

Date Remediation Started: _____

Date Completed: 9/7/98Remediation Method:
(check all appropriate sections)Excavation ☒Landfarmed ☒

Other _____

Approx. cubic yards 600

Insitu Bioremediation _____

Remediation Location:
(i.e. landfarmed onsite,
name and location of
offsite facility)Onsite ☒ Offsite _____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 DocumentsSample depth 9' (NORTH SIDEWALL)Sample date 9/7/98Sample time 0830

Sample Results

Soil: Benzene

(ppm) _____

Water: Benzene

(ppb) _____

Total BTEX

(ppm) _____

Toluene

(ppb) _____

Field Headspace

(ppm) 0.0

Ethylbenzene

(ppb) _____

TPH

(ppm) ND

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

9/7/98

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:

Ker C. Man

DATE:

10-1-98

3003906121

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ624</u> C.O.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>
LOCATION: NAME: <u>JICA CONTR. 147</u> WELL #: <u>1</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>A SEC: 8</u> TWP: <u>25N</u> RNG: <u>5W</u> PM/M CNTY: <u>RA ST: NM</u> QTR/FOOTAGE: <u>870' FWL (790' FEL)</u> CONTRACTOR: <u>P & S</u>		DATE STARTED: <u>9/7/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NW</u>

EXCAVATION APPROX. <u>46</u> FT. x <u>50</u> FT. x <u>14</u> FT. DEEP.	CUBIC YARDAGE: <u>600</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDIAL METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u>	LEASE: <u>TIC 147</u> FORMATION: <u>DR</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>372</u> FT. <u>N64E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u> NMOC RANKING SCORE: <u>0</u> NMOC TPH CLOSURE STD: <u>5000</u> PPM
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CHECK ONE:
☒ PIT ABANDONED
☐ STEEL TANK INSTALLED
☐ FIBERGLASS TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

SIDEWALLS - VERY PALE ORANGE TO DK. YELL. BROWN SAND PHASING INTO MOD. RED SHALE NOW COHESIVE TO HARD, SLIGHTLY MOIST TO DRY NO APPARENT STAINING OR HC ODOR OBSERVED DETECTED W/IN EXCAVATION, NO APPARENT HC ODOR IN ANY OF THE OVM SAMPLES.

BOTTOM - BEDROCK (SHALE), MOD. RED IN COLOR, VERY HARD, NO APPARENT HC ODOR IN OVM SAMPLE.

BEDROCK BOTTOM

SCALE

0 50 FT

CLOSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
0830	① @ 9'	TPH-2030	5	20	1:1	4	ND

PIT PERIMETER

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 9'	0.0
2 @ 8'	0.0
3 @ 9'	0.0
4 @ 8'	0.0
5 @ 14'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

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:	1 @ 9'	Date Analyzed:	09-07-98
Project Location:	Jicarilla Contract # 147 - 1	Date Reported:	09-07-98
Laboratory Number:	TPH-2030	Sample Matrix:	Soil

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

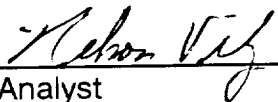
ND = Not Detectable at stated detection limits.

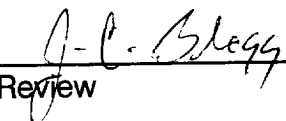
QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	236	220	7.02

* 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 - BJ624


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:

Sample ID:

Project Location:

Laboratory Number:

Amoco

1 @ 9'

Jicarilla Contract # 147 - 1

TPH-2030

Project #:

Date Analyzed:

Date Reported:

Sample Matrix:

09-07-98

09-07-98

Soil

Sample Weight: 5.00 grams
Volume Freon: 20.00 mL
Dilution Factor: 1 (unitless)
TPH Reading: 4 mg/kg

TPH Result: 16.0 mg/kg
Reported TPH Result: 16 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 - BJ624

87624

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 # 147-1
Location: Unit or Qtr/Qtr Sec A Sec 8 T 25N R 5W County RIO ARRIBA
Pit Type: Separator ☒ Dehydrator ☐ Other ☐
Land Type: RANGE

Pit Location: Pit dimensions: length 37', width 30', depth 15'
(Attach diagram) Reference: wellhead X, other ☐
Footage from reference: 183'
Direction from reference: 33 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) Greater than 100 feet (0 points)	<u>0</u>
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

BT 624

SEP. PIT

Date Remediation Started: _____

Date Completed: 9/10/98Remediation Method: Excavation ☒
(check all appropriate sections)Approx. cubic yards 500Landfarmed ☒

Insitu Bioremediation _____

Other _____

Remediation Location:
(i.e. landfarmed onsite,
name and location of
offsite facility)Onsite ☒ Offsite _____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 DocumentsSample depth 10' (NORTH SIDEWALL)Sample date 9/7/98 Sample time 1000

Sample Results

Soil: Benzene	(ppm)	<u>2,710</u>	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	<u>38.060</u>	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>539</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>2,120</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 9/10/98 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: Ker C. M... DATE: 10-1-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>87624</u> C.O.C. NO: <u>6/96</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. 147</u> WELL #: <u>1</u> PIT: <u>SEP</u> QUAD/UNIT: <u>A</u> SEC: <u>8</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM CNTY: RA ST: NM</u> QTR/FOOTAGE: <u>870' FNL / 790' FEL</u> CONTRACTOR: <u>P&S</u>	DATE STARTED: <u>9/7/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
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EXCAVATION APPROX. <u>37</u> FT. x <u>30</u> FT. x <u>15</u> FT. DEEP. CUBIC YARDAGE: <u>500</u>	DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFORM</u>
LAND USE: <u>RANGE</u> LEASE: <u>JICA 147</u> FORMATION: <u>OK</u>	

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>183</u> FT. <u>N33E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>2100'</u> NEAREST WATER SOURCE: <u>21000'</u> NEAREST SURFACE WATER: <u>21000'</u> NMOCB RANKING SCORE: <u>0</u> NMOCB TPH CLOSURE STD: <u>5000</u> PPM
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SOIL AND EXCAVATION DESCRIPTION:

SIDEWALLS - (TOP HALF) VERY PALE ORANGE TO DK. YELL. BROWN SAND, NON COHESIVE, SLIGHTLY MOIST FIRM. (BOTTOM HALF) DK. YELL. ORANGE TO MOD. BROWN CLAY, PLASTIC, SLIGHTLY MOIST STIFF TO VERY STIFF. NO APPARENT STAINING OR HC ODOR OBSERVED/DETECTED w/IN EXCAVATION STRONG HC ODOR DETECTED IN NORTH SIDEWALL OVM SAMPLE ONLY (OLIVE GRAY SAND).

BOTTOM - BEDROCK (SHALE) MODERATE RED IN COLOR, VERY HARD, NO APPARENT HC ODOR IN OVM SAMPLE.

CHECK ONE:

☒ PIT ABANDONED

☐ STEEL TANK INSTALLED

☐ FIBERGLASS TANK INSTALLED

183' DEEP
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

PIT PROFILE

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 10'	539
2 @ 9'	0.0
3 @ 8'	0.0
4 @ 9'	3.4
5 @ 15'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
0 @ 10' TPA/BTEX	1000	
<u>BOTH PASSED</u>		

TRAVEL NOTES:	CALLOUT: _____	ONSITE: <u>9/7/98 - morn.</u>
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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
Sample ID: 1 @ 10'
Laboratory Number: D907
Chain of Custody No: 6196
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

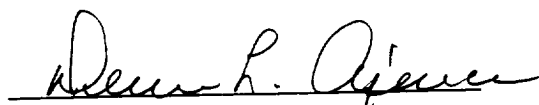
Project #: 04034-10
Date Reported: 09-10-98
Date Sampled: 09-07-98
Date Received: 09-08-98
Date Extracted: 09-10-98
Date Analyzed: 09-10-98
Analysis Requested: 8015 TPH

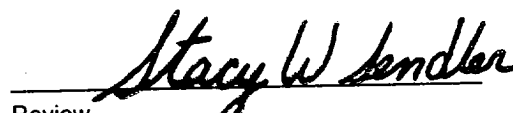
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,770	0.2
Diesel Range (C10 - C28)	351	0.1
Total Petroleum Hydrocarbons	2,120	0.2

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 - 1 Separator 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:	1 @ 10'	Date Reported:	09-10-98
Laboratory Number:	D907	Date Sampled:	09-07-98
Chain of Custody:	6196	Date Received:	09-08-98
Sample Matrix:	Soil	Date Analyzed:	09-10-98
Preservative:	Cool	Date Extracted:	09-10-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2,710	8.8
Toluene	7,300	8.4
Ethylbenzene	6,880	7.6
p,m-Xylene	13,610	10.8
o-Xylene	7,560	5.2
Total BTEX	38,060	

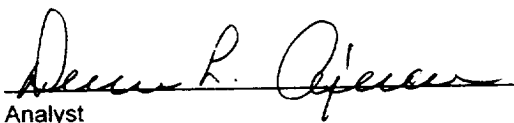
ND - Parameter not detected at the stated detection limit.

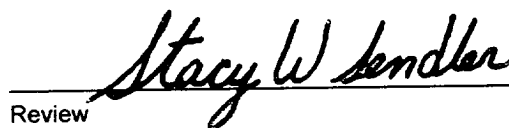
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	99 %

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 - 1 Separator Pit.


Analyst


Review

6196

[illegible]

**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 147-1</u>		
Location: Unit or Qtr/Qtr Sec <u>A</u> Sec <u>8</u> T <u>25N</u> R <u>5W</u> County <u>RIO ARriba</u>		
Land Type: <u>RANGE</u>		
Date Remediation Started: <u>9.7.98</u>		Date Completed: <u>5/12/99</u>
Remediation Method: Landfarmed <input checked="" type="checkbox"/>		Approx. cubic yards <u>1100</u>
Composted <input type="checkbox"/>		
Other <input type="checkbox"/>		
Depth To Groundwater: (pts.) <u>0</u>		Final Closure Sampling: Sampling Date: <u>5.11.99</u> Time: <u>0930</u> Sample Results: Field Headspace (ppm) <u>4.3</u> TPH (ppm) <u>2.4</u> Method <u>TPH (8015)</u> Other <input type="checkbox"/>
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>5/12/99</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>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>B5624</u> C.O.C. NO: <u>6916</u>
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FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JICARILLA CONTRACT A7</u> WELL #: <u>1</u>	PITS: <u>SEP. BLOW</u>	DATE STARTED: <u>5-11-99</u>
QUAD/UNIT: <u>A</u> SEC: <u>8</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>		DATE FINISHED: _____
STR/FOOTAGE: <u>NE/4 NE/4</u>	CONTRACTOR: <u>RES</u>	ENVIRONMENTAL SPECIALIST: <u>REP</u>

REMEDIATION:

REMEDICATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 1100
 LAND USE: RANGE LIFT DEPTH (ft): 1-1.5

FIELD NOTES & REMARKS:

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

NMOC RANKING SCORE 0 NMOC TPH CLOSURE STD: 5000 PPM

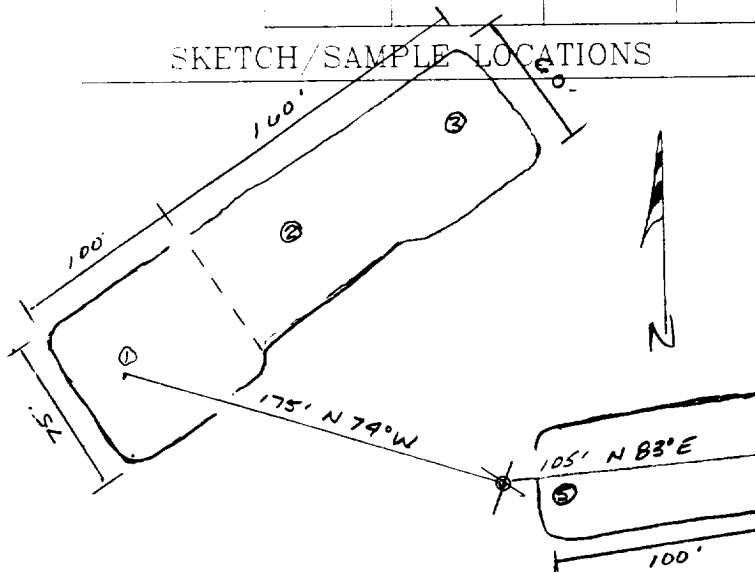
PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM,
 NO APPARENT STAINING, NO ODOR DETECTED IN SAMPLING PT. ④
 SAMPLING DEPTHS RANGE FROM 10" - 10" COLLECTED A SPT COMPOSITE
 SAMPLE FOR LAB ANALYSIS

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	4.3	LF-1	TPH (8015)	0930	2.4

SCALE

0 100 FT

TRAVEL NOTES

CALLOUT: N/A

ONSITE: 5-11-99

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client: Blagg / AMOCO
Sample ID: LF - 1
Laboratory Number: F202
Chain of Custody No: 6916
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

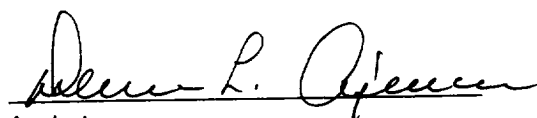
Project #: 403410
Date Reported: 05-12-99
Date Sampled: 05-11-99
Date Received: 05-12-99
Date Extracted: 05-12-99
Date Analyzed: 05-12-99
Analysis Requested: 8015 TPH

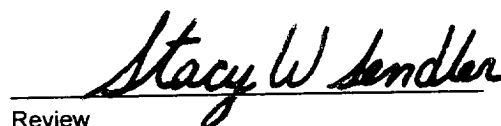
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	2.1	0.2
Diesel Range (C10 - C28)	0.3	0.1
Total Petroleum Hydrocarbons	2.4	0.2

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 Contract 147 - 1 Landfarm. 5 Pt. Composite.


Analyst


Review

6916

ENVIROTECH INC.