

J-4-2 Low Pressure Gathering Line Closure Report
Duke Energy Field Services
Lea County, New Mexico

NOVEMBER 2, 2001

Prepared For:

Duke Energy Field Services
P. O. Box 5493
Denver, CO 80217

IRP-216
10.26.05

Site Name:

J-4-2 LOW PRESSURE GATHERING LINE

Site Location:

T19S, R35 E, SECTION 28, UNIT D

Prepared By:



PO Box 7624
Midland, Texas 79708



November 2, 2001

Mr. Steve Weathers
Duke Energy Field Services, LP
P. O. Box 5493
Denver, Colorado 80217

Re: Removal of Hydrocarbon-Impacted Soils from the J-4-2 Low-Pressure Gathering Line Site
Township 19 South, Range 35 East, Section 28, Unit D

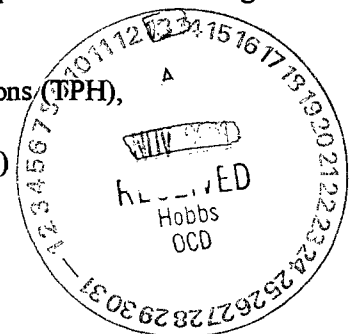
Dear Mr. Weathers:

Trident Environmental (Trident) was retained by Duke Energy Field Services Inc. (DEFS) to oversee the removal of hydrocarbon-impacted soil from an area along a pipeline right-of-way operated by DEFS in Lea County, New Mexico. The site (J-4-2) is located in Section 28 (Unit D), Township 19 South, Range 35. The excavation work was conducted between July 26 and August 24, 2001 in accordance with the work plan submitted to Mr. Paul Sheely at the New Mexico Oil Conservation Division (OCD) Hobbs, New Mexico office. The site is located state land and the surface is leased to Ms. Faye Klein. Trident personnel periodically collected soil samples to characterize the extent of hydrocarbon-impact and to verify when cleanup target levels had been achieved. This letter report describes the methods and results of the excavation, sampling, waste disposition, and backfilling for documentation that closure requirements have been satisfied.

Excavation and Sampling Procedures

On July 26, 2001, Walton Construction Company, Inc. (Hobbs, New Mexico) initiated excavation of the hydrocarbon-impacted area. Walton used one track hoe, one dozer, one loader, and 12 yd³ dump trucks for earthmoving services. During excavation operations, subsurface soil samples were collected and submitted to an analytical laboratory to determine if the remaining soils were within OCD guidelines. Upon completion of excavation activities, a minimum of the following closure samples was collected: one grab sample from each wall (north, south, east and west sides) in closest proximity to the location with the highest OVM reading. One grab sample was also collected from the floor of the excavation in closest proximity to the location with the highest OVM reading and/or in areas directly beneath the areas where hydrocarbon-stained soils were most evident on the surface. During the course of excavation activities, samples were also collected for headspace analysis using an organic vapor meter (OVM), which was calibrated to assume a benzene response factor. All soil sampling, headspace analysis, and laboratory analysis were performed in accordance with OCD "Guidelines for Remediation of Leaks, Spills, and Releases" (August 13, 1993). Unless noted otherwise, excavation operations were completed when laboratory analysis of collected samples indicated the extent of hydrocarbon-impacted soils remaining in the excavation were below the following concentrations:

- 100 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH),
- 10 mg/kg benzene,
- 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX)



Soil samples were submitted to both Cardinal Laboratories, Inc. (Hobbs, NM) and Environmental Laboratory of Texas (Odessa, Texas) and analyzed for gas and diesel range organics (GRO and DRO) using EPA Method 8015 to determine TPH concentrations. BTEX analyses were conducted only for soil samples that exceeded 100 ppm using the calibrated OVM or when GRO and/or DRO concentrations were above 100 mg/kg.

Soil Stockpiling, Waste Disposition, and Backfilling

An effort to segregate clean versus impacted soil during excavation was made. Only hydrocarbon-impacted soil that exceeded 100 mg/kg GRO/DRO, 10 mg/kg benzene, and/or 50 mg/kg total BTEX was transported to the South Monument Land Farm, which is owned and operated by Ms. Kena Kay Cooper (OCD Rule 711 Permit Approval NM-01-0032). These target cleanup levels are based on the ranking criteria in the OCD "*Guidelines for Remediation of Leaks, Spills, and Releases*". A total ranking score of greater than 19 points was assumed since groundwater is less than 50 feet below ground surface based on well records from the Office of the State Engineer.

Approximately 2,772 cubic yards of hydrocarbon-impacted soils were transported by Walton Construction to cell B-5 at the South Monument Land Farm. Completed *Generator Certificate of Waste Status* form (C-143) and *Release Notification and Corrective Action* forms (C-141) are included in Attachment A. Approximately 2,592 cubic yards of native soil provided by Mr. Dale Cooper was backfilled into the excavation. An additional 180 cubic yards of native topsoil provided by Ms. Faye Klein was placed on the surface to restore the excavation to a level grade.

Results

At the completion of excavation activities all areas had petroleum hydrocarbon concentrations below the OCD guidelines listed above. Soil sample locations and site features are depicted on the site map in Attachment A. A Site Data Form that includes a summary of the analytical results and photo documentation are also provided in Attachment A. Laboratory analytical reports, and chain-of-custody documentation for the samples collected are provided in Attachment B. Copies of the field logbook are in Attachment C.

Sincerely,



Gilbert J. Van Deventer, REM
Project Manager

cc: Myra Meyers (New Mexico State Land Office, Hobbs, NM)

Attachments

C:\DEFS\COOPER\J42\J42CLOSE.DOC

ATTACHMENT A

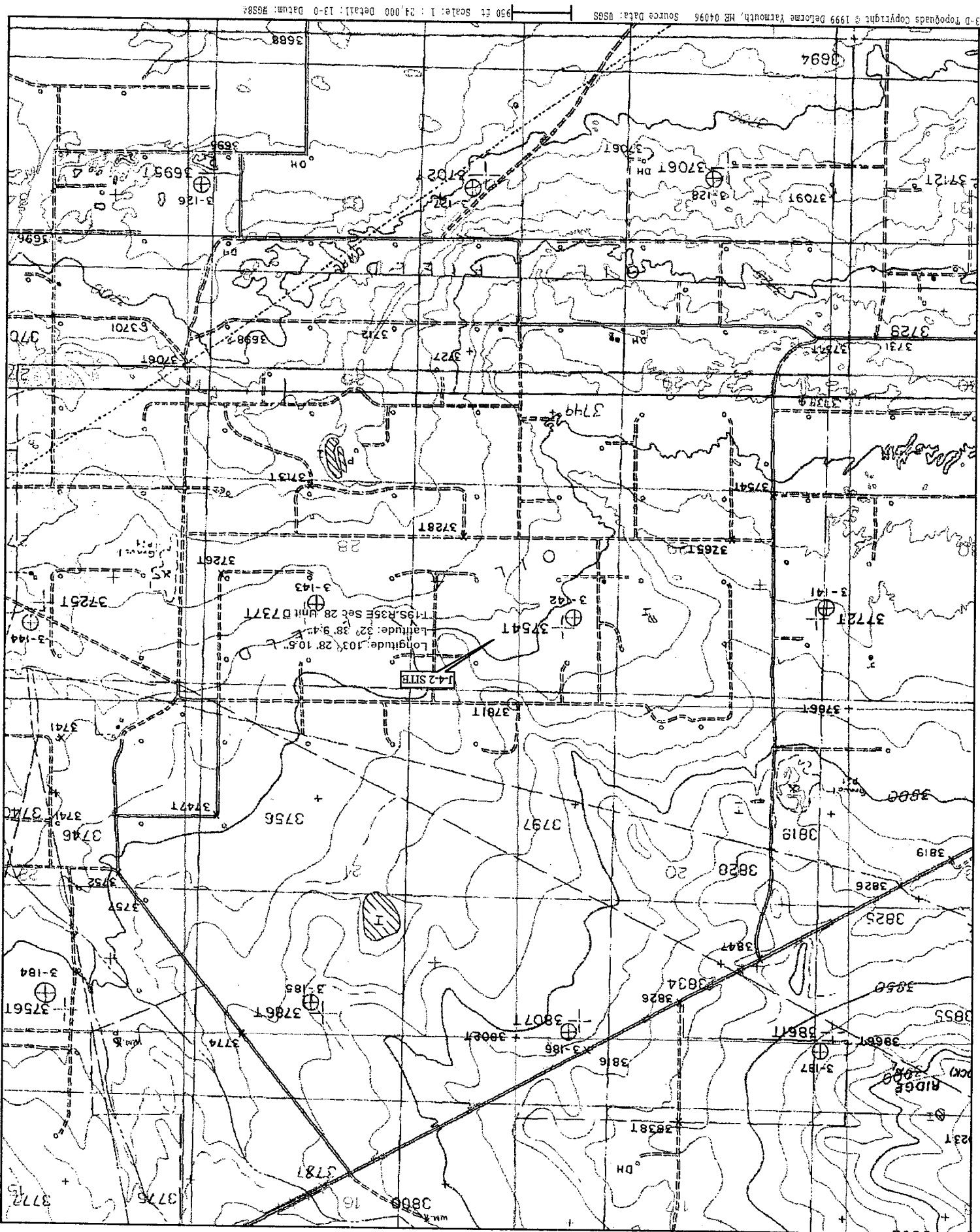
TOPOGRAPHIC MAP

SITE MAP

SITE DATA FORM

C-141 AND C-143 FORMS

PHOTODOCUMENTATION

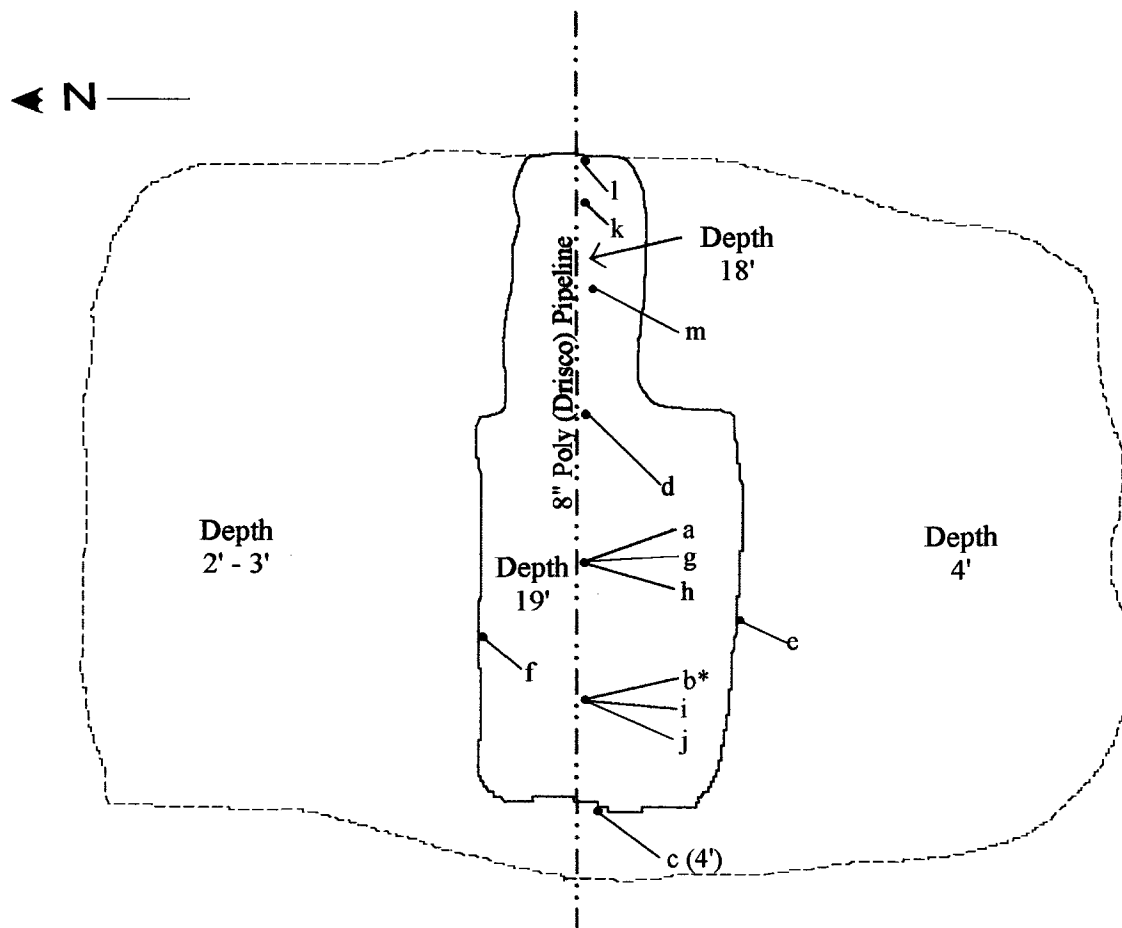


Letter	Sample ID	Lab	Sample Depth (feet)	Sample Date	OVM (ppm)	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
a	E. Floor-1	Cardinal	11	08/02/01	297	< 50	212	< 0.005	0.237
b*	W. Floor-1	Cardinal	12	08/02/01	587	< 50	154	0.014	0.252
b*	W. Floor-1	Cardinal	12	08/03/01	360	59.7	606	NA	NA
b*	W. Floor-1	Env. Lab of TX	12	08/03/01	360	210	984	NA	NA
c	W. Wall-1	Cardinal	4	08/02/01	2	< 50	< 50	NA	NA
d	E. Wall-1	Cardinal	4	08/02/01	0	< 50	< 50	NA	NA
e	S. Wall-1	Cardinal	2	08/02/01	2	< 50	< 50	NA	NA
f	N. Wall-1	Cardinal	2	08/02/01	0	< 50	< 50	NA	NA
g	E. Floor-1	Cardinal	16	08/03/01	206	< 50	< 50	< 0.005	< 0.015
h	E. Floor-2	Env. Lab of TX	16	08/03/01	206	< 10	13	NA	NA
i	W. Floor-2	Cardinal	16	08/07/01	299	80.8	798	0.009	4.40
j	W. Floor-3	Cardinal	19	08/09/01	50	< 50	< 50	0.005	0.038
k	E. Wall-2	Cardinal	12	08/14/01	221	110	1290	< 0.005	< 0.015
l	E. Wall-3	Cardinal	6	08/15/01	0	< 50	63.7	NA	NA
m	E. Floor-3	Cardinal	18	08/15/01	60	< 50	54.2	NA	NA
NMOCD Guidelines					100	100	100	10	50

b* - these samples are all duplicates taken from the same grab sample point.

NA indicates sample was not analyzed for this constituent.

Values in red indicate concentrations are above NMOCD guidelines.



Trident Environmental

P. O. Box 7624
Midland, Texas 79708

SITE: J-4-2 Low Pressure Gathering Line

LOCATION: UNIT D, SEC. 28, T19S, R35E

DATE: 8/15/01

DRN BY: GJV

APPROXIMATE SCALE: 1 INCH = 20 FEET

**J-4-2
SITE MAP**



Site Data Form

TRW Technician: GJV/DTL Excavation Crew Names: Walton Construction Site ID: J-4-2 low pressure gathering line

Site Location: Latitude 32° 38' 9.1" Longitude 103° 28' 10.5" County: Lea State: New Mexico

Section 28 Township 19 South Range 35 East Unit D

Begin Excavation (Date/Time) 7/26/01 Complete Excavation (Date/Time) 8/15/01

LAND USE: ☐ Residential ☐ Recreational ☐ Farm land
(Check all that apply) ☐ Industrial ☐ School/Daycare ☒ Range land
☒ Oil & Gas ☐ Rural ☐ Other: _____

Depth to Groundwater: ☐ > 100 feet ☐ 50 - 99 ☒ < 50 feet

Wellhead Protection Area: ☒ > 1,000 feet from a water source ☐ < 200 feet from private domestic water source

Distance to Nearest Surface Water Body: ☒ > 1,000 feet ☐ 200 - 1,000 feet ☐ < 200 feet

SURFACE SOILS: ☐ Sand ☐ Gravel ☐ Silt
☐ Caliche ☐ Clay ☒ Other Silty sandy clay and silty clay

EXCAVATION DIMENSIONS Length 65 - 120 feet Width 15 - 100 feet Average Depth 12 feet Maximum Depth 19 feet

VOLUME EXCAVATED: 4,000 - 12,000 yd³ VOLUME HAULED TO LANDFARM: 2,772 yd³

SUMMARY OF OVM, GRO, DRO, BENZENE & BTEX CONCENTRATIONS

Letter	Sample ID	Lab	Sample Depth (feet)	Sample Date	OVM (ppm)	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
a	E. Floor-1	Cardinal	11	08/02/01	297	< 50	212	< 0.005	0.237
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f	N. Wall-1	Cardinal	2	08/02/01	0	< 50	< 50	NA	NA
g	E. Floor-1	Cardinal	16	08/03/01	206	< 50	< 50	< 0.005	< 0.015
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k	E. Wall-2	Cardinal	12	08/14/01	221	110	1290	< 0.005	< 0.015
l	E. Wall-3	Cardinal	6	08/15/01	0	< 50	63.7	NA	NA
m	E. Floor-3	Cardinal	18	08/15/01	60	< 50	54.2	NA	NA
NMOCD Guidelines					100	100	100	10	50

b* - these samples are all duplicates taken from the same grab sample point.

NA indicates sample was not analyzed for this constituent.

Values in red indicate concentrations are above NMOCD guidelines.

Comments: _____

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Duke Energy Field Services Inc.	Contact Mr. Steve Weathers
Address P. O. Box 5493, Denver, Colorado 80217	Telephone No. (303) 605-1718
Facility Name J-4-2 Low Pressure Gathering Line	Facility Type Natural Gas Pipeline

Surface Owner New Mexico State Land Office	Mineral Owner Unknown	Lease No.
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LOCATION OF RELEASE

Unit Letter D	Section 28	Township 19S	Range 35E	Feet from the North/South Line 32° 38' 9.1" N	Feet from the East/West Line 103° 28' 10.5" W	County Lea
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NATURE OF RELEASE

Type of Release Pipeline liquids (Condensate)	Volume of Release 30 bbls 1,260 gallons	Volume Recovered ~2,772 yd ³ soil removed
Source of Release Low Pressure Gathering Line, J-4-2	Date and Hour of Occurrence 05/31/01 12:01 AM	Date and Hour of Discovery 05/31/01 08:45 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? E. L. Gonzales, NMOCD	
By Whom? Stan Shaver	Date and Hour 05/31/01	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A


Describe Cause of Problem and Remedial Action Taken.*

Condensate release caused by subsurface external corrosion. The steel pipeline was first clamped on June 1, 2001 and later replaced with 8" polyethylene (Drisco) line prior to initiation of over-excavation work.

Describe Area Affected and Cleanup Action Taken.*

8316'
On 7/26/01 over-excavation was initiated. Excavation continued until 8/15/01 when total petroleum hydrocarbons on floor and walls were below 100 mg/kg. Final dimensions of the excavation directly beneath the pipeline varied from approx. 15 - 27 ft wide x 65 long x 19 ft deep. Also, a large area surrounding the pipeline and deeper excavation, approximately 120 ft long (E-W) by 100 ft wide (N-S), was also excavated to a depth ranging from 2 to 5 feet. Approximately 2,772 cu yds of soil was transported to cell B-5 at the South Monument Land Farm. Backfilling of excavation was completed on 8/24/01. Closure report, analytical results, photographs, and site map are attached.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Stephen Weathers		Approved by District Supervisor:	
Title: Environmental Specialist	Approval Date:	Expiration Date:	
Date: 11/9/01	Phone: (303) 605-1718	Conditions of Approval:	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

(505) 393-6161
French Dr
NM 88240
District II - (505) 748-1283
811 S. First
Antesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131
2040 S. Pacheco
Santa Fe, NM 87505

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-143
3/15/00

Submit to OCD
Permitted Surface
Waste Management
Facility

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:

Duke Energy Field Services Inc.
P. O. Box 5493
Denver, Colorado 80217

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:

Hydrocarbon-impacted soil generated from pipeline leak from low pressure gathering line

4. Location of Waste (Street address &/or ULSTR):

Site Name: J-4-2 low pressure gathering line
Sec. 28, T19S, R35E

5. Destination (Surface Waste Management Facility):

S. Monument Land Farm (NM-01-0032)

6. Transporter:

Walton Construction (Hobbs, NM)

7. Estimated Volume 200 cy/bbls

For NON-EXEMPT waste only, the following documentation is attached (check appropriate items):

☐ MSDS Information

☐ RCRA Hazardous Waste Analysis (With Chain of Custody).

☐ Other (Description)

Generator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification)

☒ EXEMPT oilfield waste.

☐ NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)

In addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

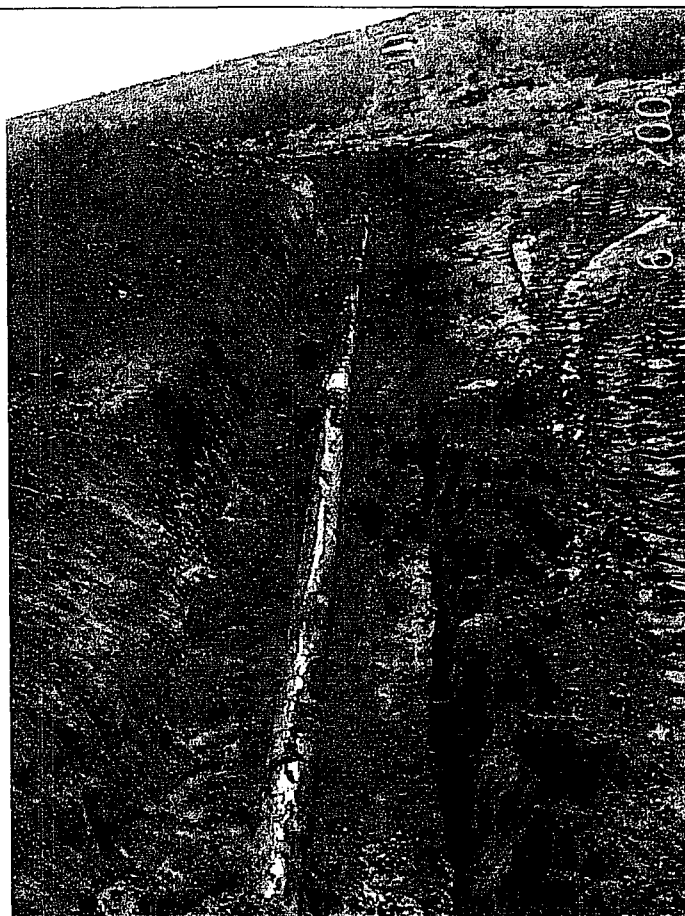
Generator Signature: Stephen W. Weathers

Date: 7/9/01

Print Name: Stephen W. Weathers

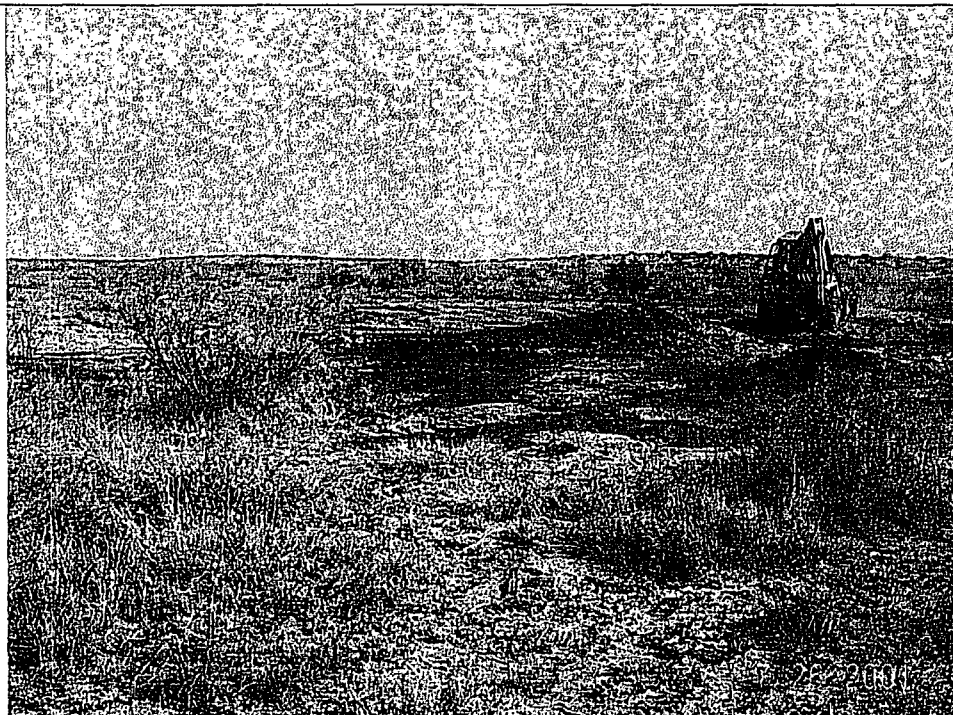
Title: Environmental Specialist

Digital Photographs of the J-4-2 Low-Pressure Pipeline Leak Site



Duke4.jpg
6/01/01

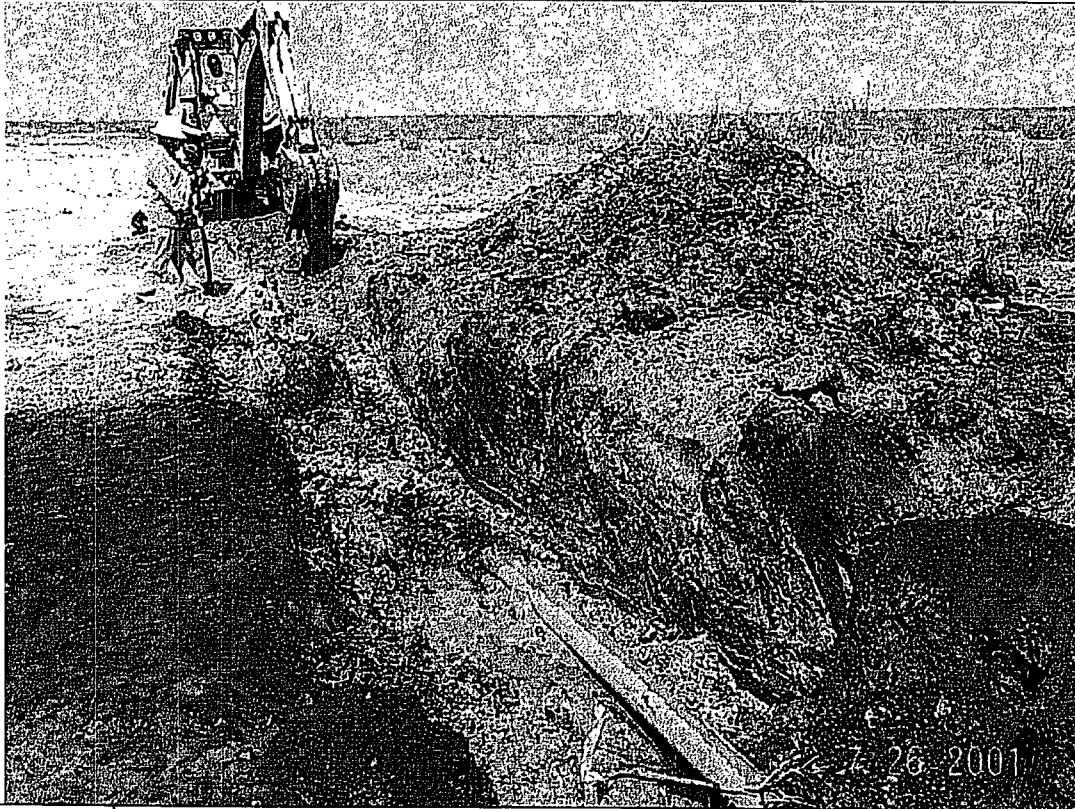
View facing east showing J-4-2 low-pressure gathering line one day after leak.



J42_1142
7/26/01

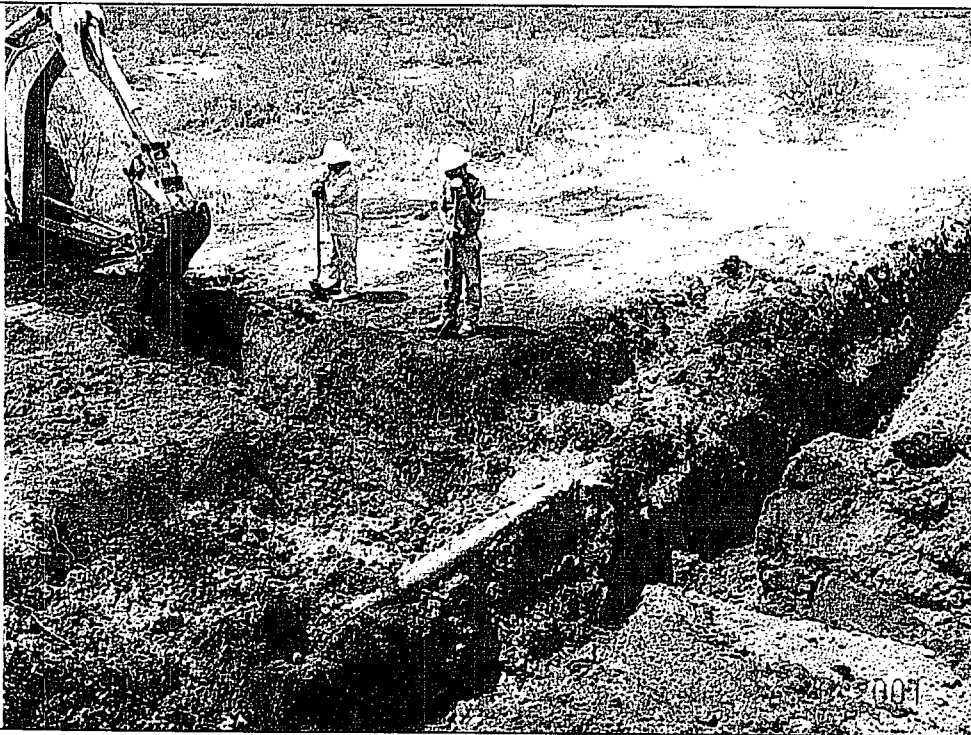
View facing north showing surface impact on first day of excavation activities.

Digital Photographs of the J-4-2 Low-Pressure Pipeline Leak Site



J42_1147.jpg
7/26/01

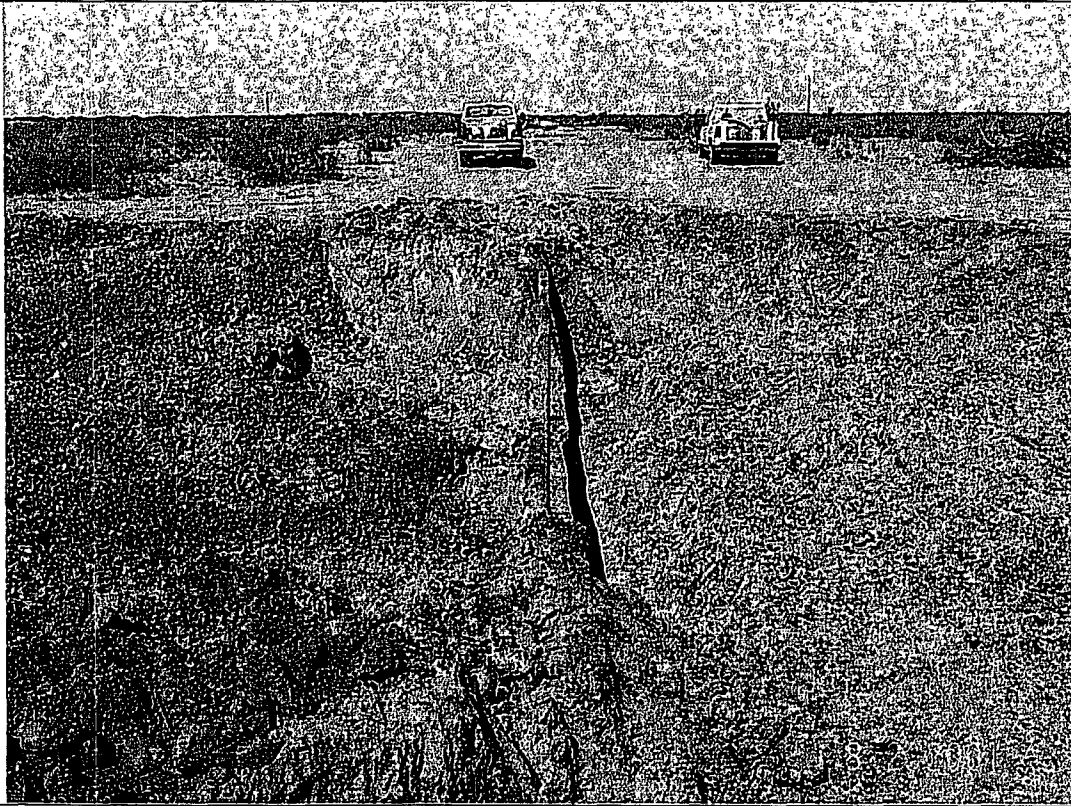
View facing NW showing north wall at beginning of excavation activities.
Rainwater visible at bottom of excavation.



J42_1149
7/26/01

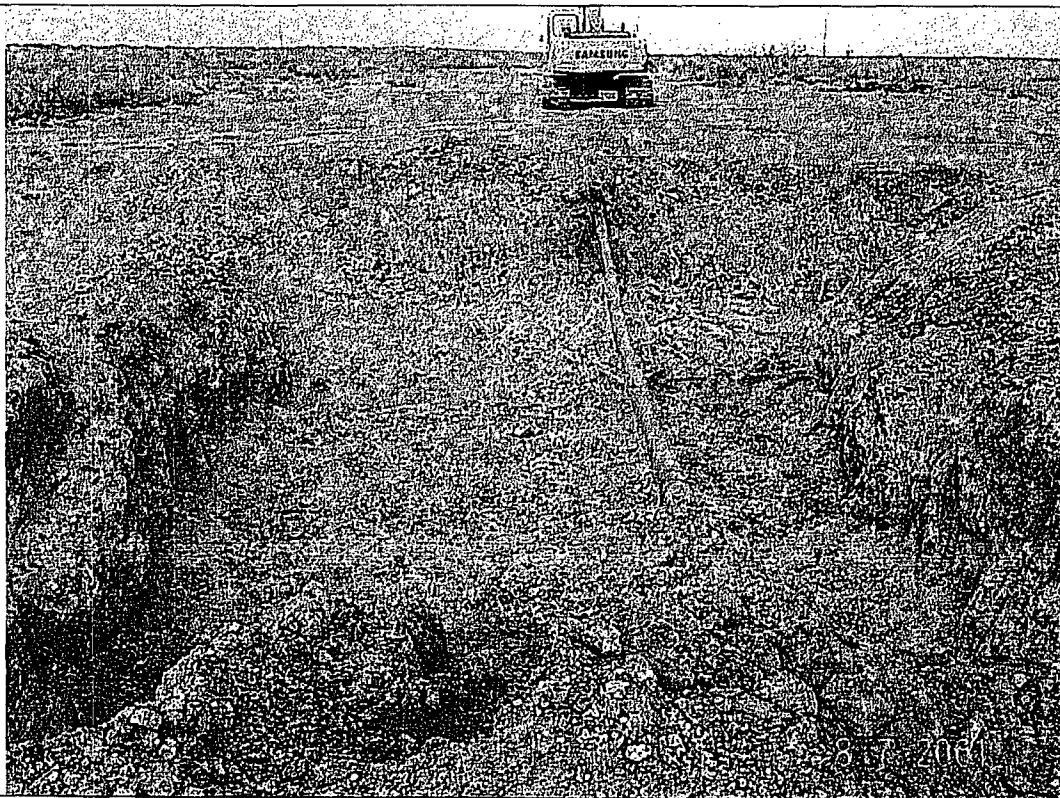
View facing SW showing south wall on the first day of excavation activities.

Digital Photographs of the J-4-2 Low-Pressure Pipeline Leak Site



J42_1178.jpg
8/02/01

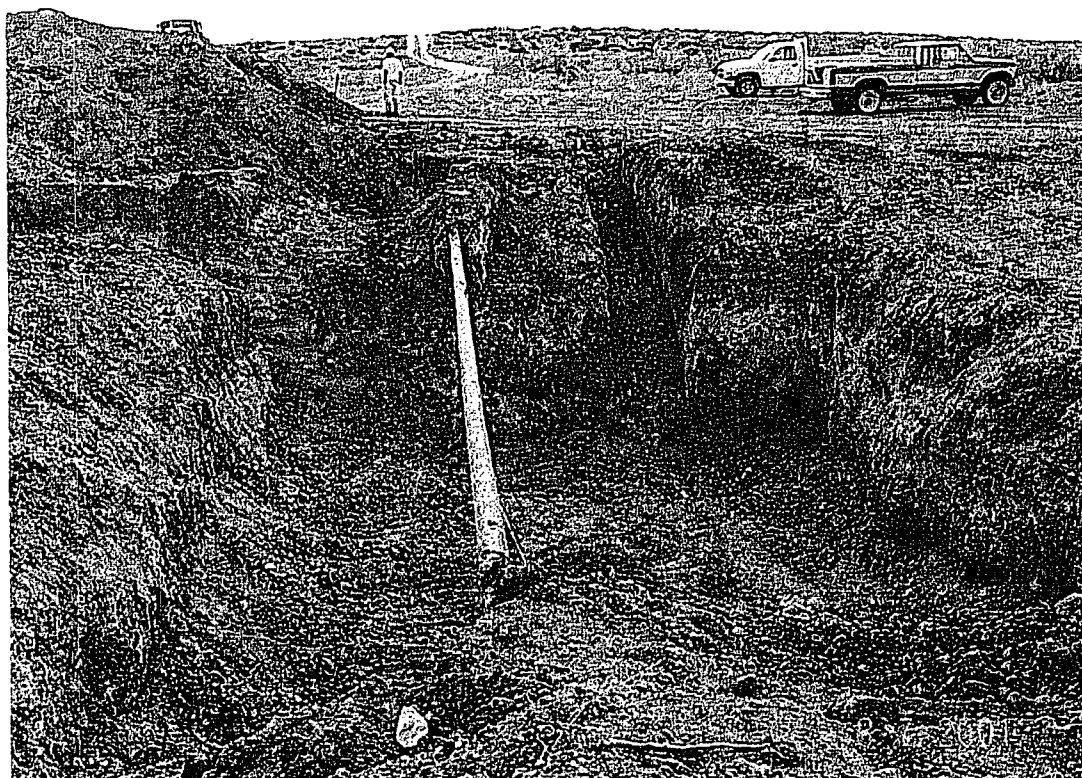
View facing west showing main excavation.



J42_1188
8/07/01

View facing west showing south (left center), west (middle background), and north (right center) walls, and floor (foreground) of excavation.

Digital Photographs of the J-4-2 Low-Pressure Pipeline Leak Site



J42_1189.jpg
8/7/01

View facing east showing north (left center), east (middle background), and south (right center) walls, and floor (foreground) of excavation.



J42_1190
8/7/01

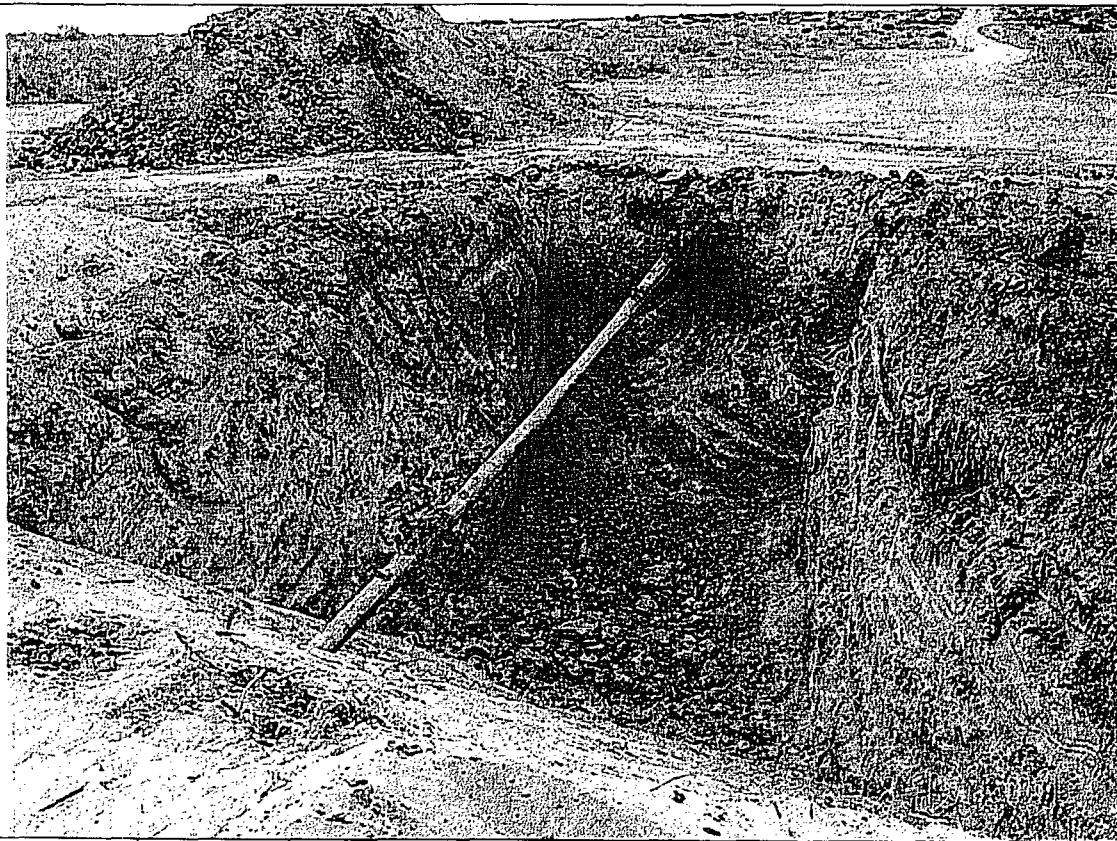
View facing north showing overall area where excavation has taken place to date.

Digital Photographs of the J-4-2 Low-Pressure Pipeline Leak Site



J42_0006.jpg
8/14/01

View facing west showing west end of excavation after partial backfilling for pipeline support to allow further excavation on east end.



J42_1195.jpg
8/15/01

View facing NE showing north (left center), east (middle background), and south (right center) walls, and floor (foreground) at completion of excavation.

ATTACHMENT B

**LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION**



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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

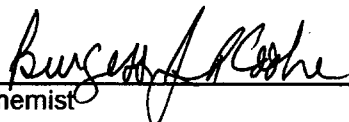
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT J. VANDENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

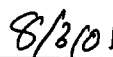
Receiving Date: 08/02/01
Reporting Date: 08/03/01
Project Number: NOT GIVEN
Project Name: DUKE ENRGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/02/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO	DRO
		(C ₆ -C ₁₀) (mg/Kg)	(>C ₁₀ -C ₂₈) (mg/Kg)
ANALYSIS DATE:		08/02/01	08/02/01
H6039-1	a) E. FLOOR-1 (11')	<50	212
H6039-2	b) W. FLOOR-1 (12')	<50	154
H6039-3	c) W. WALL-1 (4')	<50	<50
H6039-4	d) E. WALL-1 (4')	<50	<50
H6039-5	e) S. WALL-1 (2')	<50	<50
H6039-6	f) N. WALL-1 (2')	<50	<50
Quality Control		713	762
True Value QC		800	800
% Recovery		89.1	95.3
Relative Percent Difference		7.1	2.9

METHOD: SW-846 8015 M


Chemist


Date

H6039A.XLS

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



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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

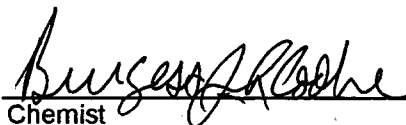
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT J. VANDENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/02/01
Reporting Date: 08/03/01
Project Number: NOT GIVEN
Project Name: DUKE ENRGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/02/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		08/02/01	08/02/01	08/02/01	08/02/01
H6039-1	a) E. FLOOR-1 (11')	<0.005	0.027	0.036	0.174
H6039-2	b) W. FLOOR-1 (12')	0.014	0.043	0.043	0.152
Quality Control		0.109	0.102	0.106	0.317
True Value QC		0.100	0.100	0.100	0.300
% Recovery		109	102	106	106
Relative Percent Difference		7.9	12.6	14.7	14.3

METHOD: EPA SW-846 8260


Chemist

8/3/01
Date

H6039B.XLS

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



Chain of Custody

Date 8-2-01 Page 1 of 1

[illegible]



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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

ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT J. VANDENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/03/01
Reporting Date: 08/06/01
Project Number: NOT GIVEN
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/03/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)
		08/03/01	08/03/01
H6049-1	b) W. FLOOR-1 (12')	59.7	606
H6049-2	g W E. FLOOR-1 (16')	<50	<50
	<i>BNV</i>		
Quality Control		730	728
True Value QC		800	800
% Recovery		91.3	91.0
Relative Percent Difference		2.5	3.8

METHOD: SW-846 8015 M

Burgess A. Cooke
Chemist

8/6/01
Date

H6049A.XLS

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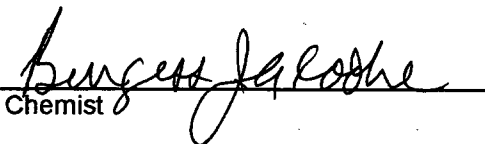
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT J. VANDENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/03/01
Reporting Date: 08/06/01
Project Number: NOT GIVEN
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/03/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		08/02/01	08/02/01	08/02/01	08/02/01
H6049-2	g E. FLOOR-1 (16") BIV	<0.005	<0.005	<0.005	<0.015
Quality Control		0.098	0.095	0.096	0.293
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.3	95.3	95.9	97.6
Relative Percent Difference		3.3	6.0	5.3	7.3

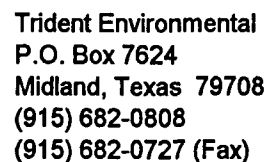
METHOD: EPA SW-846 8260


Chemist

8/6/01
Date

H6049B.XLS

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Chain of Custody

Date 8-3-01 Page 1 of 1

[illegible]

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TRIDENT ENVIRONMENTAL
ATTN: MR. GILBERT VAN DEVENTER
P.O. BOX 7624
MIDLAND, TEXAS 79708
FAX: 682-0727

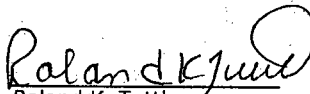
Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg C
Project #: V-109
Project Name: Duke Energy Field Services
Project Location: J-4-2 Line Leak

Sampling Date: 08/03/01
Receiving Date: 08/03/01
Analysis Date: 08/05/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
0101279-01	b W. Floor-2 (12')	210	984
0101279-02	h E. Floor-2 (16')	<10	13

QUALITY CONTROL	473	440
TRUE VALUE	500	500
% INSTRUMENT ACCURACY	95	88
SPIKED AMOUNT	476	476
ORIGINAL SAMPLE	<10	<10
SPIKE	579	545
SPIKE DUP	588	545
% EXTRACTION ACCURACY	122	114
BLANK	<10	<10
RPD	1.5	0.0

Methods: EPA SW 846-8015M GRO/DRO


Roland K. Tuttle

8-8-01
Date



Chain of Custody

Date 8-3-01 Page 1 of 1

[illegible]



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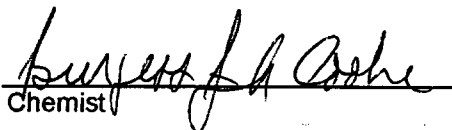
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

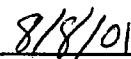
Receiving Date: 08/07/01
Reporting Date: 08/08/01
Project Number: V-109 (DEFS)
Project Name: J-4-2 GATHERING LINE LEAK
Project Location: UNIT A, SEC29 T19S R35E

Sampling Date: 08/07/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)
ANALYSIS DATE:		08/07/01	08/07/01
H6059-1	W. FLOOR-2 (16')	80.8	798
Quality Control		741	783
True Value QC		800	800
% Recovery		92.6	97.9
Relative Percent Difference		1.5	8.5

METHOD: SW-846 8015 M


Chemist


Date 8/8/01

H6059.XLS

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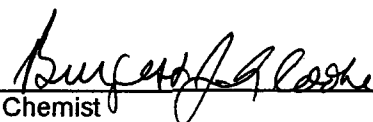
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/07/01
Reporting Date: 08/09/01
Project Number: V-109 (DEFS)
Project Name: J-4-2 GATHERING LINE LEAK
Project Location: UNIT A, SEC29 T19S R35E

Sampling Date: 08/07/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		08/09/01	08/09/01	08/09/01	08/09/01
H6059-1	W. FLOOR-2 (16')	0.009	0.589	0.873	2.93
Quality Control		0.105	0.093	0.095	0.286
True Value QC		0.100	0.100	0.100	0.300
% Recovery		105	92.7	95.3	95.2
Relative Percent Difference		6.0	7.8	10.3	8.9

METHOD: EPA SW-846 8260


Chemist

8/9/01
Date

H6059B.XLS

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ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GIL VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/09/01
Reporting Date: 08/10/01
Project Number: NOT GIVEN
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/09/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		08/09/01	08/09/01	08/09/01	08/09/01	08/09/01	08/09/01
H6068-1	W. FLOOR-3 (19') BGS	<50	<50	<0.005	0.011	0.005	0.022
Quality Control		741	783	0.105	0.093	0.095	0.286
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		92.6	97.9	105	92.7	95.3	95.2
Relative Percent Difference		1.5	8.5	6.0	7.8	10.3	8.9

METHODS: TPH GRO & DRO - EPASW-846 8015 M; BTEX - SW-846 8260.


Burgess J. A. Cooke, Ph. D.

8/10/01
Date

H6068.XLS

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Chain of Custody

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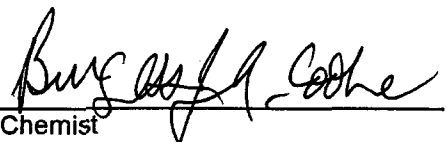
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GIL VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727


Receiving Date: 08/14/01
Reporting Date: 08/15/01
Project Number: V-109
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/14/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO	DRO
		(C ₆ -C ₁₀) (mg/Kg)	(>C ₁₀ -C ₂₈) (mg/Kg)
ANALYSIS DATE:		08/14/01	08/14/01
H6078-1	k) EAST WALL-2 (12')	110	1290
Quality Control		743	750
True Value QC		800	800
% Recovery		92.9	93.8
Relative Percent Difference		0.9	7.8

METHOD: SW-846 8015 M


Chemist


Date

H6078.XLS

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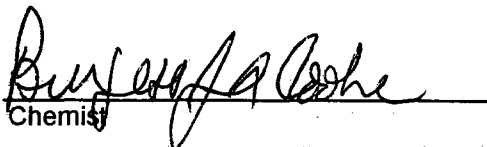
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GIL VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/14/01
Reporting Date: 08/16/01
Project Number: V-109
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/14/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		08/16/01	08/16/01	08/16/01	08/16/01
H6078-1 K)	EAST WALL-2 (12')	<0.005	<0.005	<0.005	<0.015
Quality Control		0.099	0.090	0.093	0.274
True Value QC		0.100	0.100	0.100	0.300
% Recovery		99.1	90.2	93.2	91.3
Relative Percent Difference		7.3	9.9	6.4	7.9

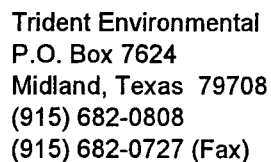
METHOD: EPA SW-846 8260


Chemist

8/16/01
Date

H6078B.XLS

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V-109-0701-7

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

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ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GIL VAN DEVENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

Receiving Date: 08/15/01
Reporting Date: 08/16/01
Project Number: V-109
Project Name: DEFS J-4-2
Project Location: UNIT ^D SEC ²⁸ T20S R35E
BAJ

Sampling Date: 08/15/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)
		08/14/01	08/14/01
H6087-1	1) E. WALL-3 (6")	<50	63.7
H6087-2	m) E. FLOOR-3 (18")	<50	54.2
Quality Control		790	808
True Value QC		800	800
% Recovery		98.7	101
Relative Percent Difference		1.4	3.0

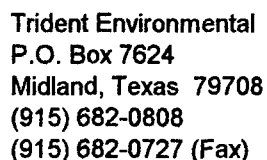
METHOD: SW-846 8015 M

Bryan J. Coche
Chemist

8/16/01
Date

H6087.XLS

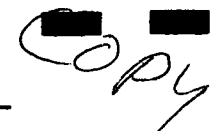
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Date 8-15-01 Page 1 of 1

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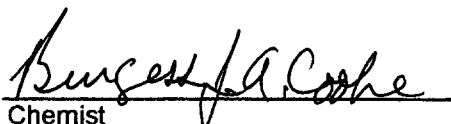
ANALYTICAL RESULTS FOR
TRIDENT ENVIRONMENTAL
ATTN: GILBERT J. VANDENTER
P.O. BOX 7624
MIDLAND, TX 79708
FAX TO: (915) 682-0727

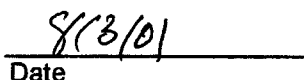
Receiving Date: 08/02/01
Reporting Date: 08/03/01
Project Number: NOT GIVEN
Project Name: DUKE ENRGY FIELD SERVICES
Project Location: J-4-2 LINE LEAK

Sampling Date: 08/02/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO	DRO
		(C ₆ -C ₁₀) (mg/Kg)	(>C ₁₀ -C ₂₈) (mg/Kg)
ANALYSIS DATE:		08/02/01	08/02/01
H6040-1	BACKFILL-1	<50	<50
Quality Control		713	762
True Value QC		800	800
% Recovery		89.1	95.3
Relative Percent Difference		7.1	2.9

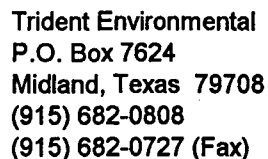
METHOD: SW-846 8015 M


Chemist


Date

H6040A.XLS

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Chain of Custody

Date 8-2-01 Page 1 of 1

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"Don't Treat Your Soil Like Dirt!"

TRIDENT ENVIRONMENTAL
ATTN: MR. GILBERT VAN DEVENTER
P.O. BOX 7624
MIDLAND, TEXAS 79708
FAX: 689-4578

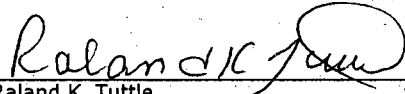
Sample Type: Soil
Sample Condition: Intact/ Iced/ -0.5 deg C
Project #: None Given
Project Name: Duke Energy Field Services
Project Location: J-4-2

Sampling Date: 07/26/01
Receiving Date: 07/26/01
Analysis Date: 07/27/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
0101231-02	J-4-2 Exc. Soil	0.193	2.47	2.85	7.93	4.02

QUALITY CONTROL	0.093	0.092	0.089	0.196	0.091
TRUE VALUE	0.100	0.100	0.100	0.200	0.100
% INSTRUMENT ACCURACY	93	92	89	98	91
SPIKED AMOUNT	0.100	0.100	0.100	0.200	0.100
ORIGINAL SAMPLE	<0.025	<0.025	<0.025	<0.025	<0.025
SPIKE	0.099	0.100	0.097	0.220	0.102
SPIKE DUP	0.097	0.097	0.095	0.214	0.099
% EXTRACTION ACCURACY	99	100	97	110	102
BLANK	<0.025	<0.025	<0.025	<0.025	<0.025
RPD	2	3	2	3	3

METHODS: EPA SW 846-8021B ,5030


Ralanda K. Tuttle

7-30-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRIDENT ENVIRONMENTAL
ATTN: MR. GILBERT VAN DEVENTER
P.O. BOX 7624
MIDLAND, TEXAS 79708
FAX: 689-4578


Sample Type: Soil
Sample Condition: Intact/ Iced/ -0.5 deg C
Project #: None Given
Project Name: Duke Energy Field Services
Project Location: J-4-2

Sampling Date: 07/26/01
Receiving Date: 07/26/01
Analysis Date: 07/27/01

ELT #	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
0101231-01	J-4-2 Background	<10	<10
0101231-02	J-4-2 Exc. Soil	561	2560

QUALITY CONTROL	533	524
TRUE VALUE	500	500
% INSTRUMENT ACCURACY	107	105
SPIKED AMOUNT	476	476
ORIGINAL SAMPLE	<10	116
SPIKE	498	504
SPIKE DUP	530	507
% EXTRACTION ACCURACY	105	106
BLANK	<10	<10
RPD	6	1

Methods: EPA SW 846-8015M GRO/DRO


Raland K. Tuttle

7-30-01
Date

Trident Environmental
P.O. Box 7624
Midland, Texas 79708
(915) 528-3878
(915) 689-4578 (Fax)

V-106-J-4-2 A

Chain of Custody

Date 7-26-01 Page 1 of 1

[illegible]

ATTACHMENT C

FIELD BOOK NOTES

7-26-01

J-4-2

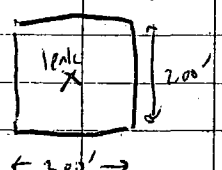
N 320 38' 09.1"
W 1030 28' 10.5" 10.5"
21.8

500' 6" Driscoll

Met w/ Ray (Waltham) &
3 man crew (one 4x4 backhoe
Cat 416B

Called Paul Mullen & arranged
for vacuum truck (McCluskey) to
come out & vacuum rainwater
from excavation.

Collected background sample 4-pt composite
OVM oppm

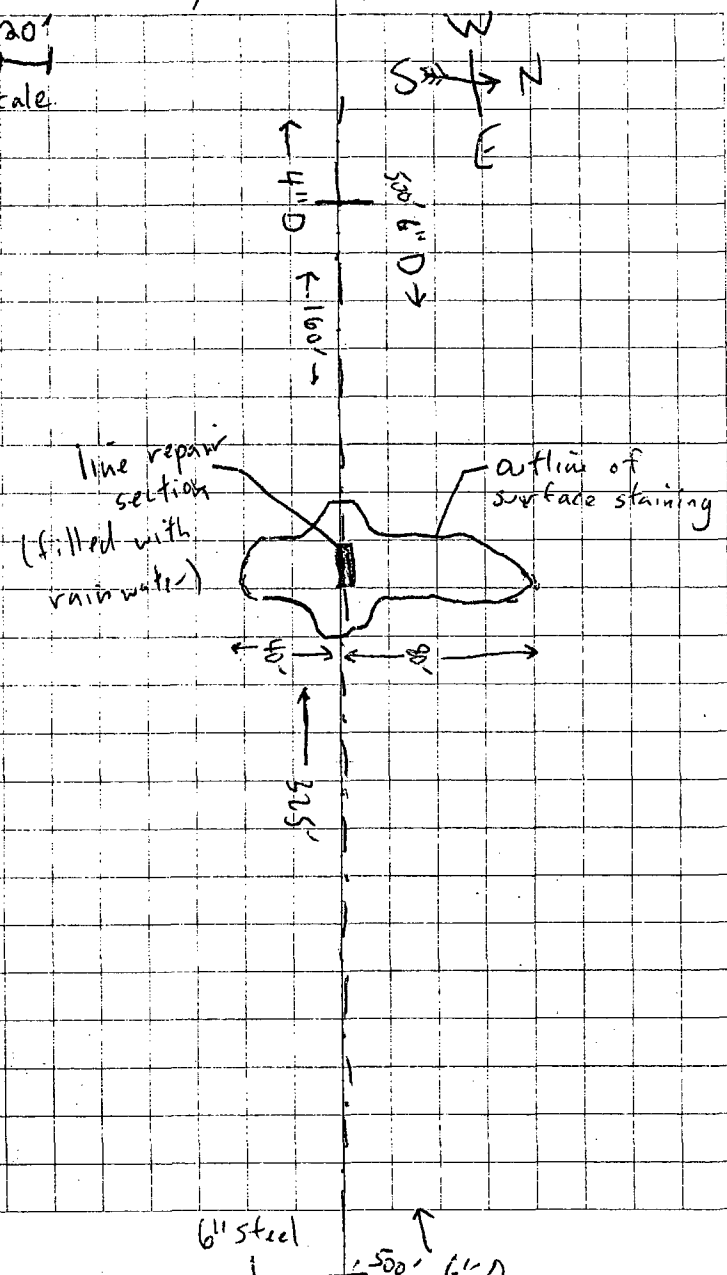


M. McCluskey vac truck on site at 9:30
Vacuumed out \approx 156 bbls

Calibrated OVM to 100 ppm

7-26-01

20'
Scale



J-4-2

7-26-01

Started excavating at source area
at 0945 am MST

Excavating area around
leak until noon

Collected composite sample of
excavated soil at 1155 am
256 ppm w/ OVM

Bease holder Faye Klein

CC#16

Returned to CC#16

Mike N. still excavating. Didn't
get very deep or wide because he
had to spend a lot of time
clearing/making clean done sand
One trackhoe & one loader working today

CC#16

7-30-01

Trackhoe still excavating. No other
equipment on site

Digger working at landfill today

Took photos of excavation. West side
against road is still dirty. Mike
~~clearing~~ excavating east side first (almost
done) and floor before excavating more
to west. Will have to take road out.

7-31-01 & 8-1-01

Backhoe & loader

Spot excavating area. Not
ready for sampling.

8-2-01

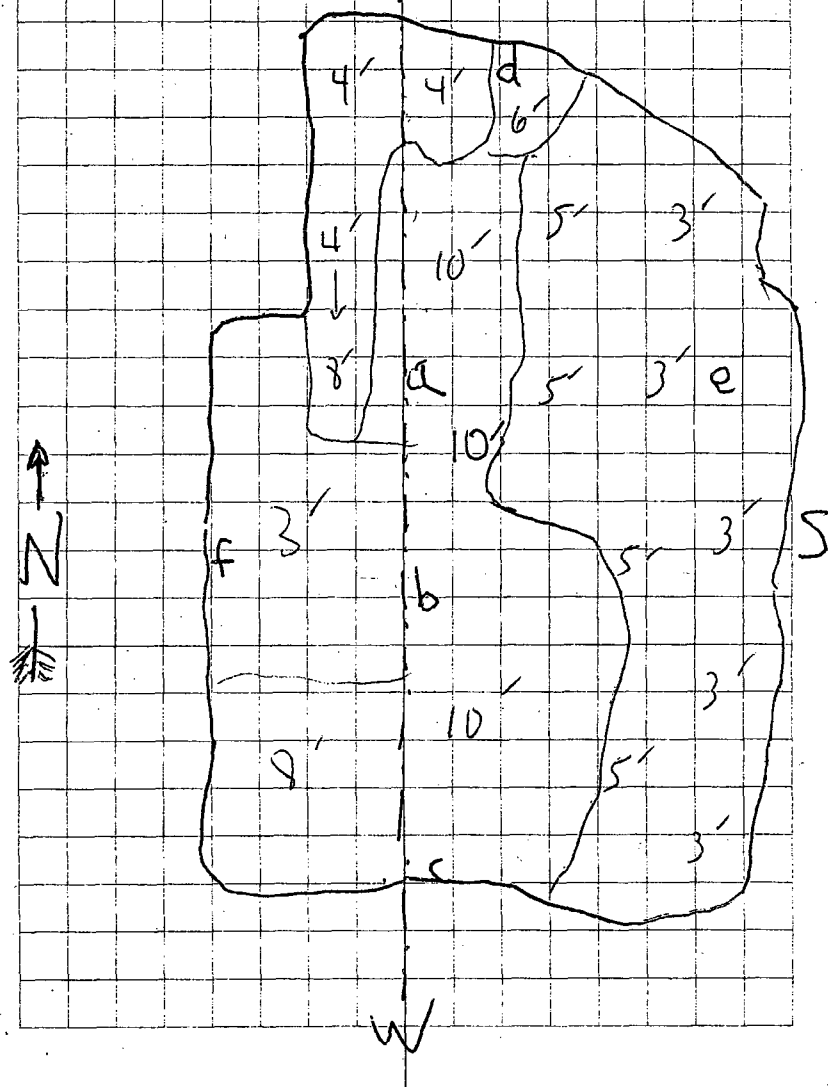
Equip on site 4x4 backhoe
Front end loader CAT 830

62' x 90'

E 8-2-01

0 10'
Scale

J-4-2



J-4-2 8-2-01

Letter	Location (depth)	DVM	Time
a)	E. Floor -1 (11')	297	1045
b)	W. Floor -1 (12')	587	1055
c)	W. Wall -1 (4')	2	1100
d)	E. Wall -1 (4')	0	1105
e)	S. Wall -1 (2')	2	1125
f)	N. Wall -1 (2')	0	1130

Based on DVM ^{high} readings from floor at low spots excavation needs to go deeper at least 5 ft (or more if odor still moderately strong). Since the excavation is already at about 10' below the pipeline it will be necessary to bring a trackhoe (to replace backhoe). Roy arranging to get trackhoe from CCHG site which will be suspended for a day or so.

Used hand auger to get a & b floor samples (augered about 3 ft below current excavation depth)

8-2-01 J-4-2

Collected backfill soil sample (Backfill -1 @ 1150 MST) from backfill being brought in from CCHG project. Looks/smells clean! (0 ppm on DVM)

Delivered samples to Cardinal Lab in Hobbs @ 1:30

Left lab to go to CCHG see next page

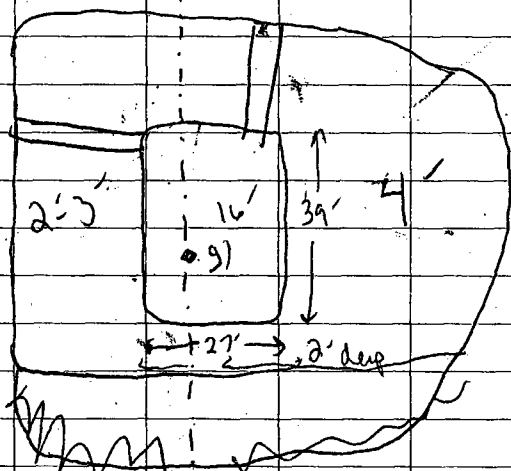
J-4-2 8-3-01

b) W. Floor -1 (12') duplicate sample
location so sample can be run
at a different lab (Env. Lab of TX)
rather than Cardinal Lab.
OUM readings relatively high
compared to lab results (Cardinal

split sample for analysis at 2 labs (Cardinal & Env. Lab)

b) W. Floor -1 (12') 360 ppm 0920
E. Floor -2 (16') 206 ppm 0905

8-7-01 J-4-2



(*) W. Floor -2 (16') OUM = 299 ppm
Time 0900 MST

8-7-01 J-4-2

0700 Leave Midland for J-4-2 site

Objective: Collect soil sample from
West Floor of excavation where it
was excavated deeper (to 16') than
previous sample at 12' depth

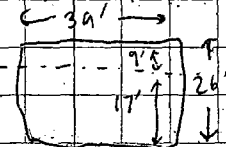
One loader on site (truckhoe on
site but not in use).

4 rail bumps running today
Bringing in clean backfill & hauling
contaminated soil to S. Monmouth
land farm. Trucks look very full
($> 12 \text{ yd}^3$). Loader putting
in 6 full buckets & tamping
it down.

Major part of excavation squared
off at 16' depth

39' long \times 2'6" wide \times 16' deep

9' N 17' W of pipeline



J-4-2

Load count per Roy

1008 yd³ (84 loads) as at Thur Aug 2
were sent to S. Monument Land Farm

798 yd³ (66 loads) of clean backfill
brought in from CCT#6 area.

Roy said he would apply a ~~4%~~
4 load (48 yd³) discount at the
end of the job to make up for
a possible discrepancy of "short"
loads per Paul Mulkey who said one
of the first few days of loading with
the small backhoe he thought they
were running light.

8-8-01

J-4-2

Received verbal results for sample
g) W-Floor-2 (16') from Gayle Potts
of Cardinal Lab as follows
GRO = 80.8 mg/kg DRO = 798 mg/kg

Called Mike & later heard from
Roy regarding what to do next.
I instructed them to dig another
3-4 feet deeper on west end
of excavation directly beneath
pipe line ~~that~~ (extending out to
about 9 ft both north & south
directly beneath and extending
east about 6 ft from sample
location).

Roy said they had some
weather delays and are a little
short of men & equip because
of other jobs going on.

J-4-2

8/14/01

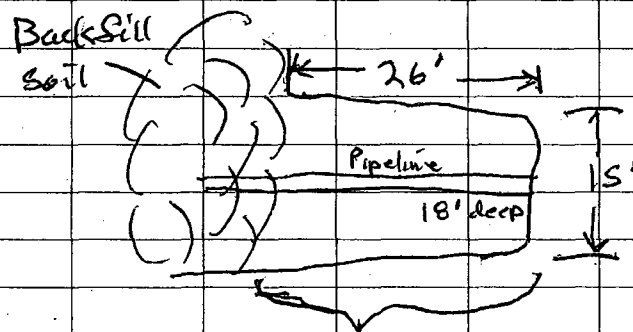
DTL

000 (MST) Leave Midland

for J-4-2 (115 mi)

1230 Arrive at J-4-2 Excavation
 could not enter pit, sample
 recovered using track hoe
 (see photos), approximated 20'
 east of removed stain area
 on excavation wall (12'
 below the surface)

* PID calibrated at 99 ppm
 Sample East Wall - 2 (12')
 contained 221 ppm PID
 will take sample to Lab (BTEX/GRO/DEO)



Eastern excavation
 made since yesterday
 (8/13/01)

DTL

8/14/01

J-4-2

1310 Took Photos of excavation

Equipment on site

- o Samsang Track hoe ~~930~~ SE210
- o Cat Front loader 930
- o Cat Dozer

4 Dump Trucks to bring
 clean soil for backfill
 (4 truck pulling a back hoe) DTH

1320 Leave Site for Lab.

1356 Leave Lab for Midland

1535 (MST) Arrive at Midland
 (219 mi)

8-24-01

Per Ray w/ Walton

5-4.2

2772 oily dirt hauled to landfill

2592 backfill sand brought in

180 difference

Plan to use \approx 180 yd top soil
from nearby landfill

8-30-01

CC#6

7-9 Leave Midland Arrive at CC6

Called Paul Sheely en route to
notify of sampling activity. Paul
said he'd come out on site.

Mike w/ Walton Const. has
cleaned out & widened the north
end of excavation to a depth of 33'
He also extended west end of
south end of excavation to a
depth of 12'.
He also took out the access
road to a depth of 8 feet.