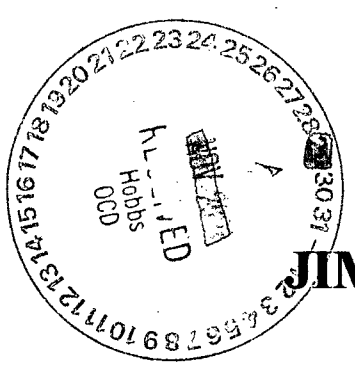
IRP-218
10.26.05

Jimmy Cooper #5 Closure Report
Duke Energy Field Services
Lea County, New Mexico

NOVEMBER 13, 2001

Prepared For:

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



Site Name:

JIMMY COOPER #5 (JC#5)

Site Location:

T20S, R36 E, SECTION 23, UNIT P

Prepared By:

TRIDENT ENVIRONMENTAL

PO Box 7624
Midland, Texas 79708

Sincerely,

Gilbert J Van Deventer

Gilbert J. Van Deventer, REM
Project Manager

Attachments

cc: Jimmy Cooper, landowner – Monument, NM

C:\DEFS\COOPER\JC5\JC5CLOSE.DOC

TRIDENT ENVIRONMENTAL

November 13, 2001

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

Re: Removal of Hydrocarbon-Impacted Soils from the JC #5 site
Township 20 South, Range 36 East, Section 23, Unit P

Dear Mr. Weathers:

Trident Environmental (Trident) was retained by Duke Energy Field Services, LP. (DEFS) to oversee the removal of hydrocarbon-impacted soil from an area along a pipeline right-of-way operated by DEFS near Monument, New Mexico in Lea County. The site (JC #5) is located in Section 23 (Unit P), Township 20 South, Range 36 East on property owned by Jimmy T. Cooper. The location of the JC #5 site is shown on the topographic map in Attachment A. The work was conducted in accordance with the work plan submitted to the New Mexico Oil Conservation Division (OCD). 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 operations for documentation that closure requirements have been satisfied.

Excavation and Sampling Procedures

Allstate Services Environmental (Allstate) performed excavation. Allstate used one trackhoe, one dozer, and one loader for earthmoving services. An area was excavated where Mr. Cooper identified indications of hydrocarbon-impacted soils. During excavation operations, subsurface soil samples were collected by Trident with stainless steel trowels. Grab samples were collected from the floor and each wall (north, south, east, and west) of the excavation (Attachment A). 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). 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 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 not performed because soil samples did not exceeded OVM readings of 1 ppm and GRO and/or DRO concentrations were less than 10 mg/kg.

Soil Stockpiling, Waste Disposition, and Backfilling

None of the 220 cubic yards of excavated soil exceeded 100 mg/kg GRO/DRO, 10 mg/kg benzene, and/or 50 mg/kg total BTEX therefore, it was returned back into the excavation, as agreed upon by Mr. Cooper. 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 landowner's claims and well records from the Office of the State Engineer.

Completed *Generator Certificate of Waste Status* (C-143) and *Release Notification and Corrective Action* (C-141) forms are included in Attachment A.

Results

At the completion of excavation activities all areas had petroleum hydrocarbon concentrations below the OCD standards 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

Attachments

cc: Jimmy Cooper, landowner – Monument, NM

C:DEFS\COOPER\JC5\JC5CLOSE.DOC

ATTACHMENT A

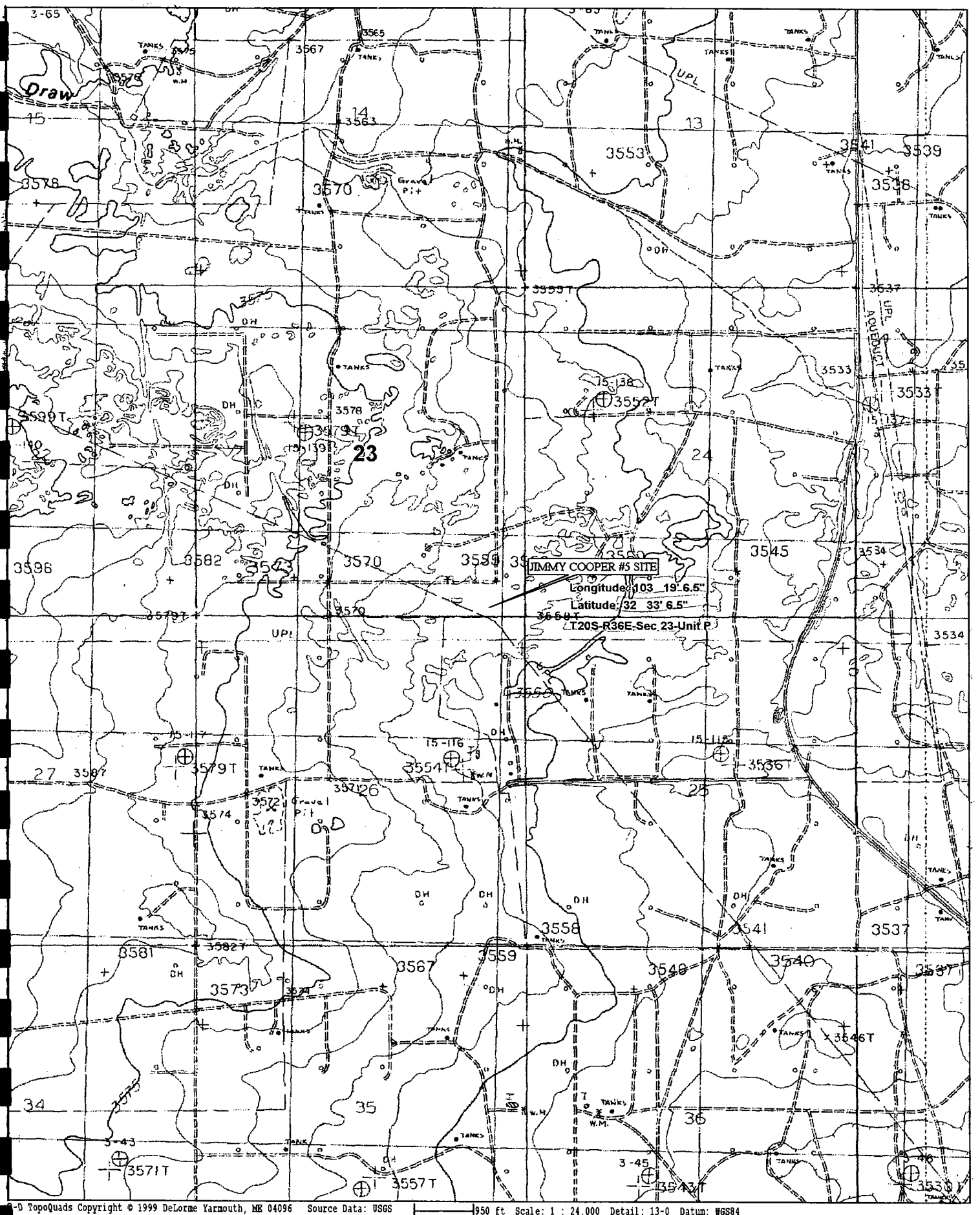
TOPOGRAPHIC MAP

SITE MAP

SITE DATA FORM

C-141 AND C-143 FORMS

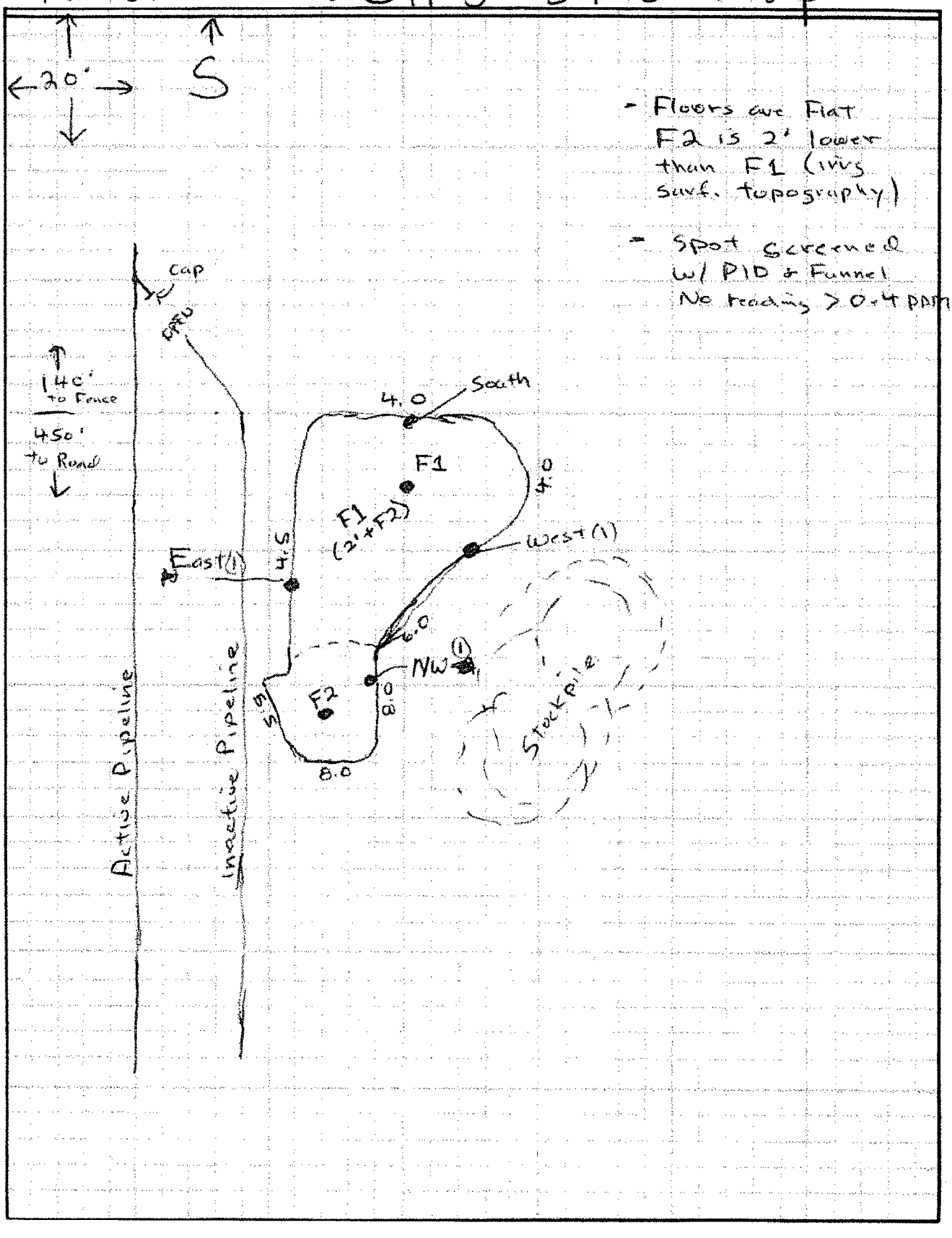
PHOTODOCUMENTATION



 Source Data: USGS 950 ft Scale: 1 : 24,000 Detail: 13-0 Datum: WGS84

Drawn by DTL
6/28/01

JC#5 Site Map



1 cm² = 0.1550 in²
1 in² = 6.452 cm²
1 m² = 10.764 ft²
1 ft² = 929.0 cm²

1 acre = 43,560 ft²
= 4046 m²

1 hectare = 10,000 m²
= 2.471 acres

1 mi² = 2.590 km²
= 640 acres

Volume

1 m³ = 1000 liters
= 35.314 ft³
= 264 gal (U.S.)

1 ft³ = 28.320 liters
= 7.481 gal (U.S.)

1 gal = 3.785 liters

1 acre foot = 43,560 ft³
= 3.259 × 10⁵ gal
= 1234 m³

Discharge

1 ft³/min = 0.472 liters/sec
1 acre foot/day
= 3.259 × 10⁵ gal/day
1 ft³/sec = 448.8 gal/min
= 724 acre feet/year

Density

Water 1.000 g/cm³ at 4°C
0.998 g/cm³ at 20°C
Sea water 1.025 g/cm³
at 15°C
Mercury 13.55 g/cm³
at 20°C
Air 1.29 × 10⁻³ g/cm³
at 20°C and
atmospheric pressure

Specific weight water in air

8.335 lb/gal at 0°C
8.328 lb/gal at 60° F
8.322 lb/gal at 20° C
62.18 lb/ft³ at 60° F

Pressure

1 bar = 0.9869 atmosphere
= 10⁶ dynes/cm²
= 14.50 lb/in²

pressure developed
from static liquid
1 cm mercury
= 0.01316 atmosphere
1 ft water
= 0.02950 atmosphere
33.90 ft water
= 1.00 atmosphere

TRIDENT ENVIRONMENTAL

Site Data Form

TRW Technician: DTL Excavation Crew Names: Allstate Services Environmental Site ID: Jimmy Cooper #5

Site Location: Latitude 32° 33' 6.5" N Longitude 103° 19' 6.5" W County: Lea State: New Mexico

Section 23 Township 20 South Range 36 East Unit P

Begin Excavation (Date/Time) 06/28/01 11/15/01 Complete Excavation (Date/Time) 06/28/01

LAND USE: (Check all that apply)
☐ Residential ☐ Recreational ☐ Farm land
☐ 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

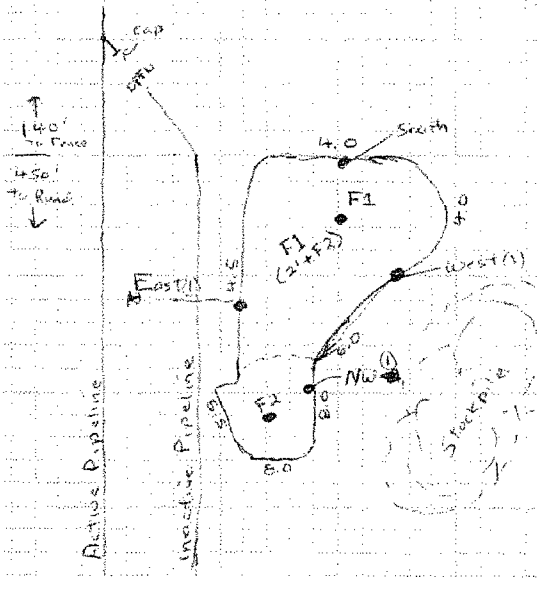
SURFACE SOILS: ■ Sand ☐ Gravel ☐ Silt ☐ Caliche ☐ Clay ■ Other Silty clay (3'-8')

EXCAVATION DIMENSIONS	Length	Width	Average Depth	Maximum Depth
	55 feet	15-30 feet	5 feet	8 feet

VOLUME EXCAVATED: 660 220 yd³ **VOLUME HAULED TO LANDFARM:** 0 yd³

SUMMARY OF OVM, GRO, AND DRO CONCENTRATIONS

Sample Location	Sample Depth	Sample Type	OVM (ppm)	GRO (mg/kg)	DRO (mg/kg)
F1 (South Floor)	4.5	Grab	< 1.0	< 10	< 10
F2 (North Floor)	8	Grab	< 1.0	< 10	< 10
NW-1 (Wall)	4	Grab	< 1.0	< 10	< 10
E-1 (Wall)	2	Grab	< 1.0	< 10	< 10
W-1 (Wall)	3	Grab	< 1.0	< 10	< 10
S-1 (Wall)	2	Grab	< 1.0	< 10	< 10
Stockpile	N/A	Composite	< 1.0	< 10	< 10



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: Site Name: JC #5	Facility Type: Natural Gas Pipeline

Surface Owner: Jimmy Cooper	Mineral Owner: Unknown	Lease No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the North/South Line	Latitude	Feet from the East/West Line	Longitude	County
P	23	20S	36E		32° 33' 6.5" N		103° 19' 6.5" W	Lea

NATURE OF RELEASE

Type of Release: Condensate	Volume of Release: Unknown	Volume Recovered: None (no release documented)
Source of Release: Pipeline	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: Unknown
Was Immediate Notice Given? ☐ Yes ☐ No ■ Not Required	If YES, To Whom? Paul Sheeley, NMOCD District 1	
By Whom? Steve Weathers	Date and Hour	
Was a Watercourse Reached? ☐ Yes ■ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

inactive

Describe Cause of Problem and Remedial Action Taken.*
Historical condensate release caused by external corrosion of steel pipeline in subsurface. Removal of impacted soil requested by landowner (Jimmy Cooper).

Describe Area Affected and Cleanup Action Taken.*
On 6/28/01 over-excavation was initiated and completed. Before and after the completion of excavation activities all areas had GRO and DRO concentrations on floors and walls less than 10 mg/kg. Final excavation dimensions were approx. 15-30 ft wide by 55 ft long by 4-8 ft deep. On 7/3/01 approx. 220 yd^3 of the excavated soil was returned to the excavation after it was confirmed that GRO and DRO concentrations of the stockpile were less than 10 mg/kg. 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: 11/15/01 Phone: (303) 605-1718	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

(505) 393-6161
...each Dr
...NM 88240
District II - (505) 748-1283
...S. First
...rtesia, 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
from historic pipeline leak

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

Site Name: JC#5
Sec. 23, Unit P, T20S, R36E

5. Destination (Surface Waste Management Facility):

C & C Landfarm, Inc. (NM-01-0012)
Sec 3, T20S, R37E
Box 55, Monument, NM 88265
(505) 397-2045

6. Transporter:

Allstate Services (subcontract haulers from Hobbs, NM)

7. Estimated Volume 1,000 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)

X **EXEMPT** oilfield waste.

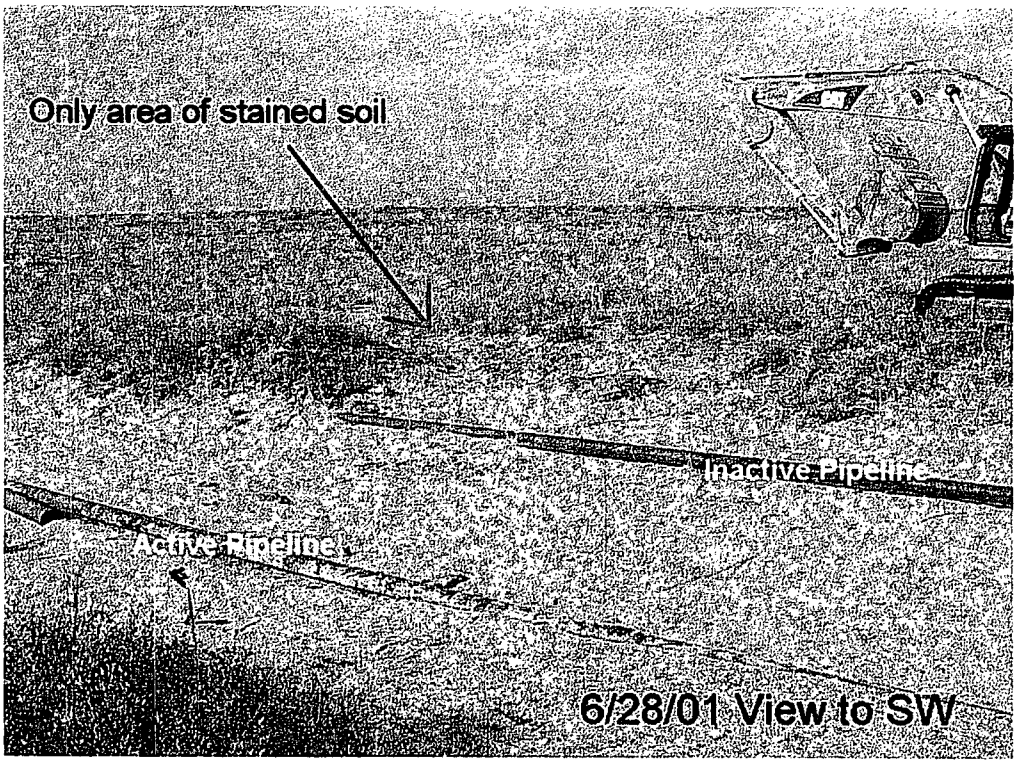
_____ **NON-EXEMPT** oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)

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.

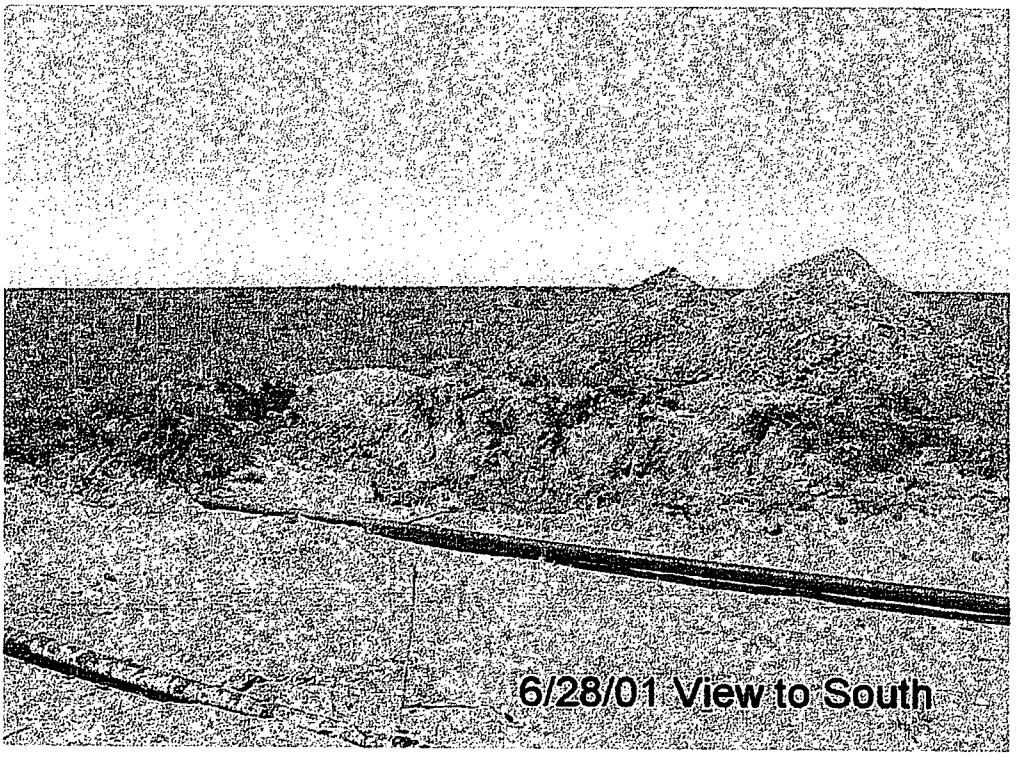
Generator Signature: _____ Date: 7/2/01

Print Name: Stephen W. Weathers

Title: Environmental Specialist

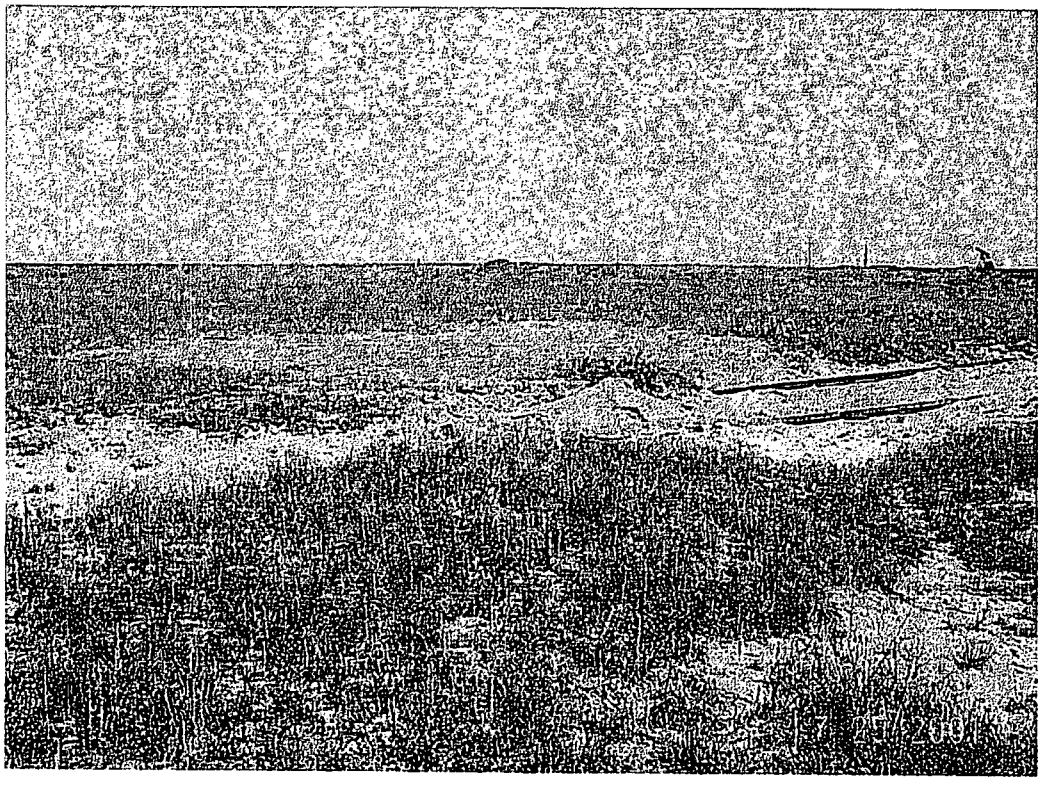


JC5-1 View of site just prior to excavation.



JC5-2 View showing excavation at completion.

JC5-3 View facing north showing beginning of excavation activities.



JC5-4 View of site after restoration and backfilling.

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

AND

CHAIN-OF-CUSTODY DOCUMENTATION

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: 682-0727

Sample Type: Soil
Sample Condition: Intact/ Iced/ -1.5 deg. C
Project #: V-105
Project Name: Duke Energy Field Services
Project Location: JC #5

Sampling Date: 06/28/01
Receiving Date: 06/28/01
Analysis Date: 06/28/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
41524	Stockpile 1	<0.025	<0.025	<0.025	<0.025	<0.025

QUALITY CONTROL	0.102	0.100	0.098	0.218	0.100
TRUE VALUE	0.100	0.100	0.100	0.200	0.100
% INSTRUMENT ACCURACY	102	100	98	109	100
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	0.098	0.098	0.096	0.215	0.101
SPIKE DUP	0.098	0.098	0.096	0.215	0.101
% EXTRACTION ACCURACY	98	98	96	108	101
BLANK	<0.025	<0.025	<0.025	<0.025	<0.025
RPD	0	0	0	0	0

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

6-29-01
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/ -1.5 deg C
Project #: V-105
Project Name: Duke Energy Field Services
Project Location: JC #5

Sampling Date: 06/28/01
Receiving Date: 06/28/01
Analysis Date: 06/28/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
41518	F1 (South Floor)	<10	<10
41519	F2 (North Floor)	<10	<10
41520	NW-1 (Wall 4.0')	<10	<10
41521	E-1 (Wall 2.0')	<10	<10
41522	W-1 (Wall 3.0')	<10	<10
41523	S-1 (Wall 2.0')	<10	<10
41524	Stockpile 1	<10	<10
	QUALITY CONTROL	478	537
	TRUE VALUE	500	500
	% INSTRUMENT ACCURACY	96	107
	SPIKED AMOUNT	476	476
	ORIGINAL SAMPLE	<10	<10
	SPIKE	509	543
	SPIKE DUP	518	524
	% EXTRACTION ACCURACY	107	114
	BLANK	<10	<10
	RPD	2	4

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

6-29-01
Date

TRIDENT ENVIRONMENTAL

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

Rush

V-105-JC5-A

Chain of Custody

Date 6-28-01 Page 1 of 1

Lab Name: Environmental Lab of Texas
Address: 12600 W I-20 East
Odessa, Texas 79765
Telephone: (915) 563-1800

Samplers (SIGNATURES) Dale T Littlejohn

Sample Identification	Matrix	Date	Time	Sample Type: G - Grab, C- Composite	Analysis Request: BTEX (EPA 8021B)	MTBE (EPA 8021B)	SVOC (EPA 8270)	PAH (EPA 8270)	VOC (EPA 8260)	TPH (EPA 418.1)	TPH (TX-1005)	TPH (TX-1006)	GRO (EPA 8015G)	DRO (EPA 8015D)	TDS (EPA 160.1)	Anions/Cations	Total Metals	TCLP Metals							Number of Containers
F1 (South floor)	Soil	6/28	1040	G									✓	✓					4	1	5	1	8		1
F2 (North floor)	"	"	1045	G									✓	✓					4	1	5	1	9		1
NW-1 (Wall 4.0')	"	"	1050	G									✓	✓					4	1	5	2	0		1
E-1 (Wall 2.0')	"	"	1055	G									✓	✓					4	1	5	2	1		1
W-1 (Wall 3.0')	"	"	1100	G									✓	✓					4	1	5	2	2		1
S-1 (Wall 2.0')	"	"	1105	G									✓	✓					4	1	5	2	3		1
Stockpile 1	"	"	1120	C	✓								✓	✓					4	1	5	2	4		1

Project Information		Sample Receipt	
Project Name:	Duke Energy Field Services	Total Containers:	
Project Location:	JC#5	COC Seals:	
Project Manager:	Gil Van Deventer	Rec'd Good Cond/Cold:	-1.5 °C
Cost Center No.:	V-105	Conforms to Records:	
Shipping ID No.:	Hand Delivered to Lab	Lab No.:	
Bill to (see below):			

Special Instructions/Comments: Please send invoice direct to client:
Duke Energy Field Services, Attention: Steve Weathers
P. O. Box 5493, Denver, Colorado 80217

Relinquished By: (1) (Company)	Relinquished By: (2) (Company)	Relinquished By: (3) (Company)
Trident Environmental		
(Printed Name) Dale T. Littlejohn	(Printed Name)	(Printed Name)
(Signature) 6/28/01	(Signature)	(Signature)
(Date) (Time) 1510	(Date) (Time)	(Date) (Time)
Received By: (1) (Company)	**Received By: (2) (Company)**	**Received By: (3) (Company)**
Environmental Lab of TX		
(Printed Name) Jeanne McMurrey	(Printed Name)	(Printed Name)
(Signature) Jeanne McMurrey	(Signature)	(Signature)
(Date) 6-28-01 (Time) 1510	(Date) (Time)	(Date) (Time)

Copy signed original form for Trident Environmental records

ATTACHMENT C

FIELD BOOK NOTES

Jimmy Cooper No. 5 Activity Summary

The only area of visibly stained soil was located approximately 15 to 20 feet west (and slightly up hill) from the western (inactive) pipeline (See Photo 1). No stained soil was observed in the area between the pipelines (see Photos 2 and 3).

Prior to excavating the stained area the area between the pipelines was scraped (approximately 1 foot deep) in an effort to identify impacted soil that may have been covered by blow sand. No discolored soil was observed in this area.

The initial excavation began at 9:30 AM (CST) and extended to a depth of approximately 4 feet. A discarded flow line was found on the north end of the excavation. This was also the area of the deepest soil discoloration. The lithology can be summarized as follows:

Surface to 3 feet – Sand, brown, fine-grained (dune material)
3 feet to 6 feet – Silty Clay, reddish brown, hard

A caliche layer was observed at the deepest area of the excavation (north side) at approximately 6 to 8 feet (due to irregular surface topography).

Several "clods" of discolored soil was observed in the shallow soil. It was assumed that the clods were formed by contact with hydrocarbons, however PID reading of samples taken from the clod indicated no volatiles were present (see Photo 4 and 5).

All of the visibly stained soil was removed by 10:30 AM (CST). The southern end of the excavation was approximately 4 to 4.5 feet deep (approximately 150 cubic yards) and the northern end (below the flow line) was approximately 7 to 8 feet deep (approximately 70 cubic yards). The pit was mapped and field screened with a PID to identify areas of maximum hydrocarbon impact, however no readings were observed greater than 0.5 ppm. Grab samples were taken from each wall and two samples were taken from the floor. A composite sample was also taken from the removed (stockpiled) soil. The samples were taken to Environmental Labs of Texas for analysis of GRC and DRO (and BTEX for the stockpile sample).

Photo 6 and 7 is a view of the completed excavation as of June 28, 2001. The laboratory results (verbal) support the PID readings. All of the samples were below the detection limit (including the stockpile). It is my opinion that the release was associated with the flow line (extremely weathered crude oil) and not condensate from the pipeline. Please call me if you have any further questions.

Thanks,

Dale Littlejohn
(915) 528-3878

JC 5

DTL 6/28/01 (1)

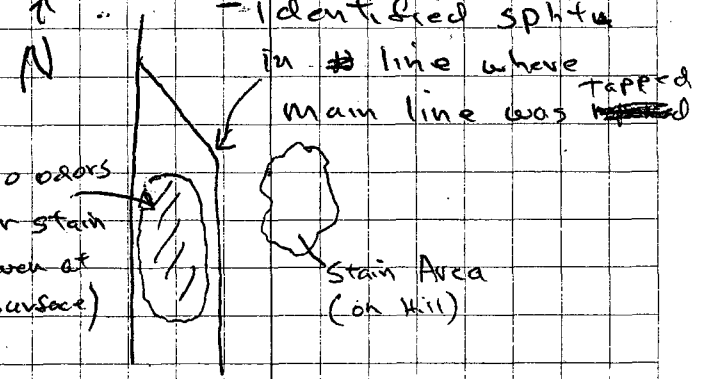
0700 Leave Midland for Jimmy Cooper # 5 excavation Site

0900 Arrive at JC-5
Spill located 450' South of Caliche Road (E-W) and 140' north of fence line (E-W)

[9:20] N32° 33.163' W103° 19.070'

Photo * 1 - Spill Area (pre-excav) (SW)
* 2 - Looking South toward fence
* 3 - Looking North

0930 Began Excav. between pipelines - Identified split in ~~#~~ line where main line was tapped



0940 - Began digging out stained area.

(2) JC 5 6/28/01 DTL

1030 Completed removal of visible stained soil, Screen Excavation Floor & Wall w/PID. (approx. 30 locations) No values greater than 0.5 ppm.

- Completed map of excavation
- Recovered grab samples at locations w/ highest PID readings

Sample	Depth	PID Readings
F1	4.5	< 1.0
F2	8.0	< 1.0
NW-1	4.0	< 1.0
E-1	2.0	< 1.0
W-1	3.0	< 1.0
S-1	2.0	< 1.0
Stockpile	Comp	< 1.0

1200 Completed sampling, preparing to leave location, Travel to JC-6 Site.

DTL 6/28/01 (3)

Equipment Summary

Allstate -

CAT 325 BL Track hoe

Billy + Operator + 2 hands (Drivers

No soil or caliche waste hauled in

Trident:

Truck (93 mi one-way) = 212 both ways

Camera (DTL)

GPS (DTL)

Wheel Trident

PPE Trident

PID Trident

1300 - Leave JC-6 site

plan on starting project at Noon ~~6~~ 7/2/01

Travel to lab.

(Lunch 1400 - 1430)

Go by Env. Labs of TX

* Note HC release may have occured from a flow line (not associated with the NG pipeline) an oil flow line was found on the North end of the excavation.

1600 Arrive @ Midland