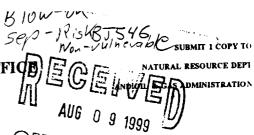
JICARILLA APACHE TRIBE ENVIRONMENTAL PROTECTION OFFICE P.O. BOX 507

DULCE, NEW MEXICO 87528



PIT REMEDIATION AND CLOSURE REPORT

Non delineable overtical extent

Non-tulnerable,	prae licarexient
Operator: AMOCO PRODUCTION COMPANY	Telephone: (505) 326-9200
Address: 200 Amoco Court, Farmington, 1	
Facility or Well Name:	E 102 - 16A
Location: Unit or Qtr/Qtr Sec M Sec 10 T	60 R 4W County KIO ARRIBA
Pit Type: Separator Dehydrator Other	BLOW
Land Type.	
Pit Location: Pit dimensions: length_	38', width_ 38', depth_ 17'
(Attach diagram) Reference: wellhead X,	other
Footage from reference: Zo	<u>~~'</u>
	Degrees X East North X
	West South
Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)
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)
p	RANKING SCORE (TOTAL POINTS):

		BJ546	BLOW PIT
Date Remediation Sta	rted:	Date Completed:	4/20/98
Remediation Method:	Excavation	Approx. cubic yards	
Check all appropriate sections)	Landfarmed X		
sections	Other		
Remediation Location (i.e. landfarmed onsite, name and location of offsite facility)	: Onsite X Offsite		
General Description	of Remedial Action: Excavat	ion	
Groundwater Encoun	tered: No X Yes	Depth	
Final Pit: Closure Sampling: (if multiple samples,	Sample location see Attach	ned Documents	
attach sample results and diagram of sample	Sample depth Zo'		
locations and depths)	Sample date 4/20/98	Sample time _	1035
	Sample Results		
	Soil: Benzene (ppm)	Water: Benz	zene (ppb)
		Tolu	ene (ppb)
	Field Headspace (ppm)	·	elbenzene (ppb)
	TPH (ppm)		Xylenes (ppb)
Groundwater Sample	: Yes No _X	_ (If yes, attach sample res	ults)
I HEREBY CERTIFY KNOWLEGE AND B	THAT THE INFORMATION AF	BOVE IS TRUE AND COMPI	ETE TO THE BEST OF MY
DATE	4/20/98 PRINTEI		
SIGNATURE BUD	ly D. Show AND I	TITLE Environmenta	1 Coordinator
AFTER REVIEW OF TO THE JICARILLA	THE PIT CLOSURE INFORMATION APACHE TRIBE PIT CLOSURI	TION, PIT CLOSURE IS API E ORDINANCE.	PROVED IN ACCORDANCE
APPROVED: YES _	NO (REASON)		
" SIGNED: \ \ \ \ \ \ \ \ \ \ \ \ \ 	CMom (1) DAT	E: 4-29-98	

SAMPLE FELD HEADSPACE 10 1 2 1 2 2 0 0						
COATION: NAME FICA GRACUE 107 WELL # 169 PTT. BLOW QUAD/UNIT M SEC LO THE 260 RNG. YW PM NATCHTY RD ST. NAME OTELETICITIES SWILL SUILLY SWILL	CLIENT: AMOCO	0 BOX 87. BLO	OMFIELD, NM			
QUAD/UNIT M SEC 15 TWP_26N RNG YW PM NMCNTY RP ST.NM QUAD/UNIT M SEC 15 TWP_26N RNG YW PM NMCNTY RP ST.NM QTE/FCOTAGE SWIP JULY CONTRACTOR P \$5 EXCAVATION APPROX 34 FT x 39 FT x 77 FT. DEEP CUBIC YARDAGE 900 DISPOSAL FACILITY DN-51TE REMEDIATION METHOD. CANDERGROUD LAND USE: RBNSEE LEASE JIC 102 FORMATION: DK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 200 FT. NBOE FROM VELL-HEAD DEPHH 10 GROUNDWATER 2700 NAREST WATER STUBBLE 27000 NEARSTS SUPFACE VATER TOOMS MNCD RANKING SCORE Q NNOCD FOR CLOSURE STD. 5000 PM MOCD RANKING SCORE Q NNOCD FOR CLOSURE STD. 5000 PM MOSTIFF DK. VELL BRAWN SAND TO SILTY SAND (PT SETS) MINISTRILED TIME SAMPLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT SCALE O FT PIT PERIMETER OVM RESULTS OVM RESULTS SOUTH AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OF TO SILTY SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OF TO SILTY SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OF TO SILTY SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OF TO PIT PERIMETER OVM RESULTS SOUTH AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS RESULTS SOUTH AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID LAB NO: WEIGHT (G) MIL FRECH DRUTTON READ NO CALC FORT OVM RESULTS AND SANDLE ID TO SANDLE ID	FIELD REPORT	: CLOSURE	VERIFICA	ATION		
EXCAVATION APPROX. 38 FT x 38 FT x 17 FT. DEEP. EXCAVATION APPROX. 38 FT x 38 FT x 17 FT. DEEP. CUBIC YARDAGE 700 DISPOSAL FACILITY: DN-SITE REMEDIATION METHOD. CANDERAMED LAND USE. RANGE LEASE. JIC 192 FORMATION: DK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY. 200 FT. N80E FROM VELLHEAD SHOULD APPROXIMATE PLOY NEAPEST VATER. 2000' MEDIT TO EPOUND SCOPE. O. NACCO THE COLUMN STAND TO SILTY SAND. (PIT SATEM). PT. ABANDEDE STELL TANK INSTALLED SILL AND EXCAVATION DESCRIPTION. MISTER TANK INSTALLED STELLAND TO SILTY SAND. (PIT SATEM). AND CONSTITUTE TO THE OTHER STAND TO SILTY SAND. (PIT SATEM). AND CONSTITUTE TO THE OTHER STAND TO SILTY SAND. (PIT SATEM). AND CONSTITUTE TO THE OTHER STAND TO SILTY SAND. (PIT SATEM). AND CONSTITUTE TO THE OTHER STAND. IN APPRARENT HIS ODDER IN ANY OF THE PINC. SCALE 1035 DELO 1794-1956 5 20 1:1 6 24 OFT PIT PERIMETER OVM RESULTS A 38' CLOSED TIME SAMPLE TO LAB NO. WEIGHT (a) OTH. FREEN DILUTION FRADNIC CALC. SOME SAMPLES. OFT PIT PERIMETER OVM RESULTS A 38' CLOSED LAB SAMPLES SINCE 102 AND CALCULATIONS PIT PROFILE OVM RESULTS A 38' LAB SAMPLES SINCE 102 AND CALCULATIONS PIT PROFILE OVM RESULTS SAMPLE TO LAB NO. WEIGHT (a) OTH. FREEN DILUTION FRADNIC CALC. SOME	LOCATION: NAME: JICA. APA	CHE 10Z WELL #: 1	64 PIT: 840	<i>س</i>		
EXCAVATION APPROX 39 FT x 38 FT x 17 FT. DEEP. CUBIC YARDAGE 700 DISPOSAL FACILITY: DN-SITE REMEDIATION METHOD. LAWDERAMED LAND USE. RRACE LEASE JIC 107 FORMATION: DK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 200 FT. NOOE FROM WELLHEAD DEPTH TO GROUNDWATER 2700' NEAREST WATER SDURGE 21000' NEAREST SURFACE WATER 7000' NACCO RANKING SCORE: Q NOCO THE CLOSURE STO 5000 PPM SOIL AND EXCAVATION DESCRIPTION: MOSTRIP DR. YELL. BROWN SAND TO SILTY SAND-(FIT BITTOM) NOW CONTENT TO SHIGHTLY CONFIDENCE SUGGESTY MOST FIRM NO APPARENT HE ODOR IN ANY OF THE DMAR STANDES. CLOSED FIELD 4:81 CALCULATIONS SCALE O FT PIT PERIMETER OVM RESULTS SINCE 100 PPM FIELD 4:81 CALCULATIONS A 38' RESULTS SINCE 100 PPM SCALE O FT PIT PERIMETER OVM RESULTS SINCE 100 PPM FIELD 4:81 CALCULATIONS A 38'	QUAD/UNIT: M SEC: 10	TWP: Z6N RNG: 4W W14 CONTRACTO	PM: NM CNTY: K	H ST: Nm	ENVIRONMENTAL SPECIALIST:	
DISPOSAL FACILITY: DN-SITE REMEDIATION METHOD LAND USE. ROWEE LEASE JIC 197 FORMATION: FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 200 FT. NOO FROM VELLHEAD BEPTH TO DEPOLITIVATE 200 NEAREST VAIRE SURGE. PIT ARABIDINED MICH PRANCING SCOPE Q NHOLD THAT CLOSURE STD. 5000 PPM SOIL AND EXCAVATION DESCRIPTION: MISTRY DR. YOUR. BROWN SAND TO SILTY SAND- (FIT SOTON), YOU CONTENT TO SLIGHTLY CONESIVE SUGGETY MOST, FIRM NO APPARENT STMINING OR THE OWNE STMPLES. TIME SAMPLE: D LAB NO: WEIGHT (9) INL. FREON DILUTION READING CALC. SPM SCALE OFT PIT PERIMETER OVM RESULTS A 38' RESULTS RESULTS RESULTS REMEDIATION METHOD FOR MARKET IN THE OWNER OF THE OWNER OWNER OF THE OWNER O	TWO WATER AND ADDROV 38	FT x 38 FT x	17 FT. DEEF	cubic	YARDAGE: 90	<u> </u>
FIELD NOTES & REMARKS. PIT LOCATED APPROXIMATELY 200 FT. NODE FROM WELLHEAD DEPTH TO GROUNDATER 2700' NEAREST WATER SOURCE 27000' NEAREST SUFFACE WATER 27000' NEGOD RANKING SCOPE 0 NECOT THE CLOSURE STD 5000 FPM SOIL AND EXCAVATION DESCRIPTION: MOSTILL DESCRIP	DISDOSAL FACILITY	DN- SITE	REMEDIATIO	N METHO	D: LANDFARME	<u>n</u>
DEPTH TO GROUNDVATER 2/00 NEAREST VALUE SQUECT 2/000 NEAREST SQUECT CHECK DNE. MEDER RANKING SCORE: Q. NORDOT THE LOSURE STD. 5000 PPM SOUL AND EXCAVATION DESCRIPTION: MOSTRY OR, YELL. BROWN SAND TO SILTY SAND-(PIT SOTTOM) NOW CONSTILE TO SLIGHTLY CONESIVE SLIGHTLY MOIST, FIRM NO HOPPRENT STRINKING OR II.C ODOR OBSERVED WIND EXCAURTION, NO APPRENT HE ODOR IN MAY OF THE OWN. SCALE OFT PIT PERIMETER OVM RESULTS SAMPLE ID LAB NO: WEIGHT (3) ML FREON DILUTION READING CALC. PPM OVM OVM OVM OVM OVM OVM OVM						LHEAD.
SCALE OFT PIT PERIMETER OVM RESULTS STELL TANK INSTALLED FIBERGLASS T	DEPTH TO GROUNDWATER: >100	.S: PIT LUCATED APP NEAREST WATER SOURCE	>/RUXIMATELT	AREST SURFAC	E WATER: >1000	<u>) '</u>
FIBERGLASS TANK INSTALLED MESTLY DR. VELL. BROWN SAND TO SILTY SAND-(PIT BOTTOM), NOW CONFESTIVE TO SAIGHTLY CONESTIVE SLIGHTLY MOIST, FIRM NO APPRRENT STMINING OR IIC ODOR OBSERVED WIND EXCOURTION, NO APPRRENT HE DOOR IN ANY OF THE OWN SAMPLE ID. LAB NO: WEIGHT (9) THE FRON DILUTION READING CALC. FOR OFT PIT PERIMETER OVM RESULTS SAMPLE ID. LAB NO: WEIGHT (9) THE PROFILE OVM RESULTS A 38' A 38' LAB SAMPLE S. SAMPLE ID. LAB NO: WEIGHT (9) THE PROFILE OVM RESULTS A 38' LAB SAMPLE S. SAMPLE S. SAMPLE S. LAB SAMPLES SAMPLE S. SAMPLE S. SAMPLE S. LAB SAMPLES SAMPLE S. SAMPLE	NMOCD RANKING SCORE:	NMUCD TPH CEUSONE ST.	D: <u>5000</u> PPM		- bit abandonen	
SCALE TIME SAMPLE I.D. LAB NO: WEIGHT (g) ml. FREON DILUTION READING CALC. ppm SCALE 1035 © 220' 774-1956 5 20 1:1 6 24 O FT PIT PERIMETER OVM RESULTS SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D.					_ FIBERGLASS TANK IN	NSTALLED
SCALE TIME SAMPLE I.D. LAB NO: WEIGHT (g) ml. FREON DILUTION READING CALC. ppm SCALE 1035 © 220' 774-1956 5 20 1:1 6 24 O FT PIT PERIMETER OVM RESULTS SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D.	MOSTLY DK. YEL	L. BROWN SAND TO	SILTY SAND- (PI	r Borrom),	MON COHETIVE	TO
SCALE TIME SAMPLE I.D. LAB NO: WEIGHT (g) ml. FREON DILUTION READING CALC. ppm SCALE 1035 © 220' 774-1956 5 20 1:1 6 24 O FT PIT PERIMETER OVM RESULTS SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D. LAB SAMPLES SAMPLE 1.D. LAB SAMPLE 1.D.	OBSERVED WIN	EXCAUATION NO	APPARENT HC	DOOR IN	ANY OF THE	: ovm
SCALE IME SAMPLE LD. LAB NO: WEIGHT (g) mL. FREON DILUTION READING CALC. ppm SCALE ID35 © 23' 704-1956 5 20 1:1 6 24 OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE 12' 0.0 3 € 13' 0.0 4 € 12' 0.0 3 € 13' 0.0 5 € 20' 0.0 5 € 20' 0.0 SAMPLES SAMPL	SAMPLES.	,				
SCALE IME SAMPLE LD. LAB NO: WEIGHT (g) mL. FREON DILUTION READING CALC. ppm SCALE ID35 © 23' 704-1956 5 20 1:1 6 24 OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE 12' 0.0 3 € 13' 0.0 4 € 12' 0.0 3 € 13' 0.0 5 € 20' 0.0 5 € 20' 0.0 SAMPLES SAMPL						
SCALE IME SAMPLE LD. LAB NO: WEIGHT (g) mL. FREON DILUTION READING CALC. ppm SCALE ID35 © 23' 704-1956 5 20 1:1 6 24 OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE PLOP PROFILE OVM RESULTS SAMPLE 12' 0.0 3 € 13' 0.0 4 € 12' 0.0 3 € 13' 0.0 5 € 20' 0.0 5 € 20' 0.0 SAMPLES SAMPL						
SCALE OFT PIT PERIMETER OVM RESULTS SAMPLE PROFILE OVM RESULTS SAMPLE PROPER 10 2 0.0 Se 12 0.0 Se 12 0.0 Se 12 0.0 Se 12 0.0 Se 20 0.0 TO SE 20 0.0 SAMPLE PROFILE A 38' A 38' LAB SAMPLES SAMPLE NAVISIS THE HEAD FENCE	CLOSED	TIME SAMPLE D LA	FIELD 418.1 CAL	CULATIONS ml. FREON D	ILUTION READING CAL	C. ppm
PIT PERIMETER OVM RESULTS SAMPLE PEO PHO (APPN) 1 C/2/ 0.0 3 E/3/ 0.0 4 E/2/ 0.0 5 E/20 0.0 TO SE ZO 0.0 LAB SAMPLES SAMPLE NALYSIS TIME 10 ANALYSIS TIME	SCALE					-4
PIT PERIMETER OVM RESULTS SAMPLE PEO PHO (APPN) 1 C/2/ 0.0 3 E/3/ 0.0 4 E/2/ 0.0 5 E/20 0.0 TO SE ZO 0.0 LAB SAMPLES SAMPLE NALYSIS TIME 10 ANALYSIS TIME	O FT					
RESULTS SAMPLE FIELD HEADSPACE PID (APP) 1 C / 1 C / 0 O 2 C / 2 O O 3 E / 3 O O 4 E / 2 O O 5 E 2 O O O LAB SAMPLES SAMPLE ANALYSIS TIME HEAD FENCE		· ·		PIT	PROFILE	
X A	381	RE	SULTS	A	38€	A
3	XA	10/2	PID (ppm) 0. 0	TIL		
SAMPLES SAMPLE ANALYSIS TIME HEAD FENCE	×	- 1 - 3 E 13/	0.0			17
LAB SAMPLES SAMPLE ANALYSIS TIME HEAD FENCE		5 e 20	0.0	13		
LAB SAMPLES SAMPLE ANALYSIS TIME DELLE ID TIME	Ø (5)			-4-		1 حمد
LAB SAMPLES SAMPLE ANALYSIS TIME DELLE ID TIME	* 1					
HEAD FENCE	K 70	SAMPLE				
TRAVEL NOTES: 4/20/98 - MORN.		ENCE				
TRAVEL NOTES: 4/20/98 - MORN.						
TRAVEL NOTES. CALLOUT: 4/12/98 - AFFEX. UNSIL	TRAVEL NOTES:	4/16/98 - AFTER.	ONSITE: 4/2	0/98 - mok	(N .	

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

FIELD MODIFIED EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

AMOCO

Project #:

Sample ID:

5 @ 20'

Date Analyzed:

04 - 20 - 9804 - 20 - 98

Project Location:

Jicarilla Apache 102 - 16A

Date Reported:

Laboratory Number:

TPH-1956

Sample Matrix:

Soil

Parameter	Result, mg/kg	Detection Limit, mg/kg
Total Recoverable Petroleum Hydrocarbons	24	20

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg	Duplicate TPH mg/kg	% *Diff.
608	568	6.80

^{*}Administrative Acceptance limits set at 30%.

Method:

Modified Method 418.1, Petroleum Hydrocarbons, Total

Recoverable, Chemical Analysis of Water and Waste,

USEPA Storet No.4551, 1978

Comments:

Blow Pit - BJ546

Melson Vel

Review

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

Field TPH-Worksheet

Client: AMOCO Project #:

Sample ID: 5 @ 20' Date Analyzed: 04-20-98
Project Location: Jicarilla Apache 102 - 16A Date Reported: 04-20-98

Laboratory Number: TPH-1956 Sample Matrix: Soil

Sample Weight: 5.00 grams
Volume Freon: 20.00 mL
Dilution Factor: 1 (unitles

Dilution Factor: 1 (unitless)
TPH Reading: 6 mg/kg

TPH Result:

Reported TPH Result:

Actual Detection Limit:

24.0 mg/kg
24 mg/kg
20.0 mg/kg
20 mg/kg

QA/QC: Original Duplicate %
TPH mg/kg TPH mg/kg Diff.
----- 608 568 6.80

Comments: Blow Pit - BJ546

87546

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

	(505)326_9200
Operator: AMOCO PRODUCTION COMPANY	Telephone: (505) 326-9200
Address: 200 Amoco Court, Farmington, NM	
Facility or Well Name: TICARILLA APACHE	
Location: Unit or Qtr/Qtr SecM Sec10 T766	N R YW County RIO ARRISA
Pit Type: Separator Dehydrator Other	
	-, , - , - , - , - , - , - , - , - ,
· ·	s', width30', depth2s'
(Attach diagram) Reference: wellhead X , ot	ther
Footage from reference: 153	
Direction from reference: 50	DegreesX East North
1	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)
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)
r n R	ANKING SCORE (TOTAL POINTS):

		RJ546	SEP. PIT
	arted:	Approx. cubic yards	800
Remediation Method: Check all appropriate	Excavation X		
sections)	Landfarmed X		
	Other		
Remediation Location (i.e. landfarmed onsite, name and location of offsite facility)	·		
General Description	of Remedial Action: <u>Excava</u>	tion. SPRAYED NORT	H & WEST
510EWAUS	+ PIT BOTTOM W/	FERTILIZER - RISK	HIZESZED,
11	tered: No X Yes		
Final Pit: Closure Sampling: (if multiple samples,	Sample location see Attac	thed Documents	
attach sample results and diagram of sample	Sample depth 27		
locations and depths)	Sample date 4/23/98		1015
	Sample Results		
Ш	-	n) <u>4,960</u> Water: Be	nzene (ppb)
		·/	luene (ppb)
			hylbenzene (ppb)
	Field Headspace (ppr	n) <u>-555</u>	tal Xylenes (ppb)
	ТРН (ррп	n) 1,050 To	(ppo)
Groundwater Sample	:: Yes No <u>×</u>	(If yes, attach sample re	esults)
KNOWLEGE AND B	THAT THE INFORMATION A SELIEF 4/28/98 PRINTE Ly D. Shaw AND		
DATE	4/28/98 PRINTI	ED NAME Buddy D. Sh	aw
TO THE JICARILLA	THE PIT CLOSURE INFORMA APACHE TRIBE PIT CLOSUI	(E ORDINANCE.	
APPROVED: YES _	NO X (REASON) CO	londitional closu	re +:11 P+A
	M c	of well	
SIGNED:	EC Mamille DA	TE: 6-15-98	

BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199 FIELD REPORT: CLOSURE VERIFICATION PAGE NO: / of / LOCATION: NAME: TICH APPROVE INZ WELL #: 16A PIT: SEP. QUAD/UNIT. M SEC 10 TWP ZEN RNG: 4W PM: NM CNTY RA ST.NM OTR/FOOTAGE: 5W Y SWH CONTRACTOR: PAS EXCAVATION APPROX. 36 FT. x 30 FT. x 25 FT. DEEP. CUBIC YARDAGE: 800 DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED LAND USE: CANGE LEASE: JIC 10Z FORMATION: DK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD DEPTH TO GROUNDWATER 7109' NEAREST WATER SOURCE: >1000' NEAREST SUFFACE WATER >1000' NMCCD RANKING SCORE: D NMCCD THE CLOSURE STD: 5000 PPM SOIL AND EXCAVATION DESCRIPTION: MOSTLY OR. YELL: MOWN SAND TO SILTY SAND, NOW TO SWEMTLY COMESTIVE, SUBMINITY MOIST, FIRM STANDING EUIDENT ON NOATH SOUTH & WEST SIDEWALL'S (ESTECURY NORTH & WEST SIDEWALLS), HC ODOR DETECTED IN PIT BOTTOM OWN TAMPLE.
LOCATION: NAME: JICH APROXE 107 WELL #: 16A PIT: SEP. QUAD/UNIT. M SEC: 10 TWP: ZGN RNG: 4W PM:NM CNTY: RAST: NM QTR/FOOTAGE: 5W Y 5W H CONTRACTOR: PAS TIME EXCAVATION APPROX. 36 FT. x 30 FT. x 25 FT. DEEP. CUBIC YARDAGE: 800 DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED LAND USE: LEASE: JIC 10Z FORMATION: DK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD DEPTH TO GROUNDWATER: 7100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000' NMOCO RANKING SCORE: D NMOCO TPH CLOSURE STD: 5000 PPM SOIL AND EXCAVATION DESCRIPTION: TERM INSTALLED FIBERGLASS TANK INSTALLED
LOCATION: NAME: JICH APROXE 107 WELL #: 16A PIT: SEP. QUAD/UNIT: M SEC: 10 TWP: ZGN RNG: 4W PM:NM CNTY: RAST: NM QTR/FOOTAGE: 5W Y 5W H CONTRACTOR: PAS ST:NM EXCAVATION APPROX. 36 FT. x 30 FT. x 25 FT. DEEP. CUBIC YARDAGE: 800 DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED LAND USE: REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD DEPTH TO GROUNDWATER: 7100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000' NMOCO RANKING SCORE: D NMOCO TPH CLOSURE STD: 5000 PPM SOIL AND EXCAVATION DESCRIPTION: STEEL TANK INSTALLED FIBERGLASS TANK INSTALLED
QUAD/UNIT. M SEC: 10 TWP: ZEN RNG: 9 PM:NTT CNIT: RT SIJENT ENVIRONMENTAL SPECIALIST: NV EXCAVATION APPROX. 36 FT. x 30 FT. x 25 FT. DEEP. CUBIC YARDAGE: 800 DISPOSAL FACILITY: 0N-51TE REMEDIATION METHOD: LANDFARMED LAND USE: PANGE LEASE: JC 10Z FORMATION: 0K FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD DEPTH TO GROUNDWATER: 7100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000' NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM SOIL AND EXCAVATION DESCRIPTION: FIBERGLASS TANK INSTALLED FIBERGLASS TANK INSTALLED
EXCAVATION APPROX. 36 FT. x 30 FT. x 25 FT. DEEP. CUBIC YARDAGE: \$800 DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED LAND USE: PANGE LEASE: JIC 102 FORMATION: OK LAND USE: PANGE LEASE: JIC 102 FORMATION: OK FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD APPROXIMATELY 153 FT. 580E FT. 580E FT. 580E FT. 580E FT. 580E FT. 58
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: CHOCK LAND USE: RANGE LEASE: JIC 102 FORMATION: OK LEAND USE: REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD APPROXIMATELY 153 FT. 580E FT
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. 580E FROM WELLHEAD PROMINED FOR THE PROPERTY OF THE P
SOIL AND EXCAVATION DESCRIPTION: STEEL TANK INSTALLED FIBERGLASS TANK INSTALL
SOIL AND EXCAVATION DESCRIPTION: STEEL TANK INSTALLED FIBERGLASS TANK INSTALL
MOSTLY DR. YELL. BLOWN SAND TO SILTY SAND MON TO SWEATLY COHESTOLY SWEATLY MOIST, FIRM STAINING EVIDENT ON NORTH SOUTH & WEST SIDEWALLS (ESPECIALLY NORTH & WEST SIDEWALLS), HE ODOR APPARENT WIND EXCAUATION VERY STRONG HE ODOR IN NORTH & WEST SIDEWALL OUM SAMPLES, HE ODOR DETECTED IN PIT BOTTOM OUM SAMPLE.
RISK ASSESSED - NMOCD FIELD 418.1 CALCULATIONS TIME SAMPLE I.D. LAB NO: WEIGHT (g) ML. FREON DILUTION READING CALC. PP
SCALE
0 FT PROFILE
PIT PERIMETER TN
RESULTS
T 1 0 20' 2,062 9' = 13 6' RANP
20 19' 0.0 30' 40' 20 Z 080
E A 3 3 A 5627' 285
MEAD 3 APPARENT
L PIPING STAINING (SINIZAR ON
SAMPLE ANALYSIS TIME DELICATION SIDEMAN TOPIN
7/C20 1 F R 1816-1
TANK DEZT THISTEX 1015
TRAVEL NOTES: CALLOUT: 4/22/98-AFTER ONSITE: 4/23/98-INSAU.

Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Jicarilla Contract 102 #16A

Unit M. Sec. 10, T26N, R4W

Separator Pit Basin Dakota

Non Vulnerable

> 1000 ft.

> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe reached practical extent for abandoned pit (25 ft. below grade) and for safety concerns (underground piping and surface equipment).

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

- 1. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below presumed shallow sandstone bedrock (based on informal site observation of adjacent sandstone outcrop).
- 2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
- 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 0.03 miles southwest of the nearest vulnerable area boundary (Tapacito Creek wash).

(Refer to Schmitz Ranch 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 vertical impact to groundwater is very unlikely. AMOCO requests pit closure approval on this location.



Gasoline Range (C5 - Diesel Range (C10 - 0	C28)	1,000 51.4 1,050	0.2 0.1 0.2
Parameter		Concentration (mg/Kg)	Det. Limit (mg/Kg)
Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO 5 @ 27' D166 5751 Soil Cool Cool and Intact	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	04034-10 04-28-98 04-23-98 04-24-98 04-27-98 04-28-98 8015 TPH

ND - Parameter not detected at the stated detection limit.

References: Method

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Jicarilla Apache 102 - 16A Separator Pit.

Analyst

May (1). Jen de



Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	4 @ 20' D167 5751 Soil Cool Cool and Intact	Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested: Concentration (mg/Kg)	04-23-98 04-24-98 04-27-98 04-28-98 8015 TPH Det. Limit (mg/Kg)
Parameter		42.9	0.2
Gasoline Range (C5 - Diesel Range (C10 -		35.0	0.1

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 Apache 102 - 16A Separator Pit.

Analyst (efecces

Hacy W. Jandar Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client: Sample ID: Laboratory Number: Chain of Custody: Sample Matrix: Preservative: Condition:	Blagg / AMOCO 5 @ 27' D166 5751 Soil Cool Cool & Intact	Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Date Extracted: Analysis Requested:	04034-10 04-28-98 04-23-98 04-24-98 04-27-98 04-27-98 BTEX
---	---	---	--

Parameter	Concentration (ug/Kg)	Limit (ug/Kg)
_	4,960	17.5
Benzene	19,640	16.7
Toluene	5,180	15.2
Ethylbenzene	52,320	21.6
p,m-Xylene o-Xylene	17,680	10.4
Total BTEX	99,780	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene Bromofluorobenzene	98 % 98 %

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-84

USEPA, December 1996.

Comments: Jicarilla Apache 102 - 16A Separator Pit.

Alexand. General

May W. Sande

87246

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,	
Facility or Well Name:	HE # 102-16A
Location: Unit or Qtr/Qtr Sec_ No Sec_ 10 T_	260 R 5W County (1)0 HARIET
Land Type: RANS€	
Date Remediation Started: 4/23/98	Date Completed: 3/24/99
Remediation Method: Landfarmed	Approx. cubic yards 2,206
Composted	
Other	
Depth To Groundwater: (pts.)	Sampling Date: 3/23/99 Time:
Distance to an Ephemeral Stream (pts.)	
Distance to Nearest Lake, Playa, or Watering Pond (pts.)	Sample Results: $(2F-2)$ Field Headspace (ppm) $\frac{1/2.9}{(2F-2)}$
Wellhead Protection Area: (pts.)	TPH (ppm) <u>85.9</u> Method <u>8015</u>
Distance To SurfaceWater: (pts.)	Other LF-Z BENZENE = 0.265 ppm
RANKING SCORE (TOTAL POINTS):	70TAL BTEX = 5.810 ppm
I HEREBY CERTIFY THAT THE INFORMATION ABOVENOWLEGE AND BELIEF	/E IS TRUE AND COMPLETE TO THE BEST OF MY
DATE 3/24/99 PRINTED	NAME Buddy D. Shaw
SIGNATURE Bully S. Shaw	AND TITLE Environmental Coordinator
AFTER REVIEW OF THE SOIL REMEDIATION INFOR ACCORDANCE TO THE JICARILLA APACHE TRIBE F	MATION, ON-SITE REMEDIATION IS APPROVED IN PIT CLOSURE ORDINANCE.
APPROVED: YES NO (REASON)	
SIGNED: CM DAT	E: 3-3/-99

CLIENT: AMOCO BLAGG ENGIN P.O. BOX 87, BLOOM (505) 63	MFIELD, NM 87413	C.O.C. NO: 6624
FIELD REPORT: LANDFARM/COMPC LOCATION: NAME: TICARIUM AP. 102 WELL #: 169 QUAD/UNIT: M SEC: 10 TWP: 26N RNG: 5W P)	PITS: SEP, BLOW M:NM CNTY: RA ST: NM	DATE STARTED: 3/23/99 DATE FINISHED: ENVIRONMENTAL NV
OTP/FOOTAGE: SWIY SWIY CONTRACTOR: SOIL REMEDIATION: REMEDIATION SYSTEM: LANDEARM LAND USE: LANGE	P 6-5	ARDAGE: 2,200
FIELD NOTES & REMARKS: DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: _ NMOCD RANKING SCORE: O NMOCD THY CLOSURE STD: MOO. YELL. BROWN TO MED. GRAY SILTY PLASTIC, SUGHTLY MOIST TO MOIST FIRM DISCOLORATION WI HE DOR OBSERVED O D, 3, + (3) (LF-2) HE DOR DETECTED COMPOSITE SAMPLES FOR LAB AMPLYSIS, W/ 102-169. (LOSED)	5000 PPM I SAND TO SILTY CLAY, SAMPLING DEPTH RAN ETECTED WIND SAMPLING WIND LF-Z DVM JAN 500 C.Y. FROM JICA A	NON COMESIVE TO GED FROM 6" - Z' PTS. (1) (LF-) AKEA), NPLE, COLLECTED 5 PT. PACHE 102-11E COMBWED
SKETCH/SAMPLE LOCATIONS BERM IF-/ SAMPLINE THEA OF SAMPLE PT. DESKANTION LF-Z SAMPLE PT. DESKANTION LF-Z SAMPLE PT. DESKANTION LF-Z SAMPLE PT. DESKANTION AREA AREA AREA AREA	OVM RESULTS SAMPLE FIELD HEADSPACE ID CF -1 //. 8 LF - 2 //2-9 LF - 3 0.0 LF - 3	(8015) 0930 28.4 10H + 875X 1000 85.9
TRAVEL NOTES: CALLOUT: NA	SCALE 0 FT ONSITE: 3/23/99 -1	nord.



Sample Matrix: Soil Date Extracted: 03-24-99 Preservative: Cool and Intact Analysis Requested: 8015 TF
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	Det.
Concentration (mg/Kg)	Limit (mg/Kg)
6.7	0.2
21.7	0.1
28.4	0.2
	Concentration (mg/Kg) 6.7 21.7

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 Apache 102 - 16A Landfarm. 5 Pt. Composite.

Weller L. Geleen

Stacy W Sendler



Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO LF - 2 E854 6624 Soil Cool	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	403410 03-24-99 03-23-99 03-24-99 03-24-99 03-24-99 8015 TPH
--	---	---	--

		Det.
Parameter	Concentration (mg/Kg)	Limit (mg/Kg)
Gasoline Range (C5 - C10)	42.5	0.2
Diesel Range (C10 - C28)	43.4	0.1
Total Petroleum Hydrocarbons	85.9	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 Apache 102 - 16A Landfarm. 5 Pt. Composite.

Stacy W Sendler



0.1

0.2

Gasoline Range (C5 - C1	0)	ND	0.2
Parameter		Concentration (mg/Kg)	Det. Limit (mg/Kg)
Client: Sample ID: Laboratory Number: Chain of Custody No: Sample Matrix: Preservative: Condition:	Blagg / AMOCO LF - 3 E855 6624 Soil Cool	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:	403410 03-24-99 03-23-99 03-24-99 03-24-99 03-24-99 8015 TPH

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ND - Parameter not detected at the stated detection limit.

References:

Diesel Range (C10 - C28)

Total Petroleum Hydrocarbons

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

0.5

0.5

SW-846, USEPA, December 1996.

Jicarilla Apache 102 - 16A Landfarm. 5 Pt. Composite. Comments:

Stacy W Sendler



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

-			
O.F 4	Blagg / AMOCO	Project #:	403410
Client:	LF - 2	Date Reported:	03-24-9
Sample ID:	·	Date Sampled:	03-23-99
aboratory Numbe	6624	Date Received:	03-24-99
Chain of Custody:	Soil	Date Analyzed:	03-24-9
Sample Matrix:	Cool	Date Extracted:	03-24-9
Preservative: Condition:	Cool & Intact	Analysis Requested:	BTEX
			Det.
	Conc	entration	Limit
_			
Parameter	\ug	/Kg)	
2		265	8.8
3enzene Foluene		566	8.4
		377	7.6
Ethylbenzene		3,530	10.8
p,m-Xylene o-Xylene		1,070	5.2
Total BTEX		5,810	
ND - Parameter no	ot detected at the stated detection limit.		
Surrogate Reco	overies: Parameter		Percent Recovery
	Trifluorotoluene		100 %
	Bromofluorober		100 %
References:	Method 5030B, Purge-and-Trap, Test No. December 1996.	lethods for Evaluating Solid W	aste, SW-846, USEPA,
	Method 8021B, Aromatic Volatile Organ	nics, Test Methods for Evaluati	ng Solid Waste, SW-846

Analyst P. Ogiene

Comments:

USEPA, December 1996.

Stacy W Sendler
Review

Jicarilla Apache 102 - 16A Landfarm. 5 Pt. Composite.

	Cool - Ice/Blue Ice	0615	(505) 632-0615				
7	Received Intact	hway 64	5796 U.S. Highway 64				
Z Z							
ceipt	Sample Receipt	CHINC	FOVIDOTFOH				
		Received by: (Signature)	Rece			ature)	Relinquished by: (Signature)
		Received by: (Signature)			į	iture) [Relinquished by: (Signature)
te Time	Date 3. €4.89	Received by: (Signature)	Date Time Recei			iture)	Relinquished by: (Signature)
-							
	C001	- <	2017	5283	1030	\$23/99	2-71
RESERV -	WERTE PRE					,	
4	COMPOSITE	1	2012	E854	1000	3/23/99	17-2
PT.	ARE 5 1						
SAMPLES	the same	- 4	5012	E853	0930	3/23/99 0930	1-77
		Con	Sample Matrix	Lab Number	Sample Time	Sample Date	Sample No./ Identification
aires	Nemans	o. of tainers	4-10	Client No.			Sampler: NTV
			APAGE 102-16A	TICARILLA		2000	BiAGG/ Amoco
	METERS	ANALYSIS / PARAMETERS	LANDFARM	Project Location			Client / Project Name