

**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

**State of New Mexico**

Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Tank Draw - 89290  
 bedrock  
 SUBMIT 1 COPY TO  
 APPROPRIATE  
 DISTRICT OFFICE  
 AND 1 COPY TO  
 SANTA FE OFFICE

**PIT REMEDIATION AND CLOSURE REPORT**

Denial 12/13/95

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

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

**Facility Or:** BERGER A 1

**Well Name**

**Location:** Unit or Qtr/Qtr Sec J Sec 21 T26N R11W County SAN JUAN

**Pit Type:** Separator Dehydrator Other TANK DRAW

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

**Pit Location:** Pit dimensions: length 25', width 25', depth 23'  
 (Attach diagram)

**Reference:** wellhead X, other

**Footage from reference:** 175

**Direction from reference:** 65 Degrees East North X  
 of  
 X West South

**Depth To Ground Water:** Less than 50 feet (20 points)  
 (Vertical distance from 50 feet to 99 feet (10 points)  
 contaminants to seasonal Greater than 100 feet (0 Points) 0  
 high water elevation of  
 ground water)

**Wellhead Protection Area:** Yes (20 points)  
 (Less than 200 feet from a private No (0 points) 0  
 domestic water source, or; less than  
 1000 feet from all other water sources)

**Distance To Surface Water:** Less than 200 feet (20 points)  
 (Horizontal distance to perennial 200 feet to 1000 feet (10 points)  
 lakes, ponds, rivers, streams, creeks, Greater than 1000 feet (0 points) 0  
 irrigation canals and ditches)

**RANKING SCORE (TOTAL POINTS):** 0

Date Remediation Started: \_\_\_\_\_ Date Completed: 5-24-95Remediation Method: Excavation X Approx. cubic yards 450  
(Check all appropriate sections) Landfarmed X Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Location: Onsite X offsite \_\_\_\_\_  
(ie. landfarmed onsite, name and location of offsite facility)

General Description Of Remedial Action: \_\_\_\_\_

Excavation - INTO SANDSTONE BEDROCK - RISK ASSESSED -

Ground Water Encountered: No X Yes \_\_\_\_\_ Depth \_\_\_\_\_Final Pit: Sample location see Attached DocumentsClosure Sampling:  
(if multiple samples, attach sample results and diagram of sample locations and depths)Sample depth 25'Sample date 5-24-95 Sample time \_\_\_\_\_

Sample Results

Benzene(ppm) 0.084Total BTEX(ppm) 0.68Field headspace(ppm) 482TPH 155 PPMGround 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 5-31-95 5/11/98

SIGNATURE

B. ShawPRINTED NAME  
AND TITLEBuddy D. Shaw  
Environmental Coordinator

RESULTS TO RON 5-25-95 RLO

CLIENT: <u>Amoco</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>80290</u> C.O.C. NO: <u>3047</u>
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## FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: <u>BERGER A</u>	WELL #: <u>1</u>	PIT: <u>THICK BRN</u>	DATE STARTED: <u>5-24-95</u>
QUAD/UNIT: <u>J</u>	SEC: <u>21</u>	TWP: <u>26 N</u> RNG: <u>11 W</u> BM: <u>Nm</u> CNTY: <u>SJ</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: <u>1650' FSL. 1850' FEL</u>	CONTRACTOR: <u>MOSS</u>	ENVIRONMENTAL SPECIALIST: <u>REC</u>	

EXCAVATION APPROX: 25 FT. x 25 FT. x 23 FT. DEEP. CUBIC YARDS: 450  
DISPOSAL FACILITY: ON SITE REMEDIATION METHOD: LF  
LAND USE: AGRICULTURAL LEASE: 91-006434 FORMATION: OK

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>175'</u> FEET <u>N65°W</u> FROM WELLHEAD. <span style="float: right;">METER ABOVE</span>		
DEPTH TO GROUNDWATER: <u>&gt;100'</u>	NEAREST WATER SOURCE: <u>&gt;1000'</u>	NEAREST SURFACE WATER: <u>&gt;1000'</u>	
NMOC(1) RANKING SCORE: <u>0</u>	NMOC(1) TPH CLOSURE STD: <u>5000</u> PPM		

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

PIT IS EXCAVATED INTO SILTSTONE/SANDSTONE. BOTTOM IS GRAY SILTSTONE - ODOUR IN ALL SAMPLES - BOTTOM STAIN. MIGRATION OF HYDROCARBONS LIMITED BY TIGHT FORMATION.

RISK ASSESSED

FIELD 418.1 CALCULATIONS

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

SCALE

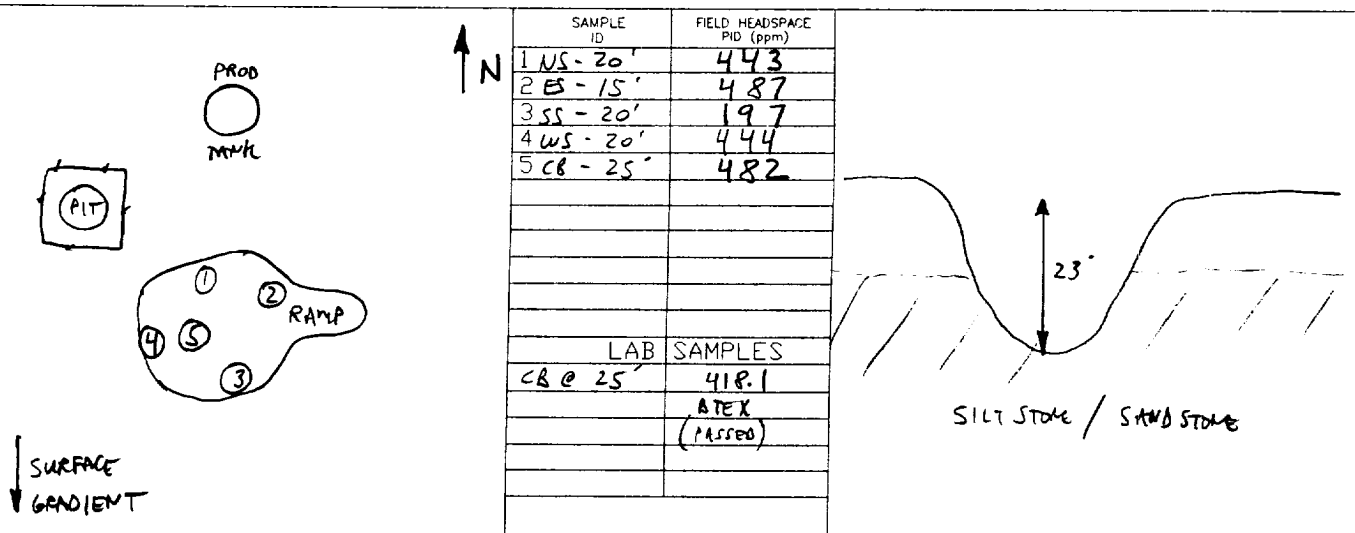


0 10 20 FT

PIT PERIMETER

## OVM RESULTS

PIT PROFILE



TRAVEL NOTES:      CALLOUT: 5-24-95      ONSITE: 5-24-95      0800

<b>Well Name:</b>	<b>Berger A #1</b>
Well Site location:	Unit J, Sec. 21, T26N, R11W
Pit Type:	Tank Drain Pit
Producing Formation:	Basin Dakota
Pit Category:	Non Vulnerable
Horizontal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	> 100 ft.

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

Pit remediation activities were terminated when trackhoe encountered competent siltstone/sandstone at 23 feet below grade.

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

1. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below shallow siltstone/sandstone bedrock encountered at 23 feet below grade.
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** and is approximately 0.34 miles northwest of the nearest vulnerable area boundary (Gallegos Canyon Wash).

**(Refer to Carson Trading Post Quadrangle, New Mexico - San Juan County, 7.5 Minute Series (Topographic), 1966, (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 subsurface lateral impact from the earthen pit is very limited and that the siltstone/sandstone bottom creates enough of a 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.

OFF: (505) 325-8786



LAB: (505) 325-5667

**TOTAL PETROLEUM HYDROCARBONS**

Attn: *R.E. O'Neill*  
Company: *Blagg Engineering, Inc.*  
Address: *P.O. Box 87*  
City, State: *Bloomfield, NM 87413*

Date: *5/25/95*  
COC No. *3047*  
Sample ID: *6482*  
Job No. *2-1000*

Project Name: *Berger A #1*  
Project Location: *CB @ 25'*  
Sampled by: *REO* Date: *5/24/95*  
Analyzed by: *DC* Date: *5/24/95*  
Sample Matrix: *Soil*

Time: *8:30*

**Laboratory Analysis**

<b>Laboratory Identification</b>	<b>Sample Identification</b>	<b>Total Petroleum Hydrocarbons</b>
<i>6482-3047</i>	<i>Berger A #1 CB @ 25'</i>	<i>155 mg/kg</i>

**Method** - EPA Method 418.1 Total Petroleum Hydrocarbons

Approved by: *Ja G*

Date: *5/25/95*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-8786



LAB: (505) 325-5667

**AROMATIC VOLATILE ORGANICS**

Attn: *R.E. O'Neill*  
Company: *Blagg Engineering, Inc.*  
Address: *P.O. Box 87*  
City, State: *Bloomfield, NM 87413*

Date: *5/25/95*  
COC No. *3047*  
Sample ID: *6482*  
Job No. *2-1000*

Project Name: *Berger A #1*  
Project Location: *CB @ 25'*  
Sampled by: *REO* Date: *5/24/95*  
Analyzed by: *DC* Date: *5/24/95*  
Sample Matrix: *Soil*

Time: *8:30*

**Aromatic Volatile Organics**

<b>Component</b>	<b>Measured Concentration ug/kg</b>	<b>Detection Limit Concentration ug/kg</b>
<i>Benzene</i>	<i>83.9</i>	<i>0.2</i>
<i>Toluene</i>	<i>98.7</i>	<i>0.2</i>
<i>Ethylbenzene</i>	<i>36.9</i>	<i>0.2</i>
<i>m,p-Xylene</i>	<i>397.9</i>	<i>0.2</i>
<i>o-Xylene</i>	<i>63.2</i>	<i>0.2</i>
	<b>TOTAL</b> <i>680.6 ug/kg</i>	

*ND - Not Detectable*

**Method** - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: *Da 4*  
Date: *5/25/95*

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— TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT —



CLIENT: <u>Amoco</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>80290</u> C.O.C. NO: <u>ANIMAS</u>
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## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: <u>BERGER A1</u>	LEASE: <u>91-006434</u>	DATE STARTED: <u>4-23-96</u>
QUAD/UNIT: <u>J SEC: 21 TWP: 26 N RNG: 11 W</u>	BM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: <u>1650' FSL. 1850' FEL.</u>	CONTRACTOR: <u>MOSS</u>	ENVIRONMENTAL SPECIALIST: <u>REO</u>

### SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 450

LAND USE: AGRICULTURAL

### FIELD NOTES & REMARKS:

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

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

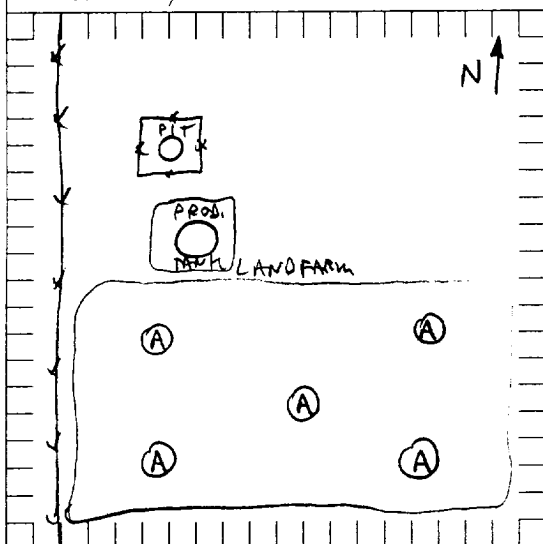
SOIL CONSISTS OF SILTY SAND, MOIST → DRY. NO ODOOR/ NO STAIN.

### FIELD 418.1 CALCULATIONS

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

CLOSE L.F.

### SKETCH/SAMPLE LOCATIONS



### OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
COMP. A	1

### LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
COMP. A	8015	0840	54.9

### SCALE



TRAVEL NOTES: CALLOUT: \_\_\_\_\_ ONSITE: 4-23-96 0830





## TOTAL VOLATILE PETROLEUM HYDROCARBONS

### Gasoline Range Organics

#### Blagg Engineering, Inc.

Project ID: Berger A1  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 05/02/96  
Date Sampled: 04/23/96  
Date Received: 04/24/96  
Date Extracted: 04/30/96  
Date Analyzed: 04/30/96

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Comp. A	3224	ND	13.3

ND- Analyte not detected at the stated detection limit.

#### Quality Control:

Surrogate  
Trifluorotoluene

% Recovery  
107%

Acceptance Limits  
50 - 150%

#### Reference:

Method for the Determination of Gasoline Range Organics,  
State of Tennessee, Department of Environment and Conservation, Division  
of Underground Storage Tanks.

#### Comments:

  
Analyst

  
Review

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS**

**Diesel Range Organics**

**Blagg Engineering, Inc.**

Project ID: Berger A1  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Intact

Report Date: 05/02/96  
Date Sampled: 04/23/96  
Date Received: 04/24/96  
Date Extracted: 04/30/96  
Date Analyzed: 05/01/96

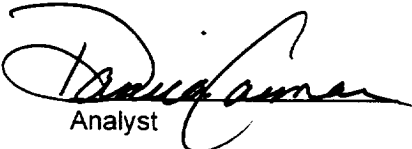
Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Comp. A	3224	54.9	18.9

ND- Analyte not detected at the stated detection limit.

**Quality Control:**                      Surrogate                      % Recovery                      Acceptance Limits  
   o - Terphenyl                      93%                      50 - 150%

**Reference:** EPA Method 8015A, modified. "Nonhalogenated Volatile Organics by Gas Chromatography." Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods, SW-846, 3rd Ed, Final Update I, July, 1992. USEPA.

**Comments:**

  
Analyst

  
Review