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

PIT REMEDIATION AND CLOSURE REPORT

III KIMBALLIS	OUL COM. DIV
	(505) 326-9200
Operator: AMOCO PRODUCTION COMPANY	Telephone: (505) 326-9200
Address: 200 Amoco Court, Farmington, N	м 87401
Address: 200 Amoco cours,	- C # (
Facility on Well Name:	la ARRIBA
Location: Unit or Qtr/Qtr Sec_A Sec_32 T_2	6N R3W County 270
Pit Type: Separator Dehydrator Other_P	RODUCTION TRNK
Land Type.	
Pit Location: Pit dimensions: length	28', width30', depth\Z'
(Attach diagram) Reference: wellhead X,	other
Footage from reference: 19	5'
Direction from reference:	5 Degrees X East North X
Direction from reference	West South
Depth To Groundwater:	Less than 50 feet (20 points) 50 feet to 99 feet (10 points)
(Vertical distance from contaminants to seasonal	Greater than 100 feet (0 points)
high water elevation of	
groundwater)	Less than 100 feet (10 points)
Distance to an Ephemeral Stream (Downgradient dry wash greater than	Greater than 100 feet (0 points)
ten feet in width)	Less than 100 feet (10 points)
Distance to Nearest Lake, Playa, or Watering Pond	Less than 100 feet (10 points) Greater than 100 feet (0 points)
(Downgradient lakes, playas and livestock or wildlife watering ponds)	(20 mainta)
Wellhead Protection Area:	Yes (20 points) No (0 points)
(Less than 200 feet from a private domestic water source, or: less than	
1000 feet from all other water sources)	Less than 100 feet (20 points)
Distance To SurfaceWater: (Horizontal distance to perennial	100 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)
lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Greater than 1000 leet (o passes)
Harabaran parama and	

RANKING SCORE (TOTAL POINTS):

			87686	PROD. TANK PIT
Date Remediation Statement Properties of the Communication of the Commun	Excavation \searrow Landfarmed \searrow	Approx. Insitu E	cubic yards	11/24/98 300
Remediation Location (i.e. landfarmed onsite, name and location of offsite facility)				
NO TPH AM	of Remedial Action: Exc	ED. KISK 435	essed.	
Groundwater Encoun	tered: No <u>×</u>	Yes Depth		
Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample locationsee At Sample depth	(SOUTH SIDEWI	all)	1045
	Total BTEX Field Headspace	(ppm) (ppm) (ppm) (ppm)	•	
Groundwater Sample		(If yes, atta		
I HEREBY CERTIFY KNOWLEGE AND F	THAT THE INFORMATION THE	ON ABOVE IS TRUI	E AND COMPL	ETE TO THE BEST OF I

KNOWLEGE AND	District		
DATE	11/24/98,	PRINTED NAME	Buddy D. Shaw
CICNATURE BY	Qly D. Shar	- .) AND TITLE .	Environmental Coordinator
SIGNATURE	OR WER DUE CLOSURE	INFORMATION PI	T CLOSURE IS APPROVED IN ACCORDANCE

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

CLIENT: AMOCO	P.O. BOX 87, BLOG	NEERING, INC. OMFIELD, NM 8 332-1199	37413	C.O.C. NO:
LCCATION: NAME: JICA. QUAD/UNIT: A SEC: 32	CT: CLOSURE GC C WELL #: / TWP: ZGN RNG: 5w Soo'fer CONTRACTO	PIT: PROO.		PAGE No: of DATE STARTED: #/24/98 DATE FINISHED: ENVIRONMENTAL SPECIALIST:
EXCAVATION APPROX	3 FT. x 30 FT. x 00-SITE LEASE: RKS: PIT LOCATED APPI NEAREST WATER SOURCE: NMOCD TPH CLOSURE STD	TZ FT. DEEP. REMEDIATION TC C REMEDIATION NEARES	METHO FOF FT. ^ST SURFAC	D: LANDFARM RMATION: DR JZSE FROM WELLHEAD.
FRIABLE + NOTICEABLE STRONG HC COLLECTED EXCAVATION MOSTLY	SOUT WIN SIDEWALLS STAINING OR HE ODE OOOR IN SOUTH SID FROM BEORDER, THE	S, VERY HARD ED OF OBSERVED OF STANDING TO	LIVE E PIT ETECTE AMPLE PH AMA	BOTTON WERY
SCALE O FT PIT PERIM	ETER 1	FIELD 418.1 CALCUL NO: WEIGHT (g) mL. OVM SULTS FIELD HEADSPACE PID (ppm)	FREON D	PROFILE
30' B ZB'		20.0 167.0 0.0 6.9 12']	7,3	BEDROCK (Sh)
CDAVEL NOTES	T:	ONSITE:		

Well Name:
Well Site location:
Pit Type:
Producing Formation:
Pit Category:
Horizonal Distance to Surface Water:
Vicinity Groundwater Depth:

Jicarilla GC C #1
Unit A, Sec. 32, 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 12 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 12 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 <u>non-vulnerable area</u> and is approximately 0.22 miles east southeast of the nearest vulnerable area boundary (Tapacito Creek).

(Refer to Gonzales Mesa 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.

BJ686

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

PIT REMEDIATION AND CLOSURE REPORT

	Telephone: (505)326-9200
Operator: AMOCO PRODUCTION COMPANY	
Address: 200 Amoco Court, Farmington, NM	87401
TICARILLA GC	C #1
- A C - 77 T76	A R SW County
Pit Type: Separator Other Other	Complessol
Land Type: RANGE	
Pit Location: Pit dimensions: length 3	30′, width <u></u> ヲン´, depth <u></u> /ヱ´
	other
Direction from reference: 39	Degrees East North of West South
	∠ West South
Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)
groundwater) 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)
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)
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)
Distance To SurfaceWater: (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)
1	RANKING SCORE (TOTAL POINTS):

	BJ686 SEP. COMPR. PIT
N. C Chartada	Date Completed:
Date Remediation Started:	Approx. cubic yards350
Check all appropriate sections) Excavation Landfarmed	Insitu Bioremediation
Other	
Remediation Location: Onsite X Offsite	
General Description of Remedial Action: Excav	vation. Exeruption mostly BEORICK, THEREFORE
NO THE WAS CONDUCTED. KISK H	SSESSED.
Groundwater Encountered: No X	Yes Depth
Sample date	SOUTH SIDEWALL
Groundwater Sample: Yes No	
KNOWLEGE AND BELIEF	N ABOVE IS TRUE AND COMPLETE TO THE BEST OF M
DATE 11/24/48 PRIN	ND TITLE Environmental Coordinator
SIGNATURE BURLY D. Show AN	ND TITLE Environmental Coordinator
AFTER REVIEW OF THE PIT CLOSURE INFORTO THE JICARILLA APACHE TRIBE PIT CLOS	RMATION, PIT CLOSURE IS APPROVED IN ACCORDANC SURE ORDINANCE.
APPROVED: YES NO (REASON)	R.A. Attached DATE: 12-28-98
SIGNED LES CM and	DATE: 12-28-98

BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	C.O.C. NO:
FIELD REPORT: CLOSURE VERIFICATION LOCATION: NAME: JICA. GC C WELL #: PIT: SEP COMPR. QUAD/UNIT: A SEC: 38 TWP: 26N RNG: SW PM: NM CNTY: RA ST:NM QTR/FOOTAGE: 1100 FNL/ 800 FEL CONTRACTOR: P45	PAGE No: / of ! DATE STARTED: //-24 98 DATE FINISHED: ENVIRONMENTAL SPECIALIST: // USV
EXCAVATION APPROX. 30 FT. x 30 FT. x 12 FT. DEEP. CUBIC DISPOSAL FACILITY: ON 5/1E REMEDIATION METHO: LAND USE: Parise LEASE: Jic C FOR	D: <u>LANDFARM</u> RMATION: <u>DK</u>
SOIL AND EXCAVATION DESCRIPTION:	WATER: > / O O O O O O O O O O O O O O O O O O
VERY FRIABLE & SEMI HARD ON SIDEWALLS VERY HAR NO NOTICEABLE STAWING EVIDENT WIN EXCAUATION NO DOOR DETECTED WIND EXCAUATION, STRONG HC ODD SONTH SIDEWALL DUM SAMPLE ALL SAMPLES COLLECTED THEREFORE NO TRY ANALYSIS' WAS CONDUCTED. EXCAUATION RISK ASSESSED MOSTLY BEDROCK FIELD 418.1 CALCULATIONS	NO APPALENT N IN NORTH & D FROM BEDROCK,
SCALE 1/45 O FT PIT PERIMETER OVM RESULTS	PROFILE
30' SAMPLE FIELD HEADSPACE PIU (spin) 1 @ 8' 137 2 @ 8' 97 3 @ 7' 151 4 @ 8' 0.0 5 @ 1Z' 0.0 1/1/1/2 30' LAB SAMPLES	4'I VIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
TRAVEL NOTES: COMPRESSOR TO WELL HEAD ONSITE:	

Well Name:

Well Site location:

Pit Type:

Preducing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla GC C #1
Unit A, Sec. 32, T26N, R5W
Separator Pit
Basin Dakota
Non Vulnerable

> 1000 ft.

> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

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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, Farmingt	con, NM 87401
Facility or Well Name: JICARILLA GC. C	. 1
Location: Unit or Qtr/Qtr Sec A Sec 32	TZGN RSW County RIO ARRIBA
Land Type: RANGE	•
Date Remediation Started:	Date Completed: 6/10/99 Approx. cubic yards 650
Other	
Depth To Groundwater: (pts.)o	
Distance to an Ephemeral Stream (pts.) Distance to Nearest Lake, Playa, or Watering Pond (pts.) Wellhead Protection Area: (pts.) Distance To SurfaceWater: (pts.)	Sampling Date: 49.99 Time: 1340 Sample Results: Field Headspace (ppm) 0.0 TPH (ppm) 13.3 Method (80.5) Other
I HEREBY CERTIFY THAT THE INFORMATION A KNOWLEGE AND BELIEF	BOVE IS TRUE AND COMPLETE TO THE BEST OF MY
	TED NAME Buddy D. Shaw AND TITLE Environmental Coordinator
AFTER REVIEW OF THE SOIL REMEDIATION INF ACCORDANCE TO THE JICARILLA APACHE TRIE APPROVED: YES NO (REASON) _	
signed:	PATE:

BLAGG ENGINEERING, INC P.O. BOX 87, BLOOMFIELD, NM 87 (505) 632-1199	COCHITON NO. STORY
FIELD REPORT: LANDFARM/COMPOST PILE CLOS	SURE VERIFICATION
LOCATION: NAME: JICARILLA GC C WELL #: 1 PITS: SEP., BLOW	DATE STARTED: _6 9 99 DATE FINISHED:
QUAD/UNIT: A SEC: 32 TWP: 26N RNG: 5W PM: NM CNTY: RA ST DTR/FEDTAGE: NE/4 NE/4 CONTRACTOR: P+S	ENVIRONMENTAL REP
SOIL REMEDIATION:	
REMEDIATION SYSTEM: LANDFARM APPROX. CU	BIC YARDAGE: 650
LAND USE: RANGE LIFT DEPTH	(ft):
FIELD NOTES & REMARKS:	
DEPTH TO GROUNDWATER: 7/00' NEAREST WATER SOURCE: 7/000' NEAREST	SURFACE WATER: > 1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM	
PALE BROWN SAND, NON CONESIVE, SLIGHTLY MOIST, FIRM. NO APP.	
STAINING NO HE ODOR DETECTED. SAMPLING DEPTHS RANGE F 6"-10". COLLECTED A SPT. COMPOSITE SAMPLE FOR LAB ANAC	
(105ED)	
FIELD 418.1 CALCULATIONS	
SAMP. TIME SAMPLE I.D. LAB No: WEIGHT (g) ML. FREON DILUTION	READING CALC. ppm
SKETCH SAMPLE LOCATIONS	
SKETCH SAMPLE LOCATIONS	
7 - 51	
OVM RESULTS	LAB SAMPLES
SAMPLE PIELD HEADSPACE ID PID (ppm)	SAMPLE ANALYSIS TIME RESULTS
SAUPLE PED (ppm) LF., O.D	LF-1 (80:5) 1340 13.3
7, 102	
	<u> </u>
SCALE	
O FT	
TDAVEL NOTES:	2
TRAVEL NOTES: CALLOUT: NA ONSITE: 699	7

Company of the second



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Blagg / AMOCO LF - 1	Project #: Date Reported:	403410 06-10-99
Sample ID: Laboratory Number:	F484	Date Sampled:	06-09-99
Chain of Custody No:	7076 Soil	Date Received: Date Extracted:	06-10-99 06-10-99
Sample Matrix: Preservative:	Cool	Date Analyzed:	06-10-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	9.2	0.2
Diesel Range (C10 - C28)	4.1	0.1
Total Petroleum Hydrocarbons	13.3	0.2

NE) - 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 GC - C1 Landfarm. 5 Pt. Composite.

Arialyst A. Oglesce

Stacy W Sendler

CHAIN OF CUSTODY RECORD

	Cool - Ice/Blue Ice	00/40	505) 632-0615)	ran				
	Received Intact		5796 U.S. Highway 64	1				
Z	~			<u></u>				
pt .	Sample Receipt	CHINC	FOVIROTECH IO	TI O				
		Received by: (Signature)	Rec				ture)	Relinquished by: (Signature)
		Received by: (Signature)	Rec	·			ture)	Relinquished by: (Signature)
1.10.99 715	1.10.5	Alan F. Chare	7:15	6.10年				The March of March of the March
Time	Date	Received by: (Signature)	Time Rec	Date			ture)	Belinguished by: (Sixta
\	2000				_		-	
SSOLIE	SAMETRES							
SITE	SPT. COMPOSITE	7	SOIL		484J	1340	6999	LF-1
			Sample Matrix	mber	Lab Number	Sample Time	Sample Date	Sample No./
		lo. of otaine		40240	40			757
8	Remarks				Client No.			Sampler:
			0	JICABILLA GC	JICAR		1000	BLAGG/AMOCO
	TERS	ANALYSIS / PARAMETERS	FARM	Project Location LANDFARM	Project Loc			Client / Project Name