B0202

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd., Aztec, NM 87410

Henry L. Faust
DEPUTY OIL & GAS INSPECTOR
DEC 03 1996

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

# PIT REMEDIATION AND CLOSURE REPORT

Approved

**Operator:** Amoco Production Company **Telephone:** (505) - 326-9200

**Address:** 200 Amoco Court, Farmington, New Mexico 87401

**Facility Or: Well Name** ALLEN A1

**Location:** Unit or Qtr/Qtr Sec D Sec 1 T 29 N R 12 W County SAN JUAN

**Pit Type:** Separator X Dehydrator ___ Other ___

**Land Type:** BLM ___, State ___, Fee ___, Other COM. AGMT.

**Pit Location:** (Attach diagram)

Pit dimensions: length 27', width 41', depth 10'

Reference: wellhead X, other ___

Footage from reference: 105'

Direction from reference: 15 Degrees ___ East North ___ of X West South X

**Depth To Ground Water:** (Vertical distance from contaminants to seasonal high water elevation of ground water)

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

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**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) 20

**Distance To Surface Water:** (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)

Less than 200 feet (20 points)
200 feet to 1000 feet (10 points)
Greater than 1000 feet (0 points) 0

**RANKING SCORE (TOTAL POINTS):** 20

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**Date Remediation Started:** _____ **Date Completed:** 1/4/95

**Remediation Method:** (Check all appropriate sections) Excavation X Approx. cubic yards 350

Landfarmed ___ Insitu Bioremediation ___

Other BIOREMEDIATION BY EPC

**Remediation Location:** (ie. landfarmed onsite, name and location of offsite facility) Onsite ___ Offsite X AMOCO COMPOST FACILITY

**General Description Of Remedial Action:**

Excavation - BEDROCK BOTTOM

**Ground Water Encountered:** No X Yes ___ Depth _____

**Final Pit: Closure Sampling:** (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents

Sample depth 6'

Sample date 1/4/95 Sample time 1215

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) 493

TPH 512 ppm

**Ground Water Sample:** Yes ___ No X (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 1/4/95

SIGNATURE B J Shaw

PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

CLIENT: AMOCO

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

LOCATION NO: 80202
C.O.C. NO: _____

# FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: ALLEN WELL #: A1 PIT: SEP
QUAD/UNIT: D SEC: 1 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: NW/4 NW/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 1/4/95
DATE FINISHED: _____
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 27 FT. x 41 FT. x 10 FT. DEEP. CUBIC YARDAGE: 350 BY EPC
DISPOSAL FACILITY: Amoco Compost Facility REMEDIATION METHOD: BIOREMEDIATION
LAND USE: RANGE/RESIDENTIAL LEASE: 91-007751 FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 105 FT. S15W FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: <1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

CHECK ONE:
___ PIT ABANDONED
✓ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

VARIOUS COLORS RANGING FROM VERY PALE ORANGE TO MOD. REDDISH BROWN SILTY SAND, NON-COHESIVE, SLIGHTLY MOIST, FIRM TO DENSE STRONG HC ODOR IN WEST SIDEWALL & BOTTOM OVM SAMPLES. LT. OLIVE GRAY COLOR DISTINGUISHABLE IN WEST SIDE.

BOTTOM - SANDSTONE, HARD.

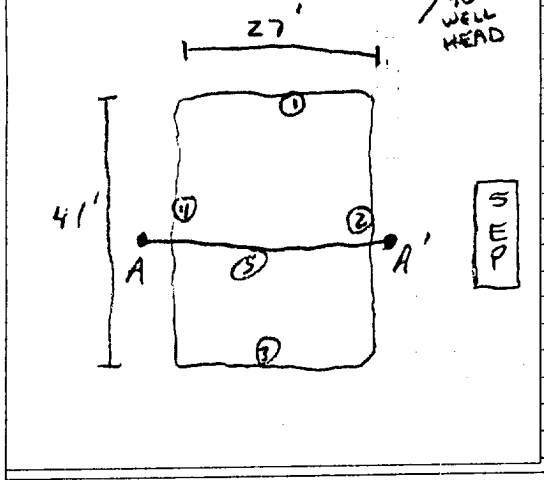
CONDITIONAL CLOSURE

FIELD 418.1 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|---|---|---|---|---|---|---|---|
| 1215 | ④ @ 6' | TPH-1343 | 5 | 20 | 1:1 | 128 | 512 |
| " | DUPLICATE | " | " | " | " | 118 | 472 |
| | | | | | | | |

SCALE
0 FT

## PIT PERIMETER



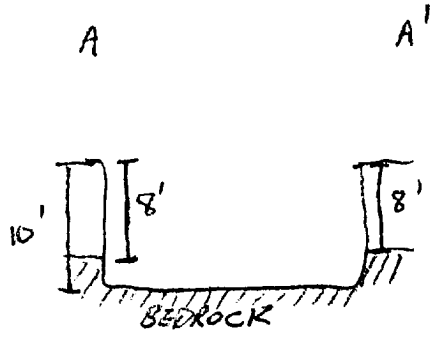

## OVM RESULTS

| SAMPLE ID | FIELD HEADSPACE PID (ppm) |
|---|---|
| 1 @ 6' | 0.0 |
| 2 @ 7' | 0.0 |
| 3 @ 7' | 0.0 |
| 4 @ 6' | 493 |
| 5 @ 10' | 593 |

LAB SAMPLES

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

## PIT PROFILE




TRAVEL NOTES: CALLOUT: 1/3/95 ONSITE: 1/4/95

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

# FIELD MODIFIED EPA METHOD 418.1
# TOTAL PETROLEUM HYDROCARBONS

| | | | |
|---|---|---|---|
| Client: | Amoco | Project #: | |
| Sample ID: | 4 @ 6' | Date Analyzed: | 01-04-95 |
| Project Location: | Allen A 1 | Date Reported: | 01-04-95 |
| Laboratory Number: | TPH-1343 | Sample Matrix: | Soil |

| Parameter | Result, mg/kg | Detection Limit, mg/kg |
|---|---|---|
| Total Recoverable Petroleum Hydrocarbons | 510 | 20 |

ND = Not Detectable at stated detection limits.

| QA/QC: | QA/QC Sample TPH mg/kg | Duplicate TPH mg/kg | % *Diff. |
|---|---|---|---|
| | 512 | 472 | 8.13 |

*Administrative Acceptance limits set at 30%.

Method: Modified Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Separator Pit -- B0202

Analyst

Review

| | |
|---|---|
| **Well Name:** | **Allen A#1** |
| Well Site location: | Unit D, Sec. 1, T29N, R12W |
| Pit Type: | Separator Pit |
| Producing Formation: | Basin Dakota |
| Pit Category: | Vulnerable Area |
| Nearest Water Source: | < 1000 ft. |
| Vicinity Groundwater Depth: | > 100 ft. |

# RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 10 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 10 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 (double sidewall steel tank installed). Prior discharge into the pit is believed to be under 5 barrels per day.

4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

| LOCATION | HEADSPACE (ppm) | BENZENE (ppm) | TOTAL BTEX (ppm) |
|---|---|---|---|
| **Frost, Jack B 1E** | **1100** | **0.011** | **5.889** |
| **Berger A1** | **482** | **0.084** | **0.681** |
| **Mudge Com B 1E** | **684** | **0.017** | **16.438** |
| **L.C. Kelly #5** | **1235** | **0.643** | **13.908** |

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the sandstone bottom creates enough of a permeable 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.