

*Henry E. Frost*  
DEPUTY OIL & GAS INSPECTOR

OCT 08 1999

JICARILLA APACHE TRIBE  
ENVIRONMENTAL PROTECTION OFFICE  
P.O. BOX 507  
DULCE, NEW MEXICO 87528

BTS41

SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

*Risk - Bedrock*

PIT REMEDIATION AND CLOSURE REPORT

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200  
Address: 200 Amoco Court, Farmington, NM 87401  
Facility or Well Name: JICARILLA CONTRACT 148-4  
Location: Unit or Qtr/Qtr Sec F Sec 13 T 25N R 5W County RIO ARRIBA  
Pit Type: Separator      Dehydrator      Other BLOW  
Land Type: RANGE

Pit Location: Pit dimensions: length 30', width 37', depth 3'  
(Attach diagram) Reference: wellhead X, other       
Footage from reference: 115'  
Direction from reference: 3 Degrees      East of North       
X West South X

Depth To Groundwater:

(Vertical distance from  
contaminants to seasonal  
high water elevation of  
groundwater)

RECEIVED  
AUG 24 1999

OIL CON. DIV.  
DIST. 3

Less than 50 feet (20 points)  
50 feet to 99 feet (10 points)  
Greater than 100 feet (0 points) 0

Distance to an Ephemeral Stream

(Downgradient dry wash greater than  
ten feet in width)

Less than 100 feet (10 points)  
Greater than 100 feet (0 points) 0

Distance to Nearest Lake, Playa, or Watering Pond

(Downgradient lakes, playas and  
livestock or wildlife watering ponds)

Less than 100 feet (10 points)  
Greater than 100 feet (0 points) 0

Wellhead Protection Area:

(Less than 200 feet from a private  
domestic water source, or: less than  
1000 feet from all other water sources)

Yes (20 points)  
No (0 points) 0

Distance To Surface Water:

(Horizontal distance to perennial  
lakes, ponds, rivers, streams, creeks,  
irrigation canals and ditches)

Less than 100 feet (20 points)  
100 feet to 1000 feet (10 points)  
Greater than 1000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: \_\_\_\_\_ Date Completed: 4/14/98

Remediation Method: Excavation ☒ Approx. cubic yards 10  
 (check all appropriate sections) Landfarmed ☒ Insitu Bioremediation \_\_\_\_\_  
 Other \_\_\_\_\_

Remediation Location: Onsite ☒ Offsite CONTAINS SOIL FROM JICARILLA  
 (i.e. landfarmed onsite, name and location of offsite facility) CONTRACT 148-37

General Description of Remedial Action: Excavation, CONSIST OF MOSTLY BEDROCK.  
RISK ASSESSMENT ATTACHED.

Groundwater Encountered: No ☒ Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit: Sample location see Attached Documents  
 Closure Sampling: \_\_\_\_\_  
 (if multiple samples, attach sample results and diagram of sample locations and depths) Sample depth 4' (PIT BOTTOM)  
 Sample date 4/14/98 Sample time 0905

Sample Results

|                 |       |            |                |       |       |
|-----------------|-------|------------|----------------|-------|-------|
| Soil: Benzene   | (ppm) | _____      | Water: Benzene | (ppb) | _____ |
| Total BTEX      | (ppm) | _____      | Toluene        | (ppb) | _____ |
| Field Headspace | (ppm) | <u>385</u> | Ethylbenzene   | (ppb) | _____ |
| TPH             | (ppm) | <u>NA</u>  | Total Xylenes  | (ppb) | _____ |

Groundwater Sample: Yes \_\_\_\_\_ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 4/14/98 PRINTED NAME Buddy D. Shaw  
 SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO \_\_\_\_\_ (REASON) \_\_\_\_\_

SIGNED: [Signature] DATE: 4-29-98

CLIENT: AMOCO

BLAGG ENGINEERING, INC.  
P.O. BOX 87, BLOOMFIELD, NM 87413  
(505) 632-1199

LOCATION NO: BJ541  
C.D.C. NO: \_\_\_\_\_

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICA. CONTR. 148 WELL #: 4 PIT: BLOW  
QUAD/UNIT: F SEC: 13 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM  
QTR/FOOTAGE: SE/4 NW/4 CONTRACTOR: PDS

DATE STARTED: 4/14/98  
DATE FINISHED: \_\_\_\_\_  
ENVIRONMENTAL SPECIALIST: AV

EXCAVATION APPROX. 30 FT. x 37 FT. x 3 FT. DEEP. CUBIC YARDAGE: 10  
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED  
LAND USE: RANGE LEASE: JICA. 148 FORMATION: PC

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 115 FT. 53W FROM WELLHEAD.  
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'  
NMDCD BANKING SCOPE: 0 NMDCD TPH CLOSURE STD: 5000 PPM  
SOIL AND EXCAVATION DESCRIPTION:  

EXCAVATION CONSIST OF MOSTLY SANDSTONE, PIT BOTTOM MED. TO DK. GRAY, VERY HARD, SIDEWALLS ARE GENTLY SLOPED, THEREFORE NO LATERAL SAMPLES WERE COLLECTED, NO APPARENT STAINING OBSERVED ADJACENT TO PIT AREA, HC 000R OBSERVED IN DUM SAMPLE.

EXCAVATION MOSTLY BEDROCK

RISK ASSESSED

FIELD 418.1 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------|-------------|---------|------------|-----------|----------|---------|-----------|
| 0905 |             |         |            |           |          |         |           |
|      |             |         |            |           |          |         |           |
|      |             |         |            |           |          |         |           |

SCALE

0 FT

PIT PERIMETER

OVM RESULTS

| SAMPLE ID | FIELD HEADSPACE PID (ppm) |
|-----------|---------------------------|
| 1 24'     | 385                       |
| 2         |                           |
| 3         |                           |
| 4         |                           |
| 5         |                           |
|           |                           |
|           |                           |
|           |                           |
|           |                           |

LAB SAMPLES

| SAMPLE ID | ANALYSIS | TIME |
|-----------|----------|------|
|           |          |      |
|           |          |      |
|           |          |      |
|           |          |      |

PIT PROFILE

TRAVEL NOTES: CALLOUT: 4/8/98 AFTER ONSITE: 4/14/98 - MORN.

**Well Name:**

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

**Jicarilla Contract 148 #4**  
Unit F, Sec. 13, T25N, R5W

Blow Pit

Pictured Cliffs

Non Vulnerable

&gt; 1000 ft.

&gt; 100 ft.

**RISK ASSESSMENT (non-vulnerable area)**

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 3 feet below grade.

No past or future threat to surface water or groundwater is likely based on the following considerations:

1. Past production fluids were contained locally by a relatively shallow sandstone bedrock located 3 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone bedrock.
2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
3. Daily discharge into the earthen pit has been terminated (pit abandoned). Prior discharge into the pit is believed to be under 5 barrels per day.
4. Well site located within the **non-vulnerable area** (Wild Horse Mesa) and is approximately 0.63 miles north of the nearest vulnerable area boundary (Lapis Valley wash).

**(Refer to Lapis Point Quadrangle, New Mexico - Rio Arriba County, 7.5 Minute Series (Topographic), 1963, (vulnerable area boundary developed by Mr. William C. Olson, Hydrogeologist, Environmental Bureau, New Mexico Oil Conservation Division).**

Based upon the information given, we conclude that the sandstone bottom creates enough of an impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995". with cover letter dated November 30, 1995). AMOCO requests pit closure approval on this location.

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ENVIRONMENTAL PROTECTION OFFICE  
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DULCE, NEW MEXICO 87528**

BJS41  
SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

**ON-SITE SOIL REMEDIATION REPORT**

|   |  |   |
|---|--|---|
| <b>Operator:</b> <u>AMOCO PRODUCTION COMPANY</u>  |  | <b>Telephone:</b> <u>(505) 326-9200</u>   |
| <b>Address:</b> <u>200 Amoco Court, Farmington, NM 87401</u>  |  |   |
| <b>Facility or Well Name:</b> <u>JICARILLA CONTRACT 148-4</u>   |  |   |
| <b>Location:</b> Unit or Qtr/Qtr Sec <u>F</u> Sec <u>13</u> T <u>25N</u> R <u>5W</u> County <u>Rio Arriba</u>   |  |   |
| <b>Land Type:</b> <u>RANGE</u>  |  |   |
| <b>Date Remediation Started:</b> <u>4.14.98</u>   |  | <b>Date Completed:</b> <u>1.19.99</u>   |
| <b>Remediation Method:</b> Landfarmed <input checked="" type="checkbox"/><br>Composted <input type="checkbox"/><br>Other <input type="text"/>               |  | <b>Approx. cubic yards</b> <u>600</u>   |
| <b>Distance To Groundwater:</b> (pts.) <u>0</u>   |  | <b>Final Closure Sampling:</b><br><b>Sampling Date:</b> <u>1.13.99</u> <b>Time:</b> <u>1330</u><br><b>Sample Results:</b><br>Field Headspace (ppm) <u>0.0</u><br>TPH (ppm) <u>50.8</u> Method <u>2015</u><br>Other <input type="text"/> |
| <b>Distance to an Ephemeral Stream</b> (pts.) <u>0</u>  |  |   |
| <b>Distance to Nearest Lake, Playa, or Watering Pond</b> (pts.) <u>0</u>  |  |   |
| <b>Wellhead Protection Area:</b> (pts.) <u>0</u>  |  |   |
| <b>Distance To Surface Water:</b> (pts.) <u>0</u>   |  |   |
| <b>RANKING SCORE (TOTAL POINTS):</b> <u>0</u>   |  |   |
| <b>I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF</b>  |  |   |
| <b>DATE</b> <u>1/19/99</u>  |  | <b>PRINTED NAME</b> <u>Buddy D. Shaw</u>  |
| <b>SIGNATURE:</b> <u>Buddy D. Shaw</u>  |  | <b>AND TITLE</b> <u>Environmental Coordinator</u>   |
| <b>AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.</b> |  |   |
| <b>APPROVED</b> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (REASON) <input type="text"/>   |  |   |
| <b>SIGNED:</b> <u>K. C. [Signature]</u>   |  | <b>DATE:</b> <u>3-31-99</u>   |

|                      |  |   |
|----------------------|--|---|
| CLIENT: <u>AMOCO</u> | BLAGG ENGINEERING, INC.<br>P.O. BOX 87, BLOOMFIELD, NM 87413<br>(505) 632-1199 | LOCATION NO: <u>83541</u><br>C.D.C. NO: <u>6547</u> |
|----------------------|--|---|

# FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

|   |   |
|---|---|
| LOCATION: NAME <u>JICARILLA CONTRACT 148</u> WELL #: <u>4</u> PITS: <u>BLOW</u>                               | DATE STARTED: <u>1-13-99</u><br>DATE FINISHED: <u>1-19-99</u> |
| QUAD/UNIT: <u>F</u> SEC: <u>13</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> | ENVIRONMENTAL SPECIALIST: <u>REF</u>                          |
| DTP/FOOTAGE: <u>SE/4 NW/4</u> CONTRACTOR: <u>PJS</u>  |   |

## SOIL REMEDIATION:

REMEDATION SYSTEM: LANDFARM

APPROX. CUBIC YARDAGE: 600

LAND USE: RANGE

LIFT DEPTH (ft): 1-2

## FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'

NMOCID RANKING SCORE: 0 NMOCID TPH CLOSURE STD: 5000 PPM

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM.  
NO STAINING OBSERVED OR HCL ODOR DETECTED. SAMPLING DEPTHS RANGE  
FROM 6" - 18". TOOK A SPT COMPOSITE SAMPLE FOR LAB ANALYSIS.

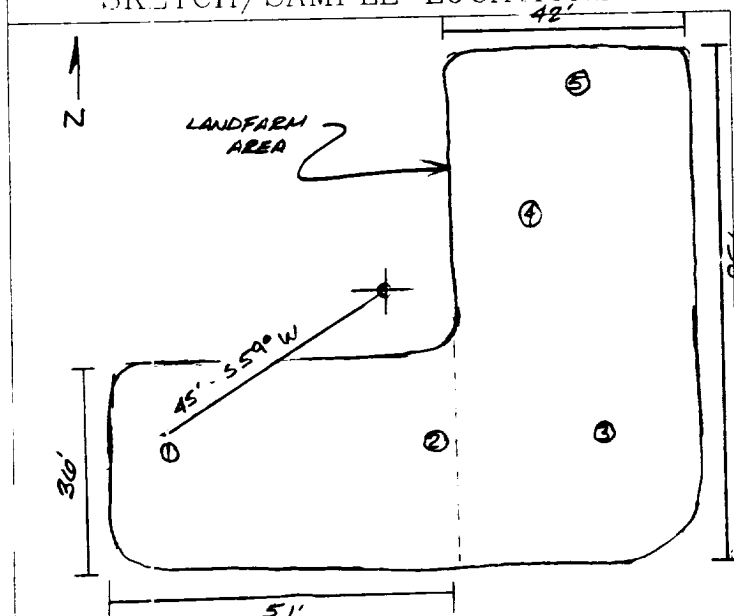
CLOSED

APPROX. 590 C.Y. DEPOSED  
FROM 148-37.

## FIELD 418.1 CALCULATIONS

| SAMP. TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------------|-------------|---------|------------|-----------|----------|---------|-----------|
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |

## SKETCH/SAMPLE LOCATIONS



## OVM RESULTS

## LAB SAMPLES

| SAMPLE ID | FIELD HEADSPACE P/D (ppm) | SAMPLE ID | ANALYSIS   | TIME | RESULTS |
|-----------|---------------------------|-----------|------------|------|---------|
| LF-1      | 0.0                       | LF-1      | TPH (8015) | 1330 | 508     |
|           |                           |           |            |      |         |
|           |                           |           |            |      |         |
|           |                           |           |            |      |         |
|           |                           |           |            |      |         |
|           |                           |           |            |      |         |

## TRAVEL NOTES:

CALLOUT: N/A

ONSITE: 1-13-99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

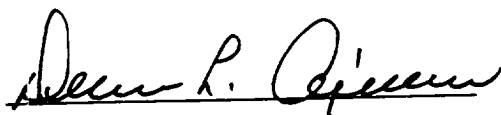
|                      |                 |                     |          |
|----------------------|-----------------|---------------------|----------|
| Client:              | Blagg / AMOCO   | Project #:          | 04034-10 |
| Sample ID:           | LF - 1          | Date Reported:      | 01-19-99 |
| Laboratory Number:   | E524            | Date Sampled:       | 01-13-99 |
| Chain of Custody No: | 6547            | Date Received:      | 01-15-99 |
| Sample Matrix:       | Soil            | Date Extracted:     | 01-15-99 |
| Preservative:        | Cool            | Date Analyzed:      | 01-19-99 |
| Condition:           | Cool and Intact | Analysis Requested: | 8015 TPH |

| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | 3.5                      | 0.2                      |
| Diesel Range (C10 - C28)     | 47.3                     | 0.1                      |
| Total Petroleum Hydrocarbons | 50.8                     | 0.2                      |

NC - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla Contract 148 - 4 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

6547

[illegible]