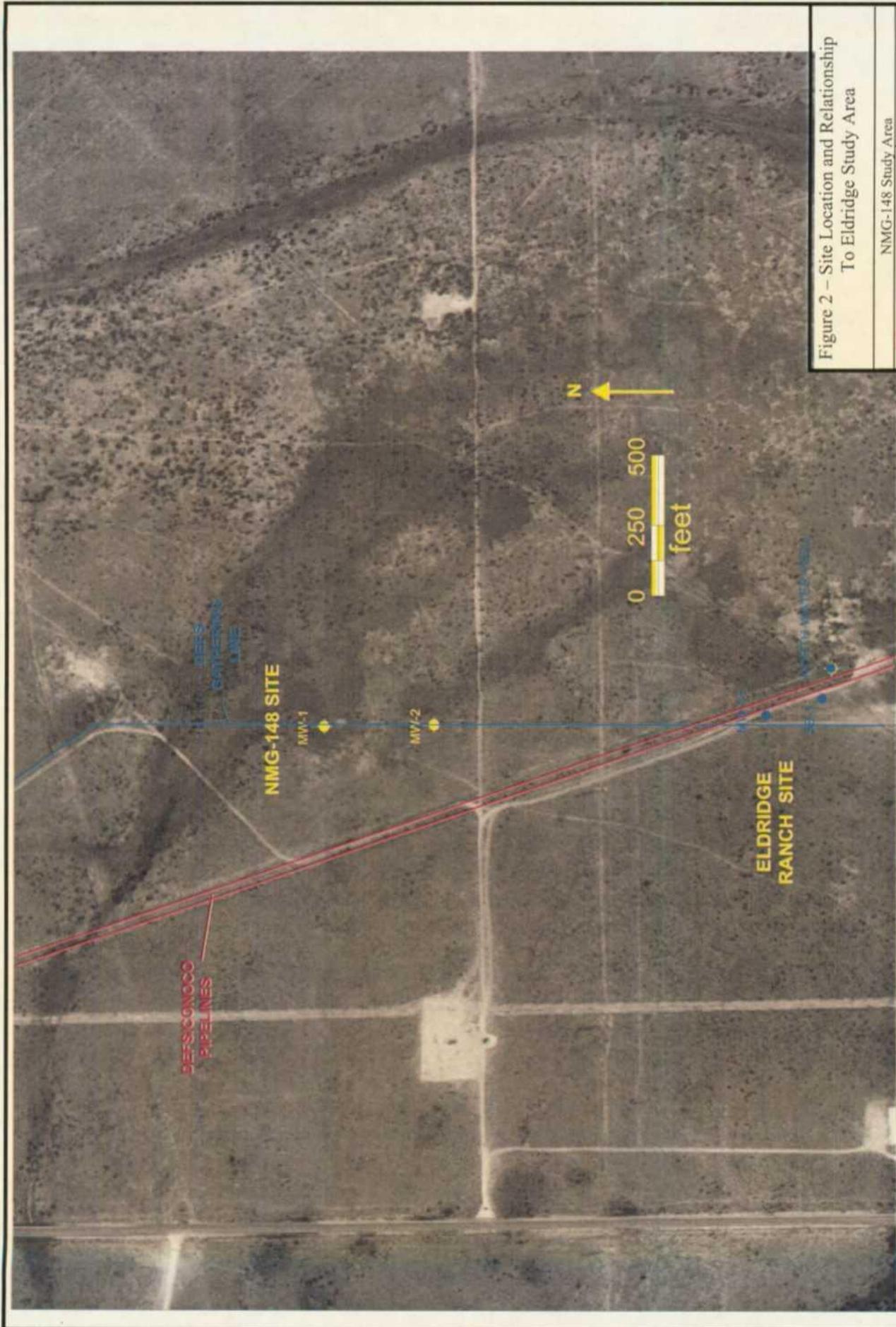


Figure 2 – Site Location and Relationship To Eldridge Study Area

NMG-148 Study Area

Duke Energy
Field Services.

DRAWN BY: MHS

DATE: 1/03

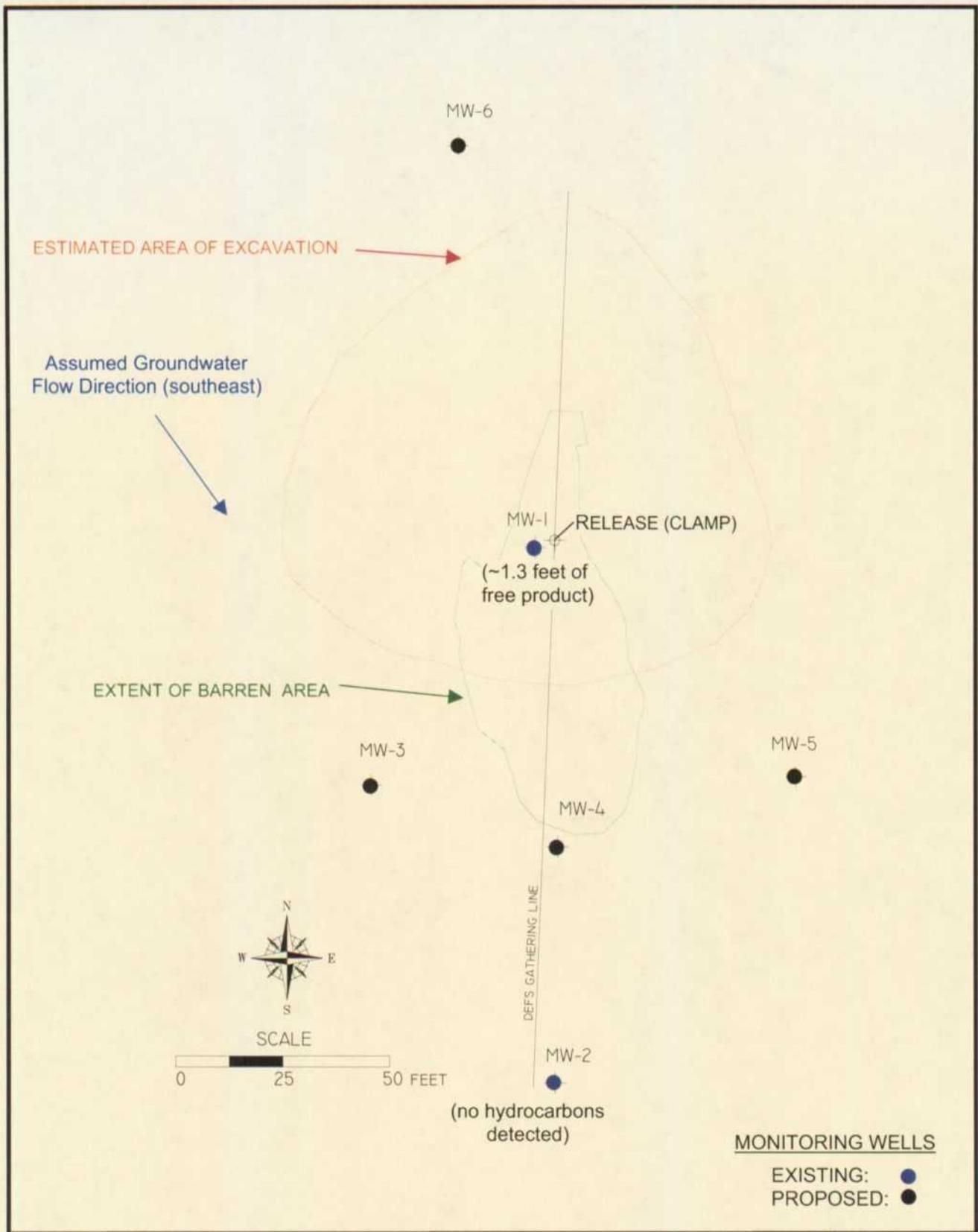


Figure 3 – Groundwater Sampling Points

NMG-148 Study Area



DRAWN BY: MHS

REVISED:

DATE: 1/03