

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

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

RECEIVED

AUG 09 1999

OIL CON. DIV.

DIST. 2

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 APACHE #102-19  
Location: Unit or Qtr/Qtr Sec 6 Sec 4 T 26N R 4W County Rio ARIZONA  
Pit Type: Separator      Dehydrator      Other Blow  
Land Type: RANGE

Pit Location: Pit dimensions: length 36', width 25', depth 6'  
(Attach diagram) Reference: wellhead X, other       
Footage from reference: 145'  
Direction from reference: 78 Degrees X East of North       
     West of South X

Depth To Groundwater:

(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>

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)	<u>0</u>

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)	<u>0</u>

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)	<u>0</u>

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)	<u>0</u>

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: \_\_\_\_\_ Date Completed: 9/16/98

Remediation Method: Excavation ☒ Approx. cubic yards 250  
 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, BEDROCK BOTTOM. 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 3' (SOUTH SIDEWALL)

Sample date 9/16/98 Sample time 0930

## Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>0.0</u>	<small>PIT BOTTOM</small> 764 Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>ND</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 9/16/98 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) R-A. Attached

SIGNED: Kee C. Manna DATE: 10-1-98

3003921388

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ629</u> C.O.C. NO: _____
----------------------	--	---

<b>FIELD REPORT: CLOSURE VERIFICATION</b>	PAGE No: <u>1</u> of <u>1</u>
---	-------------------------------

LOCATION: NAME: <u>JICA AP. 102</u> WELL #: <u>19</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>G SEC: 4</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>NM CNTY: RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1790' ENL' 1450' FEL</u> CONTRACTOR: <u>P &amp; S</u>	DATE STARTED: <u>9/16/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
---	---

EXCAVATION APPROX. <u>36</u> FT. x <u>25</u> FT. x <u>6</u> FT. DEEP.	CUBIC YARDAGE: <u>250</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDIATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u>	LEASE: <u>JIC 102</u> FORMATION: <u>PC</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>145</u> FT. <u>578E</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 D RANKING SCORE: <u>0</u> NMOC D TPH CLOSURE STD: <u>5000</u> PPM SOIL AND EXCAVATION DESCRIPTION:
------------------------	---

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

SIDEWALLS - DK. YELL. BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT STAINING OR HC ODOR OBSERVED/DETECTED W/IN EXCAVATION, NO APPARENT HC ODOR IN ANY OF THE OVM SAMPLES.

BOTTOM - BEDROCK (SANDSTONE), MED. TO DK. GRAY, VERY HARD, STRONG HC ODOR IN OVM SAMPLE.

BEDROCK Bottom

RISK ASSESSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0930	③ @ 3'	TPH-2037	5	20	1:1	4	ND

SCALE

0 FT

PIT PERIMETER

PIT PROFILE

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 4'	0.0
2 @ 3'	0.0
3 @ 3'	0.0
4 @ 4'	0.0
5 @ 6'	764

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES:	CALLOUT: _____ ONSITE: <u>9/16/98 - MORN.</u>
---------------	---

Well Name:	Jicarilla Apache 102 #19
Well Site location:	Unit G, Sec. 4, T26N, R4W
Pit Type:	Blow Pit
Producing Formation:	Pictured Cliffs
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 sandstone bedrock at 6 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 6 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** and is approximately 0.82 miles southeast of the nearest vulnerable area boundary (Jaramillo Canyon wash).

**(Refer to Vigas Canyon Quadrangle, New Mexico - Rio Arriba County, 7.5 Minute Series (Topographic), photorevised 1982, (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 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.

**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: 3 @ 3' Date Analyzed: 09-16-98  
Project Location: Jicarilla Apache # 102 - 19 Date Reported: 09-16-98  
Laboratory Number: TPH--2037 Sample Matrix: Soil

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

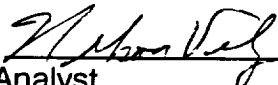
ND = Not Detectable at stated detection limits.

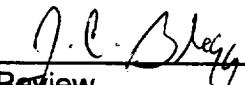
QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	-----	-----	-----
	236	220	7.02

\*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: Blow Pit - BJ639

  
Analyst

  
Review

**BLAGG ENGINEERING, INC.**

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

**Field TPH-Worksheet**

\*\*\*\*\*

Max Characters:

Client:

Amoco

Project #:

Sample ID:

3 @ 3'

Date Analyzed:

09-16-98

Project Location:

Jicarilla Apache # 102 - 19

Date Reported:

09-16-98

Laboratory Number:

TPH--2037

Sample Matrix:

Soil

Sample Weight:

5.00 grams

Volume Freon:

20.00 mL

Dilution Factor:

1 (unitless)

TPH Reading:

4 mg/kg

TPH Result:

16.0 mg/kg

Reported TPH Result:

16 mg/kg

Actual Detection Limit:

20.0 mg/kg

Reported Detection Limit:

20 mg/kg

QA/QC:

Original  
TPH mg/kg

Duplicate  
TPH mg/kg

%  
Diff.

-----  
236

-----  
220

-----  
7.02

Comments:

\*\*\*\*\*Max Characters\*\*\*\*\*

Comments:

Blow Pit - BJ639

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

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

**ON-SITE SOIL REMEDIATION REPORT**

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200

Address: 200 Amoco Court, Farmington, NM 87401

Facility or Well Name: JICARILLA APACHE 102-19

Location: Unit or Qtr/Qtr Sec 9 Sec 4 T 26N R 4W County RIO ARriba

Land Type: RANGE

Date Remediation Started: 9-16-98 Date Completed: 4/12/99

Remediation Method: Landfarmed ☒ Approx. cubic yards 600

Composted ☐

Other ☐

Depth To Groundwater: (pts.) 0

Distance to an Ephemeral Stream (pts.) 0

Distance to Nearest Lake, Playa,  
or Watering Pond (pts.) 0

Wellhead Protection Area: (pts.) 0

Distance To Surface Water: (pts.) 0

RANKING SCORE (TOTAL POINTS): 0

**Final Closure Sampling:**

Sampling Date: 4-8-99 Time: 1030

**Sample Results:**

Field Headspace (ppm) 4.6

TPH (ppm) ND Method 8015

Other ☐

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

DATE 4/12/99 PRINTED NAME Buddy D. Shaw

SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO ☐ (REASON) ☐

SIGNED: K. C. Man DATE: 6-18-99

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>85629</u> C.D.C. NO: <u>4882</u>
----------------------	--	---

## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JICARILLA APACHE 102</u> WELL #: <u>19</u> PITS: <u>BLOW</u> QUAD/UNIT: <u>6</u> SEC: <u>4</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> STR/FOOTAGE: <u>SW/4 NE/4</u> CONTRACTOR: <u>P+S</u>	DATE STARTED: <u>4.8.99</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>REP</u>
---	---

### SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 600  
 LAND USE: RANGE LIFT DEPTH (ft): 1-1.5

### FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: > 100' NEAREST WATER SOURCE: > 1000' NEAREST SURFACE WATER: > 1000'  
 NMOC RANKING SCORE: 0 NMOC TPH CLOSURE STD: 5000 PPM

DK. YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM  
 NO APPARENT STAINING OBSERVED, NO H.C. ODOR DETECTED SAMPLING  
 DEPTHS RANGE FROM 6" - 10". TOOK A SPT COMPOSITE SAMPLE  
 FOR LAB ANALYSIS

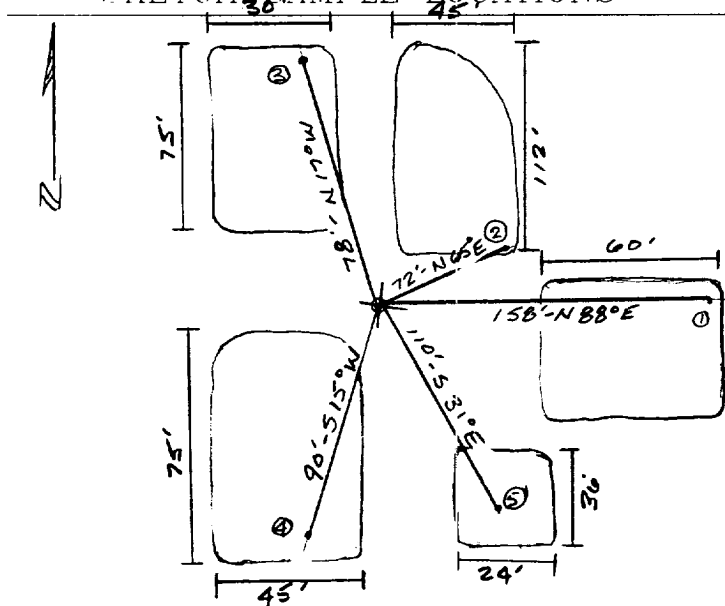
CLOSED

APPROX. 350 C.Y. DISPOSED  
FROM JICA. AP. 102-9

### FIELD 418.1 CALCULATIONS

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

### SKETCH/SAMPLE LOCATIONS



### OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	4.6

### LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1030	ND

### SCALE

0  FT

### TRAVEL NOTES:

CALLOUT: NA

ONSITE: 4.8.99



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

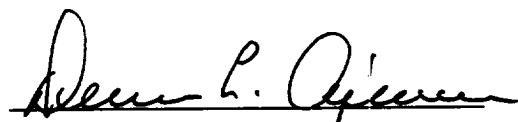
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	04-12-99
Laboratory Number:	E996	Date Sampled:	04-08-99
Chain of Custody No:	6882	Date Received:	04-09-99
Sample Matrix:	Soil	Date Extracted:	04-09-99
Preservative:	Cool	Date Analyzed:	04-12-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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 Apache 102 - 19 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

## 6882

[illegible]