

1R - 376

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**  
2003 - 2002



DUKE ENERGY FIELD SERVICES  
370 17th Street  
Suite 2500  
Denver, CO 80202  
303 595 3331

December 9, 2004

Mr. Jack Ford  
New Mexico Oil Conservation Division  
1220 South St Francis Drive  
Santa Fe, New Mexico 87505-5472

IR-376

**RE: October 2004 Groundwater Sampling Results  
DEFS C-1 Pipeline/U-Bar Ranch, Lea County, New Mexico  
Unit H, Section 14, Township 17 South, Range 36 East**

Dear Mr. Ford:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the October 2004 Groundwater Sampling Results for the Duke Energy Field Services LP (DEFS) C-1 Pipeline/U-Bar Ranch Site located near Lovington, New Mexico (Unit H, Section 14, Township 17 South, Range 36 East).

Based on the results from the October 2004 groundwater sampling event, all groundwater analytical results continue to be below the New Mexico Water Quality Control Commission Groundwater Standards. The next groundwater sampling event is scheduled for December 2004.

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

Sincerely  
Duke Energy Field Services, LP

Stephen Weathers, PG  
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Lynn Ward, DEFS Midland  
Darr Angell, Landowner  
Environmental Files

**Ford, Jack**

TR 376

**From:** John Ferguson [jimfergerson@grandecom.net]  
**Sent:** Monday, December 06, 2004 9:03 AM  
**To:** Jack Ford; Chris Williams; Larry Johnson  
**Cc:** Mike Stewart; Steve Weathers  
**Subject:** Notification to Complete Gauging & Groundwater Sampling Activity at the DEFS-C 1 Line 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-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all 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. A duplicate sample and trip blank 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:

Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on December 9, 2004 at approximately 1500-1600 MST. 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

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12/6/2004

**Olson, William**

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**From:** John Ferguson [jimfergerson@grandecom.net]  
**Sent:** Monday, October 04, 2004 8:13 AM  
**To:** Bill Olson; Chris Williams; Larry Johnson  
**Cc:** Steve Weathers; Michael Stewart  
**Subject:** Notification to Reschedule Groundwater Sampling Activities at The DEFS-C 1 Line Project Site

Gentlemen,

I am notifying the NMOCD by this email that Trident Environmental, a sub-contractor to Duke Energy Field Services, has rescheduled the following field activities at the DEFS-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all monitoring wells using a water level indicator.
2. Purge all monitoring wells. Parameter readings will 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. One duplicate sample and a trip blank will accompany the samples and will be used to evaluate quality control.
5. All purge water will be disposed at a NMOCD approved facility.

The project site is located at the following legal description: Section 14, 16, 23, 24, T17S, R36E

All activities are scheduled to begin at 1400-1500 MDT on October 11, 2004. However, if unfavorable forecasts and local rainfall persist the above activities will be rescheduled until favorable weather conditions occur. If you have any questions and/or 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)  
John@trident-environmental.com

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10/6/2004

**Olson, William**

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**From:** John Fergerson [jmferguson@grandecom.net]  
**Sent:** Monday, September 27, 2004 9:01 AM  
**To:** Bill Olson; Chris Williams; Larry Johnson  
**Cc:** Mike Stewart; Steve Weathers  
**Subject:** Notification to Reschedule Groundwater Sampling Activity at the DEFS-C 1 Line Project Site

Gentlemen,

Due to heavy rain fall amounts I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, has rescheduled the following field activities at the DEFS-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all 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. A duplicate sample and trip blank 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:

Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on October 4, 2004 at approximately 1400-1500 MDT. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John M. Fergerson, 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

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10/6/2004

**Olson, William**

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**From:** John Fergerson [jmferguson@grandecom.net]  
**Sent:** Wednesday, September 22, 2004 9:16 AM  
**To:** Bill Olson; Chris Williams; Larry Johnson  
**Cc:** Michael Stewart; Steve Weathers  
**Subject:** Notification to Complete Groundwater Sampling Activity at the DEFS-C 1 Line 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-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all wells. Parameter readings will 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. A duplicate sample and trip blank 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:

Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on September 27, 2004 at approximately 1400-1500 MDT. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

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

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10/6/2004



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

RECEIVED

July 16, 2004

Mr. William C. Olson  
New Mexico Oil Conservation Division  
1220 South St Francis Drive  
Santa Fe, New Mexico 87505-5472

JUL 19 2004

Oil Conservation Division  
Environmental Bureau

**RE: June 2004 Groundwater Sampling Results  
DEFS C-1 Pipeline/U-Bar Ranch, Lea County, New Mexico  
Unit H, Section 14, Township 17 South, Range 36 East**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the June 2004 Groundwater Sampling Results for the Duke Energy Field Services LP (DEFS) C-1 Pipeline/U-Bar Ranch Site located near Lovington, New Mexico (Unit H, Section 14, Township 17 South, Range 36 East).

Based on the results from the June 2004 groundwater sampling event, all groundwater analytical results were below the New Mexico Water Quality Control Commission Groundwater Standards. The next groundwater sampling event is scheduled for September 2004.

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

Sincerely  
Duke Energy Field Services, LP

Stephen Weathers, PG  
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Lynn Ward, DEFS Midland  
Darr Angell, Landowner  
Environmental Files

**Olson, William**

---

**From:** John Ferguson [jmfergerson@grandecom.net]  
**Sent:** Tuesday, June 22, 2004 4:57 AM  
**To:** Olson, William; Williams, Chris; Johnson, Larry  
**Cc:** Mike Stewart; Steve Weathers; Lynn Ward  
**Subject:** Notification to Complete Groundwater Sampling Activity at the DEFS-C 1 Line (U Bar 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-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all 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. A duplicate sample and trip blank 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:

Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on June 25, 2004 at approximately 1700-1800 MST. 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

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10/6/2004



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

RECEIVED

APR 28 2004

Oil Conservation Division  
Environmental Bureau

April 26, 2004

Mr. William C. Olson  
New Mexico Oil Conservation Division  
1220 South St Francis Drive  
Santa Fe, New Mexico 87505-5472

**RE: Groundwater Sampling Results and Proposed Monitoring Program  
DEFS C-1 Pipeline/U-Bar Ranch, Lea County, New Mexico  
Unit H, Section 14, Township 17 South, Range 36 East**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the Summary Sampling Results and Proposed Monitoring Program for the DEFS C-1 Pipeline/U-Bar Ranch Site located near Lovington, New Mexico (Unit H, Section 14, Township 17 South, Range 36 East).

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

Sincerely  
Duke Energy Field Services, LP

Stephen Weathers  
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Lynn Ward, DEFS Midland  
Darr Angell, Landowner  
Environmental Files

**Olson, William**

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**From:** John Fergerson [jmfergerson@grandecom.net]  
**Sent:** Friday, March 05, 2004 8:44 AM  
**To:** Olson, William; Williams, Chris; Johnson, Larry  
**Cc:** Mike Stewart; Steve Weathers  
**Subject:** Notification of Rescheduled Field Work at the DEFS-C 1 Line Project Site

Gentlemen,

Due to heavy rain fall amounts I am notifying the NMOCD by this email that Trident Environmental, a subcontractor to Duke Energy Field Services, has rescheduled the following field activities at the DEFS-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all 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. A duplicate sample and trip blank 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:

Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on March 11, 2004 at approximately 0800-0900 MST. If you have any questions and/comments please give me a call at my office or cell phone number.

Thanks,

John M. Fergerson, 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

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**Olson, William**

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**From:** John Fergerson [jmfergerson@grandecom.net]  
**Sent:** Monday, March 01, 2004 9:00 AM  
**To:** Olson, William; Williams, Chris; Johnson, Larry  
**Cc:** Mike Stewart; Steve Weathers  
**Subject:** Notification to Complete Monitoring Well Gauging & Groundwater Sampling at the DEFS-C 1 Line 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-C 1 Line (U Bar Ranch) project site in Lea County, New Mexico. The activities include:

1. Measure fluid levels and total depth in all wells using a water level indicator.
2. Purge all 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. A duplicate sample and trip blank 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:  
Sections 14, 16, 23, 24, T 17 S, R 36 E

All activities are scheduled to begin on March 5, 2004 at approximately 0800-0900 MST. 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)

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Olson, William

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**From:** Michael Stewart [mstewart@remediacon.com]  
**Sent:** Thursday, August 21, 2003 4:33 PM  
**To:** William Olson  
**Cc:** Steve Weathers  
**Subject:** Groundwater status and proposal for additional characterization - C-Line



803 cline report.pdf

Bill, Attached is a groundwater monitoring and recommended additional activities report for the Duke C-Line site between Monument and Enuice. Duke had submitted one or two previous reports to Randy and not received any written response (at least that I have a record of).

I am requesting approval to install a free product collection system and complete additional characterization activities prior to the finalization of a remediation plan.

Please contact Steve Weathers or myself if you have any comments or questions on this plan.

Thank you

---

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

# **Remediacon Incorporated**

Geological and Engineering Services  
mstewart@remediacon.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 720.528.8132

August 20, 2003

Mr Stephen Weathers  
Duke Energy Field Services, LP  
370 17<sup>th</sup> Street, Suite 900  
Denver, CO 80202

Re: Report on Groundwater Monitoring Activities and Recommendations for Further  
Characterization Activities at the C-Line 50602 Location in Lea County New Mexico  
(Unit O, Section 31, Township 19 South, Range 37 East)

Dear Mr. Weathers:

This report summarizes the groundwater monitoring activities completed at the C-Line 50602 study area by Remediacon Incorporated (Remediacon) for Duke Energy Field Services, LP (DEFS). Discussion of the monitoring activities follows a brief section of background information. The final section of the letter recommends additional characterization and remediation activities along with a proposed schedule.

## **BACKGROUND INFORMATION**

The study area is located in the southwestern quarter of the southeastern quarter (Unit O) of Section 31, Township 19 South, Range 37 East. The approximate coordinates are 32 degrees 32.5 minutes north, 103 degrees 15.3 minutes east. The site is approximately 6.25 miles south and 1.25 miles west of the town of Monument in Lea County New Mexico. The area surrounding the release sites is uninhabited and is used for ranching. Two large gas-processing facilities lie approximately 1 mile south of the site.

Figure 1 shows the surrounding topography and drainage features. The topography in the area falls gently (0.33 percent) to the northeast toward Monument Draw. Monument Draw is located approximately 2 miles to the north, and it is the nearest defined surface drainage feature in the area.

Six monitoring wells are present at the site (MW-1 through MW-6, Figure 2). Construction information on these wells is included in Table 1. Well MW-1 is located at or near to the original release location. Well MW-2 was installed north of the release location immediately south of an area covered with historic (non-DEFS) tank bottoms. This area is labeled on the topographic map as "tanks" (Figure 1). Wells MW-3 through MW-6 were installed toward the southeast in the perceived down-gradient direction.

At least five pipelines traverse the study area (Figure 2). DEFS owns two of these pipelines. Rice, Dynegy and SRG own the remaining pipelines.

## SUMMARY OF MONITORING ACTIVITIES

Groundwater monitoring activities were completed at the site on February 19th and April 18<sup>th</sup> 2003. The February episode was completed as part of the quarterly monitoring schedule. The April episode was completed 1 month early to evaluate the differences between the November 2002 and the February 2003 monitoring results.

The depth to water (and product in MW-1) was measured in all of the wells prior to purging for both episodes. Casing volumes were then calculated based on the construction information contained in Table 1. Each well (excepting MW-1) was then developed using a disposable bailer until a minimum of three casing volumes of water was removed and the field parameters temperature, pH and conductivity stabilized. Dissolved oxygen was also measured to evaluate bioremediation. The equilibrated field parameters and dissolved oxygen are summarized in Table 2.

All samples were placed in an ice-filled chest immediately upon collection and delivered to the analytical laboratory (Environmental Labs of Texas) using standard chain-of-custody protocols. The samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). All development and purge water was disposed of at an approved OCD facility.

A field duplicate was collected from MW-4 during the April 2003 sampling episode to evaluate quality control. A trip blank prepared by the laboratory was also included in the April 2003 analytical set. The field duplicate and a trip blank were both analyzed for BTEX. The field duplicate exhibited good agreement with the original sample. None of the BTEX constituents were measured in the trip blank.

The calculated groundwater elevations are summarized in Table 3. Well MW-1 contained 3.62 and 2.92 feet of free product in February and April 2003 respectively. The remaining wells did not contain any free product. The groundwater elevation values for well MW-1 were corrected using the following formula (all values in feet):

$GWE_{corr} = MGWE + (PT \cdot PD)$ : where

MGWE is the actual measured groundwater elevation;  
PT is the measured free-phase hydrocarbon thickness, and  
PD is the free phase hydrocarbon density (assumed 0.7).

The free-product extraction system proposed in the February 2003 report could not be installed because a bend in the 2-inch casing in well MW-1 at approximately 19 feet below ground surface restricted access. This well will be replaced with a 4-inch well during the field program proposed below in the recommendation section. A 440-volt power source was also installed on

one of the electrical poles near to MW-1 (Figure 2). A free product collection system will be installed immediately upon installation of the replacement well.

## RESULTS AND DISCUSSION

Figures 3 and 4 show the groundwater contours based upon the water measurements. The contours were generated using the Surfer® program with the kriging option. The contours in both figures indicate that the groundwater flow in area investigated is generally to the east-southeast rather than north toward Monument Draw. The groundwater flow gradients and directions are virtually identical to each other as well as the November 2002 results.

The analytical results for all three sampling episodes are summarized in Table 4. The concentrations of the BTEX constituents, particularly benzene and toluene, increased substantially between the November 2002 and the February 2003 results in wells MW-2, MW-3, MW-4 and MW-5. The February and April 2003 benzene concentrations are plotted on Figure 5. The benzene distribution pattern does not match the measured groundwater gradient. The predicted migration direction from a source at well MW-1 should be toward the southeast toward well MW-4 or MW-5 based upon the water table configurations shown in Figures 3 and 4. Instead, well MW-3, that is almost directly south of MW-1, exhibited the greatest BTEX increases.

## RECOMMENDATIONS

Remediacon recommends completing the following activities based upon the data collected in February and April 2003:

1. Replacement of MW-1 with a new 4-inch well and installation of an active free product collection system:
2. Installation of three additional groundwater-monitoring wells at the locations labeled MW-7, MW-8 and MW-9 on Figure 6. These wells would be installed developed and sampled using the protocols used to install wells MW-2 through MW-6.
3. Sampling the groundwater in all wells, including the new wells and the new free product collection well (MW-1), for the BTEX constituents to better evaluate the discrepancy between the groundwater gradients and the benzene concentration results.
4. Sampling all of the wells for chlorides to better assess the historic (non-DEFS) chloride distribution identified in the November 2002 groundwater-sampling episode.

Mr. Stephen Weathers  
August 20, 2003  
Page 4

Well installation and groundwater sampling will be completed in the month of August based upon contractor availability. The free product collection system will be installed in early September and monitor for effectiveness for a period of approximately 1 month. A report detailing all activities will be provided to OCD by the middle of October.

Thank you for allowing Remediacon to complete this work. Do not hesitate to contact me if you have any questions or comments on the contents of this letter or the proposed activities.

Sincerely,  
**REMEDIACON INCORPORATED**

*Michael H. Stewart*

Michael H. Stewart, P.E., C.P.G.  
Principal Engineer

MHS/tbm

cc: Mr. William Olson, OCD Santa Fe  
Mr. Larry Johnson, OCD Hobbs District

**TABLES**

Table 1 – Summary of Well Construction Information

MW#	Top of Casing Elevation	Ground Elevation	Screen Diameter	Screened Interval	Sand Interval	Total Depth
1	3542.10	3539.41	2"			93.14
2	3540.91	3537.70	2"	81-101	77+102	101.83
3	3541.41	3539.30	2"	80-100	78-102	102.56
4	3541.40	3538.51	2"	80-100	78-103	103.42
5	3541.45	3538.69	2"	80-100	78-102	102.86
6	3543.98	3540.94	2"	79-99	75-102	102.80

All units in feet

Table 2 – Summary of Equilibrated Field Parameters

2/18/2003	MW-2	MW-3	MW-4	MW-5	MW-6
Temperature	19.9	19.5	19.6	19.6	19.8
Conductivity	2.80	3.55	3.06	3.54	6.88
pH	8.37	8.23	8.60	8.40	8.07
Dissolved Oxygen	4.64	3.55	7.46	5.35	5.49

4/17/2003	MW-2	MW-3	MW-4	MW-5	MW-6
Temperature	20.1	20.2	20.0	19.9	19.9
Conductivity	2.86	2.79	2.72	3.03	4.92
pH	7.16	7.24	7.41	7.20	7.09
Dissolved Oxygen	2.79	2.57	5.78	3.78	4.46

Units: Temperature: °C  
 Conductivity: mS/cm  
 pH: pH units  
 Dissolved Oxygen: mg/l

Table 3 – Summary of Water Table Elevations

Well	November-02	February-03	April-03
1	3,452.01	3,451.60	3,451.73
2	3,452.11	3,451.97	3,451.96
3	3,452.25	3,451.37	3,451.33
4	3,451.56	3,451.32	3,451.21
5	3,451.39	3,451.21	3,451.09
6	3,448.77	3,448.51	3,448.38

Notes: All units in feet.

The Elevation for MW-1 was corrected using a product density of 0.7

Table 4 - Summary of Chemistry Results

Benzene	MW-2	MW-3	MW-4	MW-4 (duplicate)	MW-5	MW-6
11/15/2002	<0.001	0.017	0.114	0.100	<0.001	<0.001
2/18/2003	0.29	2.52	1.12		0.328	0.001
4/17/2003	0.175	3.18	0.782	0.773	0.128	0.002

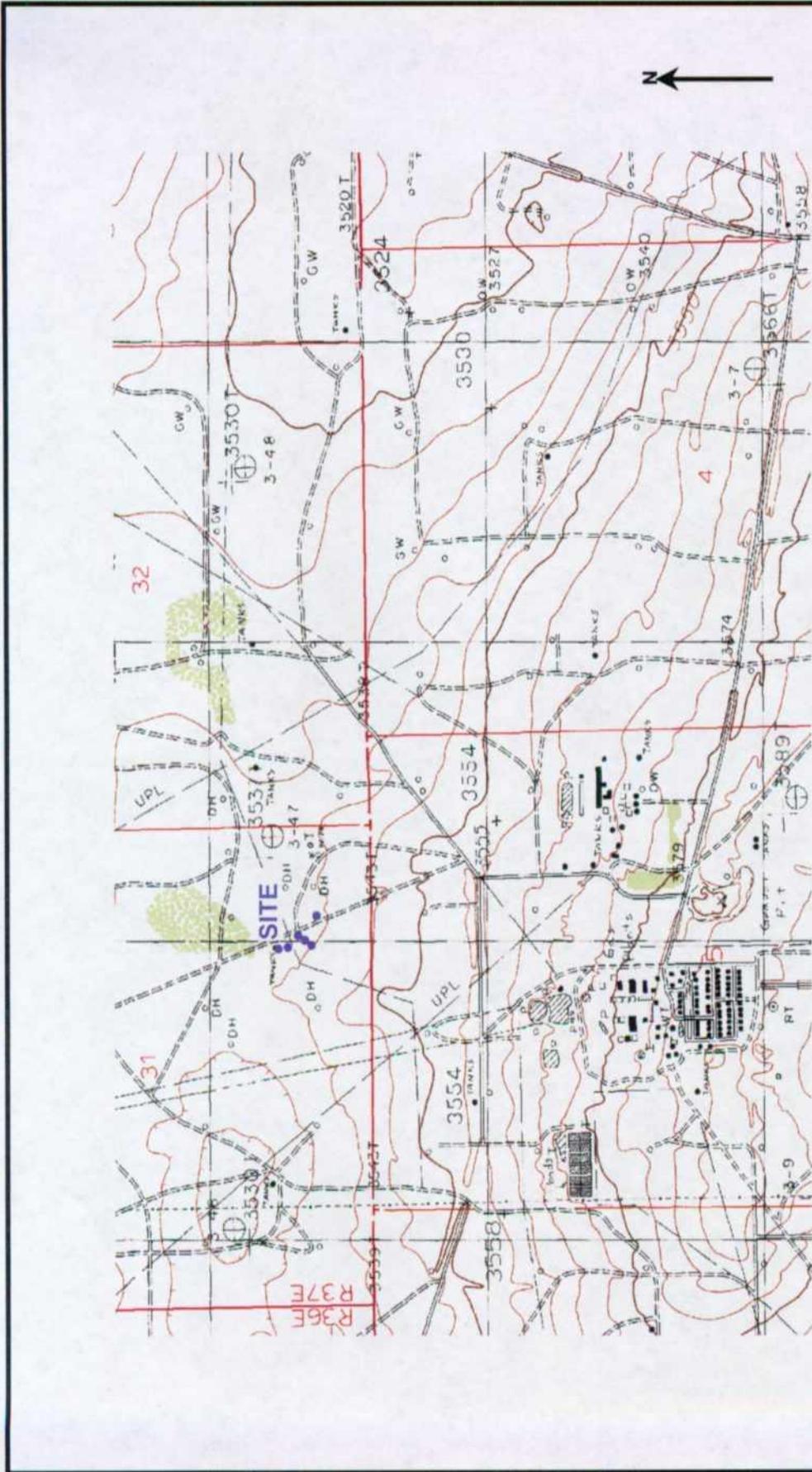
Toluene	MW-2	MW-3	MW-4	MW-4 (duplicate)	MW-5	MW-6
11/15/2002	<0.001	0.005	0.039	0.036	<0.001	<0.001
2/18/2003	0.014	0.634	0.436		0.056	<0.001
4/17/2003	0.007	0.513	0.450	0.445	0.007	<0.001

Ethylbenzene	MW-2	MW-3	MW-4	MW-4 (duplicate)	MW-5	MW-6
11/15/2002	<0.001	<0.001	0.002	0.002	<0.001	<0.001
2/18/2003	0.001	0.021	0.022		0.004	<0.001
4/17/2003	<0.001	0.028	0.029	0.029	<0.001	<0.001

Xylenes	MW-2	MW-3	MW-4	MW-4 (duplicate)	MW-5	MW-6
11/15/2002	<0.001	<0.001	0.003	0.003	<0.001	<0.001
2/18/2003	0.001	0.064	0.032		0.004	<0.001
4/17/2003	<0.001	0.1	0.055	0.054	<0.001	<0.001

All units mg/l

**FIGURES**



Note: Approximate well locations shown in blue.

Figure 1 – Study Location and Topography

C-Line Study Area

**Duke Energy Field Services**

DRAWN BY: MHS  
DATE: 8/03

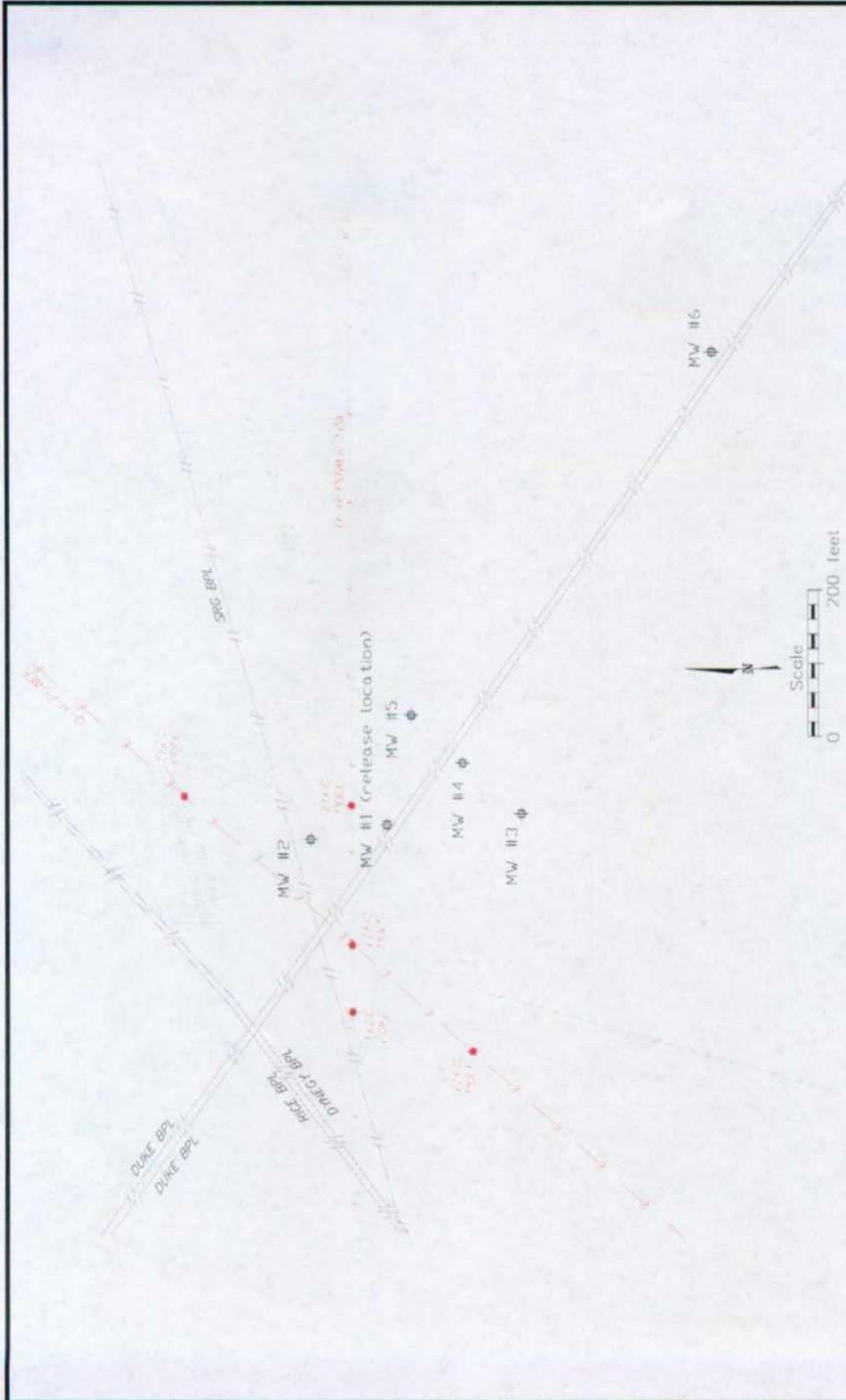


Figure 2 – Study Area Detail and Monitor Well Locations

C-Line Groundwater Characterization

**Duke Energy Field Services**

DRAWN BY: MHS  
DATE: OCT 2002

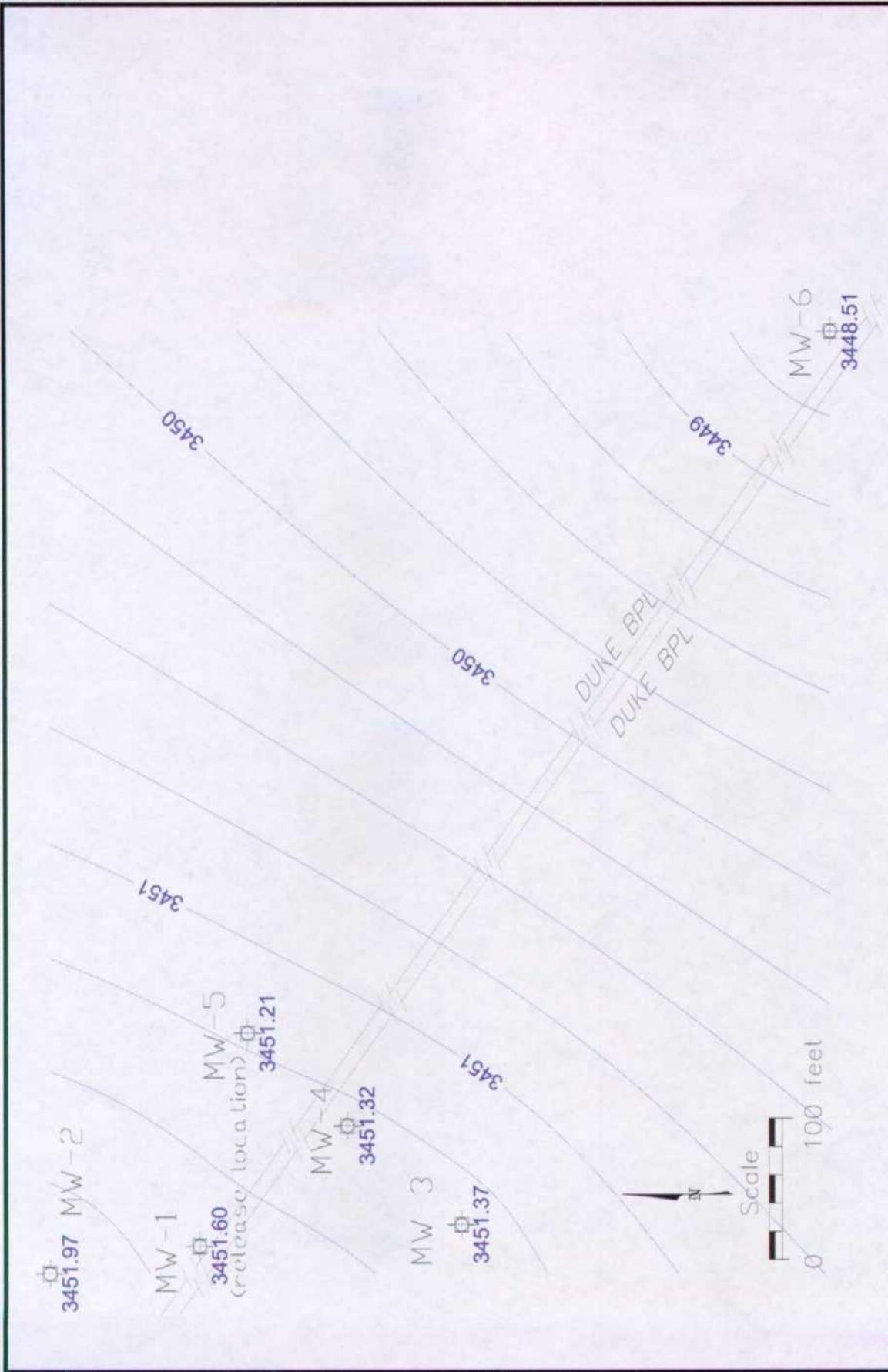


Figure 3 – February 2003 Water Table Elevations

C-Line Groundwater Characterization	
<b>Duke Energy</b>	DRAWN BY: MHS
<b>Field Services</b>	DATE: 8/03

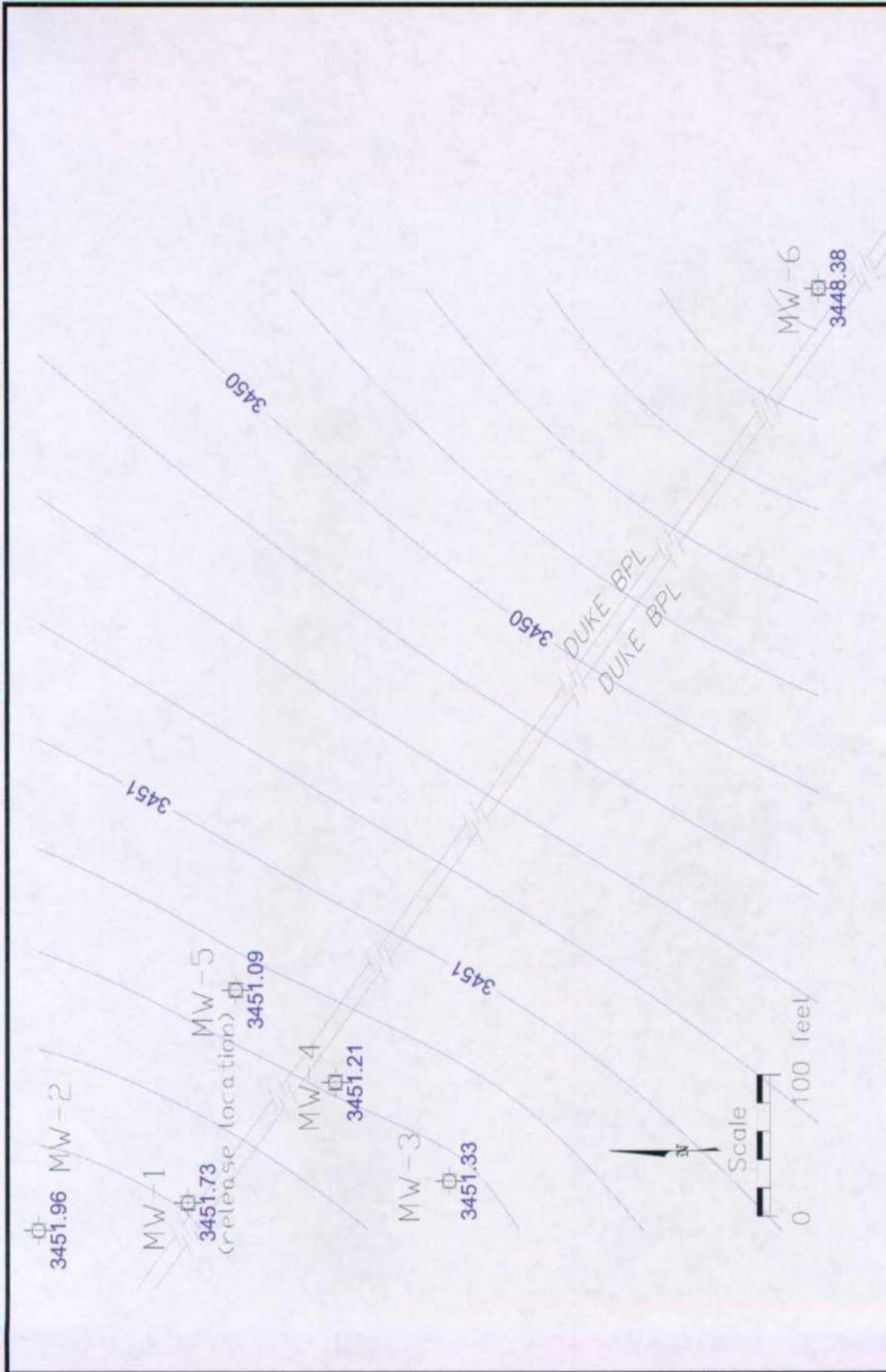


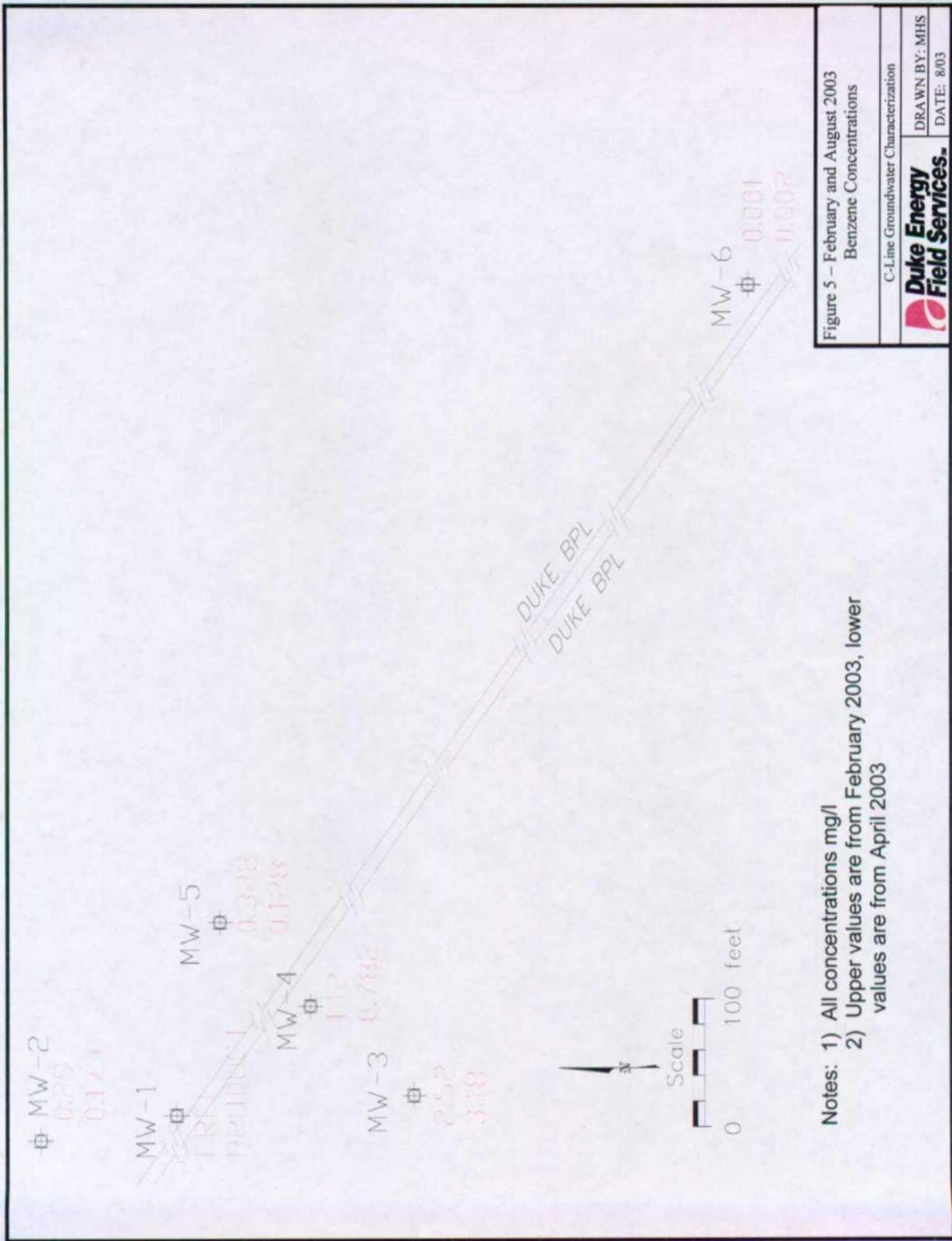
Figure 4 – August 2003 Water Table Elevations

C-Line Groundwater Characterization



DRAWN BY: MHS

DATE: 8/03



Notes: 1) All concentrations mg/l  
 2) Upper values are from February 2003, lower values are from April 2003

Figure 5 - February and August 2003 Benzene Concentrations

C-Line Groundwater Characterization



DRAWN BY: MHS  
 DATE: 8/03

⊕ MW ?

MW-5  
⊕

MW-4  
⊕

MW 3  
⊕

MW-6  
⊕



Scale



0 100 feet

DUKE BPL  
DUKE BPL

Figure 6 – Proposed New Well Locations

C-Line Groundwater Characterization

DRAWN BY: MHS

DATE: OCT 2002





RECEIVED

JUN 8 2003

OIL CONSERVATION  
DIVISION

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

June 6, 2003

Mr. William C. Olson  
New Mexico Oil Conservation Division  
Environmental Bureau  
1220 South St Francis Drive  
Santa Fe, New Mexico 87505-5472

VIA EMAIL

**RE: Case #1R376  
C-1 Pipeline/U-Bar Ranch Site  
Lovington, New Mexico**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit our response to your letter dated May 7, 2003 in regards to the U-Bar Groundwater Characterization Report. You will find a letter addressing your specific requests along with our response. Also attached is additional information requested.

Please review and if you have any additional questions, 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', written over a horizontal line.

Stephen Weathers  
Sr. Environmental Specialist

Attachment

cc: Larry Johnson, OCD Hobbs District  
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

June 3, 2003

Mr. Stephen Weathers  
Duke Energy Field Services, LP  
310 Seventeenth Street, Suite 900  
Denver, Colorado 80202

RECEIVED

JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Re: Response to Requests Contained in May 7, 2003 Oil Conservation Division Letter Regarding Duke Remediation Activities at the U-Bar Ranch, Lovington, New Mexico (Case #1R376, Unit H, Section 14, Township 17 South, Range 36 East)

Dear Mr. Weathers:

This letter provides the information requested by The Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department (OCD) in their letter dated May 7, 2003 for the C-1 Pipeline/U-Bar Ranch site, Lovington, New Mexico. Each OCD response is highlighted and then followed by the required information.

- 1) The document references a December 12, 2002 scope of work and prior reports on remediation activities at the site which are not on file with the OCD Santa Fe Office. Please provide copies of these documents.**

Response:

A copy of the December 12, 2002 scope of work prepared by Remediacon is attached. Environmental Plus Incorporated (EPI) prepared the other documents. EPI will provide them under separate cover.

- 2) The extent of ground water contamination in the vicinity of spill #1 and monitor MW-1 has not been defined. Please submit a work plan to complete the definition of the extent of ground water contamination in this area.**

Response:

The proposed scope of work will be presented following the brief summary of information on the MW-1 location.

The materials in MW-1 were classified as a caliche to a depth of 20 feet below ground surface (bgs). The materials from 20 to 50.5 feet were classified as a well-sorted silty sand (Unified Soil Classification SM) that was interbedded with a moderate-to-well cemented, very-fined-grained sandstone. No evidence of hydrocarbon impacts was noted in the cuttings from the unsaturated materials, the vadose zone or the saturated interval.

Monitor well MW-1 was completed to a total depth of 50.5 feet. The well is screened from 28 to 50.5 feet, and the annular space is sand packed from 28 to 50.5 feet. The depth to water in this well was consistently measured between 41.1 and 41.2 feet in December 2002 and January 2003.

The well was sampled three times with a split sample collected during the middle sampling episode. The BTEX results are summarized below:

Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes
12/13/2002	0.003	<0.001	<0.001	<0.001
1/10/2003	0.041	0.004	0.006	0.003
1/10/2003*	0.050	0.0043	0.005	0.0034
1/23/2003	0.033	0.004	0.006	0.005

All units are mg/l; \*Denotes split sample submitted to a second laboratory

Well MW-1 was installed approximately ## from the original excavation. The ground water BTEX concentrations were initially low for groundwater close to a source location, and they may already be declining if the hydrocarbon source was removed during the remediation activities.

Duke requests permission to sample well MW-1 in June 2003 prior to formulating a work plan to see if the BTEX concentrations are declining following removal of the source area. Duke will provide the data to the OCD upon receipt and validation. Further characterization activities will be based upon the resulting benzene concentration. One of two options would be initiated:

**Option 1:** Duke would continue quarterly monitoring of MW-1 if the benzene concentration is measured at 0.020 mg/l or less. This result would imply that natural biodegradation is effectively removing the hydrocarbons at a measurable rate. Quarterly monitoring would continue until the benzene concentration declines below the 0.010 New Mexico Water Quality Control Commission Groundwater standard.

**Option 2:** Duke would complete further characterization activities if the benzene concentration is measured above 0.020 mg/l. This program would include the installation of two wells topographically down gradient from MW-1. The proposed locations are shown on Figure 1. One well would be installed on a line between the approximate center of the pit and MW-1 at a distance of approximately 100 feet. The second well will be installed to the south of MW-1 to form a triangle so that the two new wells tap groundwater flowing from beneath the remediated site.

The two new wells will be advanced to 50 feet below ground surface (bgs). The casing string will consist of fifteen feet of factory-slotted screen followed by blank casing to the surface. Sand will be placed to a minimum of 1 foot above the top of the screen. The

remaining annular space will backfilled with bentonite pellets. A well protector and a minimum 2-foot by 2-foot concrete pad will be installed at the surface. The new wells will be developed and sampled along with MW-1 using the protocols established at this location.

The locations of all three wells and the footprint of the remediated area will be established along with the elevations of the three wells by a licensed surveyor. The information will then be used to compile a spatially-accurate base map and to calculate the groundwater flow direction in this area.

A report would then be prepared that detailed the results of the well installation and groundwater sampling efforts. A recommended remediation plan would also be included. The report would be prepared within 45 days of the completion of the field activities.

**3) Duke appears to be recommending that the remediation activities be conducted outside of the Rule 19 abatement plan process. Ground water remediation activities can be exempt from a formal abatement plan pursuant to 19.15.1.19.D.(1)(g) NMAC as long as they are done "in a manner that will likely result in compliance with the standards and requirements set forth in Subsection B within one year after notice is required to be given pursuant to Subsection B of 19.15.3.116 NMAC provided that the Division does not object to the abatement action". Is it Duke's intention that ground water contamination at the site will meet standards within one year of notification of contamination? Please clarify this point.**

Response:

Duke's position will depend upon the results of the June sampling program. Its position will depend upon the residual benzene concentration at the end of the year if the benzene concentrations are attenuating and the OCD allows continued quarterly monitoring without additional characterization (Option 1). Duke will formulate a remediation plan to attempt to meet the appropriate standards within one year if the benzene concentrations are not declining (Option 2)

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

DECEMBER 12, 2002 SCOPE OF WORK

# Remediacon Incorporated

Geological and Engineering Services  
mstewart@remediacon.com

PO Box 302, Evergreen, Colorado 80437

Telephone: 303.674.4370

Facsimile: 720.528.8132

December 2, 2002

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

Re: Workplan to Complete Groundwater Characterization Activities on the U-Bar Ranch, Lea County New Mexico.

Dear Mr. Weathers:

Duke Energy Field Services, LP (DEFS) proposes to complete a groundwater characterization program at the U-Bar property. This letter provides background information and a proposed scope of work to complete these activities.

## BACKGROUND INFORMATION

The purpose of this program is to assess whether elevated constituents, specifically sulfide, that are associated with the soils remediation program have migrated to the groundwater. Specific objectives include:

1. Characterize the nature of the unsaturated and uppermost saturated materials beneath the site.
2. Verify the depth to the uppermost saturated materials.
3. Assess for the presence of constituents potentially released from the Lovington C-1 pipeline on the U-Bar Ranch Property.

The eleven soils remediation sites are located in Sections 14, 23, and 24, Township 17 South, Range 36 East (Figure 1). The approximate coordinates are 32° 50' 00" north and 103° 19' 00" west. The land is owned by Mr. Darr Angell doing business as the U-Bar Ranch.

Environmental Plus, Inc. (EPI) personnel remediated the above-referenced eleven areas. Sulfate was the primary constituent of concern within these soils. The EPI remediation activities are documented in separate reports.

EPI researched the permitted water wells within and adjacent to the study area. The research information is summarized in Table 1. The approximate well locations and depths to water are depicted on Figure 2. The depths to water ranged from approximately 36 to 57 feet below land surface (bls) with an average depth of 46.5 feet. Total well depths ranged from 105 to 120 feet and averaged 112.5 feet bls. The site is underlain by

the Ogallala Formation so the groundwater is believed to occur under unconfined (water table) conditions.

## SCOPE OF WORK

The proposed scope of work includes monitoring well installation, monitoring well development and sampling and report preparation. Each activity is described below.

### Monitoring Well Installation

Three groundwater monitoring wells will be installed per the verbal agreement with Mr. Angell. The well locations will be selected in conjunction with Mr. Angell. If possible, the wells will be sited on the southeastern side of the excavation boundary of each of the three selected remediated sites as this is the probable down-gradient groundwater flow direction.

The New Mexico Oil Conservation Division (OCD) will be contacted a minimum of 2 working days prior to the start of any field activity. Notification will be by telephone.

The borings will be advanced using air rotary drilling with potable water added as necessary to facilitate completion. All drilling and installation procedures will be supervised by an experienced geologist or engineer with an appropriate background.

Cuttings samples will be collected on a regular basis. Screening for the presence of volatiles using a photoionization detector will be completed if evidence of hydrocarbon effects are present. 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. Fifteen feet of 2-inch, threaded, factory-slotted Schedule 40 PVC will be placed in the bottom well followed by blank casing to the surface. The annular space will then be backfilled with artificially-graded sand to a minimum depth of 1 foot 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 included an above-ground 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. The coordinates and approximate elevation of each well will be measured using a gps instrument.

### Monitoring Well Development, Purging And Sampling,

Each new well will be developed using a submersible pump or disposable bailer. 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 well will be allowed to sit a minimum of 12 hours (overnight) before it is purged and sampled. A minimum of three casing volumes will be purged from each well prior to sampling. The field parameters temperature, pH and conductivity will be measured after the collection of each casing volume. The wells will be considered stable with the temperature and conductivity stabilize within 10 percent and pH readings remain within 0.2 pH units for three consecutive readings.

Each new well will be sampled using a disposable bailer following the completion of purging. Unfiltered samples will be collected from each well. The samples will be analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) as well as calcium, magnesium, sodium, potassium, bicarbonate alkalinity, chlorides, sulfate and total dissolved solids to assess groundwater quality.

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 will be used to evaluated quality control. The field duplicate will both be analyzed for the constituents listed above.

All development and purge water will be disposed of at an approved OCD facility. All cuttings generated during the drilling process will be stockpiled and sampled and then disposed of in an appropriate fashion.

The above purging, sampling and purge water disposal protocols will be used for any subsequent groundwater monitoring episodes. The analytical suite may be varied based upon the initial sampling results.

### 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.
- Interpretations of the data collected.
- Conclusions on impacts to the groundwater from the pipeline releases.

Mr. Larry Johnson  
December 2, 2002  
Page 4

- Recommendations, if any, for future assessment activities and/or periodic groundwater monitoring.

All analytical laboratory reports, boring logs, and well completion diagrams will be appended to the report.

The field work will begin subsequent to OCD approval with the exact date dependent upon contractor scheduling and the upcoming holidays. The field phase will take approximately 5 days to complete. A brief report will be prepared upon receipt and validation of the laboratory analytical results. The report will be submitted to the OCD within 60 days of the completion of the field activities unless extenuating circumstances arise.

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

Respectfully Submitted,  
**REMIACOM INCORPORATED**

*Michael H. Stewart*

Michael H. Stewart, P.E.  
Principal Engineer

Cc: Mr. Stephen Weathers, DEFS

TABLES

Table 1 – Summary of Permitted Water Well Information Compiled by Environmental Plus Incorporated

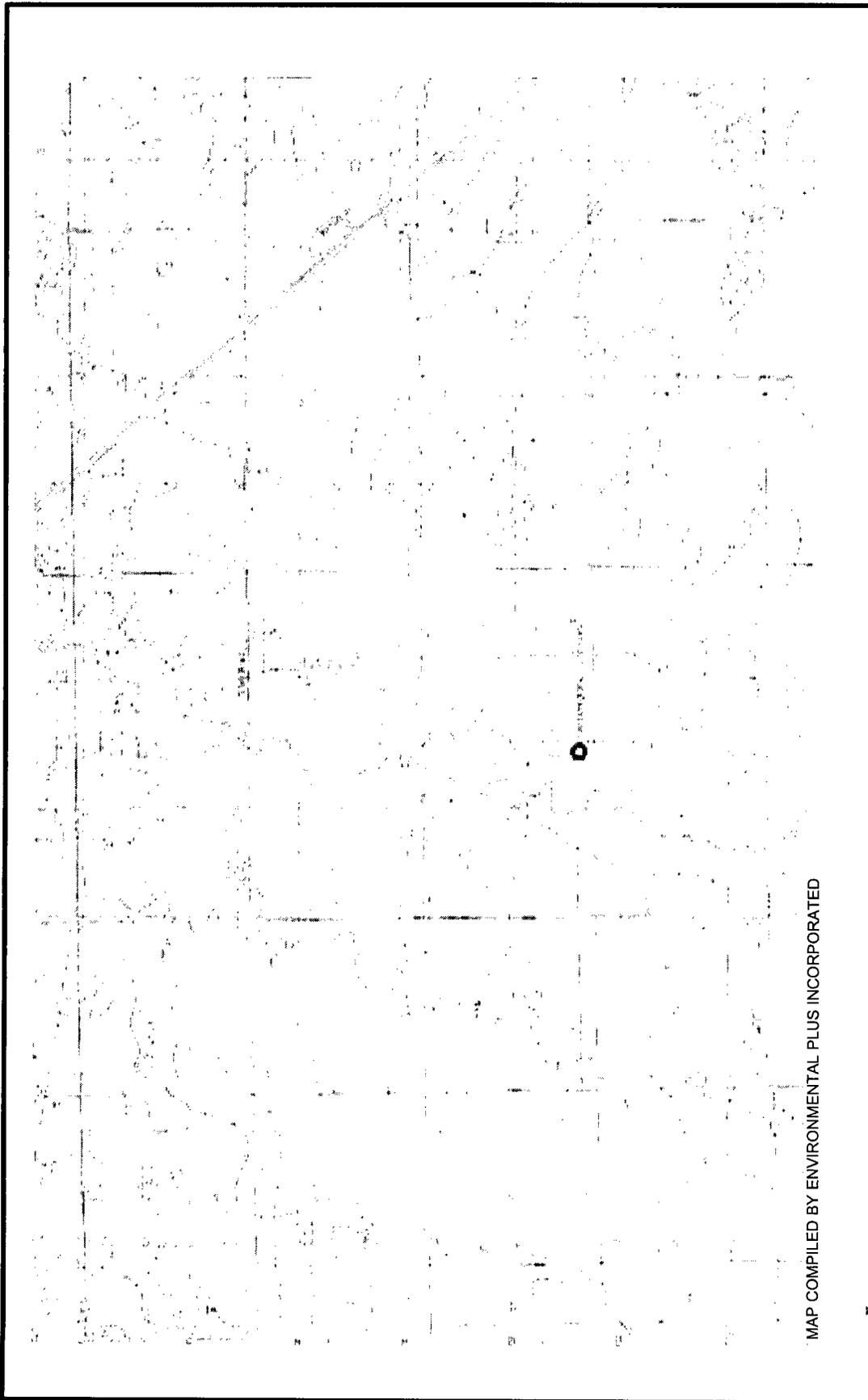
New Mexico Office of the State Engineer WELL / SURFACE DATA REPORT 07/09/2002

DB File Nbr	Use/ Diversion	Owner	Well Number	Source	Tws	Rng	Sec	q	q	q	UTM Zone	Easting	Northing	Start Date	Finish Date	Well		Water	
																below ground surface	below ground surface	Level feet below ground surface	Level feet below ground surface
L 02199	PRO 3	LAWLESS DRILLING CO.	L 02199	Shallow	17S	36E	14	4	4	13	657419	3633448	4/29/1953	4/30/1953	110	45			
L 03882	PRO 3	MORAN OIL PRODUCING AN L	L 02199 APPRO Shallow L 03882 Shallow	Shallow	17S	36E	14	4	13	657216	3633642	4/29/1953	4/30/1953	110	45				
L 05161	PRO 0	CARPER DRILLING COMPANY\ L	L 03882 APPRO Shallow	Shallow	17S	36E	14	1	3	656200	3634236	5/26/1958	5/26/1958	120	57				
L 05281	PRO 0	FOSTER DRILG. CO.	L 05161 Shallow	Shallow	17S	36E	14	4	2	656200	3634236	5/26/1958	5/26/1958	120	57				
L 06586 (E)	PRO 0	CACTUS DRILLING COMPANY\ L	L 05281 Shallow	Shallow	17S	36E	24	4	2	657414	3633843	5/31/1963	5/31/1963	105	36				
			L 06586 (E)		17S	36E	24	4	1	659051	3632248	10/25/1963	10/31/1963	110	52				
										658546	3632144								

Record Count: 7

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

FIGURES



MAP COMPILED BY ENVIRONMENTAL PLUS INCORPORATED



APPROXIMATE SCALE



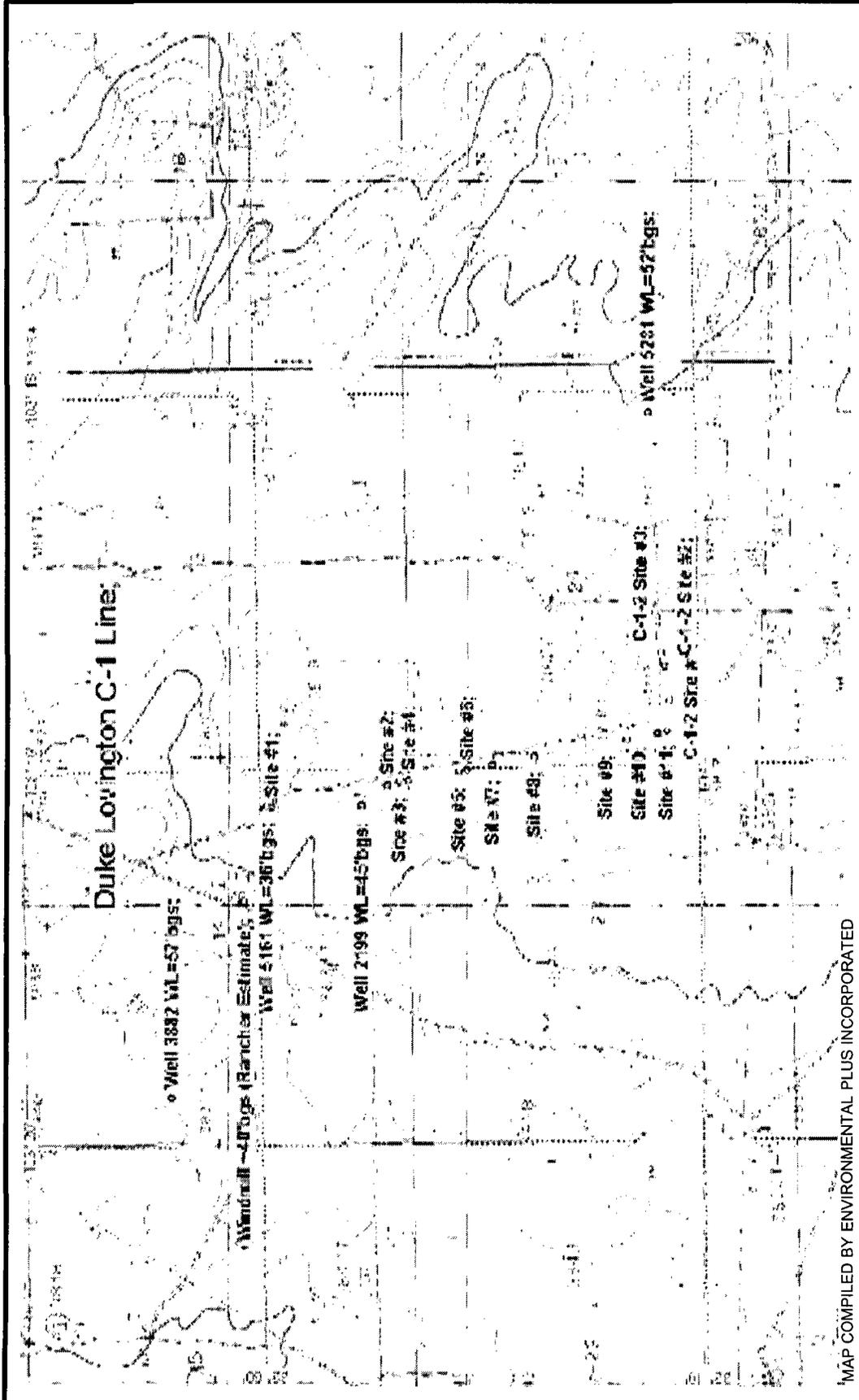
Figure 1 – Study Area Location

U-Bar Ranch Groundwater Characterization

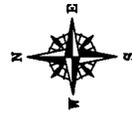
DRAWN BY: EPI

DATE: NOV 2002





MAP COMPILED BY ENVIRONMENTAL PLUS INCORPORATED



APPROXIMATE SCALE



Figure 2 – Remediation and Water Well Locations

U-Bar Ranch Groundwater Characterization



DRAWN BY: EPI

DATE: Feb. 2002

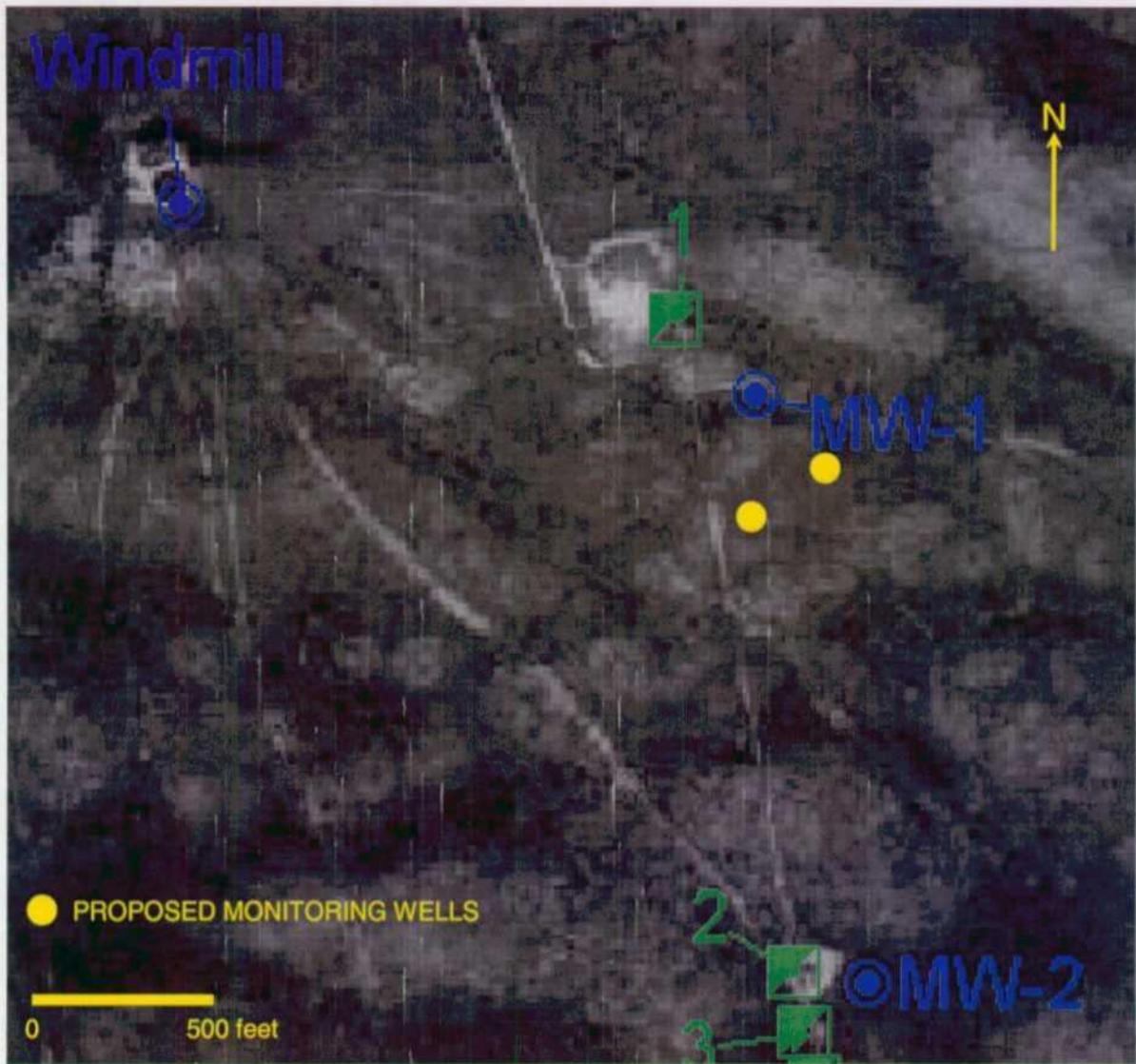


Figure 1– Proposed Well Locations  
U-Bar Ranch Study Area



DRAWN BY: MHS

REVISED:

DATE: 8/01



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Lori Wrotenbery**

Director

**Oil Conservation Division**

May 7, 2003

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

**RE: CASE #1R376  
C-1 PIPELINE/U-BAR RANCH SITE  
LOVINGTON, NEW MEXICO**

Dear Mr. Weathers:

The New Mexico Oil Conservation Division (OCD) has reviewed Duke Energy Field Services, Inc. (Duke) April 11, 2003 "REPORT ON GROUNDWATER CHARACTERIZATION ACTIVITIES ON THE U-BAR RANCH, LEA COUNTY, NEW MEXICO". This document contains the results of Duke's installation of ground water monitoring wells for investigating petroleum contamination from Duke's C-1 pipeline located in Section 16 and Sections 14, 23 and 24 of Township 17 South, Range 36 East, Lea County, New Mexico. The document also contains recommendations for remediation and monitoring of contaminated ground water at the site.

The OCD has the following requests for information regarding the above-referenced document:

1. The document references a December 12, 2002 scope of work and prior reports on remediation activities at the site which are not on file with the OCD Santa Fe Office. Please provide copies of these documents.
2. The extent of ground water contamination in the vicinity of spill #1 and monitor well MW-1 has not been defined. Please submit a work plan to complete the definition of the extent of ground water contamination in this area.
3. Duke appears to be recommending that the remediation activities be conducted outside the Rule 19 abatement plan process. Ground water remediation activities can be exempt from a formal abatement plan pursuant to 19.15.1.19.D.(1)(g) NMAC as long as they are done "in a manner that will likely result in compliance with the standards and requirements set forth in Subsection B within one year after notice is required to be given pursuant to Subsection B of 19.15.3.116 NMAC provided that the Division does not object to the abatement action". Is it Duke's intention that ground water contamination at the site will meet the standards within one year of notification of the contamination? Please clarify this point

Please submit the above information to the OCD Santa Fe Office by June 7, 2003 with a copy provided to the OCD Hobbs District Office. Submission of this information will allow the OCD to complete a review of Duke's recommendations.

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

Sincerely,

A handwritten signature in black ink, appearing to read "William C. Olson". The signature is fluid and cursive, with the first name "William" being the most prominent.

William C. Olson  
Hydrologist  
Environmental Bureau

cc: Chris Williams, OCD Hobbs District Office

RECEIVED

FEB 13 2003  
Environmental Bureau  
Oil Conservation Division

February 11, 2003

Mr. Randy Bayliss  
Environmental Bureau  
New Mexico Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

Certified Mail # 2399 8069  
Return Receipt Requested

**RE: Characterization Report for C-Line 50602, 52102 and 52302 Releases, Lea County, NM.**

Dear Mr. Bayliss:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the **Characterization Report for C-Line 50602, 52102 and 52302 Releases, Lea County New Mexico.**

The characterization report summarizes the field program and associated results for the C-Line releases. The report also discusses a remedial strategy. Upon your review of the report, DEFS would request approval for moving forward and implementing the remedial strategy. Upon your approval, DEFS will proceed with the field activities.

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

Sincerely

**Duke Energy Field Services, LP**



Stephen Weathers  
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Environmental Files

**Olson, William**

---

**From:** Stephen W. Weathers [swweathers@duke-energy.com]  
**Sent:** Thursday, January 16, 2003 9:55 PM  
**To:** WOLSON@state.nm.us  
**Subject:** Duke Energy Lovington C-1 Line

Bill, this email is to let you know that I have hydrocarbon impacts to groundwater on our Lovington C-1 line on Darr Angells Property. Benzene was detected at a concentration of .040 ppm in MW-2. There has been an issue of what well was impacted do to possible mix up on samples. We will resample the site and I will get back to you to verify which well was impacted along with the C-141 that was submitted for this site. Call me with any questions at 303-619-3042

Thanks  
Steve Weathers



**Duke Energy Field Services**  
P.O. Box 5493  
Denver, Colorado 80217  
370 17th Street, Suite 900  
Denver, Colorado 80202  
303/595-3331

October 22, 2002

Mr. Randy Bayliss  
Environmental Bureau  
New Mexico Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

**RE: Workplan for Groundwater Characterization Activities at the C-Line  
Locations, Lea County, NM.**

Dear Mr. Bayliss:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the **Workplan to Complete Groundwater Characterization Activities at the C-Line 50602, 52102 and 52302 Locations in Lea County New Mexico for Duke Energy Field Services, LP**

Upon your approval of the workplan, DEFS will proceed with the field activities.

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

Sincerely

**Duke Energy Field Services, LP**

Stephen Weathers  
Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Environmental Files



October 21, 2002

Mr. Randy Bayliss, P.E. Hydrologist  
State of New Mexico  
Energy, Minerals, and Natural Resources Department  
Oil Conservation Division, Environmental Bureau  
P.O. Box 6429  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Duke Energy Field Services C-Line 50602, UL-O SW¼ of the SE¼ Section 31, T20S, R37E,  
-7.0 miles southwest of Monument Lea County, New Mexico

Subject: Site Characterization and Proposed Soil Closure Supported By VADSAT Risk Assessment August  
2002

Dear Mr. Bayliss,

Enclosed herewith, please find 2 copies of the document titled, "Duke Energy Field Services C-Line 50602 Site Characterization and Closure Proposal for Soil supported by VADSAT Risk Assessment, August 2002." Environmental Plus, Inc. (EPI), on behalf of Mr. Steve Weathers and Mr. Paul Mulkey, Duke Energy Field Services, submits the report and soil closure proposal for your consideration and approval. Please note that a ground water investigation plan is being developed to assess locally impacted ground water.

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

Sincerely,

Pat McCasland  
EPI Technical Services Manager

cc: Larry Johnson, NMOCD Hobbs, w/enclosure  
Steve Weathers, Duke, w/enclosure  
Paul Mulkey, Duke, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

October 11, 2002

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

Re: Workplan to Complete Groundwater Characterization Activities at the C-Line  
50602, 52102 and 52302 Locations in Lea County New Mexico for Duke Energy  
Field Services, LP

Dear Mr. Weathers:

This letter provides the suggested scope of work and schedule to complete groundwater characterization activities at the C-Line 50602, 52102 and 52302 locations. The program purpose and objectives and a background section are presented first. A description of the field program is presented next. The final section provides the tentative schedule for the program.

#### PURPOSE AND OBJECTIVES

The purpose of this program is to characterize the groundwater conditions and free product distribution within the study area. Specific objectives include:

1. Define the plume boundaries associated with the 50602 location.
2. Install a free product removal system at the 50602 location.
3. Assess the groundwater beneath the 52102 and 52302 locations.
4. Evaluate the degree and extent of natural biodegradation processes on the hydrocarbon distribution.
5. Define the groundwater flow direction and gradient.
6. Collect information on the physical and chemical properties of the subsurface materials.

## BACKGROUND INFORMATION

The study area is located in the southeastern quarter of the southeastern quarter of Section 31, Township 19 South, Range 37 East approximately 6.25 miles south and 1.25 miles west of the town of Monument in Lea County New Mexico. The approximate coordinates are 32 degrees 32.5 minutes north, 103 degrees 15.3 minutes east.

The study area includes three separate remediation locations. The three locations, the surrounding topography and drainage features are shown on Figure 1.

The topography in the area falls gently (0.33 percent) to the northeast toward Monument Draw. Monument Draw is located approximately 2 miles to the north.

Information contained in Nicholson and Clebsch<sup>1</sup> indicates the following:

1. The uppermost materials consist of a thin veneer of dune sand that overlies sandy Quaternary alluvial deposits. Nicholson and Clebsch show the site outside the boundaries of the Ogallala Formation; however, the Quaternary alluvial deposits and the Ogallala Formation are composed of similar materials so they probably have similar permeabilities.
2. Bedrock beneath the site is at an elevation of 3410 feet. The site elevation is approximately 3540 feet (Figure 1) yielding an estimated unconsolidated material thickness of 130 feet.
3. The groundwater contour map in the Nicholson and Clebsch report is inconclusive in the vicinity of the site because it is located on their boundary for the saturated unconsolidated materials and the underlying bedrock. The regional groundwater flow direction for the Ogallala aquifer east of the site is to the southeast.

Approximate water-table elevations are shown for four permitted wells and the well advanced by EPI in the center of the 5602 location are on Figure 1. The data are inconclusive relative to establishing a groundwater flow direction. The relationship between the EPI well and well #5277 indicates a southeasterly groundwater flow direction. The relationship between well #5277 and the other three permitted wells indicates that the groundwater might flow to the north toward Monument Draw.

Figure 2 shows the spatial relationship between the three locations. These locations were remediated by Environmental Plus Incorporated (EPI) between April and June 2002.

The hydrocarbon effects at location 52102 attenuated at 32 feet. A risk assessment with barrier installation was approved by the NMOCD. A 1-foot compacted clay barrier was

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<sup>1</sup> Nicholson, Alexander, Jr. and Clebsch, Alfred, Jr., 1961, Geology and Ground-Water Conditions in Southern Lea County New Mexico. New Mexico State Bureau of Mines and Mineral Resources, Ground-Water Report 6, 123 pp.

installed from 21 to 22 feet bgs to overlay and isolate the residual contaminated 20 foot diameter soil column in place between 22 and 32 feet.

EPI removed approximately 2,707 cubic yards at location 50602. The excavation extended to a depth of 18 feet below ground surface (bgs) within an excavated surface area of 6,475 square feet (Figure 3). An affected column of soils approximately 22 feet in diameter remained at the base of the 18 foot excavation. All sidewall readings and the portion of the bottom beyond the contaminated soil column perimeter were measured with a photoionization detector at less than 100 ppm. A clay barrier was install from 17 to 18 feet bgs over the residual contaminated soil column with a 10 foot perimeter apron to prevent horizontal encroachment if infiltration of storm water occurs.

Soil boring BH1 was advanced beneath the origin at the original leak location shown on Figure 3 to delineate the vertical extent of hydrocarbon impacts. Ionizable constituent headspace data collected with a calibrated Photoionization Detector (PID) indicated the effects at this location extended to a depth of 51 feet bgs. PID headspace data from the west sidewall were all less than 100 ppm and deemed acceptable.

BH2 was advanced at the location shown on Figure 3 to establish the eastward horizontal extent of hydrocarbon effects. Samples were collected at 5-foot intervals and the headspace was measured with a PID to the top of the saturated zone at a depth of 90 feet bgs. The 5 foot and 80 foot samples were less than 100 ppm. All other measurements exceeded 100 ppm with the highest reading of 1,246 ppm occurring in the 45-foot sample. BH2 was then converted to a 2-inch diameter monitoring well with a total depth of 94.4 feet bgs to assess ground water impact. After development, product was measured at 89.5 feet bgs with ground water at 92.8 feet bgs, (i.e., 3.3 feet of product).

EPI also removed approximately 1,536 cubic yards at location 52302. The excavation extended to a depth of 23 feet bgs within an excavated surface area of 1,902 square feet (Figure 4). Soil borings (north soil boring and south soil boring, Figure 4) advanced in the bottom of the excavation identified a column of soil contaminated above the TPH<sub>8015m</sub> threshold approximately 20 feet in diameter in the center of the south half of the excavation extending vertically to between 5 and 10 feet below the bottom of the excavation (28 to 33 feet bgs) representing an in-situ soil volume of 58 and 116 cubic yards (yd<sup>3</sup>), respectively.

A 1-foot compacted clay barrier was installed from 22 to 23 feet bgs over the residual contaminated soil column with a 10 foot perimeter apron to overlay and isolate the residual contaminated soil column left in place between 22 and 32 feet.

## PROPOSED PROGRAM COMPONENTS

The field program described in this section was designed to collect the data necessary to complete characterization of the site at a level that will fulfill the above objectives. The tasks include: 1) monitoring well installation, development and sampling, 2) well gauging

and water table contouring; 3) physical property measurement; 4) free product removal system installation and 5) report preparation. Each task is described below.

#### Monitoring Well Installation

Six new monitoring wells will be installed, developed and sampled. The proposed well locations are shown on Figure 2, and the rationale for each well is described in Table 1. The well locations were selected based upon spatial and flow considerations originating from a southeastern flow direction. The exact locations may be altered based upon subsurface obstacles, access constraints, or changed conditions such as a more northerly groundwater flow component.

The borings will be advanced using air rotary drilling with potable water added as necessary to facilitate completion. All drilling and installation procedures will be supervised by an experienced geologist or engineer with an appropriate background.

Cuttings samples will be collected on a regular basis and screened for the presence of volatiles using a photoionization detector. Grab samples will be collected at discrete intervals at the discretion of the field geologist to refine lithologic, saturated material and contaminant distribution. 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 100 feet if no saturated materials are encountered. Fifteen feet of 2-inch, threaded, factory-slotted Schedule 40 PVC will be placed in the well. Well MW-1 will be completed using 4 inch PVC to facilitate free product removal. Twenty feet of slotted PVC will be used if no saturated materials are encountered during drilling. 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 included an above-ground 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. The coordinates and elevation of each well will be measured by a licensed surveyor to a tolerance of 1 foot for the northing and easting coordinates and 0.01 feet for the elevation.

#### Monitoring Well Development, Purging And Sampling.

Each new well (excepting MW-1 if it contains free product) will be developed using 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. Dissolved oxygen measurements will also be made in the field to evaluate bioremediation.

In the event the well cannot be continuously purged, it will be bailed dry a minimum of three times. A well will not be developed and sampled if free product is present after installation. A well will not also not be sampled if free product enters the well during its development. Well MW-1 will be sampled using the above procedures after all of the other wells are developed if no free product is encountered.

Each well will be allowed to sit a minimum of 24 hours before it is purged and sampled. A minimum of three casing volumes will be purged from each well prior to sampling. The field parameters temperature, pH and conductivity will be measured after the collection of each casing volume. Dissolved oxygen measurements will also be made in the field to evaluate bioremediation. The wells will be considered stable with the temperature and conductivity stabilize within 10 percent and pH readings remain within 0.2 pH units for three consecutive readings.

Each new well will be sampled using a disposable bailer following the completion of purging. Unfiltered samples will be collected from each well (except MW-1 if free product is present). The samples will be analyzed for the organic constituents benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons as oil and diesel.

Additional unfiltered samples will be collected from wells MW-2, MW-4 and MW-6. Each sample will be analyzed for the inorganic constituents calcium, magnesium, sodium, potassium, bicarbonate alkalinity, chlorides, sulfate and total dissolved solids to assess groundwater quality. Field filtered samples from these three wells will be analyzed for the eight RCRA metals (arsenic, barium cadmium, chromium, lead, mercury, selenium and silver), iron and manganese. 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.

All development and purge water will be disposed of at an approved OCD facility. All cuttings generated during the drilling process will be stockpiled and sampled and then disposed of in an appropriate fashion.

The above purging, sampling and purge water disposal protocols will be used for any subsequent groundwater monitoring episodes. The analytical suite may be varied based upon the initial sampling results. OCD will be contacted a minimum of 2 working days prior to sampling (including the initial sampling effort) so that they have the opportunity to collect split samples.

#### Well Gauging And Water Table Contouring:

The depth to water will be measured in each well to the nearest 0.01 foot a minimum of 24 hours following installation to ensure that the water table has fully equilibrated.

A water table map will be prepared based upon the data collected. The map will include the water table elevations, a set of water table contours and indications of groundwater flow directions.

#### Physical Property Measurement

The final field activity will be to measure the physical properties of the saturated materials. Pumping tests during well development will be completed to measure the physical properties of the water saturated materials. A bail down tests will also be completed on MW-1 to evaluate product recovery rates.

Both drawdown and recovery verses time will be measured on a minimum of three of the wells to measure value and variation of hydraulic conductivity of the saturated materials. The optimal wells to evaluate are MW-2, MW-4 and MW-6 because of their geographical separation. The results will be evaluated using standard analytical techniques.

#### Free Product Removal System Installation

A free product removal system will be installed in MW-1. The system will use forced air to remove the product. The system will remove the product and store it in an above-ground storage tank. The tank will be placed inside a secondary containment structure. A high-level switch will be installed to ensure that product does not overflow the tank.

#### 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.
- Conclusions on product recovery rates in well MW-1.
- A description of the free product system.
- Interpretations of the data collected.
- Conclusions on groundwater flow direction and velocity.

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

Mr. Stephen Weathers  
October 11, 2002  
Page 7

recommendations for additional characterization activities and/or remediation components necessary to remediate the site.

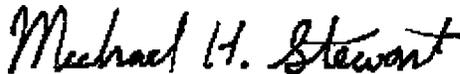
#### PROGRAM SCHEDULE

The program schedule presented below is tentative. The assumed base date is the approval date by OCD

- Day 0: Plan approval by the New Mexico Oil Conservation Division (OCD).
- Weeks 1 & 2: Schedule contractors and complete utility locates.
- Week 3: Well installation and groundwater development/pumping tests completed.
- Week 4: Free product system installation. Well surveying, sampling and gauging completed
- Weeks 5-8: Analyses and validation of groundwater samples. Compilation of surveying and field data.
- Weeks 9-12: Prepare report and submit to OCD

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

MHS/tbm

attachments

**TABLES**

Table 1 –Proposed Well Locations and Purpose for Installation

Well	Location	Purpose
MW-1	Source	Upgrade existing well to 4-inch for free product recovery
MW-2	Down Gradient	Probable downgradient well for the 52102 location
	Up gradient	Probable upgradient well for 50602 location
MW-3	Down gradient	Probable downgradient characterization or boundary well
MW-4	Down gradient	Probable downgradient characterization or boundary well
MW-5	Down gradient	Probable downgradient characterization or boundary well
MW-6	52302	Evaluate groundwater conditions at location 52302

**FIGURES**

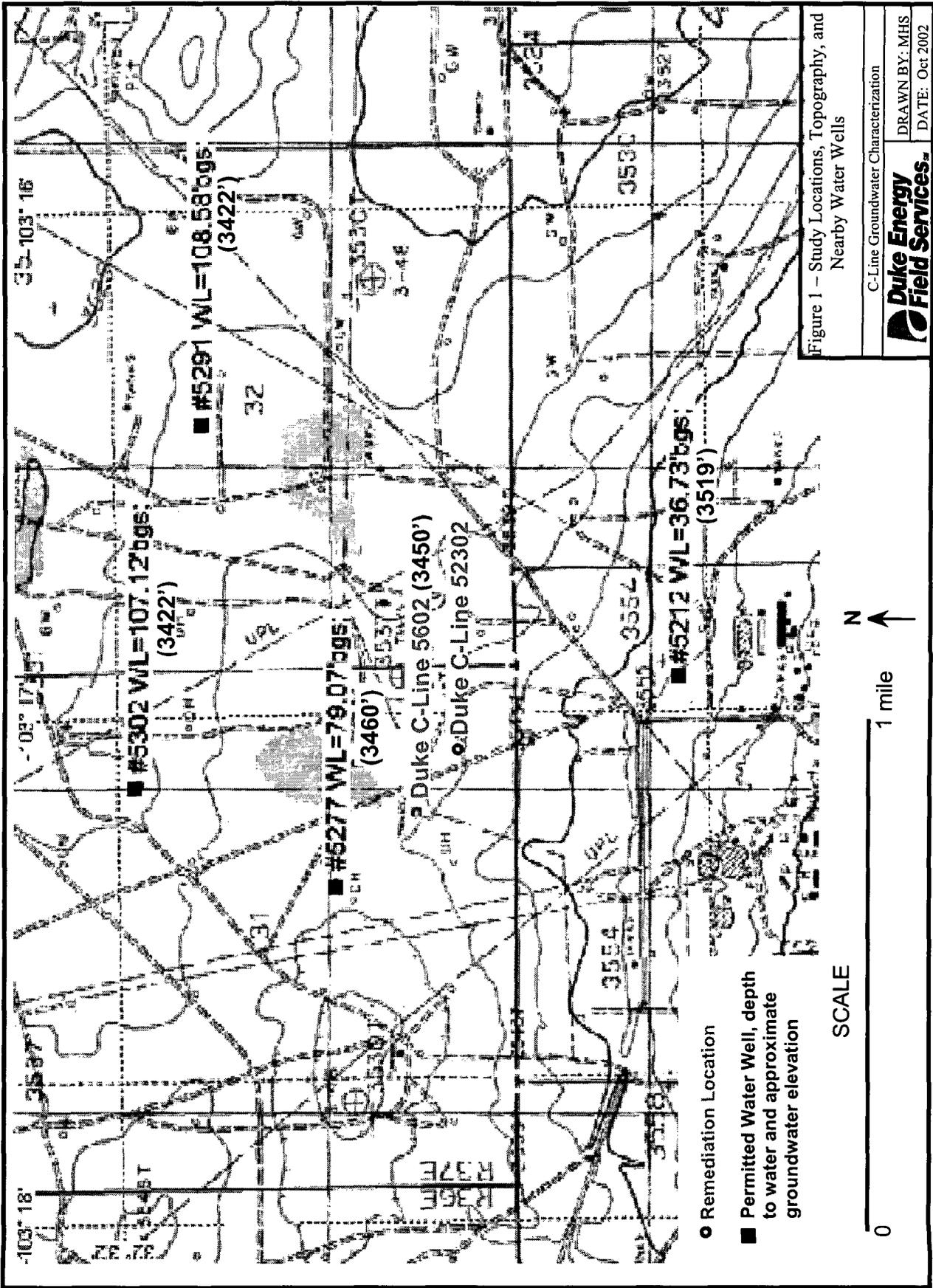


Figure 1 - Study Locations, Topography, and Nearby Water Wells

C-Line Groundwater Characterization

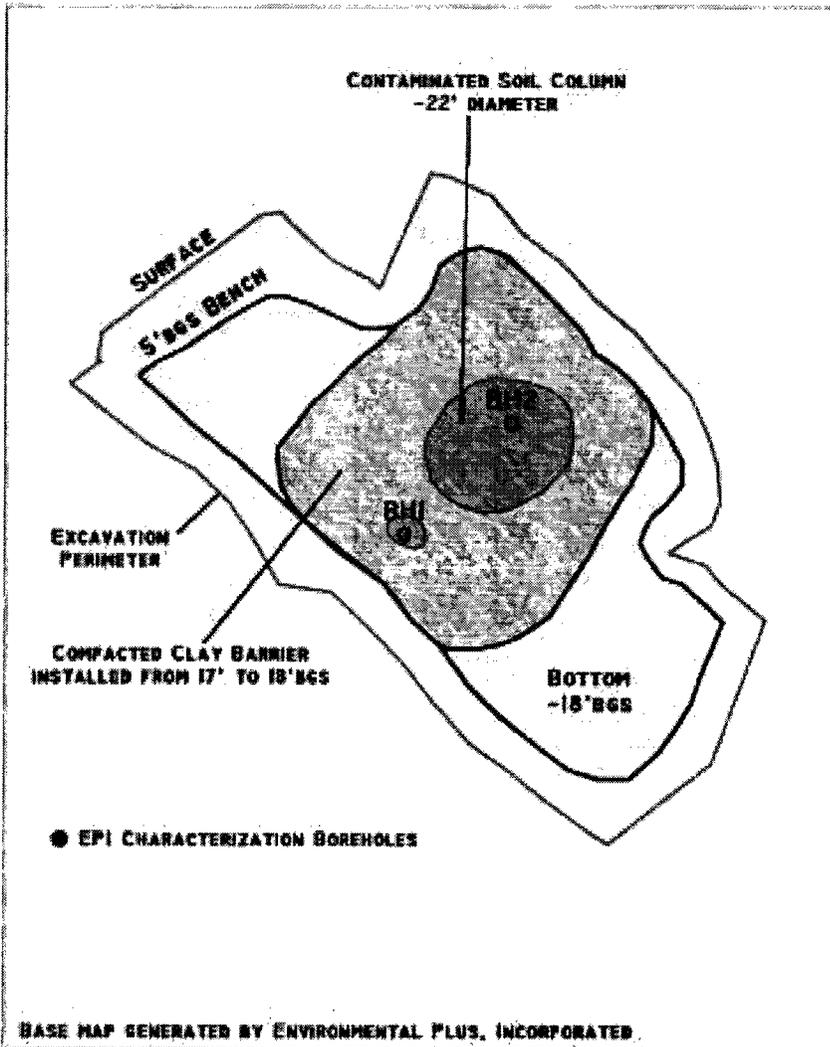
**Duke Energy Field Services**

DRAWN BY: MHS  
DATE: Oct 2002

- Remediation Location
- Permitted Water Well, depth to water and approximate groundwater elevation







DUKE ENERGY FIELD SERVICES  
 C-LINE 50602 EXCAVATION/BOREHOLE MAP  
 SW/4 OF THE SE/4 UL-0 SECTION 31 T20S R37E

UNIVERSAL TRANSVERSE MERCATOR  
 15 NORTH  
 NAD 83 UTM (New Mexico)

SCALE 1:500

MULTIPLE FILES  
 10/8/2002



FEET



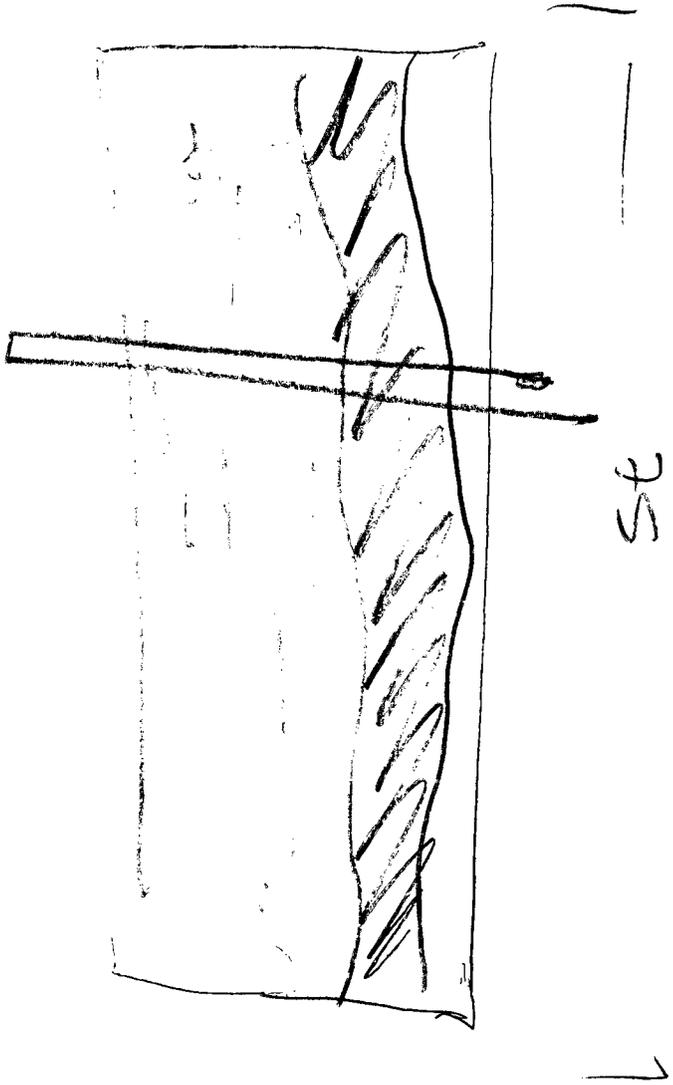
Figure 3 – 50602 Location Details  
 C-Line Groundwater Characterization



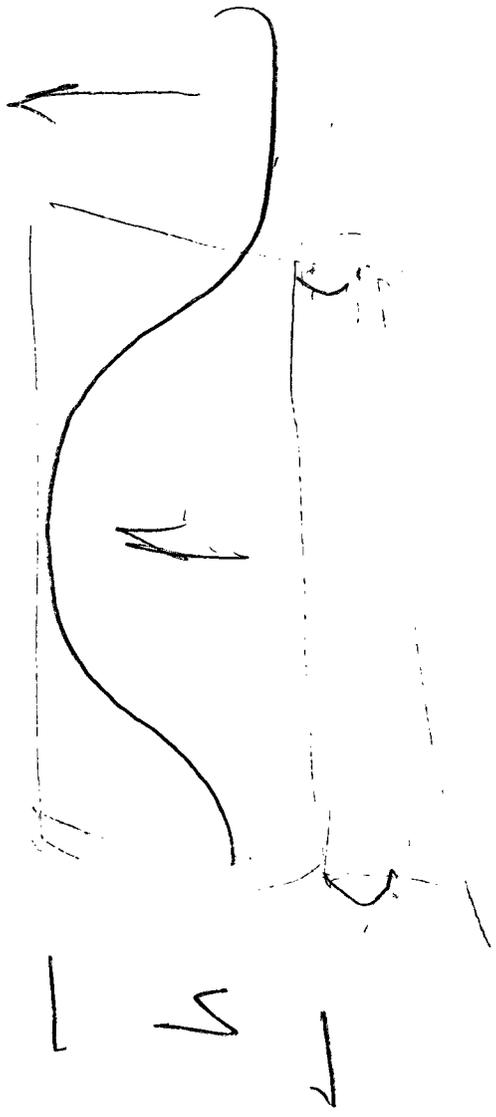
DRAWN BY: MHS

REVISED:

DATE: 8/01









Micro-Blaze Micro-Blaze Out

August 05, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1-2 Line (Site 3) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the SW $\frac{1}{4}$  (Unit Letter K), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'04.96"N and 103°18'41.82"W. The site is approximately 8.08 miles southeast (bearing 164.6°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

# Duke Energy Field Services

Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1-2 Line (Site 3)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1-2 Line (Site 3)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~379-ft perimeter			
LSP Area: ~5054-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 04.96"N			
Longitude: 103° 18' 41.82"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~1700-ft			
Feet from West Section Line: ~1492-ft			
Location- Unit or ¼¼: NE¼ of the SW ¼ or Unit Letter: K			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points			
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	
Ground water Score = 20		Wellhead Protection Area Score = 0	
Site Rank (1+2+3) = 20		Surface Water Score = 0	
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address <b>11525 West Carlsbad Hwy, Hobbs, NM 88240</b>	Telephone No. <b>505.397.5716</b>
Facility Name <b>Lovington 4" C-1-2 Line - Release Site 3</b>	Facility Type <b>Natural Gas Pipeline</b>

Surface Owner <b>Mr. Darr Angell (dba "U-Bar Ranch")</b>	Mineral Owner	Lease No.
---	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the South Line	Feet from the West Line	Latitude	Longitude	County:
<b>K</b>	<b>24</b>	<b>17S</b>	<b>36E</b>	<b>1700</b>	<b>1492</b>	<b>32° 49' 04.96" N</b>	<b>103° 18' 41.82" W</b>	<b>LEA</b>

**NATURE OF RELEASE**

Type of Release <b>Sour Natural Gas and associated components</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>NA</b>
Source of Release <b>4" Steel pipeline</b>	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <b>Historical Site</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

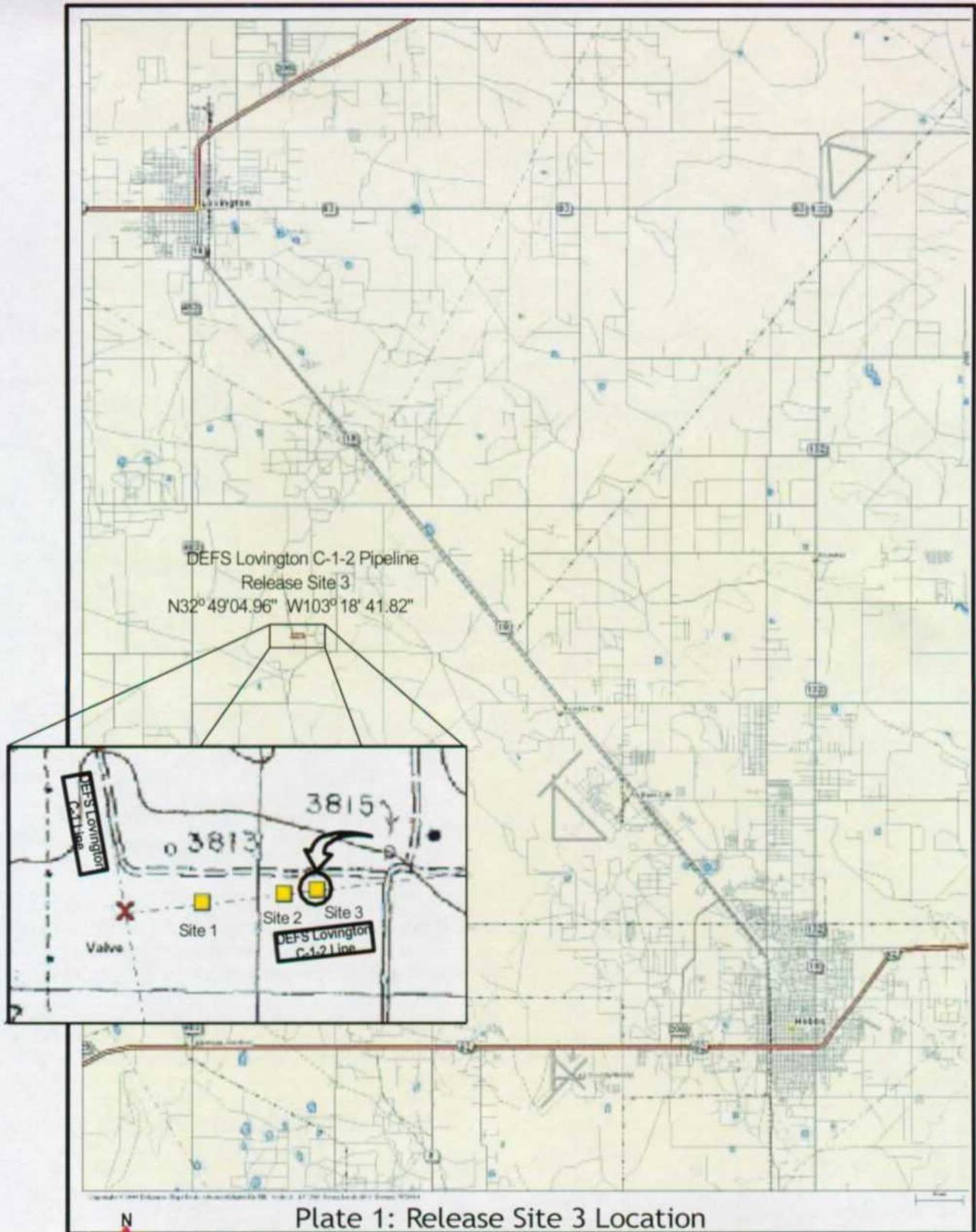
Describe Cause of Problem and Remedial Action Taken.\*  
**Corroded pipe. Line repair clamps installed.**

Describe Area Affected and Cleanup Action Taken.\*  
**Area = 5054-ft<sup>2</sup> (379-ft perimeter). Ground water occurs at ~50-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH<sup>8015m</sup> = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 mg/Kg.**

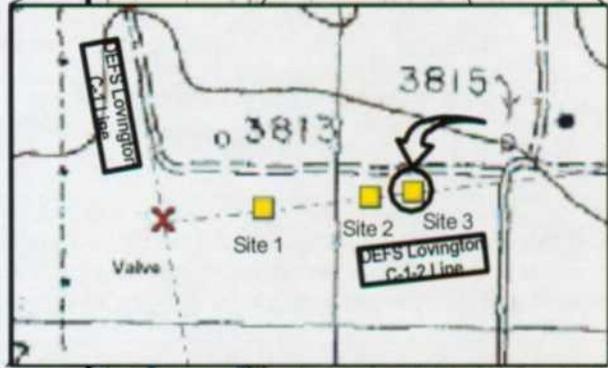
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Paul Mulkey</b>	Approved by District Supervisor:	
Title: <b>Construction &amp; Maintenance Supervisor</b>	Approval Date:	Expiration Date:
Date: <b>8-05-02</b> Phone: <b>505.397.5716</b>	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary



DEFS Lovington C-1-2 Pipeline  
 Release Site 3  
 N32° 49' 04.96" W103° 18' 41.82"



**Plate 1: Release Site 3 Location**  
 Duke Energy Field Services - Lovington C-1-2 Line (Site 3)  
 Lea County, NM; UL-K Section 24 T17S R36E

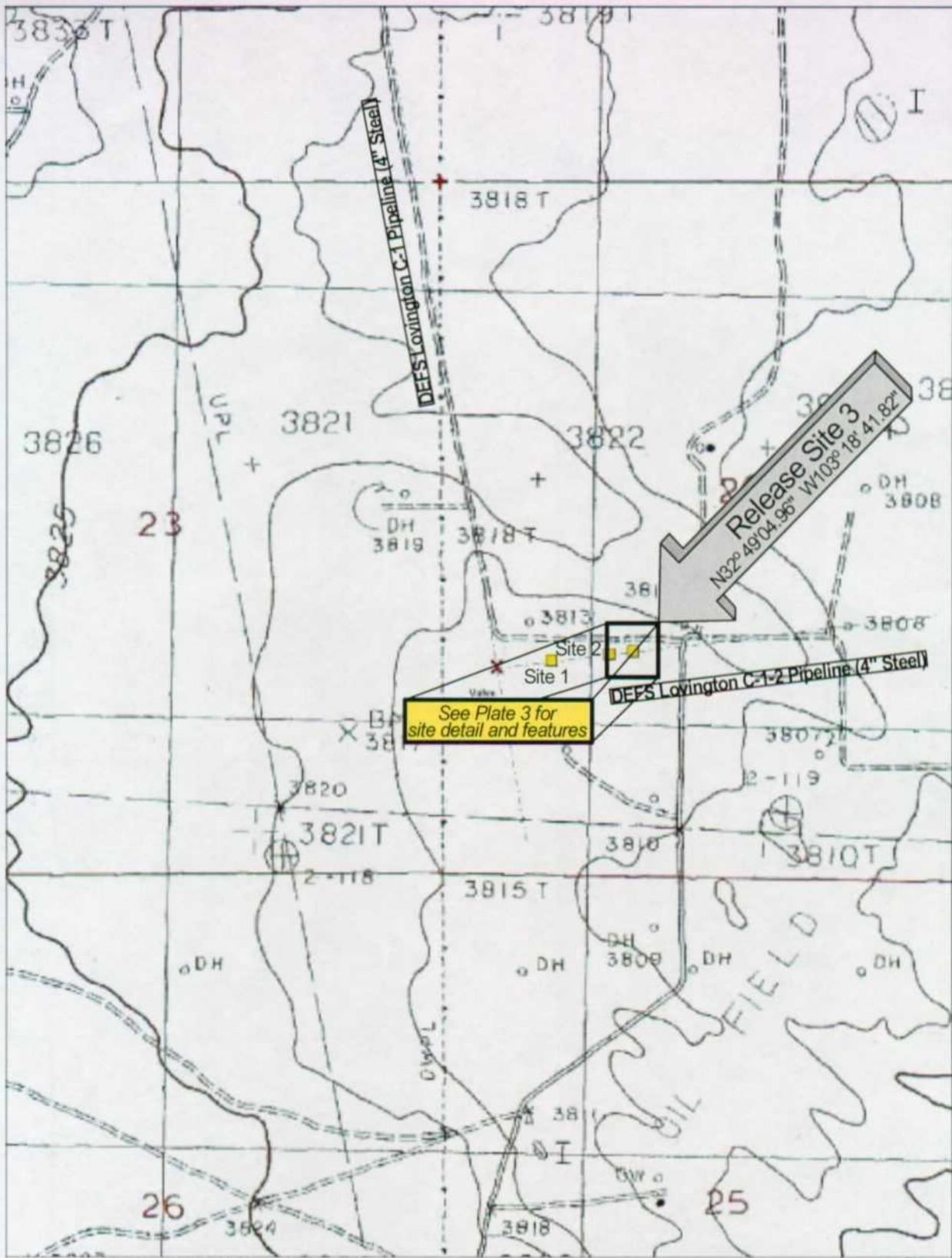
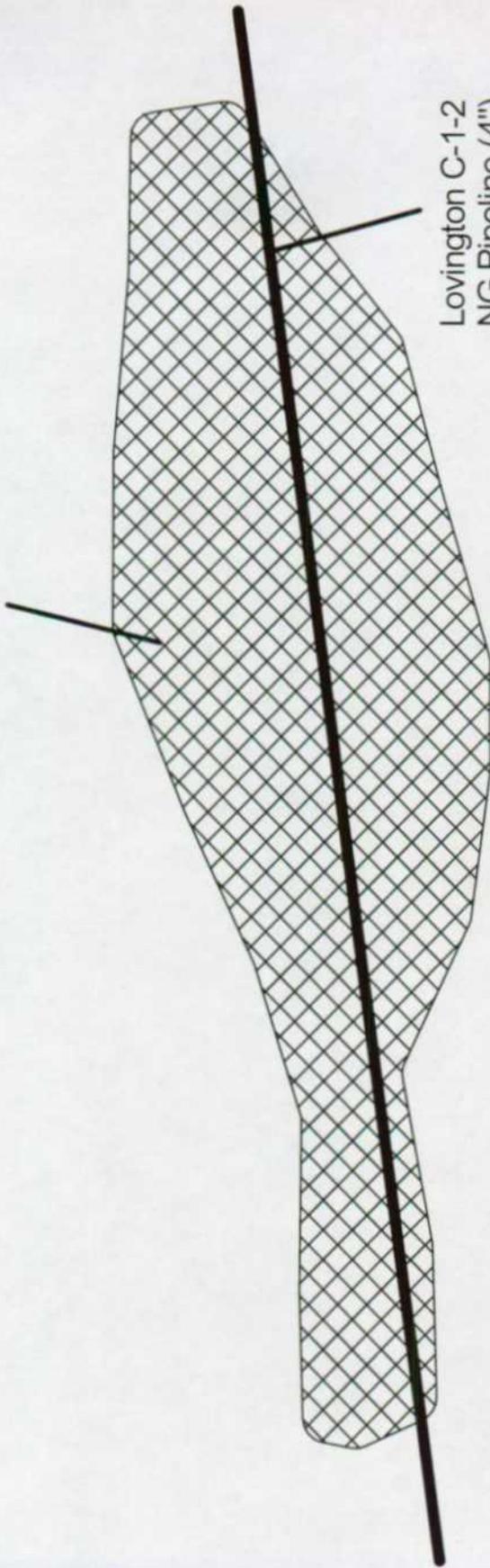


Plate 2: Site Topography and Release Location  
 Duke Energy Field Services - Lovington C-1-2 Line (Site 3)  
 Lea County, NM; UL-K Section 24 T17S R36E



Release Affected Area  
Area = 5054-ft<sup>2</sup>  
Perimeter = 379-ft



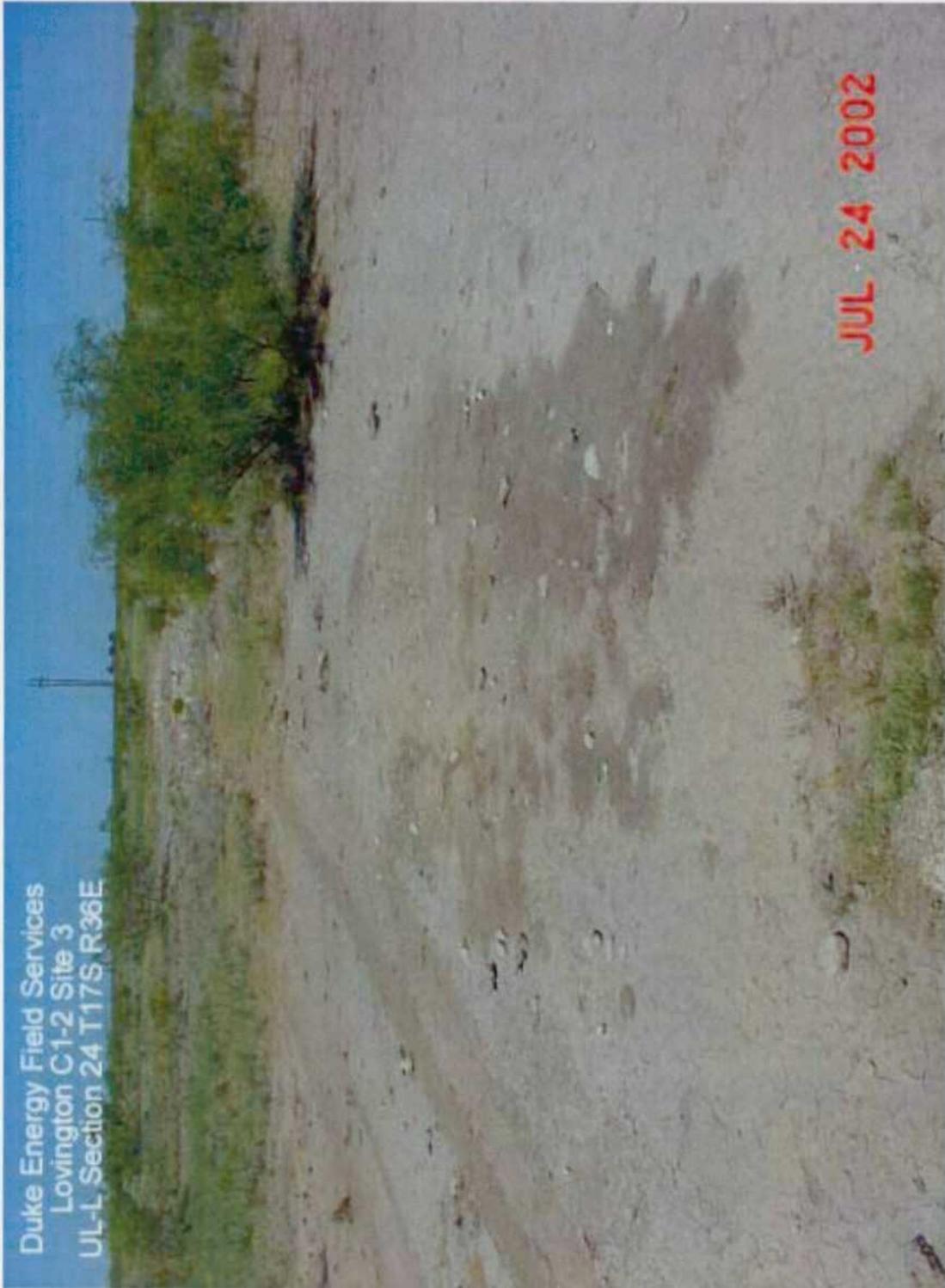
N32° 49' 04.96"  
W103° 18' 41.82"  
Elevation = 3819-ft



Plate 3: Release Site 3 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1-2 Line  
Lea County, NM; UL-K Section 24 T17S R36E

Drawn By: JCG  
Date: Aug-02  
Revised:

Duke Energy Field Services  
Lovington C1-2 Site 3  
UL-L Section 24 T17S R36E



JUL 24 2002



August 05, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1-2 Line (Site 2) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the SW $\frac{1}{4}$  (Unit Letter K), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'04.67"N and 103°18'43.96"W. The site is approximately 8.07 miles southeast (bearing 164.9°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

# Duke Energy Field Services

Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1-2 Line (Site 2)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilchrest			
Representative Telephone: 505.397.5716 / 505.397.5561			
Telephone:			
Fluid volume released (bbls): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1-2 Line (Site 2)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~452-ft perimeter			
LSP Area: ~5644-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 04.67"N			
Longitude: 103° 18' 43.96"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~1683-ft			
Feet from West Section Line: ~1300-ft			
Location- Unit or 1/4: NE 1/4 of the SW 1/4 or Unit Letter: K			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: 10 points			200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground water Score = 20		Wellhead Protection Area Score = 0	Surface Water Score = 0
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address <b>11525 West Carlsbad Hwy, Hobbs, NM 88240</b>	Telephone No. <b>505.397.5716</b>
Facility Name <b>Lovington 4" C-1-2 Line - Release Site 2</b>	Facility Type <b>Natural Gas Pipeline</b>

Surface Owner <b>Mr. Darr Angell (dba "U-Bar Ranch")</b>	Mineral Owner	Lease No.
---	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter <b>K</b>	Section <b>24</b>	Township <b>17S</b>	Range <b>36E</b>	Feet from the South Line <b>1683</b>	Feet from the West Line <b>1300</b>	Latitude <b>32° 49' 04.67" N</b>	Longitude <b>103° 18' 43.96" W</b>	County: <b>LEA</b>
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**NATURE OF RELEASE**

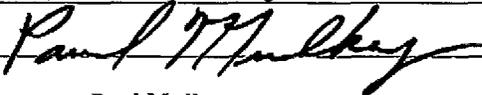
Type of Release <b>Sour Natural Gas and associated components</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>NA</b>
Source of Release <b>4" Steel pipeline</b>	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <b>Historical Site</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

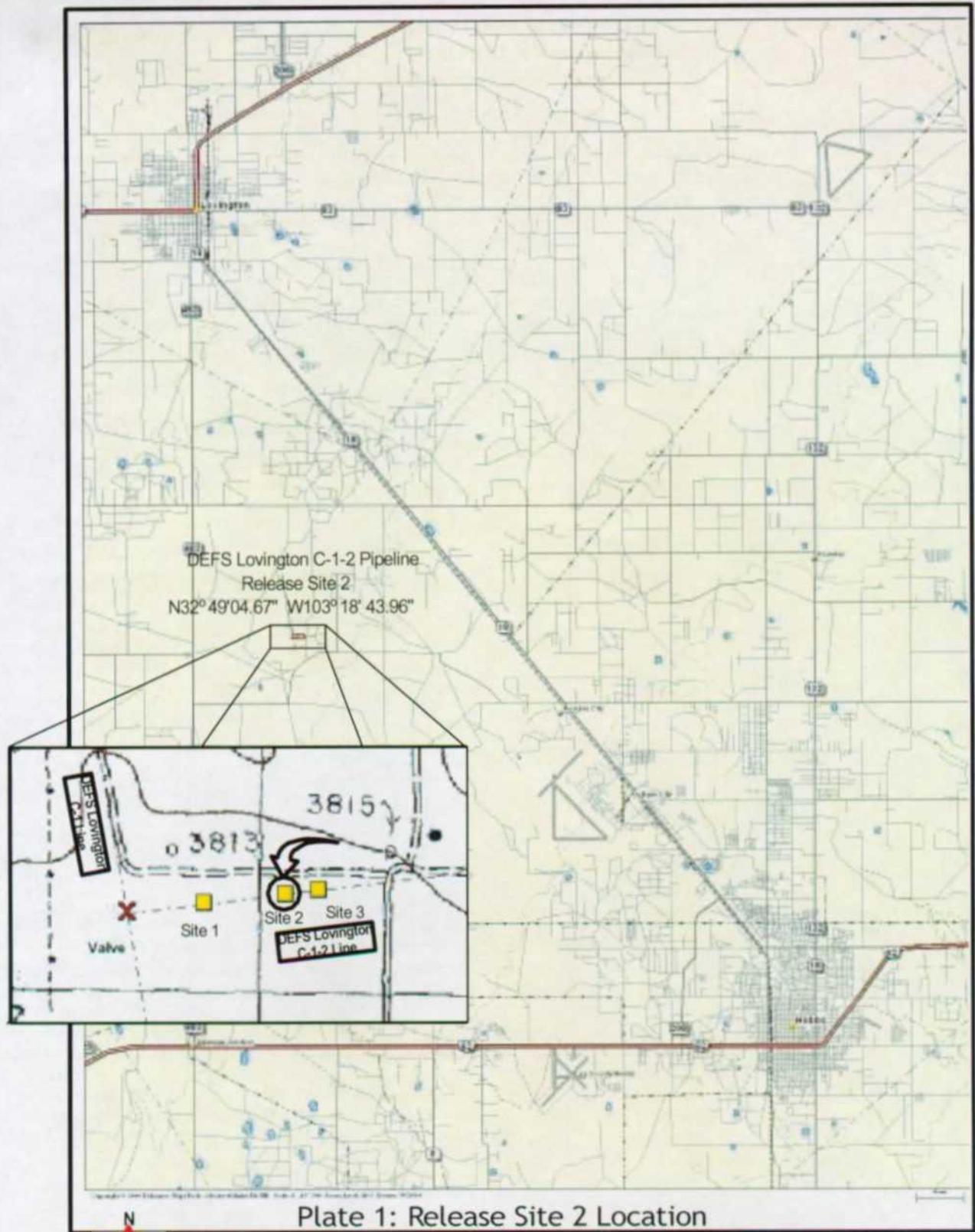
Describe Cause of Problem and Remedial Action Taken.\*  
**Corroded pipe. Line repair clamps installed.**

Describe Area Affected and Cleanup Action Taken.\*  
**Area = 5644-ft<sup>2</sup> (452-ft perimeter). Ground water occurs at ~50-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH<sup>8015m</sup> = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 mg/Kg.**

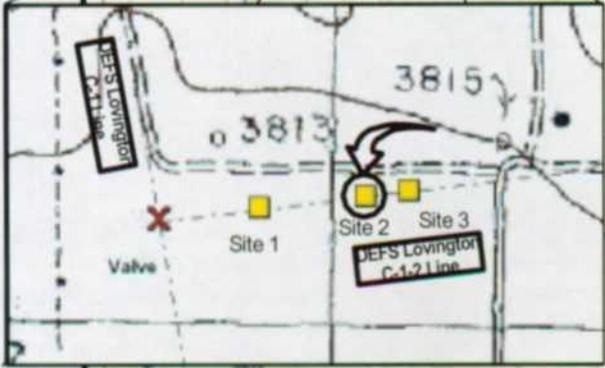
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Paul Mulkey</b>	Approved by District Supervisor:	
Title: <b>Construction &amp; Maintenance Supervisor</b>	Approval Date:	Expiration Date:
Date: <b>8-05-02</b> Phone: <b>505.397.5716</b>	Conditions of Approval:	Attached <input type="checkbox"/>

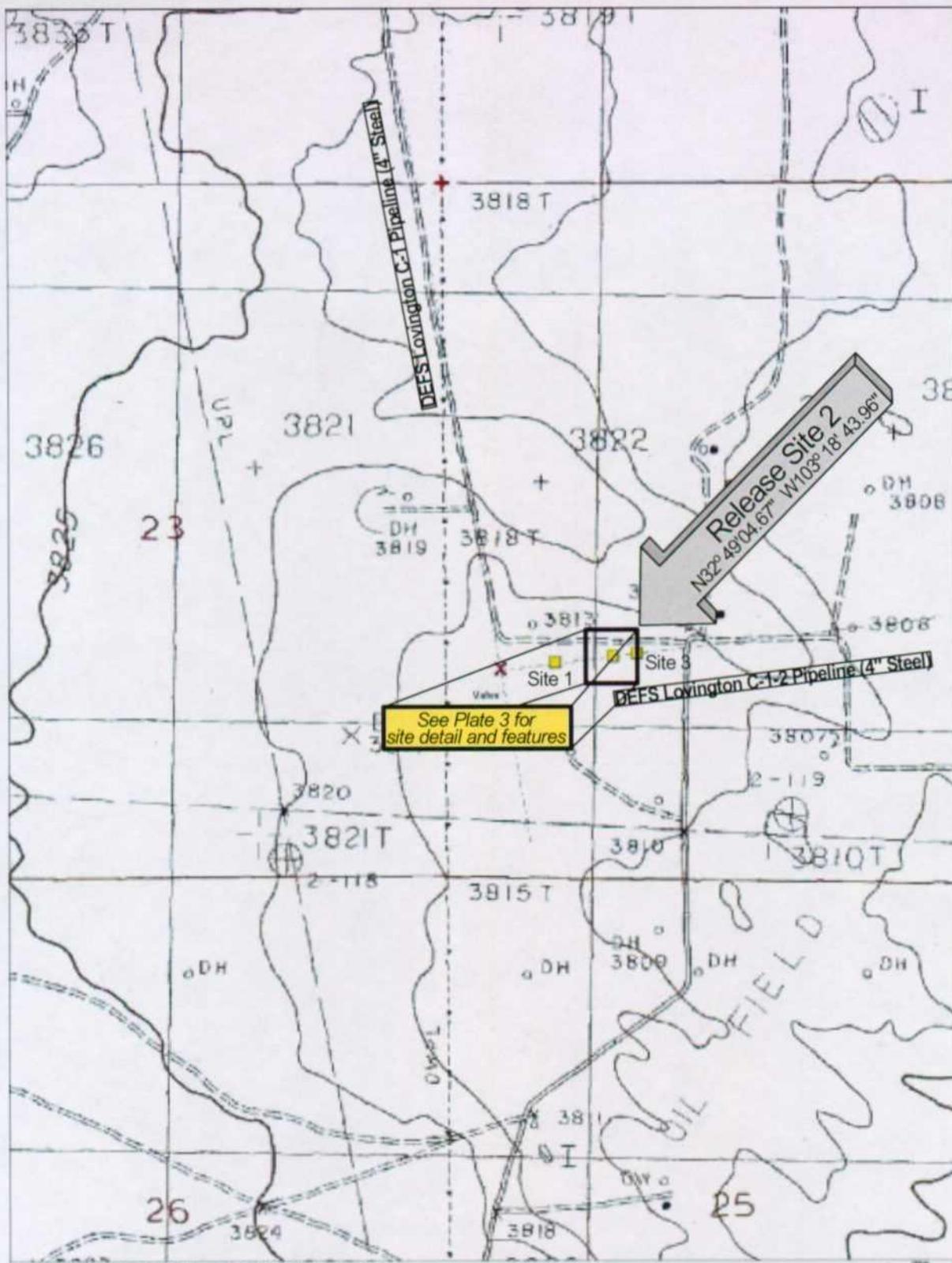
Attach Additional Sheets If Necessary



DEFS Lovington C-1-2 Pipeline  
 Release Site 2  
 N32° 49' 04.67" W103° 18' 43.96"

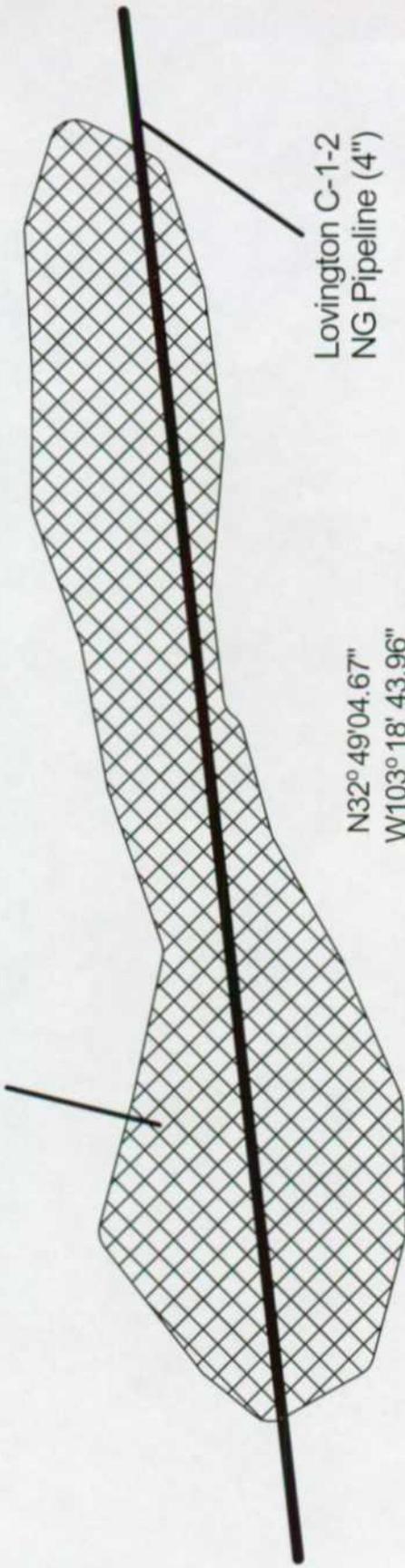


**Plate 1: Release Site 2 Location**  
 Duke Energy Field Services - Lovington C-1-2 Line (Site 2)  
 Lea County, NM; UL-K Section 24 T17S R36E



**Plate 2: Site Topography and Release Location**  
 Duke Energy Field Services - Lovington C-1-2 Line (Site 2)  
 Lea County, NM; UL-K Section 24 T17S R36E

Release Affected Area  
Area = 5644-ft<sup>2</sup>  
Perimeter = 452-ft



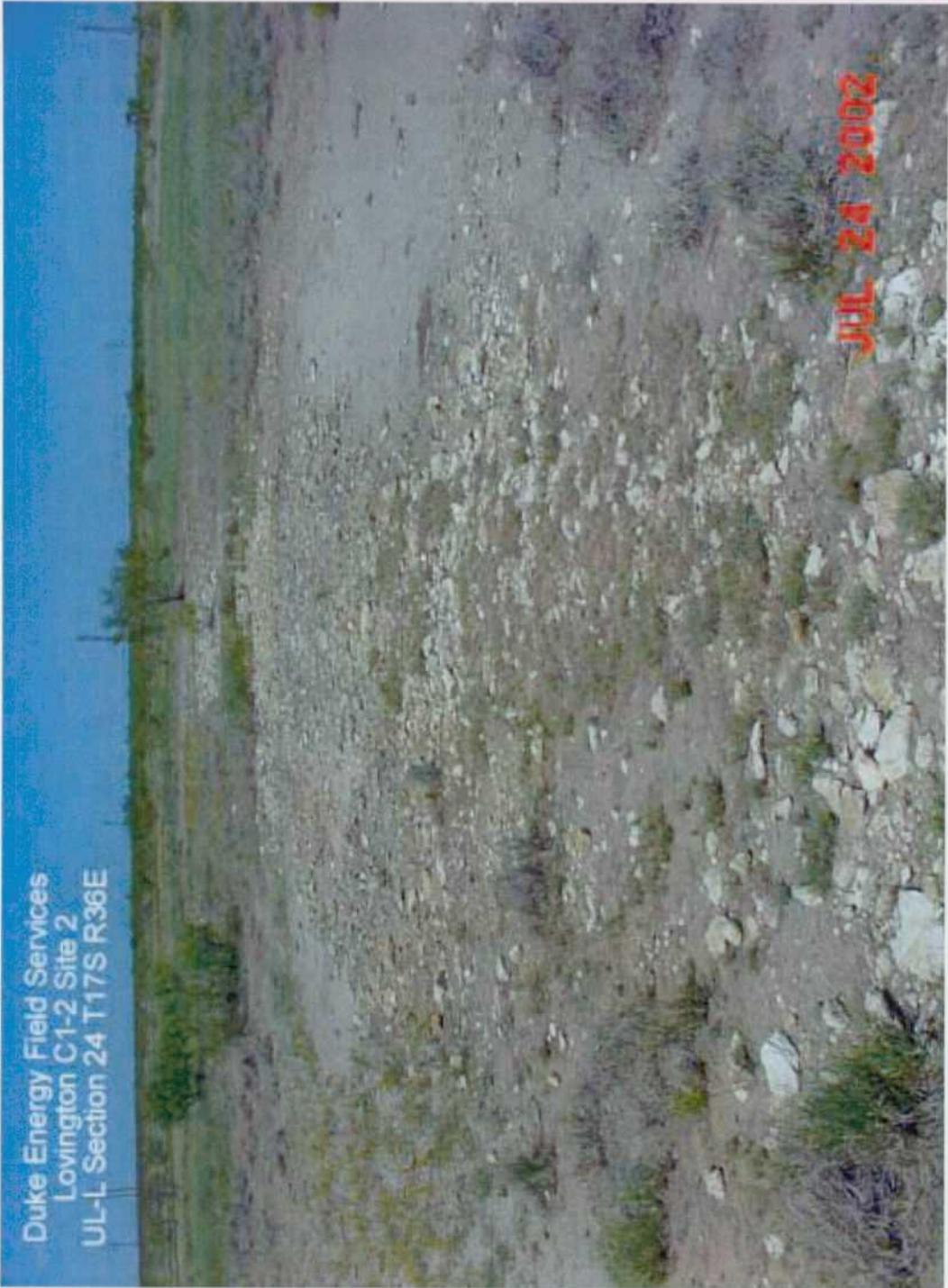
Lovington C-1-2  
NG Pipeline (4")

N32° 49'04.67"  
W103° 18' 43.96"  
Elevation = 3819-ft



Plate 3: Release Site 2 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1-2 Line  
Lea County, NM; UL-K Section 24 T17S R36E

Drawn By: JCG  
Date: Aug-02  
Revised:





August 05, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1-2 Line (Site 1) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NW¼ of the SW¼ (Unit Letter L), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'04.03"N and 103°18'49.39"W. The site is approximately 8.06 miles southeast (bearing 165.5°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e.  $\text{CaCO}_3$ , undergo a chemical reduction reaction when exposed to hydrogen sulfide ( $\text{H}_2\text{S}$ ), yielding a resultant sulfate reaction product, i.e.  $\text{CaSO}_4$ . The natural gas transported in this gathering system has a  $\text{H}_2\text{S}$  component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

# Duke Energy Field Services

Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1-2 Line (Site 1)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilcrest			
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.			
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: Lovington 4" C-1-2 Line (Site 1)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~611-ft perimeter			
LSP Area: ~10923-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 04.03"N			
Longitude: 103° 18' 49.39"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~1621-ft			
Feet from West Section Line: ~861-ft			
Location- Unit or ¼¼: NW¼ of the SW ¼ or Unit Letter: L			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: 10 points			200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground water Score = 20		Wellhead Protection Area Score = 0	Surface Water Score = 0
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address <b>11525 West Carlsbad Hwy, Hobbs, NM 88240</b>	Telephone No. <b>505.397.5716</b>
Facility Name <b>Lovington 4" C-1-2 Line - Release Site 1</b>	Facility Type <b>Natural Gas Pipeline</b>

Surface Owner <b>Mr. Darr Angell (dba "U-Bar Ranch")</b>	Mineral Owner	Lease No.
---	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the South Line	Feet from the West Line	Latitude	Longitude	County:
<b>L</b>	<b>24</b>	<b>17S</b>	<b>36E</b>	<b>1621</b>	<b>861</b>	<b>32° 49' 04.03" N</b>	<b>103° 18' 49.39" W</b>	<b>LEA</b>

**NATURE OF RELEASE**

Type of Release <b>Sour Natural Gas and associated components</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>NA</b>
Source of Release <b>4" Steel pipeline</b>	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <b>Historical Site</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

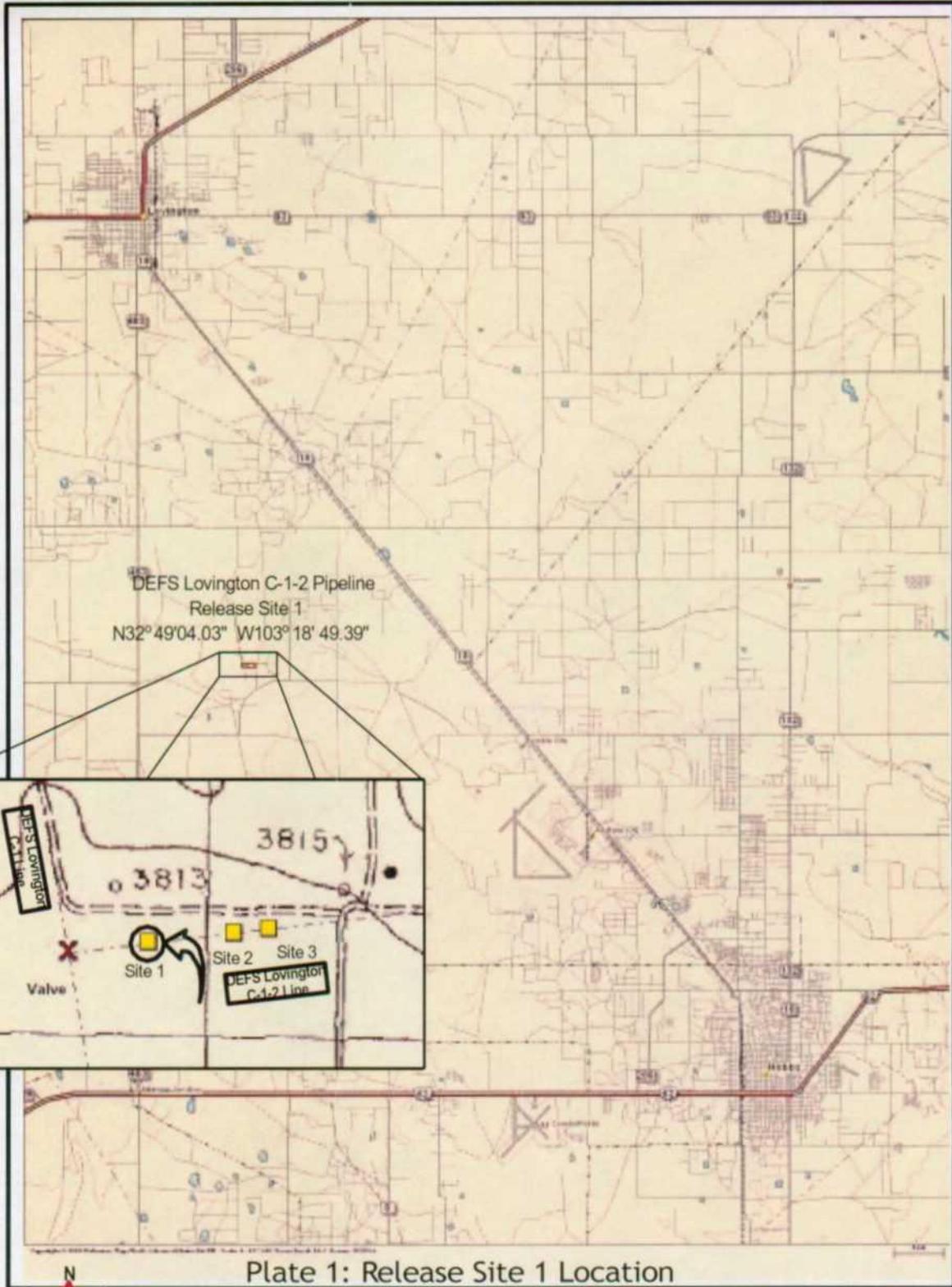
Describe Cause of Problem and Remedial Action Taken.\*  
**Corroded pipe. Line repair clamps installed.**

Describe Area Affected and Cleanup Action Taken.\*  
**Area = 10923-ft<sup>2</sup> (611-ft perimeter). Ground water occurs at ~50-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH<sup>8015m</sup> = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: 	<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: <b>Paul Mulkey</b>	Approved by District Supervisor:	
Title: <b>Construction &amp; Maintenance Supervisor</b>	Approval Date:	Expiration Date:
Date: <b>8-05-02</b> Phone: <b>505.397.5716</b>	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary



DEFS Lovington C-1-2 Pipeline  
 Release Site 1  
 $N32^{\circ}49'04.03''$   $W103^{\circ}18'49.39''$

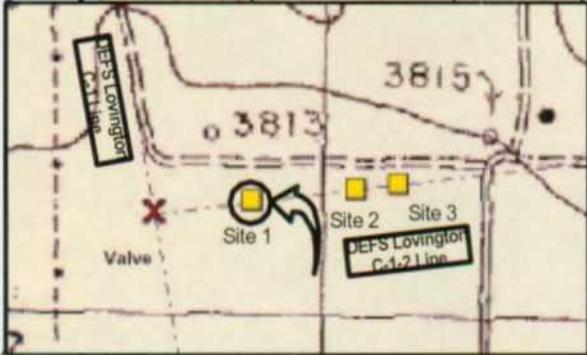
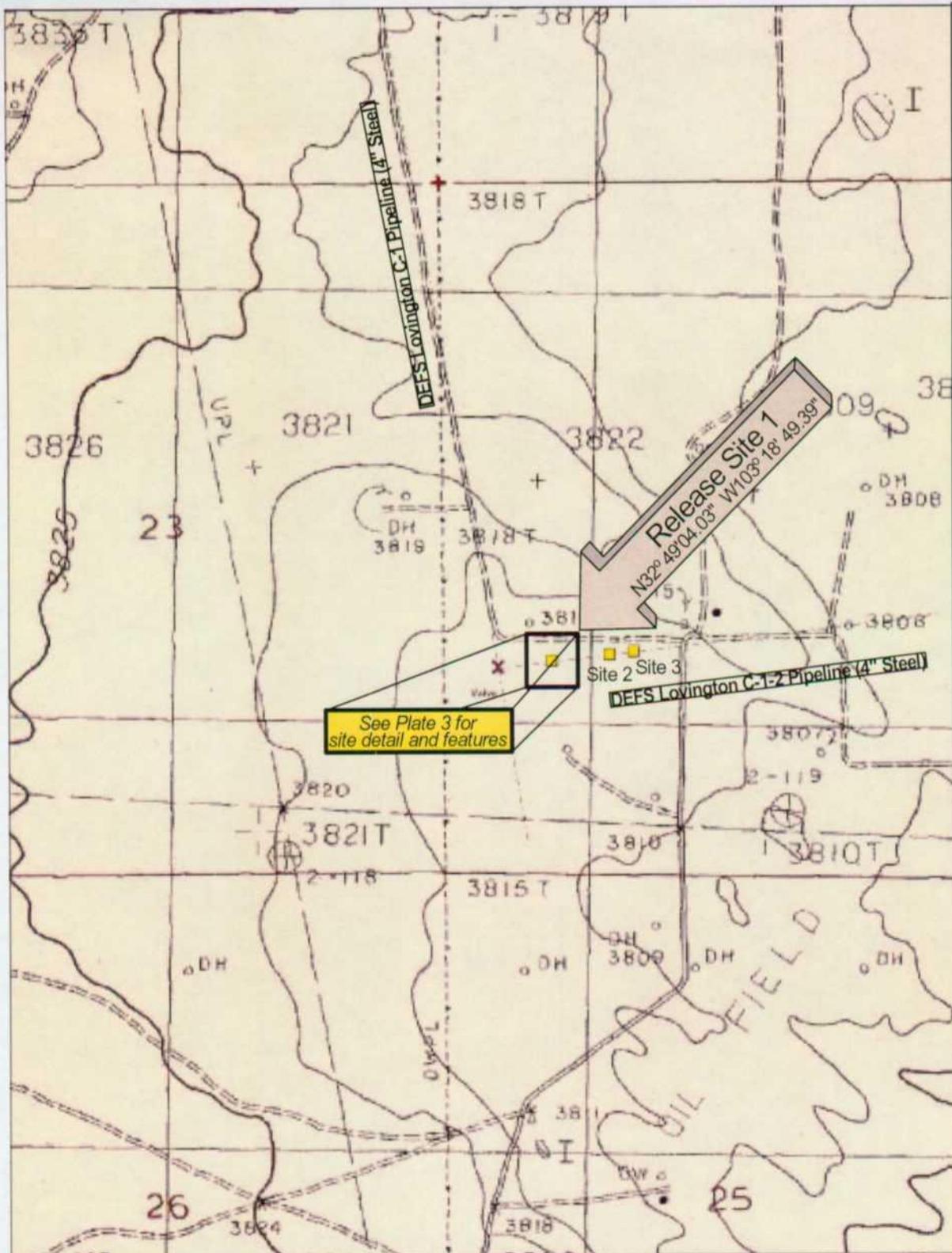


Plate 1: Release Site 1 Location

Duke Energy Field Services - Lovington C-1-2 Line (Site 1)  
 Lea County, NM; UL-L Section 24 T17S R36E





See Plate 3 for site detail and features

Plate 2: Site Topography and Release Location

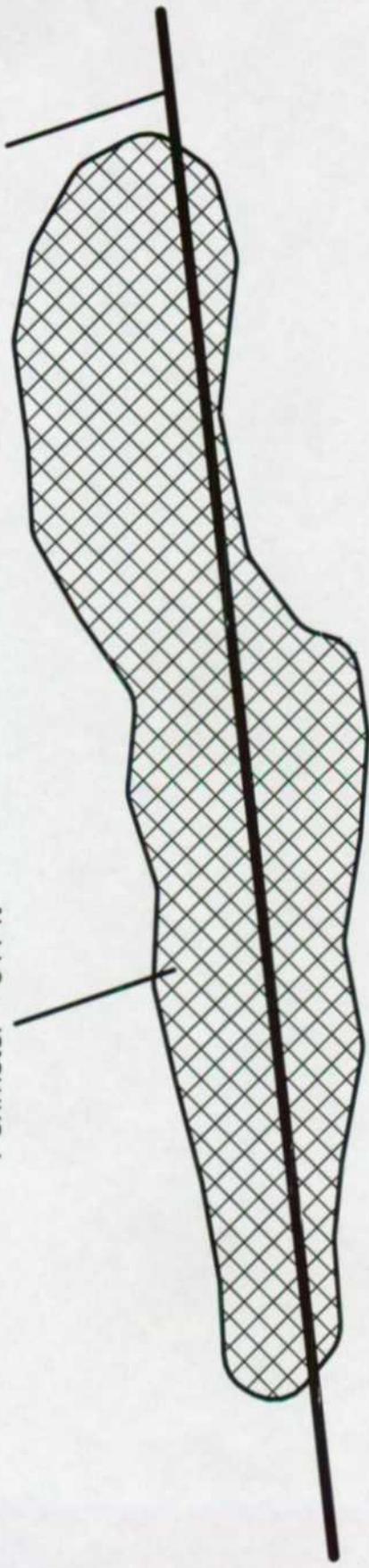
Duke Energy Field Services - Lovington C-1-2 Line (Site 1)

Lea County, NM; UL-L Section 24 T17S R36E



Lovington C-1-2  
NG Pipeline (4")

Release Affected Area  
Area = 10923-ft<sup>2</sup>  
Perimeter = 6111-ft



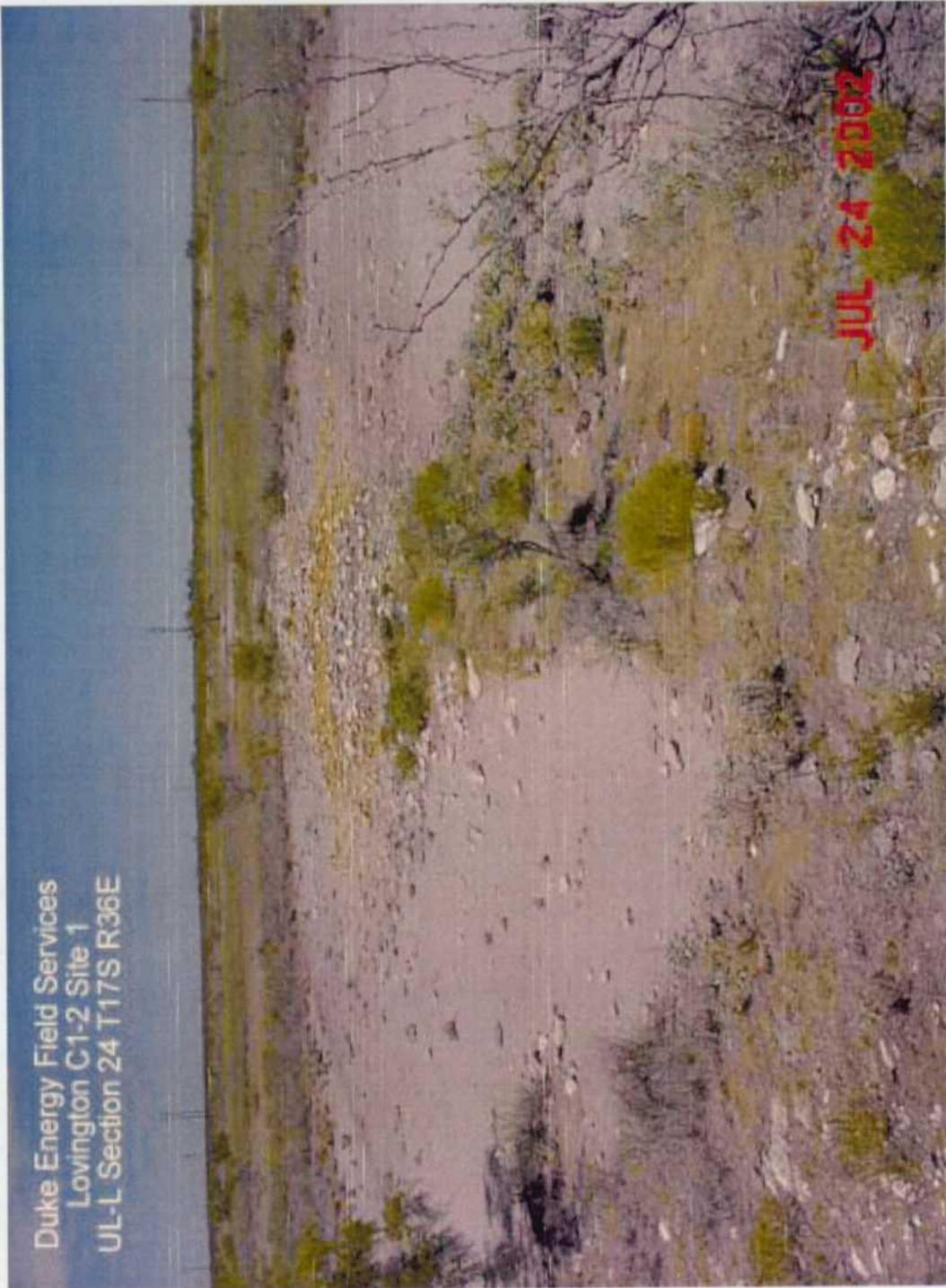
N32° 49'04.03"  
W103° 18' 49.39"  
Elevation = 3819-ft



Drawn By: JCG  
Date: Aug-02  
Revised:

Plate 3: Release Site 1 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1-2 Line  
Lea County, NM; UL-L Section 24 T17S R36E

Duke Energy Field Services  
Lovington C1-2 Site 1  
UL-L Section 24 T17S R36E



JUL 24 2002



RECEIVED

JUN 13 2003

Environmental Bureau  
Oil Conservation Division

July 29, 2002

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

Subject: Duke Energy Field Services Lovington C-1 Line (Site 1) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE¼ of the SE¼ (Unit Letter I), Section 14, Township 17 South, and Range 36 East. The geographic location is 32°49'59.66"N and 103°19'05.79"W. The site is approximately 7 miles southeast (bearing 165°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 36-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



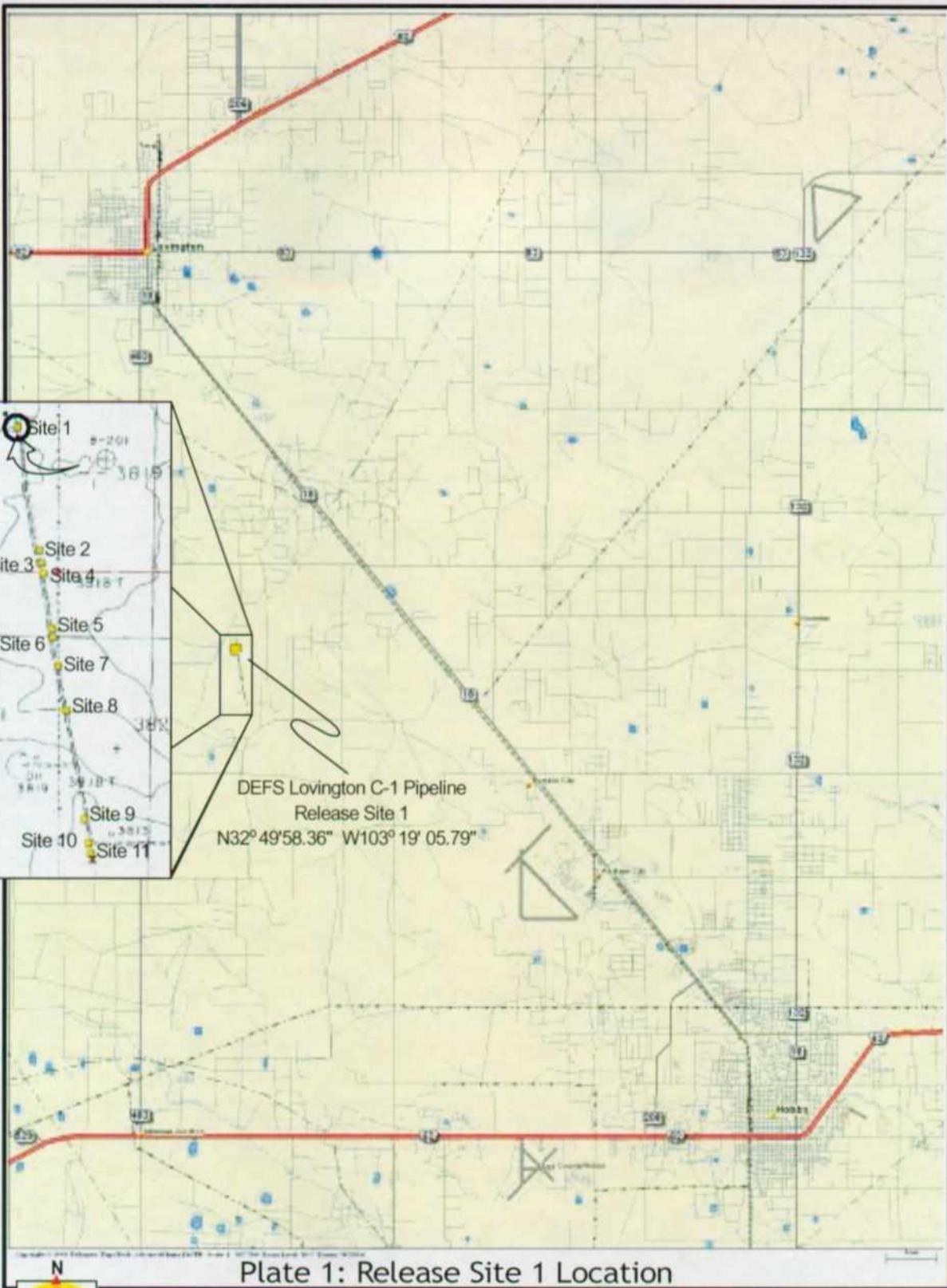
Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 1)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 1)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~160-ft perimeter			
LSP Area: ~1495 ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 59.66"N			
Longitude: 103° 19' 05.79"W			
Elevation above mean sea level: 3825-ft amsl			
Feet from South Section Line: 1850-ft			
Feet from West Section Line: 4725-ft			
Location- Unit or ¼¼: NE¼ of the SE ¼ or Unit Letter: I			
Location- Section: 14			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~36-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: 10 points			200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground water Score = 20		Wellhead Protection Area Score = 0	Surface Water Score = 0
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			





Duke Energy Field Services - Lovington C-1 Line (Site 1)  
Lea County, NM; UL-I Section 14 T17S R36E

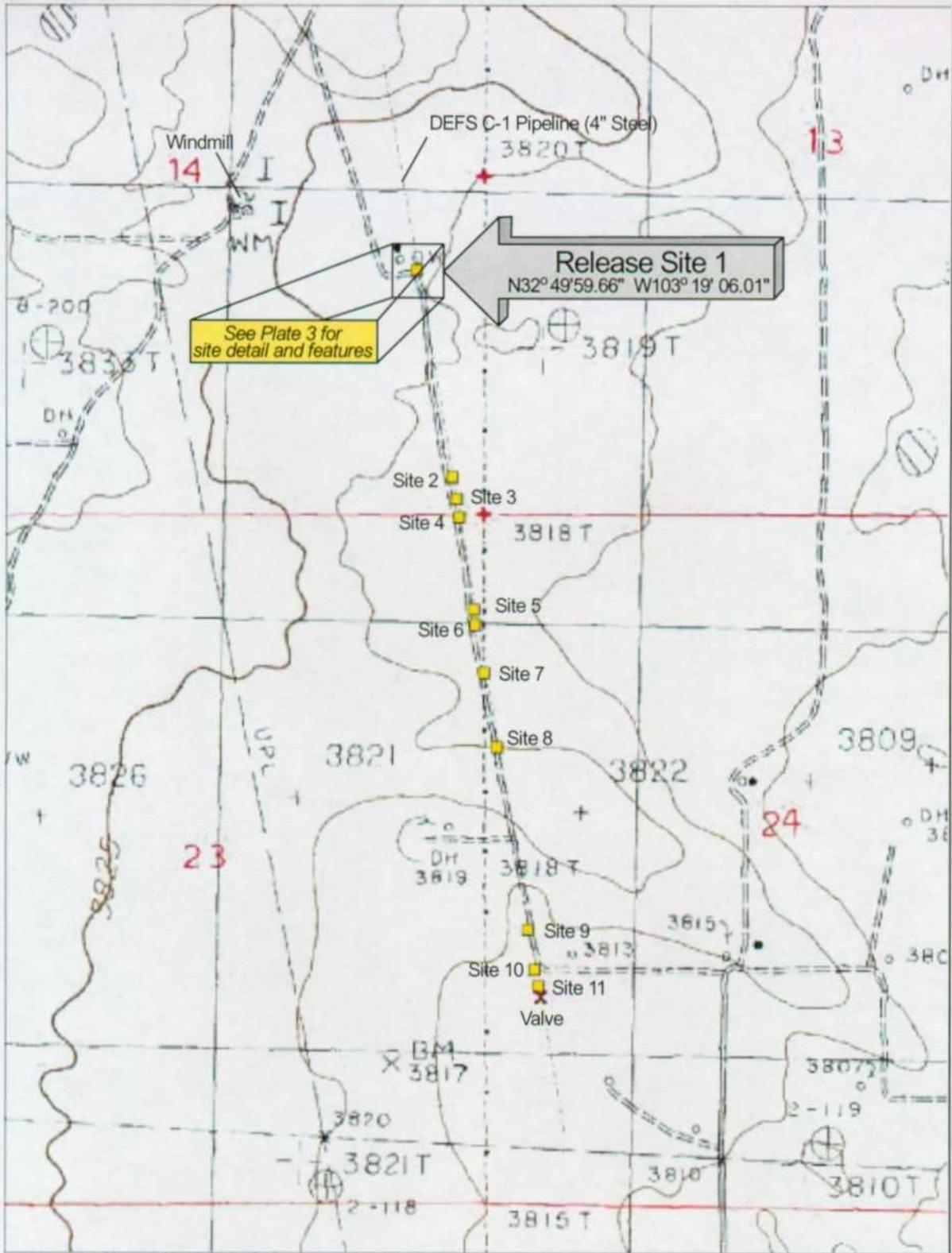


Plate 2: Site Topography and Release Location  
 Duke Energy Field Services - Lovington C-1 Line (Site 1)  
 Lea County, NM; UL-I Section 14 T17S R36E



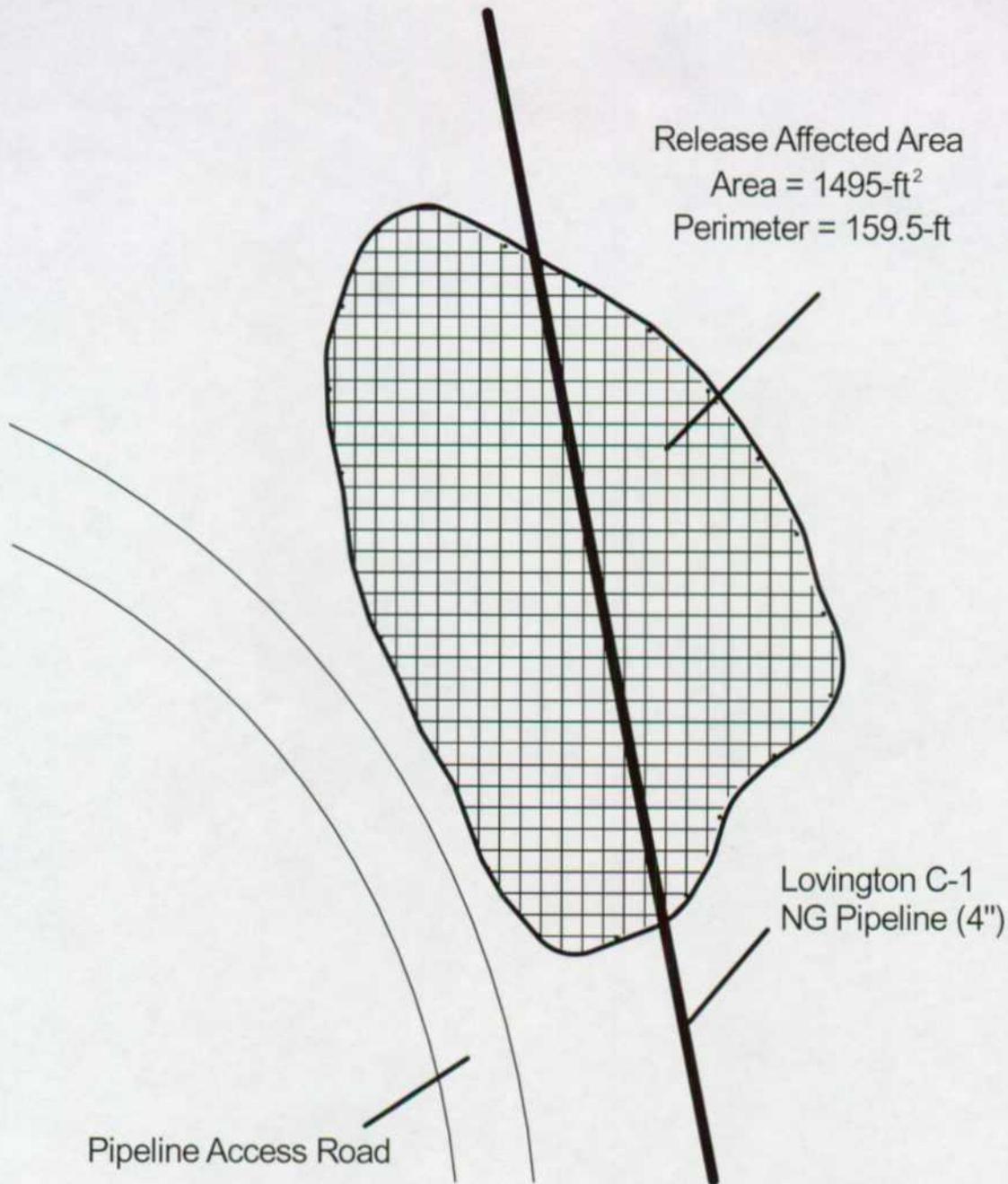
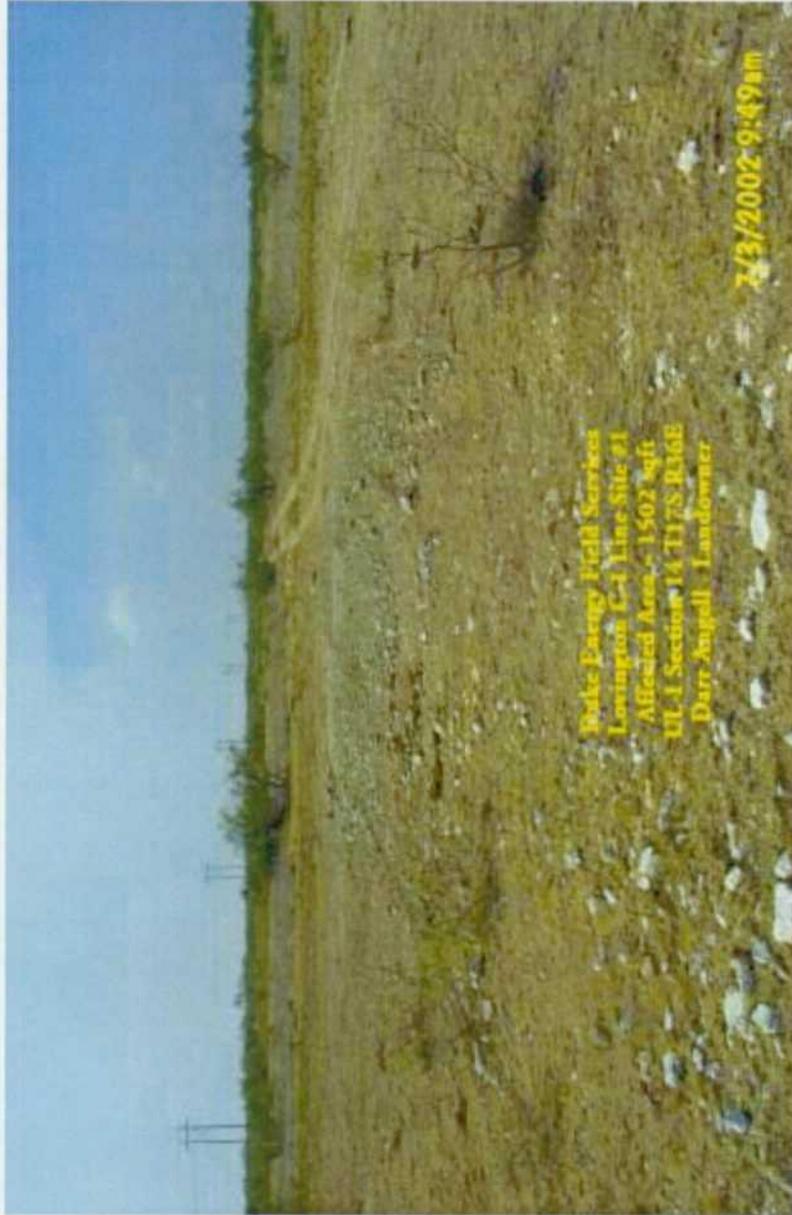


Plate 3: Release Site 1 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-I Section 14 T17S R36E

Drawn By: JCG  
Date: July-02  
Revised:



Baker Energy Field Services  
Livingston L-1 Line Site #1  
Affected Area - 1502 sqft  
UL-1 Section 14 T17S R36E  
Darr Angell - Landowner

2/3/2002 9:49am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 2) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  (Unit Letter P), Section 14, Township 17 South, and Range 36 East. The geographic location is 32°49'42.76"N and 103°19'02.37"W. The site is approximately 7.27 miles southeast (bearing 165.6°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 45-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 2)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilcrest			
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.			
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: Lovington 4" C-1 Line (Site 2)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~578-ft perimeter			
LSP Area: ~19535-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 42.76"N			
Longitude: 103° 19' 02.37"W			
Elevation above mean sea level: 3822-ft amsl			
Feet from South Section Line: 279-ft			
Feet from West Section Line: 5021-ft			
Location- Unit or ¼: SE¼ of the SE ¼ or Unit Letter: P			
Location- Section: 14			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~45-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score = 0	Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	<b>20 or &gt;</b>	<b>10</b>	<b>0</b>
Benzene <sup>1</sup>	<b>10 ppm</b>	10 ppm	10 ppm
BTEX <sup>1</sup>	<b>50 ppm</b>	50 ppm	50 ppm
TPH	<b>100 ppm</b>	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 2	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
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#### LOCATION OF RELEASE

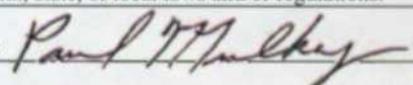
Unit Letter P	Section 14	Township 17S	Range 36E	Feet from the South Line 279	Feet from the West Line 5021	Latitude 32° 49' 42.76" N	Longitude 103° 19' 02.37" W	County: LEA
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#### NATURE OF RELEASE

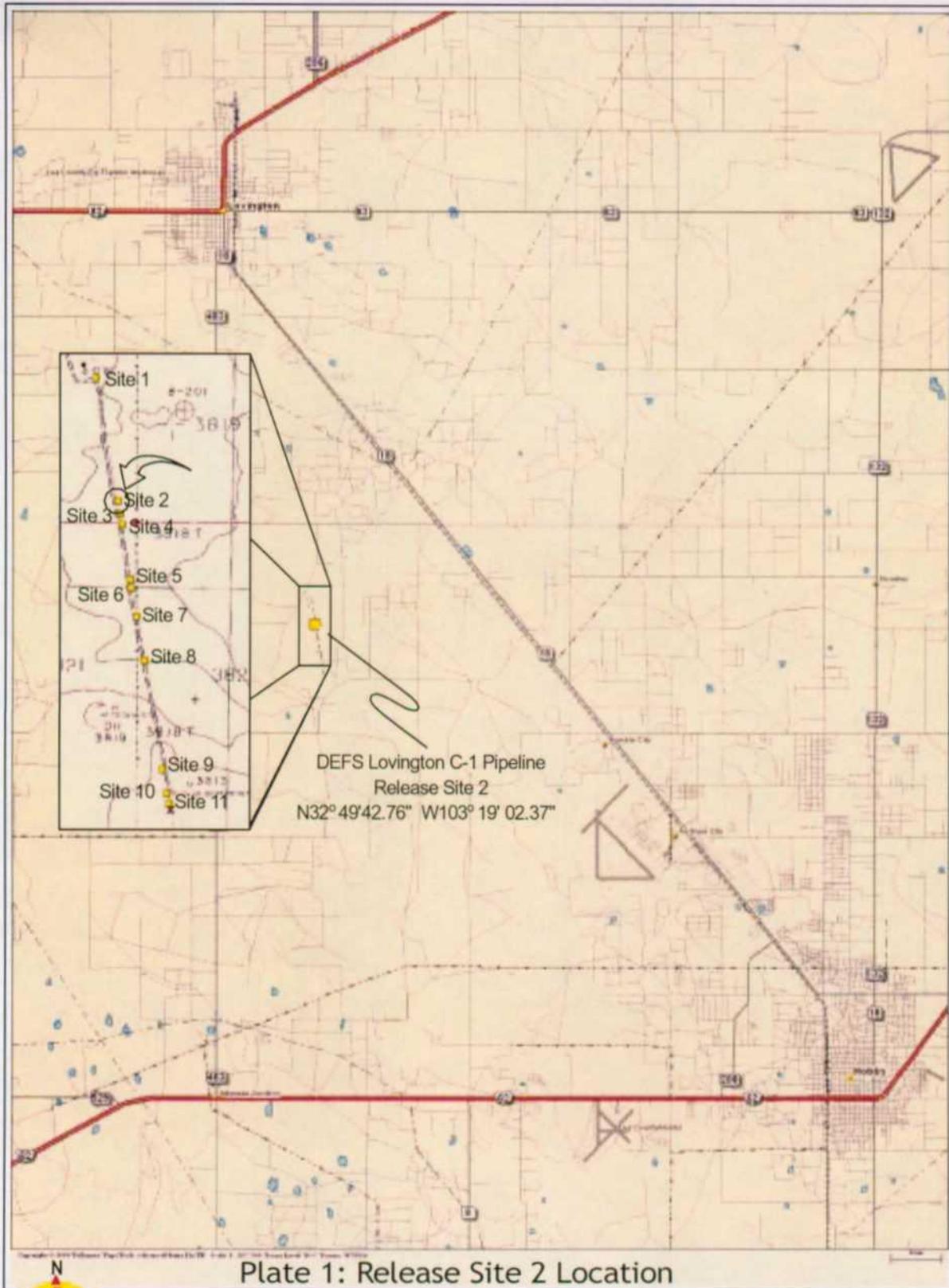
Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.* Corroded pipe. Line repair clamps installed.		

Describe Area Affected and Cleanup Action Taken.\*  
Area = 19,535-ft<sup>2</sup> (578-ft perimeter). Ground water occurs at ~45-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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.

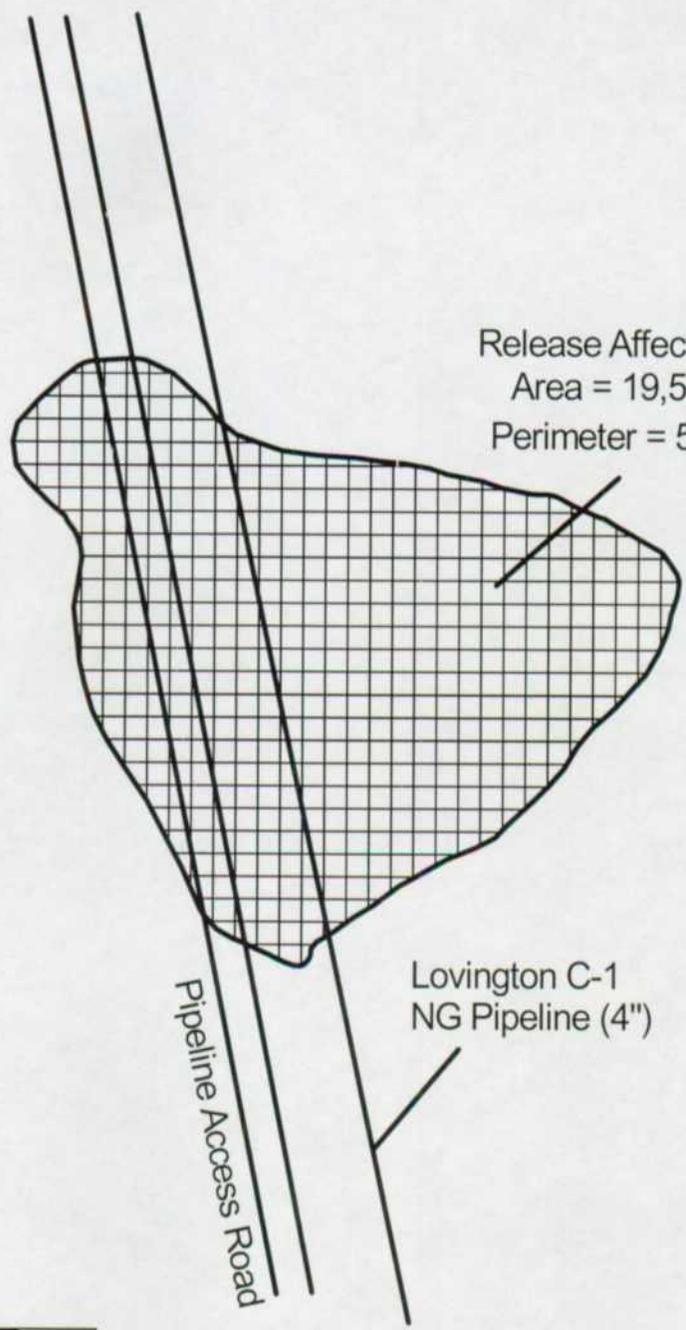
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary



**Plate 1: Release Site 2 Location**  
 Duke Energy Field Services - Lovington C-1 Line (Site 2)  
 Lea County, NM; UL-P Section 14 T17S R36E





Release Affected Area  
Area = 19,535-ft<sup>2</sup>  
Perimeter = 577.5-ft

Pipeline Access Road

Lovington C-1  
NG Pipeline (4")

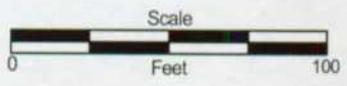
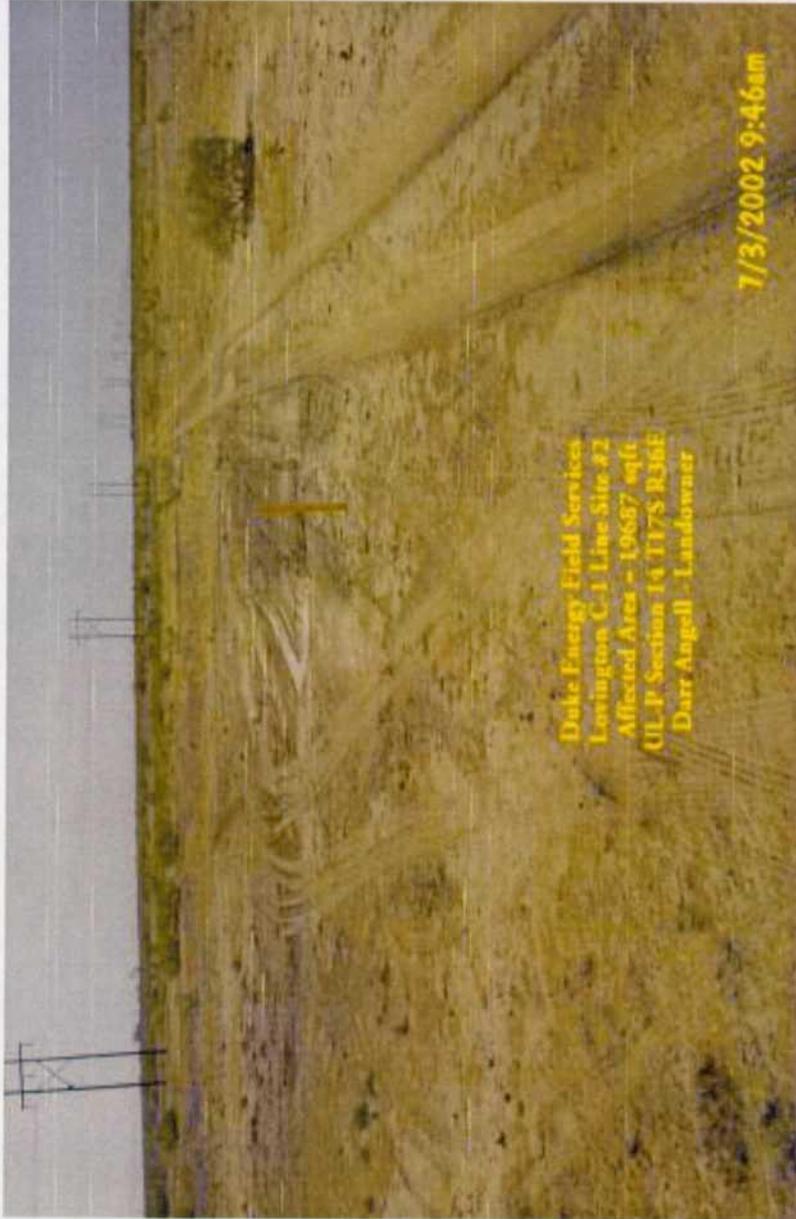


Plate 3: Release Site 2 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-P Section 14 T17S R36E

Drawn By: JCG  
Date: July-02  
Revised:



Duke Energy Field Services  
Livingston C-1 Line Site #2  
Affected Area - 19687 sqft  
ULP Section 14 TT7S R36E  
Darr Angell - Landowner

7/3/2002 9:46am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 3) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  (Unit Letter P), Section 14, Township 17 South, and Range 36 East. The geographic location is 32°49'41.12"N and 103°19'02.04"W. The site is approximately 7.32 miles southeast (bearing 165.6°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 45-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

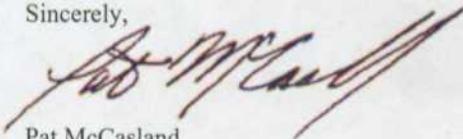
- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 3)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 3)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~138-ft perimeter			
LSP Area: ~1326-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 41.12"N			
Longitude: 103° 19' 02.04"W			
Elevation above mean sea level: 3822-ft amsl			
Feet from South Section Line: 114-ft			
Feet from West Section Line: 5058-ft			
Location- Unit or ¼: SE¼ of the SE ¼ or Unit Letter: P			
Location- Section: 14			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~45-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
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	
		Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 3	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
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#### LOCATION OF RELEASE

Unit Letter P	Section 14	Township 17S	Range 36E	Feet from the South Line 114	Feet from the West Line 5058	Latitude 32° 49' 41.12" N	Longitude 103° 19' 02.04"W	County: LEA
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#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.\*  
Corroded pipe. Line repair clamps installed.

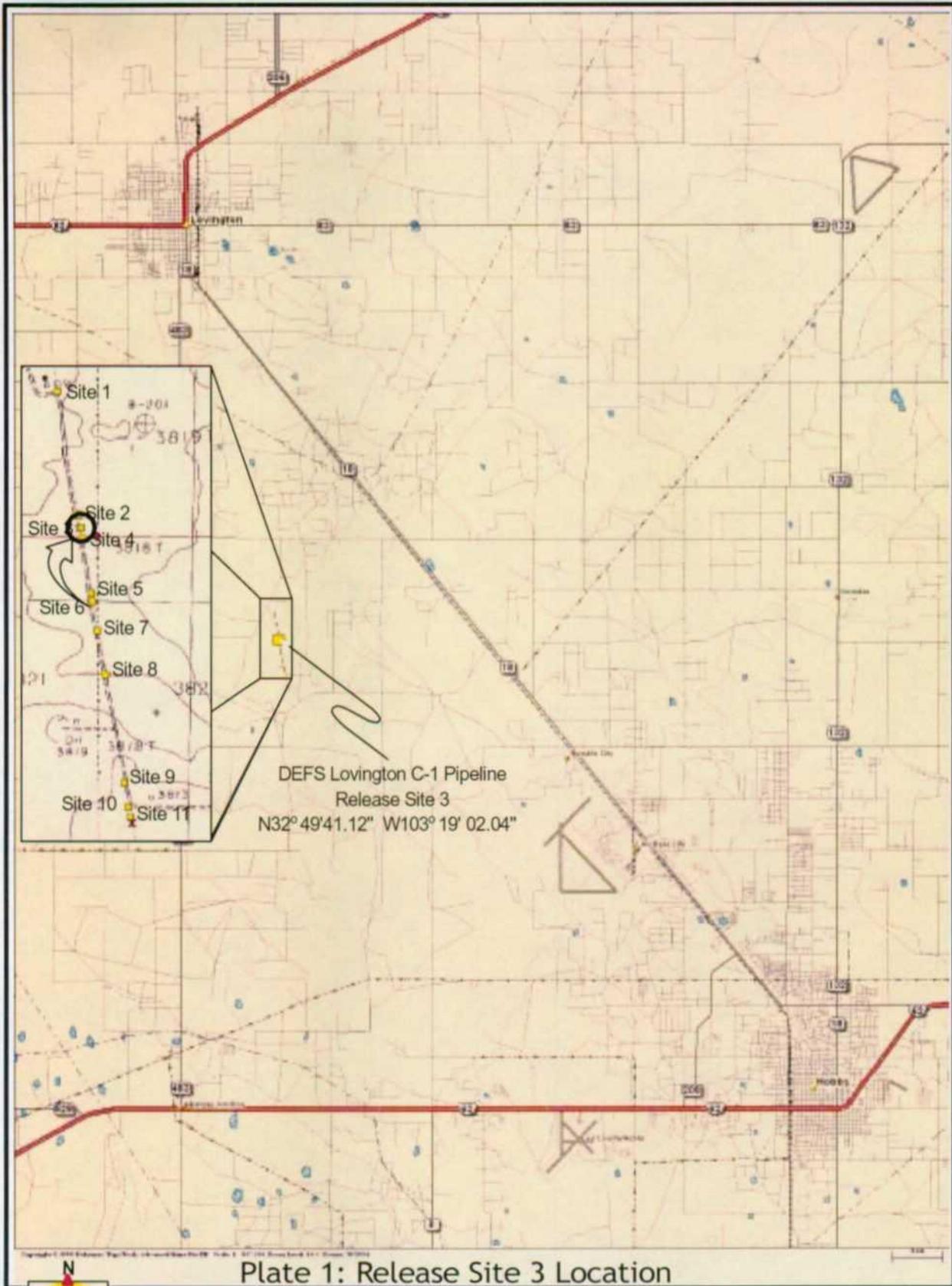
Describe Area Affected and Cleanup Action Taken.\*

Area = 1,326-ft<sup>2</sup> (138-ft perimeter). Ground water occurs at ~45-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: <i>Paul Mulkey</i>	<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary



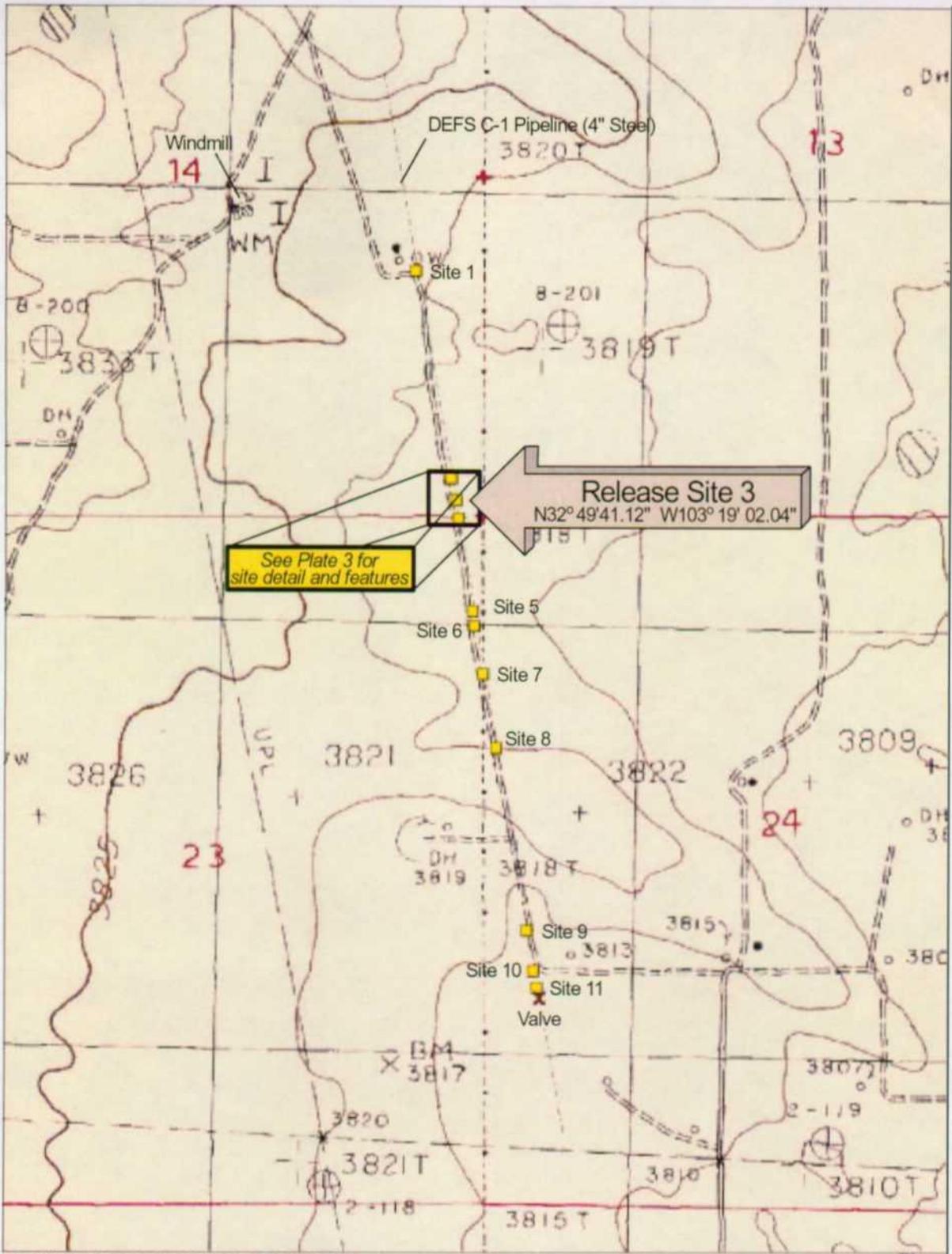


Plate 2: Site Topography and Release Location

Duke Energy Field Services - Lovington C-1 Line (Site 3)

Lea County, NM; UL-P Section 14 T17S R36E



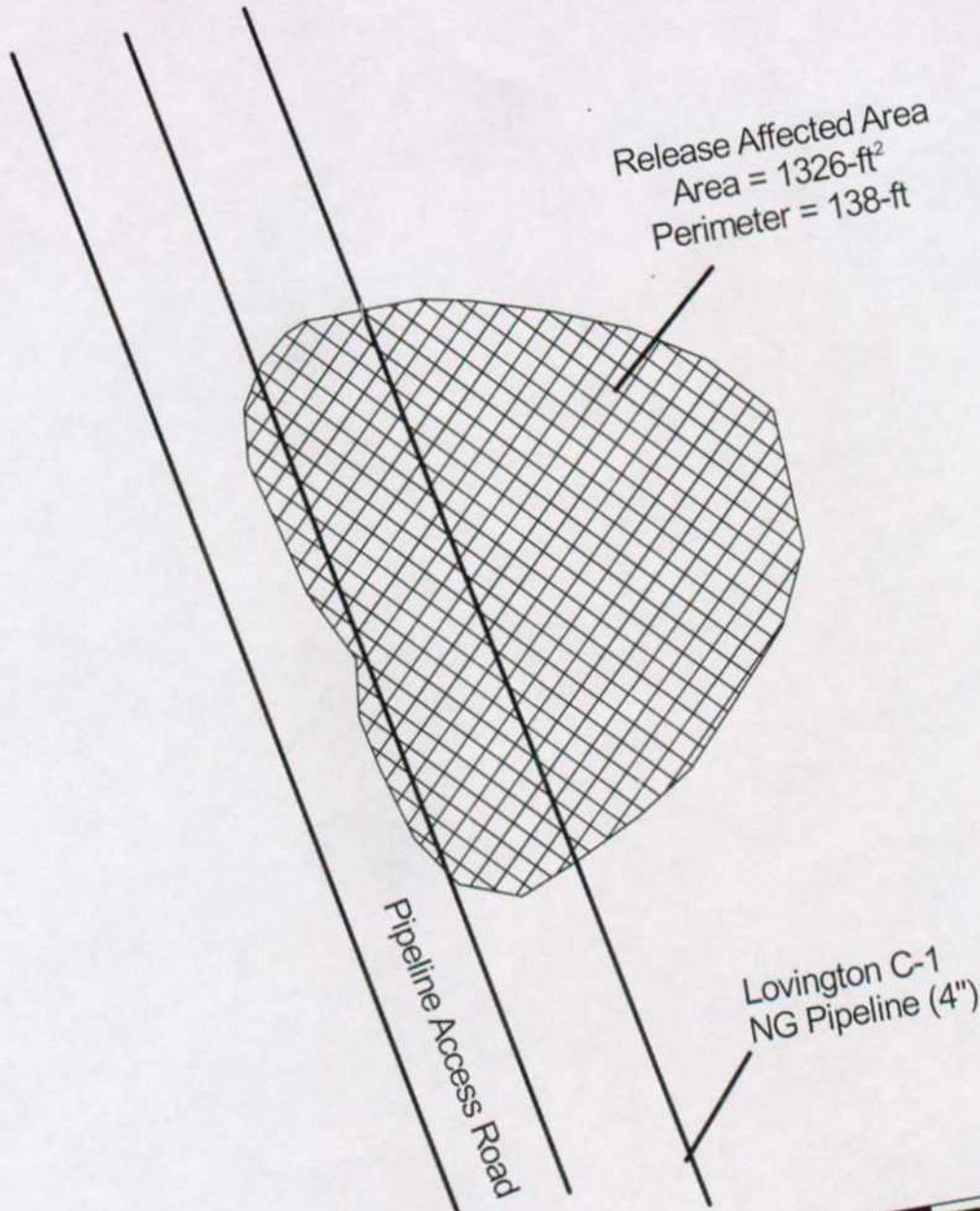
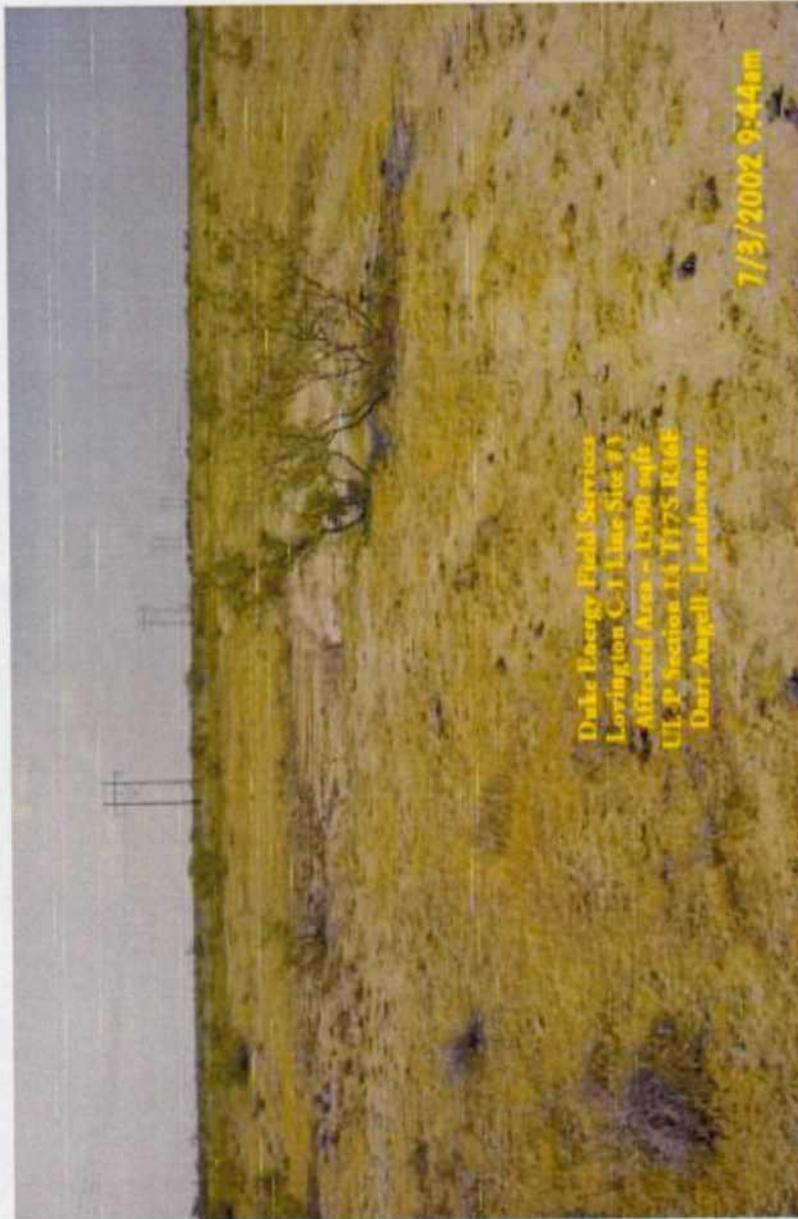


Plate 3: Release Site 3 GPS Demarcation  
 Duke Energy Field Services - 4" Lovington C-1 Line  
 Lea County, NM; UL-P Section 14 T17S R36E

Drawn By: JCG  
 Date: July-02  
 Revised:





July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 4) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the NE $\frac{1}{4}$  (Unit Letter A), Section 23, Township 17 South, and Range 36 East. The geographic location is 32°49'39.80"N and 103°19'01.77"W. The site is approximately 7.34 miles southeast (bearing 165.7°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 45-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 4)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilcrest			
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.			
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: Lovington 4" C-1 Line (Site 4)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~128.5-ft perimeter			
LSP Area: ~1016-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 39.80"N			
Longitude: 103° 19' 01.77"W			
Elevation above mean sea level: 3822-ft amsl			
Feet from South Section Line: 5230-ft			
Feet from West Section Line: 5082-ft			
Location- Unit or ¼/¼: NE¼ of the NE ¼ or Unit Letter: A			
Location- Section: 23			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~45-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score= 0	Surface Water Score= 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 4	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
--	---------------	-----------

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the South Line	Feet from the West Line	Latitude	Longitude	County:
A	23	17S	36E	5230	5082	32° 49' 39.80" N	103° 19' 01.77" W	LEA

#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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		

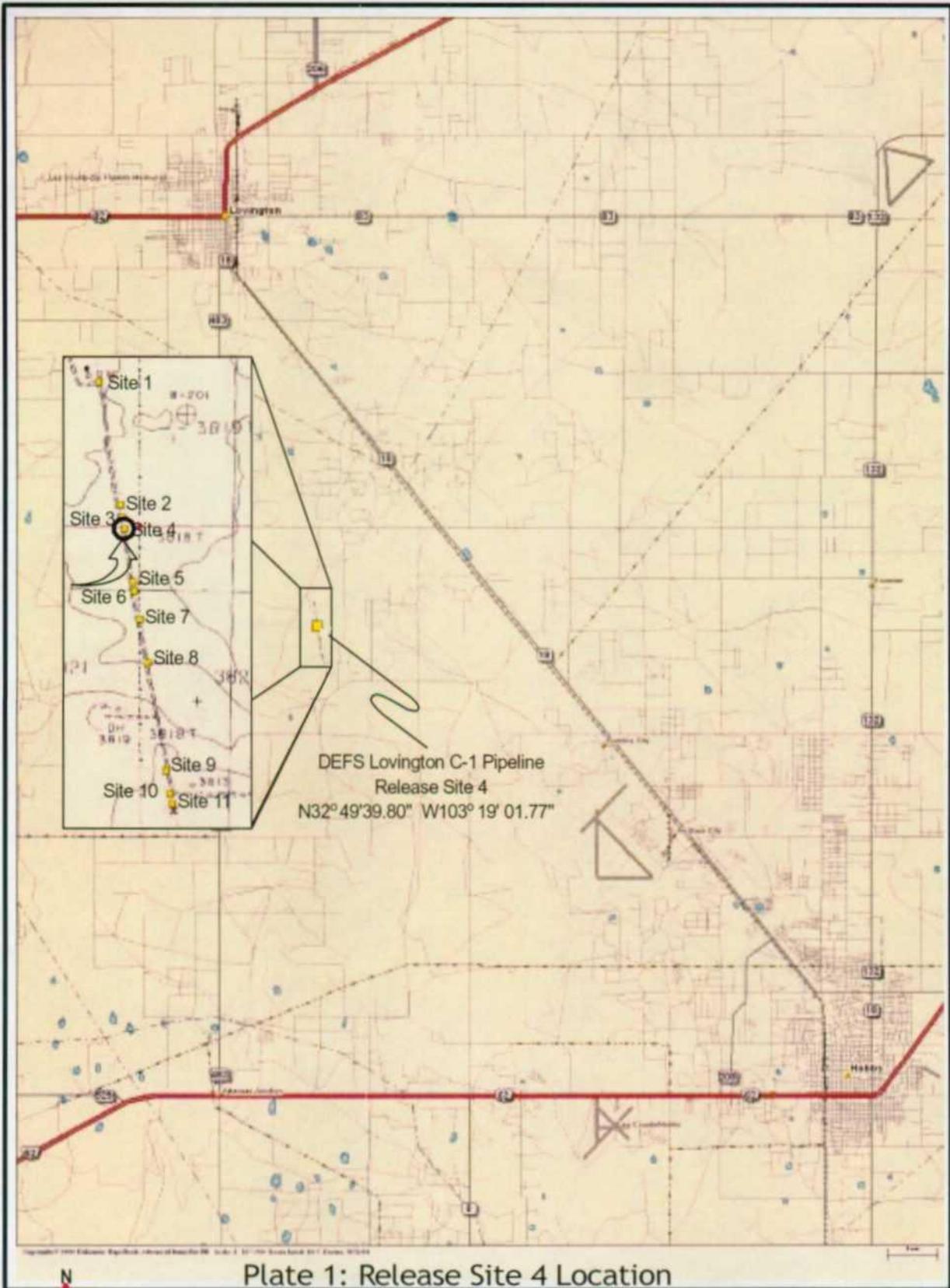
Describe Cause of Problem and Remedial Action Taken.\*  
Corroded pipe. Line repair clamps installed.

Describe Area Affected and Cleanup Action Taken.\*  
Area = 1,016-ft<sup>2</sup> (128.5-ft perimeter). Ground water occurs at ~45-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: <i>Paul Mulkey</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary



**Plate 1: Release Site 4 Location**  
 Duke Energy Field Services - Lovington C-1 Line (Site 4)  
 Lea County, NM; UL-A Section 23 T17S R36E

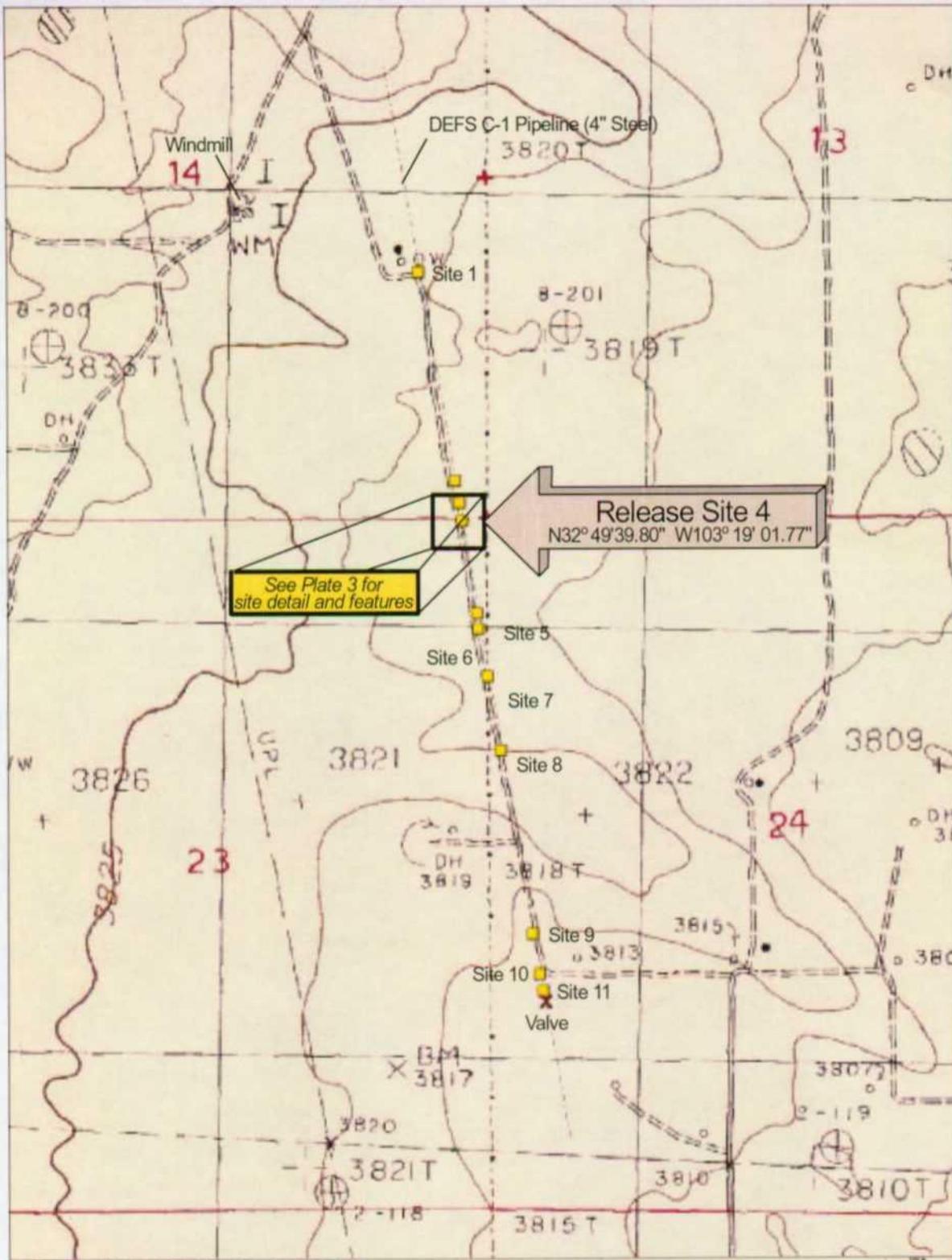


Plate 2: Site Topography and Release Location  
 Duke Energy Field Services - Lovington C-1 Line (Site 4)  
 Lea County, NM; UL-A Section 23 T17S R36E

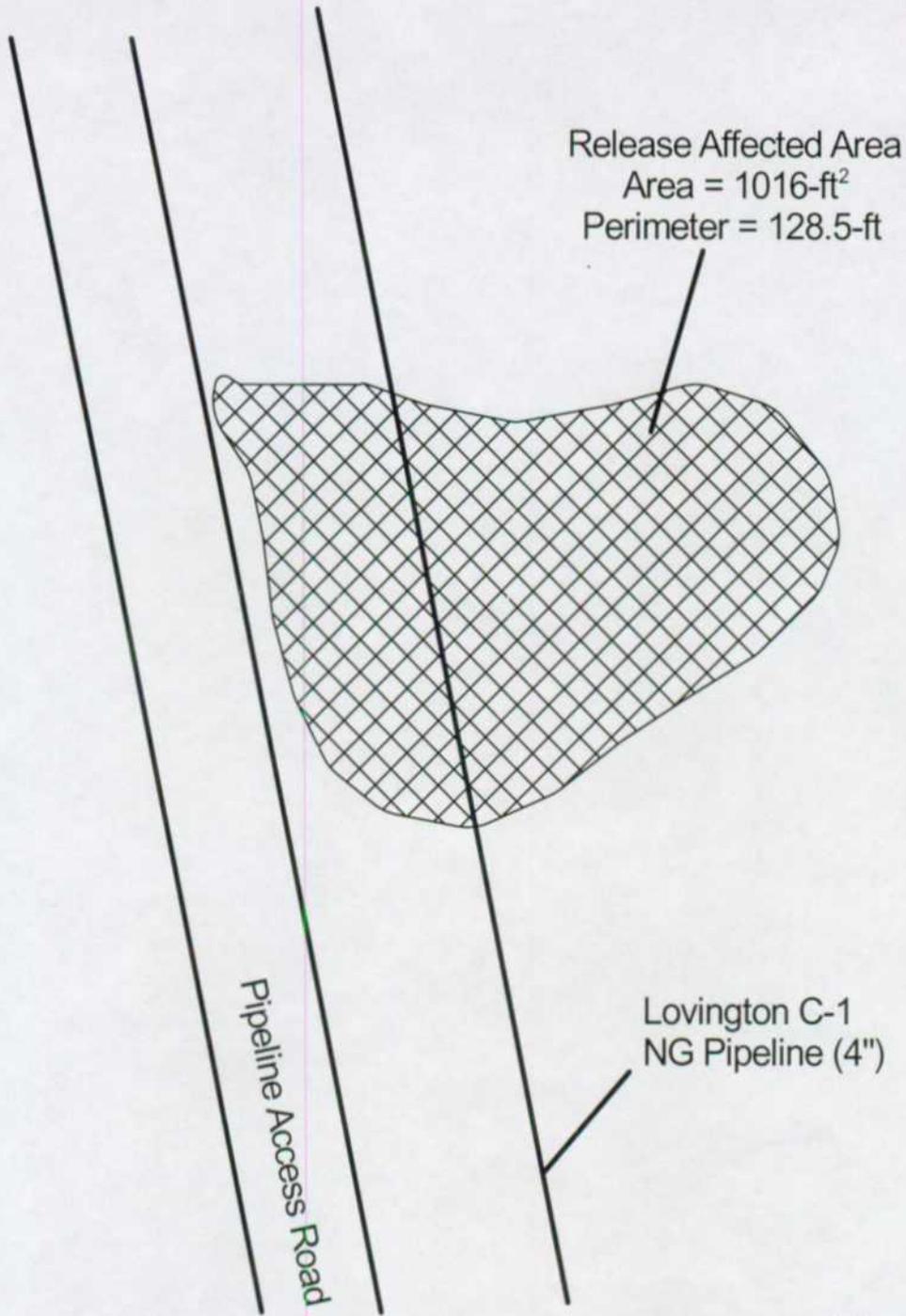
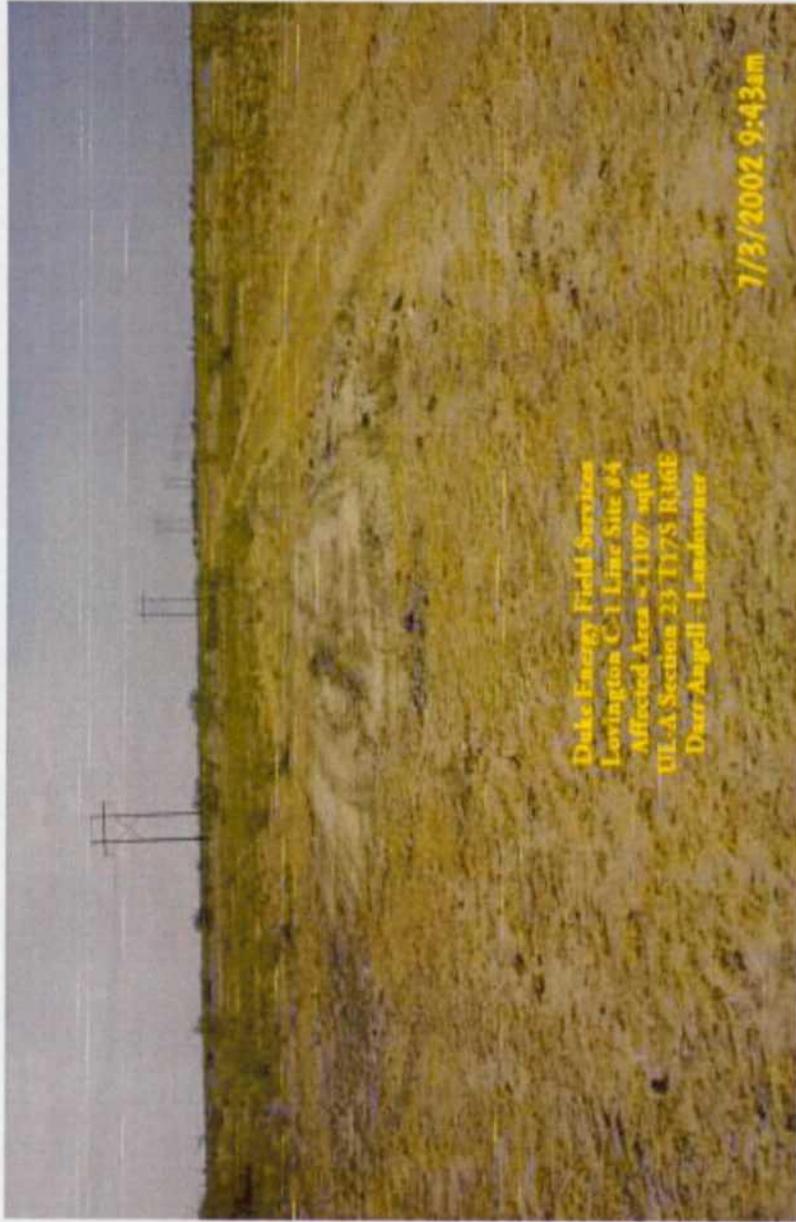


Plate 3: Release Site 4 GPS Demarcation  
 Duke Energy Field Services - 4" Lovington C-1 Line  
 Lea County, NM; UL-A Section 23 T17S R36E

Drawn By: JCG  
 Date: July-02  
 Revised:



Duke Energy Field Services  
Livingston C-1 Line Site #4  
Affected Area ~ 1107 sqft  
UL-A Section 23 T175 R36E  
Darr Angell - Landowner

1/3/2002 9:43am



July 29, 2002

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

Subject: Duke Energy Field Services Lovington C-1 Line (Site 5) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the NE $\frac{1}{4}$  (Unit Letter A), Section 23, Township 17 South, and Range 36 East. The geographic location is 32°49'32.89"N and 103°19'00.47"W. The site is approximately 7.48 miles southeast (bearing 165.8°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 45-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

RECEIVED

JUN 13 2003

Environmental Bureau  
Oil Conservation Division

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 5)		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): ??	Recovered (bbls): 0		
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 5)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~321.4-ft perimeter			
LSP Area: ~3282-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 32.89"N			
Longitude: 103° 19' 00.47"W			
Elevation above mean sea level: ~3822-ft amsl			
Feet from South Section Line: ~4537-ft			
Feet from West Section Line: ~5197-ft			
Location- Unit or ¼: NE¼ of the NE ¼ or Unit Letter: A			
Location- Section: 23			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~45-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score = 0	Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			

District I  
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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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 5	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
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#### LOCATION OF RELEASE

Unit Letter A	Section 23	Township 17S	Range 36E	Feet from the South Line 4537	Feet from the West Line 5197	Latitude 32° 49' 32.89" N	Longitude 103° 19' 00.47" W	County: LEA
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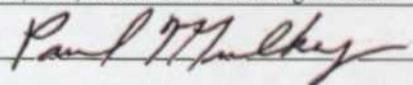
#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.\*  
Corroded pipe. Line repair clamps installed.

Describe Area Affected and Cleanup Action Taken.\*  
Area = 3,282-ft<sup>2</sup> (321.4-ft perimeter). Ground water occurs at ~45-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary

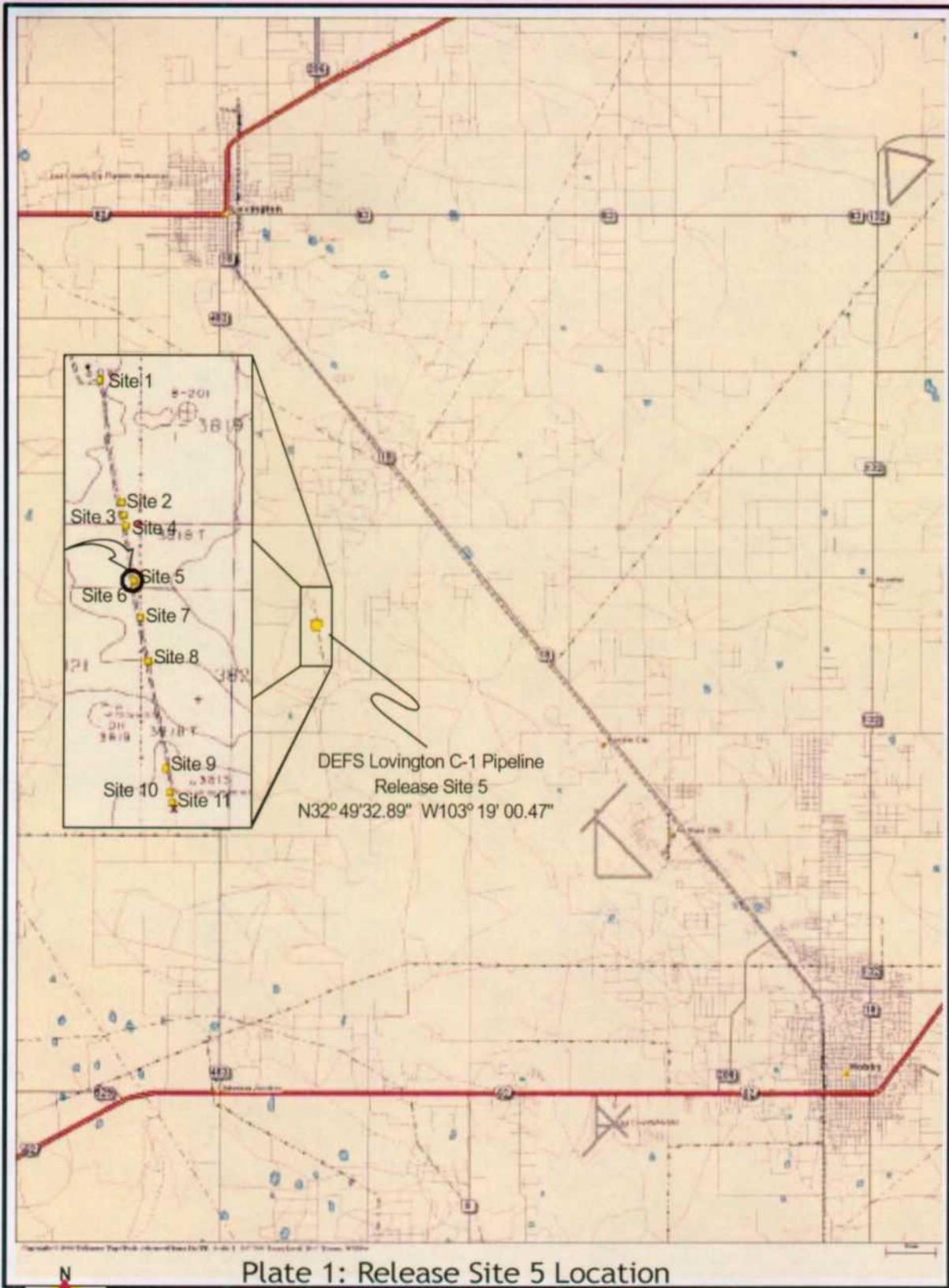


Plate 1: Release Site 5 Location

Duke Energy Field Services - Lovington C-1 Line (Site 5)  
Lea County, NM; UL-A Section 23 T17S R36E





Pipeline Access Road

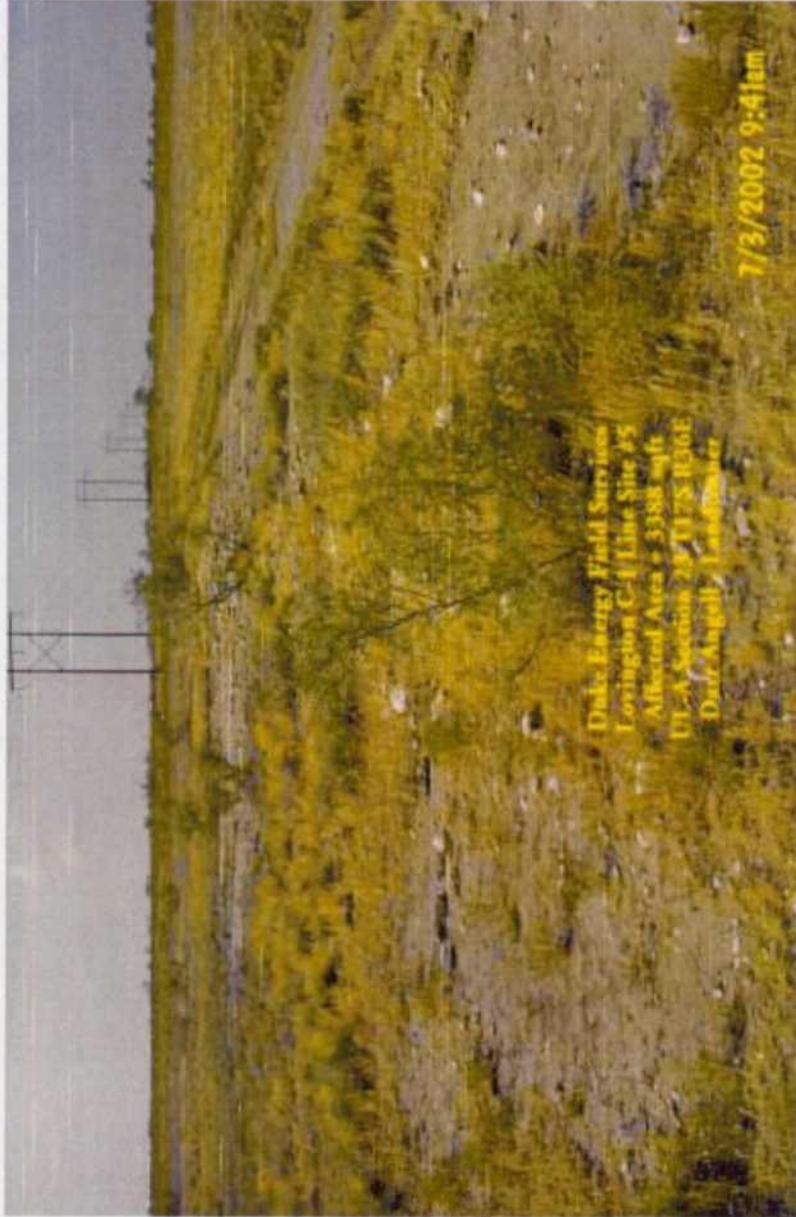
Lovington C-1  
NG Pipeline (4")

Release Affected Area  
Area = 3282-ft<sup>2</sup>  
Perimeter = 321.4-ft



Plate 3: Release Site 5 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-A Section 23 T17S R36E

Drawn By: JCG  
Date: July-02  
Revised:



Duke Energy Field Services  
Livingston C-4 Line Site 25  
Affected Area - 3388 sqft  
UT-A Section 27 0175 B36E  
Duke Energy - Fort Collins

7/3/2002 9:41am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 6) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the NE $\frac{1}{4}$  (Unit Letter A), Section 23, Township 17 South, and Range 36 East. The geographic location is 32°49'31.71"N and 103°19'00.25"W. The site is approximately 7.50 miles southeast (bearing 165.8°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 45-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

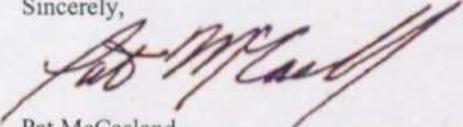
- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 6)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 6)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~182.2-ft perimeter			
LSP Area: ~1540-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 31.71"N			
Longitude: 103° 19' 00.25"W			
Elevation above mean sea level: ~3822-ft amsl			
Feet from South Section Line: ~4422-ft			
Feet from West Section Line: ~5209-ft			
Location- Unit or ¼: NE¼ of the NE ¼ or Unit Letter: A			
Location- Section: 23			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~45-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
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		Surface Water Score = 0	
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 6	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
--	---------------	-----------

#### LOCATION OF RELEASE

Unit Letter A	Section 23	Township 17S	Range 36E	Feet from the South Line 4422	Feet from the West Line 5209	Latitude 32° 49' 31.71" N	Longitude 103° 19' 00.25" W	County: LEA
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#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.* Corroded pipe. Line repair clamps installed.		

Describe Area Affected and Cleanup Action Taken.\*  
Area = 1,540-ft<sup>2</sup> (182.5-ft perimeter). Ground water occurs at ~45-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: <i>Paul Mulkey</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Attach Additional Sheets If Necessary

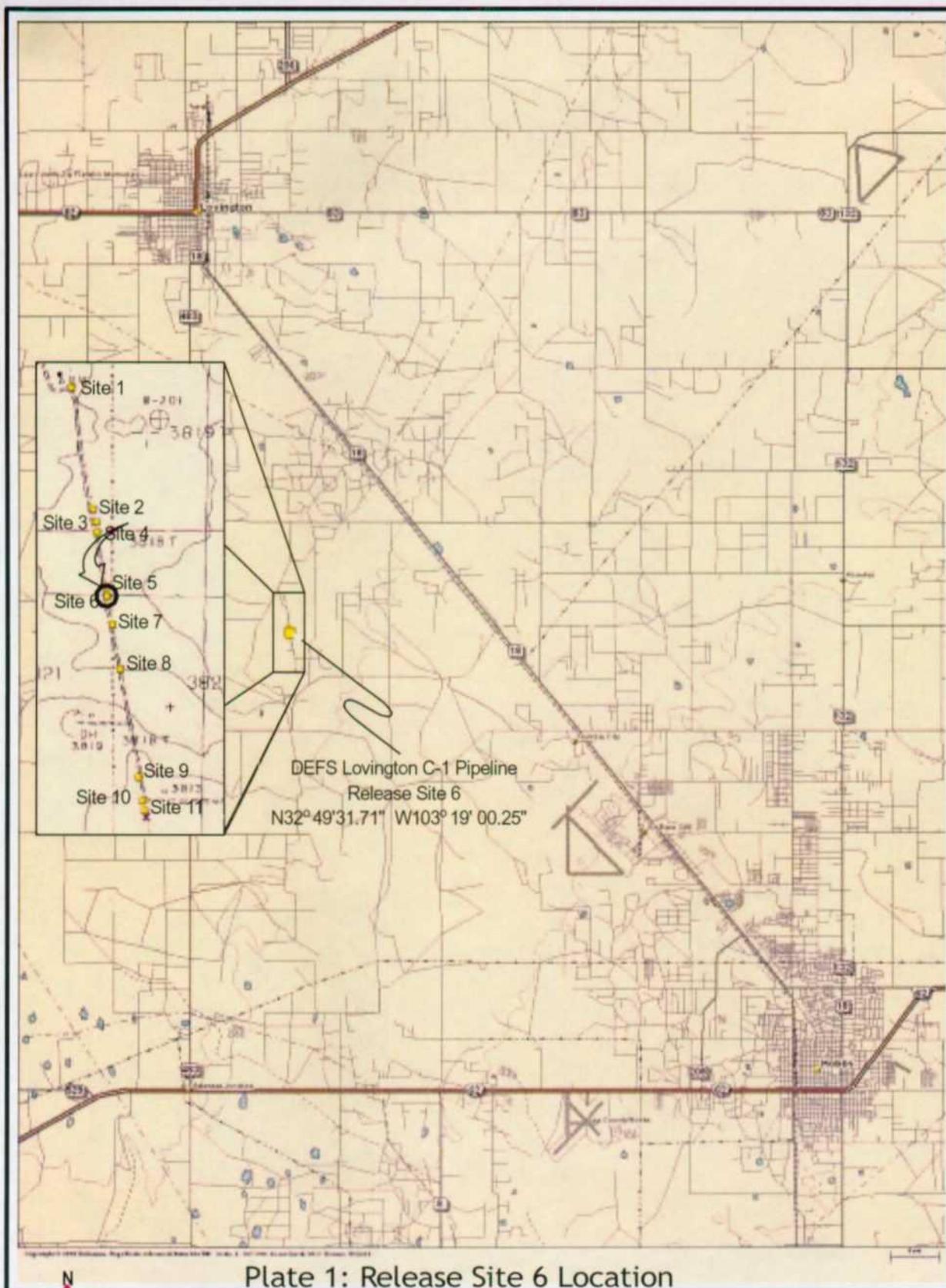


Plate 1: Release Site 6 Location

Duke Energy Field Services - Lovington C-1 Line (Site 6)  
Lea County, NM; UL-A Section 23 T17S R36E





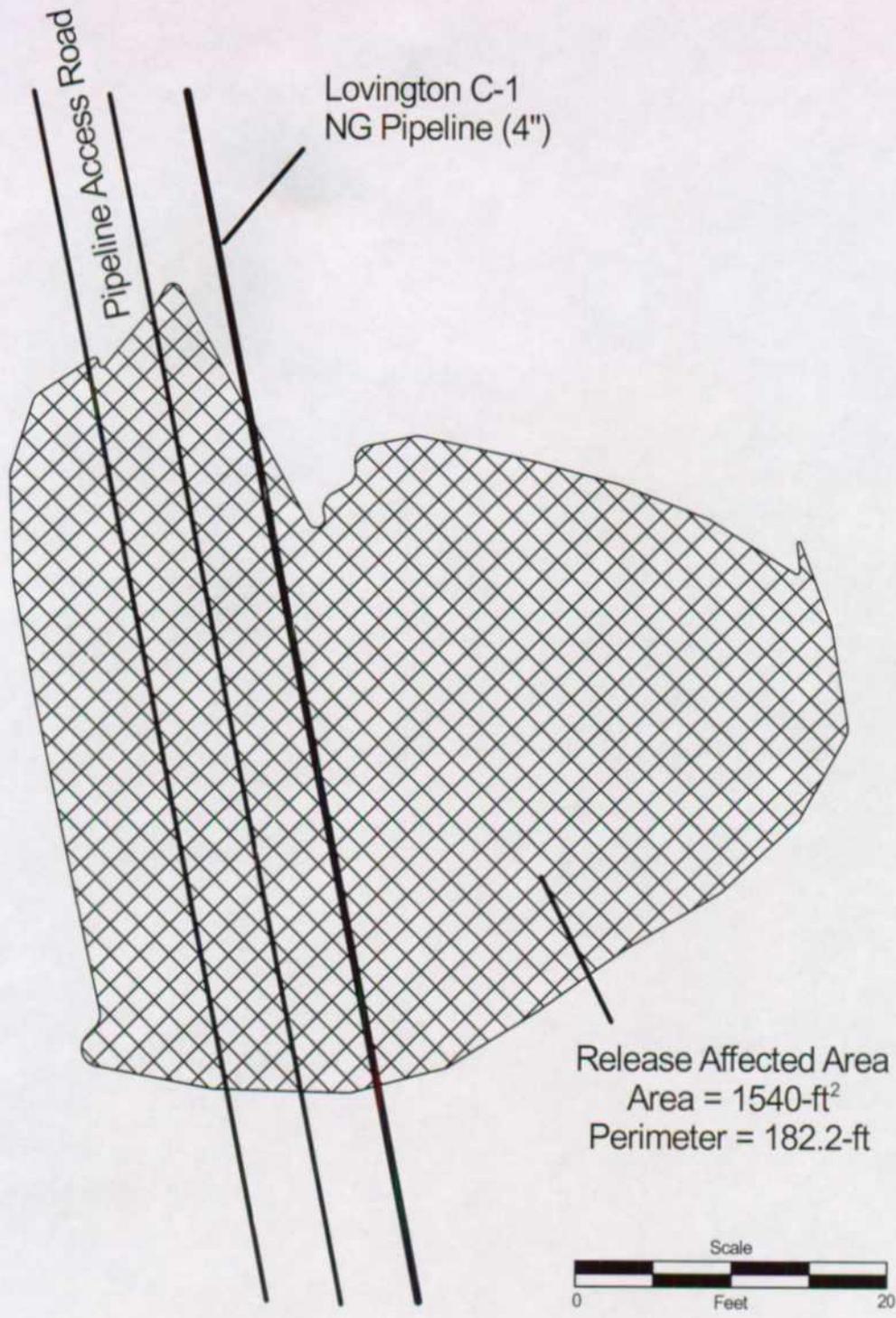
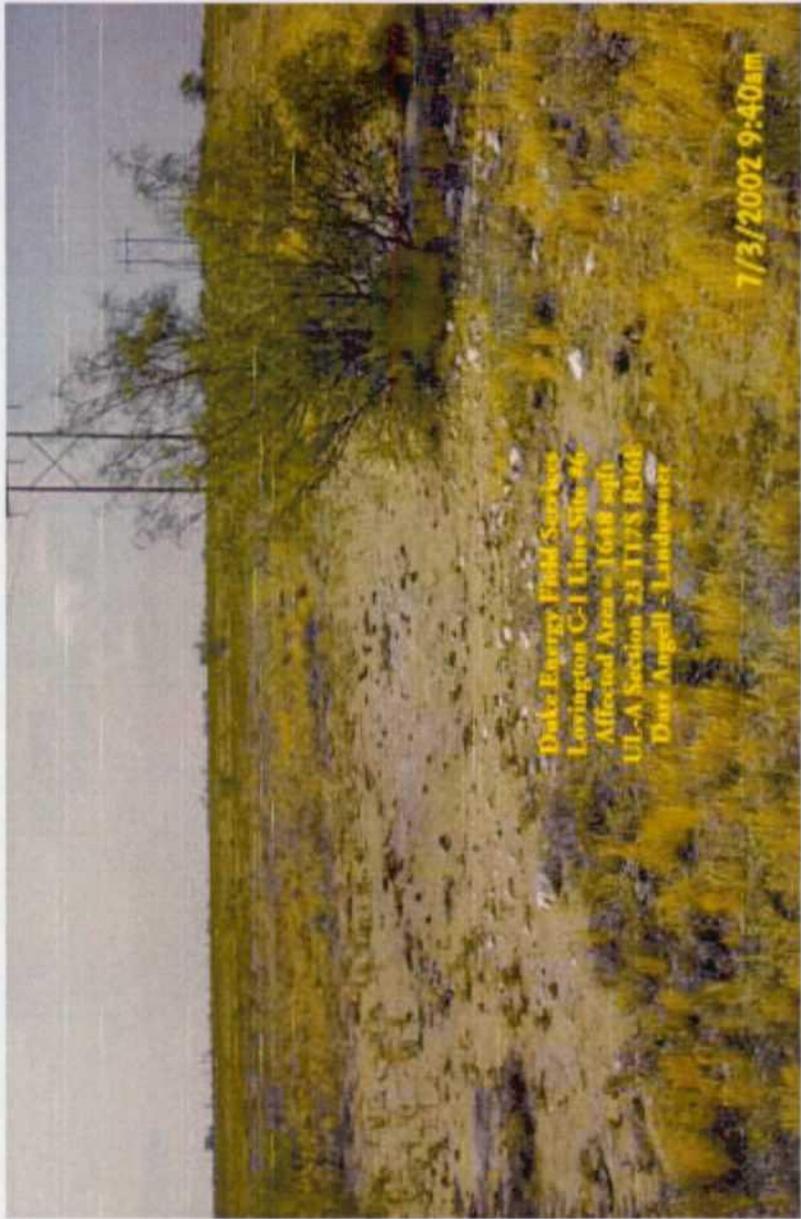


Plate 3: Release Site 6 GPS Demarcation  
 Duke Energy Field Services - 4" Lovington C-1 Line  
 Lea County, NM; UL-A Section 23 T17S R36E

Drawn By: JCG  
 Date: July-02  
 Revised:



Duke Energy Field Services  
Livingston C-1 Tree Site #6  
Affected Area - 1648 sqft  
UI-A Section 23 1175 R360  
Duke Angell - Landowner

7/3/2002 9:40am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 7) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NE $\frac{1}{4}$  of the NE $\frac{1}{4}$  (Unit Letter A), Section 23, Township 17 South, and Range 36 East. The geographic location is 32°49'28.21"N and 103°18'59.53"W. The site is approximately 7.57 miles southeast (bearing 165.8°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 47-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

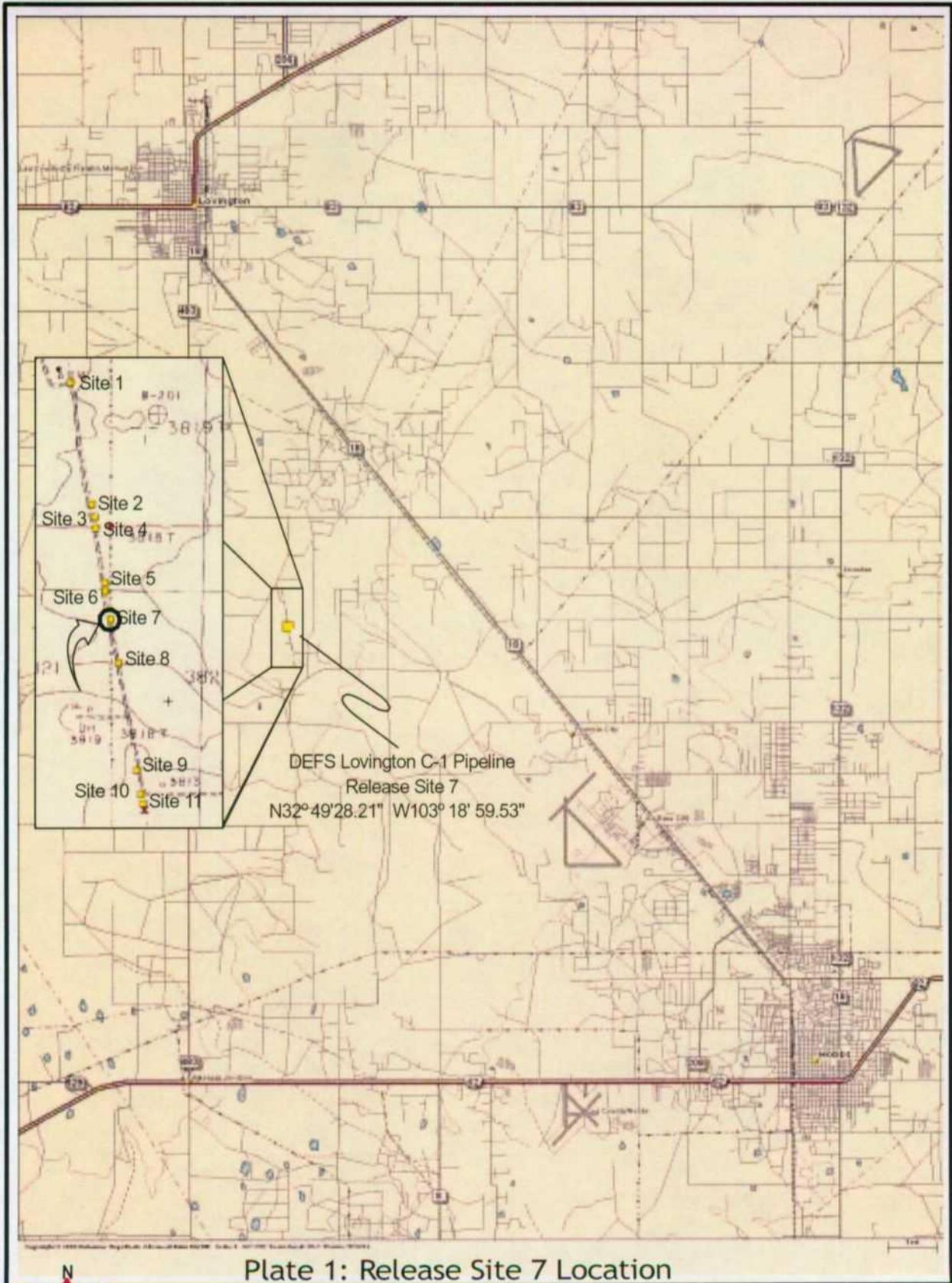
Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 7)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilchrest			
Representative Telephone: 505.397.5716 / 505.397.5561			
Telephone:			
Fluid volume released (bbls): ??	Recovered (bbls): 0		
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 7)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~201.3-ft perimeter			
LSP Area: ~1484-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 28.21"N			
Longitude: 103° 18' 59.53"W			
Elevation above mean sea level: 3822-ft amsl			
Feet from South Section Line: 4064-ft			
Feet from West Section Line: 5245-ft			
Location- Unit or ¼¼: NE¼ of the NE ¼ or Unit Letter: A			
Location- Section: 23			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~47-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score = 0	Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	<b>20 or &gt;</b>	<b>10</b>	<b>0</b>
Benzene <sup>1</sup>	<b>10 ppm</b>	10 ppm	10 ppm
BTEX <sup>1</sup>	<b>50 ppm</b>	50 ppm	50 ppm
TPH	<b>100 ppm</b>	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			





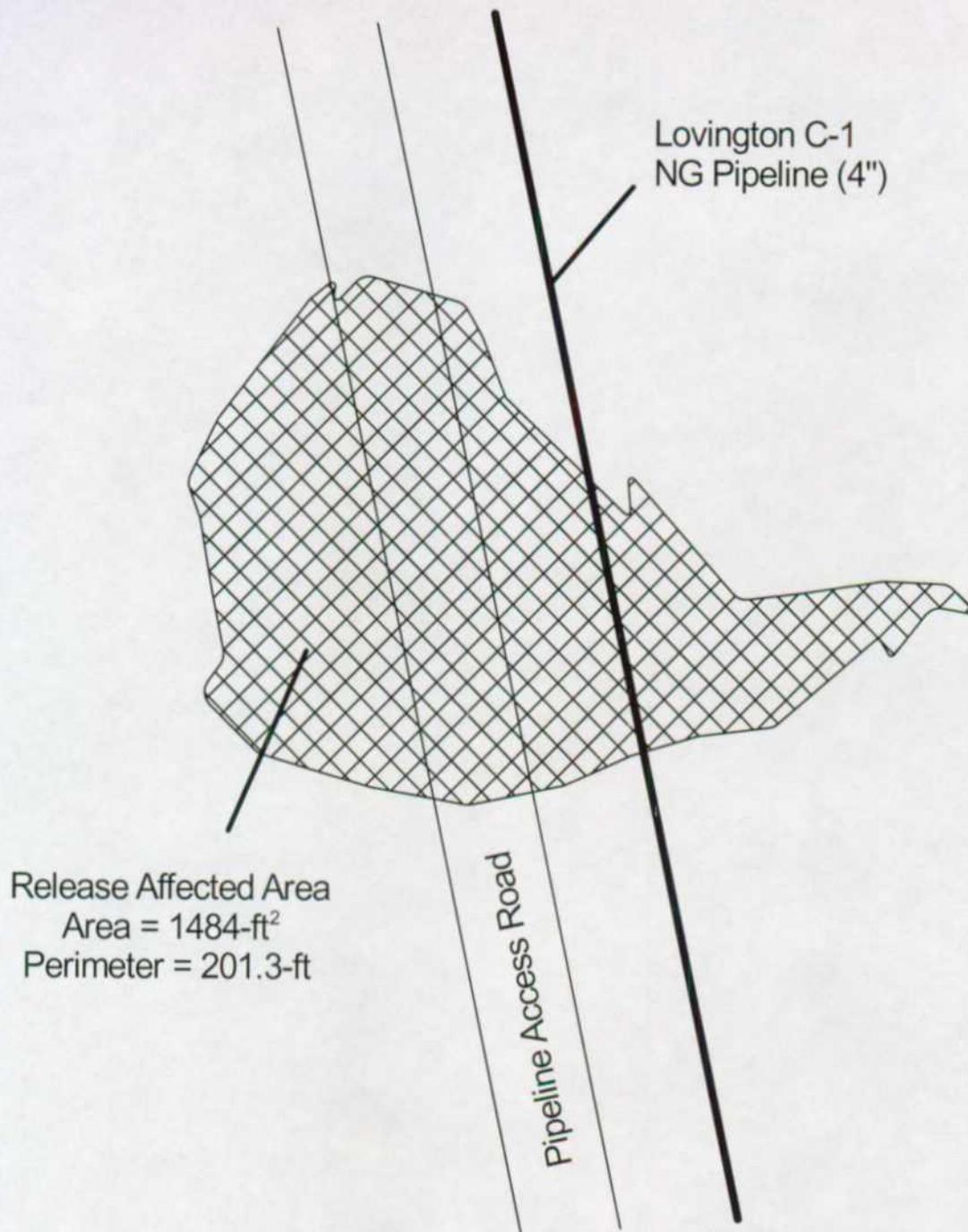


**Plate 1: Release Site 7 Location**

Duke Energy Field Services - Lovington C-1 Line (Site 7)  
Lea County, NM; UL-A Section 23 T17S R36E







Release Affected Area  
 Area = 1484-ft<sup>2</sup>  
 Perimeter = 201.3-ft

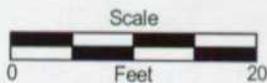
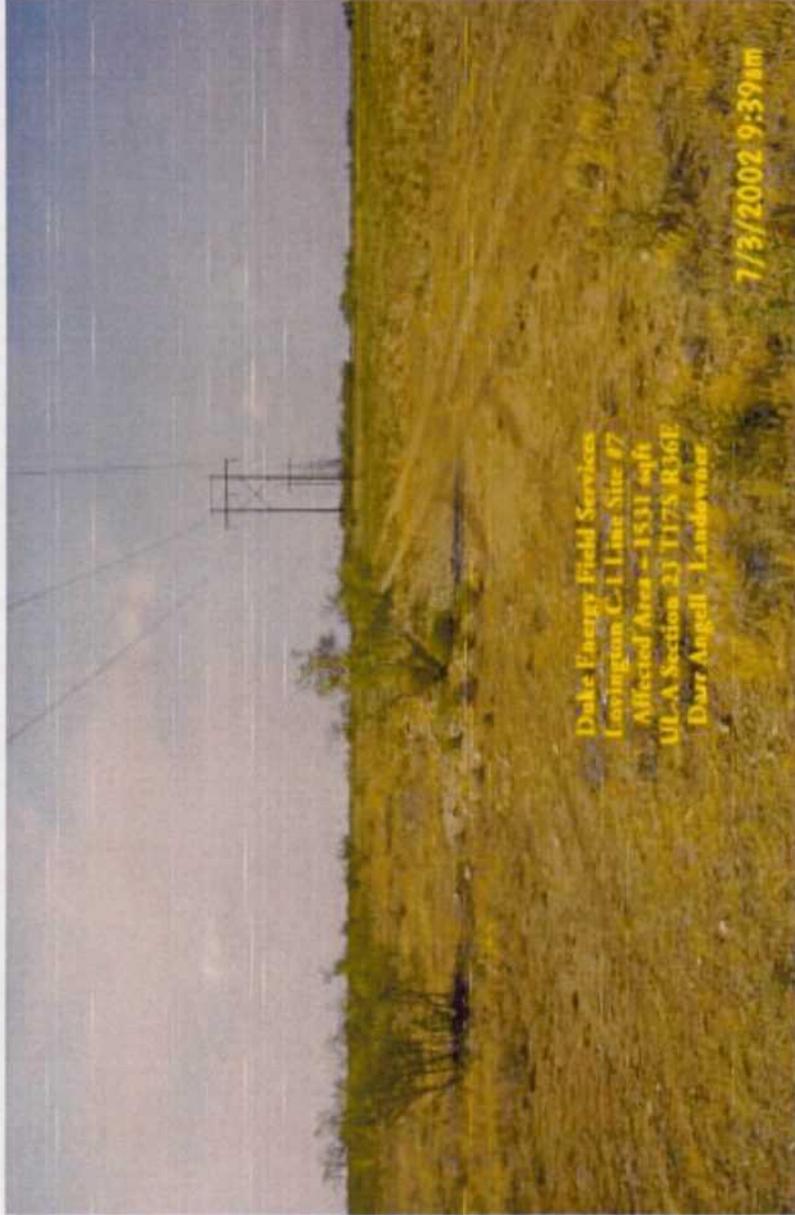


Plate 3: Release Site 7 GPS Demarcation  
 Duke Energy Field Services - 4" Lovington C-1 Line  
 Lea County, NM; UL-A Section 23 T17S R36E

Drawn By: JCG  
 Date: July-02  
 Revised:



Duke Energy Field Services  
Livingston C-1 Line Site #7  
Affected Area - 1531 sqft  
UL-A Section 2J 1175 R36E  
Darr Angell - Landowner

7/3/2002 9:39am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 8) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the SW¼ of the NW¼ (Unit Letter E), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'22.51"N and 103°18'58.34"W. The site is approximately 7.68 miles southeast (bearing 165.9°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



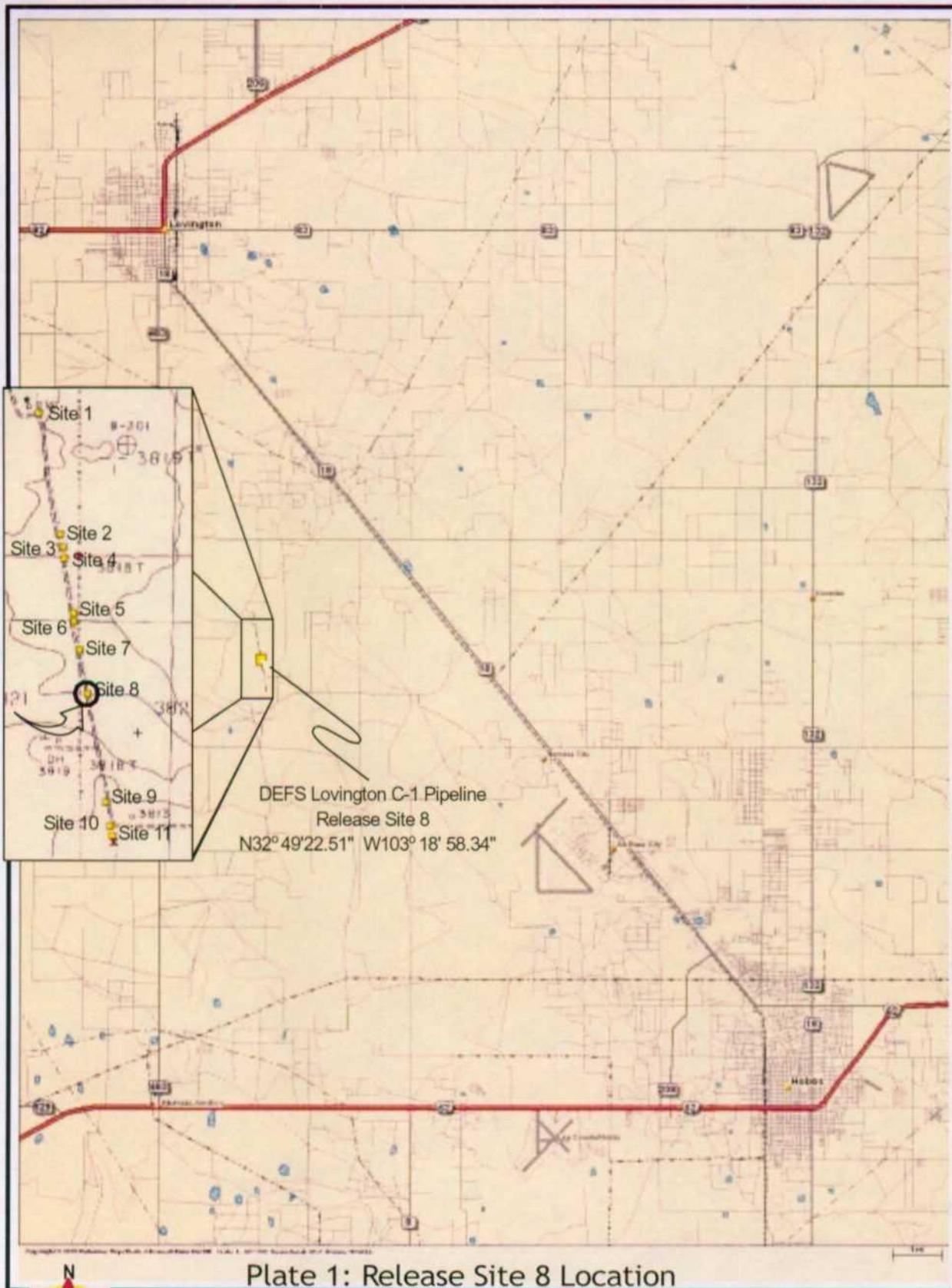
Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 8)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 8)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~83.3-ft perimeter			
LSP Area: ~503-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 22.51"N			
Longitude: 103° 18' 58.34"W			
Elevation above mean sea level: 3825-ft amsl			
Feet from South Section Line: 3496-ft			
Feet from West Section Line: 90-ft			
Location- Unit or ¼: SW¼ of the NW ¼ or Unit Letter: E			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) - unknown at this time			
Depth to ground water (DG - DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score = 0	Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	<b>20 or &gt;</b>	<b>10</b>	<b>0</b>
Benzene <sup>1</sup>	<b>10 ppm</b>	10 ppm	10 ppm
BTEX <sup>1</sup>	<b>50 ppm</b>	50 ppm	50 ppm
TPH	<b>100 ppm</b>	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			





DEFS Lovington C-1 Pipeline  
 Release Site 8  
 N32°49'22.51" W103°18'58.34"



**Plate 1: Release Site 8 Location**  
 Duke Energy Field Services - Lovington C-1 Line (Site 8)  
 Lea County, NM; UL-E Section 24 T17S R36E

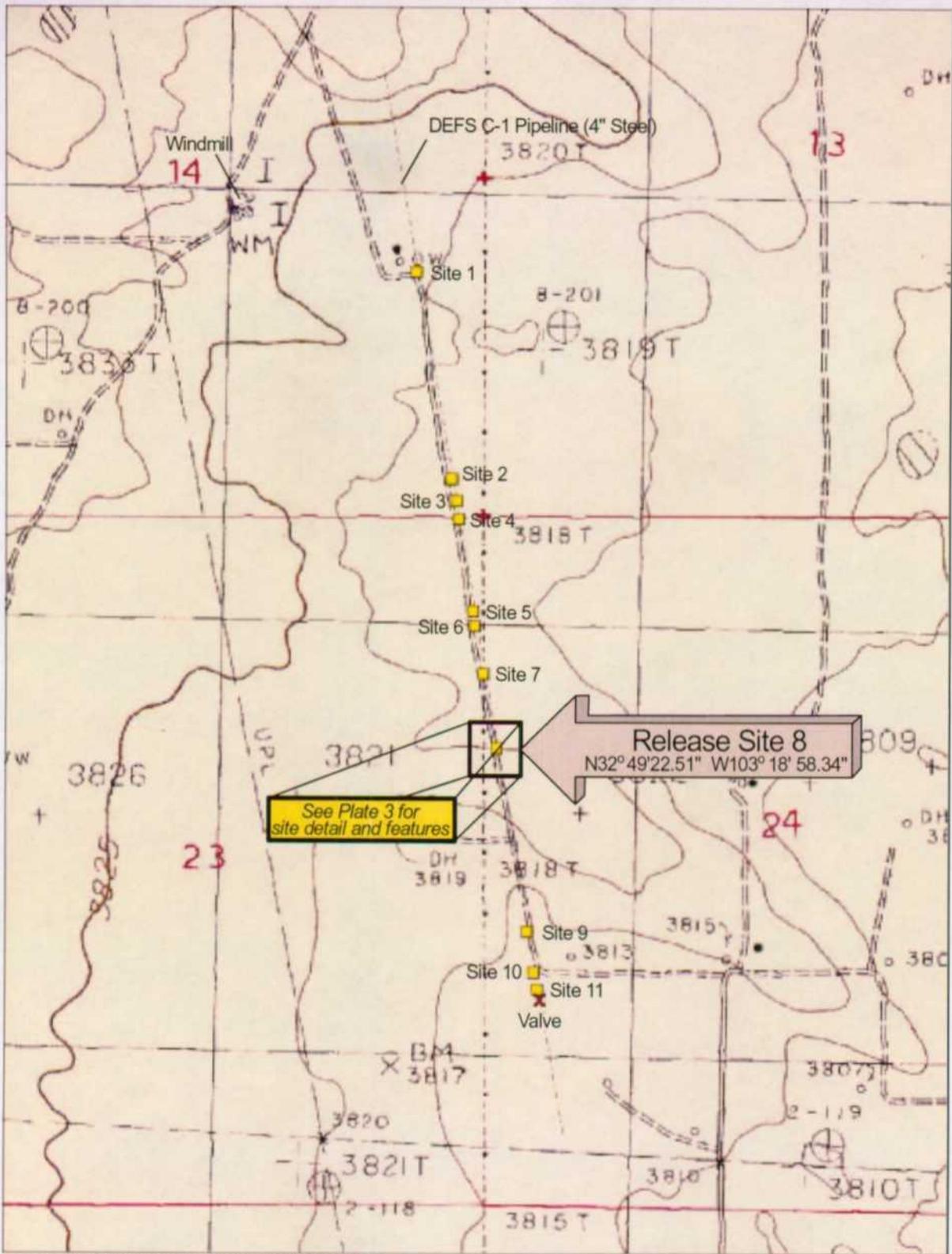


Plate 2: Site Topography and Release Location  
 Duke Energy Field Services - Lovington C-1 Line (Site 8)  
 Lea County, NM; UL-E Section 24 T17S R36E



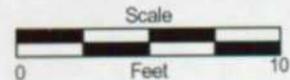
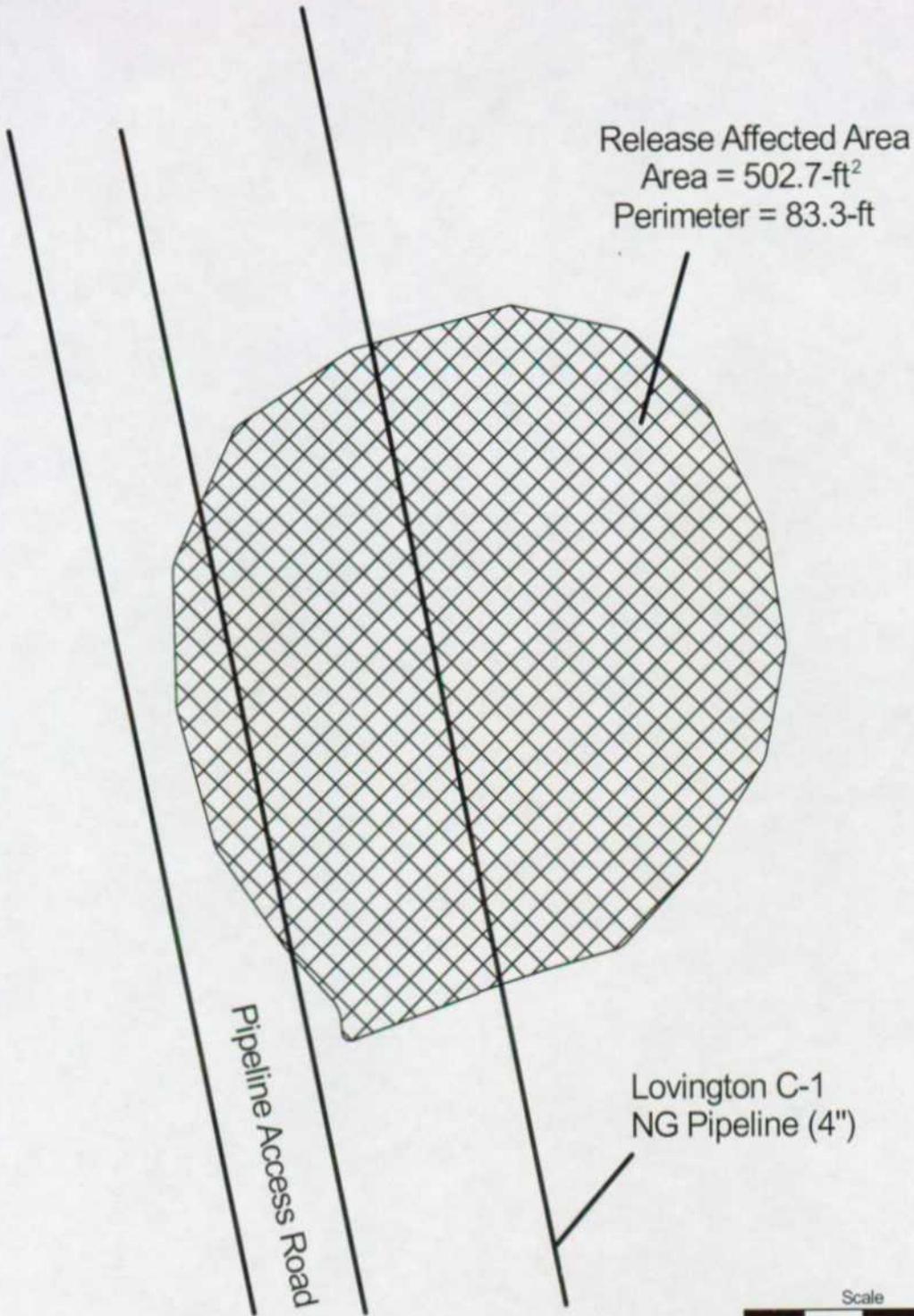


Plate 3: Release Site 8 GPS Demarcation  
 Duke Energy Field Services - 4" Lovington C-1 Line  
 Lea County, NM; UL-E Section 24 T17S R36E

Drawn By: JCG  
 Date: July-02  
 Revised:



Duke Energy North Carolina  
Landscape Construction  
11111 Sycamore St, Raleigh, NC 27606  
704.252.1111  
Duke Energy North Carolina

1/3/2002 9:37am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 9) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NW¼ of the SW¼ (Unit Letter L), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'08.74"N and 103°18'55.50"W. The site is approximately 7.95 miles southeast (bearing 166.0°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e.  $\text{CaCO}_3$ , undergo a chemical reduction reaction when exposed to hydrogen sulfide ( $\text{H}_2\text{S}$ ), yielding a resultant sulfate reaction product, i.e.  $\text{CaSO}_4$ . The natural gas transported in this gathering system has a  $\text{H}_2\text{S}$  component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 9)		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilchrest			
Representative Telephone: 505.397.5716 / 505.397.5561			
Telephone:			
Fluid volume released (bbls): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 9)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~733.1-ft perimeter			
LSP Area: ~7074-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 08.74"N			
Longitude: 103° 18' 55.50"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~2100-ft			
Feet from West Section Line: ~330-ft			
Location- Unit or ¼¼: NW¼ of the SW ¼ or Unit Letter: L			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points			
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	
Ground water Score = 20		Wellhead Protection Area Score = 0	
Surface Water Score = 0			
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 9	Facility Type Natural Gas Pipeline

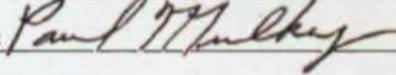
Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
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#### LOCATION OF RELEASE

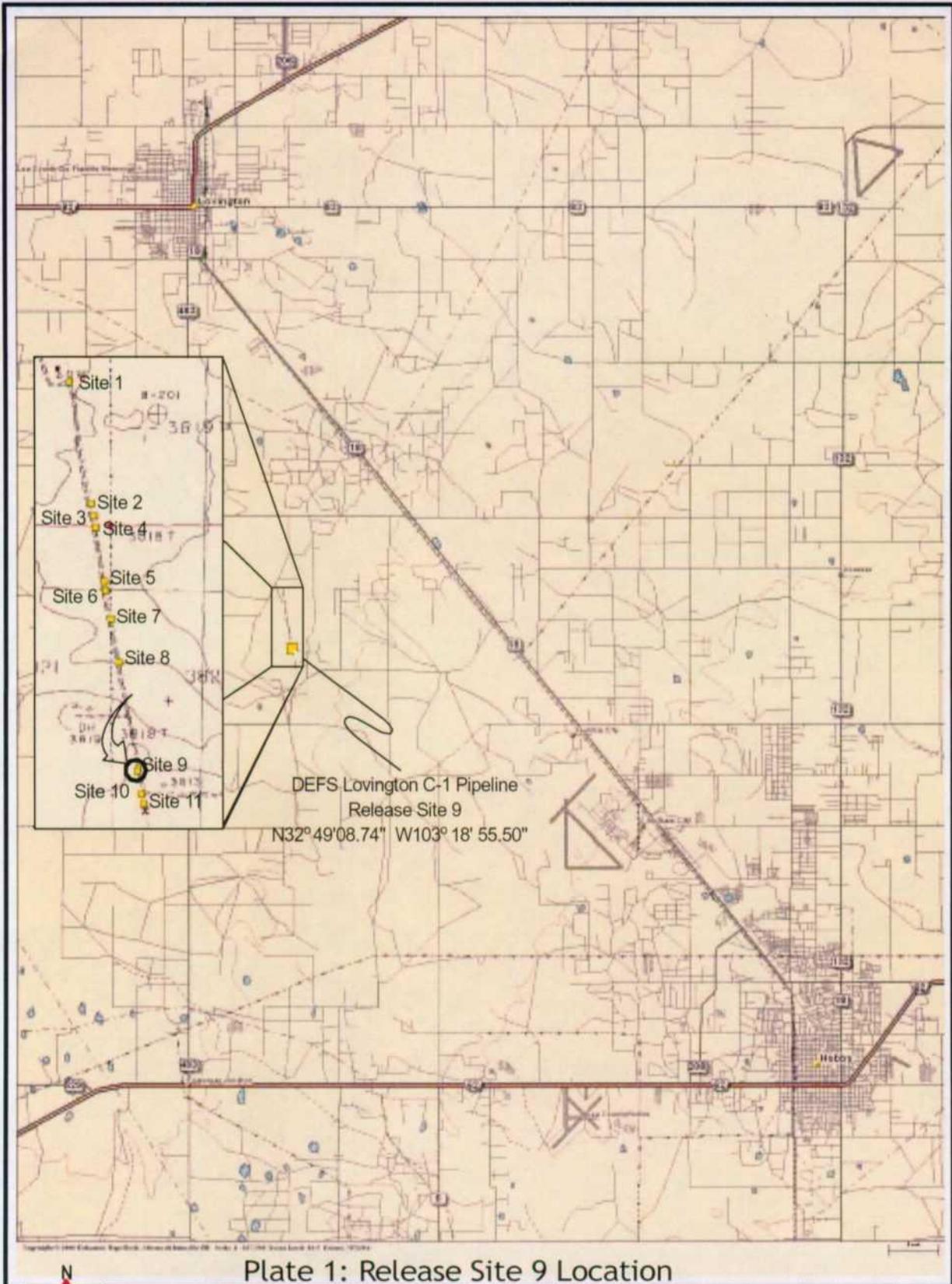
Unit Letter L	Section 24	Township 17S	Range 36E	Feet from the South Line 2100	Feet from the West Line 330	Latitude 32° 49' 08.74" N	Longitude 103° 18' 55.50" W	County: LEA
------------------	---------------	-----------------	--------------	-------------------------------------	-----------------------------------	------------------------------	--------------------------------	----------------

#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.* Corroded pipe. Line repair clamps installed.		
Describe Area Affected and Cleanup Action Taken.* Area = 7074-ft <sup>2</sup> (733.1-ft perimeter). Ground water occurs at ~50-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02 Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

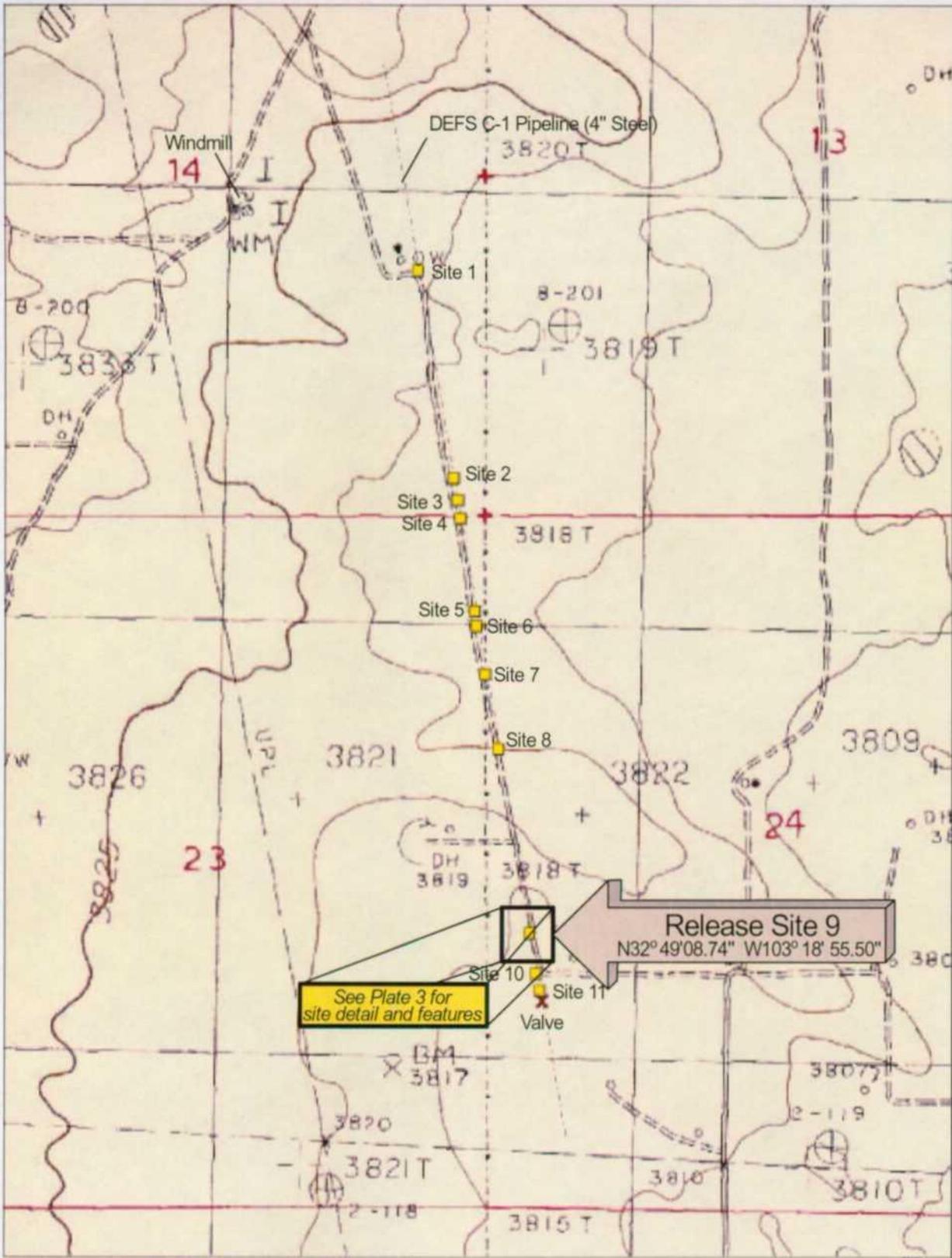
Attach Additional Sheets If Necessary



**Plate 1: Release Site 9 Location**

Duke Energy Field Services - Lovington C-1 Line (Site 9)  
Lea County, NM; UL-L Section 24 T17S R36E





**Plate 2: Site Topography and Release Location**

Duke Energy Field Services - Lovington C-1 Line (Site 9)  
 Lea County, NM; UL-L Section 24 T17S R36E



Release Affected Area  
Area = 7074-ft<sup>2</sup>  
Perimeter = 733.1-ft

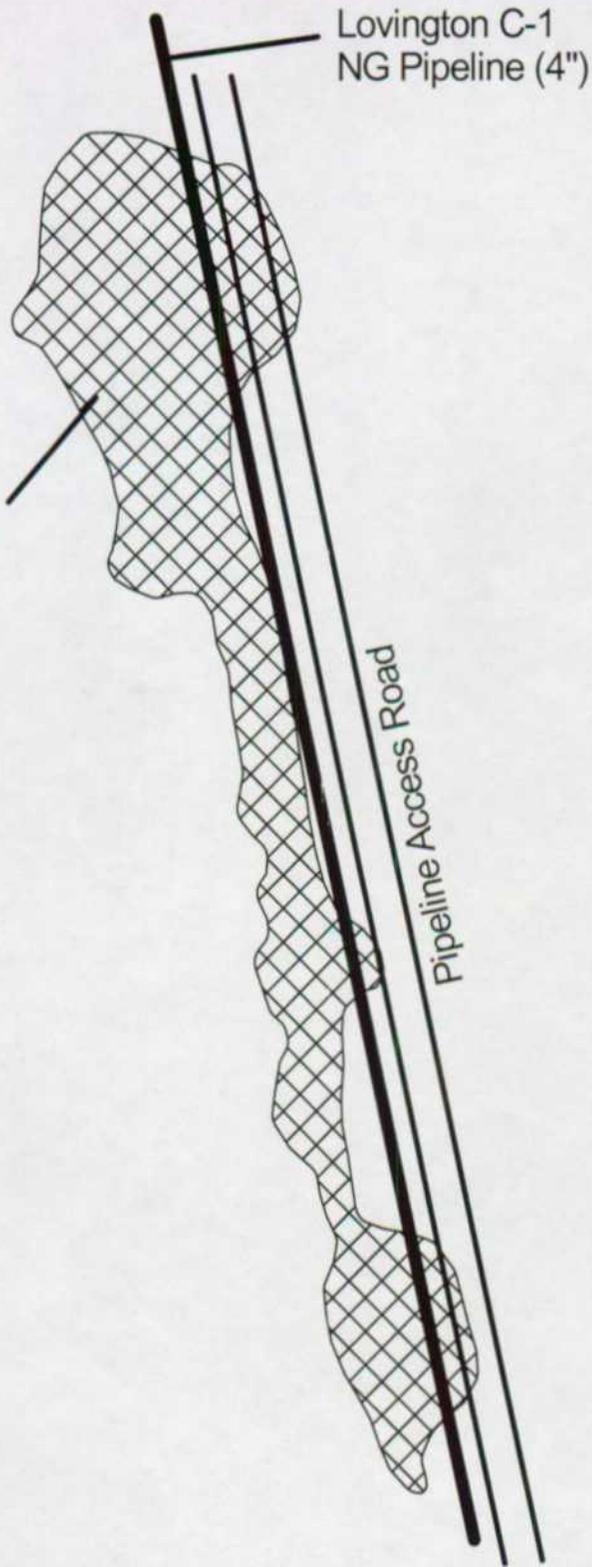
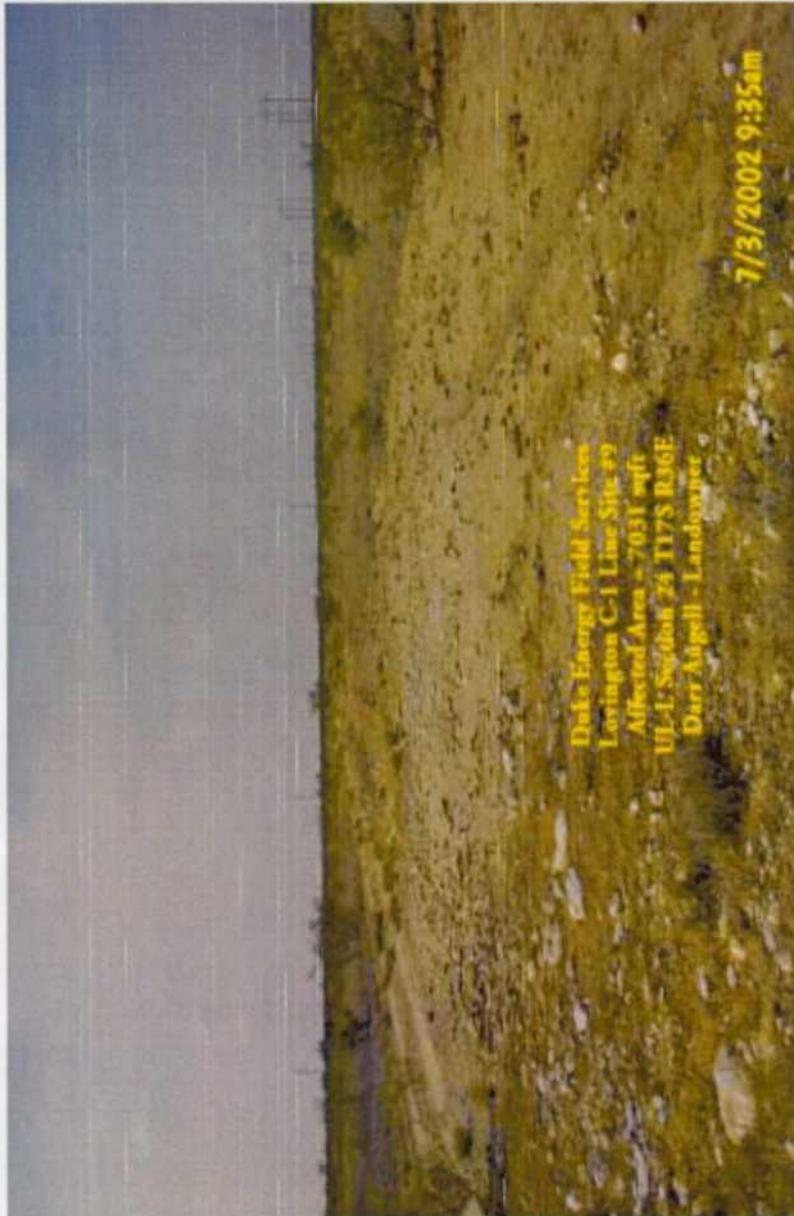


Plate 3: Release Site 9 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-L Section 24 T17S R36E

Drawn By: JCG  
Date: July-02  
Revised:



Duke Energy Field Service  
Lorington C-1 Line Site #9  
Affected Area - 7031 sqft  
UJ-L Section 24 T17S R36E  
Darr Adgeil - Landowner

7/3/2002 9:35am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 10) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NW $\frac{1}{4}$  of the SW $\frac{1}{4}$  (Unit Letter L), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'05.70"N and 103°18'54.82"W. The site is approximately 8.00 miles southeast (bearing 166.1°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 10)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 10)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~197.9-ft perimeter			
LSP Area: ~2483-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 05.70"N			
Longitude: 103° 18' 54.82"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~1784-ft			
Feet from West Section Line: ~382-ft			
Location- Unit or ¼: NW¼ of the SW ¼ or Unit Letter: L			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
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	
		Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name Lovington 4" C-1 Line - Release Site 10	Facility Type Natural Gas Pipeline

Surface Owner Mr. Darr Angell (dba "U-Bar Ranch")	Mineral Owner	Lease No.
--	---------------	-----------

#### LOCATION OF RELEASE

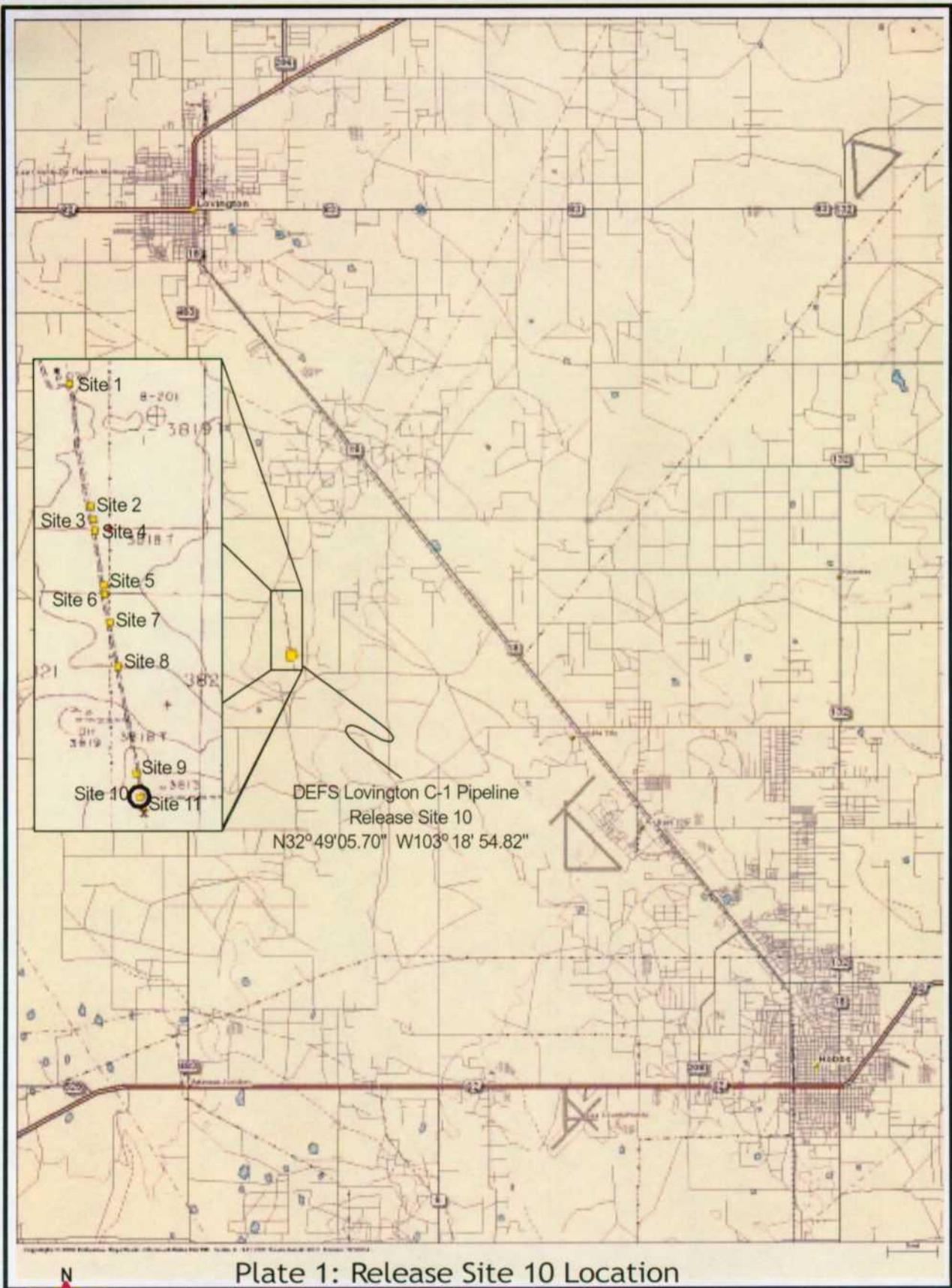
Unit Letter L	Section 24	Township 17S	Range 36E	Feet from the South Line 1784	Feet from the West Line 382	Latitude 32° 49' 05.70" N	Longitude 103° 18' 54.82" W	County: LEA
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#### NATURE OF RELEASE

Type of Release Sour Natural Gas and associated components	Volume of Release Unknown	Volume Recovered NA
Source of Release 4" Steel pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? Historical Site <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.* Corroded pipe. Line repair clamps installed.		
Describe Area Affected and Cleanup Action Taken.* Area = 2483-ft <sup>2</sup> (197.9-ft perimeter). Ground water occurs at ~50-ft bgs. The site rank is 20 points. Contaminated soil above the site remedial goals will be excavated and disposed of by Environmental Plus, Inc., Eunice, NM. Remedial Goals: TPH 8015m = 100 mg/Kg, BTEX = 50 mg/Kg, Benzene = 10 mg/Kg, Chloride = 250 mg/Kg, and Sulfate = 600 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: <i>Paul Mulkey</i>	<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 7-29-02                      Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

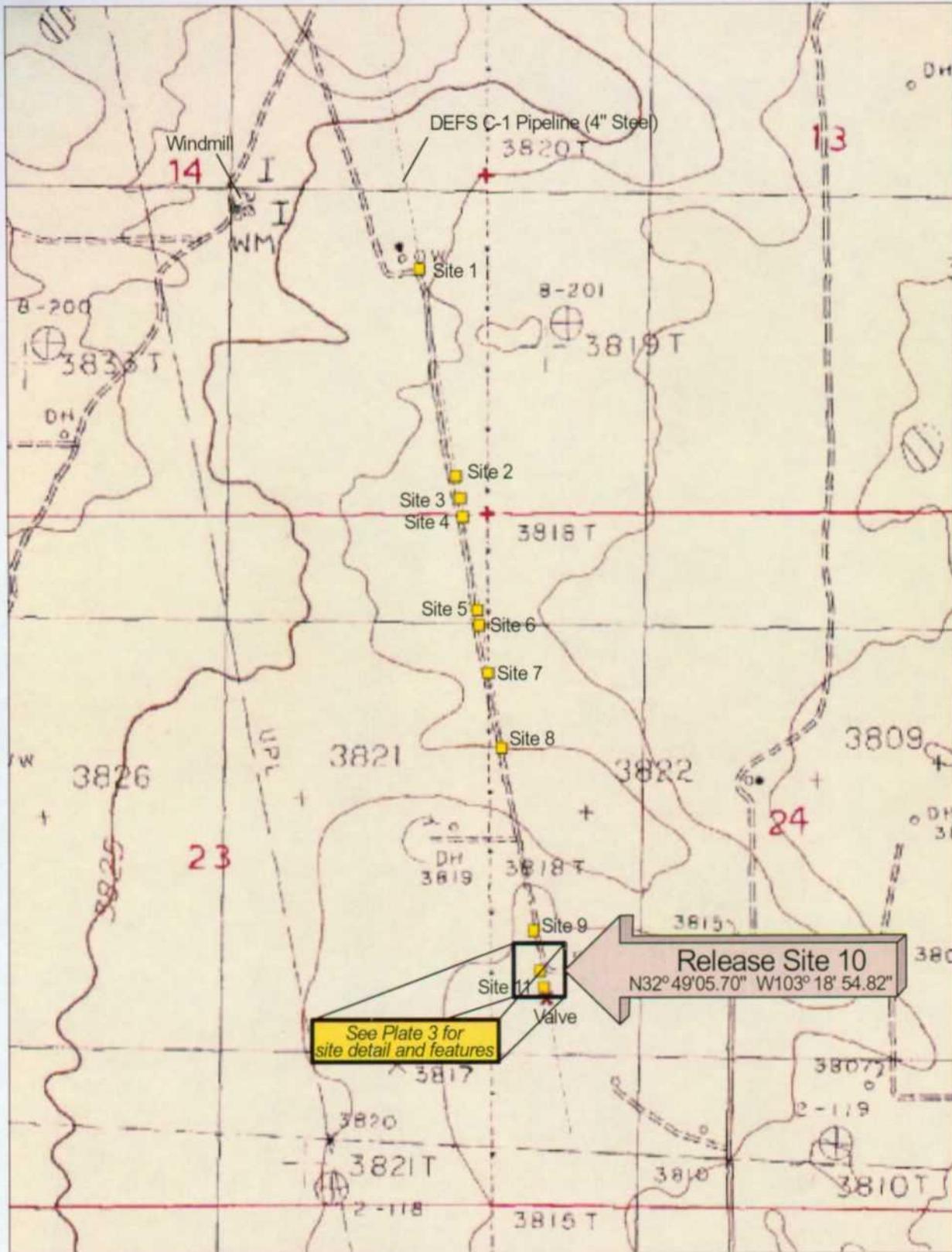
Attach Additional Sheets If Necessary



**Plate 1: Release Site 10 Location**

Duke Energy Field Services - Lovington C-1 Line (Site 10)  
Lea County, NM; UL-L Section 24 T17S R36E





**Plate 2: Site Topography and Release Location**

Duke Energy Field Services - Lovington C-1 Line (Site 10)

Lea County, NM; UL-L Section 24 T17S R36E



Lovington C-1  
NG Pipeline (4")

Pipeline Access Road

Release Affected Area  
Area = 2483-ft<sup>2</sup>  
Perimeter = 197.9-ft



Plate 3: Release Site 10 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-L Section 24 T17S R36E

Drawn By: JCG

Date: July-02

Revised:



Quip Energy Field Services  
Lorington, CA Lease #110  
Affected Area: 2000 sq ft  
Oil X-Section 24-1078 B160  
Dean Wapell - Landowner

7/3/2002 9:30am



July 29, 2002

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

RECEIVED  
JUN 13 2003  
Environmental Bureau  
Oil Conservation Division

Subject: Duke Energy Field Services Lovington C-1 Line (Site 11) Initial C-141 and Remediation Plan

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached New Mexico Oil Conservation Division form C-141 for the above referenced leak site located on land owned by Mr. Darr Angell, dba "U-Bar Ranch". The site is located in the NW $\frac{1}{4}$  of the SW $\frac{1}{4}$  (Unit Letter L), Section 24, Township 17 South, and Range 36 East. The geographic location is 32°49'04.35"N and 103°18'54.54"W. The site is approximately 8.04 miles southeast (bearing 166.1°) of Lovington, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is estimated to be approximately 50-feet below ground surface (bgs). The site matrix ranking for this site is 20 due to the shallow ground water.

The remedial action plan for this site is to delineate and characterize the soil contamination within the affected area of the natural gas release, excavate and dispose of RCRA exempt contaminated soils, and backfill the excavation with clean soil obtained on-site from the land owner. The RCRA exempt contaminated soils will be disposed of in EPI's approved land farm located south of Eunice, NM.

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

- BTEX (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH8015m (Total Petroleum Hydrocarbon): 100 mg/kg
- Benzene: 10 mg/kg
- Chloride: 250 mg/kg
- Sulfate: 600 mg/kg\* (NMWQCC Ground Water Threshold Level)

\*Alkaline soils, i.e. CaCO<sub>3</sub>, undergo a chemical reduction reaction when exposed to hydrogen sulfide (H<sub>2</sub>S), yielding a resultant sulfate reaction product, i.e. CaSO<sub>4</sub>. The natural gas transported in this gathering system has a H<sub>2</sub>S component of >100,000 ppm, thus it is expected that the affected soil will have sulfate levels considerably above background levels for this area.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505.390.0288 and 505.390.7864, respectively or Mr. Paul Mulkey at 505.397.5716. All official written communications 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 Energy Field Services, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.



Site Information and Metrics

Incident Date and NMOCD Notified?

Historical Release Site

SITE: Lovington 4" C-1 Line (Site 11)		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): ??		Recovered (bbls): 0	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington 4" C-1 Line (Site 11)			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: Mr. Darr Angell (dba "U-Bar Ranch")			
LSP Dimensions ~180.0-ft perimeter			
LSP Area: ~2001-ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 49' 04.35"N			
Longitude: 103° 18' 54.54"W			
Elevation above mean sea level: ~3819-ft amsl			
Feet from South Section Line: ~1635-ft			
Feet from West Section Line: ~407-ft			
Location- Unit or ¼: NW¼ of the SW ¼ or Unit Letter: L			
Location- Section: 24			
Location- Township: 17S			
Location- Range: 36E			
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: None			
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) ~50-ft bgs			
Depth of contamination (DC) – unknown at this time			
Depth to ground water (DG – DC = DtGW) - unknown at this time			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points			
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	
Ground water Score = 20		Wellhead Protection Area Score = 0	
		Surface Water Score = 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			



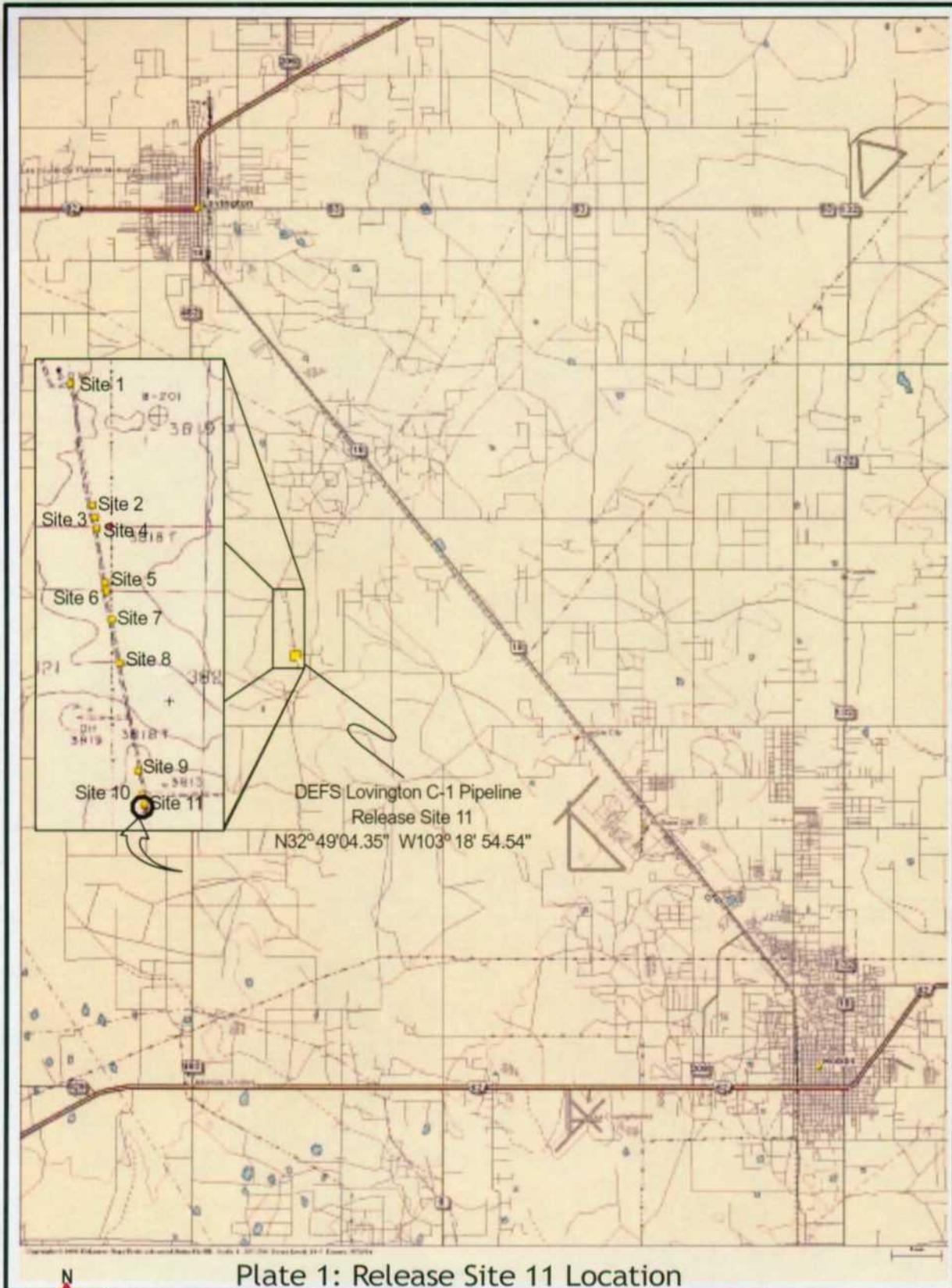
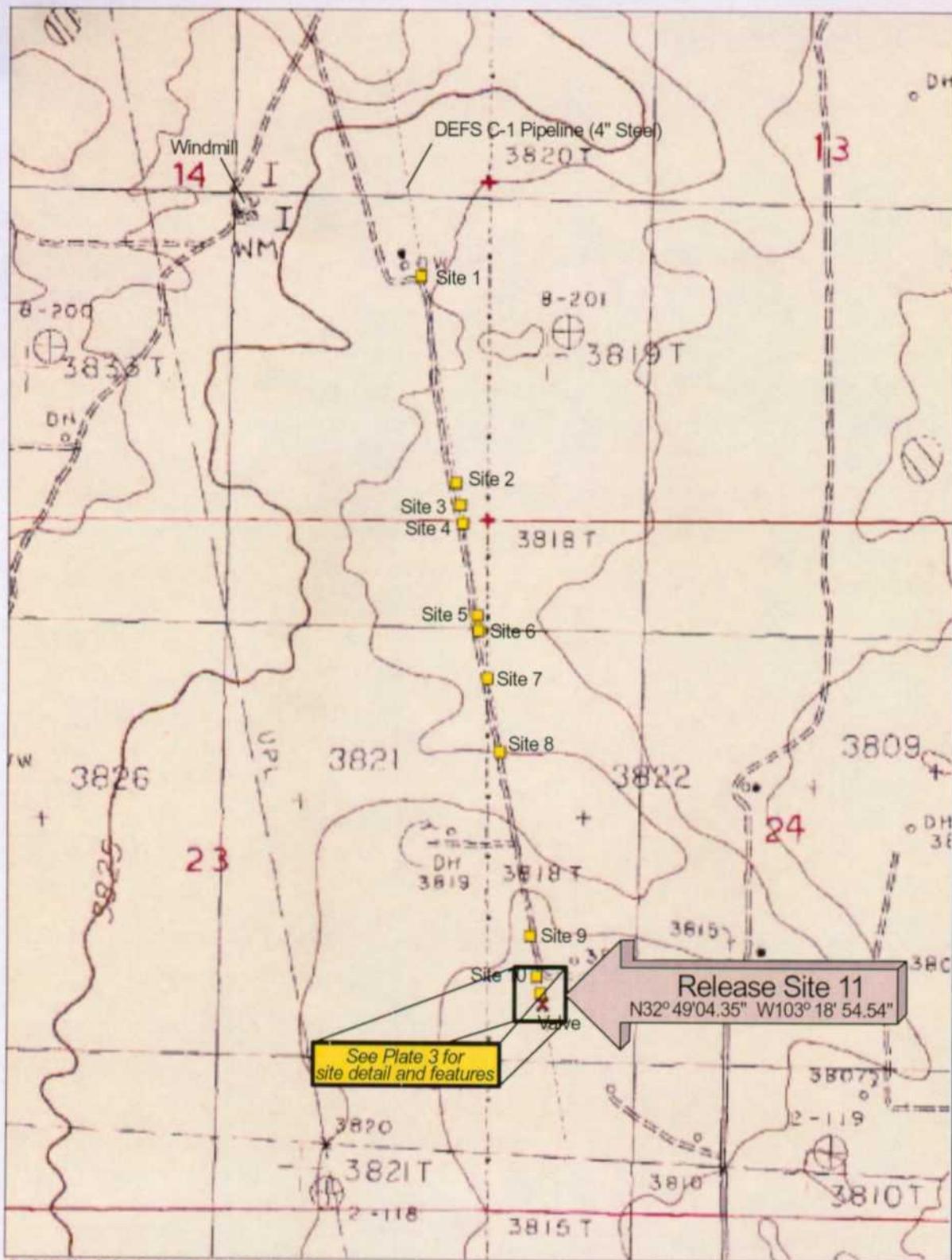


Plate 1: Release Site 11 Location

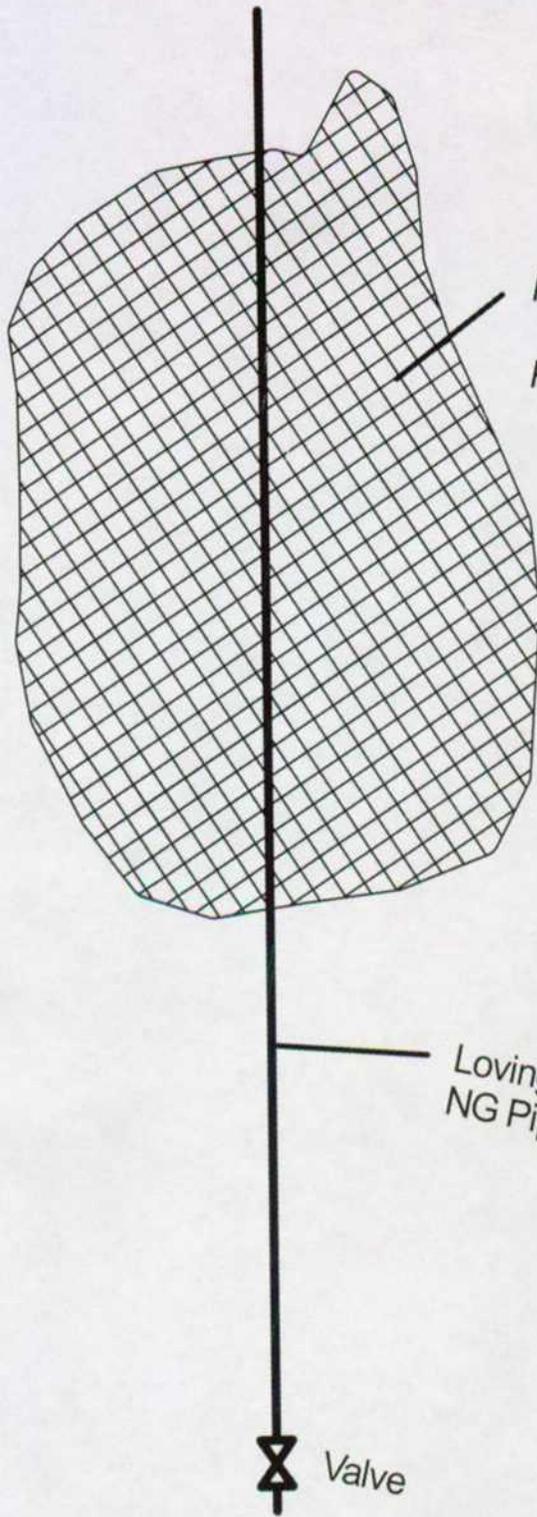


Duke Energy Field Services - Lovington C-1 Line (Site 11)  
Lea County, NM; UL-L Section 24 T17S R36E



**Plate 2: Site Topography and Release Location**  
 Duke Energy Field Services - Lovington C-1 Line (Site 11)  
 Lea County, NM; UL-L Section 24 T17S R36E





Release Affected Area  
Area = 2001-ft<sup>2</sup>  
Perimeter = 180-ft

Lovington C-1  
NG Pipeline (4")

Valve

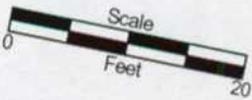


Plate 3: Release Site 11 GPS Demarcation  
Duke Energy Field Services - 4" Lovington C-1 Line  
Lea County, NM; UL-L Section 24 T17S R36E

Drawn By: JCG  
Date: July-02  
Revised:



Duke Energy Field Services  
Loyington C-1 Line Site #11  
Affected Area - 2013 sqft  
UL-1 Section 24 T175 R36E  
Date: Angell - Landowner

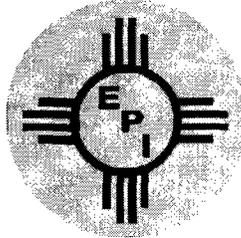
7/3/2002 9:31am

\* Attach Additional Sheets If Necessary

2100 Avenue O  
P.O. Box 1558  
Eunice, New Mexico 88231  
TEL: 505.394.3481  
FAX: 505.394.2601

ENVIRONMENTAL PLUS, INC.

**Fax**



**Micro-Blaze**

---

**To:** Debbie Padilla NMSLO-Easements      **From:** Pat McCasland

---

**Fax:** 505.827.5711      **Pages:**

---

**Phone:** 505.827.5729      **Date:** 5/22/2002

---

**Re:** Right of entry request      **CC:** Becky Moore, Duke, 915.620.4162

---

**Urgent**     **For Review**     **Please Comment**     **Please Reply**     **Please Recycle**

---

● **Comments:**

Dear Ms. Padilla,

My name is Pat McCasland and serve as the technical services manager for Environmental Plus, Inc. (EPI) and as such submit this request for a "Right of Entry Permit" on behalf of Duke Energy Field Services. The project information is listed below.

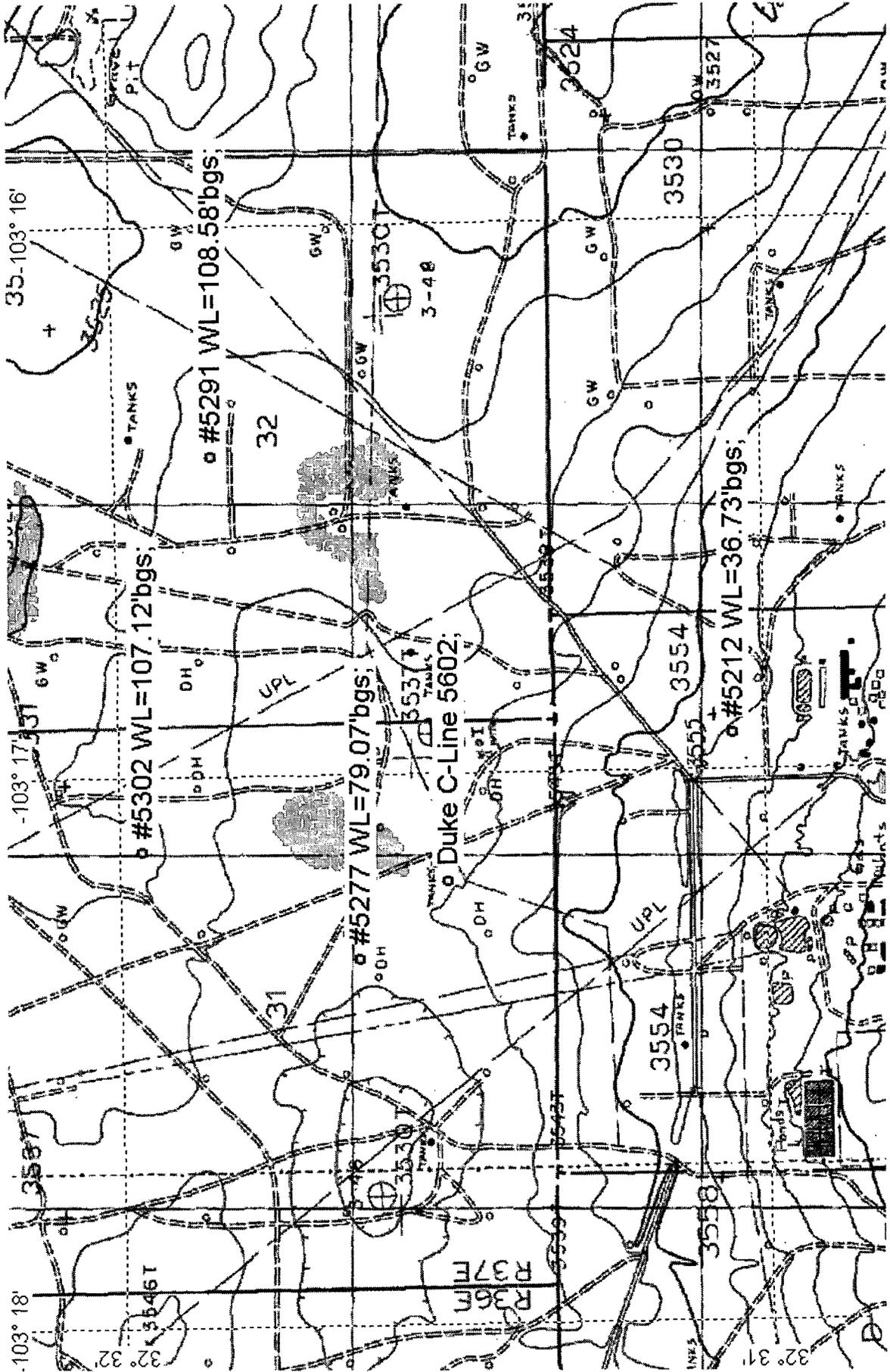
- Client: Duke Energy Field Services, 1625 W. Marland, Hobbs, NM 88240
- Purpose: Delineate and Characterize the extent of pipeline fluid contamination and excavate soil for remediation purposes, i.e., off-site disposal, mechanically shred/aerate, land spread, blend, and treat with MicroBlaze spill control to reduce vapor emissions and promote biological attenuation of the crude oil.
- Site Name: "Duke C-Line5602"
- Legal Description: UL-O, SW¼ of the SE¼ Section 31 T20S R37E
- Duration: The project should be completed within 30 days.
- Affected Area: 181 ft<sup>2</sup> ~25' x 11'. Potential off right of way use area 300'x300', i.e, 9,000 ft<sup>2</sup>.
- Attachments: Site map, Material Safety Data Sheet for MicroBlaze Spill Control, and USGS map

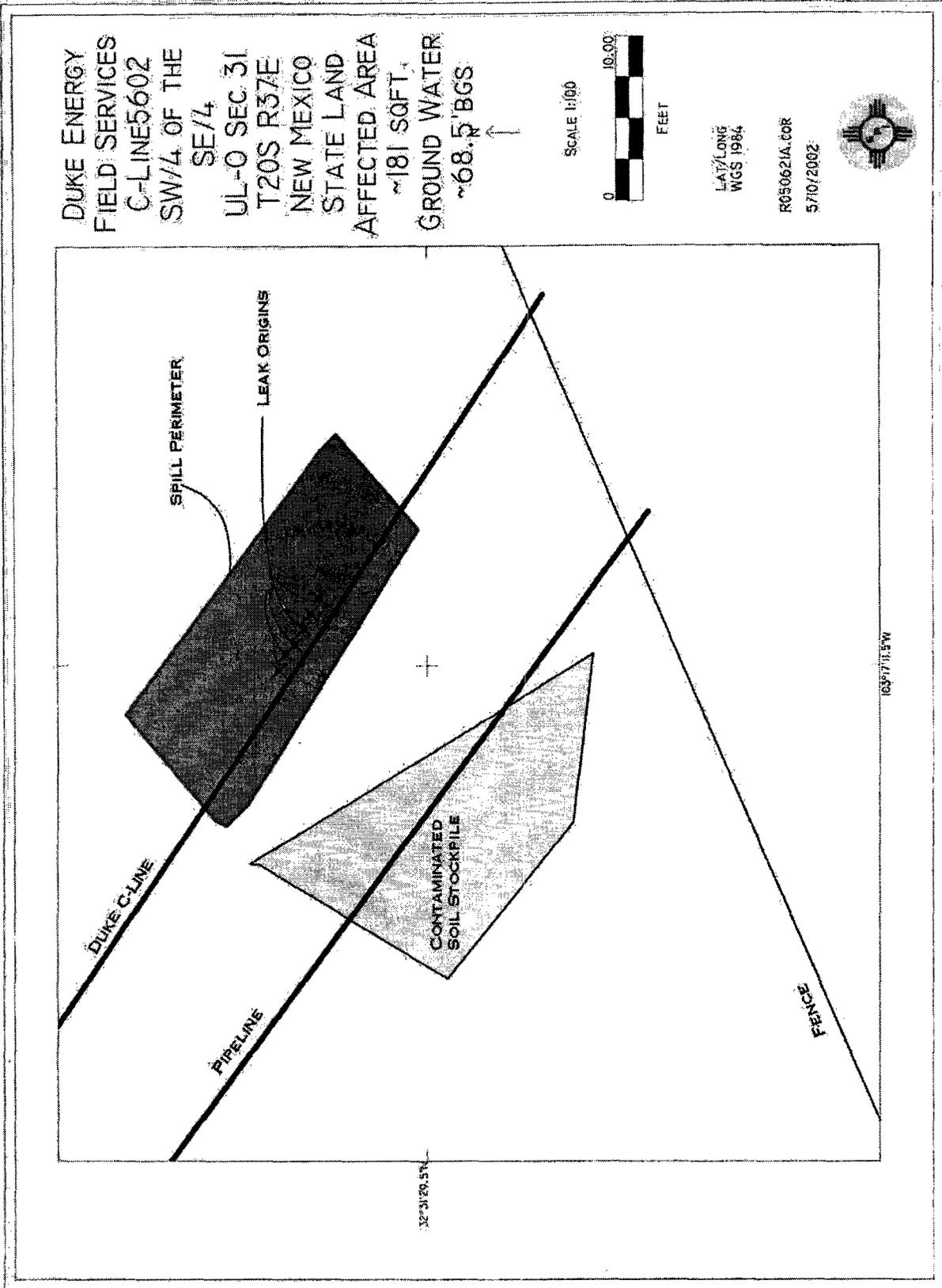
Please call if you have any questions or more information is needed.

I would request also that the "Right of Entry Permit" be Faxed to me at 505.394.2601.

Sincerely,

Pat McCasland







ENVIRONMENTAL PLUS, INC.

Micro-Blaze

Micro-Blaze Out™

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

May 8, 2002

Mr. Paul Sheeley  
New Mexico Oil Conservation Division  
1625 North French  
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services C-Line5602 Initial C-141 and Remediation Plan

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 form C-141 for the above referenced leak site located on land owned by the State of New Mexico in the SW¼ of the SE¼ (Unit Letter O), Section 31, Township 20 South, and Range 37 East at latitude 32°31'29.689"N and longitude 103°17'11.654"W, approximately 3 miles northwest of Oil Center, Lea County, New Mexico. A New Mexico State Land Office "Right of Entry" permit has been applied for to accommodate potential off right of way surface damage and use. According to information provided by the New Mexico Office of the State Engineer (NMOSE) and the New Mexico Tech geo-information system, water levels for area water wells range from 79.07 feet below ground surface ('bgs) to the north and 36.73'bgs to the south with ground water beneath the site estimated to be 68.5'bgs assuming a consistent gradient. There are no water wells recorded to be located within 1000' horizontal feet of the site. The plan is to excavate and delineate the contamination down to acceptable levels of Chloride, Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) and Total Petroleum Hydrocarbon EPA method 8015m (TPH<sup>8015m</sup>), i.e., Benzene 10, BTEX 50, TPH<sup>8015m</sup> 1000 mg/Kg. The RCRA exempt contaminated soil will be disposed of in the Environmental Plus, Inc. Landfarm south of Eunice, New Mexico. The excavation will be backfilled with clean soil. Documentation will be submitted confirming achievement of the NMOCD thresholds.

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.

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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name TT #1 Line	Facility Type Natural Gas Pipeline

Surface Owner State of New Mexico	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
O	20	20S	37E					Lat. 32° 31' 29.689" N Lon. 103° 17' 11.654" W

**NATURE OF RELEASE**

Type of Release <b>Crude oil and produced water</b>	Volume of Release <b>70 barrels</b>	Volume Recovered <b>50 barrels</b>
Source of Release 20" Steel pipeline	Date and Hour of Occurrence 5-6-02 @ 8:00 AM	Date and Hour of Discovery 5-6-02 @ 8:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickie	
By Whom? Paul Mulkey	Date and Hour 5-6-02 10:00AM	
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.* Corroded pipe. Line repair clamps installed.		
Describe Area Affected and Cleanup Action Taken.* Area = 181 ft <sup>2</sup> (25' x 11') Ground water occurs at ~68.5 feet below ground surface. The site rank is 10 points. Contaminated soil above the site remedial goals will be excavated and disposed. Remedial Goals: TPH 8015m = 1000 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:	<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:
Date: Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>



ENVIRONMENTAL PLUS, INC.

Micro-Blaze

Micro-Blaze Out™

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

May 8, 2002

Mr. Paul Sheeley  
New Mexico Oil Conservation Division  
1625 North French  
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services C-Line5602 Initial C-141 and Remediation Plan

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 form C-141 for the above referenced leak site located on land owned by the State of New Mexico in the SW¼ of the SE¼ (Unit Letter O), Section 31, Township 20 South, and Range 37 East at latitude 32°31'29.689"N and longitude 103°17'11.654"W, approximately 3 miles northwest of Oil Center, Lea County, New Mexico. A New Mexico State Land Office "Right of Entry" permit has been applied for to accommodate potential off right of way surface damage and use. According to information provided by the New Mexico Office of the State Engineer (NMOSE) and the New Mexico Tech geo-information system, water levels for area water wells range from 79.07 feet below ground surface ('bgs) to the north and 36.73'bgs to the south with ground water beneath the site estimated to be 68.5'bgs assuming a consistent gradient. There are no water wells recorded to be located within 1000' horizontal feet of the site. The plan is to excavate and delineate the contamination down to acceptable levels of Chloride, Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) and Total Petroleum Hydrocarbon EPA method 8015m (TPH<sup>8015m</sup>), i.e., Benzene 10, BTEX 50, TPH<sup>8015m</sup> 1000 mg/Kg. The RCRA exempt contaminated soil will be disposed of in the Environmental Plus, Inc. Landfarm south of Eunice, New Mexico. The excavation will be backfilled with clean soil. Documentation will be submitted confirming achievement of the NMOCD thresholds.

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.

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 <b>Duke Energy Field Services</b>	Contact <b>Paul Mulkey</b>
Address 11525 West Carlsbad Hwy, Hobbs, NM 88240	Telephone No. 505.397.5716
Facility Name TT #1 Line	Facility Type Natural Gas Pipeline

Surface Owner State of New Mexico	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
O	20	20S	37E					Lat. 32° 31' 29.689" N Lon. 103° 17' 11.654" W

**NATURE OF RELEASE**

Type of Release <b>Crude oil and produced water</b>	Volume of Release <b>70 barrels</b>	Volume Recovered <b>50 barrels</b>
Source of Release 20" Steel pipeline	Date and Hour of Occurrence 5-6-02 @ 8:00 AM	Date and Hour of Discovery 5-6-02 @ 8:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickie	
By Whom? Paul Mulkey	Date and Hour 5-6-02 10:00AM	
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.\*  
Corroded pipe. Line repair clamps installed.

Describe Area Affected and Cleanup Action Taken.\*  
Area = 181 ft<sup>2</sup> (25' x 11') Ground water occurs at ~68.5 feet below ground surface. The site rank is 10 points. Contaminated soil above the site remedial goals will be excavated and disposed. Remedial Goals: TPH 8015m = 1000 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:	<b><u>OIL CONSERVATION DIVISION</u></b>		
Printed Name: Paul Mulkey	Approved by District Supervisor:		
Title: Maintenance Construction Supervisor	Approval Date:	Expiration Date:	
Date:	Phone: 505.397.5716	Conditions of Approval:	Attached <input type="checkbox"/>

Duke Energy Field Services Site  
Information and Metrics

**Incident Date and NMOCD Notified?**  
May 6, 2002 NMOCD notified immediately

SITE: C-Line5602		Assigned Site Reference #:	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Highway			
Mailing Address: 11525 West Carlsbad Highway			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey/Stan Shaver/Ronnie Gilchrest			
Representative Telephone: 505.397.5716 / 505.397.5561			
Telephone:			
Fluid volume released (bbls): 70		Recovered (bbls): 50	
>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: C-Line5602			
Source of contamination: Natural Gas Gathering Line			
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico leased by M. Deck Estate			
LSP Dimensions ~25' x 11'			
LSP Area: 181 ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 31' 29.689"N			
Longitude: 103° 17' 11.654"W			
Elevation above mean sea level: 3540' amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: SW¼ of the SE ¼		Unit Letter: O	
Location- Section: 31			
Location- Township: 20S			
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: None			
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) ~68.5'bgs			
Depth of contamination (DC) -			
Depth to ground water (DG - DC = DtGW) -			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
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= 0	
Ground water Score = 10		Surface Water Score= 0	
Site Rank (1+2+3) = 10			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	>19 (18.5' to 68.5'bgs)	10-19 (surface to 18.5'bgs)	0-9
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			



1R376  
P.O. Box 5493  
Denver, Colorado 80217  
370 17th Street, Suite 900  
Denver, Colorado 80202  
303 595-3331  
Fax: 303 595-0480

RECEIVED

APR 15 2003

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

April 11, 2002

Mr. William C. Olson  
New Mexico Oil Conservation Division – Environmental Bureau  
1220 South St Francis Drive  
Santa Fe, New Mexico 87505-5472

**RE: Report on Groundwater Characterization Activities on the U-Bar Ranch  
Lea County New Mexico**

Dear Mr. Olson:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the Report on Groundwater Characterization Activities on the U-Bar Ranch located near Lovington, New Mexico.

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

Sincerely  
Duke Energy Field Services, LP

A handwritten signature in black ink, appearing to read 'S. Weathers', written over a horizontal line.

Stephen Weathers  
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District  
Lynn Ward, DEFS Midland  
Environmental Files



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

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-141  
Revised March 17, 1999

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

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name <i>Duke Energy Field Services</i>	Contact <i>Paul Mulkey</i>
Address <i>1625 W Marland, Hobbs, NM 88240</i>	Telephone No. <i>505-397-5716</i>
Facility Name <i>X-Line</i>	Facility Type <i>6" Steel Pipeline</i>
Surface Owner <i>Etcheverry</i>	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
<i>B</i>	<i>7</i>	<i>155</i>	<i>34E</i>					

Lat: *33° 02' 12.217" N*

Long: *103° 32' 50.037" W*

NATURE OF RELEASE

Type of Release <i>Crude Oil</i>	Volume of Release <i>20 bbl</i>	Volume Recovered <i>0 bbl</i>
Source of Release <i>6" Steel Pipeline</i>	Date and Hour of Occurrence <i>1:20:02</i>	Date and Hour of Discovery <i>1:20:02</i>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* <i>Corrosion. Line section being replaced.</i>		
Describe Area Affected and Cleanup Action Taken.* <i>Spill Area is ~ 1240 ft<sup>2</sup>; Affected area ~ 60' x 30'. Average depth to Ground water = 90' hrs. Contamination will be delineated to NMOC guidelines, i.e., TPH 1000, Benzene 10, + BTEX 50ppm. Contaminated soil to be disposed of in the Artesia Reclamation Landfarm.</i>		
Describe General Conditions Prevailing (Temperature, Precipitation, etc.)* <i>Cool, dry, calm.</i>		

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

OIL CONSERVATION DIVISION

Signature: *Paul Mulkey*  
Printed Name: *PAUL MULKEY*  
Title: *Master Control Supervisor*  
Date: \_\_\_\_\_ Phone: \_\_\_\_\_

Approved by  
District Supervisor:  
Approval Date: \_\_\_\_\_ Expiration Date: \_\_\_\_\_  
Conditions of Approval: \_\_\_\_\_ Attached

\* Attach Additional Sheets If Necessary

New Mexico Office of the State Engineer  
Well Reports and Downloads

Township: 15S Range: 34E Sections: 7,6,8,18,17

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

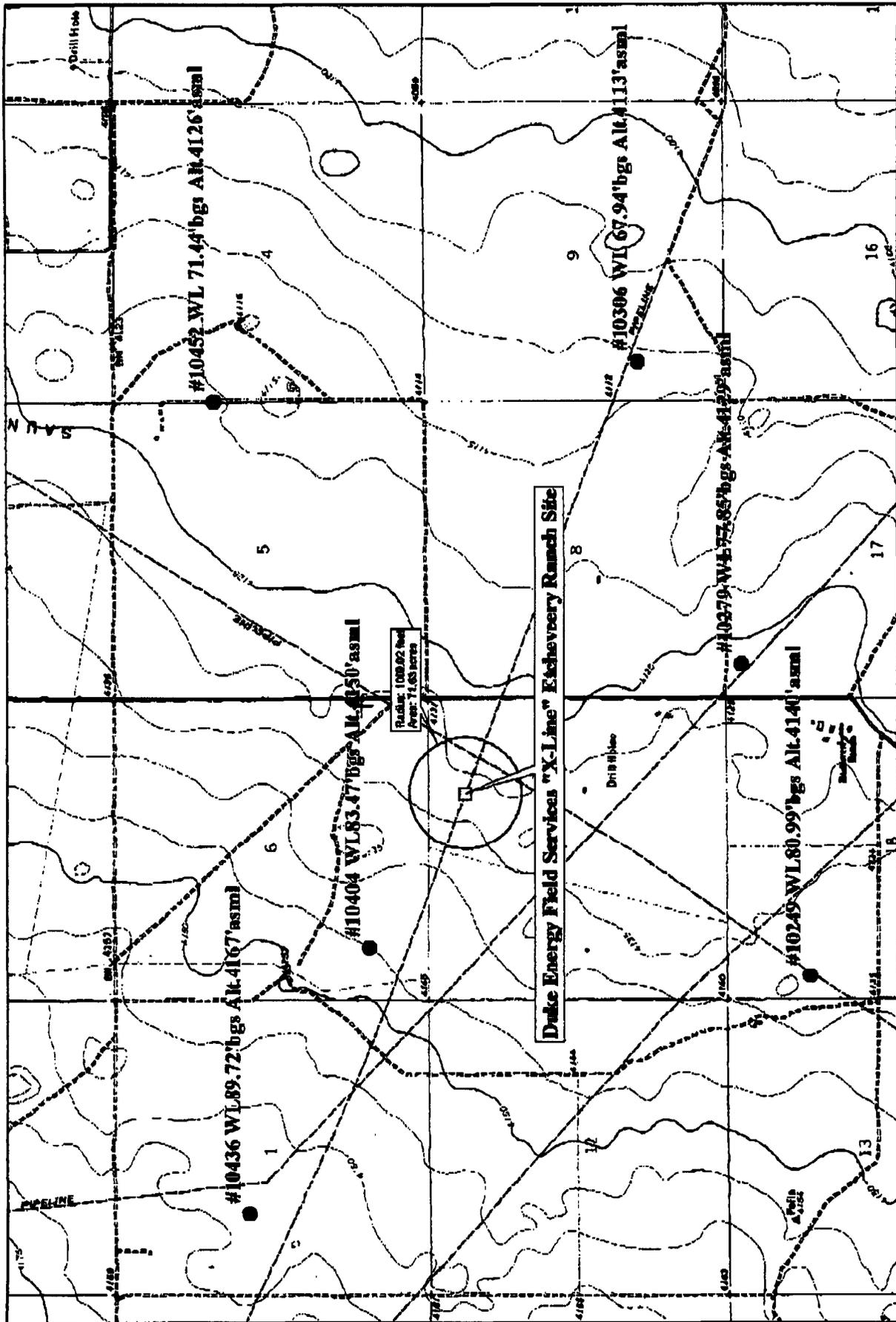
Owner Name: (First) (Last)  Non-Domestic  Domestic  All



AVERAGE DEPTH OF WATER REPORT 01/22/2002

Ben	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth water in Feet)		
								Min	Max	Avg
L	15S	34E	07				1	90	90	90
L	15S	34E	18				2	80	80	80

Record Count: 3



Duke Energy Field Services "X-Line" Echeverry Ranch Site

Radius: 1000.00' feet  
Area: 71.63 acres

Copyright © 2000 DalCorne. TopoTools Advanced Print KM TE. Scale: 1 : 25,125 Zoom Level: 15.0 Datum: WGS84

13 miles WNW Louington

DUKE ENERGY  
FIELD SERVICES  
X-LINE  
ETCHEVERRY  
RANCH  
NW/4 OF THE  
NE/4 UL-B  
SECTION 7  
T15S R34E  
SPILL AREA  
~1,240 SQFT

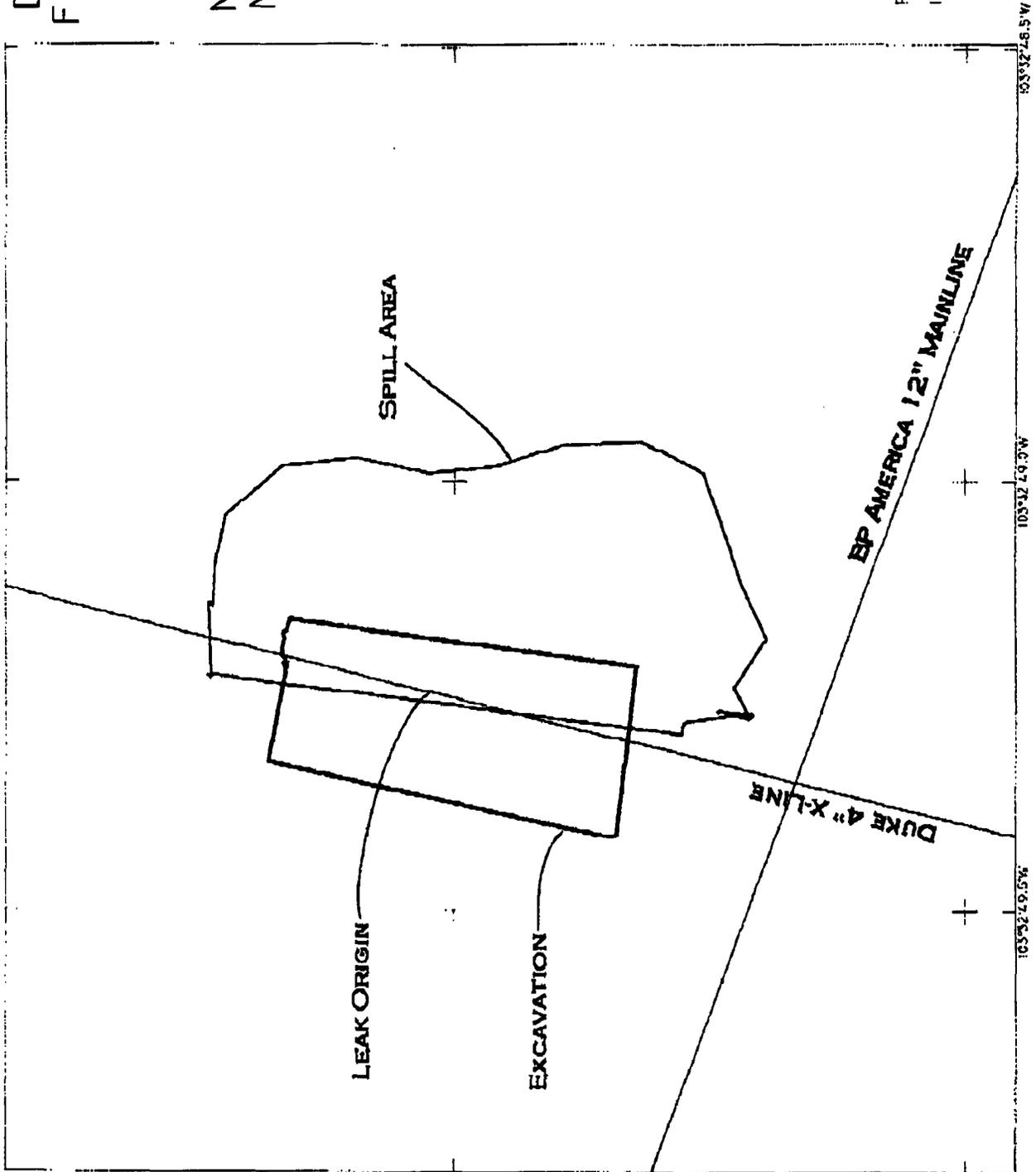
N

SCALE 1:200



LAT/LONG  
NGS 1981

R012 16A.55F  
1/21/2002



33 02 12.257  
103 32 50.037

55°02'12.5\"/>

61W 30A  
30A

0.2A P3A & 7C A

55°02'12.0\"/>

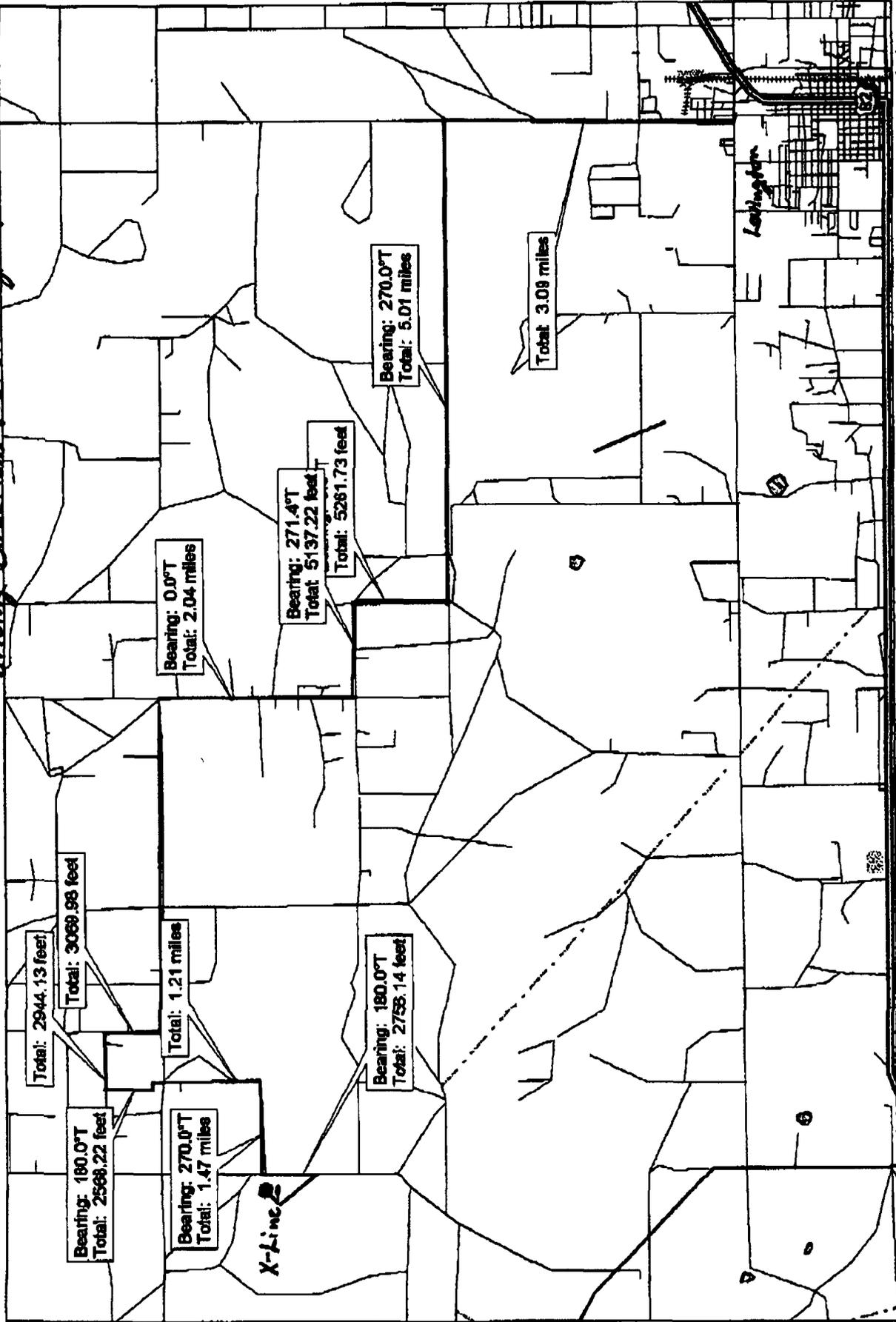
55°07'25.5\"/>

56°07'25.5\"/>

56°07'25.5\"/>

55°02'12.0\"/>

*Driving Directions from Livingston, NM*





**ENVIRONMENTAL PLUS, INC.** *Micro-Blaze* *Micro-Blaze Out™*  
 STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

January 22, 2002

Mr. Paul Sheeley  
 New Mexico Oil Conservation Division  
 1625 North French  
 Hobbs, New Mexico 88240

Subject: Duke Energy Field Services Etcheverry Ranch X-Line C-141 and Closure Proposal

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 for C-141 for the above referenced site located in Unit Letter B, Section 7, Township 15 South, and Range 34 East at latitude 33°02'12.217"N and longitude 103°32'50.037"W, approximately 13 miles northwest of Lovington, Lea County, New Mexico. The land is owned by Etcheverry. According to the New Mexico Office of the State Engineer, average ground water depth in Section 7 is 90 feet below ground surface. The proposal is to excavate and delineate the contamination down to acceptable levels of Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) and Total Petroleum Hydrocarbon EPA method 8015m (TPH<sup>8015m</sup>), i.e., Benzene 10, BTEX 50, and TPH<sup>8015m</sup> 1,000 mg/Kg. The RCRA exempt contaminated soil will be disposed of in the Artesia Aeration Landfarm west of Maljamar, New Mexico and the excavation backfilled with clean soil. Documentation will be submitted confirming achievement of the NMOC thresholds.

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  
 1625 West Marland  
 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.

**Olson, William**

**From:** Stephen W. Weathers [swweathers@duke-energy.com]  
**Sent:** Wednesday, February 13, 2002 3:21 PM  
**To:** PSheeley@state.nm.us; WOLSON@state.nm.us  
**Cc:** ENVIPLUS1@aol.com  
**Subject:** X-line Spill Update

Paul

This email is to confirm my conversation with you this afternoon in which I notified you that through remedial activities, it has been determined that groundwater was impacted at the Duke Energy Field Services X-Line Pipeline Leak on Ms Etcheverrys property located near Lovington, NM. Approximately .2 feet of product as been encountered on the groundwater. Analytical results of the groundwater are pending.

The location of the leak is Unit B Sec 7 T15S R34E.

The C-141 was submitted on 1-20-02 to your office (District 1, Hobbs).

DEFS is continuing to delineate hydrocarbon impacts both horizontally and vertically at the leak site. Three groundwater wells will be installed at the site to determine groundwater flow direction. A workplan will be submitted addressing the further delineation activities.

If you have any questions, please contact me at 303-605-1718.

Steve Weathers

IMPORTANT MESSAGE			
FOR _____	DATE <u>2/13</u> TIME <u>1:43</u> A.M. / P.M.		
M <u>Paul</u>	OF _____		
PHONE _____	AREA CODE _____	NUMBER _____	EXTENSION _____
<input type="checkbox"/> FAX			
<input type="checkbox"/> MOBILE	AREA CODE _____	NUMBER _____	TIME TO CALL _____
TELEPHONED	PLEASE CALL		
CAME TO SEE YOU	<u>preleak on GW</u>	WILL CALL AGAIN	
WANTS TO SEE YOU		RUSH	
RETURNED YOUR CALL		SPECIAL ATTENTION	
MESSAGE <u>Duke</u>	<u>GW contains</u>		
	<u>Echiberry Ranch</u>		
	<u>B sec 7 T15S R34E</u>		
	<u>west Lovington</u>		
SIGNED _____			