

13 10W 19 55
SEP - 87664
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

RECEIVED
AUG 16 1999

OIL CON. DIV.
DIST. 68 9200

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 268-9200
Address: 200 Amoco Court, Farmington, NM 87401
Facility or Well Name: JICARILLA CONTRACT #146-21E
Location: Unit or Qtr/Qtr Sec F Sec 3 T 25N R 5W County Rio ARIZONA
Pit Type: Separator Dehydrator Other Blow
Land Type: RANGE

Pit Location: Pit dimensions: length 53', width 68', depth 10'
(Attach diagram) Reference: wellhead X, other
Footage from reference: 140'
Direction from reference: 22 Degrees East of North X
X 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>

0

RANKING SCORE (TOTAL POINTS): 0

8T664

BLOW PIT

Date Remediation Started: _____ Date Completed: 10/14/98Remediation Method: Excavation ☒ Approx. cubic yards 750
(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 EXCAVATION MOSTLY BEDROCK,
THEREFORE NO TPH ANALYSIS WAS CONDUCTED.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 10' (PIT BOTTOM)
Sample date 10/14/98 Sample time _____

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>NA</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 10/14/98 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: Kent M... DATE: 11-18-98

3003922174

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J664</u> C.D.C. NO: _____																																								
FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																								
LOCATION: NAME: <u>JICA. CONTR. 146</u> WELL # <u>24E</u> PIT: <u>BLOW</u>		DATE STARTED: <u>10/14/98</u> DATE FINISHED: _____																																								
QUAD/UNIT: <u>F</u> SEC: <u>3</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>																																								
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DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFILL</u>																																										
LAND USE: <u>RANGE</u> LEASE: <u>TIC 146</u> FORMATION: <u>DR</u>																																										
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>140</u> FT. <u>N22W</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:																																										
<p>SIDEWALLS - MOD. YELL. ORANGE SAND PHASING INTO CLAY (BETWEEN 0-4' FROM GRADE) TO VERY DUSKY PURPLE SHALE (6'-10' BELOW GRADE) NO APPARENT STAINING OR HC ODOR W/IN EXCAVATION, NO APPARENT HC ODOR IN ANY OF THE OVM SAMPLES, ALL OVM SAMPLES COLLECTED FROM BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED.</p> <p>BOTTOM - BEDROCK (SHALE), LT. GRAY TO VERY DUSKY PURPLE IN COLOR VERY HARD. NO APPARENT OR NOTICEABLE STAINING OR HC ODOR OBSERVED / DETECTED W/IN EXCAVATION, NO APPARENT HC ODOR IN OVM</p>																																										
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 20%;">EXCAVATION MOSTLY BEDROCK</div> <div style="border: 1px solid black; border-radius: 50%; padding: 5px; width: 10%;">SAMPLE - CLOSED</div> <div style="width: 60%;"> <p style="text-align: center;">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> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> </div> </div>			TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																																
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TRAVEL NOTES: CALLOUT: _____ ONSITE: <u>10/14/98 - MORN. / AFTER.</u>																																										

BT664

RANKING SCORE (TOTAL POINTS): _____

87664

SEP. PIT

Date Remediation Started: _____ Date Completed: 10/14/98

Remediation Method: Excavation ☒ Approx. cubic yards 300
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. EXCAVATION MOSTLY BEDROCK,
THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

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 SIDEWALK)

Sample date 10/14/98

Sample time _____

Sample Results

Soil: Benzene (ppm) _____

Water: Benzene (ppb) _____

Total BTEX (ppm) _____

Toluene (ppb) _____

Field Headspace (ppm) 458

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 10/14/98 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: K. C. M. all DATE: 11-18-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>85664</u> C.D.C. NO: _____																																
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FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>147</u> FT. <u>S88E</u> FROM WELLHEAD.																																		
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TRAVEL NOTES: CALLOUT: _____ ONSITE: <u>10/14/98 - MORN. / AFTER.</u>																																		

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla Contract 146 #21E

Unit F, Sec. 3, T25N, R5W

Separator Pit

Basin Dakota

Non Vulnerable

> 1000 ft.

> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe encountered shale 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 shale 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 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 1.43 miles northeast 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 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.

**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 146-21E

Location: Unit or Qtr/Qtr Sec F Sec 3 T 25N R 5W County ZIO ARBIA

Land Type: RANGE

Date Remediation Started: 10.14.98

Date Completed: 5/13/99

Remediation Method: Landfarmed ☒

Approx. cubic yards 1050

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: 5.12.99 Time: 1030

Sample Results:

Field Headspace (ppm) 55.4

TPH (ppm) 1,620 Method TPH (8015)

Other ☐

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

DATE 5/13/99 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>BIG64</u> C.D.C. NO: <u>0921</u>
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FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JICARILLA CONTRACT 146</u> WELL #: <u>21E</u> PITS: <u>SEP, BLOW</u>	DATE STARTED: <u>5.12.99</u>
QUAD/UNIT: <u>F</u> SEC: <u>3</u> TWP: <u>25N</u> RNG: <u>SW</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: <u>SE/4 NW/4</u> CONTRACTOR: <u>P+S</u>	ENVIRONMENTAL SPECIALIST: <u>REP</u>

SOIL REMEDIATION:

REMEDICATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE: <u>1050</u>
LAND USE: <u>RANGE</u>	LIFT DEPTH (ft): <u>1'</u>

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

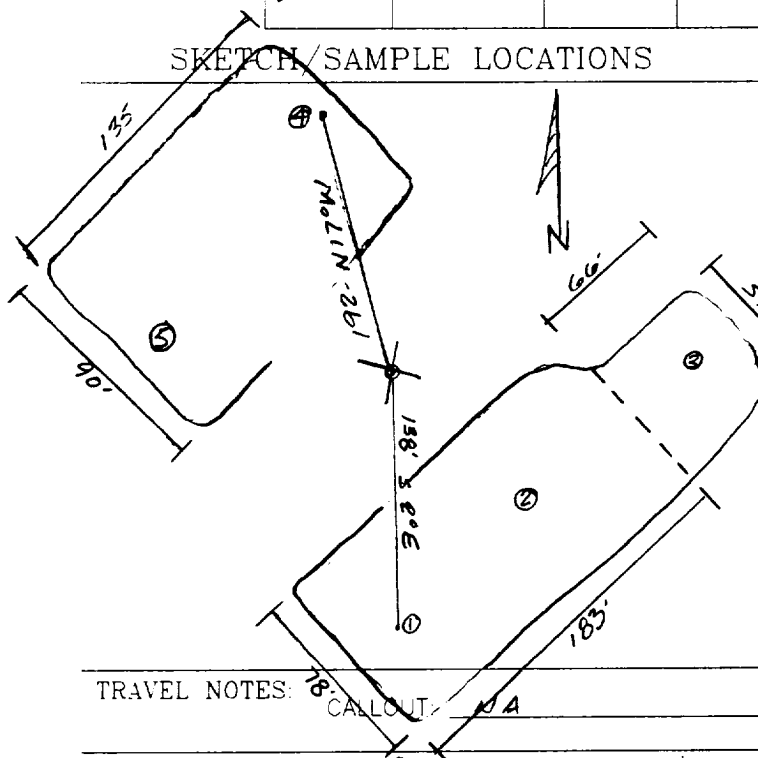
DE. YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM.
NO APPARENT STAINING. HC ODOR DETECTED IN SAMPLING PT. ①.
SAMPLING DEPTHS RANGE FROM 6"-10" COLLECTED A 5 PT. COMPOSITE
SAMPLE FOR LAB ANALYSIS.

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	55.4	LF-1	TPH (8015)	1030	1620

SCALE



TRAVEL NOTES: 78' CALLOUT RA ONSITE: 5.12.99

ENVIROTECH LABS

SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client: Blagg / AMOCO
Sample ID: LF - 1
Laboratory Number: F217
Chain of Custody No: 6921
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact


Project #: 403410
Date Reported: 05-13-99
Date Sampled: 05-12-99
Date Received: 05-13-99
Date Extracted: 05-13-99
Date Analyzed: 05-13-99
Analysis Requested: 8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	80.5	0.2
Diesel Range (C10 - C28)	1,540	0.1
Total Petroleum Hydrocarbons	1,620	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 - 21 E Landfarm. 5 Pt. Composite.


Analyst


Review

6921

[illegible]

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-13-TPH QA/QC	Date Reported:	05-13-99
Laboratory Number:	F207	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-13-99
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	03-15-99	4.4525E-002	4.4401E-002	0.28%	0 - 15%
Diesel Range C10 - C28	03-15-99	4.1817E-002	4.1709E-002	0.26%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

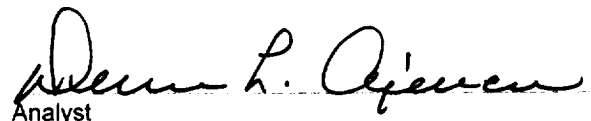
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	1.4	1.4	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

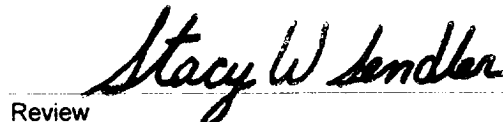
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	1.4	250	251	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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: QA/QC for samples F207 - F208 and F213 - F220.


Analyst


Review