BJ 278
sep-risk - no bedrock

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NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

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OIL CON. DIV.
DIST. 3

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

PIT REMEDIATION AND CLOSURE REPORT

Risk no bedrock - distance to groundwater

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

Address: 200 Amoco Court, Farmington, NM 87401

Facility or Well Name: JICARILLA APACHE 102-13R

Location: **Unit or Qtr/Qtr Sec** H **Sec** 10 **T** 26N **R** 4W **County** RIO ARRIBA

Pit Type: **Separator** X **Dehydrator** ____ **Other** ____

Land Type: RANGE

Pit Location: (Attach diagram)

Pit dimensions: length 30', width 25', depth 20'

Reference: wellhead X, other ____

Footage from reference: 150'

Direction from reference: 60 Degrees ____ East X North of ____ West ____ 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)	10
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): 10

BJ278

Date Remediation Started: _____ **Date Completed:** 5/10/95

Remediation Method: (Check all appropriate locations) Excavation X Approx. cubic yards 500

Landfarmed ____ Insitu Bioremediation _____

Other COMPOSTED

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

Sample depth 15'

Sample date 5/10/95 Sample time _____

Sample Results

Soil:	Benzene	(ppm)		Water: Benzene	(ppb)
	Total BTEX	(ppm)		Toluene	(ppb)
	Field Headspace	(ppm)	801	Ethylbenzene	(ppb)
	TPH	(ppm)	11,600	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 5/23/95 **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: _____ **DATE:** _____

FAX TO FRANK / EPC 5-22-95 RCO

CLIENT: Amoco

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

LOCATION NO: BJ278
C.O.C. NO: —

FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA APACHE 102 WELL #: 13 R PIT: SEP
QUAD/UNIT: H SEC: 10 TWP: 26N RNG: 4W BM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SE / NE CONTRACTOR: EPC

DATE STARTED: 5-10-95
DATE FINISHED: —
ENVIRONMENTAL SPECIALIST: RCO

EXCAVATION APPROX. 30 FT. x 25 FT. x 20 FT. DEEP. CUBIC YARDS: 500
DISPOSAL FACILITY: ON SITE REMEDIATION METHOD: COMPOST
LAND USE: RANGE LEASE: FED. LSE # 102 FORMATION: —

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 150 FEET N60°W FROM WELLHEAD.
DEPTH TO GROUNDWATER: >50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1000 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

MOIST, BROWN, CLAYEY SAND - SOFT BOTTOM.
EXCAVATION LIMITED TO EAST BY AUTOMATION AND TO THE SOUTH BY SEPARATOR.
SOME STAIN + ODOR PRESENT IN EAST + SOUTH SIDEWALLS.

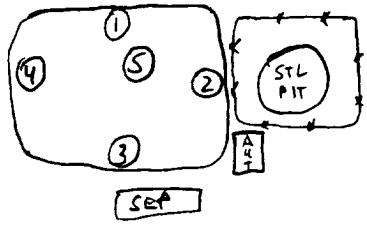
CONDITIONAL

FIELD 418.1 CALCULATIONS

	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
(3)	SS@15'	1500	10.0	20.0	10	582	11,640

SCALE
0 10 20 FT

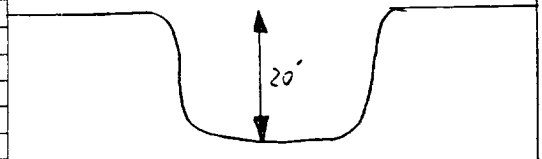
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 NS@15'	47
2 ES@15'	685
3 SS@15'	801
4 WS@15'	5
5 NB@21'	120
LAB	SAMPLES

PIT PROFILE



SURFACE GRADIENT

TRAVEL NOTES: CALLOUT: 5-9-95 1130 ONSITE: 5-10-95 0730
CONTACT: ELSA @ KURT'S OFFICE 5-9-95 @ 1158 → BE THERE ~ 8:00

Well Name:	**Jicarilla Apache 102-13R**
Well Site location:	Unit H, Sec. 10, T26N, R4W
Pit Type:	Separator Pit
Producing Formation:	Basin Dakota
Pit Category:	Expanded Vulnerable Area
Horizonal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	< 100 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when practical vertical extent was reached with a trackhoe. Horizontal extent was ceased due to surrounding equipment and piping.

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

1. Groundwater is unlikely to be affected due to excessive interval of overburden from the bottom of the pit excavation. If groundwater were encountered, the probability of it being perched is highly likely. In addition, topographic information suggest that the proximity of the underlying bedrock would be encountered at a shallow interval.

2. Topographic information does not indicate off site lateral fluid migration near the earthen pit and the area is remote from any present water well and/or residence.

3. Daily discharge into the earthen pit has been terminated. Prior discharge into the pit is believed to be under 5 barrels per day.

4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
Frost, Jack B 1E	**1100**	**0.011**	**5.889**
Berger A1	**482**	**0.084**	**0.681**
Mudge Com B 1E	**684**	**0.017**	**16.438**
L.C. Kelly #5	**1235**	**0.643**	**13.908**

The comparisons listed above demonstrate that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited. Vertical impact does not seem to pose a threat to present or foreseeable beneficial use of fresh water based upon the information presented above. 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:	South Side @ 15'	Date Analyzed:	5-10-95
Project Location:	Jicarilla Apache 102-13R	Date Reported:	5-10-95
Laboratory Number:	TPH-1500	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**11,600**	**100**

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	2,596	2,588	0

*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 - BJ278

R. E. O'Neill
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:	South Side @ 15'	Date Analyzed:	5-10-95
Project Location:	Jicarilla Apache 102-13R	Date Reported:	5-10-95
Laboratory Number:	TPH-1500	Sample Matrix:	Soil

Sample Weight:	10.00	grams
Volume Freon:	20.00	mL
Dilution Factor:	10	(unitless)
TPH Reading:	582	mg/kg

TPH Result:	11640.0	mg/kg
Reported TPH Result:	11600.0	mg/kg
Actual Detection Limit:	100.0	mg/kg
Reported Detection Limit	100	mg/kg

QA/QC:

Original TPH mg/kg	Duplicate TPH mg/kg	% Diff.
2596	2588	0

Comments: **********Max Characters**********

Comments: Separator Pit - BJ278

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 107 -13R

Location: **Unit or Qtr/Qtr Sec** H **Sec** 10 **T** 26N **R** 4W **County** RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 5/10/95 **Date Completed:** 8/20/96

Remediation Method: Landfarmed ____ Approx. cubic yards 500

Composted X

Other ____

Depth To Groundwater:	(pts.)	10
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: 8/12/96 Time: 1340

Sample Results:

Field Headspace (ppm) 10.7

TPH (ppm) ND Method 8015

Other ____

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

DATE 8/20/96 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) ____

SIGNED: [illegible] C Mowell DATE: 8-21-96

F40

CLIENT: Amoco

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

LOCATION NO: BJ278
C.O.C. NO: _____

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA APACHE WELL #: 102-13R PITS: SEP
QUAD/UNIT: H SEC: 10 TWP: 26N RNG: 4W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SE/4 NE/4 CONTRACTOR: EPC

DATE STARTED: 8/12/96
DATE FINISHED: _____
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:
REMEDIATION SYSTEM: COMPOSTED
APPROX. CUBIC YARDAGE: 500
LAND USE: RANGE
LIFT DEPTH (ft): NA

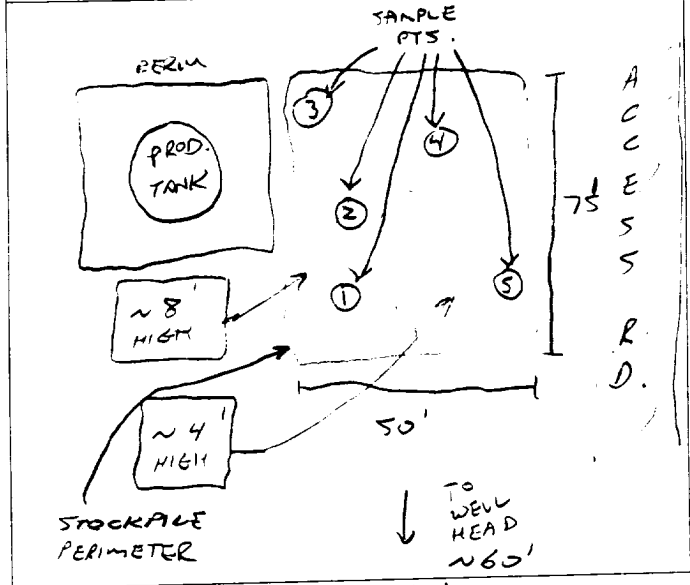
FIELD NOTES & REMARKS:
DEPTH TO GROUNDWATER: <100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1000 PPM
LAST SAMPLED ON 8/2/95. NO DISTINCT HC ODOR DETECTED PHYSICALLY FROM ANY OF THE SAMPLE PTS. MOISTURE RETENTION APPARENT W/IN SUBSURFACE OF PILE NO DISCOLORATION OBSERVED (MOSTLY DK YELL. BROWN IN APPEARANCE).

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

SAMPLE ID	FIELD HEADSPACE PID (ppm)
CP-1	10.7

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
CP-1	TPH (8015)	1340	ND

SCALE
0 FT

TRAVEL NOTES: CALLOUT: 8/5/96 MORN. ONSITE: 8/6/96 MORN.

ANAITAS
ENVIRONMENTAL LABS

TOTAL VOLATILE PETROLEUM HYDROCARBONS

Gasoline Range Organics

Blagg Engineering, Inc.

Project ID:	Jicarilla Apache 102-13R	Report Date:	08/20/96
Sample Matrix:	Soil	Date Sampled:	08/12/96
Preservative:	Cool	Date Received:	08/13/96
Condition:	Intact	Date Extracted:	08/16/96
		Date Analyzed:	08/16/96

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
CP - 1	4711	ND	21.8

ND- Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	% Recovery	Acceptance Limits
Trifluorotoluene	102%	50 - 150%

Reference: Method for the Determination of Gasoline Range Organics, State of Tennessee, Department of Environment and Conservation, Division of Underground Storage Tanks.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Diesel Range Organics

Blagg Engineering, Inc.

Project ID:	Jicarilla Apache 102-13R	Report Date:	08/16/96
Sample Matrix:	Soil	Date Sampled:	08/12/96
Preservative:	Cool	Date Received:	08/13/96
Condition:	Intact	Date Extracted:	08/16/96
		Date Analyzed:	08/16/96

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
CP - 1	4711	ND	17.5

ND- Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	% Recovery	Acceptance Limits
o - Terphenyl	106%	50 - 150%

Reference: EPA Method 8015A, modified. "Nonhalogenated Volatile Organics by Gas Chromatography." Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods, SW-846, 3rd Ed, Final Update I, July, 1992. USEPA.

Comments:

Analyst

Review

0558

CHAIN OF CUSTODY

ENVIRONMENTAL LABORATORY

S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

ROJECT MANAGER:
alytica Lab I.D.:
ompany: BLAGG
ldress:
one:
ax:
ll To: SAME AS ABOVE
ompany:
ldress:

Sample ID	Date	Time	Matrix	Lab ID	ORGANIC ANALYSES													WATER ANALYSES								METALS			
					Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602/8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1/503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids : TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):
CP - 1	8/12/96	1340	SOIL														8015												

Project Information	Sample Receipt
roj. #:	No. Containers:
roj Name: IGNACIO APACHE	Custody Seals: Y / N / NA
.O. No. 102-138 COMPOST PILE	Received Intact:
hipped Via:	Received Cold
equired Turnaround Time (Prior Authorization Required for Rush)	

Sampled by:	Relinquished by:	Relinquished by:
Signature: [signature] Date: 8/12/96	Signature: [signature] Date: 8/12/96	Signature: J.C. Blagg Date: 8-13-9
Company: BLAGG Time: 1340	Company: BLAGG Time: 1700	Company: BEI Time: 0733
Received By:	Received By:	Received By:
Signature Date:	Signature: J.C. Blagg Date: 8-12-96	Signature: [signature] Date: 8-13-9
Company: Time:	Company: BEI Time: 1700	Company: Time:

R 20

CLIENT: AMOCO

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

LOCATION NO: BJ278
C.O.C. NO: _____

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JIC. AP. 102 WELL #: 13R PITS: SEP
QUAD/UNIT: H SEC: 10 TWP: 26N RNG: 4W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: SE NE CONTRACTOR: EPC

DATE STARTED: 8/2/95
DATE FINISHED: _____
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:
REMEDIATION SYSTEM: Compost APPROX. CUBIC YARDAGE: 500
LAND USE: RANGE LEASE 102

FIELD NOTES & REMARKS:
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

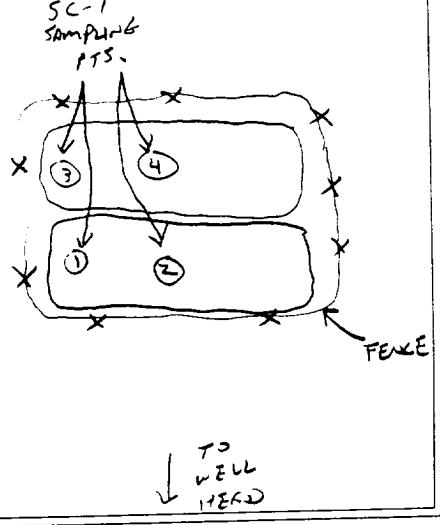
DK. YELL. BROWN SILTY CLAY, NON-PLASTIC TO SLIGHTLY PLASTIC, SLIGHTLY MOIST, STIFF, STRONG HC ODOR IN OVM SAMPLE. CENTERS - BLACK, MOIST, GOBULAR, STRONG MARMRE ODOR.

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1040 SC-1	TPH-1550	5	20	439	1:1	1756

N

SKETCH/SAMPLE LOCATIONS



SCALE
0 FT

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
SC-1	472

LAB SAMPLES

SAMPLE ID	ANALYSIS

TRAVEL NOTES: CALLOUT: 8/1/95 MORN. ONSITE: 8/2/95 MORN.

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:	SC - 1	Date Analyzed:	08-02-95
Project Location:	Jicarilla Apache 102-13R	Date Reported:	08-02-95
Laboratory Number:	TPH-1550	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	**1,800**	**20**

ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	1040	956	8.42

*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: Compost piles: Composite sample - BJ278

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:	SC - 1	Date Analyzed:	08-02-95
Project Location:	Jicarilla Apache 102-13R	Date Reported:	08-02-95
Laboratory Number:	TPH-1550	Sample Matrix:	Soil

Sample Weight:	5.00	grams
Volume Freon:	20.00	mL
Dilution Factor:	1	(unitless)
TPH Reading:	439	mg/kg

TPH Result:	1756.0	mg/kg
Reported TPH Result:	1800	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.
1040	956	8.42

Comments: **********Max Characters**********

Comments: Compost piles: Composite sample - BJ278