APPROVED 11.18.09 NMOCD

PR-126

**Remediation Protocol**
**EnerVest Jal Spill**

## 1.0 Purpose

This protocol is to provide a detailed outline of the steps to be employed in the remediation and closure of the EnerVest Jal spill in Lea County, New Mexico.

## 2.0 Scope

This protocol is site specific for the EnerVest Jal remediation project.

## 3.0 Preliminary

Prior to any field operations, Whole Earth Environmental shall conduct the following activities:

### 3.1 Client Review

3.1.1 Whole Earth shall meet with cognizant personnel within EnerVest, the landowner(s) and the NMOCD to review and approve this protocol.

3.1.2 Changes to this protocol will be documented and submitted for final review by all parties prior to the initiation of actual field work.

## 4.0 Safety

**4.1** Prior to work on the site, Whole Earth shall obtain the location and phone numbers of the nearest emergency medical treatment facility. We will review all safety related issues with the appropriate Client personnel and sub-contractors and provide a list of emergency phone numbers.

**4.2** A tailgate safety meeting shall be held and documented each day. All sub-contractors must attend and sign the daily log-in sheet.

**4.3** Anyone allowed on to location must be wearing sleeved shirts, steel toed boots, safety hard hats, safety glasses if required, and long pants. Each vehicle must be equipped with two way communication capabilities.

**4.4** Prior to any excavation, New Mexico One Call will be notified. If lines are discovered within the area to be excavated they shall be marked with pin flags on either side of the line at maximum five-foot intervals.

**5.0 Restoration**

**5.1** The existing excavation shall be backfilled and compacted with either topsoil or caliche to a minimum depth of 5' below ground surface, (bgs).

**5.2** All surface soils containing chloride concentrations exceeding 2,000 ppm chloride will be excavated and placed into a blending pile immediately adjacent to the excavation.

**5.3** The affected area shall be slightly mounded and a geo-textile liner placed atop the excavation in a manner that promotes drainage away from the spill point. Each liner strip shall be overlaid a minimum of 6" of the previous strip. Care shall be taken to insure that the liner material is placed beneath existing flow lines.

**5.4** The liner material shall be covered in topsoil, compacted and contoured to replicate the prior existing elevations. Drainage of the area shall be sloped to the east compliant with the existing natural slope.

**5.4** The area shall be seeded with a mixture of seed to the land owner's specification.

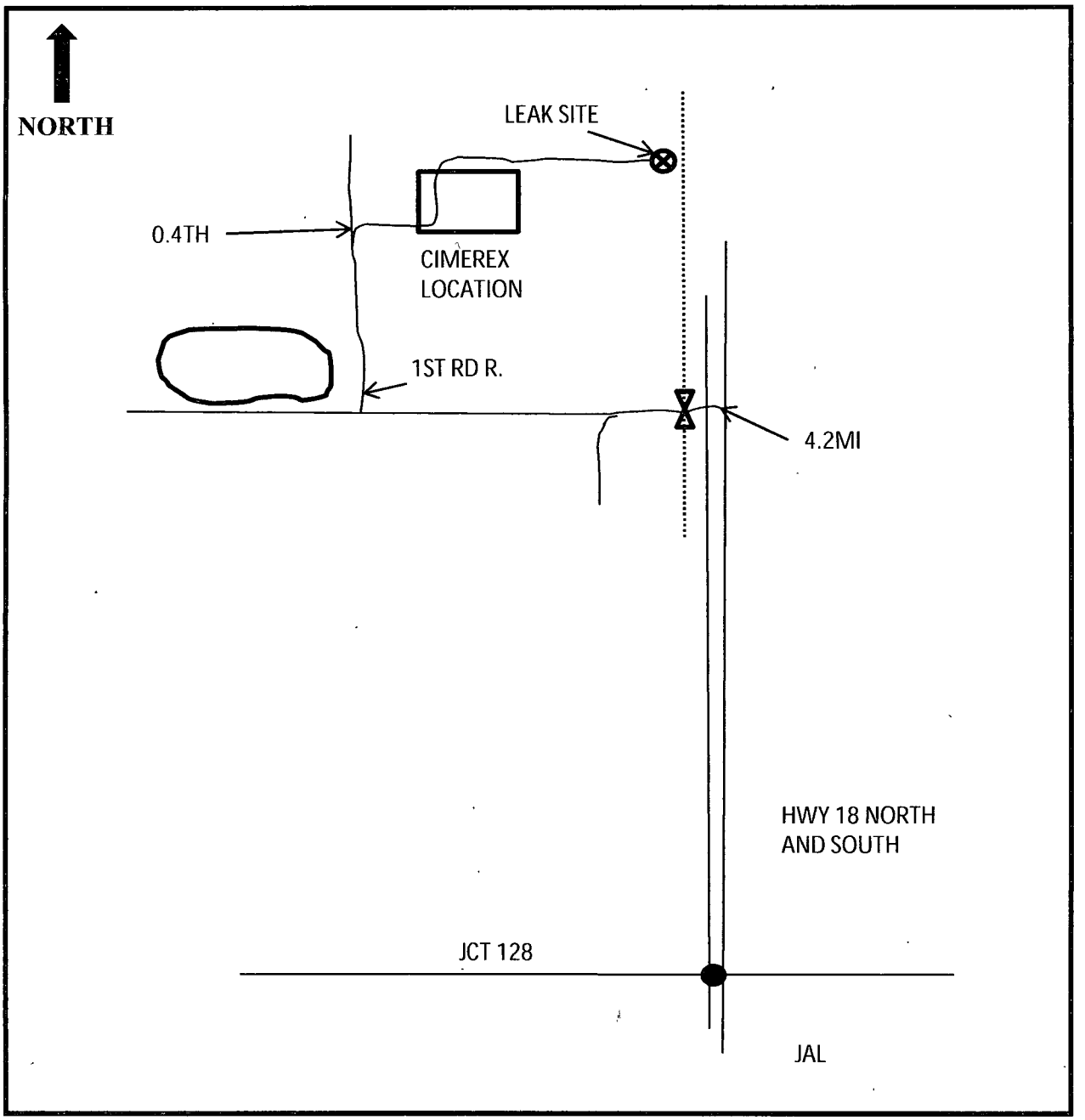
**6.0 Closure Report**

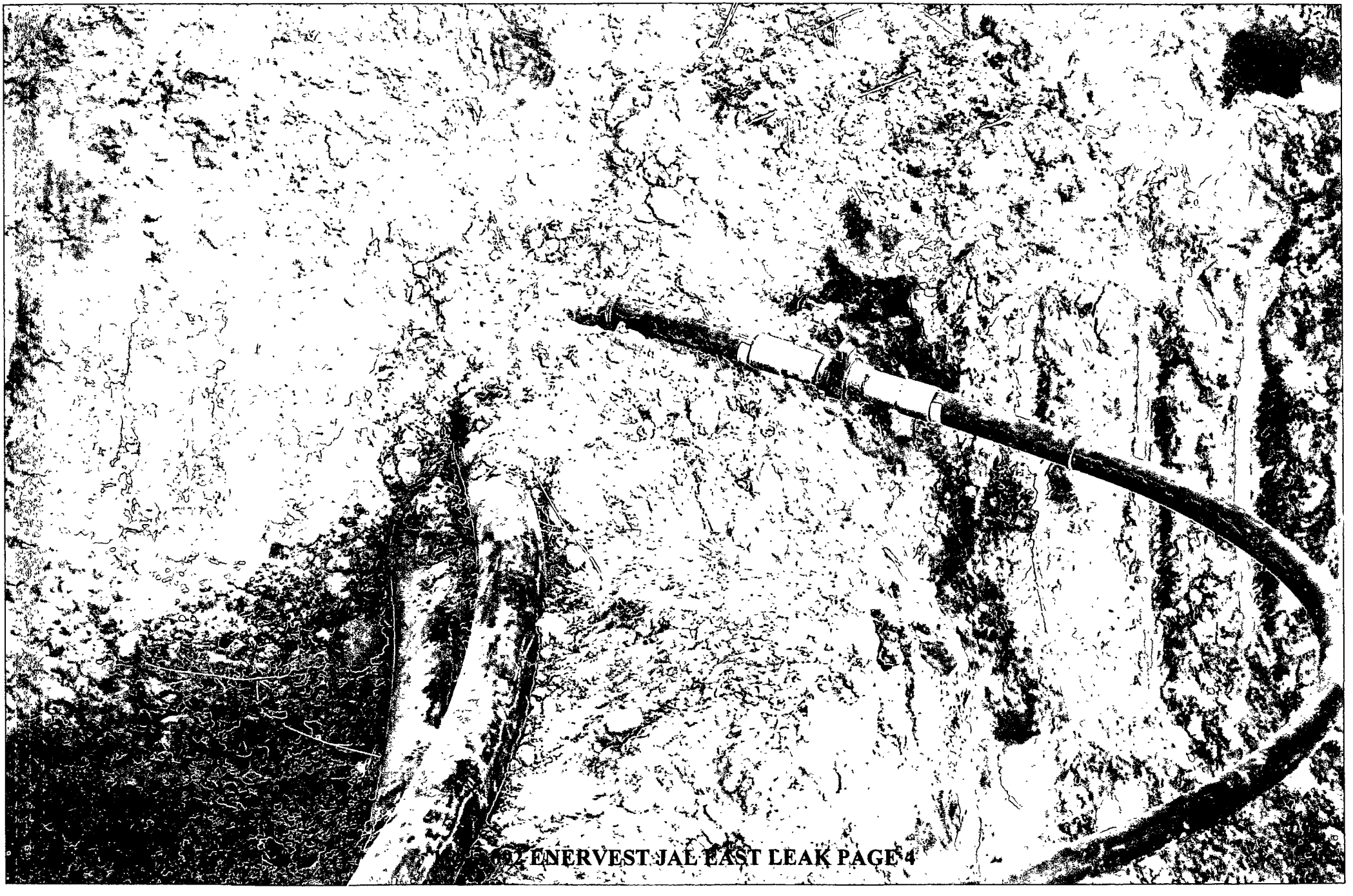
**6.1** At the conclusion of the project, Whole Earth shall prepare a closure report that contains the following minimum information:

- Photographs of the location prior to remediation
- Photographs of the site at the point of levcling
- Photographs of the liner to include overlap detail
- USGS 7.5' maps of the location
- Satellite photographs of the location
- Copies of this protocol
- Copy of the seed mixture tags
- Plat map
- Final contour photographs
- Copy of the initial EM-38 survey
- Boring logs
- Laboratory analytical results

ENERVEST OIL PROD.
Sherrell / Jack B30 comp.
Legals:.UL/I Sec 30 - T24S - R37E
GPS LAT & LON NAD27 (DECIMAL)
N32.18763 / W103.19299

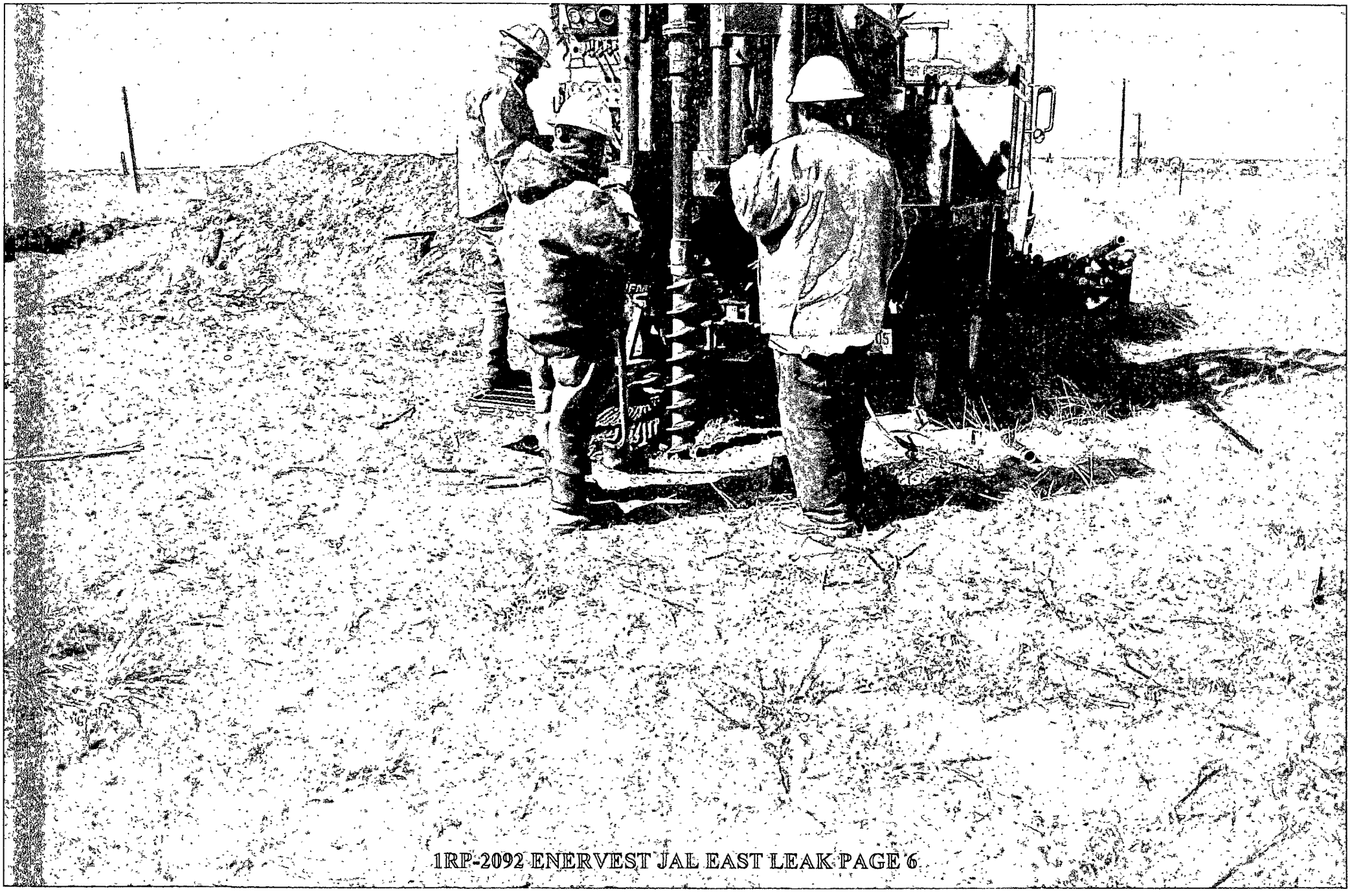
DRIVING DIRECTIONS: In Jal @ intersection of Hwy 18 & Jct 128, go North on Hwy 18 4.2mi, turn L go through cattle guard, continue West to 1st lease rd. on R. side of rd., turn R. go 0.4th turn R. go to Cimerex location. At location go to N. side of pump jack and follow 2 track rd. to site. Site was previously excavated.





02 ENERVEST JAL EAST LEAK PAGE 4


ENERVEST JAL EAST



1RP-2092 ENERVEST JAL EAST LEAK PAGE 6

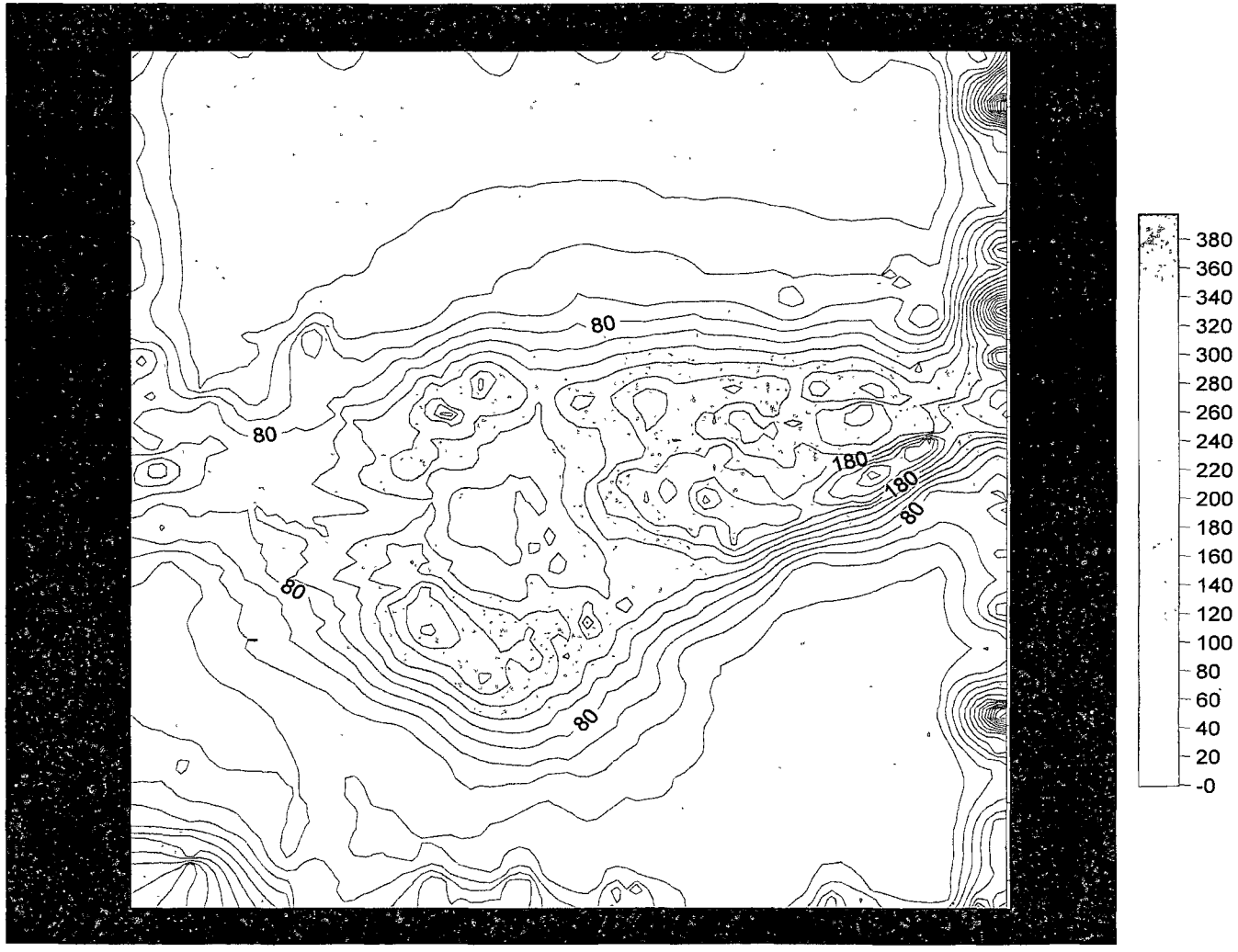
1RP-2092 ENERVEST JAL EAST LEAK PAGE 7

# Enervest Jal Pipeline Spill

## EM38 0-5'

AREA OF SURVEY 200' N&S, 160' E&W

NORTH

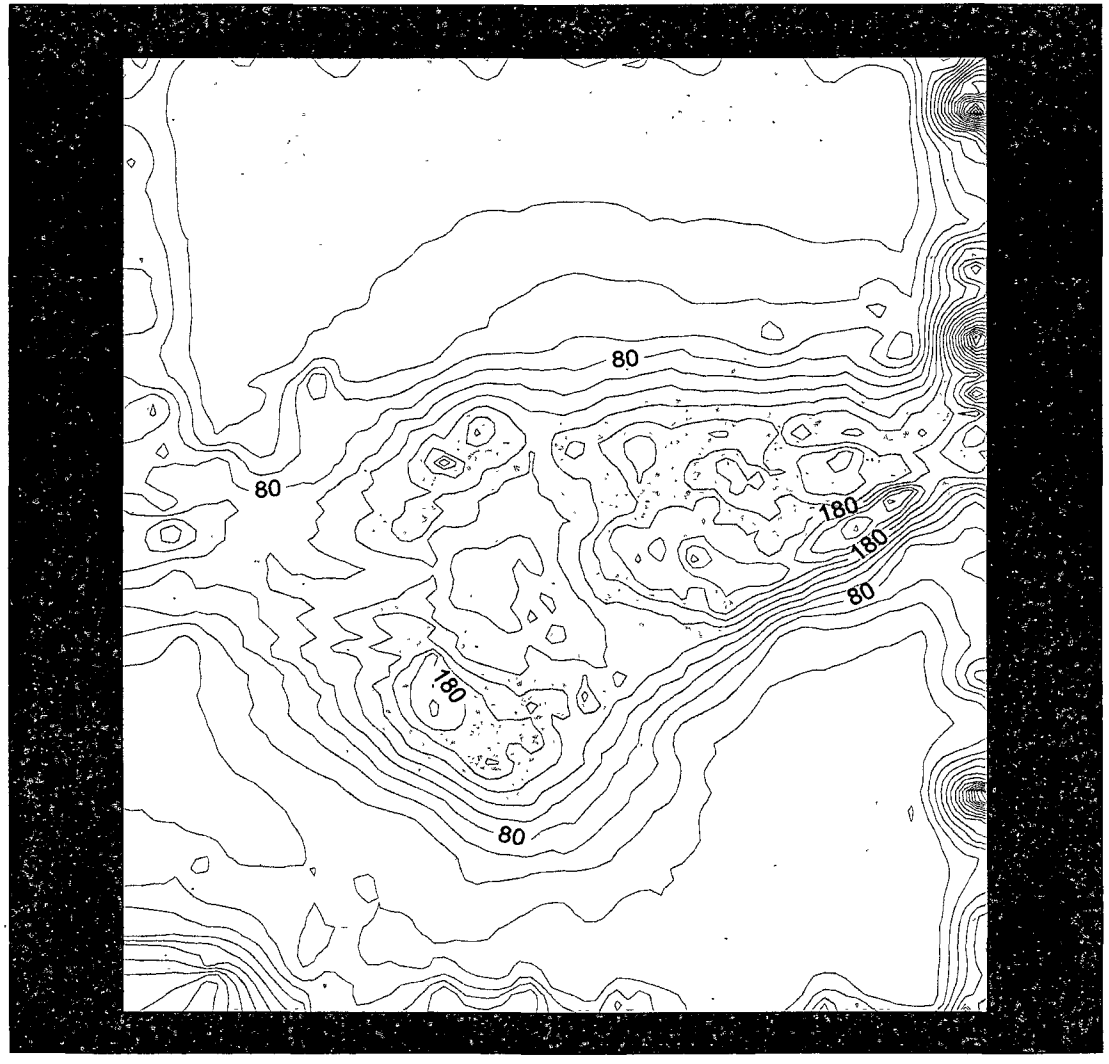


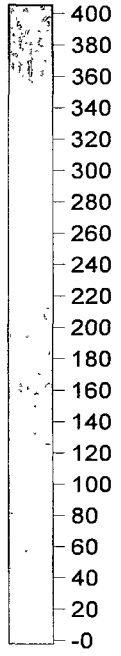
# Enervest Jal Pipeline Spill

## EM31 0-15'

AREA OF SURVEY 200' N&S, 160' E&W

NORTH



Summary of Excavation Soil Sample Analytical Results
Enervest Jal Unit Water Transfer Line Under Hwy 18 5.5 North of Jal

| Soil Sample ID. | Depth (Feet) | Sample Date | Soil Status | PID Reading (ppm) | Field Chloride Analysis (ppm) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethyl-benzene (mg/Kg) | Total Xylenes (mg/Kg) | Total BTEX (mg/Kg) | Carbon Ranges (C6-C10) (mg/Kg) | Carbon Ranges (C10-C28) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H16936 -1 | NE Surface | 2/20/09 | excavated | | | | | | | | | | 3,240 |
| H16936 -2 | NW Surface | | | | | | | | | | | | 2,280 |
| H16936 -3 | South Surface | | | | | | | | | | | | 1,410 |
| H16936 -4 | NE 3'bgs | | | | | | | | | | | | 4,560 |
| H16936 -5 | South 3'bgs | | | | | | | | | | | | 1,170 |
| H16936 -6 | NW 3'bgs | | | | | | | | | | | | 1,760 |
| H16936 -7 | NW 6'bgs | | | | | | | | | | | | 3,360 |
| H16936 -8 | NE 6'bgs | | | | | | | | | | | | 5,200 |
| H16936 -9 | South 6'bgs | | | | | | | | | | | | 2,680 |
| H16965 -1 | NE 12' bgs | 2/25/09 | | | | | | | | | <10.0 | <10.0 | 2,360 |
| H16965 -2 | NE 15' bgs | | | | | | | | | | <10.0 | <10.0 | 3,080 |
| H16982 -1 | CF-1 | 2/26/09 | | | | | | | | | | | 2,920 |
| H16982 -2 | SEF-2 | | | | | | | | | | | | 2,280 |
| H16982 -3 | NEF-3 | | | | | | | | | | | | 3,040 |
| H16982 -4 | SWF-4 | | | | | | | | | | | | 3,000 |
| H16982 -5 | NWF-5 | 2/26/09 | excavated | | | | | | | | | | 2,480 |
| H16982 -6 | NW-6 | | excavated | | | | | | | | | | 1,340 |
| H16982 -7 | SW-7 | | excavated | | | | | | | | | | 912 |
| H16982 -8 | WW-8 | | excavated | | | | | | | | | | 1,220 |

| Soil Sample ID. | Depth (Feet) | Sample Date | Soil Status | PID Reading (ppm) | Field Chloride Analysis (ppm) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethyl-benzene (mg/Kg) | Total Xylenes (mg/Kg) | Total BTEX (mg/Kg) | Carbon Ranges (C6-C10) (mg/Kg) | Carbon Ranges (C10-C28) (mg/Kg) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BORE #1 @ 15'bgs | 3/11/09 | bore split spoon | no odor | 1962 | | | | | | | | |
| | @ 20'bgs | | bore split spoon | | 1897 | | | | | | | | |
| | @ 25'bgs | | bore split spoon | | 1500 | | | | | | | | |
| | @ 30'bgs | | bore split spoon | | 1460 | | | | | | | | |
| | @ 35'bgs | 3/16/09 | bore split spoon | | 1924 | | | | | | | | |
| | @ 40'bgs | | bore split spoon | | 1037 | | | | | | | | |
| | @ 45'bgs | | bore split spoon | | 1152 | | | | | | | | |
| | @ 50'bgs | | bore split spoon | | 1328 | | | | | | | | |
| | BORE #2 @ 15'bgs | 3/16/09 | bore split spoon | no odor | 1065 | | | | | | | | |
| | @ 20'bgs | | bore split spoon | | 285 | | | | | | | | |
| H17158-1 | @ 25'bgs | | bore split spoon | | 211 | | | | | | | | 256 |
| | Cimerex location 8pt. Comp | 3/18/09 | excavated | no odor | 1943 | | | | | | | | |
| | Excavated 3dirt piles 4pt. Comp. ea. | 3/18/09 | excavated | no odor | 1023 | | | | | | | | |
| | Excavated all 3 dirt piles comp. | | | | 1120 | | | | | | | | |
| | Composite of all 3 dirt piles after | | excavated blended | | 580 | | | | | | | | |

| Soil Sample ID. | Depth (Feet) | Sample Date | Soil Status | PID Reading (ppm) | Field Chloride Analysis (ppm) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethyl-benzene (mg/Kg) | Total Xylenes (mg/Kg) | Total BTEX (mg/Kg) | Carbon Ranges (C6-C10) (mg/Kg) | Carbon Ranges (C10-C28) (mg/Kg) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bore #3 surface | 3/19/09 | grab | no odor | 68 | | | | | | | | |
| | 5'bgs | | bore split spoon | | 550 | | | | | | | | |
| | Bore #4 5'bgs | 3/19/09 | bore split spoon | no odor | 56 | | | | | | | | |
| | 10'bgs | | | | 1324 | | | | | | | | |
| | 15'bgs | 3/24/09 | | | 1025 | | | | | | | | |
| | Bore #5 5'bgs | 3/25/09 | bore split spoon | no odor | 880 | | | | | | | | |
| | 10'bgs | | | | 1548 | | | | | | | | |
| | 15'bgs | | | | 886 | | | | | | | | |
| | Bore #6 5'bgs | 3/25/09 | bore split spoon | no odor | 619 | | | | | | | | |
| | 10'bgs | 3/26/09 | | | 1041 | | | | | | | | |
| | 15' bgs | | | | 1238 | | | | | | | | |
| | 20' bgs | | | | 1875 | | | | | | | | |
| | Bore #7 15 'bgs | 3/26/09 | bore split spoon | no odor | 2620 | | | | | | | | |
| | 20' bgs | | | | 1871 | | | | | | | | |
| | 25' bgs | | | | 1793 | | | | | | | | |
| | Bore #8 20'bgs | 3/27/09 | bore split spoon | no odor | 951 | | | | | | | | |
| | 25' bgs | | | | 309 | | | | | | | | |
| | 30' bgs | | | | 162 | | | | | | | | |
| H17158-2 | 35' bgs | | | | 97 | | | | | | | | 112 |
| | Bore #9 25' bgs | 3/27/09 | bore split spoon | no odor | 115 | | | | | | | | |
| H17158-3 | 30' bgs | | | | 80 | | | | | | | | 96 |
| | Bore #10 60' bgs | 3/27/09 | bore split spoon | no odor | 186 | | | | | | | | |
| H17158-4 | 65' bgs | | | | 154 | | | | | | | | 160 |

| Soil Sample ID. | Depth (Feet) | Sample Date | Soil Status | PID Reading (ppm) | Field Chloride Analysis (ppm) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethyl-benzene (mg/Kg) | Total Xylenes (mg/Kg) | Total BTEX (mg/Kg) | Carbon Ranges (C6-C10) (mg/Kg) | Carbon Ranges (C10-C28) (mg/Kg) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bore #11 30' bgs | 3/27/09 | bore split spoon | no odor | 964 | | | | | | | | |
| | 35' bgs | | | | 1408 | | | | | | | | |
| | 40' bgs | | | | 901 | | | | | | | | |
| | 45' bgs | | | | 531 | | | | | | | | |
| | 50' bgs | | | | 611 | | | | | | | | |
| Pipeline Piller West 1/3 Sp #1 | Horiz. 6" > 8" | 4/6/09 | hand auger | no odor | 1255 | | | | | | | | |
| Pipeline Piller West 1/3 Sp #2 | Horiz. 6" > 8" | | | | 1475 | | | | | | | | |
| Pipeline Piller West 1/3 Sp #3 | Horiz. 6" > 8" | | | | 1355 | | | | | | | | |
| Pipeline Piller West 1/3 Sp #4 | Horiz. 6" > 8" | | | | 1213 | | | | | | | | |
| Pipeline Piller West 1/3 Sp #5 | Horiz. 6" > 8" | | | | 1467 | | | | | | | | |
| Pipeline Piller Middle 1/3 Sp #1 | Horiz. 6" > 8" | | | | 1382 | | | | | | | | |
| Pipeline Piller Middle 1/3 Sp #2 | Horiz. 6" > 8" | | | | 1407 | | | | | | | | |
| Pipeline Piller Middle 1/3 Sp #3 | Horiz. 6" > 8" | | | | 3603 | | | | | | | | |
| Pipeline Piller Middle 1/3 Sp #4 | Horiz. 6" > 8" | | | | 1260 | | | | | | | | |

| Soil Sample ID. | Depth (Feet) | Sample Date | Soil Status. | PID Reading (ppm) | Field Chloride Analysis (ppm) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethyl-benzene (mg/Kg) | Total Xylenes (mg/Kg) | Total BTEX (mg/Kg) | Carbon Ranges (C6-C10) (mg/Kg) | Carbon Ranges (C10-C28) (mg/Kg) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipeline Piller Middle 1/3 Sp #5 | Horiz. 6" > 8" | 4/6/09 | hand auger | no odor | 1603 | | | | | | | | |
| Pipeline Piller East 1/3 Sp #1 | Horiz. 6" > 8" | | | | 744 | | | | | | | | |
| Pipeline Piller East 1/3 Sp #2 | Horiz. 6" > 8" | | | | 955 | | | | | | | | |
| Pipeline Piller East 1/3 Sp #3 | Horiz. 6" > 8" | | | | 596 | | | | | | | | |
| Pipeline Piller East 1/3 Sp #4 | Horiz. 6" > 8" | | | | 954 | | | | | | | | |
| Pipeline Piller East 1/3 Sp #5 | Horiz. 6" > 8" | | | | 1903 | | | | | | | | |
| Pipeline Piller West Comp. | N/A | | | | 1410 | | | | | | | | |
| Pipeline Piller Middle Comp. | N/A | | | | 1798 | | | | | | | | |
| Pipeline Piller East Comp. | N/A | | | | 986 | | | | | | | | |
| Pipeline Piller Total Piller Comp. | N/A | | | | 1324 | | | | | | | | |
| H17583-1 HWY B1 | 5'BGS | 6/5/09 | auger returns | no odor | | | | | | | | | <16.0 |
| H17583-2 HWY B1 | 8'BGS | | | | | | | | | | | | <16.0 |

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
DIAMOND DISPOSAL SRV., INC.
ATTN: JUSTIN ROBERTS
P.O. BOX 2491
HOBBS, NM 88242
FAX TO: (575) 392-9376, (575) 392-6949

Receiving Date: 02/20/09
Reporting Date: 02/27/09*
Project Owner: ENERVEST
Project Name: SHERREL & MEXICO G PIPELINE LEAK
Project Location: NOT GIVEN

Analysis Date: 02/20/09
Sampling Date: 02/20/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AB
Analyzed By: HM

| LAB NUMBER | SAMPLE ID | $Cl^-$ (mg/kg) |
|---|---|---|
| H16936-1 | NE SURFACE | 3,240 |
| H16936-2 | NW SURFACE | 2,280 |
| H16936-3 | SOUTH SURFACE | 1,410 |
| H16936-4 | NE 3' BGS | 4,560 |
| H16936-5 | SOUTH 3' BGS | 1,170 |
| H16936-6 | NW 3' BGS | 1,760 |
| H16936-7 | NW 6' BGS | 3,360 |
| H16936-8 | NE 6' BGS | 5,200 |
| H16936-9 | SOUTH 6' BGS | 2,680 |
| | | |
| | | |
| Quality Control | | 500 |
| True Value QC | | 500 |
| % Recovery | | 100 |
| Relative Percent Difference | | < 0.1 |

| METHOD: Standard Methods | 4500-$Cl^-$B |
|---|---|

Note: Analyses performed on 1:4 w:v aqueous extracts.

*Revised Report.

Chemist

02/27/09
Date

H16936 Diamond Disposal

# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page 1 of 1

| | |
|---|---|
| Company Name: | Diamondback Disposal Ser Inc |
| Project Manager: | Justin Roberts |
| Address: | P.O. Box 2491 |
| City: | Hobbs State: N.M. Zip: 88240 |
| Phone #: | 575-392-9996 Fax #: 575-392-9376 |
| Project #: | Project Owner: Enervest |
| Project Name: | Sherrel ? Mexico G Pipeline Leak |
| Project Location: | |
| Sampler Name: | Brandon Price |

**BILL TO**

| | |
|---|---|
| P.O. #: | |
| Company: | Eddie Seay Cons. |
| Attn: | Eddie Seay |
| Address: | 601 W. Illinois |
| City: | Hobbs |
| State: | NM Zip: 88240 |
| Phone #: | 575-390-2454 |
| Fax #: | 575-392-6949 |

ANALYSIS REQUEST

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER: | PRESERV.: ACID/BASE: | ICE / COOL | OTHER: | SAMPLING: DATE | TIME | Chlorides |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H16936-1 | NE Surface | | | | | X | | | | | | | 2-20-09 | 0752 | X |
| -2 | N.W. Surface | | | | | X | | | | | | | 2-20-09 | 0812 | X |
| -3 | South Surface | | | | | X | | | | | | | " | 0740 | X |
| -4 | NE 3'BGS | | | | | X | | | | | | | " | 0757 | X |
| -5 | South 3'BGS | | | | | X | | | | | | | " | 0744 | X |
| -6 | NW 3'BGS | | | | | X | | | | | | | " | 0815 | X |
| -7 | NW 6'BGS | | | | | X | | | | | | | " | 0822 | X |
| -8 | NE 6'BGS | | | | | X | | | | | | | " | 0801 | X |
| -9 | South 6'BGS | | | | | X | | | | | | | " | 0747 | X |



| | | | |
|---|---|---|---|
| Sampler Relinquished: | Date: 2/20/09 | Received By: | |
| | Time: 10:25a | | |
| Relinquished By: | Date: | Received By: | |
| | Time: | | |
| Delivered By: (Circle One) | Temp. | Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No | CHECKED BY: (Initials) |
| Sampler - UPS - Bus - Other: | | | |

Phone Result: ☒ Yes ☐ No Add'l Phone #:
Fax Result: ☒ Yes ☐ No Add'l Fax #:

REMARKS:
100% Rush
Fax Results To Eddie Seay

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
DIAMONDBACK DISPOSAL SERVICES, INC
ATTN: JUSTIN ROBERTS
P.O. BOX 2491
HOBBS, NM 88241
FAX TO: (575) 392-9376 & (575) 392-6949

Receiving Date: 02/25/09
Reporting Date: 02/27/09**
Project Owner: ENERVEST OPERATING
Project Name: SHERREL & MEXICO G PIPELINE LEAK
Project Location: NOT GIVEN

Sampling Date: 02/25/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: AB/HM

| LAB NUMBER | SAMPLE ID | GRO ($C_6$-$C_{10}$) (mg/kg) | DRO (>$C_{10}$-$C_{28}$) (mg/kg) | Cl* (mg/kg) |
|---|---|---|---|---|
| ANALYSIS DATE | | 02/25/09 | 02/25/09 | 02/25/09 |
| H16965-1 | NE 12' BGS | <10.0 | <10.0 | 2,360 |
| H16965-2 | NE 15' BGS | <10.0 | <10.0 | 3,080 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Quality Control | | 514 | 584 | 500 |
| True Value QC | | 500 | 500 | 500 |
| % Recovery | | 103 | 117 | 100 |
| Relative Percent Difference | | <0.1 | 4.0 | < 0.1 |

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; $Cl^-$: Std. Methods 4500-$Cl^-$B
*Analyses performed on 1:4 w:v aqueous extracts.
**Revised Report.

Chemist

02/27/09
Date

H16965 TCL DDS

# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476



| | |
|---|---|
| Company Name: | Diamondback Disposal |
| Project Manager: | Justin Roberts |
| Address: | P.O. Box 2491 |
| City: | Hobbs State: N.M Zip: 88240 |
| Phone #: | 575-492-9467 Fax #: 575-392-9376 |
| Project #: | Project Owner: Enervest Operating |
| Project Name: | Sherrel 3 Mexico G Pipeline Leak |
| Project Location: | |
| Sampler Name: | Justin Roberts |

**BILL TO**

| | |
|---|---|
| P.O. #: | |
| Company: | Eddie Seay Consulting |
| Attn: | Eddie Seay |
| Address: | 601 W. Illinois |
| City: | Hobbs |
| State: | N.M Zip: 88240 |
| Phone #: | 575 390-2454 |
| Fax #: | 575-392-6949 |

ANALYSIS REQUEST

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H16965-1 | NE 12' BGS | G | 1 | | | X | | | | | | | 2-25-09 | 1045 | X | X |
| -2 | NE 15' BGS | G | 1 | | | X | | | | | | | " | 1058 | X | X |

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

| | | | |
|---|---|---|---|
| Sampler Relinquished: | Date: | Received By: | |
| | Time: | | |
| Relinquished By: | Date: 2-25-09 | Received By: | |
| | Time: 1:18 | | |
| Delivered By: (Circle One) | Temp. | Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No | CHECKED BY: (Initials) MCB |
| Sampler - UPS - Bus - Other: | | | |

Phone Result: ☐ No Add'l Phone #:
Fax Result: ☒ No Add'l Fax #:

REMARKS:
100% Rush
Fax Results To 392-6949 & 392-9376

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
EDDIE SEAY CONSULTING
ATTN: JUSTIN ROBERTS
601 W. ILLINOIS
HOBBS, NM 88242
FAX TO: (575) 392-6949

Receiving Date: 02/27/09
Reporting Date: 02/27/09
Project Owner: ENERVEST
Project Name: SHERREL & NEXICO G PL
Project Location: N-JAL

Analysis Date: 02/27/09
Sampling Date: 02/26/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: HM

| LAB NUMBER | SAMPLE ID | $Cl^-$ (mg/kg) |
|---|---|---|
| H16982-1 | CF-1 | 2,920 |
| H16982-2 | SEF-2 | 2,280 |
| H16982-3 | NEF-3 | 3,040 |
| H16982-4 | SWF-4 | 3,000 |
| H16982-5 | NWF-5 | 2,480 |
| H16982-6 | NW-6 | 1,340 |
| H16982-7 | SW-7 | 912 |
| H16982-8 | WW-8 | 1,220 |
| | | |
| | | |
| | | |
| Quality Control | | 500 |
| True Value QC | | 500 |
| % Recovery | | 100 |
| Relative Percent Difference | | < 0.1 |

| METHOD: Standard Methods | 4500-Cl B |
|---|---|

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

02/27/09
Date

H16982 E. SEAY

# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of ____

| | | | |
|---|---|---|---|
| Company Name: | Eddie Seay Consulting | **BILL TO** | |
| Project Manager: | Julian Roberts | P.O. #: | |
| Address: | 601 W Illinois | Company: | |
| City: | Hobbs State: NM Zip: 88242 | Attn: | |
| Phone #: | 2-2236 Fax #: 2-6949 | Address: | Same |
| Project #: | Enervest Project Owner: Enervest | City: | |
| Project Name: | Sharrel & Magic G PL | State: Zip: | |
| Project Location: | N - Jal | Phone #: | |
| Sampler Name: | Braxton | Fax #: | |

ANALYSIS REQUEST: Chlorides

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER: | PRESERV.: ACID/BASE: | ICE / COOL | OTHER: | SAMPLING: DATE | TIME | Chlorides |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H16982-1 | CE - 1 | G | 1 | | | X | | | | | | | 2/26 | 3:00 | X |
| -2 | SEF - 2 | G | 1 | | | X | | | | | | | " | 3:15 | X |
| -3 | NEF - 3 | G | 1 | | | X | | | | | | | " | 3:30 | X |
| -4 | SWF - 4 | G | 1 | | | X | | | | | | | " | 3:45 | X |
| -5 | NWF - 5 | G | 1 | | | X | | | | | | | " | 4:00 | X |
| -6 | NW - 6 | G | 1 | | | X | | | | | | | " | 4:15 | X |
| -7 | SW - 7 | G | 1 | | | X | | | | | | | " | 4:30 | X |
| -8 | WW - 8 | G | 1 | | | X | | | | | | | " | 4:45 | X |

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

| | | | |
|---|---|---|---|
| Sampler Relinquished: | Eddie W Seay | Date: 2/27 Time: 8:30 | Received By: Hope S. Morrow |
| Relinquished By: | | Date: Time: | Received By: |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | | Temp. | Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No |
| | | | CHECKED BY: (Initials) |

Phone Result: ☐ No Add'l Phone #:
Fax Result: ☒ No Add'l Fax #:
REMARKS: HSHP

Thanks

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
WHOLE EARTH ENVIRONMENTAL. INC.
ATTN: ROY R. RASCON
2103 ARBOR COVE
KATY, TX 77494
FAX TO: (281) 394-2051

Receiving Date: 03/31/09
Reporting Date: 03/31/09
Project Owner: ENERVEST
Project Name: ENERVEST LEAK SITE
Project Location: JAL, NM, LEA COUNTY

Analysis Date: 03/31/09
Sampling Date: 03/16/09 & 03/27/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: TR

| LAB NO. | SAMPLE ID | $Cl^-$ (mg/kg) |
|---|---|---|
| H17158-1 | BORE #2 @ 25' BGS | 256 |
| H17158-2 | B8 35' | 112 |
| H17158-3 | B9 30' | 96 |
| H17158-4 | B10 65' | 160 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Quality Control | | 500 |
| True Value QC | | 500 |
| % Recovery | | 100 |
| Relative Percent Difference | | 2.0 |

| METHOD: Standard Methods | 4500-$Cl^-$B |
|---|---|

*Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

04/10/09
Date

H17158 WEE

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(325) 673-7001 FAX (325)673-7020 (505) 393-2326 FAX (505) 393-2476

| | | | |
|---|---|---|---|
| Company Name: | WHOLE EARTH ENVIRONMENTAL INC. | BILL TO | |
| Project Manager: | ROY R. RASCON | P.O. #: | |
| Address: | | Company: | |
| City: | State: Zip: | Attn: | |
| Phone #: | Fax #: | Address: | |
| Project Owner: | ENERVEST | City: | |
| Project Name: | ENERVEST LEAK Site | State: Zip: | |
| Project Location: | JAL, NM LEA COUNTY | Phone #: | |
| Sampler Name: | ROY R. RASCON | Fax #: | |

| FOR LAB USE ONLY LAB ID # | SAMPLE I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | PRESERV.: OTHER : | ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | ANALYSIS REQUEST: Cl- | TPH 418.1 | 8015M | BTEX | TOTAL BTEX | BENZENE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H15158-1 | BORE #2 @ 25' BGS | G | 1 | | | ✓ | | | | | | ✓ | 3-16-09 | 4:08 | ✓ | | | | | |
| -2 | B8 35' | G | 1 | | | ✓ | | | | | | ✓ | 3-27-09 | 1:20 | ✓ | | | | | |
| -3 | B9 30' | G | 1 | | | ✓ | | | | | | ✓ | 3-27-09 | 2:16 | ✓ | | | | | |
| -4 | B10 65' | G | 1 | | | ✓ | | | | | | ✓ | 3-27-09 | 3:42 | ✓ | | | | | |

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

| | | | |
|---|---|---|---|
| Relinquished By: ROY R. RASCON | Date: 3-31-09 | Received By: | Phone Result: Yes No Add'l Phone #: |
| | Time: 8955 | | Fax Result: Yes No Add'l Fax #: |
| Relinquished By: | Date: | Received By: | REMARKS: PLEASE E-MAIL TO: royr , mikeg, kwomac, elliotw, & mcgriffin@vadose.us |
| | Time: | | |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | Sample Condition: Cool: Yes / No; Intact: Yes / No | CHECKED BY: (Initials) | |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
WHOLE EARTH ENVIRONMENTAL, INC.
ATTN: ROY R. RASCON
2103 ARBOR COVE
KATY, TX 77494
FAX TO: (281) 394-2051

Receiving Date: 06/09/09
Reporting Date: 06/09/09
Project Owner: NOT GIVEN
Project Name: ENERVEST JAL SPILL SITE
Project Location: NOT GIVEN

Analysis Date: 06/09/09
Sampling Date: 06/05/09
Sample Type: SOIL
Sample Condition: INTACT @ 22.5°C
Sample Received By: ML
Analyzed By: HM

| LAB NO. | SAMPLE ID | $Cl^-$ (mg/kg) |
|---|---|---|
| H17583-1 | HWY B #1 5' BGS | < 16 |
| H17583-2 | HWY B #2 @ 8' BGS | < 16 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Quality Control | | 500 |
| True Value QC | | 500 |
| % Recovery | | 100 |
| Relative Percent Difference | | 2.0 |

| METHOD: Standard Methods | 4500-$Cl^-$B |
|---|---|

*Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

06/10/09
Date

H17583 WEE

# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of____

| | |
|---|---|
| Company Name: | WEE INC. |
| Project Manager: | Roy R. RASCON |
| Address: | |
| City: | State: Zip: |
| Phone #: | Fax #: |
| Project #: | Project Owner: |
| Project Name: | ENERVEST JAL Spill site |
| Project Location: | |
| Sampler Name: | Roy R. RASCON |

**BILL TO**

| | |
|---|---|
| P.O. #: | |
| Company: | |
| Attn: | |
| Address: | |
| City: | |
| State: Zip: | |
| Phone #: | |
| Fax #: | |

**ANALYSIS REQUEST**

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER: | PRESERV.: ACID/BASE: | ICE / COOL | OTHER: | SAMPLING: DATE | TIME | Cl- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H17583-1 | HWY B#1 @ 5' BGS | G | 1 | | | X | | | | | | X | 6-5-09 | 915 | X |
| -2 | B#2 @ 8' BGS | G | 1 | | | X | | | | | | X | 6-5-09 | 1105 | X |

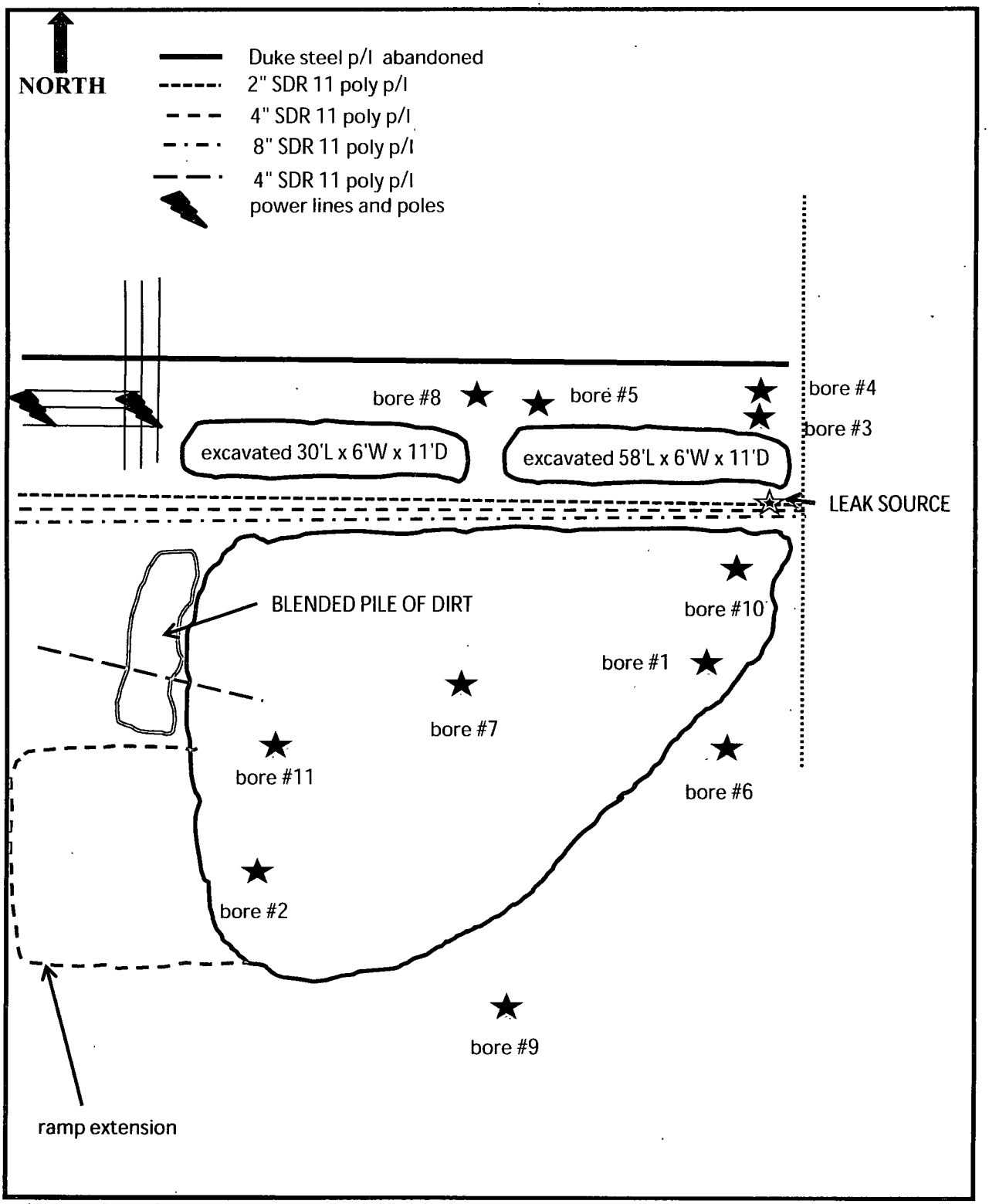
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed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

| | | | |
|---|---|---|---|
| Sampler Relinquished: Roy R. RASCON | Date: 6-9-09 Time: 0930 | Received By: Misty LeBert | Phone Result: ☐ No Add'l Phone #: |
| Relinquished By: | Date: Time: | Received By: | Fax Result: ☐ No Add'l Fax #: |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | Temp. 22.5°C | Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No | CHECKED BY: (Initials) MCAB |

REMARKS: PLEASE Email to All

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

EnerVest Operating, LLC
UL/I SEC 30 - T24S - R37E
BORE LOCATIONS

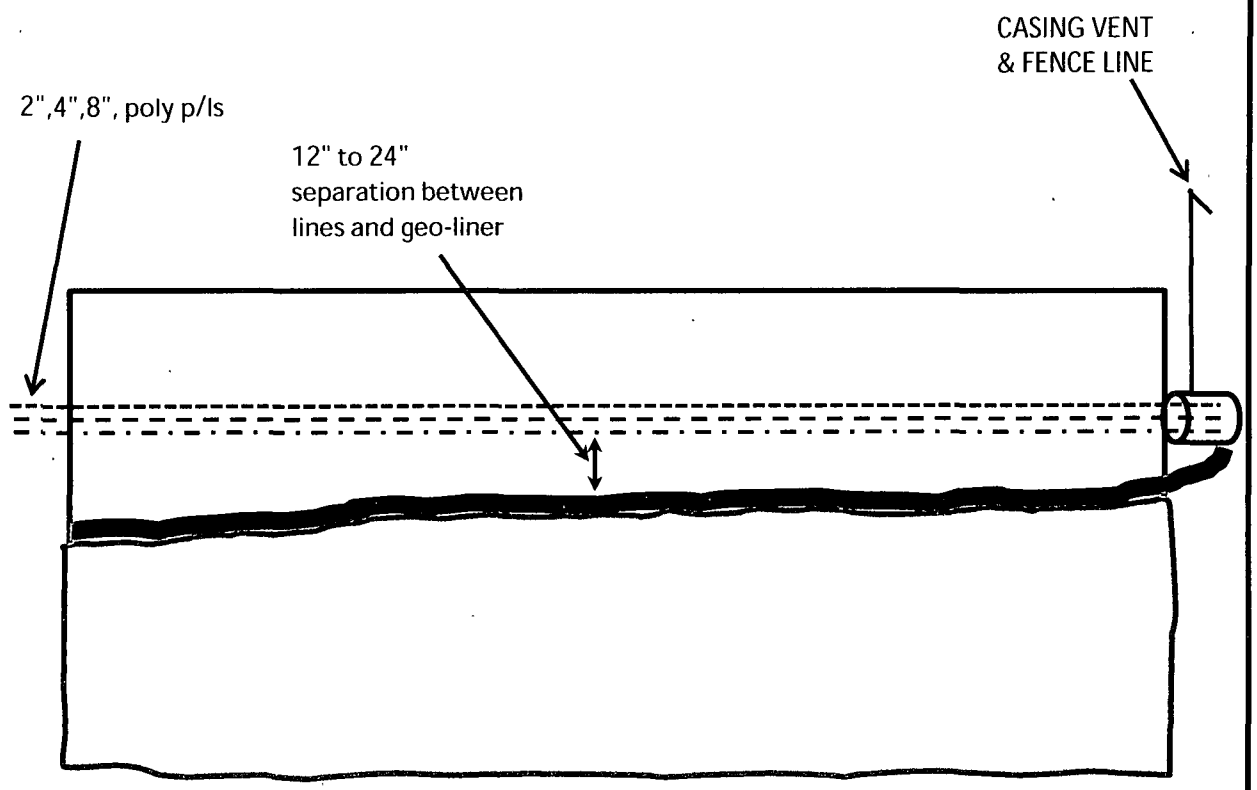



Distance from fence line to bore #2 100'
Distance from bore #8 to bore #9 142'

# EnerVest Operating, LLC
## GEO-LINER INSTALLATION
## UL/I SEC 30 - T24S - R37E

GEO-LINER DIAGRAM AND INSTALLATION

SIDE VIEW OF SOUTH TO NORTH




The surrounding area to be excavated in preparation for geo-liner will be excavated to 11'bgs and can be blended inside the excavated area to achieve 1000ppm cl- field titration as long as it is done in increments to insure good blending, 5pt composite sample will be pulled and cked by field titration for cl-, all remaining excavated material can be blended and be put back into the excavation prior to the liner installation.

The geo-liner will be installed under the casing and curved up with a slope to the west away from the fence line, along with a 2' separation from the pipelines the geo-liner. This will decrease the chances of breaking the integrity of the liner if future leaks or excavations are done in this area.

EnerVest Operating, LLC
Leak Site Remediation Plan
UL/I SEC 30 - T24S - R37E
GPS LAT & LON NAD27 (DECIMAL)
N32.18763 / W103.19299