

810w-on
sep-18 1999
Non-vulnerable
SUBMIT 1 COPY TO
OFFICE OF THE NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION
RECEIVED
AUG 09 1999

OIL PORT CON. DIV.
DIST. 3

RANKING SCORE (TOTAL POINTS): 0

BJ546

BLOW PIT

Date Remediation Started: _____ Date Completed: 4/20/98

Remediation Method: Excavation ☒ Approx. cubic yards 900
Check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
Other _____

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

General Description of Remedial Action: Excavation

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents
Closure Sampling: _____
(if multiple samples, attach sample results and diagram of sample locations and depths)

Sample depth 20'

Sample date 4/20/98 Sample time 1035

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>24</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 4/20/98 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: Koe C Mamm DATE: 4-29-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J546</u> C.D.C. NO: _____
----------------------	--	---

FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
------------------------------------	-------------------------------

LOCATION: NAME: <u>JICA. APACHE 102</u> WELL #: <u>16A</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>M SEC. 10</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>SW/4 SW/4</u> CONTRACTOR: <u>P & S</u>	DATE STARTED: <u>4/20/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
---	---

EXCAVATION APPROX. <u>38</u> FT x <u>38</u> FT x <u>17</u> FT. DEEP.	CUBIC YARDAGE: <u>900</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDIATION METHOD: <u>LANDFARMED</u>
LAND USE: <u>RANGE</u>	LEASE: <u>JIC 102</u> FORMATION: <u>DK</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>200</u> FT. <u>N80E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u> NMOC D RANKING SCORE: <u>0</u> NMOC D TPH CLOSURE STD: <u>5000</u> PPM
------------------------	---

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

SOIL AND EXCAVATION DESCRIPTION:

MOSTLY DR. YELL. BROWN SAND TO SILTY SAND - (PIT BOTTOM), NOW COHESIVE TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT STAINING OR HC ODOR OBSERVED W/IN EXCAVATION, NO APPARENT HC ODOR IN ANY OF THE OVM SAMPLES.

CLOSED

SCALE

0 FT

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1035	⑤ @ 20'	TPH-1956	5	20	1:1	6	24

PIT PERIMETER

PIT PROFILE

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 12'	0.0
2 @ 12'	0.0
3 @ 13'	0.0
4 @ 12'	0.0
5 @ 20'	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES:	CALLOUT: <u>4/6/98 - AFTER.</u>	ONSITE: <u>4/20/98 - MORN.</u>
---------------	---------------------------------	--------------------------------

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
Sample ID: 5 @ 20'
Project Location: Jicarilla Apache 102 - 16A
Laboratory Number: TPH-1956

Project #:
Date Analyzed: 04-20-98
Date Reported: 04-20-98
Sample Matrix: Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	24	20


ND = Not Detectable at stated detection limits.


QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	608	568	6.80

*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 - BJ546


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

5 @ 20'

Jicarilla Apache 102 - 16A

TPH-1956

Project #:

Date Analyzed:

Date Reported:

Sample Matrix:

04-20-98

04-20-98

Soil

Sample Weight: 5.00 grams
Volume Freon: 20.00 mL
Dilution Factor: 1 (unitless)
TPH Reading: 6 mg/kg

TPH Result: 24.0 mg/kg
Reported TPH Result: 24 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.
	----- 608	----- 568	----- 6.80

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

Comments: Blow Pit - BJ546

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

87546

SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

PIT REMEDIATION AND CLOSURE 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 APACHE 10Z - 16A</u>			
Location: Unit or Qtr/Qtr Sec <u>M</u> Sec <u>10</u> T <u>26N</u> R <u>4W</u> County <u>RIO ARRIJA</u>			
Pit Type: Separator <input checked="" type="checkbox"/> Dehydrator <input type="checkbox"/> Other <input type="checkbox"/>			
Land Type: <u>RANGE</u>			
Pit Location: Pit dimensions: length <u>36'</u> , width <u>30'</u> , depth <u>25'</u> (Attach diagram) Reference: wellhead <input checked="" type="checkbox"/> , other <input type="checkbox"/> Footage from reference: <u>153'</u> Direction from reference: <u>80</u> Degrees <input checked="" type="checkbox"/> East of North <input type="checkbox"/> <input type="checkbox"/> West of South <input checked="" type="checkbox"/>			
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)	<u>0</u>
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)	<u>0</u>
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)	<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 No	(20 points) (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 100 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points)	<u>0</u>
RANKING SCORE (TOTAL POINTS):			<u>0</u>

RJ546

SEP. PIT

Date Remediation Started: _____ Date Completed: 4/28/98

Remediation Method: Excavation ☒ Approx. cubic yards 800
Check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
Other _____

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

General Description of Remedial Action: Excavation. SPRAYED NORTH & WEST SIDEWAYS + PIT BOTTOM w/ FERTILIZER. RISK ASSESSED.

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents
Closure Sampling: _____
(if multiple samples, attach sample results and diagram of sample locations and depths)

Sample depth 27'

Sample date 4/23/98 Sample time 1015

Sample Results

Soil: Benzene	(ppm)	<u>4,960</u>	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	<u>99.780</u>	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>285</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>1,050</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 4/28/98 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) conditional closure till P & A

SIGNED: Kear C Mamm af well DATE: 6-15-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ546</u> C.D.C. NO: <u>5751</u>																																
FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																
LOCATION: NAME: <u>JICA APACHE 102</u> WELL #: <u>16A</u> PIT: <u>SEP.</u>		DATE STARTED: <u>4/23/98</u> DATE FINISHED: _____																																
QUAD/UNIT: <u>M</u> SEC: <u>10</u> TWP: <u>26N</u> RNG: <u>4W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>		ENVIRONMENTAL SPECIALIST: <u>NV</u>																																
QTR/FOOTAGE: <u>SW/4 SW/4</u> CONTRACTOR: <u>P&S</u>																																		
EXCAVATION APPROX. <u>36</u> FT. x <u>30</u> FT. x <u>25</u> FT. DEEP. CUBIC YARDAGE: <u>800</u>																																		
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARMED</u>																																		
LAND USE: <u>RANGE</u> LEASE: <u>JIC 102</u> FORMATION: <u>DK</u>																																		
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>153</u> FT. <u>580E</u> FROM WELLHEAD.																																		
DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u>																																		
NMOC D RANKING SCORE: <u>0</u> NMOC D TPH CLOSURE STD: <u>5000</u> PPM																																		
SOIL AND EXCAVATION DESCRIPTION:																																		
<p> MOSTLY DR. YELL. BLOWN SAND TO SILTY SAND NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM STAINING EVIDENT ON NORTH, SOUTH & WEST SIDEWALLS (ESPECIALLY NORTH & WEST SIDEWALLS), HC ODOOR APPARENT W/IN EXCAVATION VERY STRONG HC ODOOR IN NORTH & WEST SIDEWALL OVM SAMPLES, HC ODOOR DETECTED IN PIT BOTTOM OVM SAMPLE. </p>																																		
<p> CONDITIONAL - TILORILLA EPD RISK ASSESSED - NMOC D </p>																																		
<p>FIELD 418.1 CALCULATIONS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>TIME</th> <th>SAMPLE I.D.</th> <th>LAB No:</th> <th>WEIGHT (g)</th> <th>mL. FREON</th> <th>DILUTION</th> <th>READING</th> <th>CALC. ppm</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																								
TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																											
<p>SCALE</p> <div style="border: 1px solid black; width: 20px; height: 10px; margin: 5px 0;"></div> <p>0 FT</p>	<p>PIT PERIMETER</p>	<p>PIT PROFILE</p>																																
<p style="text-align: center;">OVM RESULTS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>FIELD HEADSPACE PID (ppm)</th> </tr> </thead> <tbody> <tr><td>1 @ 20'</td><td>2,062</td></tr> <tr><td>2 @ 19'</td><td>0.0</td></tr> <tr><td>3 @ 19'</td><td>0.0</td></tr> <tr><td>4 @ 20'</td><td>2,080</td></tr> <tr><td>5 @ 27'</td><td>285</td></tr> </tbody> </table>			SAMPLE ID	FIELD HEADSPACE PID (ppm)	1 @ 20'	2,062	2 @ 19'	0.0	3 @ 19'	0.0	4 @ 20'	2,080	5 @ 27'	285																				
SAMPLE ID	FIELD HEADSPACE PID (ppm)																																	
1 @ 20'	2,062																																	
2 @ 19'	0.0																																	
3 @ 19'	0.0																																	
4 @ 20'	2,080																																	
5 @ 27'	285																																	
<p style="text-align: center;">LAB SAMPLES</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>ANALYSIS</th> <th>TIME</th> </tr> </thead> <tbody> <tr><td>@ 20'</td><td>TPH/BTEX</td><td>1015</td></tr> <tr><td>@ 27'</td><td>TPH/BTEX</td><td>1015</td></tr> </tbody> </table>			SAMPLE ID	ANALYSIS	TIME	@ 20'	TPH/BTEX	1015	@ 27'	TPH/BTEX	1015																							
SAMPLE ID	ANALYSIS	TIME																																
@ 20'	TPH/BTEX	1015																																
@ 27'	TPH/BTEX	1015																																
<p> BOTH TPH'S PASSED PIT BOTTOM BTEX FAILED </p>																																		
TRAVEL NOTES: CALLOUT: <u>4/22/98 - AFTER</u> ONSITE: <u>4/23/98 - MORNU.</u>																																		

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla Contract 102 #16A

Unit M. Sec. 10, T26N, R4W

Separator Pit

Basin Dakota

Non Vulnerable

> 1000 ft.

> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe reached practical extent for abandoned pit (25 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 0.03 miles southwest of the nearest vulnerable area boundary (Tapacito Creek wash).

(Refer to Schmitz Ranch 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 vertical impact to groundwater is very unlikely. AMOCO requests pit closure approval on this location.

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client: Blagg / AMOCO
Sample ID: 5 @ 27'
Laboratory Number: D166
Chain of Custody No: 5751
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

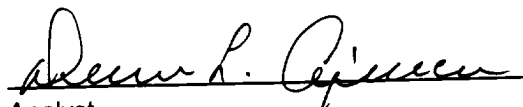
Project #: 04034-10
Date Reported: 04-28-98
Date Sampled: 04-23-98
Date Received: 04-24-98
Date Extracted: 04-27-98
Date Analyzed: 04-28-98
Analysis Requested: 8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,000	0.2
Diesel Range (C10 - C28)	51.4	0.1
Total Petroleum Hydrocarbons	1,050	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 Apache 102 - 16A Separator Pit.


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: 4 @ 20'
Laboratory Number: D167
Chain of Custody No: 5751
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

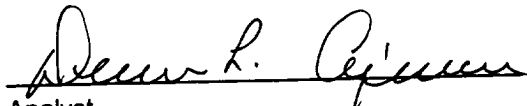
Project #: 04034-10
Date Reported: 04-28-98
Date Sampled: 04-23-98
Date Received: 04-24-98
Date Extracted: 04-27-98
Date Analyzed: 04-28-98
Analysis Requested: 8015 TPH

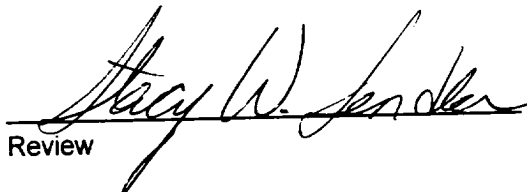
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	42.9	0.2
Diesel Range (C10 - C28)	35.0	0.1
Total Petroleum Hydrocarbons	77.9	0.2

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 Apache 102 - 16A 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:	5 @ 27'	Date Reported:	04-28-98
Laboratory Number:	D166	Date Sampled:	04-23-98
Chain of Custody:	5751	Date Received:	04-24-98
Sample Matrix:	Soil	Date Analyzed:	04-27-98
Preservative:	Cool	Date Extracted:	04-27-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	4,960	17.5
Toluene	19,640	16.7
Ethylbenzene	5,180	15.2
p,m-Xylene	52,320	21.6
o-Xylene	17,680	10.4
Total BTEX	99,780	

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 Apache 102 - 16A Separator Pit.


Analyst


Review

ENVIROTECH INC.

BT 546

SUBMIT 1 COPY TO:

NATURAL RESOURCE DEPT

AND OIL & GAS ADMINISTRATION

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

Address: 200 Amoco Court, Farmington, NM 87401

Facility or Well Name: JICARILLA APACHE # 102-16A

Location: Unit or Qtr/Qtr Sec M Sec 10 T 26N R 5W County RIO ARRIBA

Land Type: RANGE

Date Remediation Started: 4/23/98 Date Completed: 3/24/99

Remediation Method: Landfarmed X Approx. cubic yards 2,200

Composted

Other

Depth To Groundwater: (pts.) <u>0</u>	Final Closure Sampling: Sampling Date: <u>3/23/99</u> Time: <u>MULTIPLE SAMPLES</u> Sample Results: <u>(LF-2)</u> Field Headspace (ppm) <u>112.9</u> <u>(LF-2)</u> TPH (ppm) <u>85.9</u> Method <u>8015</u> Other <u>LF-2 BENZENE = 0.265 ppm</u> <u>TOTAL BTEX = 5.810 ppm</u>
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 3/24/99 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 X NO (REASON)

SIGNED: K-C M... CC DATE: 3-31-99

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J546</u> C.O.C. NO: <u>6624</u>
----------------------	--	---

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>TICARILWA AP. 102</u> WELL #: <u>16A</u> PITS: <u>SEP, BLOW</u>	DATE STARTED: <u>3/23/99</u>
QUAD/UNIT: <u>M</u> SEC: <u>10</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	DATE FINISHED: _____
QTP/FOOTAGE: <u>SW/4 SW/4</u> CONTRACTOR: <u>P & S</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARM

APPROX. CUBIC YARDAGE: 2,200

LAND USE: RANGE

LIFT DEPTH (ft): 1.5-2.5

FIELD NOTES & REMARKS:

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

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

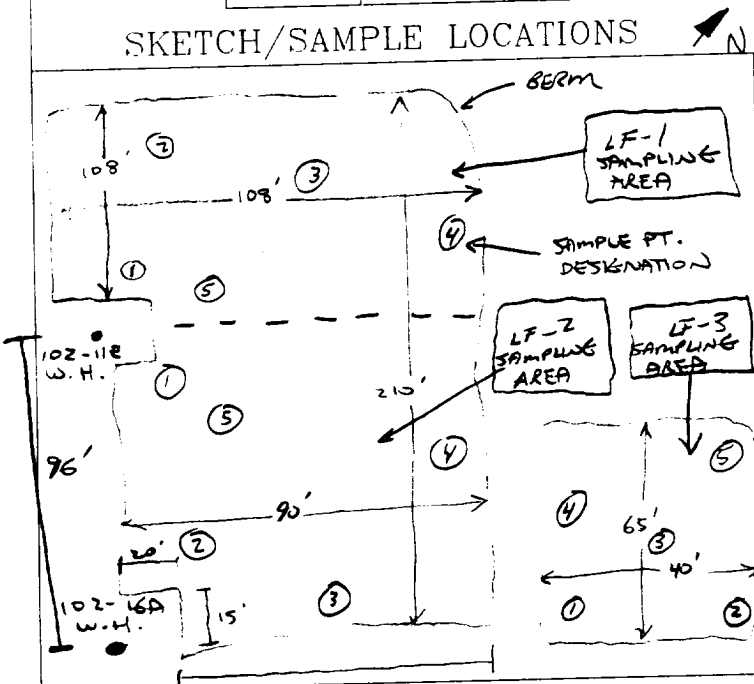
4/23/99
MOO. YELL. BROWN TO MED. GRAY SILTY SAND TO SILTY CLAY, NON COHESIVE TO PLASTIC, SLIGHTLY MOIST TO MOIST FIRM. SAMPLING DEPTH RANGED FROM 6" - 2'. DISCOLORATION w/ HC odor OBSERVED/DETECTED w/in SAMPLING PTS. ④ (LF-1 AREA), ②, ③, & ⑤ (LF-2) HC odor DETECTED w/in LF-2 OVM SAMPLE, COLLECTED 5 PT. COMPOSITE SAMPLES FOR LAB ANALYSIS, 500 C.Y. FROM TICA. APACHE 102-112 COMBED w/ 102-16A.

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	11.8	LF-1	TPH (8015)	0930	28.4
LF-2	112.9	LF-2	TPH + BTEX	1000	85.9
LF-3	0.0	LF-3	TPH (8015)	1030	0.5

SCALE



TRAVEL NOTES:

CALLOUT:

NA

ONSITE:

3/23/99 - MORN.

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

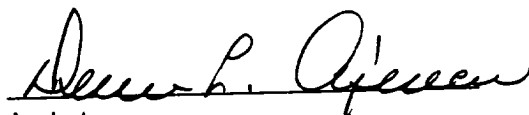
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 1	Date Reported:	03-24-99
Laboratory Number:	E853	Date Sampled:	03-23-99
Chain of Custody No:	6624	Date Received:	03-24-99
Sample Matrix:	Soil	Date Extracted:	03-24-99
Preservative:	Cool	Date Analyzed:	03-24-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH


Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	6.7	0.2
Diesel Range (C10 - C28)	21.7	0.1
Total Petroleum Hydrocarbons	28.4	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 Apache 102 - 16A Landfarm. 5 Pt. Composite.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

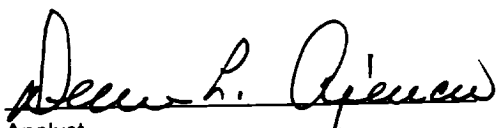
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 2	Date Reported:	03-24-99
Laboratory Number:	E854	Date Sampled:	03-23-99
Chain of Custody No:	6624	Date Received:	03-24-99
Sample Matrix:	Soil	Date Extracted:	03-24-99
Preservative:	Cool	Date Analyzed:	03-24-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	42.5	0.2
Diesel Range (C10 - C28)	43.4	0.1
Total Petroleum Hydrocarbons	85.9	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 Apache 102 - 16A Landfarm. 5 Pt. Composite.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

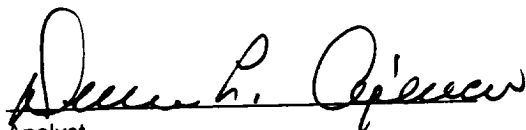
Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	LF - 3	Date Reported:	03-24-99
Laboratory Number:	E855	Date Sampled:	03-23-99
Chain of Custody No:	6624	Date Received:	03-24-99
Sample Matrix:	Soil	Date Extracted:	03-24-99
Preservative:	Cool	Date Analyzed:	03-24-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

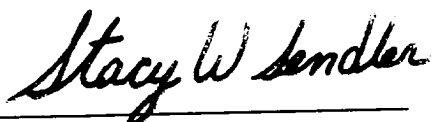
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	0.5	0.1
Total Petroleum Hydrocarbons	0.5	0.2

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 Apache 102 - 16A 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 - 2	Date Reported:	03-24-99
Laboratory Number:	E854	Date Sampled:	03-23-99
Chain of Custody:	6624	Date Received:	03-24-99
Sample Matrix:	Soil	Date Analyzed:	03-24-99
Preservative:	Cool	Date Extracted:	03-24-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	265	8.8
Toluene	566	8.4
Ethylbenzene	377	7.6
p,m-Xylene	3,530	10.8
o-Xylene	1,070	5.2
Total BTEX	5,810	

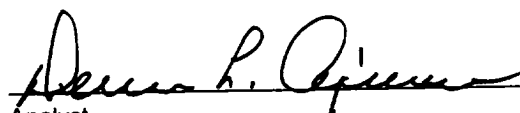
ND - Parameter not detected at the stated detection limit.

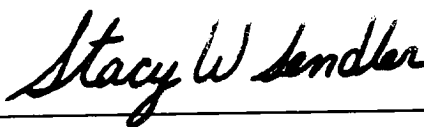
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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 Apache 102 - 16A Landfarm. 5 Pt. Composite.


Analyst


Review

CHAIN OF CUSTODY RECORD

6624

Client / Project Name		Project Location		ANALYSIS / PARAMETERS						
BAGS / Amoco		TICARILIN APACHE 102-16A								
Sampler: NTN		Client No. 04034-10		No. of Containers		Remarks				
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	TPH (8015)	BTEX (8021)				
LF-1	3/23/99	0930	E853	SOIL	1	✓	ALL SAMPLES ARE 5 PT.			
LF-2	3/23/99	1000	E854	SOIL	1	✓	COMPOSITE of WARE RESERV. -			
LF-3	3/23/99	1030	E855	SOIL	1	✓	COOL			
Relinquished by: (Signature)		Date	Time	Received by: (Signature)						
Relinquished by: (Signature)		3/24/99	0719	William L. Givens						
Relinquished by: (Signature)				Received by: (Signature)						
Relinquished by: (Signature)				Received by: (Signature)						
<div> <div>ENVIROTECH INC.</div> <div> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615 </div> </div>										
<div> <div>Sample Receipt</div> <div> Received Intact Cool - Ice/Blue Ice </div> <div> Y N N/A </div> </div>										