### BJ693

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

SUBMIT 1 COPY TO NATURAL RESOURCE DEPT

AND OIL & GAS ADMINISTRATION

ONL GON. DUV.
DIST. S PIT REMEDIATION AND CLOSURE REPORT

		505)326-9200
Operator: AMOCO PRODUCTION COMPANY	Telephone:_	2. 70 ust
Operator: AMOCO (MOZZ	87401 Denny	S. Bust
Address: 200 Amoco Court, Farmington, NM	DEPITIY UIL & U	GAS INSPECTOR
Facility or Well Name: TICA ZILLA A A	AUG 1	3 1999
$\sim$	<u>ン R5W</u> County <u>人/グーク</u> 化	218:-
Location: Unit or Qtr/Qtr Sec Sec	$\sim$ $\sim$ $\sim$	south 1
Pit Type: Separator Dehydrator Other_ Be	TIP.	
Land Type: RANGE		The state of the s
Dance - JP	z' , width $zz'$ ,	depth >
TH LACATION.		
(Attach diagram)  Reference: wellhead X,	other	
Exetogo from reference: 156	· /	
Direction from reference:	Degrees East	North <u>×</u>
Direction from reference.	${\times}$ West	South
	Less than 50 feet	(20 points) (10 points)
Depth To Groundwater: (Vertical distance from	50 feet to 99 feet Greater than 100 feet	(0 points)
contaminants to seasonal high water elevation of		
groundwater)	1 100 fort	(10 points)
Distance to an Ephemeral Stream	Less than 100 feet Greater than 100 feet	(10 points)
(Downgradient dry wash greater than ten feet in width)		
Distance to Nearest Lake, Playa, or Watering Pond	Less than 100 feet	(10 points) (10 points)
Downgradient lakes, playas and	Greater than 100 feet	( t) [Killis)
livestock or wildlife watering ponds)	Yes	(20 points)
Wellhead Protection Area: (Less than 200 feet from a private	No	(0 points)
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 Greater than 1000 feet	(10 points) ————————————————————————————————————
lakes, ponds, rivers, streams, creeks,	Cicator than 1000 feet	
irrigation canals and ditches)		

			. Laka di	11/28/98
Date Remediation Sta	arted:	Date Com	ipietea:	7.0
Remediation Method:	Excavation	Approx. cut		20
(Check all appropriate sections)	Landfarmed 🔀	Insitu Biore	emediation	
	Other			
Remediation Location (i.e. landfarmed onsite, name and location of	: Onsite X Offsite			
offsite facility)	of Remedial Action: <u>Exca</u>	vation Executive	w moster &	ELKTER THEREFURE
General Description	of Remedial Action: Exca	Vacion . Exemp		
NO TPH HAR	of Remedial Action:	KISK HSSESSED		
Groundwater Encoun	tered: No <u>×</u>	Yes Depth		
Final Pit: Closure Sampling: (if multiple samples,	Sample location see Att			
attach sample results	Sample depth \(\frac{1}{2}\)	PIT BITTOM)		
and diagram of sample locations and depths)	Sample date $\frac{11/28}{6}$	Sam	nple time/ Z	215
	Sample Results			
	•	ppm) W	Vater: Benzene	(ppb)
		(ppm)	Toluene	(ppb)
	Field Headspace (	(ppm) <u>105.3</u>	Ethylbenz	ene (ppb)
		ppm) <u>NA</u>	Total Xyle	enes (ppb)
ii	e: Yes No			
I HEREBY CERTIFY KNOWLEGE AND I				TO THE BEST OF MY
DATE	11/25/98 PRIM	NTED NAME Buddy	D. Shaw	
SIGNATURE BUS	ly D. Show M	ND TITLE Envir	conmental Co	
TO THE JICARILL	F THE PIT CLOSURE INFOI A APACHE TRIBE PIT CLOS	SOKIS OKIMINI (OIS		ED IN ACCORDANC
APPROVED: YES_	NO (REASON)	R-A. AH	ached	
SIGNED:	-CMankl	DATE:	-98	

CLIENT: AMOCO	P.O.	BOX 87	7, BLOOM (505) 632		87413	c.o.c	NO: <u>B50</u>	
FIELD REI	C: 20 TWP	A W	ELL #: <b>6</b> E ng:5w pm	PIT: BLOW I: NM CNTY: B		DATE STARTE	ED: <u>// 28 °</u> ED:	7 <u>8</u>
OTR/FOOTAGE: /70 EXCAVATION APPROXISPOSAL FACILIT	22 F	r. x <u>22</u>	FT. x _ <i>3</i>	FT. DEEP	4 METHC	YARDAG:	E: 20 FARM	
ELD NOTES & F DEPTH TO GROUNDWATER NMOCD RANKING SCORE: SOIL AND EXCA!	0 N VATION DE	EAREST WATE MOOD TPH CL SCRIPTION	ER SOURCE: <u>2</u> Losure STD: <u>5</u> ON: CY OF BEDR	OCE (SANDST	TONE)	CHECK  PIT ABAND  STEEL TAN  FIBERGLAS	ONE :	
DK TO MOD YE HC ODOR DE THEREFORE		ישכי ישעת	<i></i>					
EXCAUATION MOSTALE SCALE OFT	RISK A	SSESSED.	WAS CONDUC	IELD 418.1 CAL : WEIGHT (g)	CUI ATIONS	DILUTION REA	ADING CALC.	mqq

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla A #6E

Unit E, Sec. 20, 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 sandstone bedrock at 3 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 sandstone bedrock located 3 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone 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.
- Well site located within the <u>non-vulnerable area</u> and is approximately 0.56 miles southeast of the nearest vulnerable area boundary (Albert Canyon wash).

(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 sandstone 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.

BT693

# 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

	m 1 1 1	(505)326-9200
Operator: AMOCO PRODUCTION COMPANY		
200 Amoco Court, Farmington, N	M 87401	
TICARILLA H	# 6 C	13822
Location: Unit or Qtr/Qtr Sec_ E Sec_ 23 T2	County 7075	HICK 113-1
Pit Type: Separator Dehydrator Other/	PRODUCTION TANK	
Land 1, red	76', width 16'	, depth_ <sup>2</sup> /
Reference: Weilineau,	other	
Footage from reference: /3	7 Damage Fact	NorthX
Direction from reference:	y_ West	South
		(20 points)
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	(10 points) ( 0 points)
Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width)	Less than 100 feet Greater than 100 feet	( O points)
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) (10 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 No	(20 points)
Distance To SurfaceWater: (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)
	RANKING SCORE (TOTA	L POINTS): 💍

87693 PUP. T. P. P. T.

	11/7-108
Date Remediation Sta	Date Completed:
Remediation Method:	Excavation Approx. cubic yards
(Check all appropriate	Landfarmed V Insitu Bioremediation
	Other
Remediation Location	: Onsite × Offsite
(i.e. landfarmed onsite, name and location of	
-cc-it- coalling)	- Property -
General Description	of Remedial Action: Excavation. BEDROCK BOTTOM.
Groundwater Encoun	tered: No 🔀 Yes Depth
Final Pit:	Sample location see Attached Documents
Closure Sampling: (if multiple samples,	
attach sample results and diagram of sample	Sample depth Z' (SOUTH SIDEWALL)
locations and depths)	Sample date $\frac{11/25/98}{}$ Sample time $\frac{1315}{}$
	Sample Results
II	Soil: Benzene (ppm) Water: Benzene (ppb)
	Total BTEX (ppm) Toluene (ppb)
	Field Headspace (ppm) 93.1 Ethylhenzene (ppb)
	TPH (ppm) 5.330 Total Xylenes (ppb)
Groundwater Sample	e: Yes No (If yes, attach sample results)
I HEREBY CERTIFY KNOWLEGE AND B	Y THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY BELIEF
	11/35/48 . PRINTED NAME Buddy D. Shaw
DATE	PRINTED NAME Buddy D. Shaw  Oly AND TITLE Environmental Coordinator
AFTER REVIEW OF	THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE APACHE TRIBE PIT CLOSURE ORDINANCE.
ll .	X NO (REASON) R-A. AHacled
	CM and DATE: 12-28-98

P.O. BOX	AGG ENGINEERING, II 87, BLOOMFIELD, NI (505) 632-1199	C.D.C. NO: 622Z
FIELD REPORT: CLO OCATION: NAME: JICABILLA A  QUAD/UNIT: & SEC: 20 TWP: 26 N OTR/FOOTAGE: /760FNL/930FINL	WELL #: 6E PIT: PEC RNG: 5W PM: NH CNTY: CONTRACTOR: P45	DATE STARTED: 11 - 28 48  DATE FINISHED:  ENVIRONMENTAL SPECIALIST:
EXCAVATION APPROX. 20 FT. x 1 DISPOSAL FACILITY: ON SITE LAND USE: PANGE	REMEDIATION REMEDI	ON METHOD: ZANDAZZA FORMATION: DK
FIELD NOTES & REMARKS: PIT L  DEPTH TO GROUNDWATER: 7100' NEAREST IN  NMOCD PANKING SCORE: O NMOCD TPH  SOIL AND EXCAVATION DESCRIP  SIDEWALL - MOD YELL. ORANGE  NON COHESINE. SA  SLIGHT HE ODOR	WATER SOURCE: 7/000 N H CLOSURE STD: 5000 PPM PTION: E-DK. YELL BROWN SAND. LIGHTLY MOIST, FIRM AID DETECTED ON SOUTHS, DEWL	EAREST SUPPACE WATER: CHECK DNE:  WE PIT ABANDONED  STEEL TANK INSTALLED  FIBERGLASS TANK INSTALLED  APPARENT STAINING OBSERVED  ALL OVIN SAMPLE ONLY
BEDROCK BOTTOM  SCALE  O FT  PIT PERIMETER	FIELD 418.1 CA	PIT PROFILE
TO WELLHEAD.  TO	RESULTS  SAMPLE FIELD HEADSPACE FIELD (Spm)  1	BEPROCK (55)
	1PH - FAUE)	

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla A #6E
Unit E, Sec. 20, T26N, R5W
Production Tank Pit
Basin Dakota
Non Vulnerable
> 1000 ft.

1000 1

> 100 ft.

### RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe encountered sandstone bedrock at 4 feet below grade.

No past or future threat to surface water or groundwater is likely based on the following considerations:

- Past production fluids were contained locally by a relatively shallow sandstone 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 sandstone 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.
- Well site located within the <u>non-vulnerable area</u> and is approximately 0.56 miles southeast of the nearest vulnerable area boundary (Albert Canyon wash).

(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 sandstone 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.



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

Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO 3 @ 2' E229 6222 Soil Cool Cool and Intact	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	04034-10 11-30-98 11-28-98 11-30-98 11-30-98 11-30-98 8015 TPH
--	--	---	--

Concentration (mg/Kg)	Limit (mg/Kg)	
432	0.2	
4,900	0.1	
5,330	0.2	
	(mg/Kg) 432 4,900	

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 A #6E Production Tank Pit.

Analyst Colemn

Stacy W Lendler

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

ST693 . SUBMIT 1 COPY TO

NATURAL RESOURCE DEPT

AND OIL & GAS ADMINISTRATION

## PIT REMEDIATION AND CLOSURE REPORT

	m lankana.	(505)326-9200
Operator: AMOCO PRODUCTION COMPANY		
Address: 200 Amoco Court, Farmington, NM	87401	
Facility or Well Name: TICARILLA 7	#C=	
Location: Unit or Qtr/Qtr Sec E Sec Zo T 265	2 RSW County X/0	102 - 3.
Pit Type: Separator X Dehydrator Other		
Land Type: RANGE		
Pit Location: Pit dimensions: length 26 (Attach diagram)		
Reference: Weilineau, O	ther/	
Footage from reference: ///	Degrees East	North X
Direction from reference: 49	Of Of West	South
Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) ( 0 points)
Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width)	Less than 100 feet Greater than 100 feet	(10 points) <i>O</i> (0 points)
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) $\bigcirc$
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) <u> </u>
Distance To SurfaceWater: (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)
na ang ang ang ang ang ang ang ang ang a	RANKING SCORE (TOTAL	L POINTS):

RTE93 SEP. PIT

		Date Completed: ///30/98
Date Remediation Sta	arted:	Approx. cubic yards
Remediation Method:	Excavation <u>×</u>	
(Check all appropriate sections)	Landfarmed $\nearrow$	Insitu Bioremediation
	Other	
Remediation Location (i.e. landfarmed onsite, name and location of offsite facility)	: Onsite X Offsite	
General Description	of Remedial Action: Excavation.	. BEDROCK ROTTOM. KMSK
ASSE	3260	
Groundwater Encoun	tered: No X Yes	Depth
Final Pit: Closure Sampling: (if multiple samples,	Sample location <u>see Attached D</u>	
attach sample results and diagram of sample	Sample depth 2' (SOUTH	Samula time 1230
locations and depths)	Sample date 11/28/98	Sample time / Z 3♥
	Sample Results	
	Soil: Benzene (ppm) 1.3	40 Water: Benzene (ppb)
	Total BTEX (ppm) 21	
	Field Headspace (ppm) 28	
	TPH (ppm) <u>5,3</u>	
Groundwater Sample	:: Yes No (If	yes, attach sample results)
I HEREBY CERTIFY KNOWLEGE AND B	THAT THE INFORMATION ABOVE BELIEF	IS TRUE AND COMPLETE TO THE BEST OF MY
DATE	11/30/98 PRINTED NAM	ME_Buddy D. Shaw
SIGNATURE BUS	Oly S. Show AND TITLE	ME Buddy D. Shaw Environmental Coordinator
A PERED DEVIEW OF		PIT CLOSURE IS APPROVED IN ACCORDANCE
APPROVED: YES_	NO (REASON)	:
"SIGNED:	CMamle DATE:	12-28-98

BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	C.B.C. ND: <u>63693</u>
TIEDD REFORMS CEOUNT FERTILITY	PAGE No: of
OUAD/UNIT: E SEC: 20 TWP: 26N RNG: 5W PM: NM CNTY: RA ST: NM	DATE STARTED: 11-28:98  DATE FINISHED:
EXCAVATION APPROX. 24 FT. x 20 FT. x 4 FT. DEEP. CUBIC DISPOSAL FACILITY: ON SITE REMEDIATION METHOD LAND USE: PANGE LEASE: SIC. A FORM	LANDFARM
SOIL AND EXCAVATION DESCRIPTION:	WATER: > 1000' CHECK ONE: PIT ABANDONED STEEL TANK INSTALLED FIBERGLASS TANK INSTALLED STANING OBSERVED SAMPLE ONLY WEST
OVM RESULTS  SAMPLE FIELD HEADSPACE PID (Appr.)	JTION READING CALC. ppm
20'  3	ELECKOCK (35)
TRAVEL NOTES: CALLOUT: ONSITE:	

Well Name:
Well Site location:

wen one rocation Pit Type

Pit Type:

Producing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla A #6E
Unit E, Sec. 20, 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 sandstone bedrock at 4 feet below grade.

No past or future threat to surface water or groundwater is likely based on the following considerations:

- Past production fluids were contained locally by a relatively shallow sandstone 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 sandstone bedrock.
- 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.
- Well site located within the <u>non-vulnerable area</u> and is approximately 0.56 miles southeast of the nearest vulnerable area boundary (Albert Canyon wash).

(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 sandstone 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.



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

Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO 3 @ 2' E230 6222 Soil Cool Cool and Intact	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	04034-10 11-30-98 11-28-98 11-30-98 11-30-98 11-30-98 8015 TPH
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Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,320	0.2
Diesel Range (C10 - C28)	3,980	0.1
Total Petroleum Hydrocarbons	5,300	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 A #6E Separator Pit.

Analyst P. Queen

Stacy W Sendler



# EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client: Sample ID: Laboratory Number: Chain of Custody: Sample Matrix: Preservative: Condition:	Blagg / AMOCO 3 @ 2' E230 6222 Soil Cool Cool & Intact	Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Date Extracted: Analysis Requested:	04034-10 11-30-98 11-28-98 11-30-98 11-30-98 BTEX
---	--	---	--

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene	1,340 2,520 1,040 10,300 6,420	8.8 8.4 7.6 10.8 5.2
Total BTEX	21,620	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene Bromofluorobenzene	99 % 99 %

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 A #6E Separator Pit.

Analyst P. Quesco

Stacy W Sendler
Review

# CHAIN OF CUSTODY RECORD

5796 U.S. Highway 64 Farmington, New Mexico 87401	Ref Cets 6314, 1317, 6222, 6297 ENVIROTECH IN	Relinquished by: (Signature)	Relinquished by (Signature)  Received  Received	4 1			3) E Z 1/18/98 1230 E280 SOIL	11/28/98 /	Sample Sample Lab Number Matrix	of	Client / Project Name, Project Location  SLAGE / Amoco TRARILLA A #6E
/ay 64 Received Intact xico 87401 Cool - Ice/Blue Ice	HINC.	ture)	7	Date Time	MESEN COOL	SOTH SAMPLES	1 / / SEPAKATOR PIT	PROMOTON TANK PIT	Contain TPH (80)	5)	ANALYSIS / PARAMETERS

# 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: 3-cable a 4-66  Location: Unit or Qtr/Qtr Sec  Sec 20 T 260 R Sw County Pro Aresea  Land Type:  Date Remediation Started: 1/28-98  Date Completed: 6/2/99  Approx. cubic yards 150  Composted Other  Distance to Mearest Lake, Playa, or Watering Pond  Wellhead Protection Area: (pts.) 0 Sampling Date: 6-19-9 Time: 1300  Wellhead Protection Area: (pts.) 0 Sample Results: Field Headspace (ppm) 27.4  TPH (ppm) 2,700 Method 1805)  I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEGG AND BELIEF  DATE 6/2/99 PRINTED NAME Buddy D. Shaw  SIGNATURE SIGNATURE Soil REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.  APPROVED: YES X NO (REASON)  DATE: 6-18-99 Results  DATE: 6-18-99								
Location: Unit or Qtr/Qtr Sec	Operator: AMOCO PRODUCTION C	COMPANY	<b>Telephone</b> : (505) 326-9200					
Location: Unit or Qtr/Qtr Sec Sec Sec T Zon R Sw County Policy Remediation Method: Landfarmed Approx. cubic yards 150  Remediation Method: Landfarmed Other  Depth To Groundwater: (pts.) O Final Closure Sampling:  Distance to an Ephemeral Stream (pts.) O Sample Results:  Distance to Nearest Lake, Playa, or Watering Pond (pts.) O Wellhead Protection Area: (pts.) O Sample Results:  Field Headspace (ppm) 27.4  TPH (ppm) 2,700 Method 80.5)  RANKING SCORE (TOTAL POINTS): Other  RANKING SCORE (TOTAL POINTS): Other  DATE 6/2/99 PRINTED NAME Buddy D. Shaw  SIGNATURE Suddy D. Shaw  AND TITLE Environmental Coordinator  AFFIER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.	Address: 200 Amoco Court,	Farmington,	NM 87401					
Date Remediation Started:	Facility or Well Name: J'CARILLA	A - 6E						
Date Remediation Started: Z 8 . 98	Location: Unit or Qtr/Qtr Sec E	Sec_20 T_2	CON' R SW County PIO ARRIPA					
Approx. cubic yards   Tournell	Land Type:							
Approx. cubic yards   Tournell	Date Remediation Started: // 28	.98	Date Completed:6/z/99					
Other	Remediation Method: Landfarmed		Approx. cubic yards /50					
Distance to an Ephemeral Stream (pts.) O Sampling Date: 6 1 9 9 Time: 1300  Wellhead Protection Area: (pts.) O Teledition The Information Above is true and complete to The Best of MY KNOWLEGE AND BELIEF  DATE  Signature Environmental Coordinator  AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.  PISSAMPLE Sampling Date: 6 1 9 9 Time: 1300  The (pts.) O T								
Distance to an Ephemeral Stream (pts.) O Sampling Date: 6.7.99 Time: 1300  Distance to Nearest Lake, Playa, or Watering Pond (pts.) O Field Headspace (ppm) 27.4  Wellhead Protection Area: (pts.) O THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEGE AND BELIEF  DATE 6/2/99 PRINTED NAME Buddy D. Shaw  SIGNATURE SIGNATURE SIGNATURE SIGNATURE AND TITLE Environmental Coordinator ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.  APPROVED: YES NO (REASON)	Other							
Distance to Nearest Lake, Playa, or Watering Pond (pts.) O Sampling Date: 6.1.99 Time: 7300  Wellhead Protection Area: (pts.) O TPH (ppm) 2,700 Method 78015)  Distance To SurfaceWater: (pts.) O Other  RANKING SCORE (TOTAL POINTS): O Other  RANKING SCORE (TOTAL POINTS): OTHEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEGE AND BELIEF  DATE SIGNATURE PRINTED NAME 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)	Depth To Groundwater:	(pts.)	i l					
Wellhead Protection Area: (pts.) Field Headspace (ppm) Z7.4  Wellhead Protection Area: (pts.) TPH	•		Sampling Date: 6.1.99 Time: 1300					
Wellhead Protection Area: (pts.) _C	Distance to Nearest Lake, Playa, Sample Results:							
Distance To SurfaceWater:  (pts.) O  Other  RANKING SCORE (TOTAL POINTS):  I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEGE AND BELIEF  DATE  SIGNATURE  SIGNATURE  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)		_						
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I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEGE AND BELIEF  DATE  SIGNATURE  BUDGY  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)			Other					
DATE  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)	RANKING SCORE (TOTAL POIN	ITS):	E IS TRUE AND COMPLETE TO THE BEST OF MY					
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)	I HEREBY CERTIFY THAT THE INFO KNOWLEGE AND BELIEF	JKMA HON ABOV	E 15 TROD / III D COME III D					
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)	DATE 6/2/99	PRINTED 1	NAMEBuddy D. Shaw					
ACCORDANCE TO THE JICARILLA APACHE TRIBETTI CEOSCIE CE	SIGNATURE Bully 1.	haw	AND TITLE Environmental Coordinator					
APPROVED: YES NO (REASON)	AFTER REVIEW OF THE SOIL REMI	EDIATION INFORM APACHE TRIBE PI	MATION, ON-SITE REMEDIATION IS APPROVED IN IT CLOSURE ORDINANCE.					
DATE: 6-18-98 xcm	· II							
SIGNED:	SIGNED: Ma	$\bigcirc$	E: 6-18-99 xem					

BLAGG ENGINEERING, INC. CLIENT: \_AMOCO LOCATION NO: 85693 P.O. BOX 87, BLOOMFIELD, NM 87413 C.D.C. ND: 7056 (505) 632-1199FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION DATE STARTED: 6 1 99 EDOCATION: NAME: SICACILLA A WELL #: LE PITS: SEP 820W FROD DATE FINISHED: \_ QUAD/UNIT: E SEC: 80 TWP: 26N RNG: 5W PM: NM CNTY: BA ST: NM ENVIRONMENTAL REP SPECIALIST: DIR/FOOTAGE: SW/4 NW/4 CONTRACTOR: P+S SOL REMEDIATION: APPROX. CUBIC YARDAGE: 150 REMEDIATION SYSTEM: LANDFARM LAND USE: RANGE LIFT DEPTH (ft): \_\_\_\_\_ FIELD NOTES & REMARKS: DEFTH TO GROUNDWATER: >/00 NEAREST WATER SOURCE: >/000 NEAREST SURFACE WATER: >/2000 NMSSID RANKING SCORE: \_\_\_\_\_ NMBCD TPH CLOSURE STD: 5000 PPM DK. YELLOWISH BEOWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM LARGE AREA OF STRINING OBSERVED IN LANDEARN AREA I SEE SKETCH BELOW) HC. ODDR DETECTED IN SAMPLING PTS. 3+0, SAMPLING PEPTHS RANGE FROM 6"-10", COLLECTED A SPT. CONTOSITE SAMPLE FOR LAF ANALYSIS. (CLOSED) FIELD 418.1 CALCULATIONS WEIGHT (g) | mL. FREON DILUTION READING CALC. ppm SAMP. TIME SAMPLE I.D. LAB NO: SKETCH/SAMPLE LOCATIONS LAB SAMPLES OVM RESULTS RESULTS ANALYSIS FIELD HEADSPACE SAMPLE TROIS ) 1300 2,700 37.4 45-1 3 STAINED AREA

> SCALE FT

TRAVEL NOTES:

CALLOUT: \_ NA

ONSITE: \_



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

Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO LF - 1 F446 7056 Soil Cool	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	403410 06-02-99 06-01-99 06-02-99 06-02-99 06-02-99 8015 TPH
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Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	29.4	0.2
Diesel Range (C10 - C28)	2,670	0.1
Total Petroleum Hydrocarbons	2,700	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 A - 6E Landfarm. 5 Pt. Composite.

Analyst . Copeee

Stacy W Sendler

# CHAIN OF CUSTODY RECORD

Sample No./ Sample Sample Identification Date Time  LF-/ 6-1-7-9 /300  Relinquished by: (Signature)  Relinquished by: (Signature)	e Lab Numb		Sample  Sample  Matrix  Soil  Soil		SPI- Confidence  SAMPLE PASSIVE  LOCL  Date Time  L.2.99 7/5  Received Intact  Cool - Ice/Blue Ice  L	Remarks  Correspond  Date Tim  Date Tim  Precipt  N  N  N  N  N  N  N  N  N  N  N  N  N	Time Time
Client / Project Name  By 1645 / AMOCO	J. CAPILA	JICAPILLA A - GE		ANALYSIS / PARAMETERS	NAMETERS		
mple No./ Sample nutification Date	Client No.	3410	Containers		SPT. Com	arks Brite	
		5012			SAMBLE	PRITE PRITE	6
					COOL	de se	8
Relinquished by: (Signature) Relinquished by: (Signature)			Received by: (Signature) Received by: (Signature)	. Glewer	0.2.		7 3
Relinquished by: (Signature)			Received by: (Signature)				
		<b>ENVIRO</b>		-	Sample Re		2
		5796 U.S	. Highway 64 lew Mexico 87401		Received Intact	7	<b> </b>
		(505)	632-0615		Cool - Ice/Blue Ice	7	



### EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

### **Quality Assurance Report**

Client:	QA/QC		Project #:		N/A
		VQC	Date Reported:		06-02-99
Sample ID:	F442	100	Date Sampled:		N/A
Laboratory Number:	•	rido	Date Received:		N/A
Sample Matrix:	Methylene Chlor	ilue	Date Analyzed:		06-02-99
Preservative:	N/A		•	tod:	TPH
Condition:	N/A		Analysis Reques	leu.	IFII
	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%
<del>-</del>					
Blank Conc. (mg/L - mg/Kg)		Concentration	경기를 통하고 해당하다. 	<b>Detection Limit</b>	<b>t</b>
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	10.3	10.3	0.0%	0 - 30%	
Diesel Range C10 - C28	190	190	0.0%	0 - 30%	
		merichii kiali i	Calles Danie	% Recovery	Accept. Range
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	10 IVECOREIA	Accept. range
Spike Conc. (mg/Kg) Gasoline Range C5 - C10	Sample 10.3	Spike Added 250	260	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 F442 - F447.

nalyst

Review

Itacy W Sendler