

Denny E. Faust
DEPUTY OIL & GAS INSPECTOR

AUG 13 1999

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

87617

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

3 pits

Risk - OK

PIT REMEDIATION AND CLOSURE REPORT

Approved

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

Address: 200 Amoco Court, Farmington, NM 87401

Facility or Well Name: JICARILLA C #6A

Location: Unit or Qtr/Qtr Sec A Sec 14 T 26N R 5W County Rio ARIZONA

Pit Type: Separator Dehydrator Other Blow

Land Type: RANGE

Pit Location:
(Attach diagram)

Pit dimensions: length 22', width 29', depth 8'

Reference: wellhead X, other

Footage from reference: 200'

Direction from reference: 63 Degrees East of North
X West South X

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: 8/28/98

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

Approx. cubic yards 150
 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. 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 Documents

Sample depth 8' (PIT BOTTOM)

Sample date 8/28/98 Sample time 1030

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>371</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 8/28/98 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) R.A. Attached

SIGNED: Kent Man DATE: 9-9-98

3003921642

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J617</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>JICARILLA C</u> WELL #: <u>6A</u> PIT: <u>BLOW</u>		DATE STARTED: <u>8/28/98</u>
QUAD/UNIT: <u>A</u> SEC: <u>14</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>		DATE FINISHED: _____
QTR/FOOTAGE: <u>1150' ENL</u> <u>790' FEL</u> CONTRACTOR: <u>P & S</u>		ENVIRONMENTAL SPECIALIST: <u>NV</u>

EXCAVATION APPROX. <u>22</u> FT. x <u>29</u> FT. x <u>8</u> FT. DEEP.	CUBIC YARDAGE: <u>150</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u>	LEASE: <u>C</u> FORMATION: <u>MU</u>

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>200</u> FT. <u>SE</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>>100'</u>	NEAREST WATER SOURCE: <u>>1000'</u>
NMOC D RANKING SCORE: <u>0</u>	NMOC D TPH CLOSURE STD: <u>5000</u> PPM
SOIL AND EXCAVATION DESCRIPTION:	
<p>EXCAVATION CONSIST OF MOSTLY BEDROCK (SHALE), DISKY RED/LT. GRAY TO OLIVE GRAY IN COLOR, SOFT TO VERY HARD, NO APPARENT STAINING OBSERVED OR HC ODOR DETECTED W/IN EXCAVATION STRONG HC ODOR DETECTED IN EAST, WEST SIDEWALLS, & PIT BOTTOM DIRM SAMPLES.</p>	

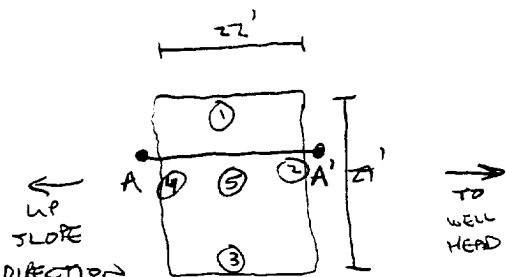
EXCAVATION MOSTLY BEDROCK

RISK ASSESSED

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1030							

SCALE

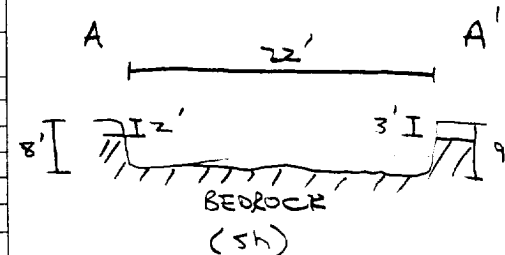
0 FT

PIT PERIMETER 

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 4'	0.0
2 @ 4'	200.3
3 @ 4'	0.0
4 @ 4'	111.3
5 @ 8'	371

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES:	CALLOUT: _____	ONSITE: <u>8/28/98 - MORN.</u>
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Well Name:	Jicarilla C #6A
Well Site location:	Unit A, Sec. 14, T26N, R5W
Pit Type:	Blow Pit
Producing Formation:	Mesa Verde
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 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 within the **non-vulnerable area** and is approximately 0.90 miles north of the nearest vulnerable area boundary (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 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.

87617

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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 C # 6A
Location: Unit or Qtr/Qtr Sec A Sec 14 T 36N R 5W County RIO ARriba
Pit Type: Separator ☐ Dehydrator ☐ Other PRODUCTION TANK
Land Type: RANGE

Pit Location: (Attach diagram) Pit dimensions: length 8', width 8', depth 2'
Reference: wellhead X, other _____
Footage from reference: 120'
Direction from reference: 86 Degrees _____ East of North 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>

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: _____ Date Completed: 8/28/98

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. EXCAVATION ALL BEDROCK, THERE -
FORE 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 2' (PIT BOTTOM)

Sample date 8/28/98

Sample time 1100

Sample Results

Soil: Benzene (ppm) _____

Water: Benzene (ppb) _____

Total BTEX (ppm) _____

Toluene (ppb) _____

Field Headspace (ppm) 0.0

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 8/28/98 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) R.A. Attached

SIGNED: Kent M... DATE: 9-9-98

CLIENT: AMOCO

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

LOCATION NO: BJ617
C.D.C. NO:

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JICARUA C WELL #: 6A PIT: PROD. TANK
QUAD/UNIT: A SEC: 14 TWP: 26N RNG: 5W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: 1150' ENL 790' FEL CONTRACTOR: P+S

DATE STARTED: 8/28/98
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NU

EXCAVATION APPROX. 8 FT. x 8 FT. x 2 FT. DEEP. CUBIC YARDAGE: 5
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM
LAND USE: RANGE LEASE: C FORMATION: MU

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 120 FT. N86W FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM
SOIL AND EXCAVATION DESCRIPTION:
EXCAVATION CONSIST OF BEDROCK (SAMPLE) OR OLIVE GRAY IN COLOR, VERY HARD, LT. GRAY DISCOLORATION OBSERVED OUTSIDE THE PERIMETER OF EXCAVATION, NO APPARENT HC ODOR DETECTED WITH EXCAVATION OR IN OUM SAMPLE.

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

EXCAVATION ALL BEDROCK
SCALE
0 FT

CLOSED

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1100							

PIT PERIMETER

OVM RESULTS

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

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

A

A'

7' I 1' I 2'

BEDROCK (sh)

PROD. TANK

TO WELL HEAD

TO SEP. PIT

TRAVEL NOTES: CALLOUT:

ONSITE: 8/28/98 - morn.

Well Name:	Jicarilla C #6A
Well Site location:	Unit A, Sec. 14, T26N, R5W
Pit Type:	Production Tank Pit
Producing Formation:	Mesa Verde
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 2 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 2 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 (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 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.

BT617

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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 C # 6A
Location: Unit or Qtr/Qtr Sec A Sec 14 T 26N R 5W County RIO ARriba
Pit Type: Separator ☒ Dehydrator ☐ Other ☐
Land Type: RANGE

Pit Location: Pit dimensions: length 19', width 18', depth 8'
(Attach diagram) Reference: wellhead ☒, other ☐
Footage from reference: 102'
Direction from reference: 67 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

Date Remediation Started: _____

Date Completed: 8/28/98

Remediation Method: Excavation ☒

Approx. cubic yards 75

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 8' (PIT BOTTOM)

Sample date 8/28/98 Sample time 1145

Sample Results

Soil: Benzene (ppm) _____

Water: Benzene (ppb) _____

Total BTEX (ppm) _____

Toluene (ppb) _____

Field Headspace (ppm) 144.3

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 8/28/98 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) RA Attached

SIGNED: Ken C. M... DATE: 9-9-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>BT617</u> C.O.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 C</u> WELL #: <u>6A</u> PIT: <u>SEP.</u> QUAD/UNIT: <u>A</u> SEC: <u>14</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1150' FNL</u> <u>790' FEL</u> CONTRACTOR: <u>P & S</u>	DATE STARTED: <u>8/28/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
--	---

EXCAVATION APPROX. <u>19</u> FT. x <u>18</u> FT. x <u>8</u> FT. DEEP.	CUBIC YARDAGE: <u>75</u>
DISPOSAL FACILITY: <u>ON-SITE</u>	REMEDATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u>	LEASE: <u>C</u> FORMATION: <u>MU</u>

FIELD NOTES & REMARKS: 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 <u>SOIL AND EXCAVATION DESCRIPTION:</u>	PIT LOCATED APPROXIMATELY <u>102</u> FT. <u>SW</u> FROM WELLHEAD. <div style="border: 1px solid black; padding: 5px;"> CHECK ONE: <input checked="" type="checkbox"/> PIT ABANDONED <input type="checkbox"/> STEEL TANK INSTALLED <input type="checkbox"/> FIBERGLASS TANK INSTALLED </div>
---	---

EXCAVATION CONSIST OF MOSTLY BEDROCK (SHALE) VERY PINK ORANGE, LT. GRAY, TO DUSKY RED/LT. GRAY (PT 800MM) IN COLOR, SOFT TO VERY HARD, HC ODOR DETECTED IN PIT BOTTOM DUM SAMPLE.

EXCAVATION
MOSTLY
BEDROCK

RISK ASSESSED

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
1145							

PIT PERIMETER

PIT PROFILE

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 4'	0.0
2 @ 4'	0.0
3 @ 3'	0.0
4 @ 4'	0.0
5 @ 8'	144.3

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

TRAVEL NOTES:	CALLOUT: _____ ONSITE: <u>8/28/98 - MORN.</u>
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Well Name:	Jicarilla C #6A
Well Site location:	Unit A, Sec. 14, T26N, R5W
Pit Type:	Separator Pit
Producing Formation:	Mesa Verde
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 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 within the **non-vulnerable area** and is approximately 0.90 miles north of the nearest vulnerable area boundary (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 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

B3617
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 4A
Location: Unit or Qtr/Qtr Sec A Sec 14 T 26N R 5W County RIO ARIZONA
Land Type: RANGE

Date Remediation Started: 8-28-98 Date Completed: 2/10/99
Remediation Method: Landfarmed ☒ Approx. cubic yards 230
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: 2-8-99 Time: 0950
Sample Results:
Field Headspace (ppm) 0.0
TPH (ppm) 294 Method 8015
Other ☐

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

DATE 2/10/99 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: K. C. M. A. DATE: 3-31-99

CLIENT: AMOCOBLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199LOCATION NO: 85617C.O.C. NO: 6566

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA C WELL #: 4A PITS: SEP, BLOW, PROD.DATE STARTED: 2.8.99

DATE FINISHED: _____

QUAD/UNIT: A SEC: 14 TWP: 26N RNG: 5W PM: NM CNTY: RA ST: NM

ENVIRONMENTAL

SPECIALIST: REPQTR/FOOTAGE: NE/4 NE/4 CONTRACTOR: P+S

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARMAPPROX. CUBIC YARDAGE: 230LAND USE: RANGELIFT DEPTH (ft): 1-1.5

FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: 2100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'NMOCB RANKING SCORE: 0 NMOCB TPH CLOSURE STD: 5000 PPM

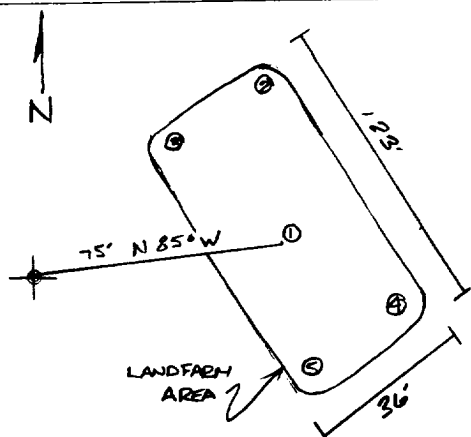
MODERATE YELLOWISH BROWN SAND, NONCOHESIVE, SLIGHTLY MOIST, FIRM.
NO VISIBLE STAINING OBSERVED, NO HC ODOR DETECTED. SAMPLING DEPTHS RANGE
FROM 6" - 12" TOOK A 5 FT COMPOSITE SAMPLE FOR LAB ANALYSIS.

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)	0950	294

SCALE



0

FT

TRAVEL NOTES:

CALLOUT: N/AONSITE: 2.8.99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client: Blagg / AMOCO
Sample ID: LF - 1
Laboratory Number: E616
Chain of Custody No: 6566
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

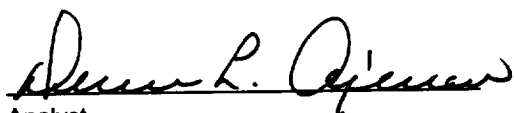
Project #: 403410
Date Reported: 02-10-99
Date Sampled: 02-08-99
Date Received: 02-09-99
Date Extracted: 02-10-99
Date Analyzed: 02-10-99
Analysis Requested: 8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	14.9	0.2
Diesel Range (C10 - C28)	279	0.1
Total Petroleum Hydrocarbons	294	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 6A Landfarm. 5 Pt. Composite.


Analyst


Review

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[illegible]