

85572 SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

RECEIVED  
AUG 16 1993  
OIL CON. DIV.

**OIL CON. DIV.**

**Pit Location:** Pit dimensions: length 68', width 58', depth 8'  
(Attach diagram) Reference: wellhead X, other \_\_\_\_\_  
Footage from reference: 147'  
Direction from reference: 84 Degrees X East of North X  
West of South \_\_\_\_\_

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

Date Remediation Started: \_\_\_\_\_ Date Completed: 6/25/98

Remediation Method: Excavation ☒ Approx. cubic yards 750  
 check all appropriate sections) Landfarmed ☒ Insitu Bioremediation \_\_\_\_\_  
 Other \_\_\_\_\_

Remediation Location: Onsite ☒ Offsite \_\_\_\_\_  
 (i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation. EXCAVATION MOSTLY BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED. RISK ASSESSED.

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 5' (NORTH SIDEWALL)

Sample date 6/25/98 Sample time 1045

Sample Results

Soil: Benzene	(ppm) _____	Water: Benzene	(ppb) _____
Total BTEX	(ppm) _____	Toluene	(ppb) _____
Field Headspace	(ppm) <u>120.3</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 6/25/98 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: Kee C Mammell DATE: 7-27-98

CLIENT: AMOCO

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

LOCATION NO: BJ572  
C.O.C. NO: \_\_\_\_\_

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME TICA CONTR. 146 WELL # 33 PIT: BLOW  
QUAD/UNIT: P SEC: 10 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM  
QTR/FOOTAGE: 970' FSU 1120' FEL CONTRACTOR: P+S

DATE STARTED: 6/25/98  
DATE FINISHED: \_\_\_\_\_  
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 68 FT. x 58 FT. x 5 FT. DEEP. CUBIC YARDAGE: 750  
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM  
LAND USE: RANGE LEASE: TIC 146 FORMATION: CK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 147 FT. N84E FROM WELLHEAD.  
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'  
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD 5000 PPM

SOIL AND EXCAVATION DESCRIPTION:  
SIDEWALLS - MOSTLY BEDROCK (SHALE) SOFT/FRIABLE NEAR GROUND SURFACE TO VERY HARD/COMPETENT NEAR PIT BOTTOM, STAINING EVIDENT ON NORTH & WEST SIDEWALLS ONLY, HC ODOOR APPARENT IN AREAS STAINED, COLOR RANGING FROM GRAYISH ORANGE TO MOD. YELL. BROWN, ALL DUM SAMPLES COLLECTED FROM BEDROCK, THEREFORE NO TPH WAS CONDUCTED.  
BOTTOM - BEDROCK (SHALE) VERY HARD, STAINING EVIDENT @ PIT CENTER, MOD. YELL. BROWN TO LT. GRAY IN COLOR,

EXCAVATION MOSTLY BEDROCK

RISK ASSESSED

CHECK ONE:  
☒ PIT ABANDONED  
☐ STEEL TANK INSTALLED  
☐ FIBERGLASS TANK INSTALLED

SCALE  
0 FT

PIT PERIMETER

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 5'	120.3
2 @ 4'	0.0
3 @ 4'	0.0
4 @ 4'	0.0
5 @ 8'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

TRAVEL NOTES: CALLOUT: 6/24/98 - MORN. ONSITE: 6/25/98 - MORN.

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla Contract 146 #33

Unit P, Sec. 10, T25N, R5W

Blow Pit

Chacra

Non Vulnerable

> 1000 ft.

> 100 ft.

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

Pit remediation activities were terminated when trackhoe encountered shale bedrock at 8 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 shale bedrock located 8 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below shale 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** and is approximately 0.73 miles east northeast of the nearest vulnerable area boundary (Gonzales Canyon 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 subsurface lateral impact from the earthen pit is very limited and that the shale 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.

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

8J572

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

**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 # 146-33  
**Location:** Unit or Qtr/Qtr Sec P Sec 10 T 25N R 5W County RIO ARIZONA  
**Pit Type:** Separator ☒ Dehydrator ☐ Other PRODUCTION TANK  
**Land Type:** RANGE

**Pit Location:** Pit dimensions: length 32', width 19', depth 6'  
(Attach diagram) Reference: wellhead ☒, other ☐  
Footage from reference: 162'  
Direction from reference: 14 Degrees ☒ East of North ☐  
West of South ☒

<b>Depth To Groundwater:</b> (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
<b>Distance to an Ephemeral Stream</b> (Downgradient dry wash greater than ten feet in width)	Less than 100 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
<b>Distance to Nearest Lake, Playa, or Watering Pond</b> (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
<b>Wellhead Protection Area:</b> (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)	<u>0</u>
<b>Distance To Surface Water:</b> (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)	<u>0</u>

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

8J572

SEP. / PROD. TANK PIT

Date Remediation Started: \_\_\_\_\_

Date Completed: 6/25/98Remediation Method: Excavation ☒Approx. cubic yards 125

(check all appropriate sections)

Landfarmed ☒

Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Location:

Onsite ☒ Offsite \_\_\_\_\_

(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation. EXCAVATION MOSTLY BEDROCK,THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

Groundwater Encountered:

No ☒ Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit:

Closure Sampling:

(if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached DocumentsSample depth 6' (PIT BOTTOM)Sample date 6/25/98 Sample time 1125

Sample Results

Soil: Benzene (ppm) \_\_\_\_\_ Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) \_\_\_\_\_ Toluene (ppb) \_\_\_\_\_

Field Headspace (ppm) 36.0 Ethylbenzene (ppb) \_\_\_\_\_TPH (ppm) NA 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

6/25/98

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:

Kate C. M...

DATE:

7-27-98

3003922521

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>85572</u> C.O.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>JICA CONTR. 146</u> WELL #: <u>33</u> PIT: <u>SEP. / PROD.</u> QUAD/UNIT: <u>P SEC: 10 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM</u> QTR/FOOTAGE: <u>970' FSU / 1120' FEL</u> CONTRACTOR: <u>P + S</u>	DATE STARTED: <u>6/25/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
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EXCAVATION APPROX. <u>32</u> FT. x <u>19</u> FT. x <u>6</u> FT. DEEP.	CUBIC YARDAGE: <u>125</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDIALATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u>	LEASE: <u>JIC 146</u> FORMATION: <u>CK</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>162</u> FT. <u>514 E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>&gt;100'</u> NEAREST WATER SOURCE: <u>&gt;1000'</u> NEAREST SURFACE WATER: <u>&gt;1000'</u> NMOC RANKING SCORE: <u>0</u> NMOC TPH CLOSURE STD: <u>5000</u> PPM SOIL AND EXCAVATION DESCRIPTION:
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EXCAVATION MOSTLY BEDROCK (SHALE), VERY PALE ORANGE TO MOD. YELL. BROWN, SOFT/FRIABLE NEAR GROUND SURFACE, VERY HARD/COMPETENT @ PIT BOTTOM, STAINING EVIDENT @ PIT BOTTOM ONLY (MED. GRAY TO BLACK DISCOLORATION) SLIGHT HC ODOR IN PIT BOTTOM OVM SAMPLE ONLY, ALL OVM SAMPLES COLLECTED FROM BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

EXCAVATION MOSTLY BEDROCK

CLOSED

SCALE

0 FT

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No.	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1125							

PIT PERIMETER

PIT PROFILE

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 3'	0.0
2 @ 3'	0.0
3 @ 4'	0.0
4 @ 4'	0.0
5 @ 6'	36.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES:	CALLOUT: <u>6/24/98 - MORN.</u>	ONSITE: <u>6/25/98 - MORN.</u>
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JICARILLA APACHE TRIBE  
ENVIRONMENTAL PROTECTION OFFICE  
P.O. BOX 507  
DULCE, NEW MEXICO 87528

B5572  
SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: <u>AMOCO PRODUCTION COMPANY</u> Telephone: <u>(505) 326-9200</u>	
Address: <u>200 Amoco Court, Farmington, NM 87401</u>	
Facility or Well Name: <u>JICARILLA CONTRACT 146-33</u>	
Location: Unit or Qtr/Qtr Sec <u>P</u> Sec <u>10</u> T <u>25N</u> R <u>5W</u> County <u>RIO ARriba</u>	
Land Type: <u>RANGE</u>	
Date Remediation Started: <u>0-25-98</u> Date Completed: <u>3/12/99</u>	
Remediation Method: Landfarmed <input checked="" type="checkbox"/> Approx. cubic yards <u>875</u> Composted <input type="checkbox"/> Other <input type="text"/>	
Depth To Groundwater: (pts.) <u>0</u>	<b>Final Closure Sampling:</b> Sampling Date: <u>3.10.99</u> Time: <u>0930</u> Sample Results: Field Headspace (ppm) <u>2.7</u> TPH (ppm) <u>215</u> Method <u>8015</u> Other <input type="text"/>
Distance to an Ephemeral Stream (pts.) <u>0</u>	
Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u>	
Wellhead Protection Area: (pts.) <u>0</u>	
Distance To Surface Water: (pts.) <u>0</u>	
RANKING SCORE (TOTAL POINTS): <u>0</u>	
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF	
DATE <u>3/12/99</u>	PRINTED NAME <u>Buddy D. Shaw</u>
SIGNATURE <u>Buddy D. Shaw</u>	AND TITLE <u>Environmental Coordinator</u>
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.	
APPROVED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (REASON) <input type="text"/>	
SIGNED: <u>K. C. Ma...</u> DATE: <u>3-31-99</u>	

CLIENT: <u>AMOCO</u>	<b>BLAGG ENGINEERING, INC.</b> P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJS72</u>  C.O.C. NO: <u>6590</u>
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## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>SICARILLA CONTRACT 146</u> WELL #: <u>33</u> PITS: <u>SEP, BLOW, PROD</u>	DATE STARTED: <u>8-10-99</u> DATE FINISHED: _____
QUAD/UNIT: <u>P</u> SEC: <u>10</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>REP</u>
QTR/FOOTAGE: <u>SE/4 SE/4</u> CONTRACTOR: <u>PJS</u>	

SOIL REMEDIATION:	
REMEDIATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE: <u>875</u>
LAND USE: <u>RANGE</u>	LIFT DEPTH (ft): <u>1-2</u>

**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

*PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM*

*SMALL AREA OF STAINING IN LANDFARM AREA 1. SLIGHT HC ODOR IN SAMPLING POINT ①*

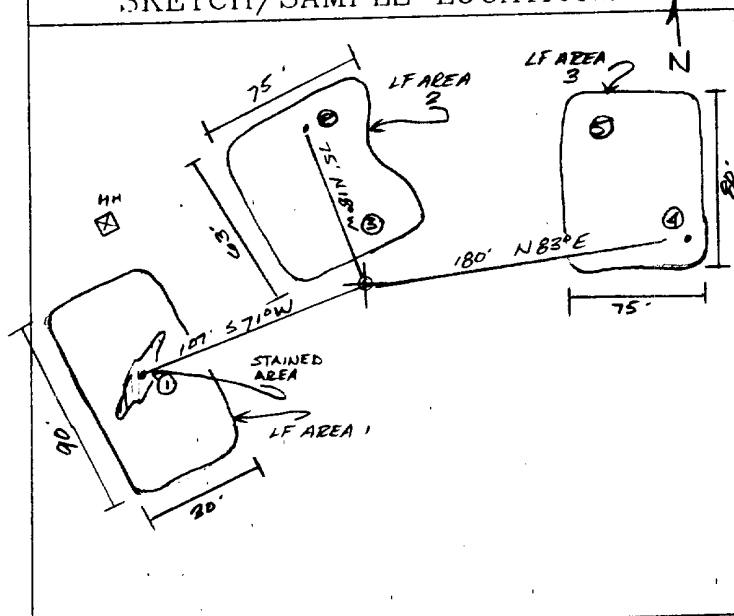
*(SEE SKETCH BELOW) TOOK A 5 PT. COMPOSITE SAMPLE FOR LAB ANALYSIS.*

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS

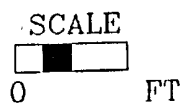


OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	2.7

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (B015)	0930	215



TRAVEL NOTES: CALLOUT: <u>N/A</u>	ONSITE: <u>3-10-99</u>
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**EPA METHOD 8015 Modified**  
**Nonhalogenated Volatile Organics**  
**Total Petroleum Hydrocarbons**

Client:	Blagg / AMOCO
Sample ID:	LF - 1
Laboratory Number:	E806
Chain of Custody No:	6580
Sample Matrix:	Soil
Preservative:	Cool
Condition:	Cool and Intact

Project #:	403410
Date Reported:	03-12-99
Date Sampled:	03-10-99
Date Received:	03-11-99
Date Extracted:	03-11-99
Date Analyzed:	03-12-99
Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	17.7	0.2
Diesel Range (C10 - C28)	197	0.1
Total Petroleum Hydrocarbons	215	0.2

ND - 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 146 - 33 Landfarm. 5 Pt. Composite.**

Allen L. Caplan  
Analyst

Stacy W. Bender

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

CHAIN OF CUSTODY						
Project Location LAUDIFAR-1 SABILLA CONTRATO 140-33						
Client No. 46341D						No. of Containers
Lab Number			Sample Matrix			
E806	501L			1		
Date	Time	Received by				
3-11-99	810	<i>[Signature]</i>		Received by		
				Received by		
				Received by		

# ENVIROTECH

5796 U.S. Highway  
Farmington, New Mexico  
(505) 632-061