

Denny S. Faust
DEPUTY OIL & GAS INSPECTOR

AUG 13 1999

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

3 pit BT 423

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

Approved
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 C #3E
Location: Unit or Qtr/Qtr Sec ~~4~~ ^K ^{mt} Sec 23 T26N R 5W County RIO ARriba
Pit Type: Separator Dehydrator Other BLOW
Land Type: RANGE

Pit Location: Pit dimensions: length 22', width 15', depth 7'
(Attach diagram) Reference: wellhead X, other
Footage from reference:
Direction from reference: 27 Degrees East of North X
X West 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

Date Remediation Started: _____ Date Completed: 8/29/96

Remediation Method: Excavation ☒ Approx. cubic yards 40
(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, BEDROCK BOTTOM.

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 4'

Sample date 8/29/96 Sample time 1235

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>44</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 8/29/96 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: [Signature] DATE: 8-29-96

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BT423</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>JICARILLA</u> C WELL #: <u>3E</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>K^{2V}</u> SEC: <u>23</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>1M</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>SW 1/4</u> <u>SW 1/4</u> CONTRACTOR: <u>P+S</u>	DATE STARTED: <u>8/29/96</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
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EXCAVATION APPROX. <u>22</u> FT. x <u>15</u> FT. x <u>7</u> FT. DEEP. CUBIC YARDAGE: <u>40</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARMED</u>
LAND USE: <u>RANGE</u> LEASE: <u>CONTRACT #108</u> FORMATION: <u>DIC</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>185</u> FT. <u>N27W</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:
<input checked="" type="checkbox"/> PIT ABANDONED
<input type="checkbox"/> STEEL TANK INSTALLED

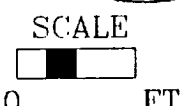
SIDEWALLS: MOSTLY OR. YELL. ORANGE TO BROWN SAND NON-COHESIVE
 SLIGHTLY MOIST FIRM, NO APPARENT HC ODOR IN ANY OF THE
 OVM SAMPLES, NO STAINING OBSERVED IN ANY OF THE SIDEWALLS.
 BOTTOM - BEDROCK, SHALE LT. MED GRAY IN COLOR, STRONG HC ODOR IN
 OVM SAMPLE.

BEDROCK

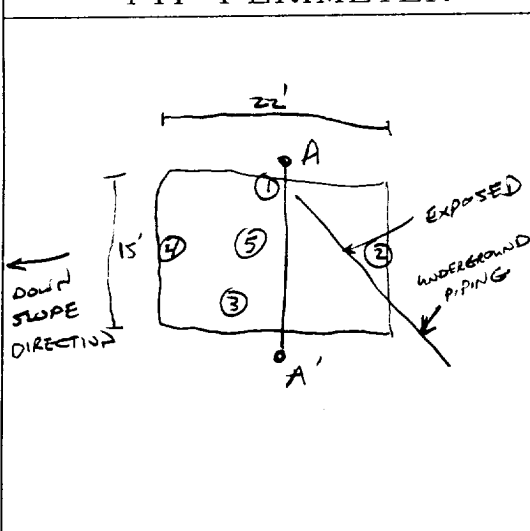
RISK ASSESSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1235	④ @ 4'	TPH-1814	5	20	1:1	11	44



PIT PERIMETER

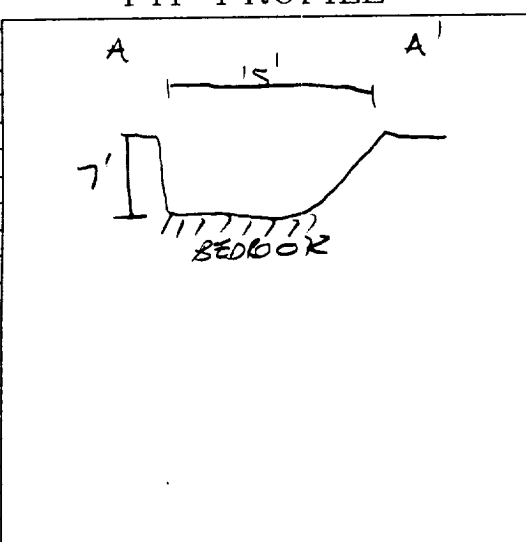


OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 4'	0.0
2 @ 4'	0.0
3 @ 4'	0.0
4 @ 4'	0.0
5 @ 7'	411

LAB SAMPLES		
SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES:	CALLOUT: <u>8/28/96 MORN.</u>	ONSITE: <u>8/29/96 MORN.</u>
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Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla C #3E

Unit K, Sec. 23, T26N, R5W

Blow 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 7 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 7 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 on the fringe of the vulnerable area boundary of Tapacito Creek.

(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 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.

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: 4 @ 4'
Project Location: Jicarilla C #3E
Laboratory Number: TPH-1814

Project #:
Date Analyzed: 08-29-96
Date Reported: 08-29-96
Sample Matrix: Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
-----	-----	-----
Total Recoverable Petroleum Hydrocarbons	44	20

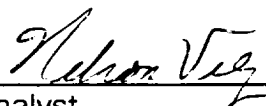
ND = Not Detectable at stated detection limits.

QA/QC:	QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
	-----	-----	-----
	1420	1344	5.50

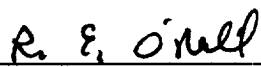
*Administrative Acceptance limits set at 30%.

Method: Modified Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and Waste,
USEPA Storet No.4551, 1978

Comments: Blow Pit - BJ423



Analyst



Review

BJ 423

AND OIL & GAS ADMINISTRATION

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 C #3E</u>			
Location: Unit or Qtr/Qtr Sec <u>AA</u> Sec <u>23</u> T <u>26N</u> R <u>4W</u> County <u>RIO ARRIBA</u>			
Pit Type: Separator <input type="checkbox"/> Dehydrator <input type="checkbox"/> Other <u>PRODUCTION TANK</u>			
Land Type: _____			
Pit Location: (Attach diagram)		Pit dimensions: length <u>12'</u> , width <u>12'</u> , depth <u>4'</u>	
		Reference: wellhead <u>X</u> , other _____	
		Footage from reference: <u>135'</u>	
		Direction from reference: <u>30</u> Degrees <u>X</u> East of North <u>X</u> _____ West _____ South _____	
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>	

Date Remediation Started: _____ Date Completed: 8/29/96

Remediation Method: Excavation ☒ Approx. cubic yards 5

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, MAJORITY OF EXCAVATION
CONSIST OF SHALE BEDROCK.

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 4'

Sample date 8/29/96 Sample time 1345

Sample Results

Soil: Benzene	(ppm) _____	Water: Benzene	(ppb) _____
Total BTEX	(ppm) _____	Toluene	(ppb) _____
Field Headspace	(ppm) <u>16.9</u>	Ethylbenzene	(ppb) _____
TPH	(ppm) _____	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 8/29/96 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: [Signature] DATE: 8-29-96

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J423</u> C.O.C. NO: _____																																
FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																
LOCATION: NAME: <u>JICARUA C</u> WELL #: <u>3E</u> PIT: <u>PROD.</u> QUAD/UNIT: <u>K 75</u> SEC: <u>23</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>Nm</u> CNTY: <u>RA</u> ST: <u>Nm</u> QTR/FOOTAGE: <u>NE/4 SW/4</u> CONTRACTOR: <u>P+S</u>		DATE STARTED: <u>8/29/96</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>																																
EXCAVATION APPROX. <u>12</u> FT. x <u>12</u> FT. x <u>4</u> FT. DEEP. CUBIC YARDAGE: <u>5</u> DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARMED</u> LAND USE: <u>RANGE</u> LEASE: <u>CONTRACT #188</u> FORMATION: <u>OK</u>																																		
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>135</u> FT. <u>N30E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>7100'</u> NEAREST WATER SOURCE: <u>71000'</u> NEAREST SURFACE WATER: <u>71000'</u> NMOC D RANKING SCORE: <u>0</u> NMOC D TPH CLOSURE STD: <u>5000</u> PPM <u>SOIL AND EXCAVATION DESCRIPTION:</u> <div style="margin-top: 10px;">EXCAVATION CONSIST MOSTLY OF BEDROCK (SHALE) LT. GRAY IN COLOR, STRONG HC ODOOR IN NORTH, EAST, & WEST SIDEWALL OVM SAMPLES OWE TO ALL SAMPLES BEING COLLECTED IN BEDROCK NO TPH ANALYSIS WAS CONDUCTED.</div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"><div style="border: 1px solid black; padding: 5px; border-radius: 10px; width: 150px; text-align: center;">ENTIRE EXCAVATION BEDROCK</div><div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 150px; text-align: center;">RISK ASSESSED</div></div> <div style="margin-top: 10px;">SCALE 0 FT</div> <div style="margin-top: 10px;">FIELD 418.1 CALCULATIONS <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"><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>1345</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>			TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm	1345																							
TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																											
1345																																		

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla C #3E

Unit K, Sec. 23, T26N, R5W

Production Tank 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 4 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 4 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 on the fringe of the vulnerable area boundary of Tapacito Creek.

(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 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**

BJ 423
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 C #3E
Location: Unit or Qtr/Qtr Sec K 95 Sec 23 T26N R5W County RIO ARIZONA
Pit Type: Separator ☒ Dehydrator ☐ Other ☐
Land Type: RANGE

Pit Location: Pit dimensions: length 20', width 20', depth 8'
(Attach diagram) Reference: wellhead ☒, other ☐
Footage from reference: 100'
Direction from reference: S 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)	<u>0</u>
Greater than 100 feet	(0 points)	

Distance to Nearest Lake, Playa, or Watering Pond

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

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

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)	<u>0</u>
No	(0 points)	

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)	<u>0</u>
Greater than 1000 feet	(0 points)	

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: _____ Date Completed: 8/29/96

Remediation Method: Excavation ☒ Approx. cubic yards 90
(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. MAJORITY OF EXCAVATION
CONSIST OF SHALE BEDROCK.

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 8'

Sample date 8/29/96 Sample time 1250

Sample Results

Soil: Benzene (ppm)	_____	Water: Benzene (ppb)	_____
Total BTEX (ppm)	_____	Toluene (ppb)	_____
Field Headspace (ppm)	<u>0.0</u>	Ethylbenzene (ppb)	_____
TPH (ppm)	_____	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 8/29/96 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: [Signature] DATE: 8-29-96

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ423</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>TICARILLA</u> C WELL #: <u>3E</u> PIT: <u>SEP</u>		DATE STARTED: <u>8/29/96</u> DATE FINISHED: _____
QUAD/UNIT: <u>B 715</u> SEC: <u>23</u> TWP: <u>26N</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>NE 1/4 SW 1/4</u> CONTRACTOR: <u>P&S</u>		

EXCAVATION APPROX. <u>20</u> FT. x <u>20</u> FT. x <u>8</u> FT. DEEP. CUBIC YARDAGE: <u>90</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARMED</u>
LAND USE: <u>RANGE</u> LEASE: <u>CONTRACT #108</u> FORMATION: <u>OK</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>100</u> FT. <u>NSW</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>7100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u>
NMOCB RANKING SCORE: <u>0</u> NMOCB 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

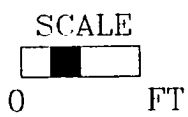
EXCAVATION MOSTLY CONSIST OF SHALE BEDROCK, DUSKY RED IN COLOR STRONG HC ODOR IN NORTH + WEST SIDEWALL. OVM SAMPLES PIT AREA LOCATED IN CENTER OF NEW PAD (FLAT), DUE TO ALL SAMPLES COLLECTED W/IN BEDROCK, NO TPH ANALYSIS WAS CONDUCTED.

MOSTLY EXCAVATED IN BEDROCK

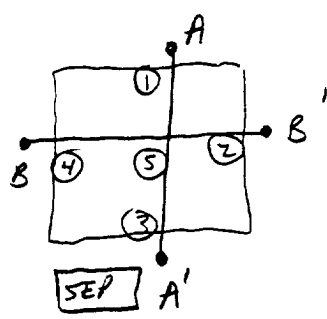
RISK ASSESSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1250							



PIT PERIMETER



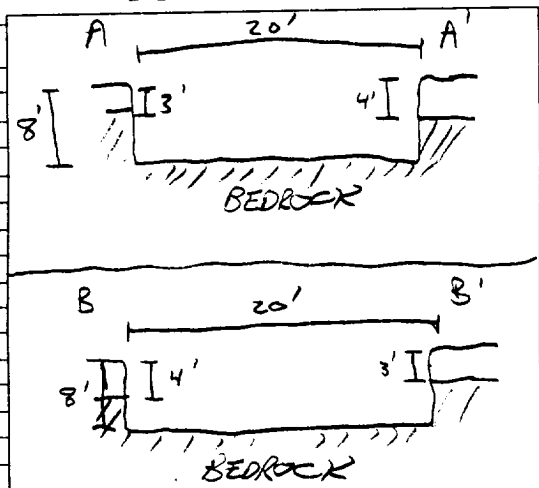
TO WELL HEAD

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE P10 (ppm)
1 @ 5'	71.3
2 @ 4'	69.4
3 @ 5'	22.6
4 @ 4'	218.6
5 @ 8'	0.0

LAB SAMPLES		
SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES: CALLOUT: <u>8/28/96 MORN.</u> ONSITE: <u>8/29/96 MORN.</u>
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Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla C #3E

Unit K, Sec. 23, T26N, 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 8 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 8 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 on the fringe of the vulnerable area boundary of Tapacito Creek.

(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 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.

8J423

**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 C # 3E
Location: Unit or Qtr/Qtr Sec K Sec 23 T26N R5W County 210 ARIZONA
Land Type: RANGE

Date Remediation Started: 8/29/96 **Date Completed:** 6/15/98
Remediation Method: Landfarmed X **Approx. cubic yards** 135
Composted
Other

Final Closure Sampling:	
Depth To Groundwater: (pts.) <u>0</u>	Sampling Date: <u>6/11/98</u> Time: <u>1145</u>
Distance to an Ephemeral Stream (pts.) <u>0</u>	Sample Results:
Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u>	Field Headspace (ppm) <u>0.0</u>
Wellhead Protection Area: (pts.) <u>0</u>	TPH (ppm) <u>17.0</u> Method <u>8015</u>
Distance To Surface Water: (pts.) <u>0</u>	Other <u> </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 6/15/98 **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) use as Backfill

SIGNED: Kate C M...all **DATE:** 7-27-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BJ423</u> C.O.C. NO: <u>6020</u>
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FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>JICARILLA</u> C WELL #: <u>3E</u> PITS: <u>SEP, Blow PROD.</u> QUAD/UNIT: <u>K</u> SEC: <u>23</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1690' FSL</u> <u>1690' FSL</u> CONTRACTOR: <u>P & S</u>	DATE STARTED: <u>6/11/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
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SOIL REMEDIATION:

REMEDIATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE: <u>135</u>
LAND USE: <u>RANGE</u>	LIFT DEPTH (ft): <u>1'-2'</u>

FIELD NOTES & REMARKS:

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

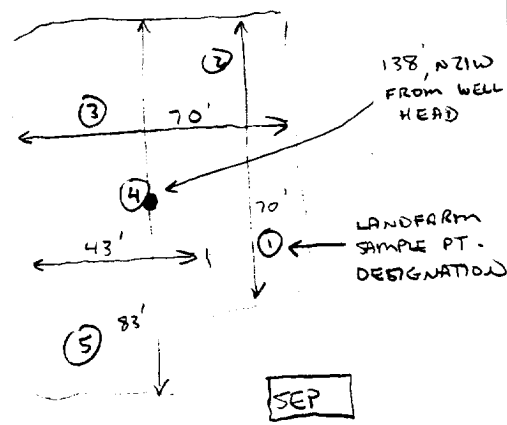
NMOC D RANKING SCORE: 0 NMOC D TPH CLOSURE STD: 5000 PPM

SOIL mostly mod. yell. orange to dusky red silty sand to clay non cohesive to slightly plastic, slightly moist firm to stiff, no apparent discoloration or HC odor observed in any of the sample pts., sampling depth range from 6" to 1 1/2' below grade, collected 5 pt. composite sample for lab analysis.

FIELD 418.1 CALCULATIONS

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

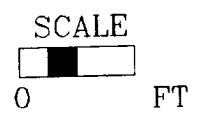
SKETCH/SAMPLE LOCATIONS ↑ N



OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	TPH (8015)	1145	17.0



TRAVEL NOTES: CALLOUT: NA ONSITE: 6/11/98 - morn.

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

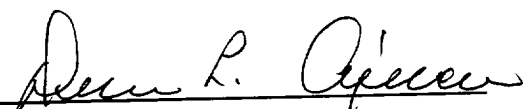
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	06-15-98
Laboratory Number:	D404	Date Sampled:	06-11-98
Chain of Custody No:	6020	Date Received:	06-12-98
Sample Matrix:	Soil	Date Extracted:	06-12-98
Preservative:	Cool	Date Analyzed:	06-12-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

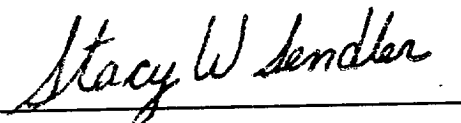
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.9	0.2
Diesel Range (C10 - C28)	16.1	0.1
Total Petroleum Hydrocarbons	17.0	0.2

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 C #3E Landfarm. 5 Pt. Composite.


Analyst


Review

6020

[illegible]