

Denny E. Foust
DEPUTY OIL & GAS INSPECTOR

JAN 29 1999

Approved

RECEIVED
JAN 29 1999
OIL & GAS DIV.
DENVER

Apache
CORPORATION

PIT - 14154
PIT - 24
PIT - 24

Well Name:

Well Site Location:

Pit Type:

Producing Formation:

Pit Category:

Horizontal Distance to Surface Water:

Vicinity Groundwater Depth:

JAT A 118 #14 Pit #1

Unit C, Sec 36, T26N, R3W

Blow Pit

Lindrith Gallup/Dakota West

Non-Vulnerable

Greater than - 1000 Ft.

Greater than - 100 Ft.

RISK ASSESSMENT

Pit remediation activities were terminated when Backhoe encountered sandstone bedrock at 8 feet below grade.

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

1. Past production fluids were contained locally by a relatively shallow sandstone bedrock located 8 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below 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 Non Detected and TPH to be 2,300 PPM.
4. Pit bottom test results showed total BTEX to be Non Detected with a TPH of 6,800 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.

District III
1000 Rio Brazos Rd
Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
2040 S. PACHECO
Santa Fe, New Mexico 87505

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

RECEIVED
JAN 25 1999
OIL CON. DIV.
DIST. 3

PIT REMEDIATION AND CLOSURE REPORT

Operator: <u>Apache Corporation \ MW Petroleum</u>		Telephone: <u>505-325-0318</u>	
Address: <u>2855 Southside River Road, Suite A, Farmington, NM 87401</u>			
Facility or Well Name:		<u>Jic Apache Tribal A118 #14 Pit #1</u>	
Location: Unit or Qtr/Qtr Sec	<u>C</u>	<u>Sec 36</u>	<u>T 26 N R 3W</u> County <u>Rio Arriba</u>
Pit Type: Separator:	<u>Dehydrator</u>	Other	<u>Blow Pit</u>
Land Type:	<u>Jicarilla Tribal</u>		
Beginning Pit Dimensions:		Length <u>14'</u>	Width <u>18'</u> Depth <u>4'</u>
Pit Location: (Attach diagram)	Ending Pit Dimensions:	Length <u>21'</u>	Width <u>18'</u> Depth <u>8'</u>
Reference:	Wellhead <u>XX</u>	Other	<u> </u>
Footage from reference:		<u>80'</u>	
Direction from reference:		<u>220</u> Degrees	<u> </u> East of North <u>X</u> West of South <u>XX</u>
Depth To Groundwater: (vertical distance from contaminants to seasonal high water elevation of groundwater)		Less than 50 feet	(20 points) <u> </u>
		50 feet to 99 feet	(10 points) <u> </u>
		Greater than 100 feet	(0 points) <u>0</u>
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)		Yes	(20 points) <u> </u>
		No	(0 points) <u>0</u>
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)		Less than 200 feet	(20 points) <u> </u>
		200 feet to 1000 feet	(10 points) <u> </u>
		Greater than 1000 feet	(0 points) <u>0</u>
		RANKING SCORE (TOTAL POINTS) <u>0</u>	

Date Remediation Started:

8/13/97

Date Completed:

8/14/97

Remediation Method:

(Check all appropriate sections)

Excavation

XXX

Approx. cubic yards

50

Landfarmed

XX

Insitu Bioremediation

Other

Remediation Location:

(i.e. landfarmed onsite, name and location of offsite facility)

Onsite

XX

Offsite

General Description of Remedial Action:

Excavate pit to 8', took PID readings. Spread soil on

location for remediation. Took soil samples. Hit Bedrock, spray with 46-0-0 fertilizer.

Groundwater Encountered:

No

XX

Yes

Depth

Final Pit:

Sample location

4 point composite sample taken from pit sidewalls. Grab sample

Closure Sampling:

(in multiple samples, attach sample results and diagram of sample locations and depths)

taken from pit bottom center.

Sample depth 8'

8 to 10" into pit sidewalls 10" into pit bottom

Sample Date

8/14/97

Sample Time

9:00 AM

Sample results

Benzene

(ppm)

ND

Total BTEX

(ppm)

ND

Field Headspace

(ppm)

32.84

TPH

side/2300

Btm/6800

Groundwater Sample:

Yes

No

XX

(If yes attach sample results)

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

DATE

January 8, 1999

PRINTED NAME

Jeff Cross

SIGNATURE

AND TITLE

Project Manager

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
2040 S. PACHECO
Santa Fe, New Mexico 87505

Operator: Apache Corporation \ MW Petroleum Telephone: 505-325-0318

Address: 2855 Southside River Road, Suite A, Farmington, NM 87401

Facility or Well Name: Jic Apache Tribal A118 #14 Pit #2

Location:	Unit or Qtr/Qtr	Sec	<u>C</u>	<u>Sec 36</u>	<u>T 26 N</u>	<u>R 3W</u>	County	<u>Rio Arriba</u>
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Pit Type: Separator: XX Dehydrator _____ Other _____

Land Type: Jicarilla Tribal

Beginning Pit Dimensions: Length 15' Width 15' Depth 3'

Pit Location: Ending Pit Dimensions: Length 18' Width 18' Depth 5'
(Attach diagram)

Reference: Wellhead XX Other _____

Footage from reference: 100'

Direction from reference: 250 Degrees XX East of 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)	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	(20 points)	
No	(0 points)	0

Distance To Surface Water:

(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)

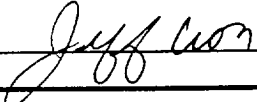
Less than 200 feet	(20 points)	_____
200 feet to 1000 feet	(10 points)	_____
Greater than 1000 feet	(0 points)	<u>0</u>

RANKING SCORE (TOTAL POINTS) 0

Date Remediation Started:	<u>8/14/97</u>	Date Completed:	<u>8/14/97</u>
Remediation Method: (Check all appropriate sections)	Excavation <u>XXX</u>	Approx. cubic yards	<u>60</u>
	Landfarmed <u>XX</u>	Insitu Bioremediation	
	Other		
Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility)	Onsite <u>XX</u>	Offsite	
General Description of Remedial Action:	<u>Excavate pit to 5' , took PID readings. Spread soil on location for remediation. Took soil samples. Hit Bedrock, spray with 46-0-0 fertilizer.</u>		
Groundwater Encountered:	No <u>XX</u>	Yes	Depth

Final Pit:	Sample location	<u>4 point composite sample taken from pit sidewalls. Grab sample</u>	
Closure Sampling: (in multiple samples, attach sample results and diagram of sample locations and depths)		<u>taken from pit bottom center.</u>	
	Sample depth	<u>5'</u>	<u>8 to 10" into pit sidewalls 10" into pit bottom</u>
	Sample Date	<u>8/14/97</u>	Sample Time <u>2:00 PM</u>
	Sample results		
	Benzene	(ppm)	<u>ND</u>
	Total BTEX	(ppm)	<u>ND</u>
	Field Headspace	(ppm)	<u>50.12</u>
	TPH		<u>side/ND</u>
			<u>Btm/ND</u>
Groundwater Sample:	Yes	No <u>XX</u>	(If yes attach sample results)

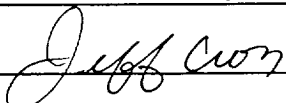
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE	<u>January 8, 1999</u>	PRINTED NAME	<u>Jeff Cross</u>
SIGNATURE	<u></u>	AND TITLE	<u>Project Manager</u>

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

2040 S. PACHECO
Santa Fe, New Mexico 87505

Operator:		<u>Apache Corporation \ MW Petroleum</u>		Telephone:		<u>505-325-0318</u>	
Address:		<u>2855 Southside River Road, Suite A, Farmington, NM 87401</u>					
Facility or Well Name:		<u>Jic Apache Tribal A118 #14 Pit #3</u>					
Location: Unit or Qtr/Qtr Sec		<u>C</u>	<u>Sec 36</u>	<u>T 26 N</u>	<u>R 3W</u>	County	<u>Rio Arriba</u>
Pit Type:	Separator:	<u>Dehydrator</u>	<u>Other</u>	<u>Tank Drain</u>			
Land Type:		<u>Jicarilla Tribal</u>					
Beginning Pit Dimensions:		Length	<u>12'</u>	Width	<u>12'</u>	Depth	<u>4'</u>
Pit Location: (Attach diagram)	Ending Pit Dimensions:	Length	<u>15'</u>	Width	<u>15'</u>	Depth	<u>7'</u>
Reference:	Wellhead	<u>XX</u>	Other				
Footage from reference:		<u>100'</u>					
Direction from reference:		<u>285</u>	Degrees	<u> </u>	East	North	<u>X</u>
		<u>XX</u>	West		South		
Depth To Groundwater:		Less than 50 feet		(20 points)		<u> </u>	
(vertical distance from		50 feet to 99 feet		(10 points)		<u> </u>	
contaminants to seasonal		Greater than 100 feet		(0 points)		<u>0</u>	
high water elevation of groundwater)							
Wellhead Protection Area:		Yes		(20 points)		<u> </u>	
(Less than 200 feet from a private		No		(0 points)		<u>0</u>	
domestic water source, or; less than 1000 feet from all other water sources)							
Distance To Surface Water:		Less than 200 feet		(20 points)		<u> </u>	
(Horizontal distance to perennial		200 feet to 1000 feet		(10 points)		<u> </u>	
lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)		Greater than 1000 feet		(0 points)		<u>0</u>	
		RANKING SCORE (TOTAL POINTS)				<u>0</u>	

Date Remediation Started:		<u>8/15/97</u>		Date Completed:		<u>8/19/97</u>	
Remediation Method: (Check all appropriate sections)		Excavation	<u>XXX</u>	Approx. cubic yards	<u>50</u>		
		Landfarmed	<u>XX</u>	Insitu Bioremediation			
		Other					
Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility)		Onsite	<u>XX</u>	Offsite			
General Description of Remedial Action:		<u>Excavate pit to 7' , took PID readings. Spread soil on</u>					
		<u>location for remediation. Took soil samples. Hit Bedrock, spray with 46-0-0 fertilizer.</u>					
Groundwater Encountered:		No	<u>XX</u>	Yes			Depth <u> </u>
Final Pit:		<u>4 point composite sample taken from pit sidewalls. Grab sample</u>					
Closure Sampling: (in multiple samples, attach sample results and diagram of sample locations and depths)		<u>taken from pit bottom center.</u>					
		Sample location	<u>8 to 10" into pit sidewalls 10" into pit bottom</u>				
		Sample depth	<u>7'</u>				
		Sample Date	<u>8/19/97</u>	Sample Time	<u>11:00 AM</u>		
		Sample results					
		Benzene	(ppm)	<u>ND</u>			
		Total BTEX	(ppm)	<u>ND</u>			
		Field Headspace	(ppm)	<u>48.44</u>			
		TPH		<u>side/ND</u>			
				<u>Btm/ND</u>			
Groundwater Sample:		Yes			No	<u>XX</u>	(If yes attach sample results)
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.							
DATE		<u>January 8, 1999</u>		PRINTED NAME		<u>Jeff Cross</u>	
SIGNATURE		<u></u>		AND TITLE		<u>Project Manager</u>	

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

Operator: <u>M W PETROLEUM</u>		Telephone <u>505-325-0318</u>	
Address: <u>2855 SOUTHSIDE RIVER ROAD / SUITE A / FARMINGTON N.M. 87401-7947</u>			
Facility or Well Name: <u>JAT A118# 14 PIT # 1</u>			
Location:	Unit or Qtr/Qtr	Sec	County
	<u>C</u>	<u>SEC 36</u>	<u>T 26 N R 3 W</u>
Pit Type:	Separator: <u> </u>	Dehydrator <u> </u>	Other <u>BLOW PIT</u>
Land Type: <u>JIC. TRIBAL</u>			
Pit Location: (Attach diagram)			
Pit Dimensions:	Length <u>21'</u>	Width <u>18'</u>	Depth <u>8'</u>
Reference:	Wellhead <u>XXX</u>	Other <u> </u>	
Footage from reference:	<u>80'</u>		
Direction from reference:	<u>220</u> Degrees	<u> </u> East	<u> </u> North
		<u>X</u> West	<u> </u> of South <u>XX</u>
Depth To Groundwater: (vertical distance from contaminants to seasonal high water elevation of groundwater)		Less than 50 feet	(20 points) <u> </u>
		50 feet to 99 feet	(10 points) <u> </u>
		Greater than 100 feet	(0 points) <u>0</u>
Distance to an Ephemeral Stream: (Downgradient dry wash greater than ten feet in width)		Less than 100 feet	(10 points) <u> </u>
		Greater than 100 feet	(0 points) <u>0</u>
Distance to Nearest Lake, Playa, or Watering Pond: (Downgradient lakes, playas and livestock or wildlife watering ponds)		Less than 100 feet	(10 points) <u> </u>
		Greater than 100 feet	(0 points) <u>0</u>
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources)		Yes	(20 points) <u> </u>
		No	(0 points) <u>0</u>
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)		Less than 100 feet	(20 points) <u> </u>
		100 feet to 1000 feet	(10 points) <u> </u>
		Greater than 1000 feet	(0 points) <u>0</u>
		RANKING SCORE (TOTAL POINTS) <u>0</u>	

Date Remediation Started: 8/13/97 Date Completed: 8/14/97

Remediation Method: Excavation XXX Approx. cubic yards 50
 (Check all appropriate sections) Landfarmed XX Insitu Bioremediation _____
 Other _____

Remediation Location: Onsite XX Offsite _____
 (i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavate pit to 8', took PID readings. spread soil on location for remediation. Took soil samples. HIT BEDROCK, SPRAY WITH 46-0-0 FERT.

Groundwater Encountered: No XXX Yes _____ Depth _____

Final Pit: Sample location 4 point composite taken from pit sidewalls, Grab sample from pit bottom center. 8" to 10" into pit side walls, 10" into pit bottom.

Closure Sampling: (in multiple samples, attach sample results and diagram of sample locations and depths) Sample depth 8'

Sample Date 8/14/97 Sample Time 9:00AM
 Sample results

Soil:	Benzene	(ppm)	<u>ND</u>	Water:	Benzene	(ppb)	<u>NA</u>
	Total BTEX	(ppm)	<u>ND</u>		Toluene	(ppb)	<u>NA</u>
	Field Headspace	(ppm)	<u>32.84</u>		Ethylbenzene	(ppb)	<u>NA</u>
	TPH	(ppm)	<u>SIDE 2300</u>		Total Xylenes	(ppb)	<u>NA</u>
			<u>HIT BEDROCK</u>				
			<u>BTM 6800</u>				

Groundwater Sample: Yes _____ No XXX (If yes attach sample results)

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

DATE 11-25-98 PRINTED NAME JEFF CROSS
 SIGNATURE Jeff Cross AND TITLE PROJECT MANAGER

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

APPROVED: YES X NO _____ (REASON) RA Attached

SIGNED: Kent McCall DATE: 12-28-98

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

Operator: <u>M W PETROLEUM</u>		Telephone <u>505-325-0318</u>	
Address: <u>2855 SOUTHSIDE RIVER ROAD / SUITE A / FARMINGTON N.M. 87401-7947</u>			
Facility or Well Name: <u>JAT A118# 14 PIT # 2</u>			
Location:	Unit or Qtr/Qtr	Sec <u>C</u>	SEC 36 T 26 N R 3 W County <u>RIO ARRIBA</u>
Pit Type:	Separator: <u>XX</u>	Dehydrator	Other
Land Type: <u>JIC. TRIBAL</u>			
Pit Location: (Attach diagram)	Pit Dimensions:	Length <u>18'</u>	Width <u>18'</u> Depth <u>5'</u>
	Reference:	Wellhead <u>XXX</u>	Other
	Footage from reference:	<u>100'</u>	
	Direction from reference:	<u>250</u> Degrees	East North of South <u>X</u>
		<u>XX</u> West	
Depth To Groundwater: (vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	(20 points)	
	50 feet to 99 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>0</u>
Distance to an Ephemeral Stream: (Downgradient dry wash greater than ten feet in width)	Less than 100 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>0</u>
Distance to Nearest Lake, Playa, or Watering Pond: (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>0</u>
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources)	Yes	(20 points)	
	No	(0 points)	<u>0</u>
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet	(20 points)	
	100 feet to 1000 feet	(10 points)	
	Greater than 1000 feet	(0 points)	<u>0</u>
RANKING SCORE (TOTAL POINTS)			<u>0</u>

Date Remediation Started: 8/14/97 Date Completed: 8/14/97

Remediation Method: Excavation XXX Approx. cubic yards 60
(Check all appropriate sections) Landfarmed XX Insitu Bioremediation _____

Other _____

Remediation Location: Onsite XX Offsite _____
(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavate pit to 5', took PID readings. spread soil on location for remediation. Took soil samples. HIT BEDROCK, SPRAY WITH 46-0-0 FERT.

Groundwater Encountered: No XXX Yes _____ Depth _____

Final Pit: Sample location 4 point composite taken from pit sidewalls, Grab sample from pit

Closure Sampling: (in multiple samples, attach sample results and diagram of sample locations and depths) bottom center. 8" to 10" into pit side walls, 10" into pit bottom.

Sample depth 5'

Sample Date 8/14/97 Sample Time 2:00PM
Sample results

Soil:	Benzene	(ppm)	<u>ND</u>	Water:	Benzene	(ppb)	<u>NA</u>
	Total BTEX	(ppm)	<u>ND</u>		Toluene	(ppb)	<u>NA</u>
	Field Headspace	(ppm)	<u>50.12</u>		Ethylbenzene	(ppb)	<u>NA</u>
	TPH	(ppm)	<u>SIDE/ND</u>		Total Xylenes	(ppb)	<u>NA</u>
			<u>HIT BEDROCK</u>				
			<u>BTM/ND</u>				

Groundwater Sample: Yes _____ No XXX (If yes attach sample results)

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

DATE 11-25-98 PRINTED NAME JEFF CROSS

SIGNATURE Jeff Cross AND TITLE PROJECT MANAGER

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

APPROVED: YES X NO _____ (REASON) _____

SIGNED: Ker C M DATE: 12-28-98

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

Operator:	M W PETROLEUM		Telephone	505-325-0318			
Address:	2855 SOUTHSIDE RIVER ROAD / SUITE A / FARMINGTON N.M. 87401-7947						
Facility or Well Name:	JAT A118# 14 PIT # 3						
Location:	Unit or Qtr/Qtr	Sec	C	SEC 36	T 26 N R 3 W County RIO ARRIBA		
Pit Type:	Separator:	Dehydrator	Other	TANK DRAIN			
Land Type:	JIC. TRIBAL						
Pit Location: (Attach diagram)	Pit Dimensions:	Length	15'	Width	15'	Depth	7'
	Reference:	Wellhead	XXX	Other			
	Footage from reference:	100'					
	Direction from reference:	285	Degrees		East	North	X
				XX	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)	0				
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)	0				
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)	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	(20 points)					
	No	(0 points)	0				
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet	(20 points)					
	100 feet to 1000 feet	(10 points)					
	Greater than 1000 feet	(0 points)	0				
	RANKING SCORE (TOTAL POINTS)						
	0						

Date Remediation Started: <u>8/15/97</u>		Date Completed: <u>8/19/97</u>	
Remediation Method: (Check all appropriate sections)	Excavation <u>XXX</u>	Approx. cubic yards <u>50</u>	
	Landfarmed <u>XX</u>	Insitu Bioremediation _____	
	Other _____		
Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility)	Onsite <u>XX</u>	Offsite _____	

General Description of Remedial Action: <u>Excavate pit to 7', took PID readings. spread soil on</u>			
<u>location for remediation. Took soil samples. HIT BEDROCK, SPRAY WITH 46-0-0 FERT.</u>			
Groundwater Encountered:	No <u>XXX</u>	Yes _____	Depth _____
Final Pit:	Sample location <u>4 point composite taken from pit sidewalls, Grab sample from pit</u>		
Closure Sampling: (in multiple samples, attach sample results and diagram of sample locations and depths)	<u>bottom center. 8" to 10" into pit side walls, 10" into pit bottom.</u>		
	Sample depth <u>7'</u>		
	Sample Date <u>8/19/97</u>	Sample Time <u>11:00AM</u>	
	Sample results		
Soil:	Benzene (ppm) <u>ND</u>	Water:	Benzene (ppb) <u>NA</u>
	Total BTEX (ppm) <u>ND</u>		Toluene (ppb) <u>NA</u>
	Field Headspace (ppm) <u>48.44</u>		Ethylbenzene (ppb) <u>NA</u>
	TPH (ppm) <u>SIDEWIND</u>		Total Xylenes (ppb) <u>NA</u>
	<u>HIT BEDROCK</u>		<u>BTMIND</u>
Groundwater Sample:	Yes _____	No <u>XXX</u>	(If yes attach sample results)
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.			
DATE <u>11-25-98</u>	PRINTED NAME <u>JEFF CROSS</u>		
SIGNATURE <u>Jeff Cross</u>	AND TITLE <u>PROJECT MANAGER</u>		
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.			
APPROVED:	YES <u>X</u>	NO _____	(REASON) _____
SIGNED: <u>Jeff Cross</u>	DATE: <u>12-28-98</u>		

M W PETROLEUM/FARMINGTON DISTRICT
PIT EXCAVATION AND CLOSURE REPORT

LOCATION JAT A118 # 14

PIT COUNT 3

Jicarilla Apache Tribal EPO/OCD/BLM
Review and Approval
OCD--BLM
EPO Representative
Date of Review

START:		PIT#1 8/13/97 PIT#3 8/15/97			FINISH: PIT#1 8/14/97				
DIMENSIONS		PIT#2 8/14/9			PIT#2 8/14/9 PIT#3 8/19/97				
	W	L	D			W	L	D	CU YDS
Pit 1	18'	14'	4'	Pit 1		21'	18'	8'	50
Pit 2	15'	15'	3'	Pit 2		18'	18'	5'	60
Pit 3	12'	12'	4'	Pit 3		15'	15'	7'	50
		Pit 1 @ 8'	Pit 2 @ 5'	Pit 3 @ 7'			Pit 1 @ 8'	Pit 2 @ 5'	Pit 3 @ 7'
P I D	Center	30.6	75.3	50.8	P I D	Center	30.6	75.3	50.8
	NW Corner	45.1	31.2	48.1		NW Corner	45.1	31.2	48.1
	NE Corner	28.2	42.1	55.4		NE Corner	28.2	42.1	55.4
	SW Corner	29.1	55.6	42.1		SW Corner	29.1	55.6	42.1
	SE Corner	31.2	46.4	45.8		SE Corner	31.2	46.4	45.8

NOTES:

8/13/97 START EXCAVATION ON PIT # 1 , LIGHT STAINING AND ODOR.

8/14/97 FINISH EXCAVATING PIT # 1 , EXCAVATE TO BED ROCK,SPRAY WITH 46-0-0 LIQUID FERTILIZER.

8/14/97 PIT#1 PID READINGS GOOD , NO STAINING OR ODOR.

8/14/97 START EXCAVIATION ON PIT#2,EXCAVATE TO 5',HIT BEDROCK.

8/14/97 PIT#2 SPRAY PIT WITH 46-0-0 LIQUID FERTILIZER. NO STAINING OR ODOR.

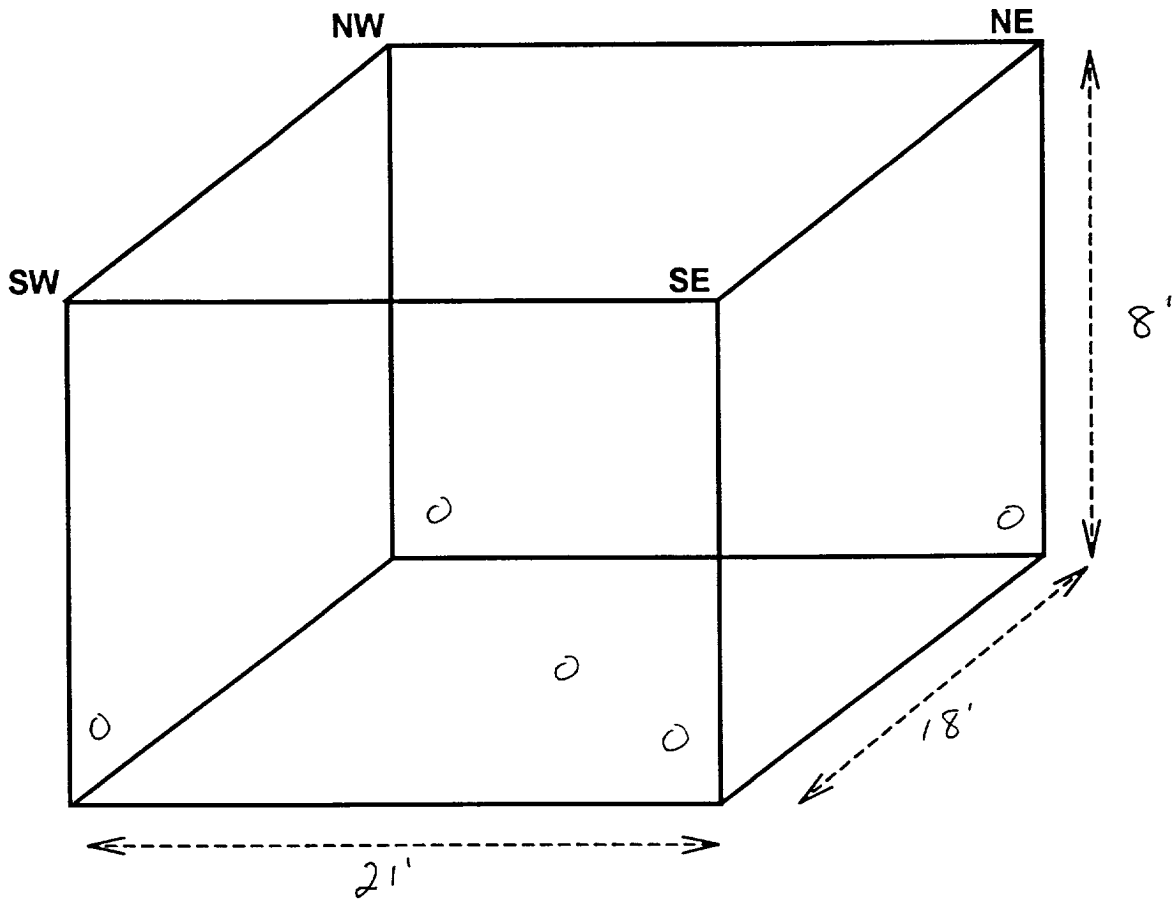
8/15/97 START EXCAVATION ON PIT #3,EXCAVATE TO 7',HITBEDROCK.

8/19/97 FINISH EXCAVATIG PIT#3,SPRAY PIT WITH 46-0-0 LIQUID FERTILIZER. NO STAINING OR ODOR

SAMP DATE		8/14/97	8/14/97	8/19/97					
		Pit 1 @ 8'	Pit 2 @ 5'	Pit 3 @ 7'	ANALYSIS RESULTS		PER LAB	Assaigai	
P I D	Center	30.6	75.3	50.8	PIT	TPH	BETEX	WITNESS	DATE
	NW Corner	45.1	31.2	48.1	NO	SIDE\BTM	SIDE\BTM		
	NE Corner	28.2	42.1	55.4	1	2300\6800	ND\ND	J.C.	8/20/97
	SW Corner	29.1	55.6	42.1	2	ND\ND	ND\ND	J.C.	8/20/97
	SE Corner	31.2	46.4	45.8	3	ND\ND	ND\ND	J.C.	9/2/97

RE-SAMPLE									
DATE:		Pit 1 @	Pit 2 @	Pit 3 @	ANALYSIS RESULTS		PER LAB		
P I D	Center				PIT	TPH	BETEX	WITNESS	DATE
	NW Corner				NO	SIDE\BTM	SIDE\BTM		
	NE Corner				1				
	SW Corner				2				
	SE Corner				3				

RE-SAMPLE									
DATE:		Pit 1 @	Pit 2 @	Pit 3 @	ANALYSIS RESULTS		PER LAB		
P I D	Center				PIT	TPH	BETEX	WITNESS	DATE
	NW Corner				NO	SIDE\BTM	SIDE\BTM		
	NE Corner				1				
	SW Corner				2				
	SE Corner				3				

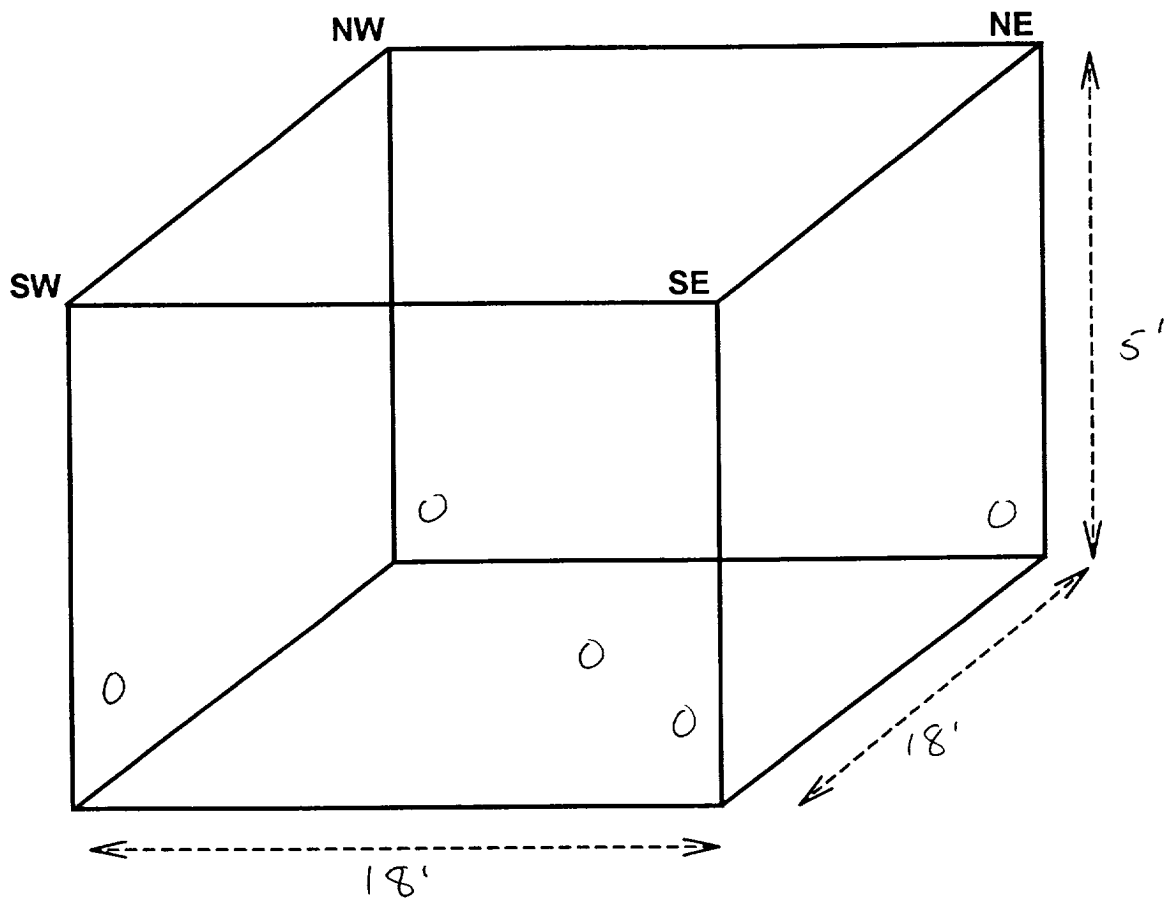


○ = SAMPLE AREA

WELL NAME JAT A118 # 14 PIT #1

SAMPLE DATE 8/14/97

NOTES 4 POINT COMPOSITE SAMPLE TAKEN 8" TO 10" INTO PIT
SIDEWALL
1 POINT GRAB SAMPLE TAKEN 10" TO 12" INTO BOTTOM CENTER

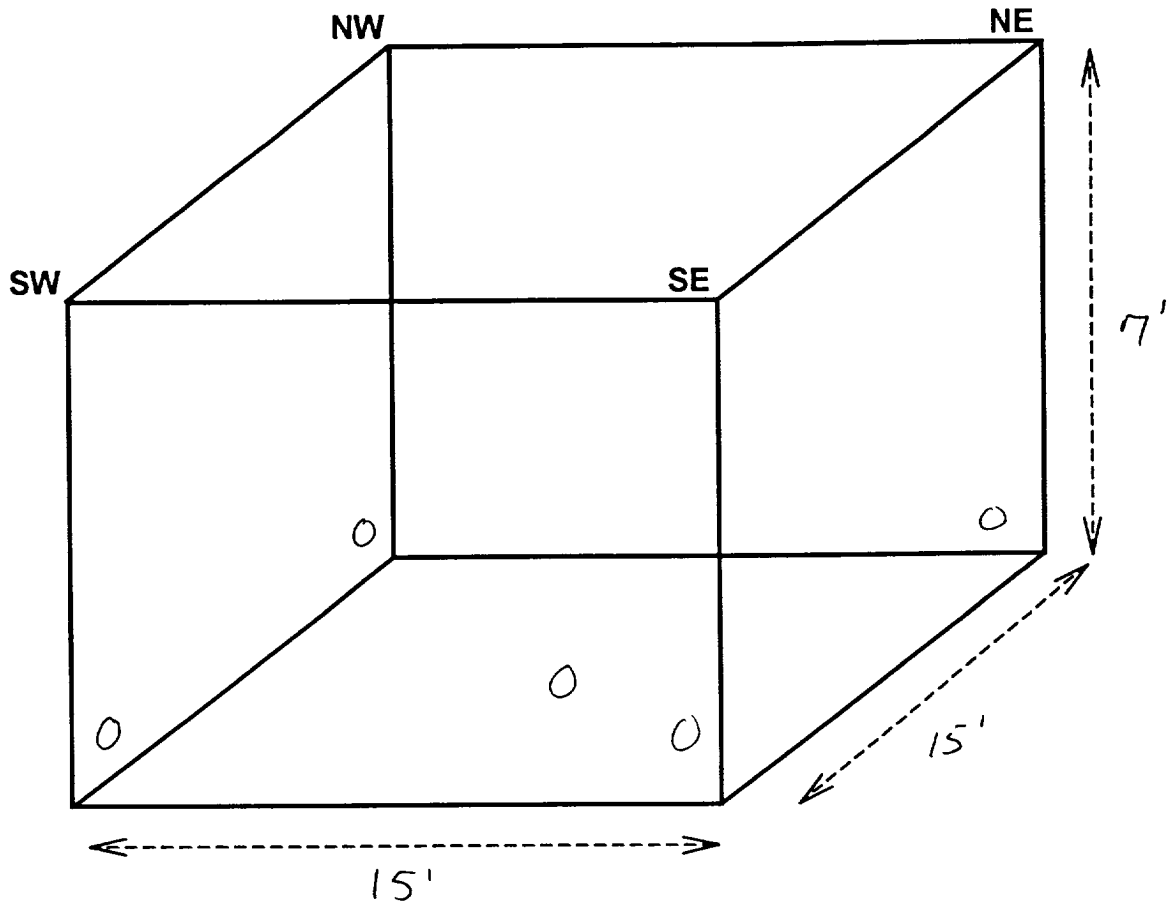


○ = SAMPLE AREA

WELL NAME JAT A118 # 14 PIT # 2

SAMPLE DATE 8/14/97

NOTES 4 POINT COMPOSITE SAMPLE TAKEN 8" TO 10" INTO PIT
SIDEWALL
1 POINT GRAB SAMPLE TAKEN 10" TO 12" INTO BOTTOM CENTER

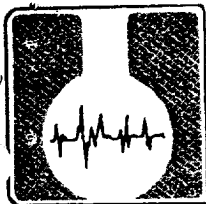


○ = SAMPLE AREA

WELL NAME JAT A118 # 14 PIT # 3

SAMPLE DATE 8/19/97

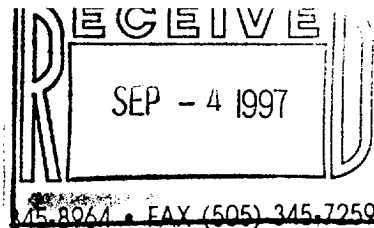
NOTES 4 POINT COMPOSITE SAMPLE TAKEN 8" TO 10" INTO PIT
SIDEWALL
1 POINT GRAB SAMPLE TAKEN 10" TO 12" INTO BOTTOM CENTER



**ASSAIGAI
ANALYTICAL
LABORATORIES, INC.**

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 745-8064 • FAX (505) 345-7250

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



Report Generated:
August 22, 1997 14:50

**CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE**

SENT APACHE CORPORATION
TO: 304 N. BEHREND
FARMINGTON, NM 87401

WORKORDER # : 9708169
WORK ID : JICARILLA PIT CLOSURES
CLIENT CODE : APA01
DATE RECEIVED : 08/15/97

ATTN: JEFF CROSS

Page : 1

Lab ID: 9708169-01A
Sample ID: A118 #14 PIT #1 SIDES

Collected: 08/14/97 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Toluene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Ethylbenzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
P-&m-Xylene	ND	mg/kg	0.010	100	08/20/97	SBTXME185
O-Xylene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185

Lab ID: 9708169-01B
Sample ID: A118 #14 PIT #1 SIDES

Collected: 08/14/97 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015						
Diesel Range OG in Soil	2300	mg/Kg	25	25	08/20/97	SDRO047

Lab ID: 9708169-02A
Sample ID: A118 #14 PIT #1 BOTTOM

Collected: 08/14/97 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Toluene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Ethylbenzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
P-&m-Xylene	ND	mg/kg	0.010	100	08/20/97	SBTXME185
O-Xylene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185



Lab ID: 9708169-02B
 Sample ID: A118 #14 PIT #1 BOTTOM

Collected: 08/14/97 09:30:00
 Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	6800	mg/Kg	25	25	08/20/97	SDRO047

Lab ID: 9708169-03A
 Sample ID: A118 #14 PIT #2 SIDES

Collected: 08/14/97 14:00:00
 Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Toluene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Ethylbenzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
P-&m-Xylene	ND	mg/kg	0.010	100	08/20/97	SBTXME185
O-Xylene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185

Lab ID: 9708169-03B
 Sample ID: A118 #14 PIT #2 SIDES

Collected: 08/14/97 14:00:00
 Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	ND	mg/Kg	25	25	08/20/97	SDRO047

Lab ID: 9708169-04A
 Sample ID: A118 #14 PIT #2 BOTTOM

Collected: 08/14/97 14:30:00
 Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Toluene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
Ethylbenzene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185
P-&m-Xylene	ND	mg/kg	0.010	100	08/20/97	SBTXME185
O-Xylene	ND	mg/kg	0.0050	100	08/20/97	SBTXME185

Lab ID: 9708169-04B
 Sample ID: A118 #14 PIT #2 BOTTOM

Collected: 08/14/97 14:30:00
 Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil	ND	mg/Kg	25	25	08/20/97	SDRO047

WORKORDER COMMENTS

DATE : 08/22/97
WORKORDER:

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"

NT = Analyte "not tested" per client request.

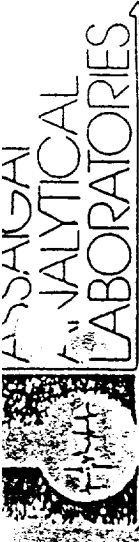
B = Analyte was also detected in laboratory method QC blank.

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



CHAIN OF CUSTODY RECORD

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

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

Page 1 of 1

Client Apache Corporation Project Manager / Contact Jeff Cross
Address 304 N. Behrend Telephone No. (505) 774-6643
City / State / Zip Farmington, NM 87401 Fax No. (505) 774-6624
Project Name / Number JICARILLA PIT CLOSURES Samplers: (Signature) John Mulnix
Contract / Purchase Order / Quote _____

ALL SAMPLER NUMBER	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation	
						Temp.	Chemical
1A	A118 #4 P. 1 st Sides	8-14-97	9:00	Soil	402 Glass	4°C	ICE
1B	"						
2A	A118 #4 P. 1 st Bottom						
2B	"						
3A	A118 #4 P. 1 st Sides						
3B	"						
4A	A118 #4 P. 1 st Bottom						
4B	"						

Analysis Required

No. of Containers BTEX (mod. 845)

Remarks

Received by: Cava Rubio
Signature _____
Printed _____
Company AAAL
Reason _____

Date 8-18-97
Time 8 AM

After analysis, samples are to be:
☐ Disposed of (additional fee)
☐ Stored (30 days max)
☐ Stored over 30 days (additional fee)
☐ Returned to customer

Relinquished by: John Mulnix
Signature _____
Printed _____
Company Apache Corp.
Reason _____

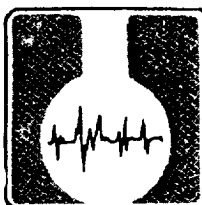
Received by: John Mulnix
Signature _____
Printed _____
Company AAAL
Reason _____

Date 8/18/97
Time 7:00 AM

Comments: _____

Method of Shipment: _____
Shipment No. _____
Special Instructions: _____

LABORATORY



**ASSAIGAI
ANALYTICAL
LABORATORIES, INC.**

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7826



Report Generated:
September 3, 1997 13:33

**CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE**

SENT APACHE CORPORATION
TO: 304 N. BEHREND
FARMINGTON, NM 87401

WORKORDER # : 9708257
WORK ID : JICARILLA PIT CLOSURES
CLIENT CODE : APA01
DATE RECEIVED : 08/27/97

ATTN: JEFF CROSS

Page: 1

Lab ID: 9708257-01A

Collected: ~~08/19/97~~ 11:00:00

Sample ID: ~~ATL8 #14 PIT #3 SIDES~~

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	50	09/02/97	X97235
Toluene	ND	mg/kg	0.0050	50	09/02/97	X97235
Ethylbenzene	ND	mg/kg	0.0050	50	09/02/97	X97235
P-&m-Xylene	ND	mg/kg	0.010	50	09/02/97	X97235
O-Xylene	ND	mg/kg	0.0050	50	09/02/97	X97235

Lab ID: 9708257-01B

Collected: ~~08/19/97~~ 11:00:00

Sample ID: ~~ATL8 #14 PIT #3 SIDES~~

Matrix: SOIL

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

Lab ID: 9708257-02A

Collected: ~~08/19/97~~ 11:30:00

Sample ID: ~~ATL8 #14 PIT #3 BOTTOM /~~

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	50	09/02/97	X97235
Toluene	ND	mg/kg	0.0050	50	09/02/97	X97235
Ethylbenzene	ND	mg/kg	0.0050	50	09/02/97	X97235
P-&m-Xylene	ND	mg/kg	0.010	50	09/02/97	X97235
O-Xylene	ND	mg/kg	0.0050	50	09/02/97	X97235



ID: 9708257-02B
Sample ID: #118 #119 #120 #121 #122 #123 #124 #125 #126 #127 #128 #129 #130 #131 #132 #133 #134 #135 #136 #137 #138 #139 #140 #141 #142 #143 #144 #145 #146 #147 #148 #149 #150 #151 #152 #153 #154 #155 #156 #157 #158 #159 #160 #161 #162 #163 #164 #165 #166 #167 #168 #169 #170 #171 #172 #173 #174 #175 #176 #177 #178 #179 #180 #181 #182 #183 #184 #185 #186 #187 #188 #189 #190 #191 #192 #193 #194 #195 #196 #197 #198 #199 #200 #201 #202 #203 #204 #205 #206 #207 #208 #209 #210 #211 #212 #213 #214 #215 #216 #217 #218 #219 #220 #221 #222 #223 #224 #225 #226 #227 #228 #229 #230 #231 #232 #233 #234 #235 #236 #237 #238 #239 #240 #241 #242 #243 #244 #245 #246 #247 #248 #249 #250 #251 #252 #253 #254 #255 #256 #257 #258 #259 #260 #261 #262 #263 #264 #265 #266 #267 #268 #269 #270 #271 #272 #273 #274 #275 #276 #277 #278 #279 #280 #281 #282 #283 #284 #285 #286 #287 #288 #289 #290 #291 #292 #293 #294 #295 #296 #297 #298 #299 #300 #301 #302 #303 #304 #305 #306 #307 #308 #309 #310 #311 #312 #313 #314 #315 #316 #317 #318 #319 #320 #321 #322 #323 #324 #325 #326 #327 #328 #329 #330 #331 #332 #333 #334 #335 #336 #337 #338 #339 #340 #341 #342 #343 #344 #345 #346 #347 #348 #349 #350 #351 #352 #353 #354 #355 #356 #357 #358 #359 #360 #361 #362 #363 #364 #365 #366 #367 #368 #369 #370 #371 #372 #373 #374 #375 #376 #377 #378 #379 #380 #381 #382 #383 #384 #385 #386 #387 #388 #389 #390 #391 #392 #393 #394 #395 #396 #397 #398 #399 #400 #401 #402 #403 #404 #405 #406 #407 #408 #409 #410 #411 #412 #413 #414 #415 #416 #417 #418 #419 #420 #421 #422 #423 #424 #425 #426 #427 #428 #429 #430 #431 #432 #433 #434 #435 #436 #437 #438 #439 #440 #441 #442 #443 #444 #445 #446 #447 #448 #449 #450 #451 #452 #453 #454 #455 #456 #457 #458 #459 #460 #461 #462 #463 #464 #465 #466 #467 #468 #469 #470 #471 #472 #473 #474 #475 #476 #477 #478 #479 #480 #481 #482 #483 #484 #485 #486 #487 #488 #489 #490 #491 #492 #493 #494 #495 #496 #497 #498 #499 #500 #501 #502 #503 #504 #505 #506 #507 #508 #509 #510 #511 #512 #513 #514 #515 #516 #517 #518 #519 #520 #521 #522 #523 #524 #525 #526 #527 #528 #529 #530 #531 #532 #533 #534 #535 #536 #537 #538 #539 #540 #541 #542 #543 #544 #545 #546 #547 #548 #549 #550 #551 #552 #553 #554 #555 #556 #557 #558 #559 #560 #561 #562 #563 #564 #565 #566 #567 #568 #569 #570 #571 #572 #573 #574 #575 #576 #577 #578 #579 #580 #581 #582 #583 #584 #585 #586 #587 #588 #589 #590 #591 #592 #593 #594 #595 #596 #597 #598 #599 #600 #601 #602 #603 #604 #605 #606 #607 #608 #609 #610 #611 #612 #613 #614 #615 #616 #617 #618 #619 #620 #621 #622 #623 #624 #625 #626 #627 #628 #629 #630 #631 #632 #633 #634 #635 #636 #637 #638 #639 #640 #641 #642 #643 #644 #645 #646 #647 #648 #649 #650 #651 #652 #653 #654 #655 #656 #657 #658 #659 #660 #661 #662 #663 #664 #665 #666 #667 #668 #669 #670 #671 #672 #673 #674 #675 #676 #677 #678 #679 #680 #681 #682 #683 #684 #685 #686 #687 #688 #689 #690 #691 #692 #693 #694 #695 #696 #697 #698 #699 #700 #701 #702 #703 #704 #705 #706 #707 #708 #709 #710 #711 #712 #713 #714 #715 #716 #717 #718 #719 #720 #721 #722 #723 #724 #725 #726 #727 #728 #729 #730 #731 #732 #733 #734 #735 #736 #737 #738 #739 #740 #741 #742 #743 #744 #745 #746 #747 #748 #749 #750 #751 #752 #753 #754 #755 #756 #757 #758 #759 #760 #761 #762 #763 #764 #765 #766 #767 #768 #769 #770 #771 #772 #773 #774 #775 #776 #777 #778 #779 #780 #781 #782 #783 #784 #785 #786 #787 #788 #789 #790 #791 #792 #793 #794 #795 #796 #797 #798 #799 #800 #801 #802 #803 #804 #805 #806 #807 #808 #809 #810 #811 #812 #813 #814 #815 #816 #817 #818 #819 #820 #821 #822 #823 #824 #825 #826 #827 #828 #829 #830 #831 #832 #833 #834 #835 #836 #837 #838 #839 #840 #841 #842 #843 #844 #845 #846 #847 #848 #849 #850 #851 #852 #853 #854 #855 #856 #857 #858 #859 #860 #861 #862 #863 #864 #865 #866 #867 #868 #869 #870 #871 #872 #873 #874 #875 #876 #877 #878 #879 #880 #881 #882 #883 #884 #885 #886 #887 #888 #889 #890 #891 #892 #893 #894 #895 #896 #897 #898 #899 #900 #901 #902 #903 #904 #905 #906 #907 #908 #909 #910 #911 #912 #913 #914 #915 #916 #917 #918 #919 #920 #921 #922 #923 #924 #925 #926 #927 #928 #929 #930 #931 #932 #933 #934 #935 #936 #937 #938 #939 #940 #941 #942 #943 #944 #945 #946 #947 #948 #949 #950 #951 #952 #953 #954 #955 #956 #957 #958 #959 #960 #961 #962 #963 #964 #965 #966 #967 #968 #969 #970 #971 #972 #973 #974 #975 #976 #977 #978 #979 #980 #981 #982 #983 #984 #985 #986 #987 #988 #989 #990 #991 #992 #993 #994 #995 #996 #997 #998 #999

Collected: 08/28/97 11:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015 Diesel Range OG in Soil		mg/Kg	25	25	08/28/97	SDR0050

William P. Biava
William P. Biava
President

WORKORDER COMMENTS

DATE : 09/03/97

WORKORDER:

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"

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

MASSAIA ANALYTICAL LABORATORIES

ALBUQUERQUE, NEW MEXICO 8
(505) 345-8964

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

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

MELQUIADES ALANIS

6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Project Manager / Contact ~~Jeff Cross~~

Telephone No. (505) 774-6643

Fax No. (505) 774-6624

Samplers: (Signature) John McKinley

Contract / Purchase Order / Quote

Client Apache Corporation

Address 304 N. Behrend

City/State/Zip Farmington, NM 87401

Project Name / Number JICARILLA PIT CLOSURES

[illegible]

Method of Shipment:

Shipment No. _____

Special Instructions:

Comments:

☐ Stored over 30 days (additional fee)

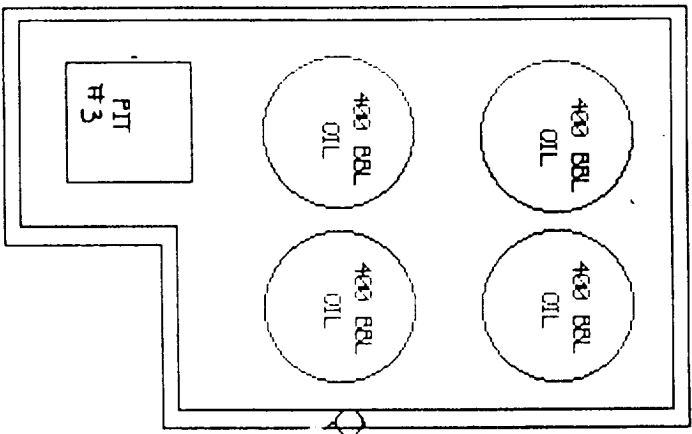
LABORATORY

N W PETROLEUM, JICARILLA APACHE 118 NUMBER 14
Lease # JAT 1118

NE/4 NW/4 Q2, SECTION 38, TOWNSHIP 28N, RANGE 3W

RIO ARriba COUNTY, NEW MEXICO

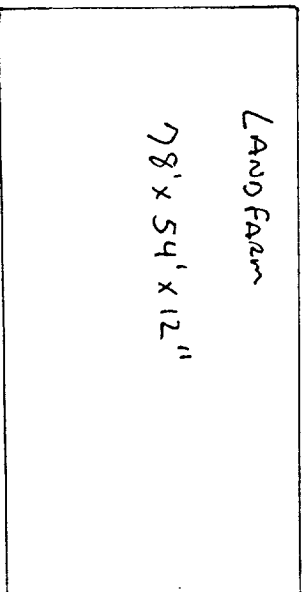
Revised 8/2/97 M3



SEPARATOR

PIT 2

Pit #1



PUMP JACK

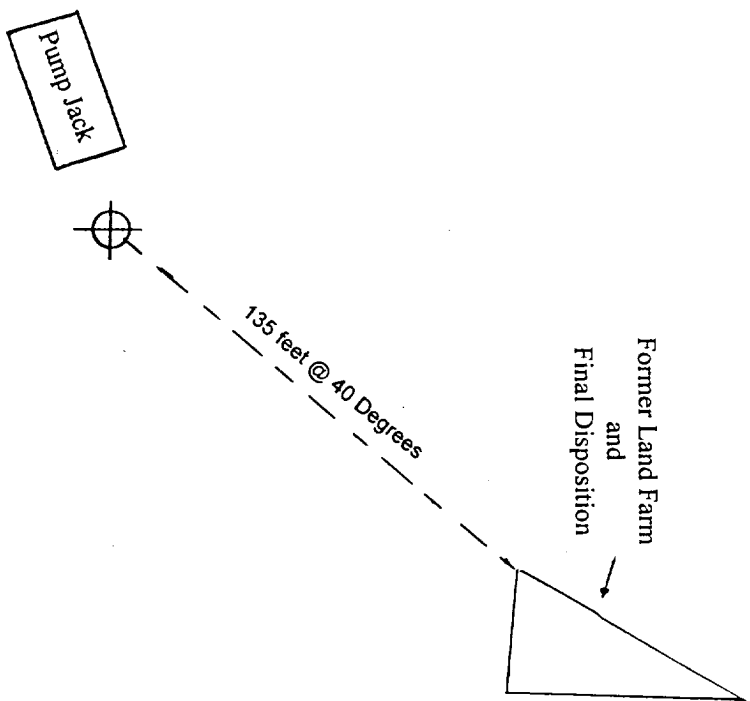
WELL HEAD

DIRECTION OF DRAINAGE

NORTH



Scale
1 Inch Equals 50 Feet



WILLIAMS FIELD SERVICES
LANDFARM LOCATION MAP
Jicarilla Apache 118 Unit 14
Unit C Sec 36 Twn 26N Rng 3W
August 20, 1997

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: <u>MW PETROLUEM</u> Telephone <u>505-325-0318</u>	
Address: <u>2855 SOUTHSIDE RIVER ROAD/SUITE A/ FARMINGTON N.M. 87401-7947</u>	
Facility or Well Name: <u>JAT A 118 # 14 CELL</u>	
Location: Unit or Qtr/Qtr Sec <u>C SEC 36 T 26 N R 3 W</u> County <u>RIO ARRIBA</u>	
Land Type <u>JIC. TRIBAL</u>	
Date Remediation Started: <u>8/13/97</u> Date Completed: <u>11/11/98</u>	
Remediation Method: Landfarmed <u>XXX</u> Approx. cubic yards <u>160</u>	
Composted _____	
Other <u>SOIL TO BE PUT BACK IN PIT</u>	
Depth to Groundwater: (pts) <u>0</u>	Final Closure Sampling Sampling Date: <u>11/11/98</u> Time: <u>12:20PM</u> Sample Results: Field Headspace (ppm) <u>0</u> TPH (ppm) <u>ND</u> Method <u>M8015</u> Other <u>BTEX \ SW846 , 8020A (ND)</u>
Distance to an Ephemeral Stream: (pts) <u>0</u>	
Distance to Nearest Lake, Playa, or Watering Pond: (pts) <u>0</u>	
Wellhead Protection Area: (pts) <u>0</u>	
Distance To Surface Water: (pts) <u>0</u>	
RANKING SCORE (TOTAL POINTS) <u>0</u>	
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF	
DATE: <u>11/25/98</u> PRINTED NAME <u>JEFF CROSS</u>	
SIGNATURE <u><i>Jeff Cross</i></u> TITLE <u>PROJECT MANAGER</u>	
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION. ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.	
APPROVED: YES <u>X</u> NO _____ (REASON) <u>use as Backfill</u>	
SIGNED: <u><i>KearC Marshall</i></u> DATE: <u>12-28-98</u>	

M W PETROLEUM/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

REMEDIATION SITE JAT A118 #14

* AMOUNT OF SOIL UNDERGOING REMEDIATION 160 Yds.

CELL No. <u>1</u>	SampDATE 6/10/98	TPH 4600	BTEX ND
DIMENSIONS(LxWxH) <u>78' X 54' X 12"</u>	11/11/98	ND	ND
CELL LOCATION (dir. from well head) <u>NORTH</u>			
* DATE BEGAN: <u>8/13/97</u>			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>11-11-98</u>			

CELL No. <u>2</u>	SampDATE	TPH	BTEX
DIMENSIONS(LxWxH)			
CELL LOCATION (dir. from well head)			
* DATE BEGAN:			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm)			

CELL No. <u>3</u>	SampDATE	TPH	BTEX
DIMENSIONS(LxWxH)			
CELL LOCATION (dir. from well head)			
* DATE BEGAN:			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm)			

REMEDIATION RECORD: (Date, Treatment, Tilling)

8/21/97 TREAT SOIL CELL WITH 46-0-0 FERTILIZER, WATER, PLOW AND TILL SOIL.

4/23/98 PLOW AND TILL SOIL.

5/17/98 PLOW AND TILL SOIL.

9/4/98 WATER, PLOW AND TILL SOIL.

6/3/98 WATER, PLOW AND TILL SOIL.

9/24/98 PLOW AND TILL SOIL.

6/8/98 PLOW AND TILL SOIL.

7/13/98 WATER, PLOW AND TILL SOIL.

7/28/98 PLOW AND TILL SOIL.

8/12/98 PLOW AND TILL SOIL.

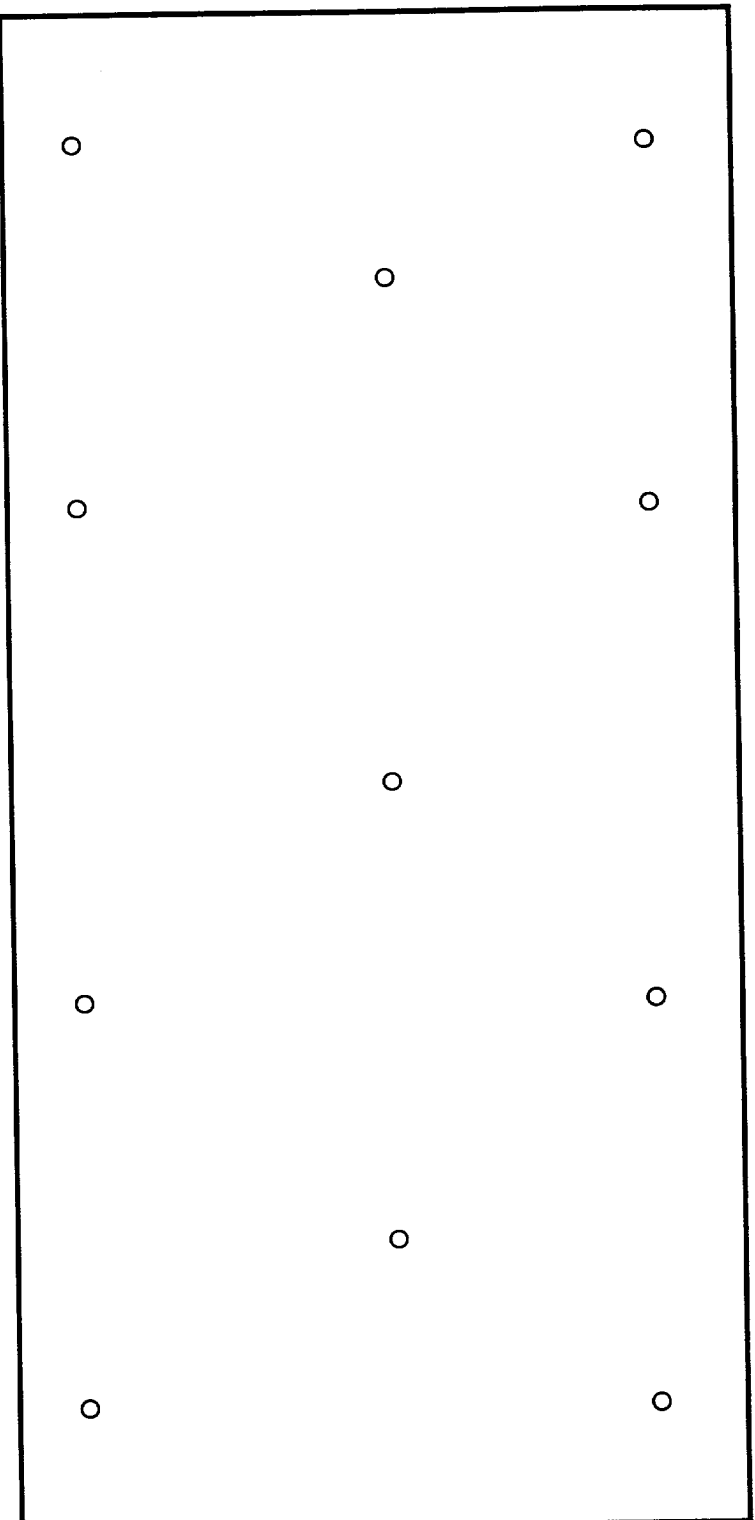
From excavation reports.

WELL NAME: JAT A118 # 14

SAMPLE DATE: 11/11/98

DIMENSIONS: 78' X 54' X 12"

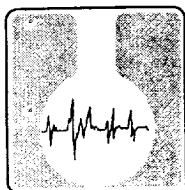
○ = SAMPLE AREA



NOTES:

ALL SAMPLES TAKEN 10" TO 12" INTO CELL.

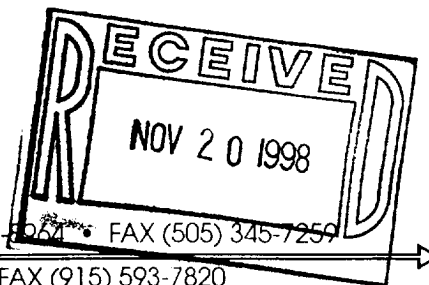
11 POINT COMPOSITE SAMPLE



ASSAIGAI ANALYTICAL LABORATORIES, INC.

7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8667 • FAX (505) 345-7259

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

B	analyte detected in Method Blank
E	result is estimated
H	analyzed out of hold time
N	tentatively identified compound
S	subcontracted
1-9	see footnote

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **APACHE CORPORATION**
Project: **9811108 JICARILLA PIT CLOSURES**

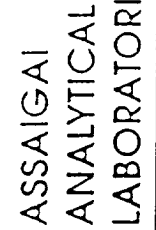
William P. Biava
William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Client Sample ID: **A118 #14 CELL** Sample Matrix: **SOIL** Sample Collected: **11/11/98 12:20:00**

Fraction	QC Group	CAS #	Result	Units	Dilution Factor	Detection Limit	* Sequence	Run Date
Test: SW846 8010B/8020A Purgeable VOCs by GC/PID-ELCD								
9811108-01A	X98513	71-43-2	Benzene	ND	mg / Kg	250	0.005	XG. 1998.996-16 11/13/98
	X98513	100-41-4	Ethylbenzene	ND	mg / Kg	250	0.005	XG. 1998.996-16
	X98513	95-47-6	o-Xylene	ND	mg / Kg	250	0.005	XG. 1998.996-16
	X98513		P/M-Xylenes	ND	mg / Kg	250	0.01	XG. 1998.996-16
	X98513	108-88-3	Toluene	ND	mg / Kg	250	0.005	XG. 1998.996-16
Test: SW846 8015A Diesel Range Organics by GC/FID								
9811108-01B	X98516		Diesel Range Organics	ND	mg / Kg	20	25	XG. 1998.1009-3 11/16/98

*** 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. ***





7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

Date 01/11/14

Date 01/11/14

Page _____ of _____

Project Manager / Contact Jeff Cross

(505) 774-6643

174-6624

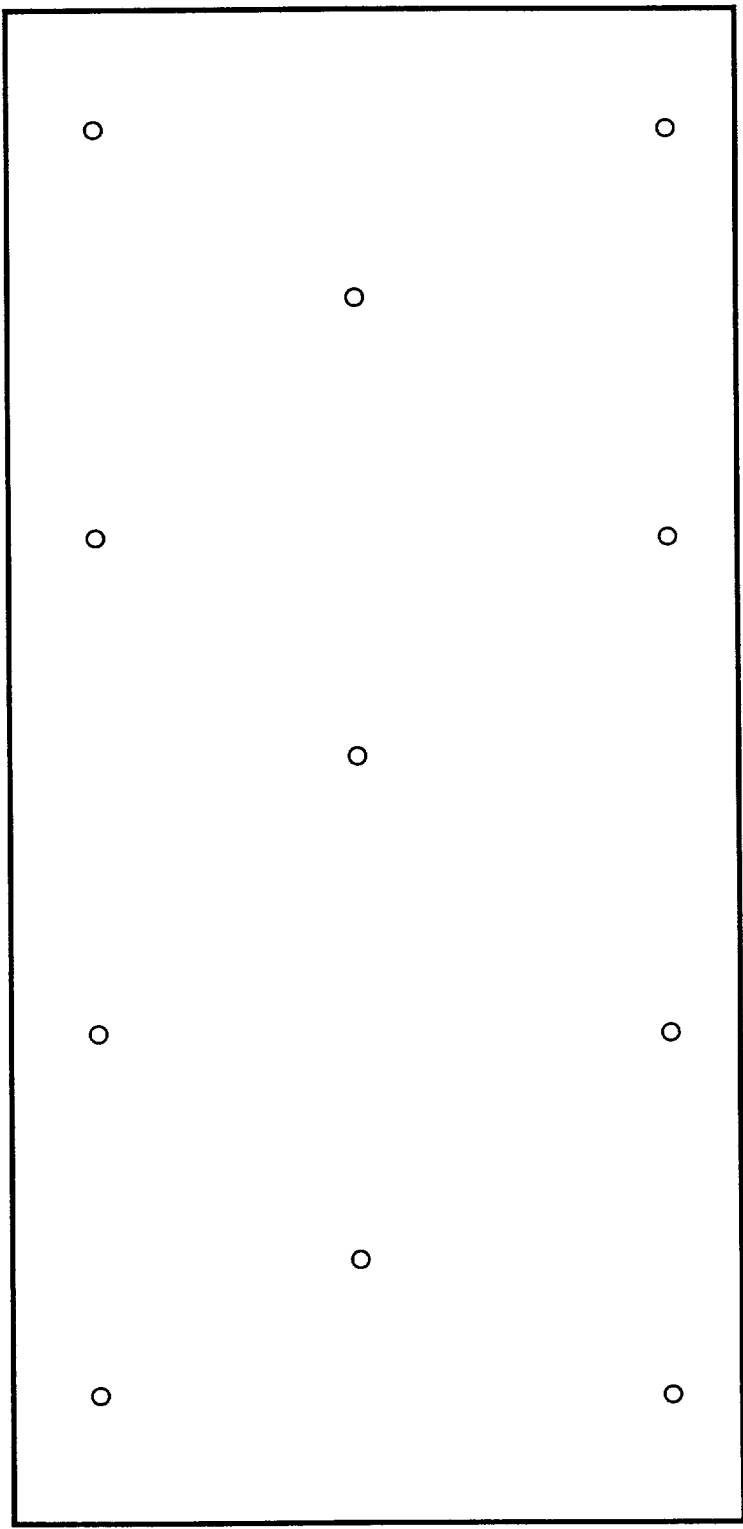
Danny Martin

Contract / Purchase Order / Quote

[illegible]

WELL NAME: JAT A118 # 14
SAMPLE DATE: 11/11/98
DIMENSIONS: 78' X 54' X 12"

○ = SAMPLE AREA



NOTES: ALL SAMPLES TAKEN 10" TO 12" INTO CELL.
11 POINT COMPOSITE SAMPLE

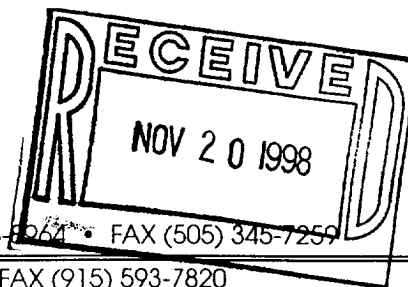


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127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505) 662-2558



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

* explanation of codes

B	analyte detected in Method Blank
E	result is estimated
H	analyzed out of hold time
N	tentatively identified compound
S	subcontracted
1-9	see footnote

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: APACHE CORPORATION
Project: 9811108 JICARILLA PIT CLOSURES

William P. Biava
William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Client Sample ID: **A118 #14 CELL** Sample Matrix: **SOIL** Sample Collected: **11/11/98 12:20:00**

Fraction	QC Group	CAS #	Result	Units	Dilution Factor	Detection Limit	Sequence	Run Date
Test: SW846 8010B/8020A Purgeable VOCs by GC/PID-ELCD								
9811108-01A	X98513	71-43-2	Benzene	ND	mg / Kg	250	0.005	XG.1998.996-16 11/13/98
	X98513	100-41-4	Ethylbenzene	ND	mg / Kg	250	0.005	XG.1998.996-16
	X98513	95-47-6	o-Xylene	ND	mg / Kg	250	0.005	XG.1998.996-16
	X98513		P/M-Xylenes	ND	mg / Kg	250	0.01	XG.1998.996-16
	X98513	106-88-3	Toluene	ND	mg / Kg	250	0.005	XG.1998.996-16
Test: SW846 8015A Diesel Range Organics by GC/FID								
9811108-01B	X98516		Diesel Range Organics	ND	mg / Kg	20	25	XG.1998.1009-3 11/16/98

*** 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. ***



Chain of Custody Record

Lab job no.: 11108 Date:

A 00

Page 27

1300 DEFENSES, INC.

(505) 735-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925

(915) 593-5000

Client Apache Corporation

Project Manager/Contact Jeff Cross

Address 2855 Southside River Rd., Ste. A, Telephone No. (505) 774-6643

City/State/Zip Farmington, NM 87401-7947 Fax No. (505) 774-6624

Fax No. (505) 774-6624

Project Name / Number.

Samplers: (Signature)

Contract / Purchase Order / Quote

[illegible]