COMP RISK RANKING
8T640

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 - 43

Location: Unit or Qtr/Qtr Sec O Sec 4 T 25N R 5W County RIO ARRIBA

Pit Type: Separator X Dehydrator ____ Other COMPRESSOR

Land Type: RANGE

Pit Location: (Attach diagram)

Pit dimensions: length 22', width 25', depth 17'

Reference: wellhead X, other ____

Footage from reference: 90'

Direction from reference: 82 Degrees X East ____ West of North X South ____

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	0
Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width)	Less than 100 feet Greater than 100 feet	(10 points) (0 points)	0
Distance to Nearest Lake, Playa, or Watering Pond (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet Greater than 100 feet	(10 points) (0 points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or: less than 1000 feet from all other water sources)	Yes No	(20 points) (0 points)	0
Distance To SurfaceWater: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet 100 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points)	0

RANKING SCORE (TOTAL POINTS): 0

BJ640 SEP. / COMAR. PIT

Date Remediation Started: _____ Date Completed: 9/21/98

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 200

Landfarmed X Insitu Bioremediation _____

Other _____

Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility) Onsite X Offsite _____

General Description of Remedial Action: Excavation. BEDROCK BOTTOM. RISK ASSESSED.

Groundwater Encountered: No X Yes ____ Depth _____

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents

Sample depth 12' (EAST SIDEWALL - HIGHEST OVM READING)

Sample date 9/17/98 Sample time 1400

Sample Results

Soil: Benzene	(ppm)	4.740	Water: Benzene	(ppb)	____
Total BTEX	(ppm)	58.470	Toluene	(ppb)	____
Field Headspace	(ppm)	450	Ethylbenzene	(ppb)	____
TPH	(ppm)	7,380	Total Xylenes	(ppb)	____

Groundwater 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 KNOWLEGE AND BELIEF

DATE 9/21/98 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 X NO ____ (REASON) R.A. Attached

SIGNED: Kent C Mandl DATE: 10-1-98

3003923721

CLIENT: AMOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: BJ640 C.O.C. NO: 6208

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICA. CONTR. 146 WELL #: 43 PIT: SGP/COMPR.

QUAD/UNIT: O SEC: 4 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM

QTR/FOOTAGE: 790' FSL/1640' FEL CONTRACTOR: P&S

DATE STARTED: 9/17/98

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 22 FT. x 25 FT. x 17 FT. DEEP. CUBIC YARDAGE: 200

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM

LAND USE: RANGE LEASE: JIC 146 FORMATION: CK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 90 FT. N82E FROM WELLHEAD.

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

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

CHECK ONE:
- ✓ PIT ABANDONED
- ___ STEEL TANK INSTALLED
- ___ FIBERGLASS TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

SIDEWALLS - DK. YELL. ORANGE (WEST SIDEWALL), OLIVE GRAY (NORTH SIDEWALL), MED. GRAY (EAST & SOUTH SIDEWALLS) SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST (SOUTH SIDEWALL) FIRM, OBVIOUS STAINING OBSERVED ON ALL SIDEWALLS EXCEPT WEST, HC ODOR APPARENT W/IN EXCAVATION, STRONG HC ODOR IN EAST & SOUTH SIDEWALL OVM SAMPLES ONLY.

BOTTOM - BEDROCK (SILTSTONE), LT TO MED. GRAY DISCOLORATION, STRONG HC ODOR IN OVM SAMPLE.

BEDROCK BOTTOM

RISK ASSESSED

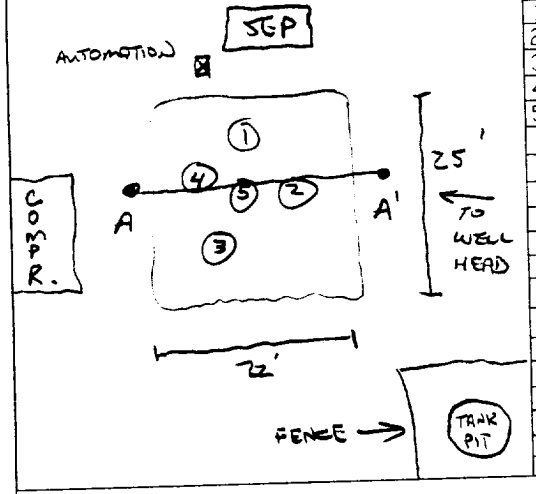
FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1400							

SCALE

0 FT

PIT PERIMETER



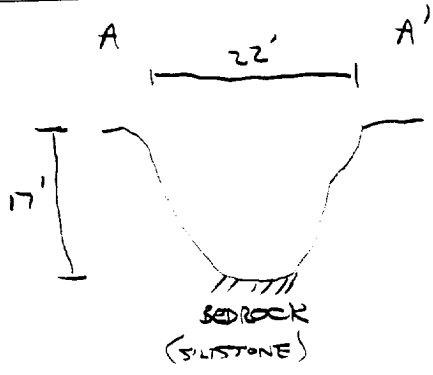
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 12'	0.0
2 @ 12'	450
3 @ 11'	150.1
4 @ 11'	0.0
5 @ 17'	343 RK

LAB SAMPLES

SAMPLE ID	ANALYSIS		TIME
② @ 12'	TPH	BTEX	1400
BOTH	FAILED		

PIT PROFILE



TRAVEL NOTES: CALLOUT: ___ ONSITE: 9/17/98 - AFTER

Well Name:	**Jicarilla Contract 146 #43**
Well Site location:	Unit O, Sec. 4, T25N, R5W
Pit Type:	Separator/Compressor Pit
Producing Formation:	Chacra
Pit Category:	Non Vulnerable
Horizonal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe encountered siltstone bedrock at 17 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 siltstone bedrock located 17 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below siltstone 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 0.75 miles north 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 siltstone 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:	2 @ 12'	Date Reported:	09-21-98
Laboratory Number:	D945	Date Sampled:	09-17-98
Chain of Custody No:	6208	Date Received:	09-18-98
Sample Matrix:	Soil	Date Extracted:	09-19-98
Preservative:	Cool	Date Analyzed:	09-20-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	oncentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**2,380**	**0.2**
Diesel Range (C10 - C28)	**5,000**	**0.1**
Total Petroleum Hydrocarbons	**7,380**	**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 - 43 Separator / Compressor Pit.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	2 @ 12'	Date Reported:	09-21-98
Laboratory Number:	D945	Date Sampled:	09-17-98
Chain of Custody:	6208	Date Received:	09-18-98
Sample Matrix:	Soil	Date Analyzed:	09-20-98
Preservative:	Cool	Date Extracted:	09-19-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**4,740**	**17.5**
Toluene	**7,430**	**16.7**
Ethylbenzene	**9,360**	**15.2**
p,m-Xylene	**25,190**	**21.6**
o-Xylene	**11,750**	**10.4**
Total BTEX	**58,470**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**98 %**
	Bromofluorobenzene	**98 %**

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 - 43** **Separator / Compressor Pit.**

Analyst

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CHAIN OF CUSTODY RECORD

6208

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / AMOCO	SEPARATOR / COMPRESSOR PIT JICARILLA CONTRACT #146 - 43	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)	BTEX (8021)	Remarks
② @ 12'	9/17/98	1400	D945	SOIL	1	✓	✓	PRESERV. → COOL

	Date	Time		Date	Time
Relinquished by: (Signature) Nelson Velez	9/18/98	0846	Received by: (Signature) Denise L. Openshaw	9.18.98	0846
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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Farmington, New Mexico 87401
(505) [illegible]-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

DUCO47C

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 146-43

Location: Unit or Qtr/Qtr Sec O Sec 4 T 25N R 5W County RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 9.17.98 **Date Completed:** 6/16/99

Remediation Method: Landfarmed ✓ Approx. cubic yards 800

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 SurfaceWater:	(pts.)	0
RANKING SCORE (TOTAL POINTS):		0

Final Closure Sampling:

Sampling Date: 6/14/99 Time: 1125

Sample Results:

Field Headspace (ppm) 75.4

TPH (ppm) 907 Method TPH (8015)

Other ____

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

DATE 6/16/99 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: AMOCO

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

LOCATION NO: 85640
C.O.C. NO: 6900

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME JICARILLA CONTRACT 146 WELL #: 43 PITS: SEP, COMP.
QUAD/UNIT: O SEC: 4 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SW/4 SE/4 CONTRACTOR: P+S

DATE STARTED: 4-20-99
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: REP

SOIL REMEDIATION:
REMEDIATION SYSTEM: LANDFARM
APPROX. CUBIC YARDAGE: 800
LAND USE: RANGE
LIFT DEPTH (ft): 1.5

FIELD NOTES & REMARKS:
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE 0 NMOCD TPH CLOSURE STD: 5000 PPM

DK. YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM
LARGE AREA OF STAINING OBSERVED IN LANDFARM AREA (SEE SKETCH BELOW)
HC ODOR DETECTED IN SAMPLING PT ⑤. SAMPLING DEPTHS RANGE FROM
6"-12" COLLECTED A 5PT COMPOSITE SAMPLE FOR LAB ANALYSIS

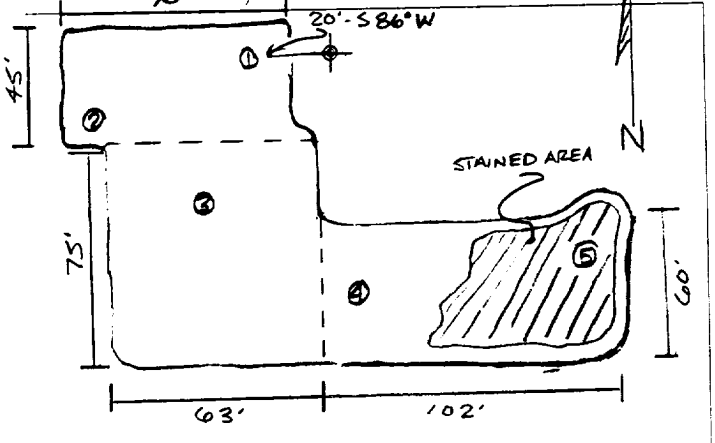
APPROX. 600 C.Y. DISPOSED FROM JICA. CONTR. 146 - 1E

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



LF-2 SAMPLED ON 6/14/99

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	75.4

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1052	6,500
LF-2	TPH (8015)	1125	907

SCALE
0 FT

TRAVEL NOTES: CALLOUT: N/A ONSITE: 4-20-99

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:	04-22-99
Laboratory Number:	F069	Date Sampled:	04-20-99
Chain of Custody No:	6900	Date Received:	04-21-99
Sample Matrix:	Soil	Date Extracted:	04-21-99
Preservative:	Cool	Date Analyzed:	04-22-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**134**	**0.2**
Diesel Range (C10 - C28)	**6,370**	**0.1**
Total Petroleum Hydrocarbons	**6,500**	**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 - 43 Landfarm. 5 Pt. Composite.**

Analyst

Review

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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 - 2	Date Reported:	06-16-99
Laboratory Number:	F513	Date Sampled:	06-14-99
Chain of Custody No:	7079	Date Received:	06-15-99
Sample Matrix:	Soil	Date Extracted:	06-16-99
Preservative:	Cool	Date Analyzed:	06-16-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**21.5**	**0.2**
Diesel Range (C10 - C28)	**885**	**0.1**
Total Petroleum Hydrocarbons	**907**	**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 - 43 Landfarm. 5 Pt. Composite.**

Analyst

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CHAIN OF CUSTODY RECORD

6900

Client / Project Name	Project Location	Sampler:	Client No.
BLAGG/AMOCO	LANDFARM JICARILLA CONTRACT 146'43	REP	403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)	Remarks
LF-1	4.20.99	1050	F069	SOIL	1	✓	SPT. COMPOSITE
							SAMPLE PRESERVE
							COOL

ANALYSIS / PARAMETERS

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Ed Hasse	4.21.99	8:00	Dawn R. Peterson	4.21.99	800
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

CHAIN OF CUSTODY RECORD

7079

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/AMOCO	LANDFARM JICARILLA CONTRACT 146-43	

Sampler:	Client No.
REP	703410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)						Remarks
LF-2	6-14-99	1125	F513	SOIL	1	✓						SPT. COMPOSITE
												SAMPLE PRESERVATION
												COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	6-15-99	7:40	[signature]	6-15-99	740
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		