

Risk-bedrock  
BTGSB

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

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

**RECEIVED**  
AUG 16 1999  
OIL CON. DIV.  
DIST. 3

**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-S  
Location: Unit or Qtr/Qtr Sec E Sec 3 T 25N R 5W County RIO ARriba  
Pit Type: Separator ☒ Dehydrator ☐ Other ☐  
Land Type: RANGE

Pit Location: Pit dimensions: length 25', width 20', depth 14'  
(Attach diagram) Reference: wellhead ☒, other ☐  
Footage from reference: 65'  
Direction from reference: 37 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)	<u>0</u>
	Greater than 1000 feet	(0 points)	

091V

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

Date Remediation Started: \_\_\_\_\_ Date Completed: 10/8/98

Remediation Method: Excavation ☒ Approx. cubic yards 200  
 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 9' (SOUTH SIDEWALL)

Sample date 10/8/98 Sample time 1000

Sample Results

Soil: Benzene	(ppm)	<u>0.0310</u>	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	<u>1.290</u>	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>271</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>8.7</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 10/8/98 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: Kurt C. M... DATE: 11-18-98

3003906166

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ 658</u> C.O.C. NO: <u>6289</u>																																								
FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																								
LOCATION: NAME: <u>JICA. CONTR. 146</u> WELL #: <u>5</u> PIT: <u>SEP.</u>		DATE STARTED: <u>10/8/98</u>																																								
QUAD/UNIT: <u>E SEC: 3</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>1650' FNL/950' FNL</u> CONTRACTOR: <u>P+S</u>		ENVIRONMENTAL SPECIALIST: <u>NV</u>																																								
EXCAVATION APPROX. <u>25</u> FT. x <u>20</u> FT. x <u>14</u> FT. DEEP. CUBIC YARDAGE: <u>200</u>																																										
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>																																										
LAND USE: <u>RANGE</u> LEASE: <u>JIC 146</u> FORMATION: <u>PC</u>																																										
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>65</u> FT. <u>S37E</u> FROM WELLHEAD.																																										
DEPTH TO GROUNDWATER: <u>&gt;100'</u> NEAREST WATER SOURCE: <u>&gt;1000'</u> NEAREST SURFACE WATER: <u>&gt;1000'</u>																																										
NMOCD RANKING SCORE: <u>0</u> NMOCD TPH CLOSURE STD: <u>5000</u> PPM																																										
SOIL AND EXCAVATION DESCRIPTION:		CHECK ONE: <input checked="" type="checkbox"/> PIT ABANDONED <input type="checkbox"/> STEEL TANK INSTALLED <input type="checkbox"/> FIBERGLASS TANK INSTALLED																																								
SIDEWALLS - DR. VELL. BROWN SILTY SAND TO SILTY CLAY COHESIVE SLIGHTLY MOIST, FIRM TO STIFF, NO APPARENT STRAINING OBSERVED NO APPARENT HC ODOR DETECTED W/IN EXCAVATION, STRONG HC ODOR IN SOUTH SIDEWALL OUM SAMPLE ONLY.  BOTTOM - BEDROCK (SANDSTONE) OLIVE TO LT. GRAY IN COLOR, VERY HARD, STRONG HC ODOR IN OUM SAMPLE.																																										
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><b>BEDROCK BOTTOM</b></p> <p>SCALE</p> <p>0 <span style="display: inline-block; width: 20px; height: 10px; background-color: black;"></span> FT</p> </div> <div style="width: 30%;"> <p><b>RISK ASSESSED</b></p> </div> <div style="width: 35%;"> <p>FIELD 418.1 CALCULATIONS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>TIME</th> <th>SAMPLE I.D.</th> <th>LAB No:</th> <th>WEIGHT (g)</th> <th>mL. FREON</th> <th>DILUTION</th> <th>READING</th> <th>CALC. ppm</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> </div> </div>			TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																																
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<b>BOTH PASSED</b>																																										
TRAVEL NOTES: CALLOUT: _____ ONSITE: <u>10/8/98 - MORN.</u>																																										

<b>Well Name:</b>	<b>Jicarilla Contract 146 #5</b>
<b>Well Site location:</b>	<b>Unit E, Sec. 3, T25N, R5W</b>
<b>Pit Type:</b>	<b>Separator Pit</b>
<b>Producing Formation:</b>	<b>Pictured Cliffs</b>
<b>Pit Category:</b>	<b>Non Vulnerable</b>
<b>Horizontal Distance to Surface Water:</b>	<b>&gt; 1000 ft.</b>
<b>Vicinity Groundwater Depth:</b>	<b>&gt; 100 ft.</b>

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

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 14 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 14 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 1.36 miles 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 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.

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

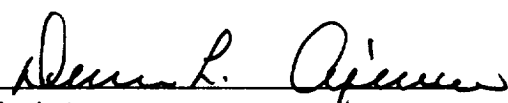
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	3 @ 9'	Date Reported:	10-10-98
Laboratory Number:	E047	Date Sampled:	10-08-98
Chain of Custody No:	6289	Date Received:	10-09-98
Sample Matrix:	Soil	Date Extracted:	10-09-98
Preservative:	Cool	Date Analyzed:	10-09-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH


Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	4.2	0.2
Diesel Range (C10 - C28)	4.5	0.1
Total Petroleum Hydrocarbons	8.7	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 - 5 Separator Pit.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	3 @ 9'	Date Reported:	10-09-98
Laboratory Number:	E047	Date Sampled:	10-08-98
Chain of Custody:	6289	Date Received:	10-09-98
Sample Matrix:	Soil	Date Analyzed:	10-09-98
Preservative:	Cool	Date Extracted:	10-09-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	31.0	8.8
Toluene	165	8.4
Ethylbenzene	297	7.6
p,m-Xylene	580	10.8
o-Xylene	217	5.2
Total BTEX	1,290	

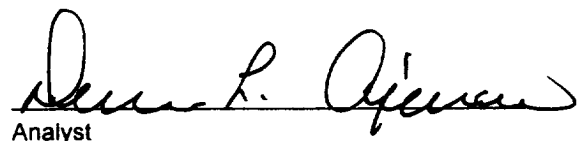
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	96 %
	Bromofluorobenzene	96 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla Contract #146 - 5 Separator Pit.

  
Analyst

  
Review

## 6289

[illegible]

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 CONTRACT 146.5

Location: Unit or Qtr/Qtr Sec E Sec 3 T 25N R 5W County RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 10.8.98 Date Completed: 5/13/99

Remediation Method: Landfarmed ☒ Approx. cubic yards 200

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: 5.12.99 Time: 0940

**Sample Results:**

Field Headspace (ppm) 13.7

TPH (ppm) 4.4 Method TPH (8015)

Other ☐

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

DATE 5/13/99 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: ☐ DATE: ☐



CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BS658</u> C.D.C. NO: <u>6920</u>
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# FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JCARILLA CONTRACT 146</u> WELL #: <u>5</u> PITS: <u>SEP.</u>	DATE STARTED: <u>5-12-99</u>
QUAD/UNIT: <u>E</u> SEC: <u>3</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>SW/4 NW/4</u> CONTRACTOR: <u>P+S</u>	ENVIRONMENTAL SPECIALIST: <u>BEP</u>

## 1.0 REMEDIATION:

REMEDICATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 200  
 LAND USE: RANGE LIFT DEPTH (ft): 1.5'

## 2.0 FIELD NOTES & REMARKS:

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

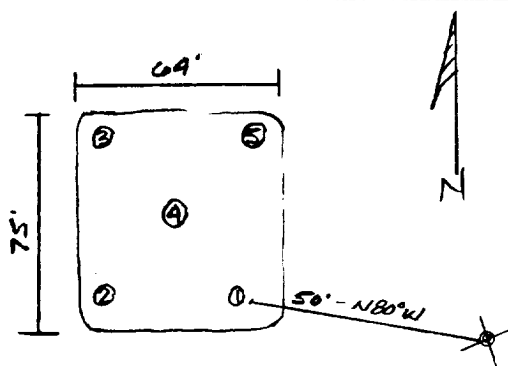
PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM.  
 NO APPARENT STAINING, NO HC ODOR DETECTED. SAMPLING DEPTHS RANGE  
 FROM 6" - 12". COLLECTED A 5FT COMPOSITE SAMPLE FOR LAB ANALYSIS.

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

## LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	13.7	LF-1	TPH (8015)	0940	4.4

## SCALE

0 1 FT

## TRAVEL NOTES:

CALLOUT: NA

ONSITE: 5.12.99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

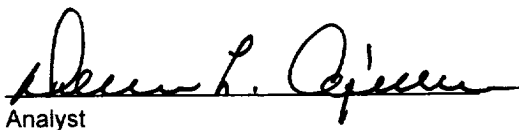
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	05-13-99
Laboratory Number:	F216	Date Sampled:	05-12-99
Chain of Custody No:	6920	Date Received:	05-13-99
Sample Matrix:	Soil	Date Extracted:	05-13-99
Preservative:	Cool	Date Analyzed:	05-13-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	4.4	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	4.4	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 - 5 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

6920

Client / Project Name <b>BLAKES/AMOCO</b>			Project Location <b>CANDLER</b>			ANALYSIS / PARAMETERS						
Client No. <b>403410</b>			STACILLA CONTRACT 146-5									
Sampler: <b>REP</b>						No. of Containers			Remarks			
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix		TPH (8015)						
LF-1	5.12.99	0940	F216	SOIL		1	✓				SPT. COMPOSITE	
											SAMPLE PRESERVE - COOL	
Relinquished by: (Signature) <i>[Signature]</i>			Date	Time	Received by: (Signature) <i>[Signature]</i>					Date	Time	
Relinquished by: (Signature)					Received by: (Signature)					5.13.99	6:19	
Relinquished by: (Signature)					Received by: (Signature)							
Relinquished by: (Signature)					Received by: (Signature)							
<div style="text-align: center;"> <b>ENVIROTECH INC.</b>              5796 U.S. Highway 64              Farmington, New Mexico 87401              (505) 632-0615         </div>											Sample Receipt Y N N/A Received Intact Cool - Ice/Blue Ice	