

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

Blow-OK  
BT644 Sep-RISK  
SUBMIT 1 COPY TO  
NATURAL RESOURCE DEPT

**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 #146-13E

**Location:** Unit or Qtr/Qtr Sec B Sec 9 T 25N R 5W County RIO ARIZONA

**Pit Type:** Separator      Dehydrator      Other Blow

**Land Type:** RANGE

**Pit Location:** Pit dimensions: length 35', width 35', depth 23'  
(Attach diagram)

Reference: wellhead X, other     

Footage from reference: 225'

Direction from reference: 72 Degrees      East of North X  
X West of South     

<b>Depth To Groundwater:</b> (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)	<u>0</u>
<b>Distance to an Ephemeral Stream</b> (Downgradient dry wash greater than ten feet in width)	Less than 100 feet Greater than 100 feet	(10 points) ( 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 Greater than 100 feet	(10 points) ( 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 No	(20 points) ( 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 100 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) ( 0 points)	<u>0</u>

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

BLOW PIT

BT644

Date Remediation Started: \_\_\_\_\_

Date Completed: 9/25/98Remediation Method: Excavation ☒  
Check all appropriate sections) Landfarmed ☒Approx. cubic yards 600

Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Location: Onsite ☒ Offsite \_\_\_\_\_  
(i.e. landfarmed onsite, name and location of offsite facility)General Description of Remedial Action: ExcavationGroundwater Encountered: No ☒ Yes \_\_\_\_\_ Depth \_\_\_\_\_Final Pit:  
Closure Sampling:  
(if multiple samples,  
attach sample results  
and diagram of sample  
locations and depths)Sample location see Attached Documents - TPH & BTEX LAB RESULTSCOLLECTED FROM WEST SIDEWALLSample depth 25' (PIT BOTTOM) / 17' (WEST SIDEWALL)Sample date 9/24/98 Sample time 1130

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>0.0</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>88</u>	Total Xylenes	(ppb)	_____

Groundwater Sample: Yes \_\_\_\_\_ No ☒ (If yes, attach sample results)


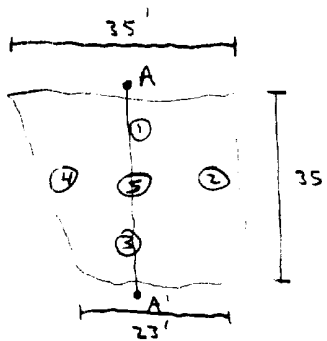
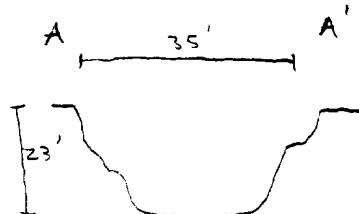
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 9/25/98 PRINTED NAME Buddy D. ShawSIGNATURE 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: Kerr M. Marshall DATE: 10-1-98

3003923160

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J644</u> C.O.C. NO: <u>6216</u>																																
<b>FIELD REPORT: CLOSURE VERIFICATION</b>		PAGE No: <u>1</u> of <u>1</u>																																
LOCATION: NAME: <u>TCA. CONTR. 146</u> WELL #: <u>13E</u> PIT: <u>BLOW</u>		DATE STARTED: <u>9/24/98</u> DATE FINISHED: _____																																
QUAD/UNIT: <u>6 SEC. 9</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>		ENVIRONMENTAL SPECIALIST: <u>NV</u>																																
QTR/FOOTAGE: <u>790' ENL / 1580' FEL</u> CONTRACTOR: <u>P+S</u>																																		
EXCAVATION APPROX. <u>35</u> FT. x <u>35</u> FT. x <u>23</u> FT. DEEP. CUBIC YARDAGE: <u>600</u>																																		
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>																																		
LAND USE: <u>RANGE</u> LEASE: <u>JIC 146</u> FORMATION: <u>DR</u>																																		
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>225</u> FT. <u>N72W</u> FROM WELLHEAD.																																		
DEPTH TO GROUNDWATER: <u>&gt;100'</u> NEAREST WATER SOURCE: <u>&gt;1000'</u> NEAREST SURFACE WATER: <u>&gt;1000'</u>																																		
NMOC D RANKING SCORE: <u>0</u> NMOC TPH CLOSURE STD: <u>5000</u> PPM																																		
SOIL AND EXCAVATION DESCRIPTION:																																		
<p>SOIL MOSTLY DR. YELL. ORANGE SAND, LT. GRAY SAND w/ GRAVEL COLLECTED FROM WEST SIDEWALL, PIT BOTTOM OLIVE TO LT. GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STAINING OBSERVED ON MAJORITY BOTTOM 2/3'S OF WEST SIDEWALL, ISOLATED PATCH IN SOUTHEAST CORNER (APPROX. 15' BELOW GRADE), + BOTTOM 4' OF EAST SIDEWALL, NO APPARENT HC DOOR DETECTED w/ EXCAVATION STRONG HC DOOR IN WEST SIDEWALL DUM SAMPLE ONLY COLLECTED 4 PT. COMPOSITE SAMPLE FOR LAB ANALYSIS FROM THE SIDEWALL SAMPLING PTS.</p>																																		
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# 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:	5 @ 25'	Date Analyzed:	09-24-98
Project Location:	Jicarilla Contract # 146 - 13E	Date Reported:	09-24-98
Laboratory Number:	TPH-2044	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
-----	-----	-----
Total Recoverable Petroleum Hydrocarbons	88	20

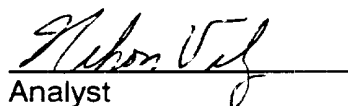
ND = Not Detectable at stated detection limits.

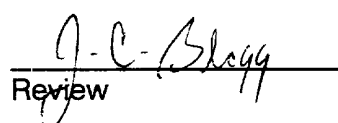
QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	-----	-----	-----
	236	220	7.02

\*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 - BJ644

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

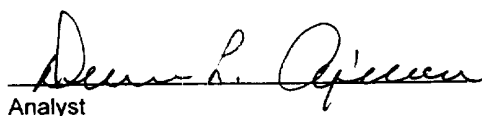
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	SW - C	Date Reported:	09-25-98
Laboratory Number:	D964	Date Sampled:	09-24-98
Chain of Custody No:	6216	Date Received:	09-24-98
Sample Matrix:	Soil	Date Extracted:	09-25-98
Preservative:	Cool	Date Analyzed:	09-25-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

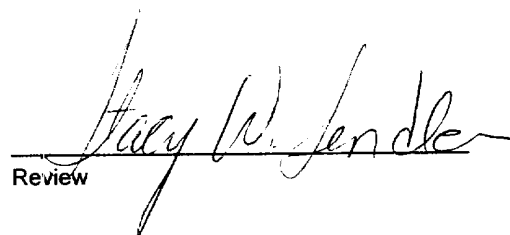
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	21.1	0.2
Diesel Range (C10 - C28)	345	0.1
Total Petroleum Hydrocarbons	366	0.2

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 - 13E Blow Pit. 4 Pt. Composite of Sidewalls,

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	SW - C	Date Reported:	09-25-98
Laboratory Number:	D964	Date Sampled:	09-24-98
Chain of Custody:	6216	Date Received:	09-24-98
Sample Matrix:	Soil	Date Analyzed:	09-25-98
Preservative:	Cool	Date Extracted:	09-25-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	11.5	8.8
Toluene	30.2	8.4
Ethylbenzene	328	7.6
p,m-Xylene	1,530	10.8
o-Xylene	899	5.2
Total BTEX	2,800	

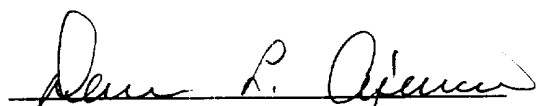
ND - Parameter not detected at the stated detection limit.

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 - 13E Blow Pit. 4 Pt. Composite of Sidewalls.

  
Analyst

  
Review

## 6216

[illegible]

**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:

5 @ 25'

Date Analyzed:

09-24-98

Project Location:

Jicarilla Contract # 146 - 13E

Date Reported:

09-24-98

Laboratory Number:

TPH-2044

Sample Matrix:

Soil

Sample Weight:

5.00 grams

Volume Freon:

20.00 mL

Dilution Factor:

1 (unitless)

TPH Reading:

22 mg/kg

TPH Result:

88.0 mg/kg

Reported TPH Result:

88 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.

-----  
236

-----  
220

-----  
7.02

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

Comments: Blow Pit - BJ644



BJG44

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**

**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 # 146-13E  
**Location:** Unit or Qtr/Qtr Sec B Sec 9 T 25N R 5W County RIO ARriba  
**Pit Type:** Separator ☒ Dehydrator ☐ Other ☐  
**Land Type:** RANGE

**Pit Location:** (Attach diagram) Pit dimensions: length 25', width 25', depth 10'  
Reference: wellhead ☒, other ☐  
Footage from reference: 183'  
Direction from reference: 2 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) Greater than 1000 feet (0 points)	<u>0</u>

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

Date Remediation Started: \_\_\_\_\_ Date Completed: 9/24/98

Remediation Method: Excavation ☒  
 (check all appropriate sections) Landfarmed ☒

Approx. cubic yards 150

In situ Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

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

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

Groundwater Encountered: No ☒ 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 5' (WEST SIDEWALL)

Sample date 9/24/98 Sample time 1000

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>8.6</u>	<sup>PIT BOTTOM</sup> 340 Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>224</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 9/24/98 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) R-A. Attached

SIGNED: Ken C. Mamm DATE: 10-1-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>81644</u>  C.O.C. NO: _____
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<b>FIELD REPORT: CLOSURE VERIFICATION</b>	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>TICR. CONTR. 146</u> WELL #: <u>13E</u> PIT: <u>SEP.</u> QUAD/UNIT: <u>B</u> SEC: <u>9</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>790' RNL / 1580' FEL</u> CONTRACTOR: <u>P+S</u>	DATE STARTED: <u>9/24/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
--	---

EXCAVATION APPROX. <u>25</u> FT. x <u>25</u> FT. x <u>10</u> FT. DEEP.	CUBIC YARDAGE: <u>150</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>	
LAND USE: <u>RANGE</u> LEASE: <u>TIC 146</u> FORMATION: <u>DR</u>	

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>183</u> FT. <u>N2W</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>&gt;100'</u> NEAREST WATER SOURCE: <u>&gt;1000'</u> NEAREST SURFACE WATER: <u>&gt;1000'</u> NMOC RANKING SCORE: <u>0</u> NMOC TPH CLOSURE STD: <u>5000</u> PPM <u>SOIL AND EXCAVATION DESCRIPTION:</u>
------------------------	---

CHECK ONE:  
☒ PIT ABANDONED  
☐ STEEL TANK INSTALLED  
☐ FIBERGLASS TANK INSTALLED

SIDEWALLS -- DR. YELL. ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STAINING ON BOTTOM 1' OF WEST SIDEWALL ONLY, NO APPARENT HC ODOR DETECTED W/IN EXCAVATION OR IN ANY OF THE DUM SAMPLES.

BOTTOM -- BEDROCK (SANDSTONE), VERY PALE ORANGE TO LT. GRAY IN COLOR, VERY HARD, STRONG HC ODOR IN DUM SAMPLE.

BEDROCK BOTTOM

RISK ASSESSED

SCALE

PIT PERIMETER N

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1000	④ 25'	TPH-2043	5	20	1:1	56	224

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 5'	0.0
2 @ 5'	0.0
3 @ 5'	0.0
4 @ 5'	8.6
5 @ 10'	340

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

**Well Name:****Jicarilla Contract 146 #13E**

Well Site location:

Unit B, Sec. 9, T25N, R5W

Pit Type:

Separator Pit

Producing Formation:

Basin Dakota

Pit Category:

Non Vulnerable

Horizontal Distance to Surface Water:

&gt; 1000 ft.

Vicinity Groundwater Depth:

&gt; 100 ft.

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

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 10 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 10 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 0.46 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 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:	4 @ 5'	Date Analyzed:	09-24-98
Project Location:	Jicarilla Contract # 146 - 13E	Date Reported:	09-24-98
Laboratory Number:	TPH-2043	Sample Matrix:	Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
-----	-----	-----
Total Recoverable Petroleum Hydrocarbons	220	20

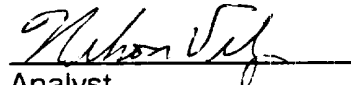
ND = Not Detectable at stated detection limits.

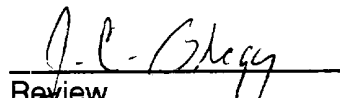
QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	-----	-----	-----
	236	220	7.02

\*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 - BJ644

  
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:

4 @ 5'

Date Analyzed:

09-24-98

Project Location:

Jicarilla Contract # 146 - 13E

Date Reported:

09-24-98

Laboratory Number:

TPH-2043

Sample Matrix:

Soil

Sample Weight:

5.00 grams

Volume Freon:

20.00 mL

Dilution Factor:

1 (unitless)

TPH Reading:

56 mg/kg

TPH Result:

224.0 mg/kg

Reported TPH Result:

220 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.

-----  
236

-----  
220

-----  
7.02

Comments:

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

Comments:

Separator Pit - BJ644

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 146.13E

Location: Unit or Qtr/Qtr Sec B Sec 9 T25N R5W County RIO ARriba

Land Type: RANGE

Date Remediation Started: 9.20.98 Date Completed: 6/16/99

Remediation Method: Landfarmed ☒ Approx. cubic yards 750

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: 6/14/99 Time: 1020

Sample Results:

Field Headspace (ppm) 154.8 8015/

TPH (ppm) 1,070 Method 8021

Other BENZENE = 0.0306 ppm

TOT. BTEX = 6.750 ppm

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE 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: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>B5644</u> C.O.C. NO: <u>6902</u>
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# FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JCARILLA CONTRACT 146</u> WELL #: <u>13E</u> PITS: <u>SEP, BLOW</u>	DATE STARTED: <u>4.20.99</u>
QUAD/UNIT: <u>B</u> SEC: <u>9</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	DATE FINISHED: _____
STAKE FOOTAGE: <u>NW/4 NE/4</u> CONTRACTOR: <u>P&amp;S</u>	ENVIRONMENTAL SPECIALIST: <u>REP</u>

## FIELD REMEDIATION:

REMEDICATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 750  
 LAND USE: RANGE LIFT DEPTH (ft): 1.5

## FIELD NOTES & REMARKS:

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

WATER RAINING SCORE: 0 NMDD TPH CLOSURE STD: 5000 PPM

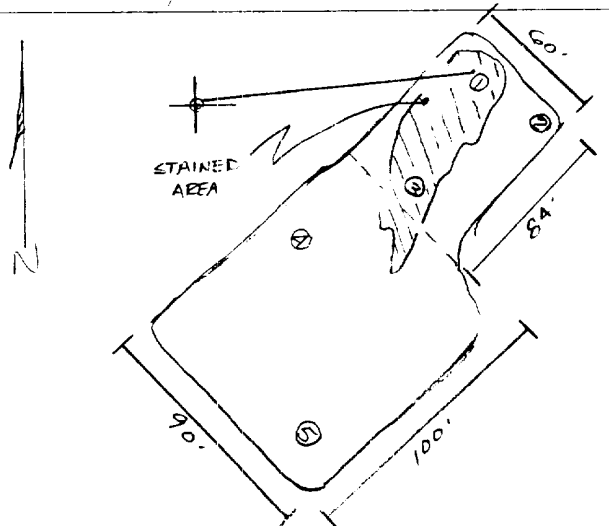
DK YELLOWISH BROWN SAND, NON COHESIVE, MOIST, FIRM  
 LARGE AREA OF STAINING OBSERVE IN LF AREA (SEE SKETCH BELOW)  
 HC ODOR DETECTED IN SAMPLING PTS ① & ③.  
 SAMPLING DEPTHS RANGE FROM 6"-12" COLLECTED A SPT, COMPOSITE  
 SAMPLE FOR LAB ANALYSIS.

CLOSED

## FIELD 418.1 CALCULATIONS

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

## SKETCH/SAMPLE LOCATIONS



LF-2 SAMPLED ON 6/14/99

## OVM RESULTS

## LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PIC (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	154.8	LF-1	TPH (8015)	1250	9,070
		"	BENZENE	"	30.6 ppb
		"	TOT. BTEX	"	6750 ppb
		LF-2		1020	1,070

## SCALE



0 FT

## TRAVEL NOTES:

CALLOUT: \_\_\_\_\_ ONSITE: \_\_\_\_\_



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

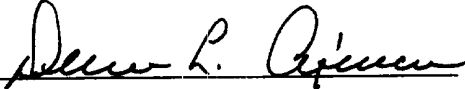
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	04-22-99
Laboratory Number:	F071	Date Sampled:	04-20-99
Chain of Custody No:	6902	Date Received:	04-21-99
Sample Matrix:	Soil	Date Extracted:	04-21-99
Preservative:	Cool	Date Analyzed:	04-22-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

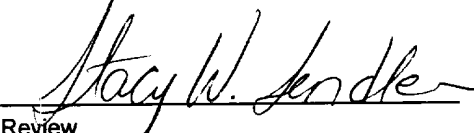
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	566	0.2
Diesel Range (C10 - C28)	8,500	0.1
Total Petroleum Hydrocarbons	9,070	0.2

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 - 13E Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified  
Nonhalogenated Volatile Organics  
Total Petroleum Hydrocarbons

Client: Blagg / AMOCO  
Sample ID: LF - 2  
Laboratory Number: F512  
Chain of Custody No: 7078  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

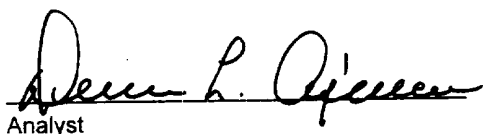
Project #: 403410  
Date Reported: 06-16-99  
Date Sampled: 06-14-99  
Date Received: 06-15-99  
Date Extracted: 06-16-99  
Date Analyzed: 06-16-99  
Analysis Requested: 8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	17.9	0.2
Diesel Range (C10 - C28)	1,050	0.1
Total Petroleum Hydrocarbons	1,070	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 - 13E Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	04-22-99
Laboratory Number:	F071	Date Sampled:	04-20-99
Chain of Custody:	6902	Date Received:	04-21-99
Sample Matrix:	Soil	Date Analyzed:	04-22-99
Preservative:	Cool	Date Extracted:	04-21-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	30.6	8.8
Toluene	716	8.4
Ethylbenzene	540	7.6
p,m-Xylene	3,090	10.8
o-Xylene	2,370	5.2
Total BTEX	6,750	

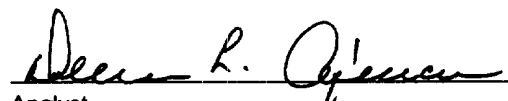
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	97 %

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 - 13E Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

## 6902

[illegible]

## 7078

[illegible]