



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**

Governor

**Jennifer A. Salisbury**

Cabinet Secretary

**Lori Wrotenbery**

Director

**Oil Conservation Division**

November 16, 2001

Duke Energy Field Services

Attn: Stephen Weathers

POB 5493

Denver, CO 80217

Re: Spill Site Closure Approval for Duke Energy Field Services, LP (DEFS)

Clay Cooper sites #2, #3, #4 and #5.

Site Location(s): UL-O, Sec 24-T20S-R36E (#2, #3 and #4) and UL-J, Sec 24-T20S-R36E (#5)

Submitted: November 13, 2001

The Spill Sites Closure Reports referenced above and submitted to the New Mexico Oil Conservation Division (OCD) by Trident Environmental for DEFS are **hereby approved**.

Clay Cooper #6, Jimmy Cooper #3 and J-4-2 are on hold pending further examination.

Please be advised that OCD approval of this plan does not relieve DEFS of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. In addition, OCD approval does not relieve DEFS of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please feel free to write or call me at (505) 393-6161, x113 or email [psheeley@state.nm.us](mailto:psheeley@state.nm.us)

Sincerely,

Paul Sheeley-Environmental Engineer

Cc: Roger Anderson - Environmental Bureau Chief

Chris Williams - District I Supervisor

Bill Olson - Hydrologist

Larry Johnson - Environmental Engr.

Mr. Gilbert J. Van Deventer -Trident Environmental



October 12, 2001

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

IRP-92  
10.19.05

Re: Removal of Hydrocarbon-Impacted Soils from the CC #3 site  
Township 20 South, Range 36 East, Section 24, Unit O

Dear Mr. Weathers:

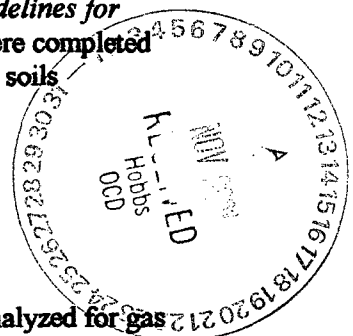
Trident Environmental (Trident) was retained by Duke Energy Field Services, LP. (DEFS) to oversee the removal of hydrocarbon-impacted soil from an area along a pipeline right-of-way operated by DEFS near Monument, New Mexico in Lea County. The site (CC #3) is located in Section 24 (Unit O), Township 20 South, Range 36 East on property owned by Dale Cooper and managed by Clay Cooper. 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.

#### Excavation and Sampling Procedures

Walton Construction Company, Inc. (Hobbs, New Mexico) performed excavation. Walton Construction 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 and submitted to an analytical laboratory to characterize the approximate lateral and vertical extent of hydrocarbon-impacted soil in each area. Samples were collected by Trident with stainless steel trowels. Floor samples were collected as a composite sample consisting of five aliquots, unless noted otherwise. Composite samples consisting of a minimum of three aliquots were also collected from each wall (north, south, east, and west), unless noted otherwise. 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 conducted for soil samples that exceeded OVM readings of 100 ppm 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 Landfarm. 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.

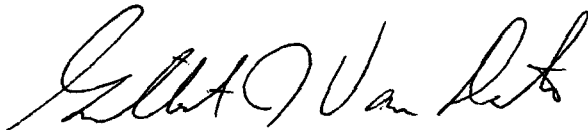
Hydrocarbon-impacted soils were transported by local hauling contractors (Walton Construction) to the South Monument Landfarm, owned and operated by Ms. Kena Kay Cooper (OCD Rule 711 Permit Approval NM-01-0032). Completed *Request for Approval to Accept Solid Waste* form (C-138), *Generator Certificate of Waste Status* form (C-143), and *Release Notification and Corrective Action* forms (C-141) are included in Attachment A.

Excavated soils below the remediation action levels and as agreed upon by Mr. Cooper were returned to the excavation after sampling and analysis verification. Also, native soil from adjacent sand dunes in the area was provided by Mr. Cooper and used as additional backfill in the excavation to restore the excavation to a level grade.

Results

At the completion of excavation activities all areas had petroleum hydrocarbon concentrations below the OCD standards listed above, with the exception of the west wall sample ("Q"). Excavation was discontinued in this direction due to the presence of the caliche road and another suspected source (Amoco AST) directly across from the road. 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: Clay Cooper, landowner – Hobbs, NM

**ATTACHMENT A**

**TOPOGRAPHIC MAP**

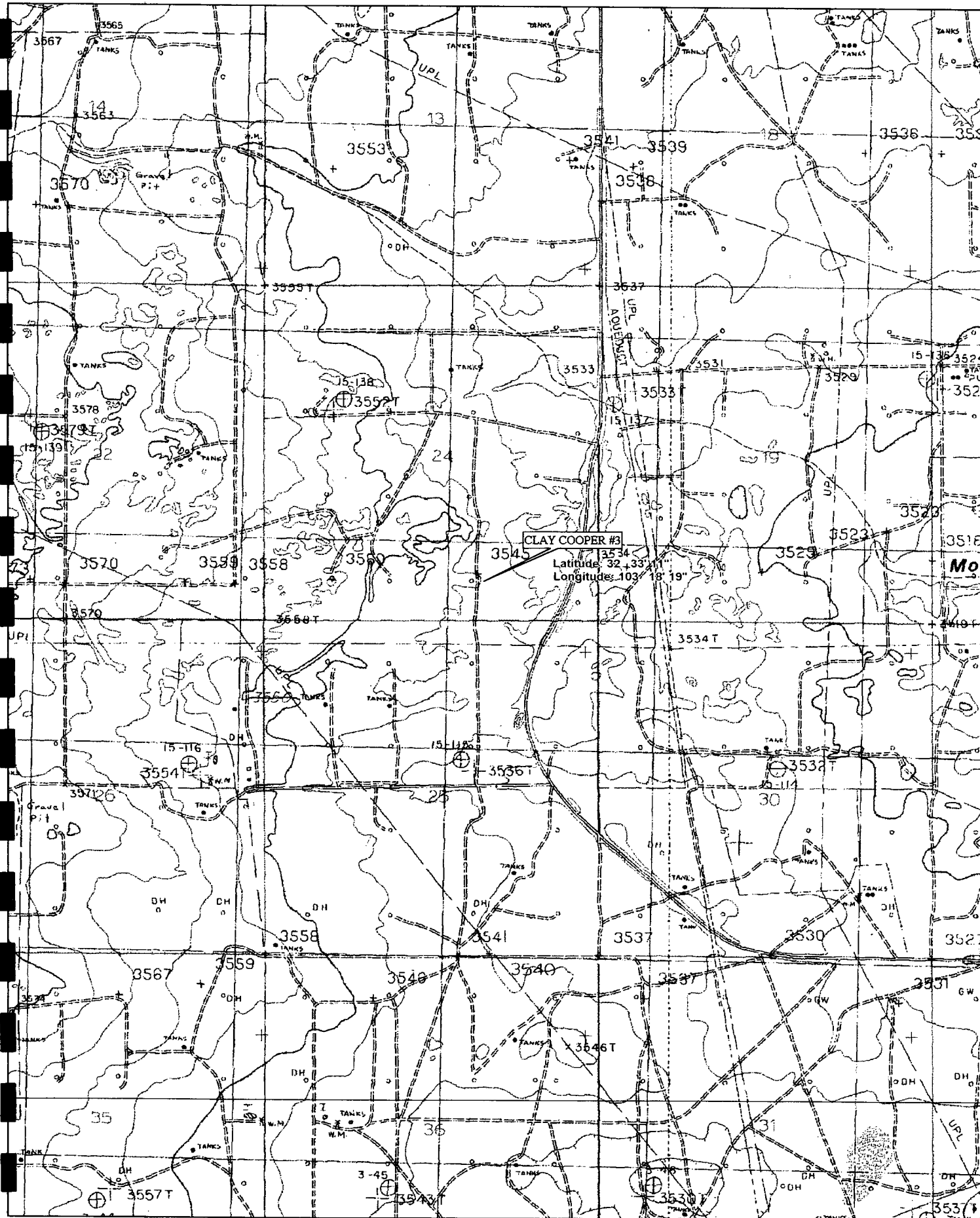
**SITE MAP**

**SITE DATA FORM**

**SUMMARY OF ANALYTICAL RESULTS**

**C-138, C-141, AND C-143 FORMS**

**PHOTODOCUMENTATION**



|   |                 |      |      |
|---|-----------------|------|------|
| A | Floor (24')     | < 10 | < 10 |
| B | N. Wall         | < 10 | < 10 |
| C | E. Wall         | < 10 | < 10 |
| D | S. Wall         | < 10 | < 10 |
| E | Floor (24')     | 274  | 702  |
| F | Floor (15')     | 493  | 1481 |
| G | Floor (20')     | 28   | 387  |
| H | Floor (27')     | 171  | 1310 |
| I | Floor (32.5')   | 1455 | 3753 |
| J | E. Wall (5')    | 1290 | 3871 |
| K | E. Wall (24')   | 1311 | 2695 |
| L | W. Wall (15')   | 1351 | 2833 |
| M | NW Floor (42')  | < 10 | < 10 |
| N | NE Floor (36')  | < 10 | < 10 |
| O | E. Wall (24')   | < 10 | < 10 |
| P | NW Wall (24')   | < 10 | < 10 |
| Q | W. Wall (15')   | 23   | 491  |
| R | NW Floor (38')  | < 10 | < 10 |
| S | NE Floor (36')  | < 10 | < 10 |
| T | SE Floor (25')  | < 10 | < 10 |
| U | SE Wall (20')   | < 10 | < 10 |
| V | SE Floor-2 (5') | < 10 | < 10 |
| W | SW Slope        | < 10 | < 10 |
| X | SE Slope        | < 10 | < 10 |
| Y | W wall (33')    | < 10 | < 10 |

Samples in red type indicate GRO  
and/or (DRO > 100 mg/kg)



Lease access road

Q (15')

F (15')  
G (20')  
H (27')  
Y (33')

L (15')

W (5-30')

M (42')

R (38')

P (24')

Former 12" Steel Pipeline

T (25')

X (0-20')

S (36')  
B (12')

A (24') J (5')  
K (24')

D (12')  
E (24')

V (5')

U (20')

O (24')

N (36')  
I (32.5')

C (12')



Trident Environmental

P. O. Box 7624  
Midland, Texas 79708

SITE: CLAY COOPER #3

LOCATION: UNIT O, SEC. 24, T20S, R36E

DATE: 5/8/01

DRN BY: GJV

APPROXIMATE SCALE: 1 INCH = 40 FEET

SITE MAP



## Site Data Form

TRW Technician: JMF/GJV Excavation Crew Names: Walton Construction Site ID: Clay Cooper # 3  
Site Location: Latitude 32° 33' 11" N Longitude 103° 18' 19" W County: Lea State: New Mexico  
Township 20 South Range 36 East Section 24 Unit O  
Begin Excavation (Date/Time) 03/6/01 Complete Excavation (Date/Time) 5/8/01

**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 Sandy silty clay at depth

**EXCAVATION DIMENSIONS** Length 220 feet Width 60 - 120 feet Average Depth ~20-33 feet Maximum Depth 42 feet

**VOLUME EXCAVATED:** 20,568 yd<sup>3</sup> **VOLUME HAULED TO LANDFARM:** 20,568 yd<sup>3</sup>

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

| Ltr              | Sample ID (Depth) | Sample Type | Sample Date | OVM (ppm) | GRO (mg/kg) | DRO (mg/kg) | Benzene (mg/kg) | BTEX (mg/kg) |
|------------------|-------------------|-------------|-------------|-----------|-------------|-------------|-----------------|--------------|
| A                | Floor (24')       | Comp        | 03-15-01    | 1.7       | < 10        | < 10        | NA              | NA           |
| B                | N. Wall           | Comp        | 03-15-01    | 1.7       | < 10        | < 10        | NA              | NA           |
| C                | E. Wall           | Comp        | 03-15-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| D                | S. Wall           | Comp        | 03-15-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| E                | Floor (24')       | Grab        | 03-15-01    | 172       | 274         | 702         | <0.100          | 7.06         |
| F                | Floor (15')       | Grab        | 03-23-01    | 177       | 493         | 1481        | NA              | NA           |
| G                | Floor (20')       | Grab        | 03-23-01    | 72        | 28          | 387         | NA              | NA           |
| H                | Floor (27')       | Grab        | 03-23-01    | 78        | 171         | 1310        | <0.025          | 0.505        |
| I                | Floor (32.5')     | Grab        | 03-27-01    | 79        | 1455        | 3753        | <0.100          | 39.5         |
| J                | E. Wall (5')      | Grab        | 03-27-01    | 86        | 1290        | 3871        | <0.100          | 29.2         |
| K                | E. Wall (24')     | Grab        | 03-27-01    | 100       | 1311        | 2695        | <0.025          | 34.5         |
| L                | W. Wall (15')     | Grab        | 03-27-01    | 150       | 1351        | 2833        | <0.050          | 39.9         |
| M                | NW Floor (42')    | Grab        | 04-09-01    | 0.6       | < 10        | < 10        | NA              | NA           |
| N                | NE Floor (36')    | Grab        | 04-09-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| O                | E. Wall (24')     | Comp        | 04-09-01    | 4         | < 10        | < 10        | NA              | NA           |
| P                | NW Wall (24')     | Comp        | 04-09-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| Q                | W. Wall (15')     | Comp        | 04-09-01    | 53        | 23          | 491         | <0.025          | 0.132        |
| R                | NW Floor (38')    | Comp        | 04-17-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| S                | NE Floor (36')    | Comp        | 04-17-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| T                | SE Floor (25')    | Comp        | 04-17-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| U                | SE Wall (20')     | Comp        | 04-17-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| V                | SE Floor-2 (5')   | Comp        | 04-17-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| W                | SW Slope          | Comp        | 04-19-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| X                | SE Slope          | Comp        | 04-19-01    | 0.1       | < 10        | < 10        | NA              | NA           |
| Y                | W. Wall (33')     | Grab        | 04-19-01    | 0.0       | < 10        | < 10        | NA              | NA           |
| NMOCD Guidelines |                   |             |             | 100       | 100         | 100         | 10              | 50           |

Samples in red type indicate concentrations above NMOCD guidelines. NA indicates sample was not analyzed for this constituent.

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<br>Duke Energy Field Services Inc. | Contact<br>Mr. Steve Weathers           |
| Address<br>P. O. Box 5493, Denver, Colorado 80217  | Telephone No.<br>(303) 605-1718         |
| Facility Name<br>(Site Name: CC #3)                | Facility Type<br>(Natural Gas Pipeline) |

|                                |                          |                   |
|--------------------------------|--------------------------|-------------------|
| Surface Owner<br>(Dale Cooper) | Mineral Owner<br>Unknown | Lease No.<br>EMSU |
|--------------------------------|--------------------------|-------------------|

LOCATION OF RELEASE

|                  |               |                 |              |                                                   |                                                  |               |
|------------------|---------------|-----------------|--------------|---------------------------------------------------|--------------------------------------------------|---------------|
| Unit Letter<br>O | Section<br>24 | Township<br>20S | Range<br>36E | Feet from the North/South Line<br>(32° 33' 11" N) | Feet from the East/West Line<br>(103° 18' 19" W) | County<br>Lea |
|------------------|---------------|-----------------|--------------|---------------------------------------------------|--------------------------------------------------|---------------|

NATURE OF RELEASE

|                                                                                                                                          |                                                      |                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------|
| Type of Release<br>Condensate                                                                                                            | Volume of Release<br>Unknown                         | Volume Recovered<br>61704<br>~20,568 yd <sup>3</sup> soil removed |
| Source of Release<br>Pipeline                                                                                                            | Date and Hour of Occurrence<br>Unknown               | Date and Hour of Discovery<br>Unknown                             |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?<br>Donna Williams, NMOCD District 1 |                                                                   |
| By Whom?<br>Steve Weathers                                                                                                               | Date and Hour                                        |                                                                   |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse.<br>N/A     |                                                                   |

If a Watercourse was Impacted, Describe Fully.\*

N/A

Describe Cause of Problem and Remedial Action Taken.\*

Historical condensate release caused by subsurface external corrosion. Pipeline replaced with 6" plastic line inserted into original 10" steel pipeline prior to initiation of over-excavation work. Removal of impacted soil requested by landowner (Clay Cooper).

Describe Area Affected and Cleanup Action Taken.\*

On 3/6/01 over-excavation was initiated. Excavation continued until 4/19/01 when total petroleum hydrocarbons on floor and walls were below 100 mg/kg. Final excavation dimensions were approx. 60 - 120 ft wide x 220 long x 20 - 42 ft deep. Approximately 20,568 cu yds of soil was transported to cells B-3, B-4, C-1 and C-2 at the South Monument Land Farm. Backfilling of excavation was completed on 5/8/01. 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.

OIL CONSERVATION DIVISION

Signature: 

Printed Name: Stephen Weathers

Approved by  
District Supervisor:

Title: Environmental Specialist

Approval Date:

Expiration Date:

Date: 11/1/01

Phone: (303) 605-1718

Conditions of Approval:

Attached ☐

\* Attach Additional Sheets If Necessary



District I - (505) 393-6161  
1625 N. French Dr  
Hobbs, NM 88240  
District II - (505) 748-1283  
811 S. First  
Artesia, 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):

Sec 24 T20S R36E Unit J  
Site Name: Clay Cooper #3

5. Destination (Surface Waste Management Facility):  
South Monument Landfarm (Permit NM-01-0032)

6. Transporter: Walton Construction

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)

☒ 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: 6/4/01

Print Name: Stephen W. Weathers

Title: Environmental Specialist

JUN 03 01 03:40P

Gilbert J. Van Beveren

313-002-0101

P. 1

District I  
1625 N French Dr., Hobbs, NM 88240  
District II  
811 North First, Artesia, NM 88210  
District III  
1000 Rio Bruzoo 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-138  
Revised March 17, 1999

Submit Original  
Plus 1 Copy  
to Appropriate  
District Office

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1. RCRA Exempt: <input checked="" type="checkbox"/> Non-Exempt: <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4. Generator: Duke Energy Field Svcs                                  |
| Verbal Approval Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5. Originating Site T20S R36E S24 Unit J<br>Site Name: Clay Cooper #3 |
| 2. Management Facility Destination: South Monumom Landform (NM-01-0032)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6. Transporter: Walton Construction                                   |
| 3. Address of Facility Operator: 834 West Cold, Hobbs, NM 88240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8. State: New Mexico                                                  |
| 7. Location of Material (Street Address or ULSIR): T20S R36E Sec24 Unit J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                       |
| <p>9. Circle One:</p> <p><input checked="" type="radio"/> A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.</p> <p><input type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.</p> <p>All transporters must certify the wastes delivered are only those assigned for transport.</p> |                                                                       |

#### BRIEF DESCRIPTION OF MATERIAL

Oilfield exempt waste (hydrocarbon-impacted soil generated from historic leak in natural gas pipeline)

Site Name: Clay Cooper #3

Estimated Volume 1000 cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

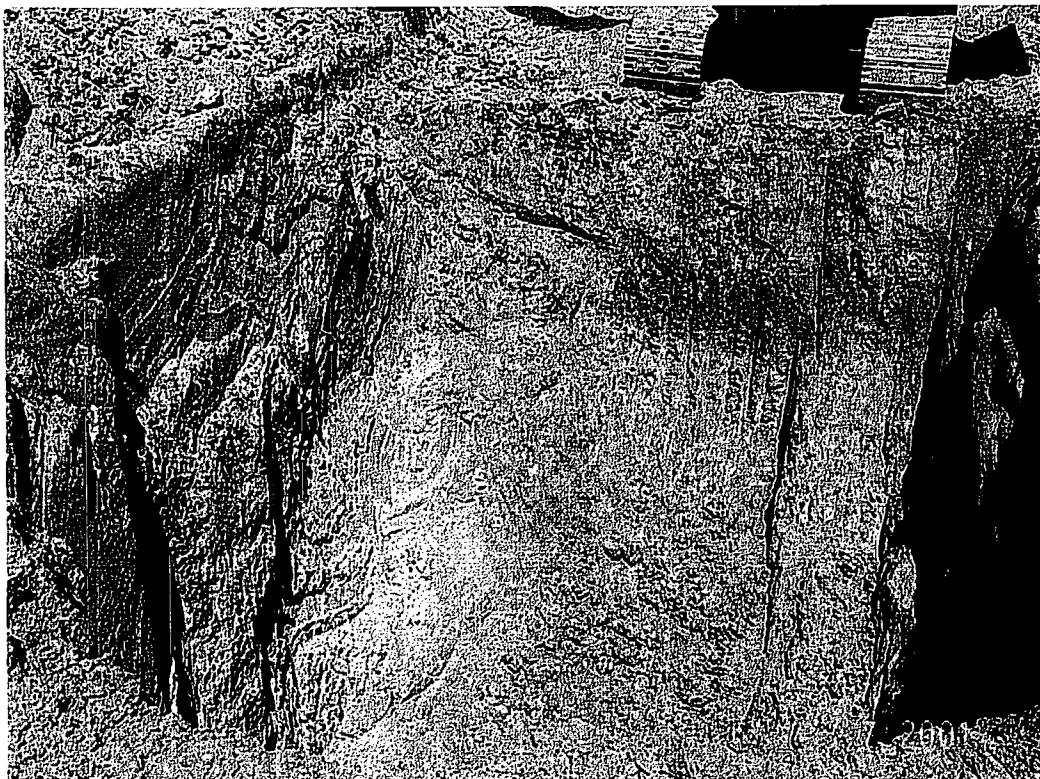
SIGNATURE [Signature] TITLE: Operator DATE: \_\_\_\_\_  
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Kenn Kay Cooper TELEPHONE NO. 505-393-3174

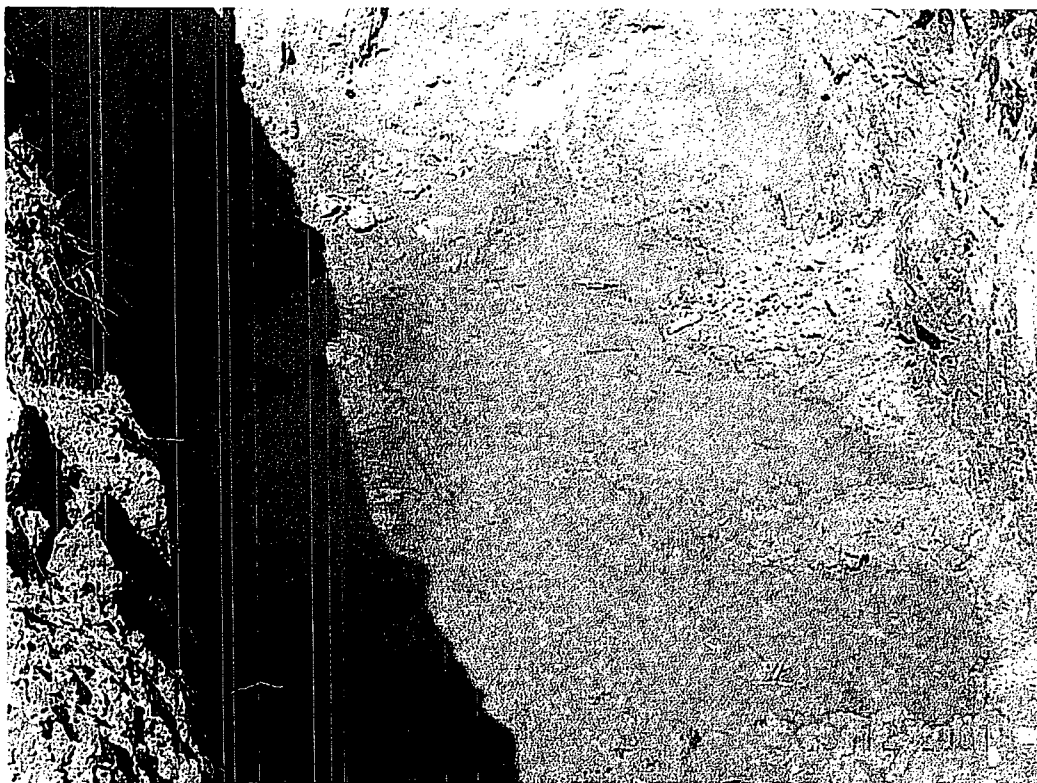
|                                 |                                      |                     |
|---------------------------------|--------------------------------------|---------------------|
| APPROVED BY: <u>[Signature]</u> | TITLE: <u>Environmental Engineer</u> | DATE: <u>6-5-01</u> |
| APPROVED BY: _____              | TITLE: _____                         | DATE: _____         |



CC3  
-852 View of 12" steel pipeline showing external corrosion and small hole. No other holes were observed but the pipeline had severe external corrosion (thin-walled) along it's entire length.



CC3  
-48 View showing hydrocarbon-stained floor and walls of initial excavation



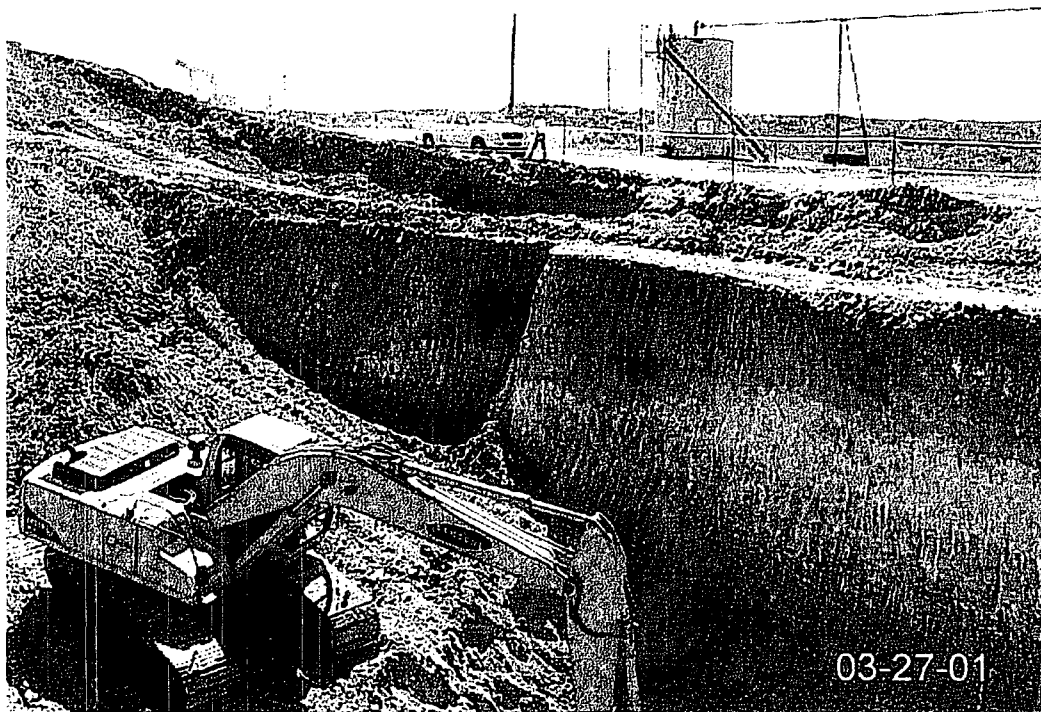
CC3  
-55

View showing light non-aqueous phase liquid (condensate)  
and rainwater at bottom of excavation



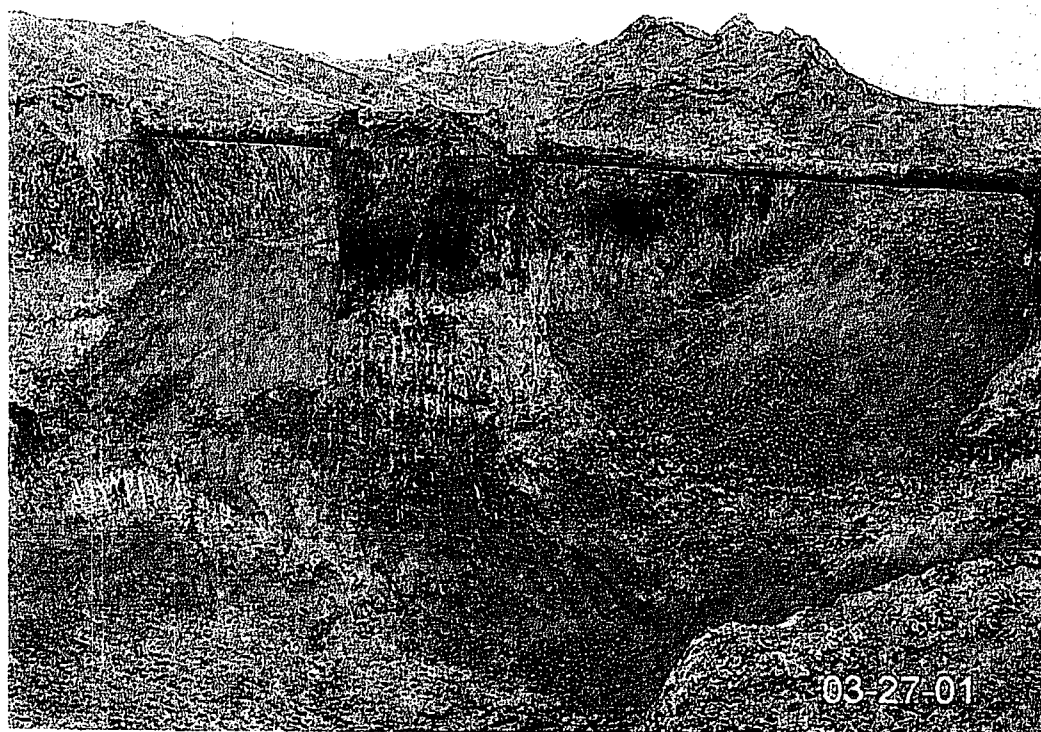
CC3  
-60

View facing east showing widespread hydrocarbon  
staining on walls and floor of excavation



CC3  
-80

View facing southwest showing west wall of excavation.  
Lease road and former Amoco produced water tank in background.



CC3  
-84

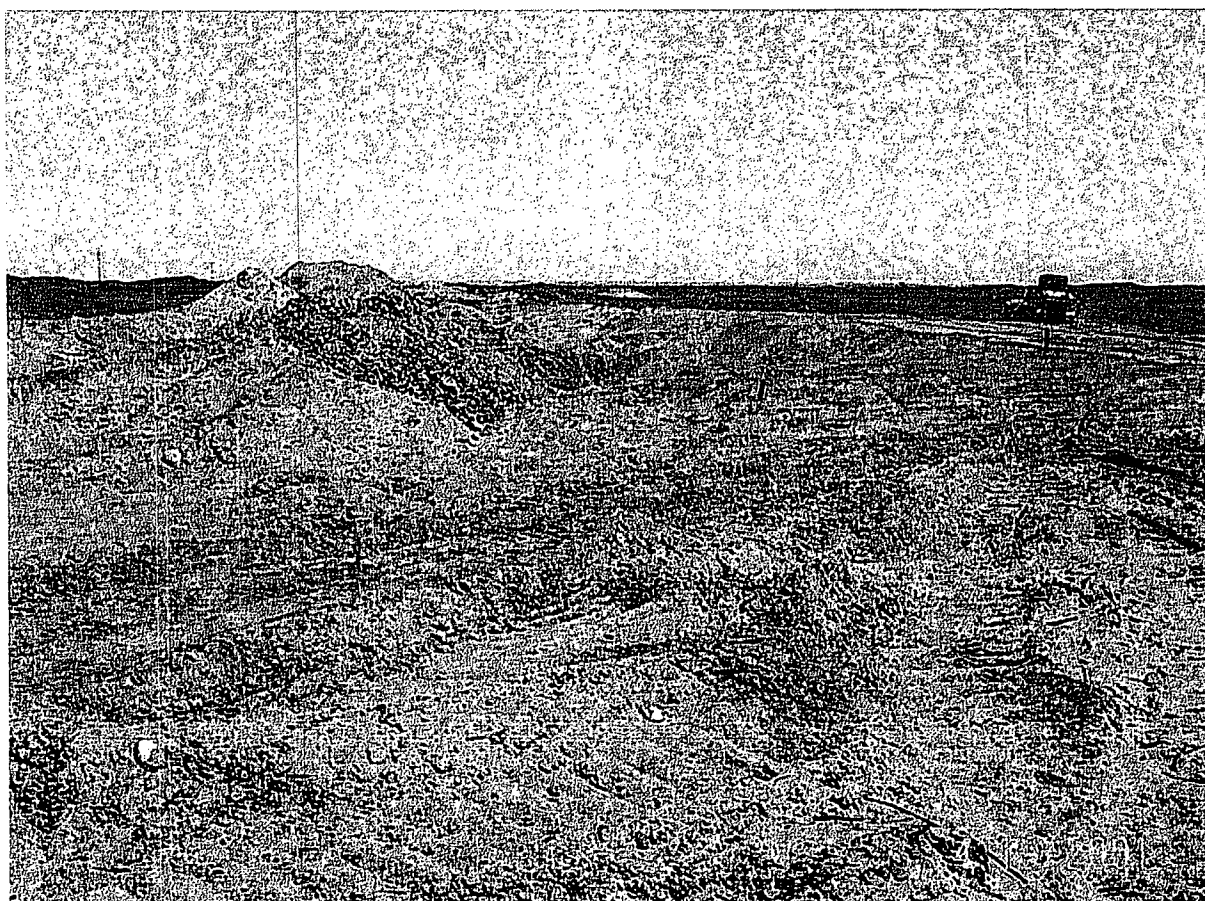
View facing northeast showing floor, north, and east walls.  
Dark hydrocarbon staining visible in top to bottom of pillar (center) and east wall.





CC3  
-870

View facing northeast showing complete excavation



CC3  
-872

View facing northeast showing backfilling and resurfacing of excavation

**ATTACHMENT B**

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

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TX. 79701  
FAX: 682-0028

Sample Type: Soil  
Sample Condition: Intact/ Iced/ 1 deg C  
Project #: P/6846/1C  
Project Name: Clay Cooper Site #3  
Project Location: Sec. 24, T20S, R36E, Unit J.

Sampling Date: 03/15/01  
Receiving Date: 03/15/01  
Analysis Date: 03/15/01

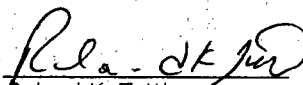
| ELT#  | FIELD CODE            | GRO             | DRO               |
|-------|-----------------------|-----------------|-------------------|
|       |                       | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 38237 | CC#3-A (Floor 24')    | <10             | <10               |
| 38238 | CC#3-B (N. Wall)      | <10             | <10               |
| 38239 | CC#3-C (E. Wall)      | <10             | <10               |
| 38240 | CC#3-D (S. Wall)      | <10             | <10               |
| 38241 | CC#3-Grab (Floor 24') | 274             | 702               |

% IA  
%EA  
BLANK

89  
92  
<10

112  
112  
<10

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

3-21-01  
Date



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

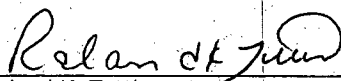
Sample Type: Soil  
Sample Condition: Intact/ Iced/ 1 deg. C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services Clay Cooper #3  
Project Location: Sec 24, T20S, R36E, Unit J

Sampling Date: 03/15/01  
Receiving Date: 03/15/01  
Analysis Date: 03/21/01

| ELT#  | FIELD CODE                          | BENZENE<br>mg/kg | TOLUENE<br>mg/kg | ETHYLBENZENE<br>mg/kg | m,p-XYLENE<br>mg/kg | o-XYLENE<br>mg/kg |
|-------|-------------------------------------|------------------|------------------|-----------------------|---------------------|-------------------|
| 38241 | CC#3-Grab (Floor 24')<br><i>don</i> | <0.100           | 0.998            | 1.03                  | 2.55                | 2.48              |

|       |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
| %IA   | 86     | 87     | 89     | 96     | 89     |
| %EA   | 92     | 94     | 97     | 103    | 97     |
| BLANK | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |

METHODS: EPA SW 846-8021B, 5030

  
Randal K. Tuttle

3-21-01  
Date



## Chain of Custody

Lab Name: Environmental Lab at Texas  
Address: 12600 W I-20 E.  
Odessa, TX 79763  
Telephone: 915-543-1800

# ENVIRONMENTAL LAB OF , Inc.

"Don't Treat Your Soil Like Dirt!"

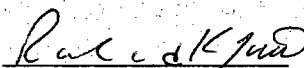
TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 915-682-0028

Sample Type: Soil  
Sample Condition: Intact/Iced/ 1 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services / Clay Cooper Site #3  
Project Location: Sec 24, T20S, R36E, Unit J

Sampling Date: 03/23/01  
Receiving Date: 03/23/01  
Analysis Date: 03/23/01

| ELT#  | FIELD CODE              | GRO             | DRO               |
|-------|-------------------------|-----------------|-------------------|
|       |                         | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 38410 | CC#3-F (Floor 15' Grab) | 493             | 1481              |
| 38411 | CC#3-G (Floor 20' Grab) | 28              | 387               |
| 38412 | CC#3-H (Floor 27' Grab) | 171             | 1310              |
| % IA  |                         | 93              | 111               |
| %EA   |                         | 103             | 114               |
| BLANK |                         | <10             | <10               |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

3-26-01  
Date

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

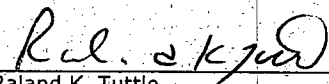
Sample Type: Soil  
Sample Condition: Intact/ Iced/ 1 deg. C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services/ Clay Cooper Site #3  
Project Location: Sec 24, T20S, R36E, Unit J

Sampling Date: 03/23/01  
Receiving Date: 03/23/01  
Analysis Date: 03/23/01

| ELT#  | FIELD CODE              | BENZENE<br>mg/kg | TOLUENE<br>mg/kg | ETHYLBENZENE<br>mg/kg | m,p-XYLENE<br>mg/kg | o-XYLENE<br>mg/kg |
|-------|-------------------------|------------------|------------------|-----------------------|---------------------|-------------------|
| 38412 | CC#3-H (Floor 27' Grab) | <0.025           | <0.025           | 0.121                 | 0.384               | <0.025            |

|       |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
| %IA   | 93     | 96     | 99     | 105    | 99     |
| %EA   | 88     | 90     | 92     | 97     | 93     |
| BLANK | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |

METHODS: EPA SW 846-8021B, 5030

  
Ral. K. Tuttle

3-26-01  
Date



## Chain of Custody

Date 3/23/01 Page 1 of 1

[illegible]

NEED BY 8 AM MONDAY

Distribution: White, Canary-Laboratory / Pink-TRW

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

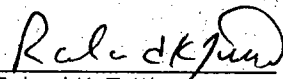
TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 915-682-0028

Sample Type: Soil  
Sample Condition: Intact/Iced/ 1 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services / Clay Cooper Cooper Site #3  
Project Location: Sec 24, T20S, R36E, Unit J

Sampling Date: 03/27/01  
Receiving Date: 03/27/01  
Analysis Date: 03/27/01

| ELT#  | FIELD CODE                | GRO             | DRO               |
|-------|---------------------------|-----------------|-------------------|
|       |                           | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 38555 | CC#3-I (Grab Floor 32.5') | 1455            | 3753              |
| 38556 | CC#3-J (Grab E. Wall 5')  | 1290            | 3871              |
| 38557 | CC#3-K (Grab E. Wall 24') | 1311            | 2695              |
| 38558 | CC#3-L (Grab W. Wall 15') | 1351            | 2833              |
|       |                           |                 |                   |
| % IA  |                           | 99              | 113               |
| %EA   |                           | 86              | 101               |
| BLANK |                           | <10             | <10               |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

3-28-01  
Date

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

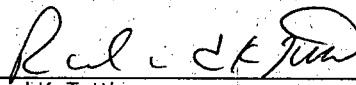
Sample Type: Soil  
Sample Condition: Intact/ Iced/ 1 deg. C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services, Clay Cooper Site #3  
Project Location: Sec 24, T20S, R36E, Unit J

Sampling Date: 03/27/01  
Receiving Date: 03/27/01  
Analysis Date: 03/29/01

| ELT#  | FIELD CODE                | BENZENE<br>mg/kg | TOLUENE<br>mg/kg | ETHYLBENZENE<br>mg/kg | m,p-XYLENE<br>mg/kg | o-XYLENE<br>mg/kg |
|-------|---------------------------|------------------|------------------|-----------------------|---------------------|-------------------|
| 38555 | CC#3-I (Grab Floor 32.5') | <0.100           | 12.5             | 3.74                  | 13.8                | 9.50              |
| 38556 | CC#3-J (Grab E. Wall 5')  | <0.100           | 6.22             | 3.52                  | 15.5                | 3.94              |
| 38557 | CC#3-K (Grab E. Wall 24') | <0.025           | 6.73             | 4.57                  | 20.9                | 2.29              |
| 38558 | CC#3-L (Grab W. Wall 15') | <0.050           | 9.23             | 5.44                  | 21.0                | 4.19              |

|       |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
| %IA   | 91     | 95     | 100    | 107    | 100    |
| %EA   | 85     | 87     | 92     | 98     | 94     |
| BLANK | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |

METHODS: EPA SW 846-8021B ,5030

  
Raland K. Tuttle

3-30-01  
Date

# Quantitation Report

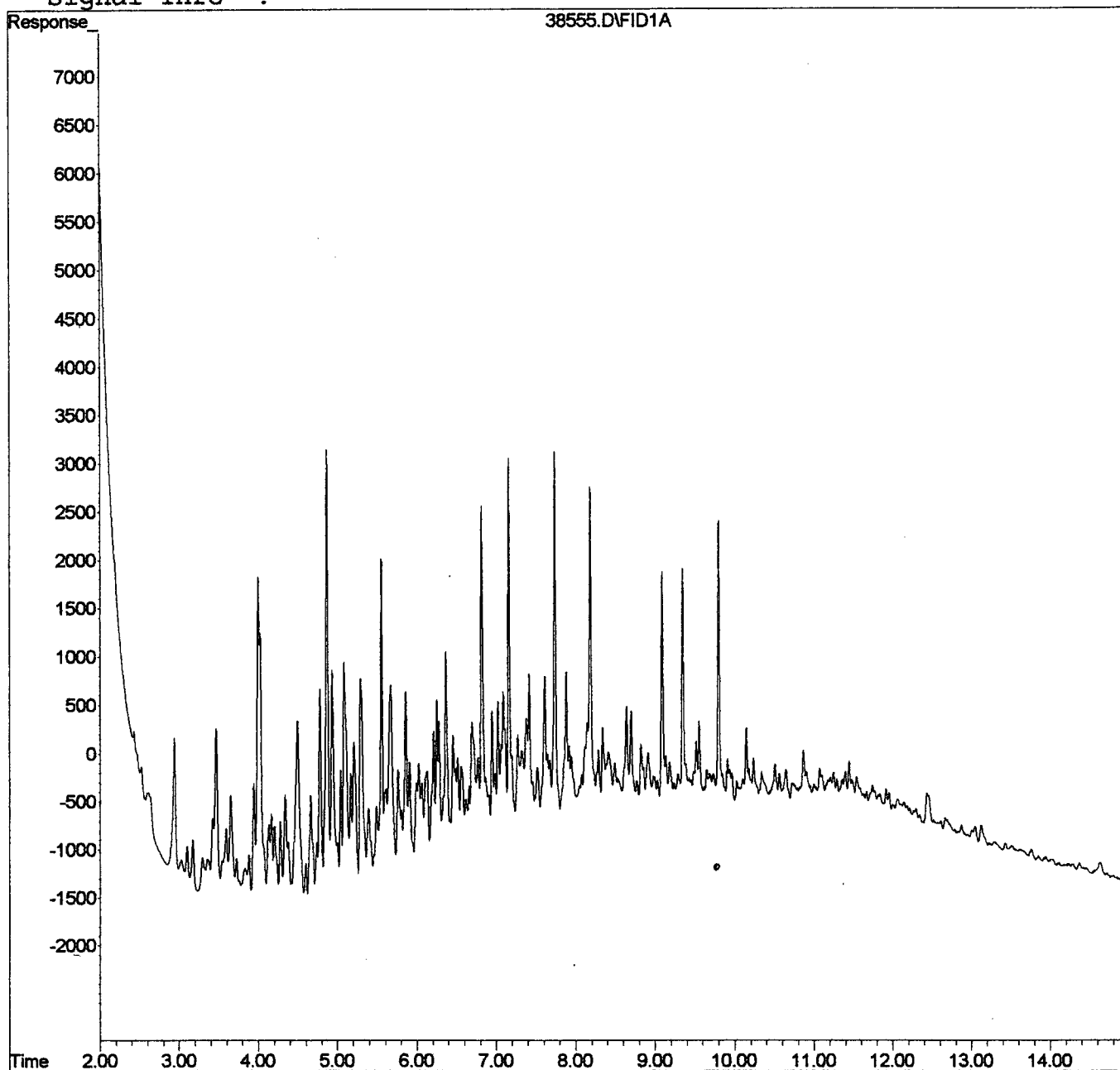
Data File : C:\HPCHEM\1\DATA\032701\38555.D  
Acq On : 27 Mar 2001 7:31 pm  
Sample : 8015 soil  
Misc :  
IntFile : autoint1.e  
Quant Time: Mar 27 19:57 2001 Quant Results File: 8015C.RES

Vial: 12  
Operator: ag  
Inst : GC/MS Ins  
Multiplr: 10.00

Quant Method : C:\HPCHEM\1\METHODS\8015C.M (Chemstation Integrator)  
Title :  
Last Update : Thu Mar 08 14:27:35 2001  
Response via : Multiple Level Calibration  
DataAcq Meth : 8015C.M

Volume Inj. :  
Signal Phase :  
Signal Info :

Sample ID: CC#3 - I (Grab Floor 32.5')





# Quantitation Report

Data File : C:\HPCHEM\1\DATA\032701\38556.D

Acq On : 27 Mar 2001 8:06 pm

Sample : 8015 soil

Misc :

IntFile : autoint1.e

Quant Time: Mar 27 20:32 2001 Quant Results File: 8015C.RES

Vial: 13

Operator: ag

Inst : GC/MS Ins

Multiplr: 10.00

Quant Method : C:\HPCHEM\1\METHODS\8015C.M (Chemstation Integrator)

Title :

Last Update : Thu Mar 08 14:27:35 2001

Response via : Multiple Level Calibration

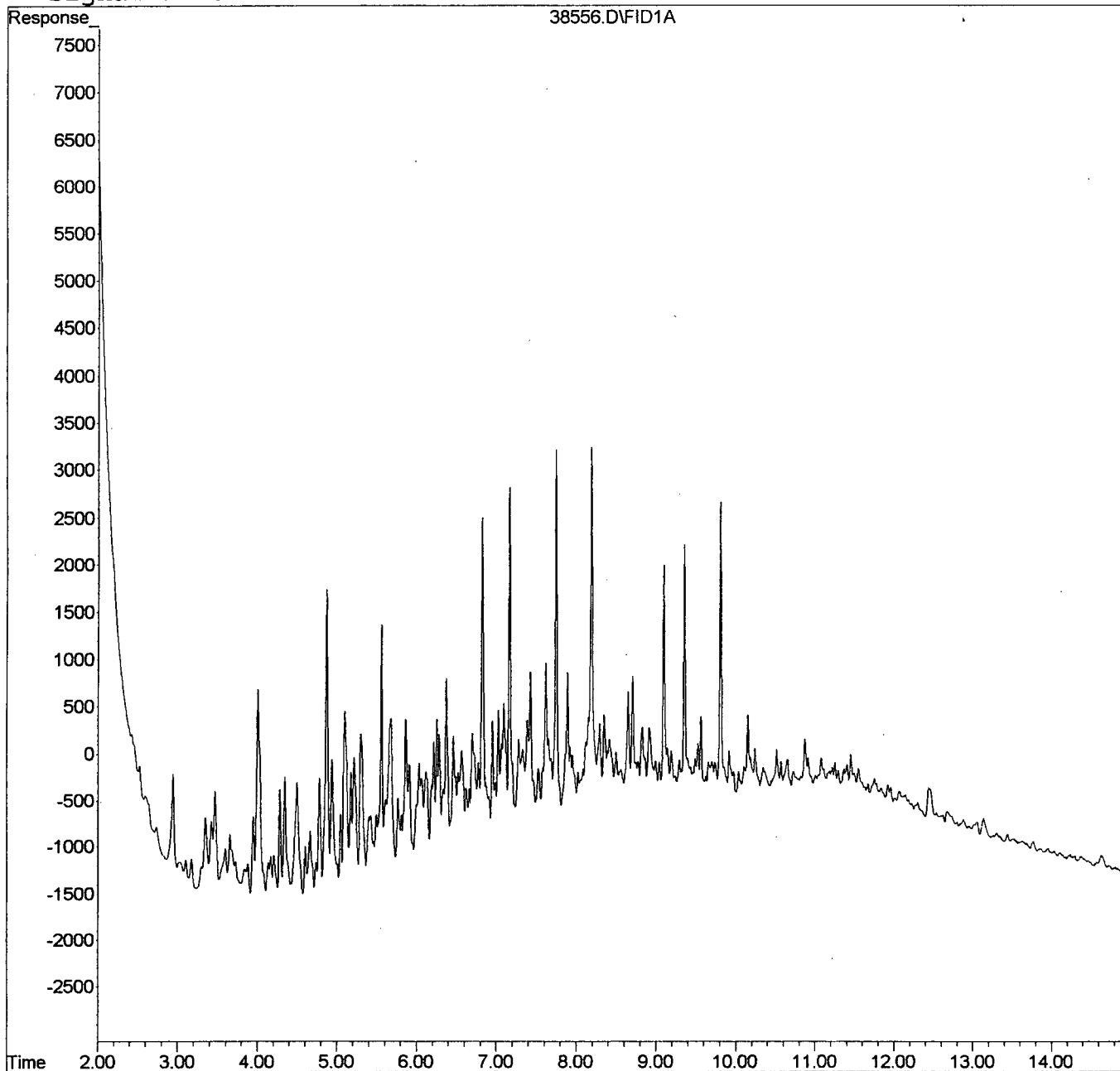
DataAcq Meth : 8015C.M

Volume Inj. :

Signal Phase :

Signal Info :

Sample ID: CC#3-J (Grab E. Wall 5')



# Quantitation Report

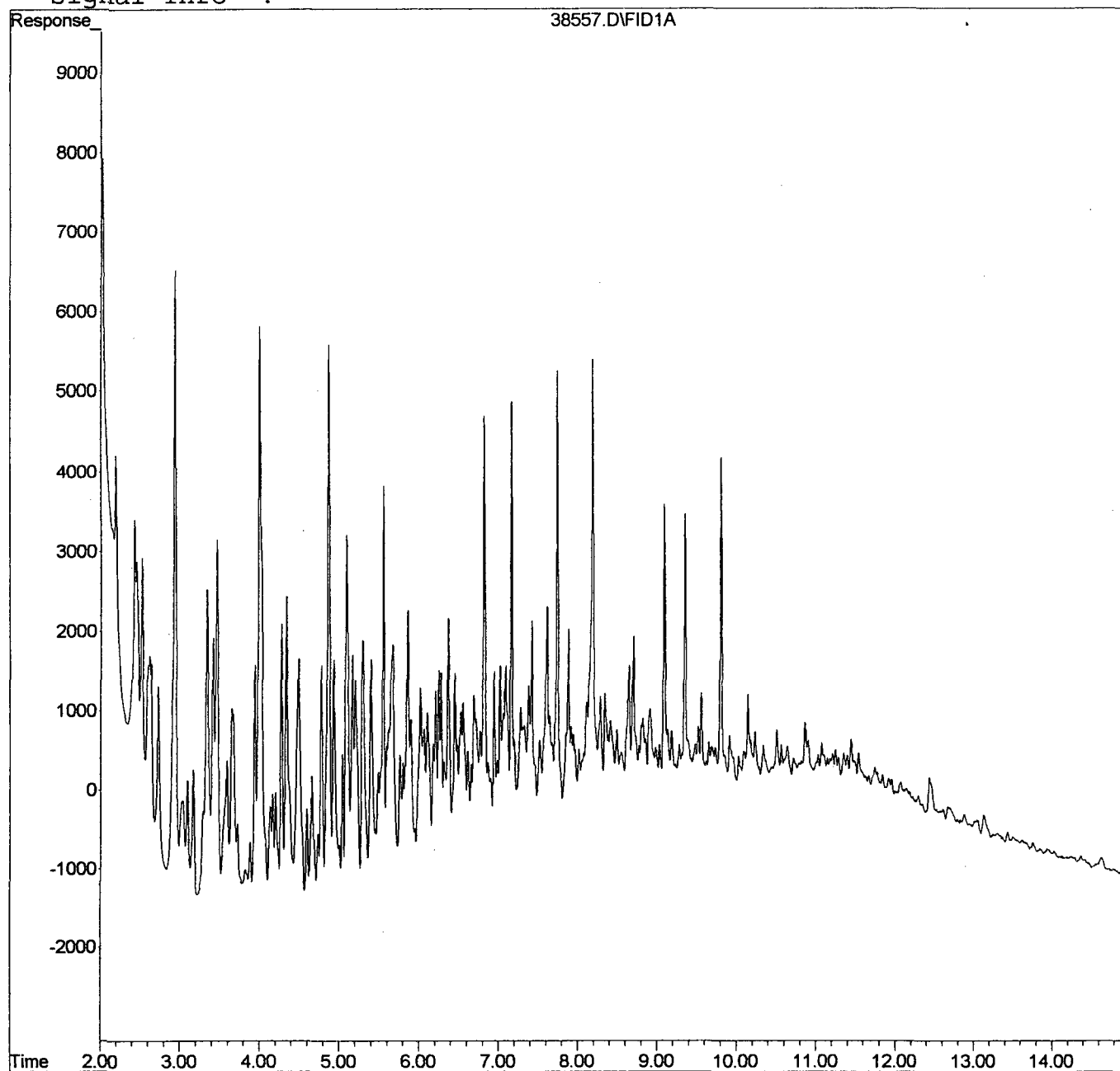
Data File : C:\HPCHEM\1\DATA\032701\38557.D  
Acq On : 27 Mar 2001 8:42 pm  
Sample : 8015 soil  
Misc :  
IntFile : autoint1.e  
Quant Time: Mar 27 21:07 2001 Quant Results File: 8015C.RES

Vial: 14  
Operator: ag  
Inst : GC/MS Ins  
Multiplr: 5.00

Quant Method : C:\HPCHEM\1\METHODS\8015C.M (Chemstation Integrator)  
Title :  
Last Update : Thu Mar 08 14:27:35 2001  
Response via : Multiple Level Calibration  
DataAcq Meth : 8015C.M

Volume Inj. :  
Signal Phase :  
Signal Info :

Sample ID : CC#3-K (Grab E. Wall 24')



# Quantitation Report

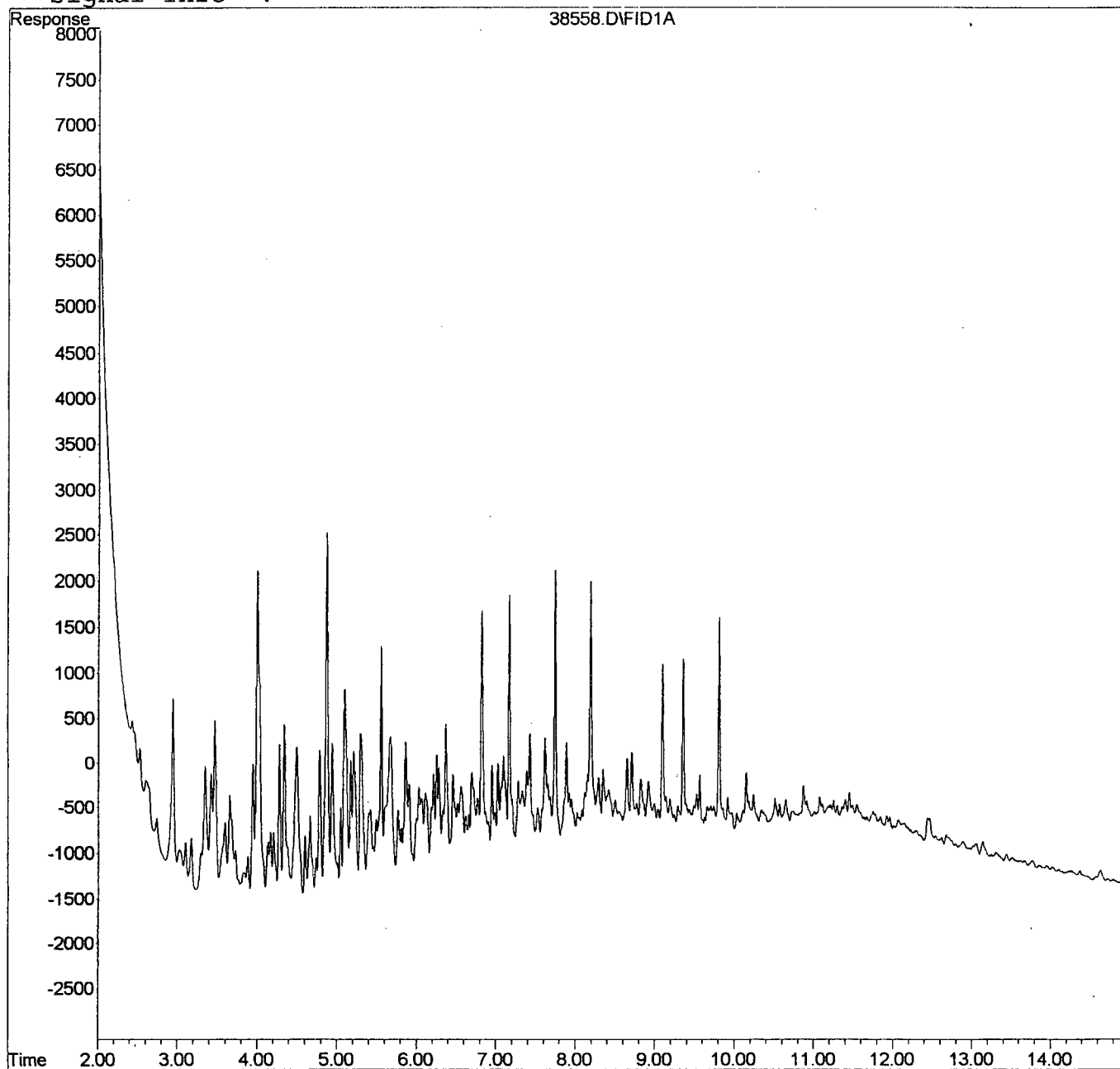
Data File : C:\HPCHEM\1\DATA\032701\38558.D  
Acq On : 27 Mar 2001 9:17 pm  
Sample : 8015 soil  
Misc :  
IntFile : autoint1.e  
Quant Time: Mar 27 21:43 2001 Quant Results File: 8015C.RES

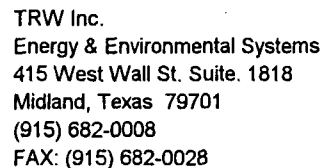
Vial: 15  
Operator: ag  
Inst : GC/MS Ins  
Multiplr: 10.00

Quant Method : C:\HPCHEM\1\METHODS\8015C.M (Chemstation Integrator)  
Title :  
Last Update : Thu Mar 08 14:27:35 2001  
Response via : Multiple Level Calibration  
DataAcq Meth : 8015C.M

Volume Inj. :  
Signal Phase :  
Signal Info :

Sample ID: CCH3-L (Grab W. Wall 15')





## Chain of Custody

Date 3/27/01 Page 1 of 1

[illegible]

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 W. WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

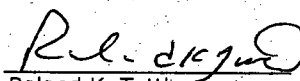
Sample Type: Soil  
Sample Condition: Intact/Iced/ 1.5 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services/ Clay Cooper #3  
Project Location: Unit

Sampling Date: 04/09/01  
Receiving Date: 04/09/01  
Analysis Date: 04/09/01

| ELT#  | FIELD CODE     | GRO             | DRO               |
|-------|----------------|-----------------|-------------------|
|       |                | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 39005 | M-NW Floor 42' | <10             | <10               |
| 39006 | N-NE Floor 36' | <10             | <10               |
| 39007 | O-E. Wall 24'  | <10             | <10               |
| 39008 | P-NW Wall 24'  | <10             | <10               |
| 39009 | Q-W. Wall 15'  | 23              | 491               |

|       |     |     |
|-------|-----|-----|
| % IA  | 89  | 113 |
| %EA   | 91  | 107 |
| BLANK | <10 | <10 |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

4-10-01  
Date

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 W. WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

Sample Type: Soil  
Sample Condition: Intact/ Iced/ 1.5 deg. C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services/ Clay Cooper #3  
Project Location: Unit

Sampling Date: 04/09/01  
Receiving Date: 04/09/01  
Analysis Date: 04/10/01

| ELT#  | FIELD CODE    | BENZENE<br>mg/kg | TOLUENE<br>mg/kg | ETHYLBENZENE<br>mg/kg | m,p-XYLENE<br>mg/kg | o-XYLENE<br>mg/kg |
|-------|---------------|------------------|------------------|-----------------------|---------------------|-------------------|
| 39009 | Q-W. Wall 15' | <0.025           | <0.025           | 0.029                 | 0.103               | <0.025            |

%IA  
%EA  
BLANK

101  
91  
<0.025

102  
92  
<0.025

105  
95  
<0.025

113  
102  
<0.025

105  
98  
<0.025

METHODS: EPA SW 846-8021B, 5030

Raland K. Tuttle  
Raland K. Tuttle

4-11-01  
Date



## Chain of Custody

Date 4-9-01 Page 1 of 1

[illegible]

\* RUSH BOLTS

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

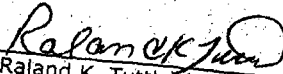
TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0008

Sample Type: Soil  
Sample Condition: Intact/Iced/ 2 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services/ Clay Cooper #3  
Project Location: T20S R36E Sec24 Unit J

Sampling Date: 04/17/01  
Receiving Date: 04/17/01  
Analysis Date: 04/17/01

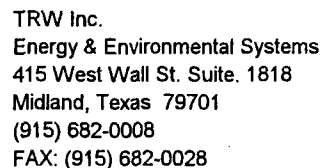
| ELT#  | FIELD CODE           | GRO<br>C6-C10<br>mg/kg | DRO<br>>C10-C28<br>mg/kg |
|-------|----------------------|------------------------|--------------------------|
| 39259 | CC#3-R-NW Floor 38'  | <10                    | <10                      |
| 39260 | CC#3-S-NE Floor 36'  | <10                    | <10                      |
| 39261 | CC#3-T-SE Floor 25'  | <10                    | <10                      |
| 39262 | CC#3-U-SE Wall 20'   | <10                    | <10                      |
| 39263 | CC#3-V-SE Floor-2 5' | <10                    | <10                      |
| % IA  |                      | 115                    | 107                      |
| %EA   |                      | 117                    | 98                       |
| BLANK |                      | <10                    | <10                      |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

4-18-01  
Date





RUSH

## Chain of Custody

Date 4-17-01 Page 1 of 1

[illegible]

Distribution: White, Canary-Laboratory / Pink-TRW

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

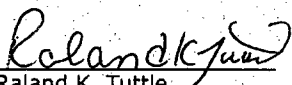
TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 W. WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

Sample Type: Soil  
Sample Condition: Intact/Iced/ -1.0 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services/ Clay Cooper #3  
Project Location: Sec 24, Unit J, T20S, R36E

Sampling Date: 04/19/01  
Receiving Date: 04/19/01  
Analysis Date: 04/19/01

| ELT#  | FIELD CODE             | GRO             | DRO               |
|-------|------------------------|-----------------|-------------------|
|       |                        | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 39434 | W-SW Slope             | <10             | <10               |
| 39435 | X-SE Slope             | <10             | <10               |
| 39436 | Y-West Wall (33') Grab | <10             | <10               |
| 39437 | Exc. Soil-2            | 263             | 1,185             |
| 39438 | Backfill-1             | <10             | <10               |
| 39439 | Backfill-2             | <10             | <10               |
| 39440 | Backfill-3             | <10             | <10               |
| % IA  |                        | 88              | 99                |
| %EA   |                        | 115             | 113               |
| BLANK |                        | <10             | <10               |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

4-20-01  
Date



Please  
RUSH

## Chain of Custody

Date 4-19-01 Page 1 of 1

[illegible]

80217

**Distribution:** White, Canary-Laboratory / Pink-TRW

# ENVIRONMENTAL LAB OF , Inc.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 915-682-0028

Sample Type: Soil  
Sample Condition: Intact/Iced/ -3.5 deg C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services / Clay Cooper Site #3  
Project Location: T20S, R36E, Sec 24 Unit J

Sampling Date: 03/12/01  
Receiving Date: 03/12/01  
Analysis Date: 03/12/01

| ELT#  | FIELD CODE                | GRO             | DRO               |
|-------|---------------------------|-----------------|-------------------|
|       |                           | C6-C10<br>mg/kg | >C10-C28<br>mg/kg |
| 38068 | CC#3- (Contaminated Soil) | 363             | 1117              |

|       |     |     |
|-------|-----|-----|
| % IA  | 82  | 117 |
| %EA   | 90  | 112 |
| BLANK | <10 | <10 |

Methods: EPA SW 846-8015M GRO/DRO

  
Raland K. Tuttle

3-13-01  
Date

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRW INC.  
ATTN: MR. GILBERT VAN DEVENTER  
415 WEST WALL ST., STE. 1818  
MIDLAND, TEXAS 79701  
FAX: 682-0028

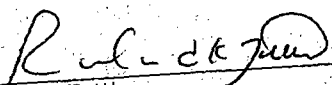
Sampling Date: 03/12/01  
Receiving Date: 03/12/01  
Analysis Date: 03/21/01

Sample Type: Soil  
Sample Condition: Intact/ Iced/ -3.5 deg. C  
Project #: P/6846/1C  
Project Name: Duke Energy Field Services Clay Cooper #3  
Project Location: T20S, R36E, Sec 24, Unit S

| ELT#  | FIELD CODE                | BENZENE<br>mg/kg | TOLUENE<br>mg/kg | ETHYLBENZENE<br>mg/kg | m,p-XYLENE<br>mg/kg | o-XYLENE<br>mg/kg |
|-------|---------------------------|------------------|------------------|-----------------------|---------------------|-------------------|
| 38068 | CC#3- (Contaminated Soil) | <0.200           | 0.980            | 0.573                 | 4.54                | 1.68              |

|       |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
| %IA   | 86     | 87     | 89     | 96     | 89     |
| %EA   | 92     | 94     | 97     | 103    | 97     |
| BLANK | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |

METHODS: EPA SW 846-8021B, 5030

  
Raland K. Tuttle

3-21-01  
Date



TRW Inc.  
Energy & Environmental Systems  
415 West Wall St. Suite. 1818  
Midland, Texas 79701  
(915) 682-0008  
FAX: (915) 682-0028

No 13631

## Chain of Custody

Date 3/12/01 Page 1 of 1

Lab Name: Environmental Lab of Texas  
Address: 12600 West I-20 East  
Odessa, Texas 79763  
Telephone: 915-563-1800

### Analysis Request

Samplers (SIGNATURES)

Sample Identification

Matrix

Date

Time

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

CC#3 - (Contaminated Soil)    Soil    3/12/01    1330

✓

✓

380681

### Project Information

### Sample Receipt

Relinquished By: (1)

Relinquished By: (2)

Relinquished By: (3)

Project Name: Duke Energy Field Services  
Clay Cooper Site #3

Total Containers:

John Ferguson 1705  
(Signature) (Time)

(Signature) (Time)

(Signature) (Time)

Project Location: T205 R36E Sec 24 Unit 1

COC Seals:

John Ferguson 3/12/01  
(Printed Name) (Date)

(Printed Name) (Date)

(Printed Name) (Date)

Project Manager: Gil Van Deren

Rec'd Good Cond/Cold: -358

TRW Inc  
(Company)

(Company)

(Company)

Cost Center No.: P/6846/IC

Conforms to Records:

(Company)

(Company)

(Company)

Shipping ID No.:

Lab No.:

Received By: (1)

Received By: (2)

Received By: (3)

P O No.:

Shanne McMuray 1705  
(Signature) (Time)

(Signature) (Time)

(Signature) (Time)

Special Instructions/Comments: Invoice Direct To: Duke Energy

Shanne McMuray 3/12/01  
(Printed Name) (Date)

(Printed Name) (Date)

(Printed Name) (Date)

Field Services  
Attn: Steve Weathers

Environmental Lab of TX  
(Company)

(Company)

(Company)

P.O. Box 5493, Denver, CO 80217

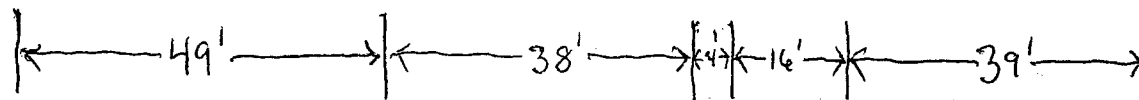
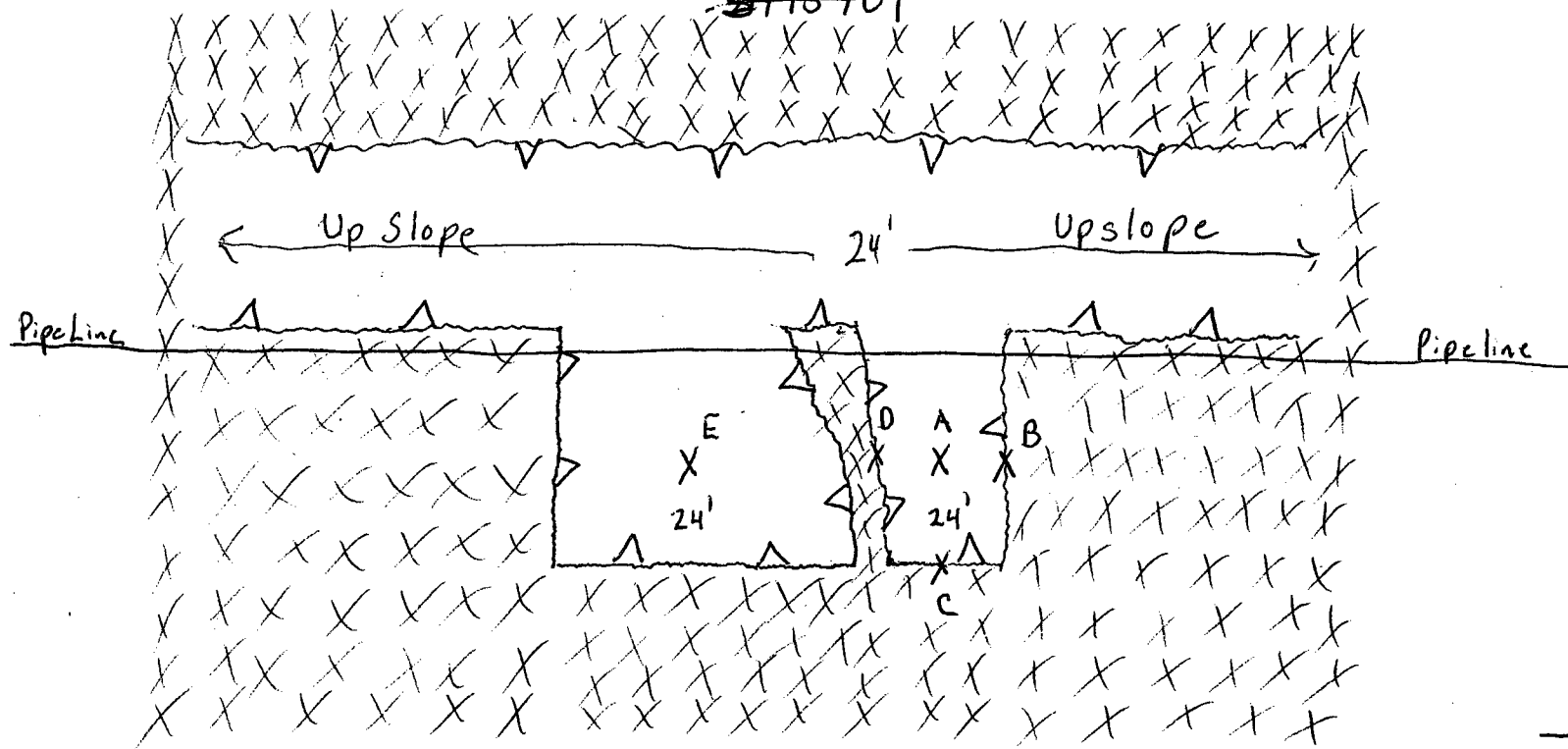
**RUSH**

**ATTACHMENT C**

**FIELD BOOK NOTES**

# Clay Cooper Site #3

~~3/15/01~~





3/23/01

Sample Location Desc Letter Depth Time PID  
 5 Wall Camp X - 1130 0.9

\* No Trucking Activity + Very Little  
 Excavation Activity Took Place Today

1155 Left Location For CC#3 Site

1200 Arrive CC#3 Site

Objective: Same

Equipment: Same

Weather: Same

Personnel: John Ferguson - TRW

- Walton - 4 men on location

- Excavation + Trucking of Contaminated  
 Soil in Progress Upon Arrival

- Excavation on West Side of Pipeline  
 Has Widened to 50', and Has a Depth  
 of 27' (Northwest Corner of Excavation)

\* Some Concern Over Tank Located West of  
 Lease Road May Have Caused or  
 Contributed to Contamination

- Observations: ① Encrusted Soil to West  
 + NW of Tank, ② No Clamps Have Been  
 Located on Pipeline, ③ Heavy Black Stain  
 Just Beneath Pipeline w/ Strong Odor +  
 Green Stain w/ Strong Odor @ Western  
 Margin of Excavation

3/23/01

- Had Walton Make Small Excavation  
 ≈ 7 Feet From East Edge of Lease  
 Road.

- Dark Green Stain Seen in Soil
- Collected Floor (Grab) Sample @ 15'
- Collected Floor (Grab) Sample @ 20'
- Sample Collected @ 15' Contained  
 Dark Green Staining + Strong <sup>Hydrocarbon</sup> Odor  
 in Matrix. Sample Collected @ 20'  
 Contained Partially Stained Soil +  
 Good-Strong Hydrocarbon Odor in  
 Matrix.

### Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| 15' Floor       | Grab | F      | 15'   | 1330 | 177 |
| Floor           | Grab | G      | 20'   | 1346 | 72  |
| Floor           | Grab | H      | 27'   | 1350 | 78  |

1400 Left Location For Analytical  
 Lab

1530 Arrive Analytical Lab

1600 Arrive Midland

Drive Time = 3.0 Hours

Labor Time = 4.0 Hours

3/27/00

~~1110 Left CC#3 for CC#3~~

1115 Arrive CC#3 Site

- Walton Pushing Contaminated Soil From Excavation on West Side of Pipeline. Deepest Depth To Date is  $\approx 32.5-33'$  (NW Corner of Excavation on West Side of Pipeline)

- Contaminated Soil Being Hauled to Landfarm Upon Arrival

- ~~Contamination From Clean Soil Pile~~ Located @ NW Corner of Excavation Has Been Contaminated From Leak Caused by Walton Running Over Duke's Pipeline. Roy (Walton) said He contacted Duke. He Tried Getting In Touch w/ Robbie Ward + Paul Mulkey But Could Not Contact Them. Finally, contacted Linam Ranch Plant Jay Miller (Duke) Investigated The Leak + Quizzed Operator Who Hit The Pipeline. Roy Said He Called Steve Weathers But Could Not Get In Touch With Him. Contacted Kenna Kay Cooper. She Said They Would Inform Steve When They Talked

JMF

3/27/01

- to Him

Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| Floor           | Grab | I      | 32.5' | 1510 | 79  |
| E. Wall         | Grab | J      | 5'    | 1520 | 86  |
| E. Wall         | Grab | K      | 23'   | 1530 | 100 |
| W. Wall         | Grab | L      | 15'   | 1540 | 150 |

- Collected Samples So GRO/DRO Ratios + BTEX For Correlation Purposes. Have Also Collected Duplicate Samples For Fingerprinting If Needed

- Collected Sample of Soil Contaminated From Leak Caused By Walton

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| Surface         | Grab | M      | 0     | 1550 | -   |

- Have Sample Ready For BTEX/GRO/DRO / Fingerprinting if Needed

~~1550 Left CC#3 for JC#3~~

~~1555 Arrive JC#3~~

~~Sample Collection~~

| Sample Location   | Desc | Letter | Depth | Time | PID |
|-------------------|------|--------|-------|------|-----|
| Contaminated Soil | Comp | -      | -     | 1555 | -   |

~~- Discussed Excavation Activity w/ Billy (Allstate)~~

JMF

4/4/01

- Exposed Contaminated Areas
- Collect Grab Samples From Each Area

### Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID  |
|-----------------|------|--------|-------|------|------|
| Floor           | Grab | A      | 5'    | 1210 | 0.01 |
| Floor           | Grab | B      | 6'    | 1220 | 0.02 |

1240 Left Location For Lunch

1240-1340 Lunch

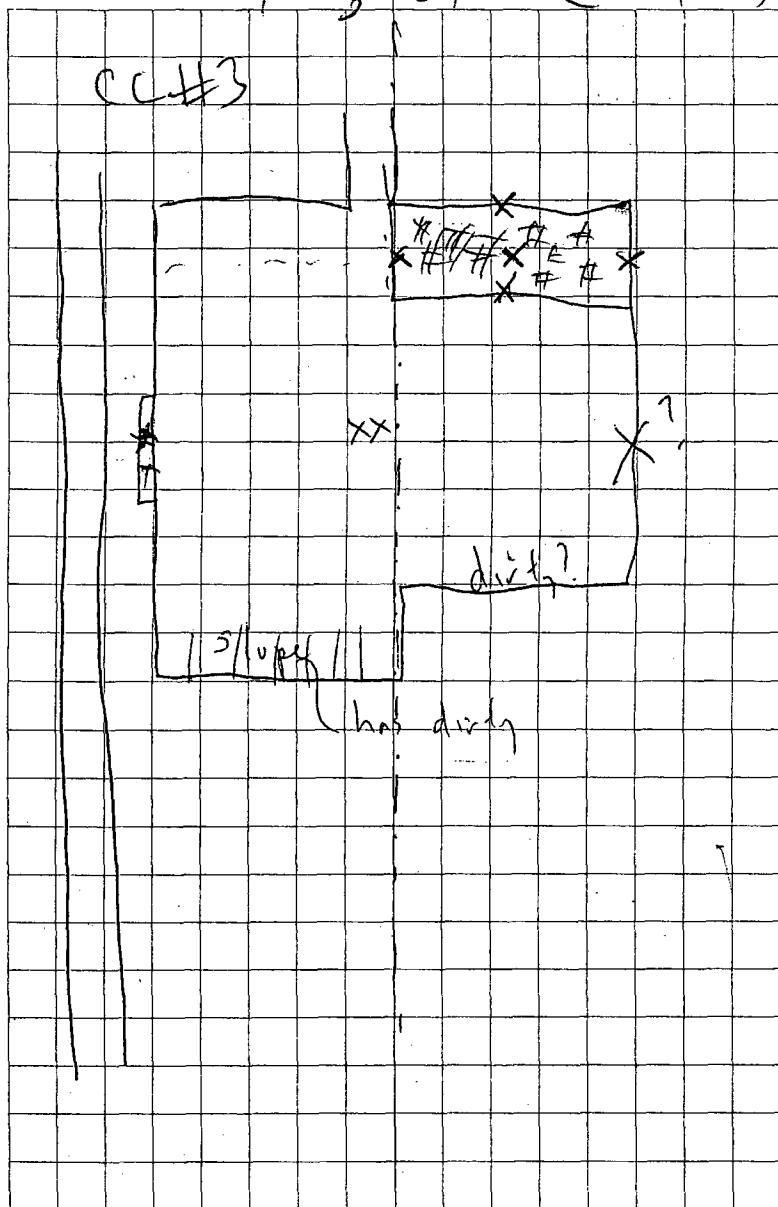
Travel Time = 1.5 Hours (TRW)

Labor = 5 Hours (Trident)

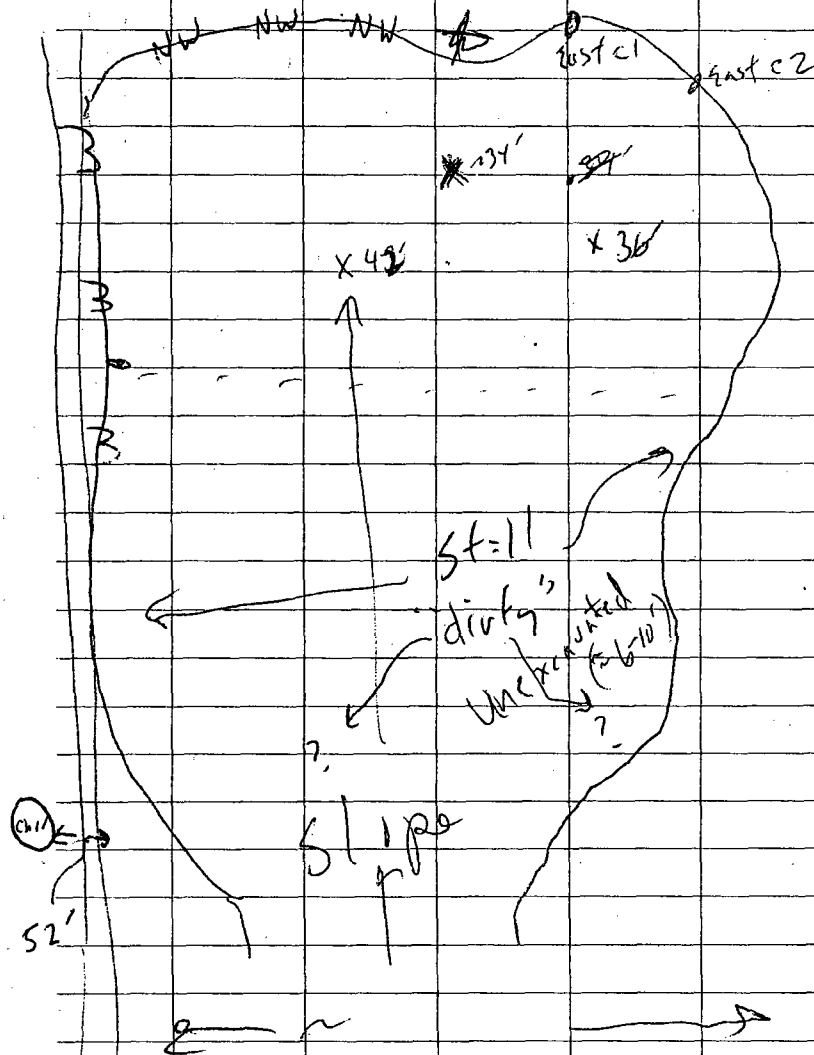
JMF

4-5-01 CCH3

CCH3



4-9-01  
CCH3



4-9-01

CCH3

# Sample Log

| Sample ID                   | Time | OVM |
|-----------------------------|------|-----|
| M - NW Floor (42')          | 6:46 | 0.6 |
| N - NE Floor 36'            | 6:46 | 0   |
| O - East Wall Composite 24' |      | 4   |
| P - NW Wall Comp 24'        |      | 0   |
| Q - W Wall Comp 15'         |      | 53  |

## Equipment

- John Deere 544M Loader
- 2 - 12/14 70" dump trucks
- 1 - Samsung SE210 LC3 trackhoe Mole
- 1 - Cat D6 dozer (Ray)

## Photo Log

- View facing north
- View facing west
- South
- east

Chevron AST (has water only)  
View from SW showing Chev AST & site



4-13-01 CCH3

Crew did not work today

Load count per Roy 4/16/01

4/12 (12 yd<sup>3</sup>/load)

4/11

4/10

Contaminated soil hauled to Cell #

| Date | loads | cell/H               | Date | loads | Cell/#              |
|------|-------|----------------------|------|-------|---------------------|
| 3-12 | 40    | C1                   | 4-2  | 96    | ↑ 522 loads         |
| 3-13 | 78    | ↓                    | 4-3  | 97    | 626 yd <sup>3</sup> |
| 3-16 | 50    | 331 loads            | 4-4  | 38    | 626 yd <sup>3</sup> |
| 3-19 | 45    | 3972 yd <sup>3</sup> | 4-5  | 62    | B3                  |
| 3-20 | 55    | ↑                    | 4-9  | 45    | B4                  |
| 3-21 | 63    | C1                   | 4-10 | 154   | ↓                   |
| 3-22 | 9     | C2                   | 4-11 | 156   | ↓                   |
| 3-23 | 35    | 128 loads            | 4-12 | 41    | ↓                   |
| 3-26 | 61    | 1536 yd <sup>3</sup> | 4-16 | 62    | 323                 |
| 3-27 | 23    | C2                   | 4-17 |       |                     |
| 3-28 | 67    | B3                   |      |       |                     |
| 3-29 | 66    | ↑                    |      |       |                     |
| 3-30 | 95    | ↑                    |      |       |                     |
|      |       |                      |      | 3972  | 331                 |
|      |       |                      |      | 1536  | 128                 |
|      |       |                      |      | 6264  | 522                 |
|      |       |                      |      |       | 415                 |

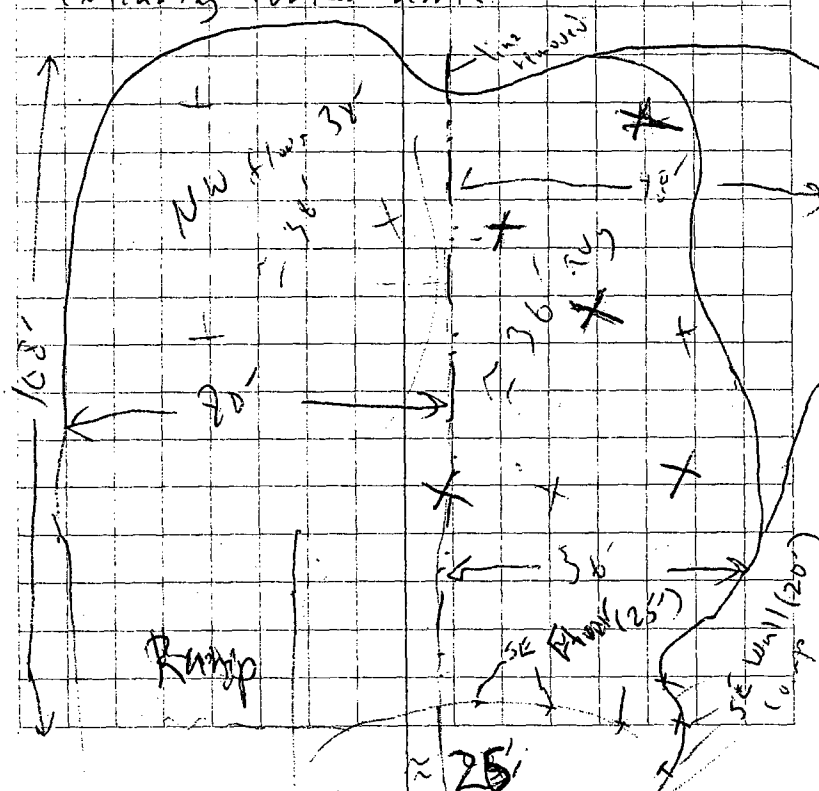
4-17-01 CCH3

Old unwrapped spiral welded 12" steel pipeline

54.5 pieces x 5.5 ft/piece = 300 ft

125'10" (Run)

22.5 pieces x 5.5 ft/piece = 124 ft from north end of steel line before it flared to 82 ft of 8" poly line extending further north



4-17-01

CC#3

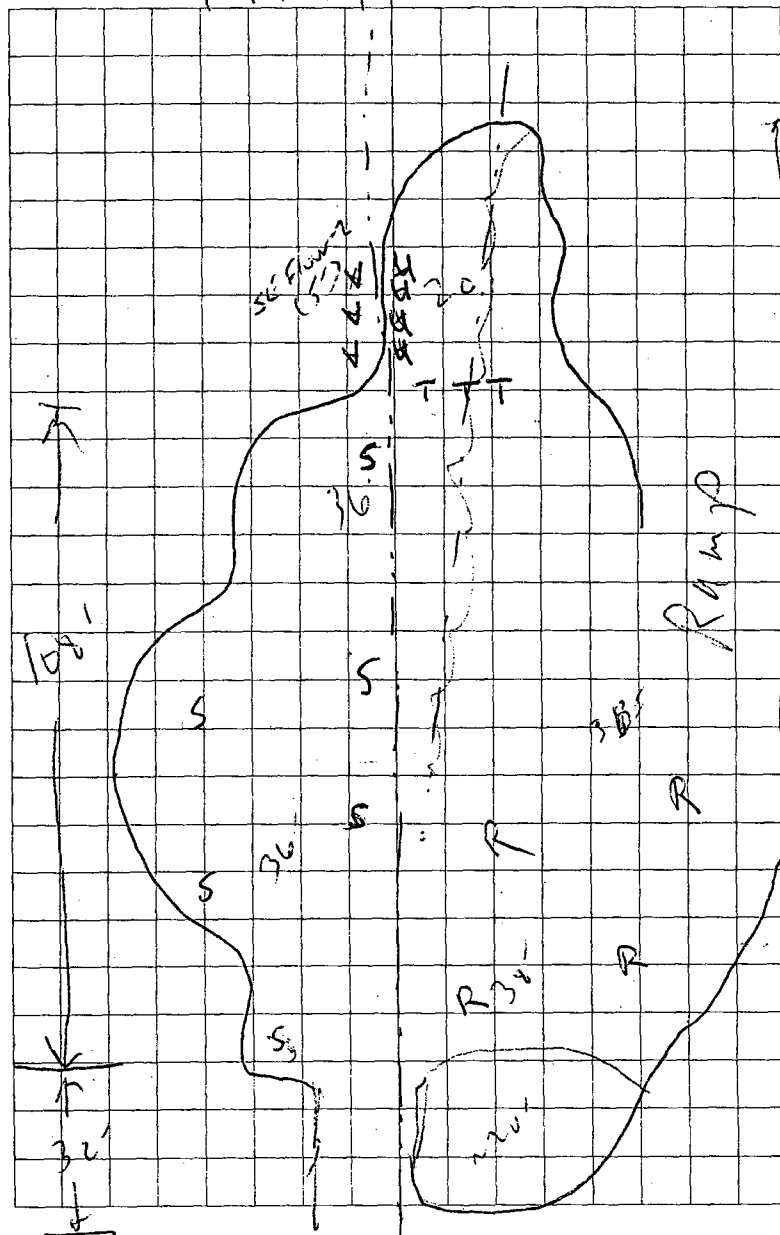
On site at 0800 MST Inspected  
steel line removal & obtained photo  
of external corrosion point midway  
in line.  $26' + 82' = 208'$  south of end of line

Collected two composite floor-  
samples at north end of  
excavation - SE floor & wall

| Sample ID           | Time                             | OVM |
|---------------------|----------------------------------|-----|
| R-NW Floor (35')    | 3 1000                           | 0   |
| S-NE Floor (36')    | 5 1030                           | 0   |
| T-SE Floor (25')    | 3 1040                           | 0   |
| U-SE Wall (20')     | 5 1050                           | 0   |
| V-SE Floor-2 (5')   | Grab 1105                        | 0   |
| 0-10'               | lt brown-reddish silty fine sand |     |
| 10-15' (to 20')     | olive green clayey fine sand     |     |
| 15' (to 20') to 25' | reddish clayey silt              |     |
| 25' - 35'           | fine lt brown/reddish fine sand  |     |

4-17-01

CC#13



4-19-01

Clay Cooper #3

On site @ 0900 MST

Walton Construction crew performing the following tasks upon arrival:

Loading two end dumps w/ 544H loader

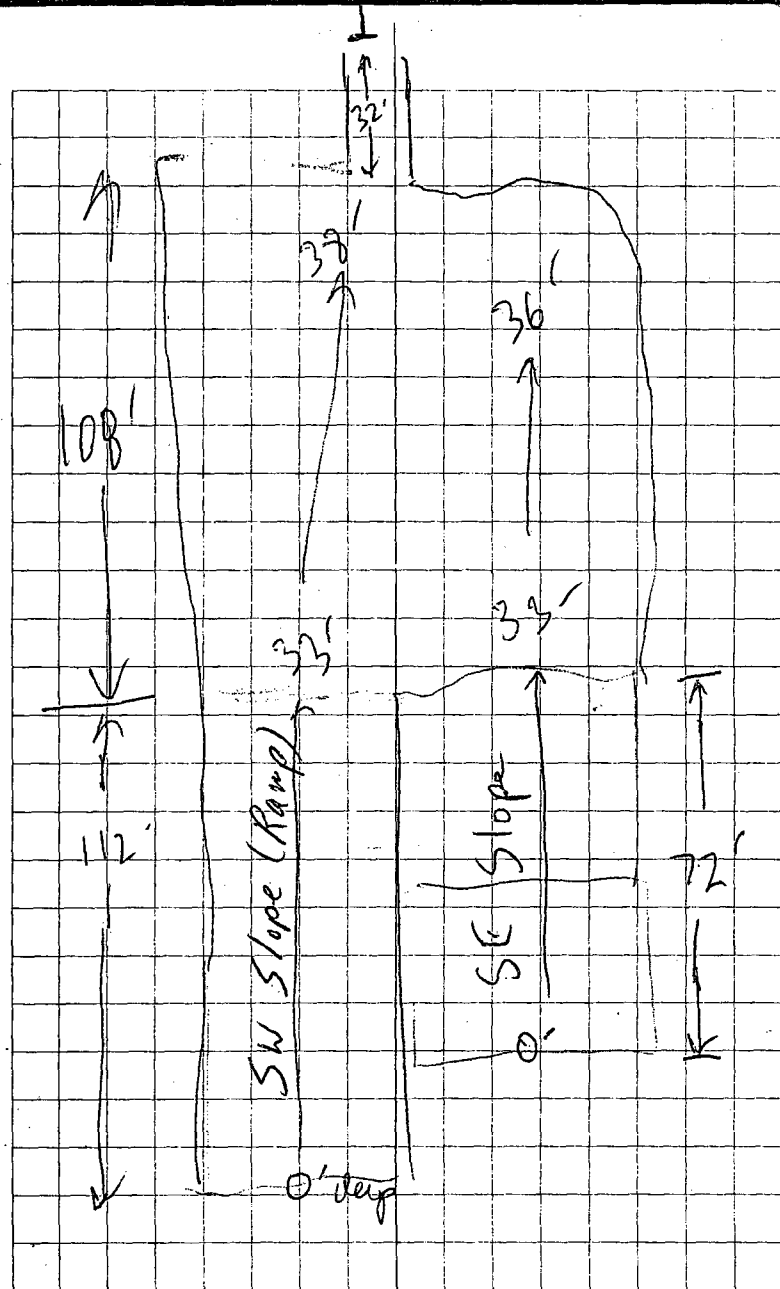
Db John Deere dozer 850C moving contaminated soil to main pile for hauling off. #

Roy & Mike not present

Dozer operator also using trackline to break down waste pile for easier access by loader.

Took photos of ~~north~~ south end of excavation, small area at extreme north end where Walton puncture line (~2 weeks ago), and loaded end dumps.

Loader puts ~3-4 full or heaping buckets per loader

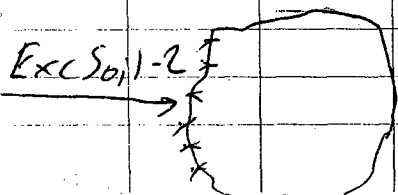
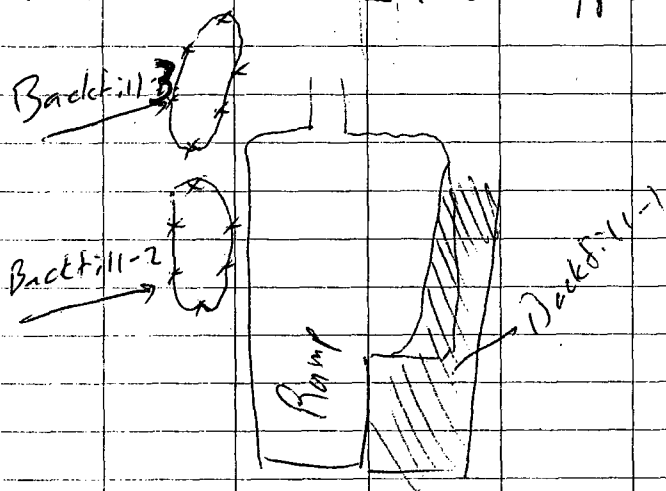


4-19-01

CC# 3

Samples collected from following areas:

|                   | Time | OVM     |
|-------------------|------|---------|
| W-SW-Slope        | 0940 | 0 ppm   |
| X-SE-Slope        | 1000 | 0.1 ppm |
| Y-West Wall (33') | 0950 | 0 ppm   |
| Exc. Soil-2       | 0925 | 26 ppm  |
| Backfill-1        | 1040 | 0 ppm   |
| Backfill-2        | 1050 | 0 ppm   |
| Backfill-3        | 1100 | 0 ppm   |



4-19-01

CC# 3

David Walton came on site. I mentioned about my concern that the end dump trucks were being filled to capacity (at least 12 yd<sup>3</sup>). He assured me they were "in fact one truck is close to 14 yd<sup>3</sup> capacity". I told him that I just wanted the work crew to be aware to fill to capacity. The loader operator said he was aware & trying to fill as much as possible without any falling out of sides onto road towards land farm.



3/23/01

Sample Location Desc Letter Depth Time PID  
~~SWall Camp X - 1130 0.9~~  
 \* No Trucking Activity + Very Little  
 Excavation Activity Took Place Today

1155 Left Location For CC#3 Site

1200 Arrive CC#3 Site

Objective: Same

Equipment: Same

Weather: Same

Personnel: John Ferguson - TRW

- Walton - 4 men on location
- Excavation & Trucking of Contaminated Soil in Progress Upon Arrival
- Excavation on West Side of Pipeline Has Widened to 50', and Has a Depth of 27' (Northwest Corner of Excavation)
- \* Some Concern Over Tank Located West of Lease Road May Have Caused or Contributed to Contamination
- Observations: ① Encrusted Soil to West + NW of Tank, ② No Clamps Have Been Located on Pipeline, ③ Heavy Black Stain Just Beneath Pipeline w/ Strong Odor + Green Stain w/ Strong Odor @ Western Margin of Excavation

3/23/01

- Had Walton Make Small Excavation  $\approx$  7 Feet From East Edge of Lease Road.
- Dark Green Stain Seen in Soil
- Collected Floor (Grab) Sample @ 15'
- Collected Floor (Grab) Sample @ 20'
- Sample Collected @ 15' Contained Dark Green Staining + Strong Odor in Matrix. Sample Collected @ 20' Contained Partially Stained Soil + Good-Strong Hydrocarbon Odor in Matrix.

### Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| 15' Floor       | Grab | F      | 15'   | 1330 | 177 |
| Floor           | Grab | G      | 20'   | 1340 | 72  |
| Floor           | Grab | H      | 27'   | 1350 | 78  |

1400 Left Location For Analytical Lab

1530 Arrive Analytical Lab

1600 Arrive Midland

Drive Time = 3.0 Hours

Labor Time = 4.0 Hours

3/27/00

~~1110 Left JC#3 for CC#3~~

1115 Arrive CC#3 Site

- Walton Pushing Contaminated Soil From Excavation on West Side of Pipeline. Deepest Depth To Date is  $\approx 32.5-33'$  (NW Corner of Excavation on West Side of Pipeline)

- Contaminated Soil Being Hauled to Landfarm Upon Arrival

- ~~Contamination From Clean Soil Pile~~ Located @ NW Corner of Excavation Has Been Contaminated From Leak Caused by Walton Running Over Duke's Pipeline. Roy (Walton) said He contacted Duke. He Tried Getting In Touch w/ Robbie Ward + Paul Mulkey But Could Not Contact Them. Finally, contacted Linam Ranch Plant Jay Miller (Duke) Investigated The Leak + Quizzed Operator Who Hit The Pipeline. Roy Said He Called Steve Weathers But Could Not Get In Touch With Him. Contacted Kenna Kay Cooper. She Said They Would Inform Steve When They Talked

JMF

3/27/01

- to Him

Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| Floor           | Grab | I      | 32.5' | 1510 | 79  |
| E. Wall         | Grab | J      | 5'    | 1520 | 86  |
| E. Wall         | Grab | K      | 23'   | 1530 | 100 |
| W. Wall         | Grab | L      | 15'   | 1540 | 150 |

- Collected Samples So GRO/PRO Ratios + BTEX For Correlation Purposes. Have Also Collected Duplicate Samples For Fingerprinting If Needed

- Collected Sample of Soil Contaminated From Leak Caused By Walton

| Sample Location | Desc | Letter | Depth | Time | PID |
|-----------------|------|--------|-------|------|-----|
| Surface         | Grab | M      | 0     | 1550 | -   |

- Have Sample Ready For BTEX/GRO/PRO Fingerprinting if Needed

~~1550 Left CC#3 for JC#3~~

~~1555 Arrive JC#3~~

~~Sample Collection~~

| Sample Location   | Desc | Letter | Depth | Time | PID |
|-------------------|------|--------|-------|------|-----|
| Contaminated Soil | Comp | -      | -     | 1555 | -   |

- Discussed Excavation Activity w/ Billy (Allstate)

JMF

4/4/01

- Exposed Contaminated Areas
- Collect Grab Samples From Each Area

Sample Collection

| Sample Location | Desc | Letter | Depth | Time | PID  |
|-----------------|------|--------|-------|------|------|
| Floor           | Grab | A      | 5'    | 1210 | 0.01 |
| Floor           | Grab | B      | 6'    | 1220 | 0.00 |

1240 Left Location For Lunch

1240-1340 Lunch

Travel Time = 1.5 Hours (TRW)

Labor = 5 Hours (Trident)

| Sample/Location | Desc | Letter | Depth | Time | PID  |
|-----------------|------|--------|-------|------|------|
| Floor           | Grab | A      | 5'    | 1210 | 0.01 |
| Floor           | Grab | B      | 6'    | 1220 | 0.00 |

1240 - 1340 / Lunch

Travel Time = 1.5 Hours (TRW)

Labor = 5 Hours (Trident)

4-5-01 CC#3

CC#3

XX

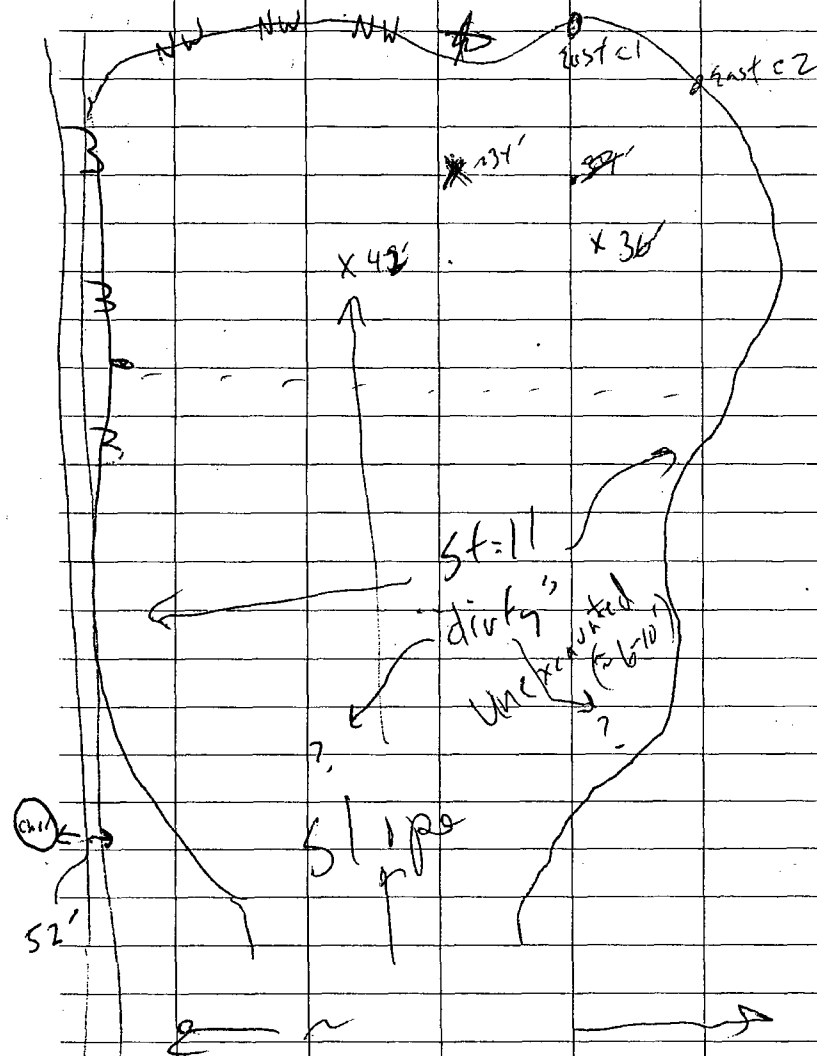
X?

ditch?

5/10/14

has ditch

4-9-01  
CC#3



4-9-01

CC#3

# Sample Log

| Sample ID              | Time | OVM |
|------------------------|------|-----|
| M - NW Floor (42')     | 6:46 | 0.6 |
| N - NE Floor 36'       | 6:46 | 0   |
| O - East Wall Comp 24' |      | 4   |
| P - NW Wall Comp 24'   |      | 0   |
| Q - W Wall Comp 15'    |      | 53  |

## Equipment

- John Deere 544M Loader
- 2 - 12 1/4 70° dump trucks
- 1 - Samsung SE210 LC3 trencher Mole
- 1 - Cat DG dozer (Ray)

## Photo Log

- View facing north
- View facing west
- South
- east

Chevron AST (has water only)  
View from SW showing Chev AST & site



4-13-01 CCH3

Crew did not work today

Load count per Roy 4/16/01

4/12 (12 yd<sup>3</sup>/load)  
 4/11  
 4/10

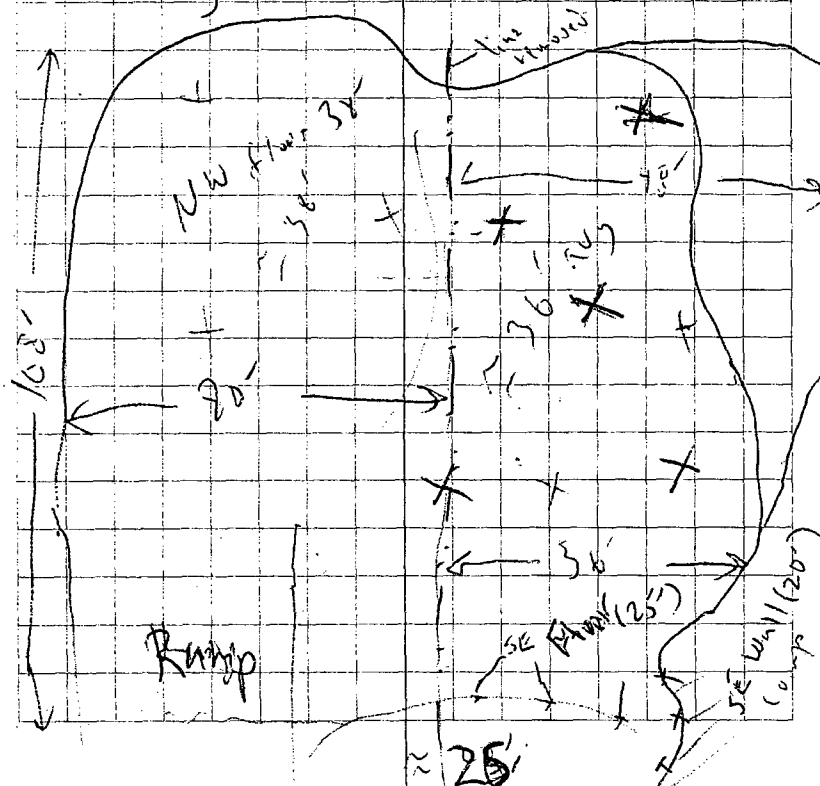
| Contaminated soil hauled to Cell # |       |                      |      |       |                      |
|------------------------------------|-------|----------------------|------|-------|----------------------|
| Date                               | loads | cell/H               | Date | loads | Cell #               |
| 3-12                               | 40    | C1                   | 4-2  | 96    | ↑ 522 loads          |
| 3-13                               | 78    | ↓                    | 4-3  | 97    | 6264 yd <sup>3</sup> |
| 3-16                               | 50    | 331 loads            | 4-4  | 38    |                      |
| 3-19                               | 45    | 3972 yd <sup>3</sup> | 4-5  | 62    | B3                   |
| 3-20                               | 55    | ↑                    | 4-9  | 45    | B4                   |
| 3-21                               | 63    | C1                   | 4-10 | 154   | ↓                    |
| 3-22                               | 9     | C2                   | 4-11 | 156   |                      |
| 3-23                               | 35    | 128 loads            | 4-12 | 41    |                      |
| 3-26                               | 61    | 1536 yd <sup>3</sup> | 4-16 | 62    |                      |
| 3-27                               | 23    | C2                   | 4-17 |       |                      |
| 3-28                               | 67    | B3                   |      |       |                      |
| 3-29                               | 66    | ↑                    |      |       |                      |
| 3-30                               | 95    | ↑                    |      |       |                      |
|                                    |       |                      | 3972 | 331   |                      |
|                                    |       |                      | 1536 | 128   |                      |
|                                    |       |                      | 6264 | 522   |                      |
|                                    |       |                      |      | 415   |                      |

4-17-01 CCH3

Old unwrapped spiral welded 12" steel pipeline

54.5 pieces x 5.5 ft/piece = 300 ft  
 125' 10" (R<sub>2</sub>)

22.5 pieces x 5.5 ft/piece = 124 ft from north end of steel line before it flanged to 82 ft of 8" poly line extending further north



4-17-01

CC #3

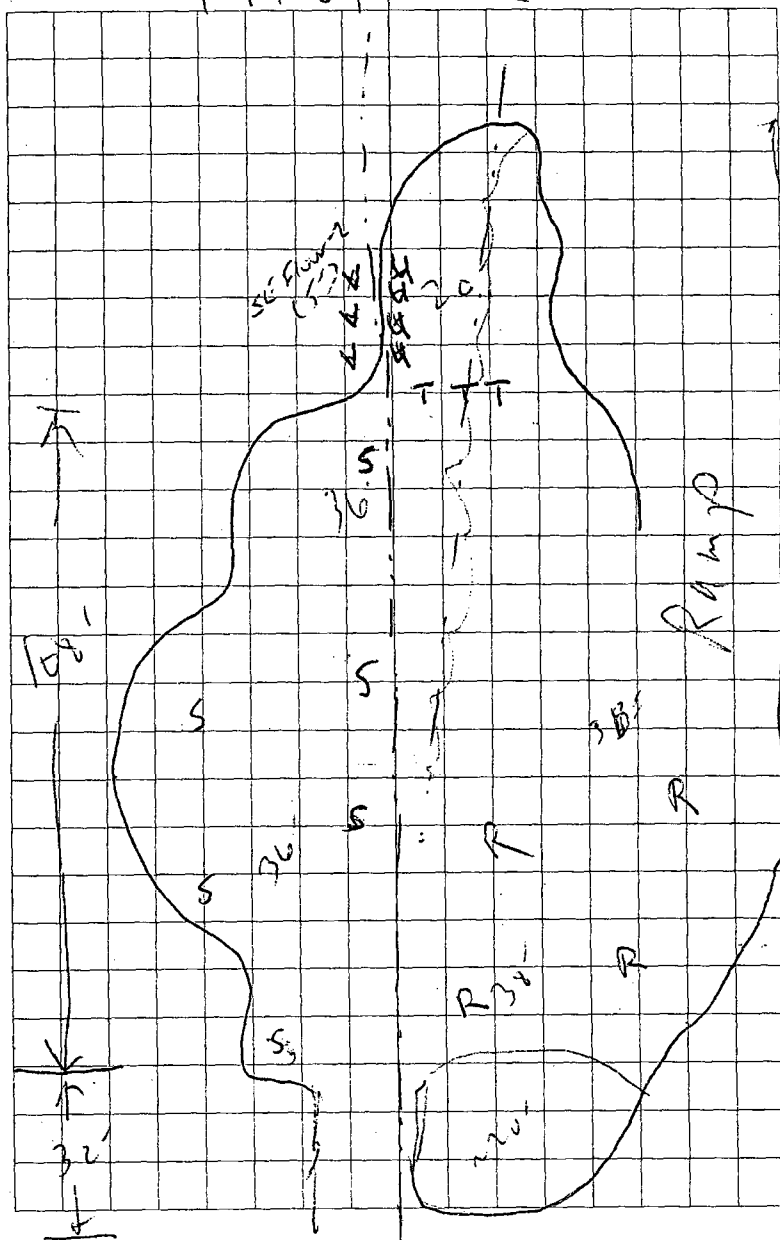
On site at 080 MST Inspected  
steel line removal & obtained photo  
of external corrosion point midway  
in line - ab + 82' = 208' south of end of line

Collected two composite floor-  
samples at north end of  
excavation - 25' floor & wall

| Sample ID           | Time                             | OVM |
|---------------------|----------------------------------|-----|
| R-NW Floor (38')    | 3 1000                           | 0   |
| S-NE Floor (36')    | 5 1030                           | 0   |
| T-SE Floor (25')    | 3 1040                           | 0   |
| U-SE Wall (20')     | 5 1050                           | 0   |
| V-SE Floor-2 (5')   | Grab 1105                        | 0   |
| 0-10'               | lt brown-reddish silty fine sand |     |
| 10-15' (to 20')     | olive green clayey fine sand     |     |
| 15' (to 20') to 25' | reddish clayey silt              |     |
| 25' - 35'           | fine lt brown/reddish fine sand  |     |

4-17-01

CC #13



4-19-01

Clay, Cooper #3

On site @ 0900 MST

Walton Construction crew performing the following tasks upon arrival:

Loading two end dumps w/ 544H loader

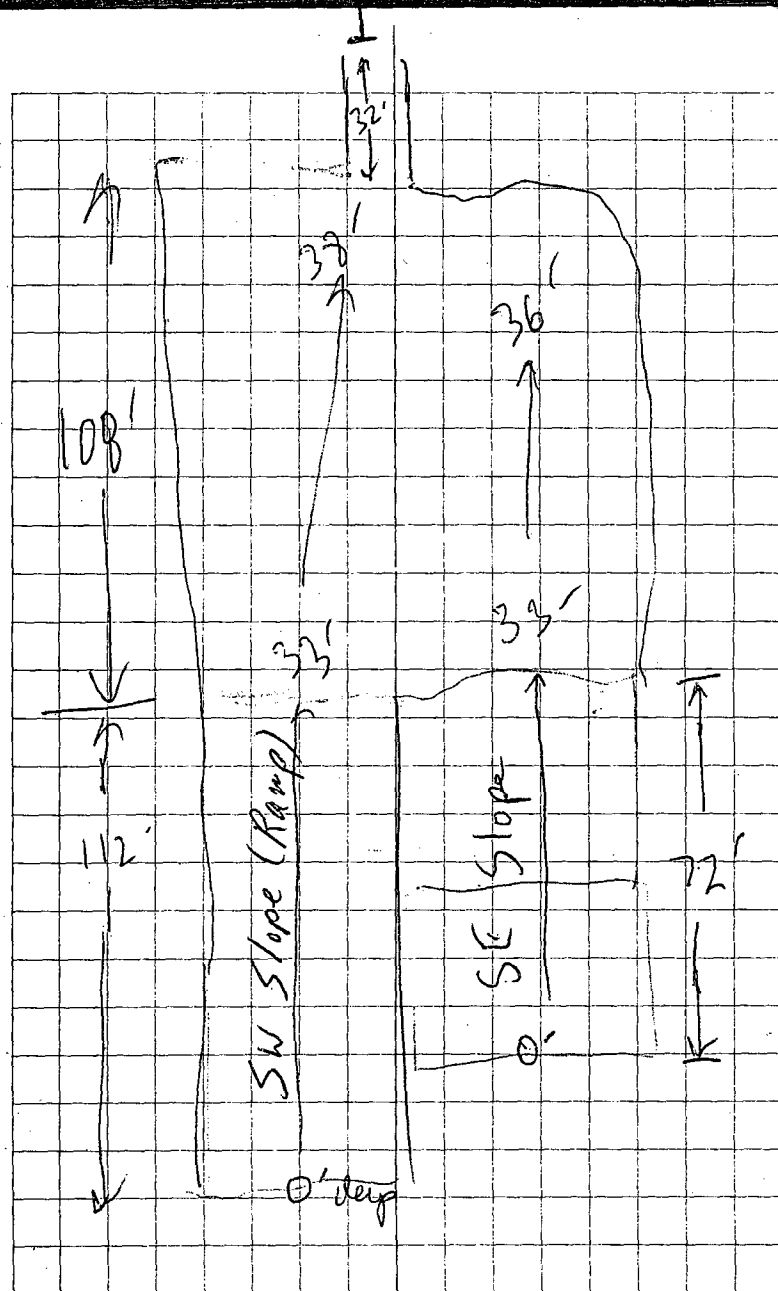
Db John Deere dozer 850C moving contaminated soil to main pile for hauling off. #

Roy & Mike not present

Dozer operator also using trackhoe to break down waste pile for easier access by loader.

Took photos of ~~north~~<sup>south</sup> end of excavation, small area at extreme north end where Walton puncture line (~2 weeks ago), and loaded end dumps.

Loader puts ~3-4 full or heaping buckets per loader



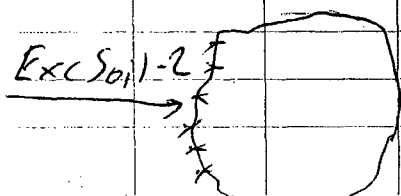
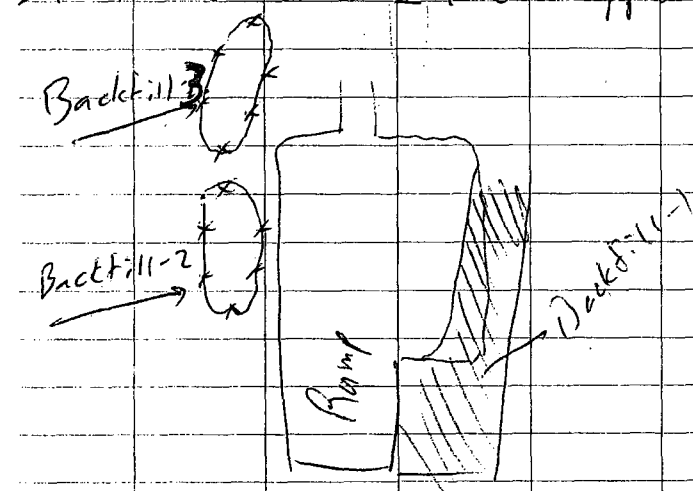
4-19-01

CC# 3

Samples collected from following areas:

|                   | Time | OVN     |
|-------------------|------|---------|
| W-SW-Slope        | 0940 | 0 ppm   |
| X-SE-Slope        | 1000 | 0.1 ppm |
| Y-West Wall (33') | 0950 | 0 ppm   |

|             |      |        |
|-------------|------|--------|
| Exc. Soil-2 | 0925 | 26 ppm |
| Backfill-1  | 1040 | 0 ppm  |
| Backfill-2  | 1050 | 0 ppm  |
| Backfill-3  | 1100 | 0 ppm  |



4-19-01

CC# 3

David Walton came on site. I mentioned about my concern that the end dump trucks were being filled to capacity (at least 12 yd<sup>3</sup>). He assured me they were "in fact one truck is close to 14 yd<sup>3</sup> capacity". I told him that I just wanted the work crew to be aware to fill to capacity. The loader operator said he was aware & trying to fill as much as possible without any falling out of sides onto road towards land farm.