

*Donna L. Best*  
DEPUTY OIL & GAS INSPECTOR

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

BJ543

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

OCT 08 1998

*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 148-16  
Location: Unit or Qtr/Qtr Sec N Sec 14 T 25N R 5W County RIO ARriba  
Pit Type: Separator      Dehydrator      Other BLow  
Land Type: RANGE

Pit Location: Pit dimensions: length 20', width 20', depth 6'  
(Attach diagram) Reference: wellhead X, other       
Footage from reference: 130'  
Direction from reference: 69 Degrees      East of North       
X West of 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)	<u>0</u>
50 feet to 99 feet	(10 points)	<u>0</u>
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)	<u>0</u>
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)	<u>0</u>
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)	<u>0</u>
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)	<u>0</u>
100 feet to 1000 feet	(10 points)	<u>0</u>
Greater than 1000 feet	(0 points)	<u>0</u>

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

Date Remediation Started: \_\_\_\_\_ Date Completed: 4/15/98

Remediation Method: Excavation ☒ Approx. cubic yards 40  
 (check all appropriate Insitu Bioremediation \_\_\_\_\_  
 sections) Landfarmed ☒  
 Other \_\_\_\_\_

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

General Description of Remedial Action: Excavation. BEDROCK BOTTOM. 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 6' (PIT BOTTOM)

Sample date 4/14/98 Sample time 1200

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>170.2</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>ND - 0 @ 3'</u> NORTH SIDEWALL	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 4/15/98 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. McNeill DATE: 4-29-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8JS43</u> C.D.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>TICA CONTR</u> WELL #: <u>16</u> PIT: <u>BLOW</u>	DATE STARTED: <u>4/14/98</u>
QUAD/UNIT: <u>N</u> SEC: <u>14</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>Nm</u> CNTY: <u>RA</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: <u>SE/4</u> <u>SW/4</u> CONTRACTOR: <u>P &amp; S</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>

EXCAVATION APPROX: <u>20</u> FT x <u>20</u> FT x <u>6</u> FT DEEP. CUBIC YARDAGE: <u>40</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARMED</u>
LAND USE: <u>RANGE</u> LEASE: <u>TICA 148</u> FORMATION: <u>CK</u>


FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>130</u> FT. <u>569W</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>7100'</u>	NEAREST WATER SOURCE: <u>7100</u> NEAREST SURFACE WATER: _____
NMOCD BANKING SCORE: <u>0</u>	NMOCD TPH CLOSURE STD: <u>5000</u> PPM
SOIL AND EXCAVATION DESCRIPTION:	

SIDEWALLS - mostly mod. to dk. yell. brown sand now cohesive slightly moist, firm, no apparent staining or HC odor observed w/in excavations, no apparent HC odor observed in ovm samples.

BOTTOM - PALE ORANGE SANDSTONE VERY HARD SMALL PATCH (1'x1') OF LT. GRAY DISCOLORATION OBSERVED NEAR NE CORNER OF EXCAVATION, HC ODOR OBSERVED IN OVM SAMPLE.

BEDROCK BOTTOM

SCALE



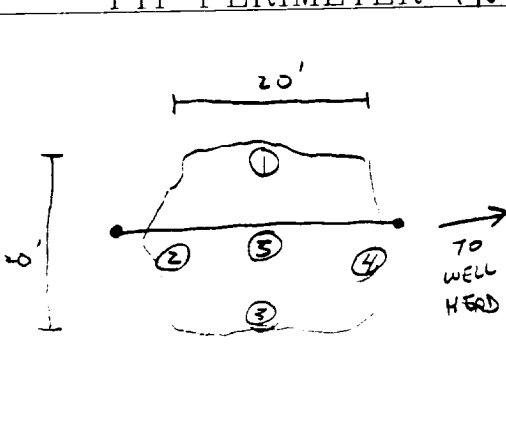
0 FT

**RISK ASSESSED**

FIELD 418.1 CALCULATIONS

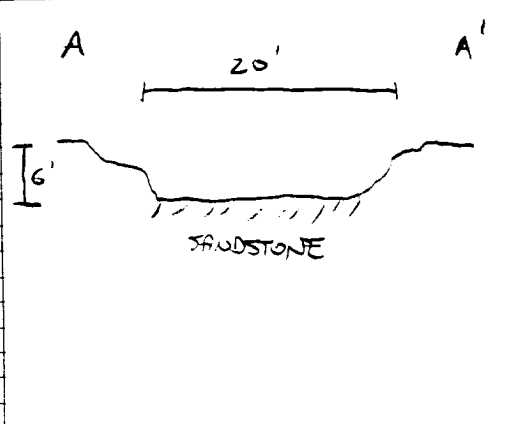
TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1200	① E 3'	TPH-1955	5	20	1:1	5	ND

PIT PERIMETER



TO WELL HEAD

PIT PROFILE



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 E 3'	0.0
2 E 3'	0.0
3 E 3'	0.0
4 E 3'	0.0
5 E 6'	170.2

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES: CALLOUT: <u>4/14/98 - MORN.</u> ONSITE: <u>4/14/98 - MORN.</u>
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**Well Name:**

**Well Site location:**

**Pit Type:**

**Producing Formation:**

**Pit Category:**

**Horizontal Distance to Surface Water:**

**Vicinity Groundwater Depth:**

**Jicarilla Contract 148 #16**

Unit N, Sec. 14, T25N, R5W

Blow Pit

Chacra

Non Vulnerable

> 1000 ft.

> 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 0.32 miles northwest 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 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:	1 @ 3'	Date Analyzed:	04-19-98
Project Location:	Jicarilla Contract 148 - 16	Date Reported:	04-19-98
Laboratory Number:	TPH-1955	Sample Matrix:	Soil

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

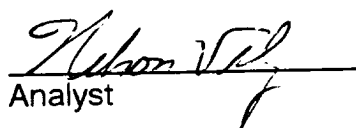
ND = Not Detectable at stated detection limits.

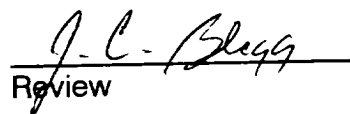
QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	608	568	6.80

\*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 - BJ543

  
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:

1 @ 3'

Date Analyzed:

04-19-98

Project Location:

Jicarilla Contract 148 - 16

Date Reported:

04-19-98

Laboratory Number:

TPH-1955

Sample Matrix:

Soil

Sample Weight:

5.00 grams

Volume Freon:

20.00 mL

Dilution Factor:

1 (unitless)

TPH Reading:

5 mg/kg

TPH Result:

20.0 mg/kg

Reported TPH Result:

20 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.

-----  
608

-----  
568

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6.80

Comments:

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

Comments:

Blow Pit - BJ543

**AND OIL & GAS ADMINISTRATION**

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 148-16</u>		
Location: Unit or Qtr/Qtr Sec <u>N</u> Sec <u>14</u> T <u>25N</u> R <u>5W</u> County <u>RIO ARriba</u>		
Land Type: <u>RANGE</u>		
Date Remediation Started: <u>4-14-98</u>		Date Completed: <u>1/18/99</u>
Remediation Method: Landfarmed <input checked="" type="checkbox"/>		Approx. cubic yards <u>40</u>
Composted <input type="checkbox"/>		
Other <input type="checkbox"/>		
<b>Distance To Groundwater:</b> (pts.) <u>0</u>		<b>Final Closure Sampling:</b> Sampling Date: <u>1-14-99</u> Time: <u>1145</u> Sample Results: Field Headspace (ppm) <u>0.0</u> TPH (ppm) <u>29.9</u> Method <u>8015</u> Other <input type="checkbox"/>
<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>		
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF		
DATE <u>1/18/99</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) _____		
SIGNED: <u>K. C. M...</u>		DATE: <u>3-31-99</u>

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>B3543</u> C.D.C. NO: <u>6549</u>
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## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME <u>JCARILLA CONTRACT 148</u> WELL #: <u>16</u> PITS: <u>BLOW</u>	DATE STARTED: <u>1.14.99</u> DATE FINISHED: <u>1.18.99</u>
QUAD/UNIT: <u>N</u> SEC: <u>14</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>
QTP/FOOTAGE: <u>SE/4 SW/4</u> CONTRACTOR: _____	

### SOIL REMEDIATION:

REMEDIATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE: <u>40</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

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

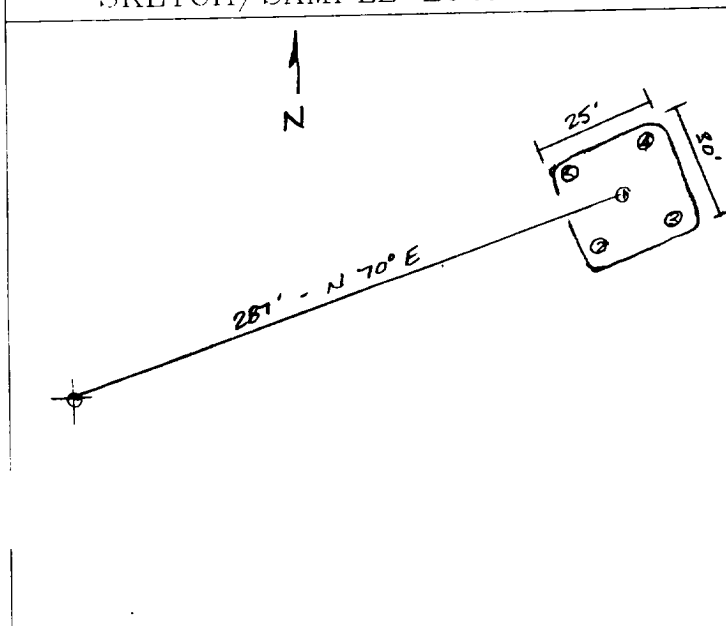
*NOTE: LANDFARM IS LOCATED ON THE JIC. CONT. 148-10 (P+H)  
DISTANCE AND BEAR WERE TAKEN TO THE JIC. CONT. 148-16 WELLHEAD*

**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

### LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	TPH (B015)	1145	29.9

### SCALE



### TRAVEL NOTES:

CALLOUT: N/A

ONSITE: 1.14.99



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

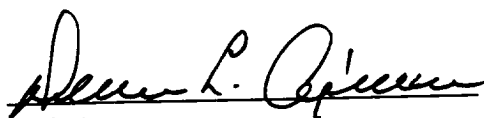
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	01-18-99
Laboratory Number:	E527	Date Sampled:	01-14-99
Chain of Custody No:	6549	Date Received:	01-15-99
Sample Matrix:	Soil	Date Extracted:	01-15-99
Preservative:	Cool	Date Analyzed:	01-18-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

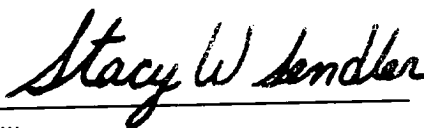
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.6	0.2
Diesel Range (C10 - C28)	24.3	0.1
Total Petroleum Hydrocarbons	29.9	0.2

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 148 - 16 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

## 6549

[illegible]