State of New Mexico 1000 ROSPIJEROLL & Energy, Mirrorals and Natural Resources Department Submit 1 copy to Appropriate District and 1 copy to Santa Fe Office

Aztec, NM 87410

FEB 6 8 1999

## OIL CONSERVATION DIVISION

2040 S. PACHECO Santa Fe, New Mexico 87505

PIT REMEDIATION AND CLOSURE REPORT	0
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and a service of a first of the service was a server to the service of the servic					المقالية المقالية		07
perator: Apache Corporation \ MW Petr	oleum	_	Telephone:		505-325-0	348 W. DW	Yo !
ddress: 2855 Southside River Road, Su	uite A, Farm	ington, NM	87401				
acility or Well Name:	Jic Apache	Tribal A11	8 #17 Pit	#1			
ocation: Unit or Qtr/Qtr Sec	SE/SE	Sec 26	T 26 N	R 3W	County	Rio Arriba	<u></u>
Pit Type: Separator: XX	Dehydrator		Other _				
and Type: Jicarilla Tribal							
Beginning Pit Dimensions:	Length	22'	Width	22	Depti	n	
Pit Location: Ending Pit Dimensions:	Length	25'	Width	25	_ Dept	h <u>6'</u>	
(Attach diagram) Reference:	Wellhead	XX	Other				
Footage from reference:		112'		-			
Direction from reference:		142	Degrees	X	_East	North _	
					_West	South _	XX
Depth To Groundwater: (vertical distance from contaminants to seasonal high water elevation of groundwater)			Less than 50 feet to Greater th		t	(20 points) _ (10 points) _ ( 0 points) _	0
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)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks,			200 feet t	n 200 feet to 1000 fee han 1000 f		(20 points) (10 points) ( 0 points)	
irrigation canals and ditches)			RANKIN	G SCORE	(TOTAL PO	OINTS)	0

Date Remediation Start	ed:	8/19/97		_Date Comple	eted:		8/21/97
Remediation Method: (Check all appropriate		Excavation	XXX	_Approx. cubi	c yards _		92
sections)	Landfarmed	I	XX	_Insitu Biorem	ediation _		
		Other					
Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility)		Onsite	XX	_Offsite			
General Description of	Remedial Action:		Excavate	pit to 6', too	k PID read	lings. Spre	ad soil on
. location for	remediation. Tool	soil samp	les. Hit B	edrock, spray	with 46-0	0-0 Fertilize	r.
Groundwater Encount	ered:	No	) X	X Yes		Depth	
Closure Sampling:	Sample location	takan fram	4 point cor	mposite sample	taken from p	it sidewalls.(	Grab sample
(in multiple samples, attach sample results					-Un 40" in	to nit botto	m
and diagram of sample locations and depths)		6'		into pit sidew			
	Sample Date Sample results		8/21/9	97	Sample Tir	me	10:00 AM
	Benzene		(ppm)	ND			
	Total BTEX		(ppm)	Side/35.4 Btm/32.6			
	Field Headspace		(ppm)	486			
	TPH			Side/10,000 Btm/11,000	)		
Groundwater Sample	:	Υe	es	No		_(If yes atta	ch sample resuits)
I HEREBY CERTIFY T KNOWLEDGE AND B		ATION ABO	OVE IS TR	UE AND COM	PLETE TO	THE BEST	OF MY
DATE	December 1, 19	98	PRINTE	D NAME	Jeff Cros	ss	
SIGNATURE	Juff loo	7	AND TI	TLE	Project N	lanager	
	// 0				<del></del>		

District III 1000 Rio Brazos Rd Aztec, NM 87410

# State of New Mexico Energy, Minerals and Natural Resources Department

Submit 1 copy to
Appropriate District
and 1 copy to
Santa Fe Office

### **OIL CONSERVATION DIVISION**

2040 S. PACHECO Santa Fe, New Mexico 87505

### PIT REMEDIATION AND CLOSURE REPORT

Operator:	Apache Coi	rporation \ MW Peti	oleum		_Telephone	<b>)</b> :	505-325-0	318	
Address:	2855 South	side River Road, S	uite A, Farm	nington, Ni	VI 87401				
Facility or \	Well Name:		Jic Apach	e Tribal A	118 #17 P	it #2			
Location:	Unit or Qtr/C	Qtr Sec	SE/SE	Sec 26	T 26 N	R 3W	_County	Rio Arriba	:
Pit Type:	Separator:		_Dehydrato	r	_Other	Tank Drai	n		
Land Type	:	Jicarilla Tribal							
	Beginni	ng Pit Dimensions:	Length	15	' Width	15	' Depth	2'	· · · · · ·
Pit Location:		ng Pit Dimensions:	Length	18	' <u></u> Width	n18	Depth	<u> </u>	
(Attach dia	Refere	nce:	Wellhead	XX	_Other				
	Footag	e from reference:		98	) <b>'</b>	_			
	Direction	on from reference:		98	_Degrees	XX	_East	North .	
							o _West	South .	X
Depth To	Groundwate	er:			Less than	50 feet		(20 points)	
(vertical dista	ince from				50 feet to			(10 points)	
contaminants					Greater th	an 100 feet		( 0 points)	0
high water el groundwater									
	Protection A						Yes	(20 points)	
• •	200 feet froi	m a private , or; less than					No	( 0 points)	0
4		water sources)							
Distance	To Surface \	<b>W</b> ater:			Less than	200 feet		(20 points)	
1,	Il distance to	•				o 1000 feet		(10 points)	
B		reams, creeks,			Greater th	nan 1000 fe	et	( 0 points)	00
irrigation o	anals and di	icnes)			RANKING	SCORE (1	TOTAL POI	NTS)	0

te Remediation Start	ed:	8/21/97		Date Complete	ed:	8/21/97
emediation Method:		Excavation _	XXX_	Approx. cubic	yards	48
heck all appropriate ctions)	Landfarmed	l _	XX	Insitu Bioreme	ediation	
		Other _				
emediation Location:		Onsite _	XX	Offsite		
e. landfarmed onsite, ame and location of fsite facility)			,			
eneral Description of	Remedial Action:		Excavate	pit to 6' , took	PID readings	. Spread soil on
location for	remediation. Too	k soil sampl	es. Hit Be	drock, spray	with 46-0-0 Fe	ertilizer.
				/ Ves		Depth
Groundwater Encount	tered: 	No	XX	, 1es_		
inal Pit:	Sample location		4 point com	iposite sample t	aken from pit side	ewalls. Grab sample
Closure Sampling: in multiple samples,		taken from [	pit bottom ce	nter.		
attach sample results and diagram of sample	Sample depth	6'	8 to 10" i	nto pit sidew	alls 10" into p	it bottom
and diagram of sample locations and depths)	Sample Date	·	8/21/9		Sample Time	2:30 PM
	Sample results					
	Benzene		(ppm)	ND		
	Total BTEX		(ppm)	Side/18.3 Btm/5.06		
	Field Headspace		(ppm)	68		
	TPH			Side/1,100 Btm/2,800		•
				•		yes attach sample results)
Groundwater Sample		Ye		No		
Groundwater Sample I HEREBY CERTIFY KNOWLEDGE AND E	THAT THE INFOR			<del></del>		
I HEREBY CERTIFY	THAT THE INFOR	MATION ABO	OVE IS TRU	<del></del>		
I HEREBY CERTIFY KNOWLEDGE AND E	THAT THE INFORI BELIEF.	MATION ABO	OVE IS TRU	UE AND COM	PLETE TO TH	E BEST OF MY



Well Name: JAT A 118 #17

Well Site Location: SE SE, Sec 26, T26N, R3W

Pit Type: Separator

Producing Formation: Lindrith Gallup/Dakota West

Pit Category: Non-Vulnerable

Horizontal Distance to Surface Water: Greater than – 1000 Ft. Vicinity Groundwater Depth: Greater than – 100 Ft.

### RISK ASSESSMENT

Pit remediation activities were terminated when Backhoe encountered sandstone bedrock at 6 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 6 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. Daily discharge into the earthen pit has been terminated. Prior discharge into the pit is believed to be under one barrel per day.
- 3. Test results of pit sides showed total BTEX to be 35.4 PPM and TPH to be 10,000 PPM.
- 4. Pit bottom test results showed total BTEX to be 32.6 PPM with a TPH of 11,000 PPM.

Based upon the information given, we conclude that the surface lateral impact from the earthen pit is very limited and that the sandstone bottom creates enough of a permeable barrier as to subdue impact into groundwater below it. Apache Corporation requests pit closure approval on this location.

Submit 1 copy to Natural Resource Dept. and Oil & Gas Administration

## PIT REMEDIATION AND CLOSURE REPORT

Operator:	мw	PETROL	EUM			_Telephone	5	505-32	25-0318		
Address:				VER ROAD	) / SUITE /	A / FARMING	STON	I N.M.	87401-	7947	
Facility or We				JAT A 11		PIT#1					
Location:	Unit	or Qtr/Qt	r Sec	SE\SE	SEC 26	T 26 N	R 3V	<b>N</b>	_County	RIO ARRIBA	·
Pit Type:	Sepa	arator:	хх	Dehydrato	or	_Other					
Land Type:		JI	C. TRIBA	AL							
Pit Location:		Pit Dime	ensions:	Lengtl	n <u>25'</u>	Width	1	25'	_ De	epth 6'	
(Attach diagr	am)	Referen	ce:	Wellhead	XXX	Other					
		Footage	from re	ference:	112'		_				
		Direction	n from re	eference:	142	Degrees		X	_East	North _	
									_West	South _	ХХ
Depth To G	roun	dwater:	<del>-</del>	<del></del>		Less than				(20 points)	
(vertical distance						50 feet to Greater th			ıt .	(10 points) ( 0 points)	0
contaminants to high water eleva groundwater)		nai				Greater	1011 1	00 100	•	(*,*****,_	
Distance to	an F	nhemera	l Stream	n:		Less than	100	feet		(10 points)_	
(Downgradie ten feet in w	ent dr					Greater th	han 1	00 fee	et	( 0 points)	0
Distance to	Near	rest lake	Plava.	or Waterii	na Pond:	Less than	100	feet		(10 points)_	
(Downgradie	ent Ial	kes, playa	as and			Greater t			et	( 0 points) _	0
  Wellhead P	rotec	tion Are:	a·					Υe	es	(20 points)	
(Less than 2 domestic was 1000 feet from	200 fe ater s	et from a ource, or	private less thai					٨	lo	( 0 points)	0
				•		Less than	າ 100	feet		(20 points)	
Distance To (Horizontal						100 feet			et	(10 points)	
lakes, pond	s, rive	ers, stream	ns, cree	ks,		Greater t	han 1	1000 f	eet	( 0 points)	0
irrigation ca	ınals a	and ditche	es)			RANKIN	g sc	ORE	(TOTAL	POINTS)	0

ate Remediati	on Starte	ed: 8/19	/97	_Date Completed	: <u></u> _	8/21/97	
Remediation Me		Excavation		Approx. cubic ya	ards	92	
Check all appro				_	ation		
ections)			<del></del>				
		Other					
Remediation Logice. Iandfarmed name and location of the contractions is a second contraction.	onsite,	On	site XX	Offsite			
General Descri	ption of	Remedial Action:	Excavate pit	to 6 ',took PID re	eadings. spread s	oil on	
		or remidiation. To					0-0 FEF
Groundwater E			No xxx				
Final Pit:	<u> </u>	Sample location	4 point c	omposite taken fro	om pit sidewalls, G	rab sample	from pit
Closure Samp (in multiple sam	nples,	bottom	center.	8" to 10" into pi	t side walls ,10" in	to pit botton	١.
	sample	Sample depth	6'				
	epins) Sample Da Sample re		8/21/9	97Sar	nple Ti <u>me</u>	10:00AM	
S	Soil:	Benzene	(ppm)	<u>ND</u> Wa	ter: Benzene	(ppb)	NA
		Total BTEX	(ppm)	SIDE\35.4 BTM\32.6	Toluene	(ppb)	<u>NA</u>
		Field Headspace	(ppm)		Ethylbenzene	(ppb)	NA
		TPH	(ppm)	S\10000	Total Xylenes	(ppb)	NA
Groundwater	Sample:		Yes	B\11000 No	XXX (If yes atta	ach sample	results)
I HEREBY CE KNOWLEDGE	RTIFY TI	HAT THE INFORM	IATION ABO	VE IS TRUE AND	COMPLETE TO	THE BEST	OF MY
			PRINTE	ED NAME	JEFF CR	oss	
SIGNATURE	1	-14-98 M lun	AND TI	TLE	PROJEC	T MANAGE	R
AFTER REVIE	EW OF T	HE PIT CLOSURE CHE TRIBE PIT CL	INFORMATI	ON, PIT CLOSUF	RE IS APPROVED	IN ACCOR	DANCE
APPROVED:	YE	s_ <u>X</u>	NO	(REASON)			
				ο	1 -		~()
		-C Man	<b>~</b>	KISK A	55est: A	HACL	<u> </u>

Submit 1 copy to Natural Resource Dept. and Oil & Gas Administration

### PIT REMEDIATION AND CLOSURE REPORT

Operator:	MW	PETROLEU	М		_Telephone	505-3	25-0318		
Address:	2855	SOUTHSIDE	E RIVER ROAL	) / SUITE A	/ FARMING	STON N.M	. 87401-794	17	
Facility or We	ell Nar	me:	JAT_A 11	8 # 17	PIT # 2	,			
Location:	Unit	or Qtr/Qtr Se	ec <u>SE\SE</u>	SEC 26	T 26 N	R 3W	_County	RIO ARRIBA	
Pit Type:	Sepa	ırator:	Dehydrate	or	_Other	TANK DR	RAIN		
Land Type:		JIC. TI	RIBAL						
Pit Location:		Pit Dimensio	ns: Lengt	h 18'	Width	18'	Dept	h <u>6</u>	
(Attach diagr	am)	Reference:	Wellhead	XXX	_Other				
		Footage from	n reference:	98		_			
		Direction fro	m reference:	98	Degrees	XX	East	North	
							West	of South _	х
Depth To G	round	lwater:			Less than			(20 points)	
(vertical distance	e from				50 feet to			(10 points) ( 0 points)	
contaminants to high water elevat groundwater)		al			Greater ti	nan 100 fe€	<b>:</b> 1	( o points)	<u> </u>
Distance to	an Fr	ohemeral Str	eam:		Less than	100 feet		(10 points)_	
	ent dry	wash greate			Greater th	nan 100 fee	et	( 0 points)	0
Distance to	Near	est Lake. Pla	ıya, or Waterii	na Pond:	Less than	100 feet		(10 points)_	
(Downgradie	ent lak	es, playas an e watering po	ıd	J	Greater th	nan 100 fee	et	( 0 points)	0
Wellhead P	rotect	ion Area:				Ye	es	(20 points)_	
(Less than 2 domestic wa	200 fee ater so	et from a prive eurce, or less other water s	than			٨	10	( 0 points)	0
Distance To	n Surf	ace Water			Less than	100 feet		(20 points)_	
9		ce to perennia	al		100 feet 1	to 1000 fee		(10 points)	
lakes, ponds	s, rive	rs, streams, c			Greater t	han 1000 f	eet	( 0 points) _	0
irrigation ca	nals a	nd ditches)			RANKING	G SCORE	(TOTAL PC	DINTS)	0

Date Remediation St	arted:8	8/21/97	Date Compl	eted:	8/21/97	
Remediation Method	l: Exca	avation XXX	Approx. cub	ic yards	48	
Check all appropriate		inmed VV	— Incitu Bioro	modiation		
ections)	Landi	armed XX	Insitu Biorer	nediation	<del></del> -	<del></del>
	Oth	er				···
Remediation Location i.e. landfarmed onsite name and location of offsite facility)		Onsite XX	Offsite _			
General Description	of Remedial Acti	on: Exc <u>avate pi</u>	t to 6 ',took P	D readings. spre	ad soil on	
locatio	n for remidiation.	Took soil samp	les.	HIT BEDROCK,SI	PRAY WITH	46-0-0 FER
Groundwater Encou	ntered:	No xxx	Yes_	De	epth	
	Sample location	on 4 point c	omposite take	n from pit sidewal	ls. Grab samr	ole from pit
Closure Sampling:	Campio localio	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
in multiple samples,		tom center.	8" to 10" int	o pit side walls ,1	)" into pit bott	om.
ttach sample results		6'				
and diagram of samplocations and depths)						
Sample		8/21/9	97	Sample Time	2:30PM	1
Sample				· <u></u>		
Soil:	Benzene	(ppm)	ND	Water: Benze	ne (ppb)	NA
	Total BTEX	(ppm)	SIDE\18.3 BTM\5.06	Toluer	ne (ppb)	NA
	Field Headspa	ce (ppm)	68	Ethylbenze	ene (ppb)	<u>NA</u>
	TPH		SIDE\1100	Total Xyler	nes (ppb)	NA
Groundwater Sampl		r BEDROCK Yes	No_	XXX (If yes	attach sampl	e results)
HEREBY CERTIFY		RMATION ABOV	E IS TRUE A	ND COMPLETE T	O THE BES	T OF MY
		PRINTE	D NAME	JEFF	CROSS	
DATE 9	leff los	AND TIT	rle .	PROJ	ECT MANAG	ER
(/ AFTER REVIEW OF THE JICARILLA APA	THE PIT CLOSU	RE INFORMATIO	ON, PIT CLOS			RDANCE '
APPROVED: Y	ES	NO	(REASON)			
	ES <u>X</u>					

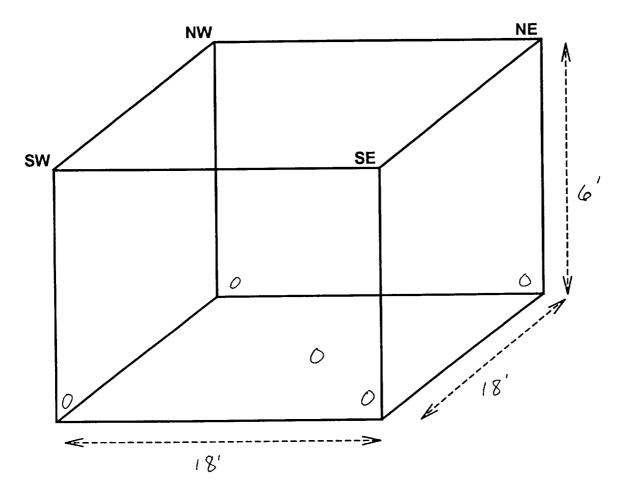
# M W PETROLEUM/FARMINGTON DISTRICT

SE Corner

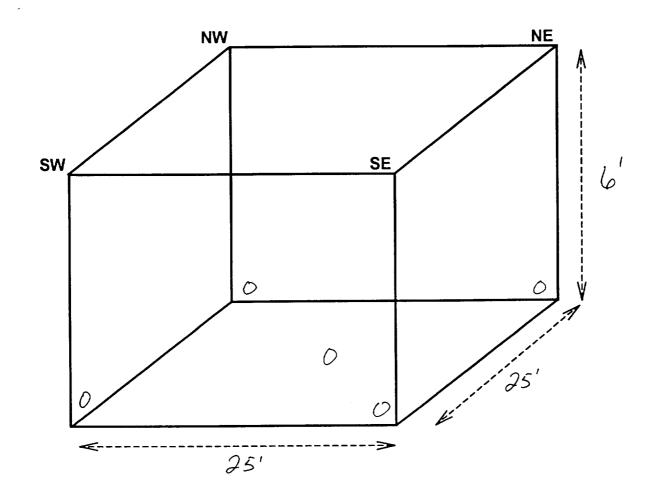
PIT E	XCAVATI	ON AND C	CLOSURE	REPORT				1000 /DI M			
LOCA	TION	JAT A118#	17	_		Review and A	Jicarilla Apache Tribal EPO/OCD/BLM Review and Approval				
PIT COUNT		2	-			OCD-BLM EPO Represe Date of Revie					
	START:	PIT # 1 8/19/	97		FINISH:	PIT # 1 8/21/		1			
DIMEN	SIONS	PIT#2 8/21/9				PIT # 2 8/21/	97				
	W	L	D			W	L	D	CU YDS		
Pit 1	22'	22'	3,	Pit 1		25'	25'	6'	92		
Pit 2	15'	15'	2'	Pit 2		18'	18'	6'	48		
Pit 3				Pit 3							
	•	Pit 1 @ 6'	Pit 2 @ 6'	Pit 3 @			Pit 1 @ 6'	Pit 2 @ 6'	Pit 3 @		
	Center	560	88.3			Center	560	88.3			
₽	NW Corner	380	76.4		P	NW Corner	380	76.4			
	NE Corner	500	75		1 1	NE Corner	500	75			
D	SW Corner	530	50.1		ס	SW Corner	530	50.1			
	SE Corner	460	51.2			SE Corner	460	51.2			
NOTES	):										
	8/19/97 STAI	RT EXCAVATI	ON ON PIT#	1 MEDIUM ST	AININDG	HEAVY ODO	R.				
	8/20/97 CON	TINIUE EXCA	VATING PIT	#1, PIT SIDES	AND BC	TTOM IS ROC	K.				
	8/21/97 FINIS	SH EXCAVATI	NG PIT # 1,	SIDES AND BC	T MOTT	O HARD TO E	XCAVATE (R	OCK)			
	PID READIN	GS ARE HIGH	I, TOOK SOI	L SAMPLES DU	JE TO RO	СК ВОТТОМ	SIDES.				
		‡ 1 WITH 46-0									
<b>—</b>				ALLOUE ATAI							

8/20/97 CONTINIUE EXCAVATING PIT # 1 , PIT SIDES AND BOTTOM IS ROCK.
8/21/97 FINISH EXCAVATING PIT # 1 , SIDES AND BOTTOM TO HARD TO EXCAVATE (ROCK)
PID READINGS ARE HIGH , TOOK SOIL SAMPLES DUE TO ROCK BOTTOM SIDES.
SPRAY PIT # 1 WITH 46-0-0 LIQUID FERTILIZER.
8/21/97 START EXCAVATION ON PIT # 2,LIGHT STAINING AND ODOR.
8/21/97 FINISH EXCAVATING PIT # 2 , HIT BED ROCK AT 6', PID READINGS GOOD'
SPRAY PIT # 2 WITH 46-0-0 LIQUID FERTILIZER

	SAMP DATE	8/21/97	8/21/97						
		Pit 1 @ 6'	Pit 2 @ 6'	Pit 3 @	ANALYS	IS RESULTS		PER LAB	Assaigai
	Center	560	88.3		PIT	TPH	BETEX	WITNESS	DATE
P	NW Corner	380	76.4		ОИ	SIDE\BTM	SIDE\BTM		
	NE Corner	500	75		1	10000\11000	35.4\32.6	J.C.	8/28/97
0	SW Corner	530	50.1		2	1100\2800	18.3\5.06	J.C.	8/29/97
	SE Corner	460	51.2		3				
	·			RE-SAMPLE					
DATE:		Pit 1 @	Pit 2 @	Pit 3 @	ANALYS	IS RESULTS		PER LAB	
	Center				PIT	TPH	BETEX	WITNESS	DATE
ρ	NW Corner				NO	SIDE\BTM	SIDE\BTM		
1	NE Corner				1				
D	SW Corner				2				
	SE Corner				3				.
				RE-SAMPLE					
DATE:		Pit 1 @	Pit 2 @	Pit 3 @	ANALYS	IS RESULTS		PER LAB	
	Center				PIT	TPH	BETEX	WITNESS	DATE
Р	NW Corner				NO	SIDE\BTM	SIDE\BTM		
1	NE Corner				1				
D	SW Corner				2				



						<u> </u>	= SAMPLE AI	REA
WELL NAM	ΛE	JAT A118#	17 PIT # 2					
SAMPLE DATE		8/21/97						
NOTES	4 POI	NT COMPOSIT	E SAMPLE T	AKEN 8" TO	O 10" IN	TO PIT		
	SIDEWALL							
	1 PO	INT GRAB SAN	IPLE TAKEN	10" TO 12"	' INTO B	OTTOM	CENTER	
			. <u>.</u>					
					·			
		<del></del>						



					= SAMPLE	AREA
WELL NAM	ИE	JAT A118 # 17 PIT #	<del>‡</del> 1			
SAMPLE D	DATE	8/21/97				
	4.50.00	T OOLIDOOITE OANK		40U INTO I	OLT.	
NOTES	4 POIN	T COMPOSITE SAME	PLE TAKEN 8" TO	10" INTO I	<u> </u>	_
	SIDEV	/ALL				_
	1 POIN	IT GRAB SAMPLE TA	KEN 10" TO 12" I	NTO BOTT	OM CENTER	_
						_
				_		_
						_
						_



# **ASSAIGAI ANALYTICAL** LABORATORIES, INC.

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505)

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:

September 3, 1997 10:15

### **CERTIFICATE OF ANALYSIS** RESULTS BY SAMPLE

SENT APACHE CORPORATION

TO: 304 N. BEHREND

FARMINGTON, NM 87401

ATTN: JEFF CROSS

WORKORDER #

WORK ID

: 9708255

: JICARILLA PIT CLOSURES

CLIENT CODE

: APA01

DATE RECEIVED : 08/27/97

Page: 1

Lab ID: 9708255-01A

Sample ID: A118 #17 PIT #1 SIDES

Collected: 08/21/97 10:00:00

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE	BATCH_ID
BTEX/SW846 8020A Benzene Toluene Ethylbenzene P-&m-Xylene O-Xylene	ND	mg/kg	0.0050	100	08/29/97	X97234
	2.1	mg/kg	0.0050	100	08/29/97	X97234
	3.4	mg/kg	0.0050	100	08/29/97	X97234
	23	mg/kg	0.010	100	08/29/97	X97234
	6.9	mg/kg	0.0050	100	08/29/97	X97234

Lab ID: 9708255-01B

Sample ID: Al18 #17 PIT #1 SIDES

Collected: 08/21/97 10:00:00

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	10000	mg/Kg	25	25	08/28/97	SDRO050

Lab ID: 9708255-02A

Sample ID: A118 #17 PIT #1 BOTTOM

Collected: 08/21/97 10:30:00

Matrix: SOIL

bumple in the second						
TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A Benzene Toluene Ethylbenzene P-&m-Xylene O-Xylene	ND 1.5 3.4 21 6.7	mg/kg mg/kg mg/kg mg/kg mg/kg	0.0050 0.0050 0.0050 0.010 0.0050	100 100 100 100 100	08/29/97 08/29/97 08/29/97 08/29/97 08/29/97	X97234 X97234 X97234 X97234 X97234



<b>Lao ID:</b> 9708255-02B <b>Sample ID:</b> A118 #17 PIT #1	BOTTOM	Collected: Matrix: SO		7 10	:30:00	
rest / method	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	11000	mg/Kg	25	25	08/28/97	SDRO050
Lab ID: 9708255-03A Sample ID: A118 #17 PIT #2	SIDES	Collected: Matrix: SO		7 14	:30:00	
rest / method	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A Benzene Toluene Ethylbenzene P-&m-Xylene O-Xylene	ND ND 2.1 13 3.2	mg/kg mg/kg mg/kg mg/kg mg/kg	0.0050 0.0050 0.0050 0.010 0.0050	100 100 100 100 100	08/29/97 08/29/97 08/29/97 08/29/97 08/29/97	X97234 X97234 X97234 X97234 X97234
Lab ID: 9708255-03B Sample ID: A118 #17 PIT #2	SIDES	Collected: Matrix: So		97 14	:30:00	
3T / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	1100	mg/Kg	25	25	08/28/97	SDRO050
Lab ID: 9708255-04A Sample ID: A118 #17 PIT #2	BOTTOM	Collected: Matrix: S		97 15	5:00:00	
TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE	BATCH_ID

Sample ID. ALLO HET LES						
TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A Benzene Toluene Ethylbenzene P-&m-Xylene O-Xylene	ND ND 0.60 3.6 0.86	mg/kg mg/kg mg/kg mg/kg mg/kg	0.0050 0.0050 0.0050 0.010 0.0050	100 100 100 100 100	08/29/97 08/29/97 08/29/97 08/29/97 08/29/97	X97234 X97234 X97234 X97234 X97234

Lab ID: 9708255-04B
Sample ID: A118 #17 PIT #2 BOTTOM

**Collected:** 08/21/97 15:00:00 **Matrix:** SOIL

Sample ID: All8 #17 PIT	#2 BOLLOM	Wiattix. 50	- <del></del>			
TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Piesel Range OG Soil/M8015 sel Range OG in Soil	2800	mg/Kg	25	25	08/28/97	SDRO050

William P. Biava President

### **WORKORDER COMMENTS**

DATE : 09/03/97 WORKORDER: 9708255

### DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific
 detection limit.

D F = Sample "dilution factor"

 $\overline{\text{NT}}$  = Analyte "not tested" per client request.

B = Analyte was also detected in laboratory method QC blank.

E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.

LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D\_F) to obtain the sample specific Detection Limit.

### REPORT COMMENTS

Please note that all BTEX analyses were performed by method SW846-8240.

Client Apache Corporation

# Chain of Cust 1y Record

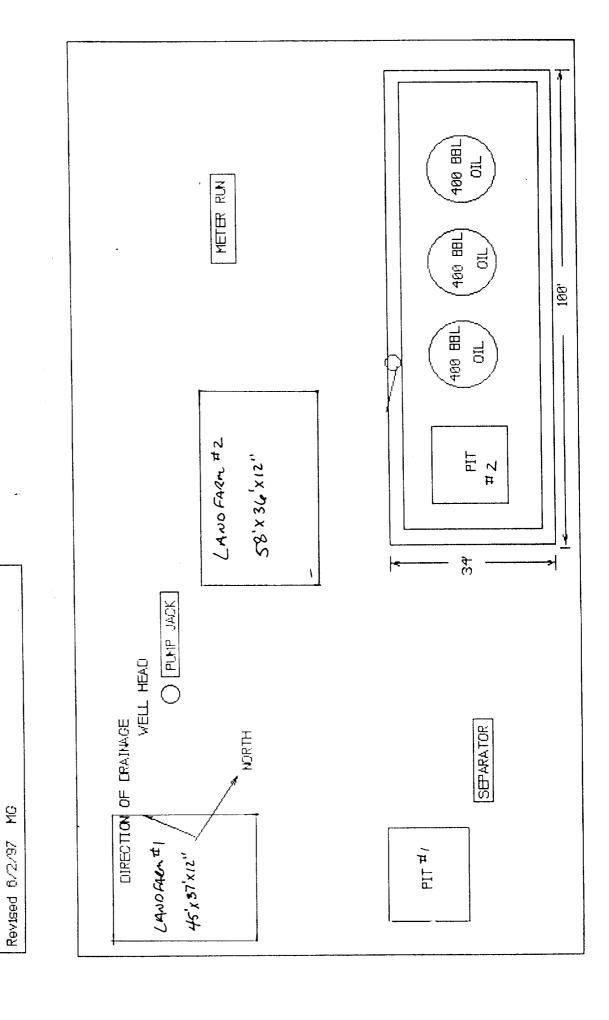
ALBUQUEROUE, NEW MEXICO 87 (505) 345-8964

3332 WEDGEWOOD EL PASO, TEXAS 79925 (915) 593-6000

1910 N. BIG SPRING MIDLAND, TEXAS 79705 (915) 570-1116 MELOUIADES ALANIS 6411 LOCAL UNO CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Address 304 N.	04 N. Behrend	Telephone No. (505) 774-6643	Analysis Required
City / State /	City/State/ZipEarmington, NM_87401	7401 Fax No. (505) 774-6624	
Project Name	Project Name/NumberJICARILLA PIT CLOSURES	Samplers: (Signature) Listen Muchor	Sirior Remarks
Contract / PL	Contract / Purchase Order / Quote	300.0M	V (Con/
AAL FRACTION NUMBER	Fleid Sample Number / Locardon	Date Time Sample Type / Size of Container Temp. Chemical	
( A	A118#7 P.+# 5:des		
- - - -			×
2 A	A118#17P. 1# 13TEm	X	
92	"		
M.	A11847774 5,26>	2:30 / I X	
38	Ī		×
47	4118 E17 P. 1 12 Bottem	χ   -	
200	,,		×
1.00			
Relinquished by:	Date	Retinquished by:	Date Received by:
Signature AL	16 cm 8-27-97	Signatura Signatura Code	37 Ang of Figureure
Pro:es		Printed SCOTT VATT Printed S	V. Time Printed
Company A	Apache Corp 12:45	Company AAL Company MAAL	16,30 Company 744C
			After analysis, samples are to be:
Method of Shipment:		Conments:	Disposed of (additional fee)
Shipment No.	and the second s		Stored (30 days max)
Special Instructions.			Stored over 30 days (additional fee)

Returned to customer



Lesse # JAT A118 M W PETROLEUM JICARILLA APACHE 118 NUMBER 17

SECTION 26, TOWNSHIP 26N, RANGE 3W

RIO ARRIBA COUNTY, NEW MEXTOO

Submit 1 copy to Natural Resource Dept. and Oil & Gas Administration

# **ON-SITE SOIL REMEDIATION REPORT**

Operator:	M W PETF	ROLUEM			Telephor	ne	505-325-0	318	
Address:		2855 SOUT	HSIDE RI	VER ROAD	/SUITE	VFARMING	TON, N.M.	87401-7947	
Facility or W	/ell Name:		IAT A118	# 17 CELL 1	<b>#</b> 1				
Location:	Unit or Qtr	/Qtr Sec _	SE/SE	SEC 26	T 26N	R 3W	_County	RIO ARRI	ВА
Land Type		JIC. TRIBA	L						
Date Remed	liation Starte	ed:	8/19/97		_Date Co	mpleted:		8/18/98	
Remediation	n Method:	Landfarmed		xxx	_Approx.	cubic yards		62	
		Other			REMED	IATED SOIL	TO BE SP	READ ON L	OCATION.
Depth to Gr	oundwater:		(pts	)0		Final Clo	sure Sam	pling	
Distance to	an Ephemei	ral Stream:	(pts	0	Samplir	ng Date:	8/18/98	Time:	10:45AM
Distance to or Watering	Nearest Lak Pond:	e, Playa,	(pts	o		Results:	0		ļ
Wellhead P	rotection Ar	ea:	(pts	s) <u> </u>			n) 1600	 Method	M8015
Distance To	o Surface W	ater:	(pts	s) <u> </u>		her BTEX \			
RANKING	SCORE (TO	TAL POINT	S)	0	_	Her <u>BTEX 1</u>	0,,010,0		
	CERTIFY TI	HAT THE IN	FORMATI	ON ABOVE	IS TRUE	AND COM	PLETE TO	THE BEST	OF MY
DATE:				_PRINTE			JEFF C		
SIGNATUR	RE	ff lw	כי	TITLE		PROJE	CT MANAC	SER	
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION. ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.									
APPROVE	:D: YE	s_ <u>/</u>	_ N	0	(REAS	ON)			
SIGNED:	He	-CM	<u>c</u>	DATE:	/	1-13-9	8		

Submit 1 copy to Natural Resource Dept. and Oil & Gas Administration

### **ON-SITE SOIL REMEDIATION REPORT**

Operator: M	W PETR	OLUEM		····	Telephon	e	505-325-0	0318	
Address:		2855 SOUT	THSIDE RI	VER ROAD	/SUITE A	/FARMING	ΓΟΝ, Ν.Μ.	87401-7947	
Facility or Well I	Name:		JAT A118	# 17 CELL #	‡ 2				
Location: Ur	nit or Qtr/	'Qtr Sec	SE/SE	SEC 26	T 26N	R 3W	County	RIO ARRI	ВА
Land Type		JIC. TRIBA	<u> </u>						
Date Remediation Started: 8/21/97					Date Completed: 8/18/98				
Remediation Me	ethod:	Landfarme	d	XXX	_Approx. o	cubic yards		78	
		Composted	t		_				
		Other			REMEDIA	ATED SOIL	TO BE PU	T BACK IN	PIT.
Depth to Groundwater: (pts) 0 Final Closure Sampling									
Distance to an Ephemeral Stream: (pts) 0 Sampling Date: 8/18/98 Time: 11:00AM								11:00AM	
Distance to Nearest Lake, Playa, (pts) Sample Results:  or Watering Pond:  0							:		
Wellhead Prote	ction Are	a:	(pts	) 0	Field Heads	space (ppm)	0		
Distance To Su	ırface Wa	iter:	(pts	) 0	TPH	(ppm	n) <u>ND</u>	Method	M8015
RANKING SCO	ORE (TO	TAL POINT		0	Oth	er BTEX \S	SW846 , 80	)20A (NE	))
I HEREBY CER KNOWLEDGE			FORMATION	ON ABOVE	IS TRUE	AND COMP	PLETE TO	THE BEST (	OF MY
DATE:		9/14/98		_PRINTED	NAME		JEFF C	ROSS	
SIGNATURE_	Je	of hos		_TITLE		PROJEC	T MANAG	ER	
	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	o	_(REASC	N)			
SIGNED:	Ki	-Ch1	e	DATE:	11-	13-9	8		

# M W PETROLEUM/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

REMEDIATION SITE	JAT A118# 17		_	
* AMOUNT OF SOIL UNDERGO	ING REMEDIATION	140	Yds.	
		SampDATE	TPH	BTEX
05U No. 4		8/18/98	1600	ND
CELL No. 1				
DIMENSIONS(LxWxH) 45'	X 37' X 12"			
CELL LOCATION (dir. from well head	SOUTH EAST			
* DATE BEGAN: 8/19/97	_ <del></del>			
DATE TERMINATED (TPH <5,000 ppr	m/BTEX< 50 ppm/Benzene < 10 ppr	m) <u>8/18/98</u>	3	-
		SampDATE	TPH	BTEX
CELL No. 2		8/18/98	ND	ND
DIMENSIONS(LxWxH) 58'	X 36' X 12"			
CELL LOCATION (dir. from well head				
* DATE BEGAN: 8/21/97				
<u>-</u>		m) 8/18/9	8	
DATE TERMINATED (TPH <5,000 pp	IM/RTEX< 20 bbill/pelizelle < 10 bb			<del></del>
		SampDATE	TPH	BTEX
CELL No. 3				-
				<del> </del>
DIMENSIONS(LxWxH)				
CELL LOCATION (dir. from well head	i			
* DATE BEGAN:				
DATE TERMINATED (TPH <5,000 pg	pm/BTEX< 50 ppm/Benzene < 10 pp	om)		_
DEMEDIATION DECORD: (Data Tre	natment Tilling)			
REMEDIATION RECORD: (Date, Tre 8/25/97 TREAT SOIL CELLS WITH 4	46-0-0 FERTILIZER, WATER, PLOW	AND TILL SOIL,		
9/23/97 PLOW AND TILL SOIL.	<u> </u>			
4/22/98 PLOWED SOIL CELLS.				
4/24/98 TILL SOIL CELLS.	7/23/98 TILL SC	OIL CELLS.		
5/19/98 PLOWED SOIL CELLS.	8/4/98 WATER,	PLOW AND TILL SO	OIL CELLS.	
5/20/98 TILL SOIL CELLS.	8/17/98 PLOW /	AND TILL SOIL CEL	LS.	
6/12/98 WATER, PLOW AND TILL S	OIL CELLS.			
7/18/98 PLOW SOIL CELLS.				

From excavation reports.

DIMENSIONS:	58' × 36' × 12''	
		·
)		)
	G	
NOTES:	ALL SAMPLES TAKEN 10" TO 12" INTO CELL.	
	10 DOINT COMPOSITE SAMPIS	

WELL NAME: SAMPLE DATE:

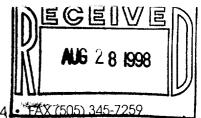
A118#17 Cell #2 8-18-48

= SAMPLE AREA

WELL NAME: SAMPLE DATE: DIMENSIONS:	A 118 #17 Ce 11 #1 E-18-98 45' x 37' x 12"	= SAMPLE AREA
	•	
NOTES:	ALL SAMPLES TAKEN 10" TO 12" INTO CELL.  8 Point composite sample	



# **ASSAIGAI ANALYTICAL** LABORATORIES, INC.



7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820 127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505) 662-2558

**APACHE CORPORATION** attn: JEFF CROSS 2855 SOUTHSIDE RIVER RD STE A **FARMINGTON, NM 87401-7947** 

	* explanation of codes
3	analyte detected in Method Blank
E	result is estimated
1	analyzed out of hold time
v	tentatively identified compound
3	subcontracted
-9	see footnote

Sample

08/18/98

Assaigai Analytical Laboratories, Inc.

# Certificate of Analysis

Sample

**APACHE CORPORATION** Client:

JICARILLA PIT CLOSURES 9808194 Project:

Market of Assergai Analytical Labor

Client Sample ID	A118 #1	7 CEL	L #1	Sar Mal	nple SOIL				Collected	10:45:00
					11.74.	Dilution	Detection Limit	*	Sequence	Run Date
raction	QC Group	CAS#		Result	<u>Units</u>	<u>Factor</u>	Limit		<u>Sequence</u>	<u> </u>
			Test: SW846 8015A/8020A GRO / Pu	ırgeable Aroma	tics		<u></u>			00/04/00
808194-01A	X98392	71-43-2	Benzene	ND	mg / Kg	50	0.005		XG.1998.704-9	08/21/98
	X98392	100-41-4	Ethylbenzene	ND	mg / Kg	50	0.005		XG.1998.704-9	
	X98392	95-47-6	o-Xylene	ND	mg / Kg	50	0.005		XG.1998.704-9	
	X98392		p/m Xylenes	ND	mg / Kg	50	0.01		XG.1998.704-9	
	X98392	108-88-3	Toluene	ND	mg / Kg	50	0.005		XG.1998.704-9	
			Test: SW846 8015A Diesel Range C	organics by GC	/FID					00/00/00
9808194-01B	X98391		Diesel Range Organics	1600	mg / Kg	25	25		XG.1998.700-7	08/22/98
Client Sample ID	A118 #1	- CLL			atrix				Collected	11:00:00
						Dilution	Detection			Run
Fraction	QC Group	CAS#		Result	<u>Units</u>	<u>Factor</u>	<u>Limit</u>	*	Sequence	<u>Date</u>
			Test: SW846 8015A/8020A GRO / F	Purgeable Arom	atics					******
9808194-02A	X98392	71-43-2	Benzene	ND	mg / Kg	50	0.005		XG.1998.704-10	08/21/98
	X98392	100-41-4	Ethylbenzene	ND	mg / Kg	50	0.005		XG.1998.704-10	
	X98392	95-47-6	o-Xylene	ND	mg / Kg	50	0.005		XG.1998.704-10	
	X98392		p/m Xylenes	ND	mg / Kg	50	0.01		XG.1998.704-10	
	X98392	108-88-3	Toluene	ND	mg / Kg	50	0.005		XG.1998.704-10	
		·	Test: SW846 8015A Diesel Range	Organics by G	C/FID				_	
9808194-02E	3 X98391	; ·	Diesel Range Organics	ND	mg / Kg	25	25		XG.1998.700-8	08/22/98 0:02:16 AM

Page 1 of 2

Client Reports



### Assaigai Analytical Laboratories, Inc.

# Certificate of Analysis

Client: APACHE CORPORATION

Project: 9808194 JICARILLA PIT CLOSURES

 Page 2 of 2
 Client Reports
 2.0
 Report Date
 8/25/98 10:02:16 AM

<sup>\*\*\*</sup> Sample specific analytical Detection Limit is determined by multiplying the sample Dilution Factor by the listed method Detection Limit. \*\*\*

\*\*\* Results relate only to the items tested. \*\*\*

ient Apache Corporation

# Unaill of Custody Record

10 man 2194

Project Manager / Contact Jeff Cross

3332 WEDGEWOOD EL PASO, TEXAS 79925 (915) 593-6000

1910 N. BIG SPRING MIDLAND, TEXAS 79705 (915) 570-1116

ALBUQUEHQUE, NEW MEXICO 87109 (505) 245-4964

MELOUIADES ALANIS 6411 LOCAL UNO ' CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

ddress 28	Idress 2855 South Sine River Rol. STE. A	120. 57.	- 1	Telephone No. (505)	(505) 774-6643	43	<u></u>		Analysis Required	
ty / State / Zig	W/State/ZipEarmington, NM 87401-7947	7401-7	1	Fax No. (505) 774	5) 774-6624			\ \ \\$\\		
oject Name /	oject Name / Number JICARILLA PIT CLOSURES Samplers: (Signature)	CLOSI	URES Sa	nplers: (Signature)	Jeffe	o Journal of the state of the s	3 POL STOUR			Remarks
ontract / Purc	ontract / Purchase Order / Quote				7	No. 01 Co	\$\frac{1}{2}\cdot\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
3	Field		Sample			servation	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
SUMBER SUMBER	Sample Number / Location	8380	1,75	_ _	Temp	Chemical	\ 			
4	A118#17 Cell #1	8-18-18	8-18-48 10:45 soil	4 402 91455		7ce   X				
0	1		10:45 30,2	400		Ice (	×			
2A	A118#17 Cell#2		/(:ap			× :				
22	) /		(1:00			_	<u>×</u>			
quished by:	Date	H A	Received by:	- (		£.		Date	Received by:	
anna (	2		arranutis (	Curry O Charle	1	Signature (Jan & Alfile	/	46/17/2	Signature Signature	
	A OACHO COCO.	£ 5	Printed	MAL LINE	Company	_		Time	Company Of 100 B	87.28
to to	1 !		1	Daliveny	Reason	Assign		1745		
							4	After analysis, samples are to be:	nples are to be:	
od of Shipment.		3	Comments						Disposed of (additional fee)	
ment No.		1						Spor	Stored (30 days max)	
ist instructions:		1						, , , , , , , , , , , , , , , , , , ,	Stored over 30 days (additional fee)	
									Returned to customer	