

RECEIVED
AUG 18 1999

~~OIL CON. DIV.~~

RANKING SCORE (TOTAL POINTS):

Date Remediation Started: _____

Date Completed: 7/31/98

Remediation Method: Excavation ☒
Check all appropriate sections) Landfarmed ☒

Approx. cubic yards 600

In situ Bioremediation _____

Other _____

Remediation Location: Onsite ☒ Of site _____
(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation. BEDROCK BOTTOM.

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 6' (EAST SIDEWALK)

Sample date 7/31/98

Sample time 1300

Sample Results

Soil: Benzene

(ppm) ND

Water: Benzene

(ppb) _____

Total BTEX

(ppm) 2.110

Toluene

(ppb) _____

Field Headspace

(ppm) 446

Ethylbenzene

(ppb) _____

TPH

(ppm) 131

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

7/31/98

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: Ken C. M...

DATE: 9-9-98

CLIENT: <u>AMOCO</u>	FLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BTS97</u> C.D.C. NO: <u>6113</u>
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>JICA. CONTR.</u> <u>117</u> WELL #: <u>SY</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>G</u> SEC: <u>7</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1700' FNL</u> <u>1720' FEL</u> CONTRACTOR: <u>P & S</u>	DATE STARTED: <u>7/30/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
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EXCAVATION APPROX. <u>43'</u> FT. x <u>41'</u> FT. x <u>12'</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>TIC 147</u> FORMATION: <u>DK</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>146</u> FT. <u>N 54 E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u> NMDCD RANKING SCORE: <u>0</u> NMDCD TPH CLOSURE STD: <u>5000</u> PPM SOIL AND EXCAVATION DESCRIPTION:
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CHECK ONE:
☒ PIT ABANDONED
☐ STEEL TANK INSTALLED
☐ FIBERGLASS TANK INSTALLED

SIDEWALL - DUSKY RED / LT. GRAY CLAY, PLASTIC, SLIGHTLY MOIST, FIRM TO VERY STIFF, STRONG HC ODOR IN EAST SIDEWALL OUM SAMPLE ONLY, NO DISTINCT STAINING OBSERVED W/IN EXCAVATION.

BOTTOM - BEDROCK (SHALE) VERY HARD, DUSKY RED / LT. GRAY IN COLOR, NO APPARENT HC. ODOR W/IN EXCAVATION OR OUM SAMPLE.

BEDROCK BOTTOM

SCALE

0 FT

CLOSED

FIELD 418.1 CALCULATIONS

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

PIT PERIMETER

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 6'	0.0
2 @ 6'	446
3 @ 7'	14.4
4 @ 6'	0.0
5 @ 12'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
2 @ 6'	TPH / BTEX	1300
BOTH PASSED		

PIT PROFILE

TRAVEL NOTES: CALLOUT: <u>7/29/98 - MORN.</u>	ONSITE: <u>7/30/98 - AFTER.</u>
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EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

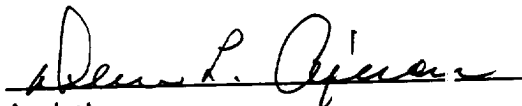
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	2 @ 6	Date Reported:	07-31-98
Laboratory Number:	D769	Date Sampled:	07-30-98
Chain of Custody No:	6113	Date Received:	07-30-98
Sample Matrix:	Soil	Date Extracted:	07-31-98
Preservative:	Cool	Date Analyzed:	07-31-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	20.2	0.2
Diesel Range (C10 - C28)	111	0.1
Total Petroleum Hydrocarbons	131	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 #147 - 5Y Blow 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:	2 @ 6	Date Reported:	07-31-98
Laboratory Number:	D769	Date Sampled:	07-30-98
Chain of Custody:	6113	Date Received:	07-30-98
Sample Matrix:	Soil	Date Analyzed:	07-31-98
Preservative:	Cool	Date Extracted:	07-31-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	75.2	8.4
Ethylbenzene	103	7.6
p,m-Xylene	1,230	10.8
o-Xylene	707	5.2
Total BTEX	2,110	

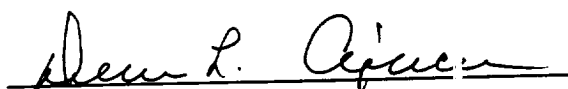
ND - Parameter not detected at the stated detection limit.

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 #147 - 5Y Blow Pit.


Analyst


Review

6113

[illegible]

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

BT 597

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 CONTRACT #147-5Y
Location: Unit or Qtr/Qtr Sec 6 Sec 7 T25N R 5W County RIO ARABA
Pit Type: Separator ☒ Dehydrator ☐ Other ☐
Land Type: RANGE

Pit Location: (Attach diagram) Pit dimensions: length 31', width 28', depth 5'
Reference: wellhead X, other ☐
Footage from reference: 183'
Direction from reference: 37 Degrees ☒ East of North ☐
West of South ☒

Depth To Groundwater:

(Vertical distance from
contaminants to seasonal
high water elevation of
groundwater)

Less than 50 feet	(20 points)	
50 feet to 99 feet	(10 points)	<u>0</u>
Greater than 100 feet	(0 points)	

Distance to an Ephemeral Stream

(Downgradient dry wash greater than
ten feet in width)

Less than 100 feet	(10 points)	
Greater than 100 feet	(0 points)	<u>0</u>

Distance to Nearest Lake, Playa, or Watering Pond

(Downgradient lakes, playas and
livestock or wildlife watering ponds)

Less than 100 feet	(10 points)	
Greater than 100 feet	(0 points)	<u>0</u>

Wellhead Protection Area:

(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>

Distance To Surface Water:

(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: 7/30/98Remediation Method: Excavation ☒
Check all appropriate sections) Landfarmed ☒Approx. cubic yards 125

Insitu Bioremediation _____

Other _____

Remediation Location:
(i.e. landfarmed onsite,
name and location of
offsite facility)Onsite ☒ Of site _____General Description of Remedial Action: Excavation. Excavation mostly BEDROCK.THEFORE NO TPH ANALYSIS WAS CONDUCTED. 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 DocumentsSample depth 5' (PT BOTTOM - BEDROCK)Sample date 7/30/98Sample time 1130

Sample Results

Soil: Benzene

(ppm) _____

Water: Benzene

(ppb) _____

Total BTEX

(ppm) _____

Toluene

(ppb) _____

Field Headspace

(ppm) 615

Ethylbenzene

(ppb) _____

TPH

(ppm) NA

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

7/30/98

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. M...

DATE:

9-9-98

CLIENT: <u>AMOCO</u>	FLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8597</u> C.D.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>JICA CONTR.</u> <u>147</u> WELL #: <u>SY</u> PIT: <u>SEP</u>	DATE STARTED: <u>7/30/98</u> DATE FINISHED: _____
QUAD/UNIT: <u>6</u> SEC: <u>7</u> TWP: <u>25N</u> RNG: <u>5W</u> PMNM CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>
QTR/FOOTAGE: <u>1700' FNL</u> <u>1720' FEL</u> CONTRACTOR: <u>P + S</u>	

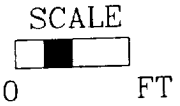
EXCAVATION APPROX. <u>31</u> FT. x <u>28</u> FT. x <u>5</u> FT. DEEP. CUBIC YARDAGE: <u>125</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u> LEASE: <u>JICA 147</u> FORMATION: <u>DK</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>183</u> FT. <u>537E</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>>100'</u> NEAR ST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u>
NMDC RANKING SCORE: <u>0</u> NMDC 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

EXCAVATION CONSIST OF MOSTLY BEDROCK (SHALE) LT. GRAY TO DUSKY RED IN COLOR, SOFT NEAR GROUND SURFACE TO VERY HARD @ PIT BOTTOM, STRONG HE ODOR IN PIT BOTTOM OUM SAMPLE ONLY, NO APPARENT STAINING OR HE ODOR OBSERVED/ DETECTED WITH EXCAVATION.

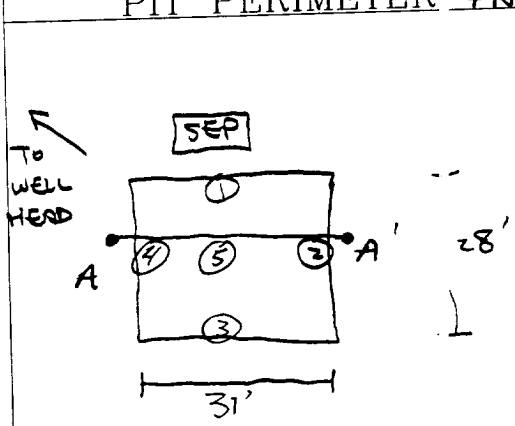
EXCAVATION MOSTLY BEDROCK (RISK ASSESSED)



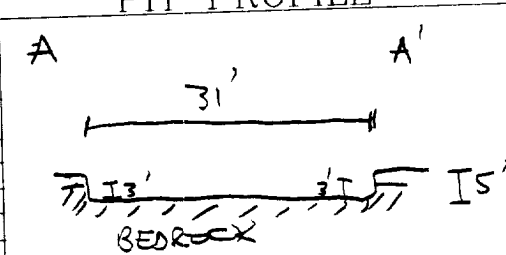
FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	D LUTION	READING	CALC. ppm
1130							

PIT PERIMETER



PIT PROFILE



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 3'	88.8
2 @ 2'	0.0
3 @ 3'	0.0
4 @ 2'	0.0
5 @ 5'	615

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES: CALLOUT: <u>7/29/98 - MORN.</u> ONSITE: <u>7/30/98 - MORN.</u>
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Well Name:	Jicarilla Contract 147 #5Y
Well Site location:	Unit G, Sec. 7, T25N, R5W
Pit Type:	Separator Pit
Producing Formation:	Basin Dakota
Pit Category:	Non Vulnerable
Horizontal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe encountered shale bedrock at 5 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 shale bedrock located 5 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below shale 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 0.90 miles north of the nearest vulnerable area boundary (Gonzales Canyon wash).

(Refer to Gonzales Mesquite 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 shale 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.

83371

**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: <u>AMOCO PRODUCTION COMPANY</u>		Telephone: <u>(505) 326-9200</u>
Address: <u>200 Amoco Court, Farmington, NM 87401</u>		
Facility or Well Name: <u>JICARILLA CONTRACT 147.54</u>		
Location: Unit or Qtr/Qtr Sec <u>4</u> Sec <u>7</u> T <u>25N</u> R <u>5W</u> County <u>RIO ARriba</u>		
Land Type: <u>RANGE</u>		
Date Remediation Started: <u>7.30.98</u>		Date Completed: <u>4/3/99</u>
Remediation Method: Landfarmed <input checked="" type="checkbox"/>		Approx. cubic yards <u>725</u>
Composted <input type="checkbox"/>		
Other <input type="checkbox"/>		
Depth To Groundwater: (pts.) <u>0</u>		Final Closure Sampling: Sampling Date: <u>3.31.99</u> Time: <u>1045</u> Sample Results: Field Headspace (ppm) <u>0.0</u> TPH (ppm) <u>8.9</u> Method <u>8015</u> Other _____
Distance to an Ephemeral Stream (pts.) <u>0</u>		
Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u>		
Wellhead Protection Area: (pts.) <u>0</u>		
Distance To Surface Water: (pts.) <u>0</u>		
RANKING SCORE (TOTAL POINTS): <u>0</u>		
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF		
DATE <u>4/3/99</u>		PRINTED NAME <u>Buddy D. Shaw</u>
SIGNATURE <u>Buddy D. Shaw</u>		AND TITLE <u>Environmental Coordinator</u>
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.		
APPROVED: YES <input type="checkbox"/> NO <input type="checkbox"/> (REASON) _____		
SIGNED: _____ DATE: _____		

CLIENT: <u>AMOCO</u>	BLAGC ENGINEERING, INC. P.O. BOX 37, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>83597</u> C.O.C. NO: <u>6586</u>
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FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>SICARILLA CONTRACT 147</u> WELL #: <u>SV</u> PITS: <u>SEP, BLDW</u>	DATE STARTED: <u>3.31.99</u> DATE FINISHED: _____
QUAD/UNIT: <u>G</u> SEC: <u>7</u> TWP: <u>25N</u> RANG: <u>SW</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>REP</u>
QTR/FOOTAGE: <u>SW/4 NE/4</u> CONTRACTOR: <u>P+S</u>	

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARM

APPROX. CUBIC YARDAGE: 725

LAND USE: RANGE

LIFT DEPTH (ft): 1-1.5

FIELD NOTES & REMARKS:

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

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

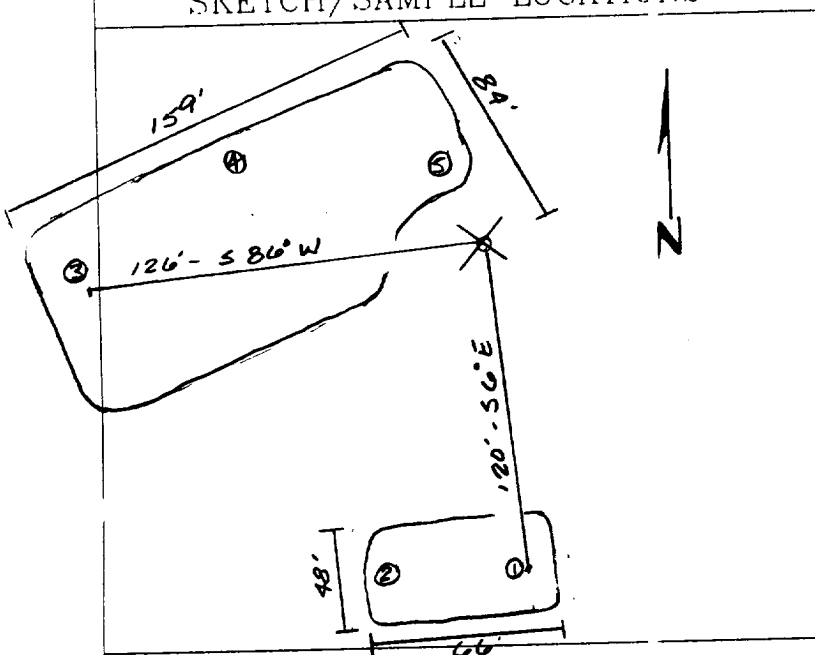
PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM.
NO APPARENT STAINING, NO HC ODO. DETECTED SAMPLING DEPTHS
RANGE FROM 6"-18". TOOK A SPT COMPOSITE SAMPLE FOR LAB ANALYSIS.

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	TPH (8015)	1045	8.9

SCALE

0 FT

TRAVEL NOTES:

CALLOUT: N/A

ONSITE: 3.31.99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

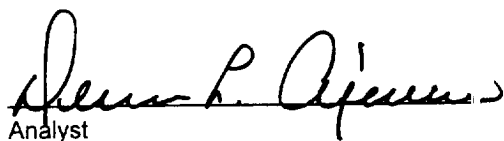
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	04-03-99
Laboratory Number:	E926	Date Sampled:	03-31-99
Chain of Custody No:	6586	Date Received:	04-01-99
Sample Matrix:	Soil	Date Extracted:	04-03-99
Preservative:	Cool	Date Analyzed:	04-03-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	8.9	0.1
Total Petroleum Hydrocarbons	8.9	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 147 - 5Y Landfarm. 5 Pt. Composite.


Analyst


Review

6586

ENVIROTECH INC.