BJ 448 30'

Denny E. Foust
DEPUTY OIL & GAS INSPECTOR

AUG 13 1999

Approved

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

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 B #1

Location: Unit or Qtr/Qtr Sec G Sec 22 T26N R5W County RIO ARRIBA

Pit Type: Separator X Dehydrator ____ Other ____

Land Type: RANGE

Pit Location: (Attach diagram)

Pit dimensions: length 40', width 60', depth 30'

Reference: wellhead X, other ____

Footage from reference: 140'

Direction from reference: 64 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

BJ 448 SEP. PIT

Date Remediation Started: _____ **Date Completed:** 10/1/96

Remediation Method: (check all appropriate sections) Excavation X Approx. cubic yards 2,400

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

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

MULTIPLE SAMPLES

Sample depth WEST SIDEWALL - 19' / PIT BOTTOM - 31'

Sample date 9/30/96 Sample time 0705

Sample Results (WEST SIDEWALL / PIT BOTTOM)

Soil: Benzene	(ppm)	0.350 / 2.500	Water: Benzene	(ppb)	
Total BTEX	(ppm)	49.20 / 62.10	Toluene	(ppb)	
Field Headspace	(ppm)	1,125 / 819	Ethylbenzene	(ppb)	
TPH	(ppm)	2,872 / 4,860	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 10/1/96 **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) Conditional / Spray

SIGNED: [signature] **DATE:** 10/22/96

CLIENT: AMOCO

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

LOCATION NO: BJ448
C.O.C. NO: 4913

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICARILLA B WELL #: 1 PIT: SEP

QUAD/UNIT: G SEC: 22 TWP: 26N RNG: 5W PM: NM CNTY: RA ST: NM

QTR/FOOTAGE: 1450'FNL / 1850'FEL CONTRACTOR: P+S

DATE STARTED: 9/30/96
DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 40 FT. x 60 FT. x 30 FT. DEEP. CUBIC YARDAGE: 2,400

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED

LAND USE: RANGE LEASE: JIC 109 FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 140 FT. N64E 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

SOIL AND EXCAVATION DESCRIPTION:

OLIVE GRAY TO BROWN BLACK (PIT BOTTOM) SAND, NON-COHESIVE, SLIGHTLY MOIST FIRM, STRONG HC ODOR IN ALL OVM SAMPLES EXCEPT NORTH SIDEWALLS, STAINING APPARENT ON WEST SIDEWALL W/ HC ODOR, SOME SLUFFING OCCURRED ON WEST SIDEWALL, EXCAVATION ALONG NORTH & WEST SIDEWALLS WAS TERMINATED DUE TO SURFACE EQUIPMENT.

CONDITIONAL - JICARILLA EPD

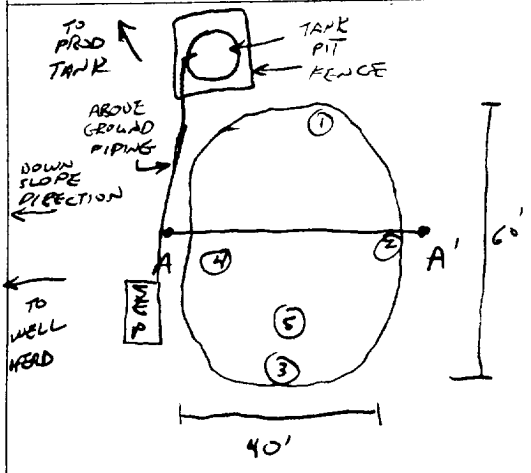
RISK ASSESSED - NMOCD

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0900	④@19'	TPH-1833	5	20	1:1	718	2,872

SCALE
0 FT

PIT PERIMETER



OVM RESULTS

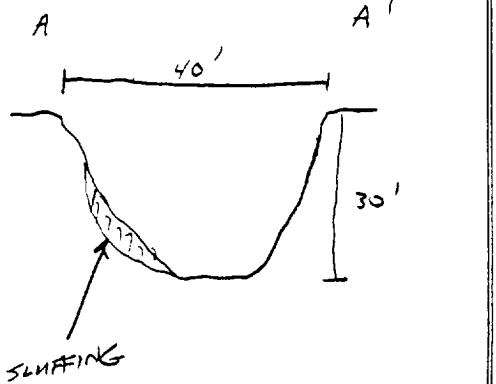
SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 23'	15.7
2 @ 24'	298
3 @ 24'	682
4 @ 19'	1,125
5 @ 31'	849

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
④@19'	BTEX	0900
⑤@31'	TPH/BTEX 8015	0905

FAILED

PIT PROFILE



TRAVEL NOTES: CALLOUT: 9/24/96 ONSITE: 9/30/96

Well Name:	**Jicarilla B #1**
Well Site location:	Unit G, Sec. 22, T26N, R5W
Pit Type:	Separator Pit
Producing Formation:	Basin Dakota
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 reached practical extent for abandoned pit (30 ft. below grade) and for safety concerns (underground piping and surface equipment).

No past or future threat to surface water or groundwater is likely based on the following considerations:

1. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below presumed shallow sandstone bedrock (based on informal site observation of adjacent sandstone outcrop).

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 0.51 miles north northwest of the nearest vulnerable area boundary (Tapacito Creek).

   (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 and vertical impact from the earthen pit is very limited and that the impact to groundwater is very unlikely. Therefore, 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:	4 @ 19'	Date Analyzed:	09-30-96
Project Location:	Jicarilla B # 1	Date Reported:	09-30-96
Laboratory Number:	TPH-1833	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**2,900**	**20**

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
4640	4400	5.31

*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: Separator Pit - BJ448

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	5 @ 31'	Date Reported:	10-01-96
Laboratory Number:	A622	Date Sampled:	09-30-96
Chain of Custody No:	4913	Date Received:	09-30-96
Sample Matrix:	Soil	Date Extracted:	10-01-96
Preservative:	Cool	Date Analyzed:	10-01-96
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**4,280**	**0.2**
Diesel Range (C10 - C28)	**578**	**0.1**
Total Petroleum Hydrocarbons	**4,860**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: **Jicarilla. B #1 Separator Pit.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	4 @ 19'	Date Reported:	10-01-96
Laboratory Number:	A621	Date Sampled:	09-30-96
Chain of Custody:	4913	Date Received:	09-30-96
Sample Matrix:	Soil	Date Analyzed:	10-01-96
Preservative:	Cool	Date Extracted:	10-01-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**350**	**17.5**
Toluene	**26,400**	**16.7**
Ethylbenzene	**6,910**	**15.2**
p,m-Xylene	**7,240**	**21.6**
o-Xylene	**8,300**	**10.4**
Total BTEX	**49,200**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**101 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **Jicarilla B #1 Separator Pit.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	5 @ 31'	Date Reported:	10-01-96
Laboratory Number:	A622	Date Sampled:	09-30-96
Chain of Custody:	4913	Date Received:	09-30-96
Sample Matrix:	Soil	Date Analyzed:	10-01-96
Preservative:	Cool	Date Extracted:	10-01-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**2,500**	**17.5**
Toluene	**10,700**	**16.7**
Ethylbenzene	**1,110**	**15.2**
p,m-Xylene	**39,600**	**21.6**
o-Xylene	**8,180**	**10.4**
Total BTEX	**62,100**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**100 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **Jicarilla B #1 Separator Pit.**

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4913

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / AMOCO	SEPARATOR PIT JICARILLA B #1	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)	TPH (8015)					Remarks
												BOTH SAMPLES PRESERV. - COOL
④ @ 19'	9/30/96	0900	A621	SOIL	1	✓						
⑤ @ 31'	9/30/96	0905	A622	SOIL	1	✓	✓					IF TPH < 5000, RUN BTEX

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	9/30/96	1454	Don L. Ojeveu	9/30/96	1454
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615

BJ448

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NATURAL RESOURCE DEP
AND OIL & GAS ADMINISTRATIO

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

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 B #1

Location: Unit or Qtr/Qtr Sec G Sec 22 T 26N R 5W **County** RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 9/30/96 **Date Completed:** _____

Remediation Method: Landfarmed X Approx. cubic yards 2,400

Composted _____

Other STOCKPILED (2)

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: 4/21/98 Time: 1315

Sample Results:

Field Headspace (ppm) 42.1 @ LANDFARMS

TPH (ppm) 6.4 Method 8015

Other STOCKPILES 0.0 ppm OVM

4.2 ppm TPH

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

DATE 4/28/98 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 X NO ___ (REASON) use as Backfill

SIGNED: Ken C Mankin DATE: 4-29-98

CLIENT: AMOCO

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

LOCATION NO: BJ448
C.O.C. NO: 5747

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA B WELL #: 1 PITS: SEP
QUAD/UNIT: G SEC: 22 TWP: 26 RNG: 5W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SW/4 NE/4 CONTRACTOR: P&S

DATE STARTED: 4/21/98
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:
REMEDIATION SYSTEM: SP/LF
APPROX. CUBIC YARDAGE: 2,400
LAND USE: RANGE
LIFT DEPTH (ft): 2'-3'

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

MOSTLY OR. YELL. BROWN SAND TO SILTY CLAY NON COHESIVE TO SLIGHTLY PLASTIC, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, SAMPLE PTS. ①, ②, & ④ CONTAINED LT. GRAY DISCOLORED CLAY W/ APPARENT HC ODOR IN LANDFARM, STOCKPILES CONTAINED NO APPARENT HC ODOR IN ANY OF THE SAMPLE PTS, COLLECTED 5 PT. COMPOSITE FOR BOTH LANDFARM & STOCKPILE MATERIAL.

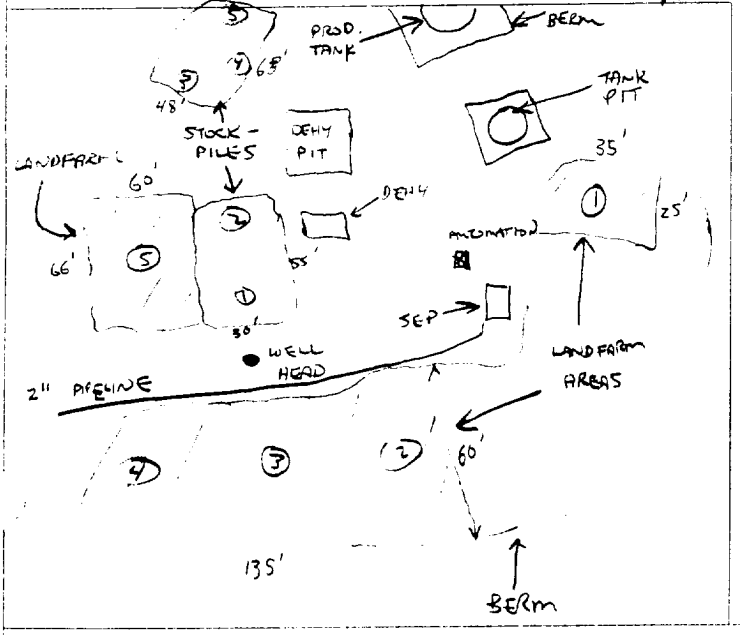
CLOSED

FIELD 418.1 CALCULATIONS

STOCKPILES 10' HEIGHT

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

SKETCH/SAMPLE LOCATIONS



ALL MATERIAL ORIGINALLY LANDFARMED, SOME OF THE SOIL WAS THEN AERATED USING LOADER, THEN STOCKPILED (AUG. '97).

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	42.1
SP-1	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1315	6.4
SP-1	TPH (8015)	1335	4.2

SCALE
0 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 4/21/98 - AFTER.

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:	04-24-98
Laboratory Number:	D133	Date Sampled:	04-21-98
Chain of Custody No:	5747	Date Received:	04-22-98
Sample Matrix:	Soil	Date Extracted:	04-22-98
Preservative:	Cool	Date Analyzed:	04-23-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**1.5**	**0.2**
Diesel Range (C10 - C28)	**4.9**	**0.1**
Total Petroleum Hydrocarbons	**6.4**	**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 B #1 Landfarm.**

Analyst

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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 #:	04034-10
Sample ID:	SP - 1	Date Reported:	04-24-98
Laboratory Number:	D134	Date Sampled:	04-21-98
Chain of Custody No:	5747	Date Received:	04-22-98
Sample Matrix:	Soil	Date Extracted:	04-22-98
Preservative:	Cool	Date Analyzed:	04-23-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**1.8**	**0.2**
Diesel Range (C10 - C28)	**2.4**	**0.1**
Total Petroleum Hydrocarbons	**4.2**	**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 B #1 Stockpile.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / Amoco	JICARILLA B #1
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No. 04034-A

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)	Remarks
							BOTH SAMPLES
							PRESERV. - COOL
LF-1	4/21/98	1315	D133	SOIL	1	✓	LANDFARM - 5 PT.
							COMPOSITE
SP-1	4/21/98	1335	D134	SOIL	1	✓	STOCKPILE - 5 PT.
							COMPOSITE
				SAMPLES RECEIVED COOL & INTACT OCM			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	4/22/98	0704	Adrienne L. Quinn	4.22.98	0704
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RE COC's 5745, 5746, 5747, 5748

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615