

District III  
1000 Rio Brazos Rd  
Aztec, NM 87410

*Denny E. Faust*  
**DEPUTY OIL & GAS INSPECTOR**

Energy, Minerals and Natural Resources Department

State of New Mexico

**OIL CONSERVATION DIVISION**

2040 S. PACHECO

Santa Fe, New Mexico 87505

*Pit #2-04*  
*P.T.* Submit 1 copy to

Appropriate District

and 1 copy to

Santa Fe Office

JAN 29 1999

**PIT REMEDIATION AND CLOSURE REPORT**

JAN 25 1999

**OIL CON. DIV.**

**DIST. 3**

Operator: **Apache Corporation \ MW Petroleum**

Telephone:

**505-325-1318**

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

Facility or Well Name:

**Jic Apache Tribal A118 #11 Pit #1**

Location: Unit or Qtr/Qtr Sec

**N**

**Sec 36**

**T 26 N**

**R**

**2W**

County

**Rio Arriba**

Pit Type: Separator:

Dehydrator

Other

**Blow Pit**

Land Type:

**Jicarilla Tribal**

Beginning Pit Dimensions:

Length **15'**

Width **15'**

Depth **5'**

Pit Location:

Ending Pit Dimensions:

Length **18'**

Width **18'**

Depth **12'**

(Attach diagram)

Reference:

Wellhead

**XX**

Other

Footage from reference:

**80'**

Direction from reference:

**342**

Degrees

East

North

**XX**

of

**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)

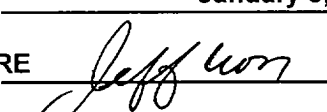
Greater than 1000 feet

(0 points)

**0**

**RANKING SCORE (TOTAL POINTS)**

**0**

<b>Date Remediation Started:</b>		<u>8/27/97</u>	<b>Date Completed:</b>		<u>9/5/97</u>
<b>Remediation Method:</b> (Check all appropriate sections)		Excavation	<u>XXX</u>	Approx. cubic yards	<u>84</u>
		Landfarmed	<u>XX</u>	Insitu Bioremediation	
		Other _____			
<b>Remediation Location:</b> (i.e. landfarmed onsite, name and location of offsite facility)		Onsite	<u>XX</u>	Offsite	_____
<b>General Description of Remedial Action:</b>		<u>Excavate pit to 12' , took PID readings. Spread soil on</u>			
		<u>location for remediation. Took soil samples.</u>			
		_____			
		_____			
		_____			
<b>Groundwater Encountered:</b>		No	<u>XX</u>	Yes	_____
		Depth _____			
<b>Final Pit:</b>	Sample location	<u>4 point composite taken from pit sidewalls.</u>			
<b>Closure Sampling:</b> (in multiple samples, attach sample results and diagram of sample locations and depths)	Sample depth	<u>12'</u>	<u>8 to 10" into pit sidewalls 10" into pit bottom</u>		
	Sample Date	<u>9/5/97</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>41.76</u>		
	TPH		<u>1400/side</u> <u>ND/BTM</u>		
<b>Groundwater Sample:</b>	Yes	_____	No	<u>XX</u>	(If yes attach sample results)
<b>I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.</b>					
<b>DATE</b>	<u>January 8, 1999</u>	<b>PRINTED NAME</b>	<u>Jeff Cross</u>		
<b>SIGNATURE</b>		<b>AND TITLE</b>	<u>Project Manager</u>		

District III  
1000 Rio Brazos Rd  
Aztec, NM 87410

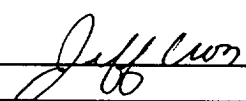
State of New Mexico  
Energy, Minerals and Natural Resources Department

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

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

**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 #11 Pit #2</u>	
Location: Unit or Qtr/Qtr Sec	<u>N</u>	<u>Sec 36</u>	<u>T 26 N</u>
		<u>R</u>	<u>2W</u> <sup>03W</sup>
		County	<u>Rio Arriba</u>
Pit Type: Separator:	<u>XX</u>	Dehydrator	<u>Other</u>
Land Type: <u>Jicarilla Tribal</u>			
Beginning Pit Dimensions:		Length <u>15'</u>	Width <u>15'</u>
		Depth <u>3'</u>	
Pit Location: Ending Pit Dimensions:	Length <u>21'</u>	Width <u>24'</u>	Depth <u>14'</u>
(Attach diagram)			
Reference:	Wellhead <u>XX</u>	Other	
Footage from reference:		<u>70'</u>	
Direction from reference:		<u>110</u> Degrees	<u>XX</u> East
			North of South <u>X</u>
		<u>West</u>	
<b>Depth To Groundwater:</b>		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)			
 <b>Wellhead Protection Area:</b>		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)			
<b>Distance To Surface Water:</b>		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,		Greater than 1000 feet	( 0 points) <u>        0        </u>
irrigation canals and ditches)			
		<b>RANKING SCORE (TOTAL POINTS)</b>	<u>        0        </u>

<b>Date Remediation Started:</b>		<u>9/4/97</u>		<b>Date Completed:</b>		<u>9/8/97</u>	
<b>Remediation Method:</b> (Check all appropriate sections)		Excavation	<u>XXX</u>	Approx. cubic yards	<u>205</u>		
		Landfarmed	<u>XX</u>	In situ Bioremediation			
		Other					
<b>Remediation Location:</b> (i.e. landfarmed onsite, name and location of offsite facility)		Onsite	<u>XX</u>	Offsite			
<b>General Description of Remedial Action:</b>		<u>Excavate pit to 14' , took PID readings. Spread soil on</u>					
		<u>location for remediation. Took soil samples.</u>					
<b>Groundwater Encountered:</b>		No	<u>XX</u>	Yes			Depth <u>          </u>
<b>Final Pit:</b>	Sample location	<u>4 point composite taken from pit sidewalls.</u>					
<b>Closure Sampling:</b> (in multiple samples, attach sample results and diagram of sample locations and depths)	Sample depth	<u>14'</u>	<u>8 to 10" into pit sidewalls 10" into pit bottom</u>				
	Sample Date	<u>9/8/97</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>53.08</u>				
	TPH		<u>2100/side</u> <u>3700/BTM</u>				
<b>Groundwater Sample:</b>	Yes			No	<u>XX</u>	(If yes attach sample results)	
<b>I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.</b>							
<b>DATE</b>	<u>January 8, 1999</u>		<b>PRINTED NAME</b>	<u>Jeff Cross</u>			
<b>SIGNATURE</b>			<b>AND TITLE</b>	<u>Project Manager</u>			

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

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 A-118 #11</u>		PIT # <u>1</u>	
Location:	Unit or Qtr/Qtr Sec <u>N SEC 36 T 26N R 3W</u>	County	<u>RIO ARRIBA</u>
Pit Type:	Separator: <u>          </u> Dehydrator <u>          </u> Other <u>          </u>	<u>BLOW PIT</u>	
Land Type: <u>JIC. TRIBAL</u>			
Pit Location: Pit Dimensions: Length <u>18'</u> Width <u>18'</u> Depth <u>12'</u>			
(Attach diagram)			
Reference: Wellhead <u>XXX</u> Other <u>          </u>			
Footage from reference: <u>80'</u>			
Direction from reference: <u>342</u> Degrees <u>          </u> East North <u>XX</u>			
<u>X</u> West of South <u>          </u>			
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)			
Distance to an Ephemeral Stream:		Less than 100 feet	(10 points) <u>          </u>
(Downgradient dry wash greater than		Greater than 100 feet	( 0 points) <u>0</u>
ten feet in width			
Distance to Nearest Lake, Playa, or Watering Pond:		Less than 100 feet	(10 points) <u>          </u>
(Downgradient lakes, playas and		Greater than 100 feet	( 0 points) <u>0</u>
livestock or wildlife watering ponds)			
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 100 feet	(20 points) <u>          </u>
(Horizontal distance to perennial		100 feet to 1000 feet	(10 points) <u>          </u>
lakes, ponds, rivers, streams, creeks,		Greater than 1000 feet	( 0 points) <u>0</u>
irrigation canals and ditches)			
RANKING SCORE (TOTAL POINTS)			<u>0</u>


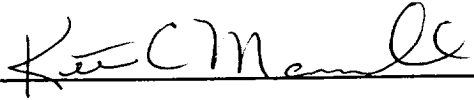
<b>Date Remediation Started:</b>		<u>8/27/97</u>		<b>Date Completed:</b>		<u>9-5-97</u>	
<b>Remediation Method:</b> (Check all appropriate sections)		Excavation <u>XXX</u>		Approx. cubic yards		<u>84</u>	
		Landfarmed <u>XX</u>		Insitu Bioremediation			
		Other _____					
<b>Remediation Location:</b> (i.e. landfarmed onsite, name and location of offsite facility)		Onsite <u>XX</u>		Offsite _____			
<b>General Description of Remedial Action:</b> <u>Excavate pit to 12', took PID readings. spread soil on location for remediation. Took soil samples.</u>							
<b>Groundwater Encountered:</b>		No <u>XXX</u>		Yes _____		Depth _____	
<b>Final Pit:</b>		Sample location <u>4 point composite taken from pit sidewalls.</u>					
<b>Closure Sampling:</b> (in multiple samples, attach sample results and diagram of sample locations and depths)		<u>GRAB SAMPLE TAKEN FROM PIT BOTTOM CENTER.</u>					
		Sample depth <u>12'</u>		<u>8" to 10" into pit side walls, 10" into pit bottom.</u>			
Sample Date		<u>9/5/97</u>		Sample Time		<u>2:00PM</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>41.76</u>		Ethylbenzene	(ppb)	<u>NA</u>
	TPH	(ppm)	<u>SIDE\1400</u>		Total Xylenes	(ppb)	<u>NA</u>
			<u>BTMND</u>				
<b>Groundwater Sample:</b>		Yes _____		No <u>XXX</u>		(If yes attach sample results)	
<b>I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.</b>							
<b>DATE</b>		<u>11-25-98</u>		<b>PRINTED NAME</b>		<u>JEFF CROSS</u>	
<b>SIGNATURE</b>		<u>Jeff Cross</u>		<b>AND TITLE</b>		<u>PROJECT MANAGER</u>	
<b>AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.</b>							
<b>APPROVED:</b>		YES <u>X</u>		NO _____		(REASON) _____	
<b>SIGNED:</b>		<u>Kor C Mandle</u>		<b>DATE:</b>		<u>12-28-98</u>	

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

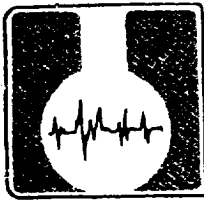
Submit 1 copy to  
Natural Resource Dept.  
and Oil & Gas Administration

**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 A-118 #11</u>		PIT # <u>2</u>	
Location:	Unit or Qtr/Qtr Sec <u>N</u>	SEC <u>36</u>	T <u>26N</u> R <u>3W</u> County <u>RIO ARRIBA</u>
Pit Type:	Separator: <u>XX</u>	Dehydrator <u>      </u>	Other <u>      </u>
Land Type: <u>JIC. TRIBAL</u>			
Pit Location: (Attach diagram)	Pit Dimensions:	Length <u>21'</u>	Width <u>24'</u> Depth <u>14'</u>
	Reference:	Wellhead <u>XXX</u>	Other <u>      </u>
	Footage from reference:	<u>70'</u>	
	Direction from reference:	<u>110</u> Degrees <u>XX</u> East	North <u>      </u>
		<u>      </u> West	of South <u>X</u>
<b>Depth To Groundwater:</b> (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>
<b>Distance to an Ephemeral Stream:</b> (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>
<b>Distance to Nearest Lake, Playa, or Watering Pond:</b> (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>
<b>Wellhead Protection Area:</b> (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>
<b>Distance To Surface Water:</b> (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>

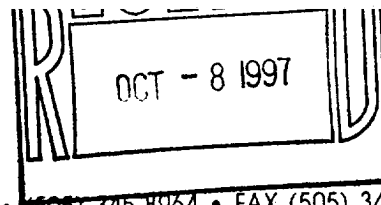
Date Remediation Started:		9/4/97		Date Completed:		9-8-97					
Remediation Method: (Check all appropriate sections)		Excavation		XXX		Approx. cubic yards		205			
		Landfarmed		XX		Insitu Bioremediation					
		Other									
Remediation Location:		Onsite		XX		Offsite					
(i.e. landfarmed onsite, name and location of offsite facility)											
General Description of Remedial Action: Excavate pit to 14', took PID readings. spread soil on location for remediation. Took soil samples.											
Groundwater Encountered:		No		XXX		Yes		Depth			
Final Pit:		Sample location		4 point composite taken from pit sidewalls.							
Closure Sampling:				GRAB SAMPLE TAKEN FROM PIT BOTTOM CENTER.							
(in multiple samples, attach sample results and diagram of sample locations and depths)		Sample depth		14'		8" to 10" into pit side walls, 10" into pit bottom.					
Sample Date		9/8/97		Sample Time		11:00AM					
Sample results											
Soil:		Benzene		(ppm)		ND		Water: Benzene (ppb)		NA	
		Total BTEX		(ppm)		ND		Toluene (ppb)		NA	
		Field Headspace		(ppm)		53.08		Ethylbenzene (ppb)		NA	
		TPH		(ppm)		SIDE\2100 BTM\3700		Total Xylenes (ppb)		NA	
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				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:				DATE:		12-26-98					





**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) 593-7820



Report Generated:

September 23, 1997 09:26

**CERTIFICATE OF ANALYSIS  
RESULTS BY SAMPLE**

SENT APACHE CORPORATION

WORKORDER # : 9709109

TO: 2855 SOUTHSIDE RIVER RD STE AWORK ID : JICARILLA PIT CLOSURES

FARMINGTON, NM 87401-7947 CLIENT CODE : APA01

DATE RECEIVED : 09/12/97

ATTN: JEFF CROSS

Page: 1

Lab ID: 9709109-01A

Collected: 09/05/97 14:00:00

Sample ID: A118 #11 PIT 1 SIDES

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	09/14/97	X97262
Toluene	ND	mg/kg	0.0050	100	09/14/97	X97262
Ethylbenzene	ND	mg/kg	0.0050	100	09/14/97	X97262
P-&m-Xylene	ND	mg/kg	0.010	100	09/14/97	X97262
O-Xylene	ND	mg/kg	0.0050	100	09/14/97	X97262

Lab ID: 9709109-01B

Collected: 09/05/97 14:00:00

Sample ID: A118 #11 PIT 1 SIDES

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015						
Diesel Range OG in Soil	1400	mg/Kg	25	25	09/17/97	SDRO53

Lab ID: 9709109-02A

Collected: 09/05/97 14:30:00

Sample ID: A118 #11 PIT 1 BOTTOM

Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	09/14/97	X97262
Toluene	ND	mg/kg	0.0050	100	09/14/97	X97262
Ethylbenzene	ND	mg/kg	0.0050	100	09/14/97	X97262
P-&m-Xylene	ND	mg/kg	0.010	100	09/14/97	X97262
O-Xylene	ND	mg/kg	0.0050	100	09/14/97	X97262



Lab ID: 9709109-02B

Sample ID: A118 #11 PIT 1 BOTTOM

Collected: 09/05/97 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	09/12/97	SDRO052

William P. Biava  
President

## **WORKORDER COMMENTS**

DATE : 09/23/97  
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.

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### **REPORT COMMENTS**

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# Chain of Custody Record

ALBUQUERQUE, NEW MEXICO 87109  
(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

Client Apache Corporation  
Project Manager / Contact Jeff Cross

Address 304 N. Behrend  
Telephone No. (505) 774-6643

City / State / Zip Farmington, NM 87401

Project Name / Number JICARILLA PIT CLOSURES

Contract / Purchase Order / Quote \_\_\_\_\_

Samplers: (Signature) John Melais

Page 1 of 1

Lab job no.: 9109 Date: \_\_\_\_\_

Field Sample Number / Location  
01A A118 4 P.F. #1 Sides  
01B " " "  
02A A118 4 P.F. #1 Bottom  
02B " " "

Sample Type  
ICE  
/  
/  
/

Type / Size of Container  
402 glass  
/  
/  
/

Time  
2:00  
/  
2:30  
/

Date  
9-5-97  
/  
/  
/

Received by:  
Signature Scott Pratt  
Printed SCOTT PRATT  
Company RAL  
Reason \_\_\_\_\_

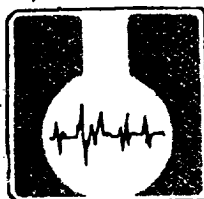
Relinquished by:  
Signature Scott Pratt  
Printed SCOTT PRATT  
Company RAL  
Reason \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Method of Shipment: \_\_\_\_\_  
Shipment No.: \_\_\_\_\_  
Special Instructions: \_\_\_\_\_

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

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) 593-7820



Report Generated:

September 16, 1997 14:43

**CERTIFICATE OF ANALYSIS  
RESULTS BY SAMPLE**

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

WORKORDER # : 9709108  
WORK ID : JICARILLA PIT CLOSURES  
CLIENT CODE : APA01  
DATE RECEIVED : 09/12/97

ATTN: JEFF CROSS

Page: 1

Lab ID: 9709108-01A  
Sample ID: ~~9709108-01A~~ #11 PIT 2 SIDES

Collected: ~~09/08/97~~ 11:00:00  
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	09/14/97	X97262
Toluene	ND	mg/kg	0.0050	100	09/14/97	X97262
Ethylbenzene	ND	mg/kg	0.0050	100	09/14/97	X97262
P-&m-Xylene	ND	mg/kg	0.010	100	09/14/97	X97262
O-Xylene	ND	mg/kg	0.0050	100	09/14/97	X97262

Lab ID: 9709108-01B  
Sample ID: ~~9709108-01B~~ #11 PIT 2 SIDES

Collected: ~~09/08/97~~ 11:00:00  
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015						
Diesel Range OG in Soil		mg/Kg	25	25	09/12/97	SDRO052

Lab ID: 9709108-02A  
Sample ID: ~~9709108-02A~~ #11 PIT 2 BOTTOM

Collected: ~~09/08/97~~ 11:30:00  
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A						
Benzene	ND	mg/kg	0.0050	100	09/14/97	X97262
Toluene	ND	mg/kg	0.0050	100	09/14/97	X97262
Ethylbenzene	ND	mg/kg	0.0050	100	09/14/97	X97262
P-&m-Xylene	ND	mg/kg	0.010	100	09/14/97	X97262
O-Xylene	ND	mg/kg	0.0050	100	09/14/97	X97262

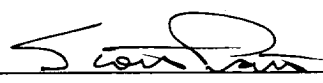


Lab ID: 9709108-02B

Sample ID: ~~9709108-02B~~ BOTTOMCollected: ~~09/08/97~~ 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	<del>25.00</del>	mg/Kg	25	25	09/12/97	SDR0052

For   
William P. Biava  
President

## **WORKORDER COMMENTS**

DATE : 09/16/97

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.

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### **REPORT COMMENTS**

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ASSAIGAI  
ANALYTICAL  
LABORATORIES

**MELQUIADES ALANIS**

Contract / Purchase Order / Quote \_\_\_\_\_

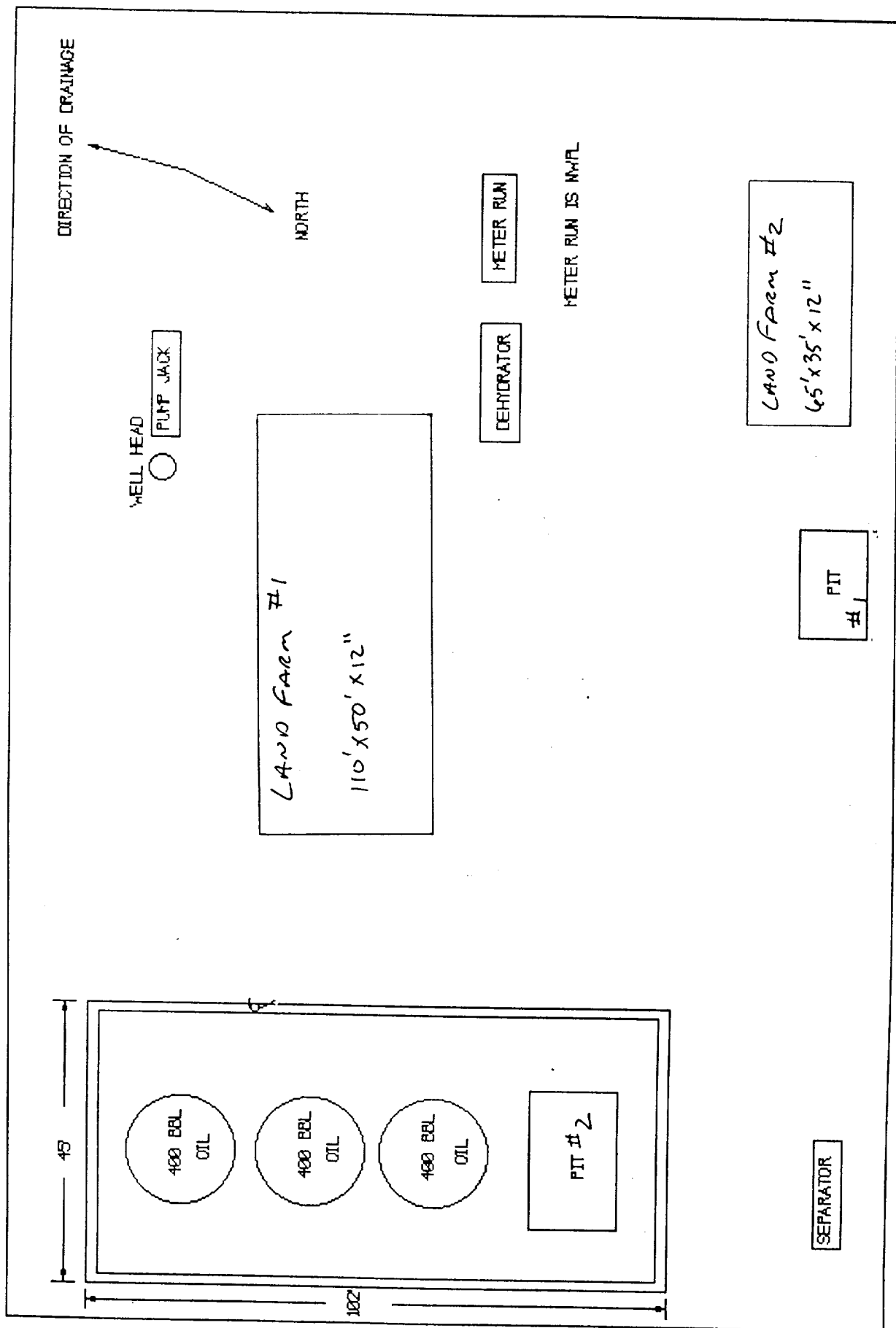
**MELQUIADES ALANIS**

[illegible]

LABORATORY

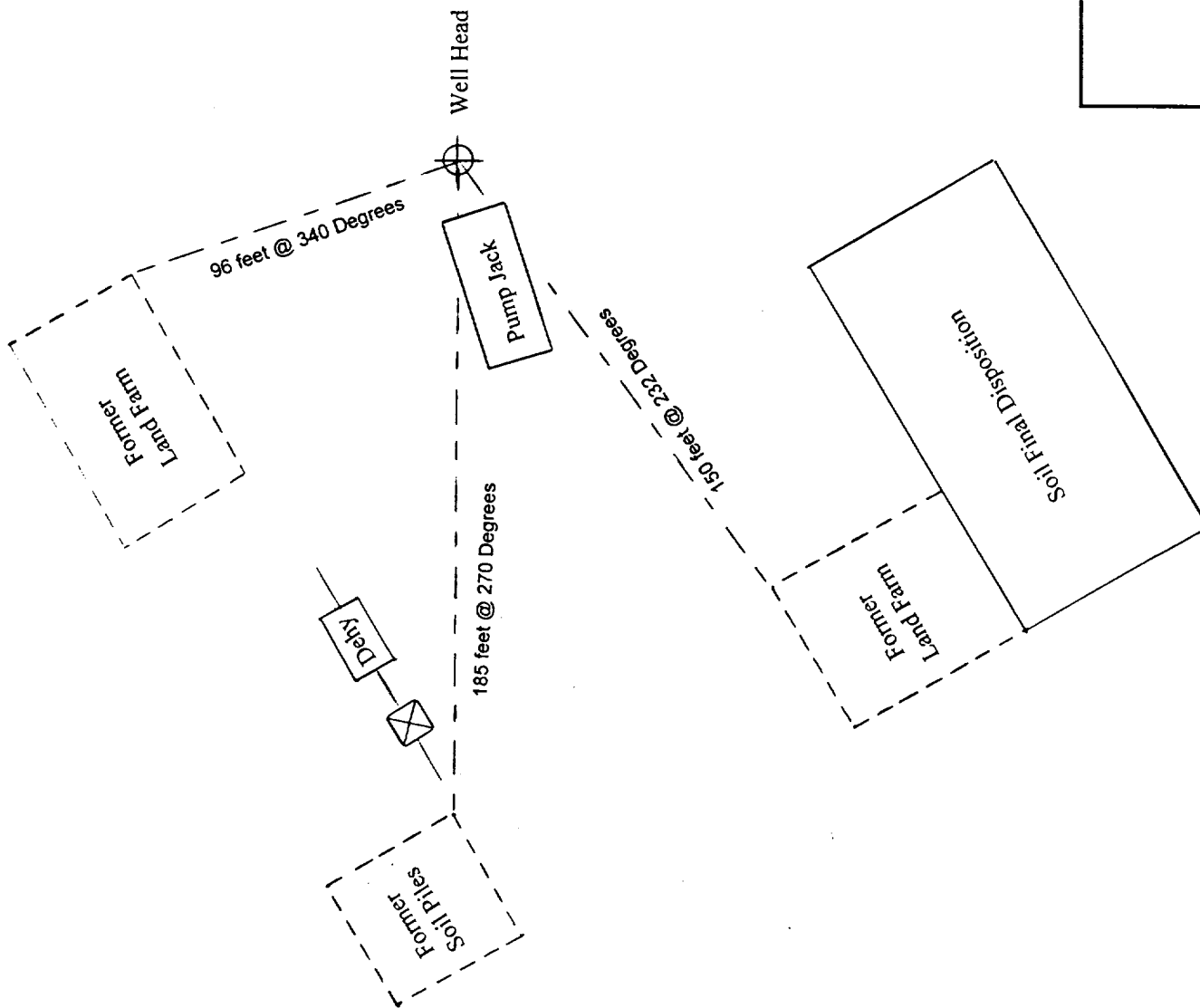


Revised 8/2/97 MG





Scale  
1 Inch Equals 50 Feet



**WILLIAMS FIELD SERVICES**  
**LANDFARM LOCATION MAP**

Jicarilla Apache 118 Unit 11  
Unit N Sec 36 Twn 26N Rng 3W

August 20, 1997

# M W PETROLEUM/FARMINGTON DISTRICT PIT EXCAVATION AND CLOSURE REPORT

LOCATION JAT A-118 # 11

PIT COUNT 2

Jicarilla Apache Tribal EPO/OCD/BLM

Review and Approval

OCD-BLM

EPO Representative

Date of Review

START:		PIT#1 <del>8/2/97</del> <u>8-27-97</u> <i>fu.</i>			FINISH: PIT#1 9/5/97			
DIMENSIONS		PIT#2 9/4/97			PIT#2 9/8/97			
	W	L	D		W	L	D	CU YDS
Pit 1	15'	15'	5'	Pit 1	18'	18'	12'	84
Pit 2	15'	15'	3'	Pit 2	24'	21'	14'	205
Pit 3				Pit 3				
		Pit 1 @ 9'	Pit 2 @ 8'	Pit 3 @		Pit 1 @ 12'	Pit 2 @ 14'	Pit 3 @
P	Center	135.7	121		P	Center	87.8	60.3
I	NW Corner	120.3	118.7		I	NW Corner	31	58.4
D	NE Corner	123	133		D	NE Corner	36.9	62.4
	SW Corner	98.5	116.4			SW Corner	23.8	49.7
	SE Corner	100.7	105.2			SE Corner	29.3	34.6

## NOTES:

8/27/97 START EXCAVATION ON PIT # 1, LIGHT STAINING AND ODOR.

PIT CREW WENT ON VACATION.

9/5/97 FINISHED EXCAVATION ON PIT # 1, NO STAINING OR ODOR, PID READINGS GOOD.

9/4/97 START EXCAVATION ON PIT # 2, LIGHT STAINING AND ODOR.

9/8/97 FINISH EXCAVATION ON PIT # 2, PID READINGS GOOD.

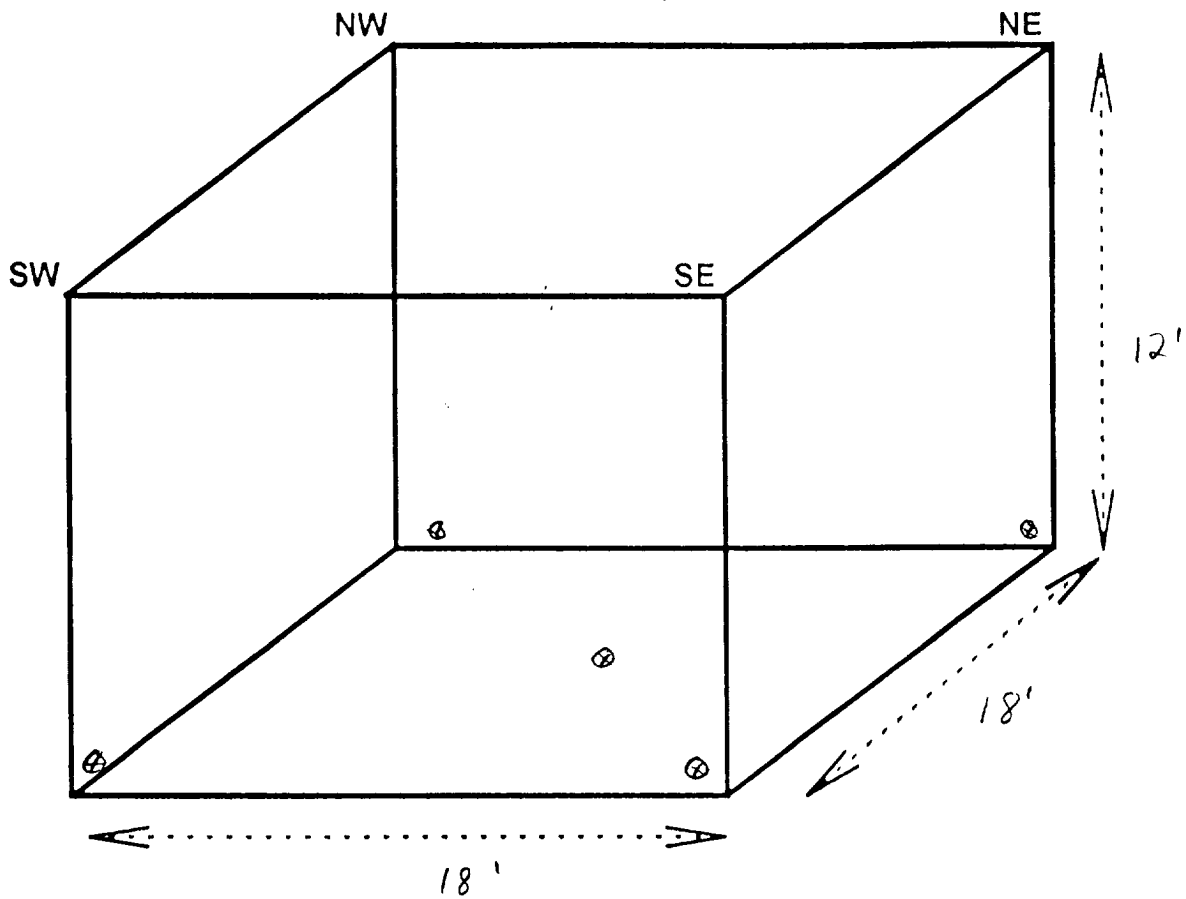
SAMP DATE		9/5/97	9/8/97						
		Pit 1 @ 12'	Pit 2 @ 14'	Pit 3 @	ANALYSIS RESULTS		PER LAB		Assaigai
P	Center	87.8	60.3		PIT NO	TPH	BETEX	WITNESS	DATE
I	NW Corner	31	58.4						
D	NE Corner	36.9	62.4		1	1400/ND	ND	J.C.	9/14/97
	SW Corner	23.8	49.7		2	2100/3700	ND	J.C.	9/14/97
	SE Corner	29.3	34.6		3				

## RE-SAMPLE OR CELL(S) SAMPLE

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

## RE-SAMPLE OR CELL(S) SAMPLE

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



(X) = SAMPLE AREA

WELL NAME A 118 #11 Pit #1

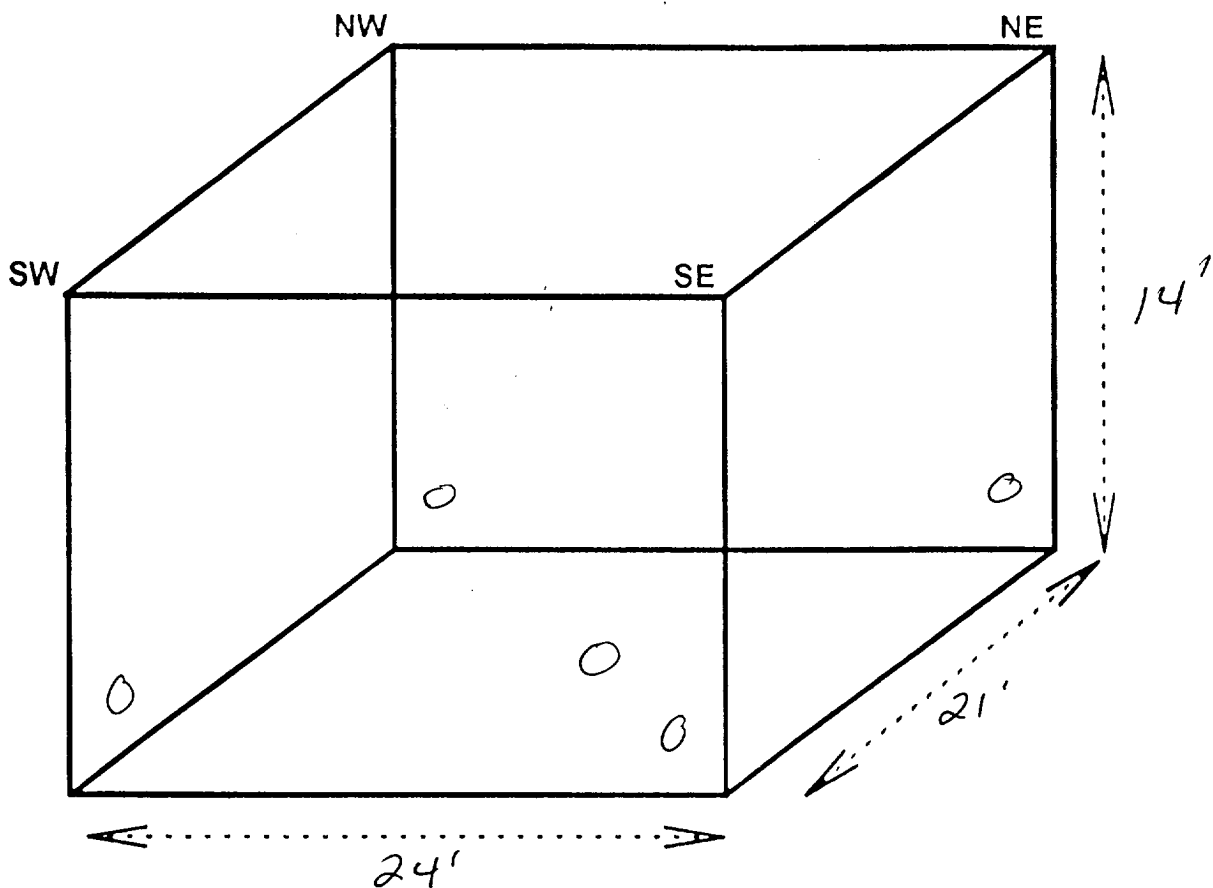
SAMPLE DATE 9-5-97

NOTES 4 POINT COMPOSITE SAMPLE TAKEN 8" TO 10" INTO PIT

SIDEWALL

1 POINT GRAB SAMPLE TAKEN 10" TO 12" INTO BOTTOM CENTER

Bottom of Pit Rock



○ = SAMPLE AREA

WELL NAME A 118 #11 Pit #2

SAMPLE DATE 9-8-97

NOTES 4 POINT COMPOSITE SAMPLE TAKEN 8" TO 10" INTO PIT

SIDEWALL

1 POINT GRAB SAMPLE TAKEN 10" TO 12" INTO BOTTOM CENTER

walls look good Bottom looks good

# M W PETROLEUM/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

REMEDIATION SITE JAT A118 # 11

\* AMOUNT OF SOIL UNDERGOING REMEDIATION 289 Yds.

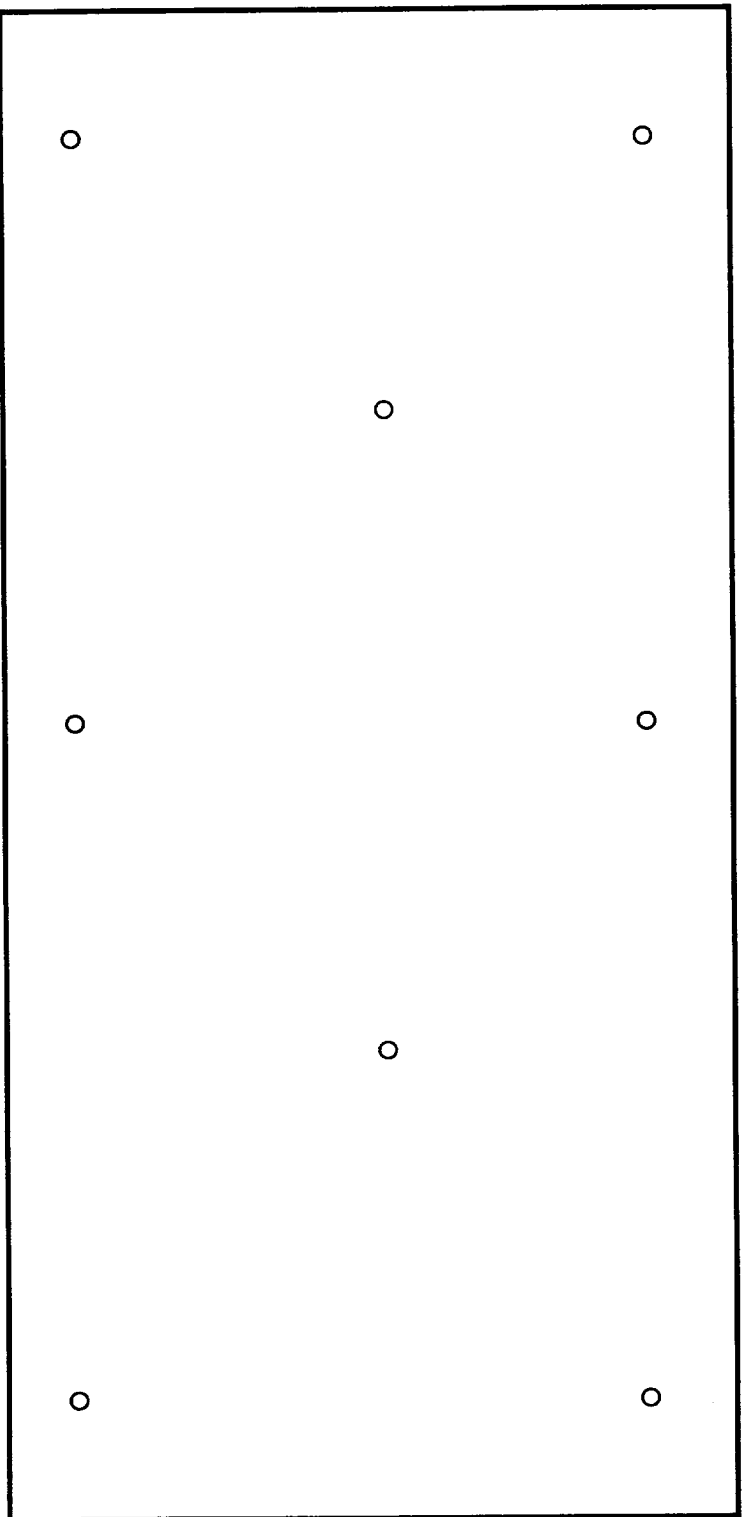
CELL No. <u>1</u>	SampDATE <b>6/14/98</b>	TPH <b>5200</b>	BTEX <b>ND</b>
	<b>11/11/98</b>	<b>ND</b>	<b>ND</b>
DIMENSIONS(LxWxH) <u>110' X 50' X 12"</u>			
CELL LOCATION (dir. from well head) <u>NORTH</u>			
* DATE BEGAN: <u>8/27/97</u>			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>11-11-98</u>			
CELL No. <u>2</u>	SampDATE <b>6/14/98</b>	TPH <b>4600</b>	BTEX <b>ND</b>
	<b>11/11/98</b>	<b>ND</b>	<b>ND</b>
DIMENSIONS(LxWxH) <u>65' X 35' X 12"</u>			
CELL LOCATION (dir. from well head) <u>NORTH</u>			
* DATE BEGAN: <u>8/27/97</u>			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>11-11-98</u>			
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)			
REMEDICATION RECORD: (Date, Treatment, Tilling)			
9/11/97 TREAT SOIL CELLS 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.			
6/11/98 PLOW AND TILL SOIL. 10/14/98 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 # 11 CELL # 2  
SAMPLE DATE: 11/11/98  
DIMENSIONS: 65' X 35' X 12"

○ = SAMPLE AREA



NOTES: ALL SAMPLES TAKEN 10" TO 12" INTO CELL.

8 POINT COMPOSITE SAMPLE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



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 # 11 CELL # 1</u>			
Location: Unit or Qtr/Qtr Sec <u>N</u> SEC <u>36</u> T <u>26 N</u> R <u>3 W</u> County <u>RIO ARRIBA</u>			
Land Type <u>JIC. TRIBAL</u>			
Date Remediation Started: <u>8/27/97</u>		Date Completed: <u>11/11/98</u>	
Remediation Method: Landfarmed <u>XXX</u>		Approx. cubic yards <u>204</u>	
Composted <u>                    </u>			
Other <u>                    </u>		<u>SOIL TO BE PUT BACK IN PIT</u>	
Depth to Groundwater: (pts) <u>0</u>		<b>Final Closure Sampling</b> Sampling Date: <u>11/11/98</u> Time: <u>10:25AM</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>Jeff Cross</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 <u>          </u> (REASON) <u>use as Benefill</u>			
SIGNED: <u>Kent M...</u>		DATE: <u>12-28-98</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

**ON-SITE SOIL REMEDIATION REPORT**

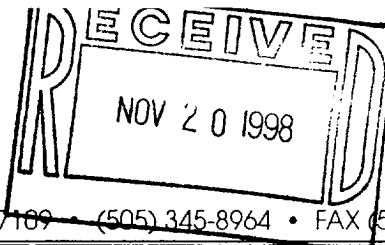
Operator: <u>MW PETROLUEM</u> Telephone <u>505-325-0318</u>	
Address: <u>2855 SOUTHSIDE RIVER ROAD/SUITE A/ FARMINGTON N.M. 87401-7947</u>	
Facility or Well Name: <u>JAT A 118 # 11 CELL # 2</u>	
Location: Unit or Qtr/Qtr Sec <u>N</u> SEC <u>36</u> T <u>26 N</u> R <u>3 W</u> County <u>RIO ARRIBA</u>	
Land Type <u>JIC. TRIBAL</u>	
Date Remediation Started: <u>8/27/97</u> Date Completed: <u>11/11/98</u>	
Remediation Method: Landfarmed <u>XXX</u> Approx. cubic yards <u>84</u>	
Composted <u>                    </u>	
Other <u>SOIL TO BE PUT BACK IN PIT</u>	
Depth to Groundwater: (pts) <u>0</u>	<b>Final Closure Sampling</b> Sampling Date: <u>11/11/98</u> Time: <u>10:35AM</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>	
<b>RANKING SCORE (TOTAL POINTS)</b> <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>Jeff Cross</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 <u>          </u> (REASON) <u>use as Backfill</u>	
SIGNED: <u>Ker C. M...</u>	DATE: <u>12-28-98</u>



# ASSAIGAI ANALYTICAL LABORATORIES, INC.

7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820  
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: **9811105 JICARILLA PIT CLOSURES**

*William P. Blava*  
William P. Blava: President of Assaigai Analytical Laboratories, Inc.

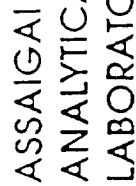
Client Sample ID: **A118 #11 CELL #1** Sample Matrix: **SOIL** Sample Collected: **11/11/98 10:25:00**

Fraction	QC Group	CAS #	Result	Units	Dilution Factor	Detection Limit	* Sequence	Run Date
<b>Test: SW846 8010B/8020A Purgeable VOCs by GC/PID-ELCD</b>								
9811105-01A	X98513	71-43-2	Benzene	ND	mg / Kg	250	0.005	XG.1998.996-4 11/12/98
	X98513	100-41-4	Ethylbenzene	ND	mg / Kg	250	0.005	XG.1998.996-4
	X98513	95-47-6	o-Xylene	ND	mg / Kg	250	0.005	XG.1998.996-4
	X98513		P/M-Xylenes	ND	mg / Kg	250	0.01	XG.1998.996-4
	X98513	108-88-3	Toluene	ND	mg / Kg	250	0.005	XG.1998.996-4
<b>Test: SW846 8015A Diesel Range Organics by GC/FID</b>								
9811105-01B	X98501		Diesel Range Organics	ND	mg / Kg	25	25	XG.1998.1006-5 11/13/98

Client Sample ID: **A118 #11 CELL #2** Sample Matrix: **SOIL** Sample Collected: **11/11/98 10:35:00**

Fraction	QC Group	CAS #	Result	Units	Dilution Factor	Detection Limit	* Sequence	Run Date
<b>Test: SW846 8010B/8020A Purgeable VOCs by GC/PID-ELCD</b>								
9811105-02A	X98513	71-43-2	Benzene	ND	mg / Kg	250	0.005	XG.1998.996-5 11/12/98
	X98513	100-41-4	Ethylbenzene	ND	mg / Kg	250	0.005	XG.1998.996-5
	X98513	95-47-6	o-Xylene	ND	mg / Kg	250	0.005	XG.1998.996-5
	X98513		P/M-Xylenes	ND	mg / Kg	250	0.01	XG.1998.996-5
	X98513	108-88-3	Toluene	ND	mg / Kg	250	0.005	XG.1998.996-5
<b>Test: SW846 8015A Diesel Range Organics by GC/FID</b>								
9811105-02B	X98501		Diesel Range Organics	ND	mg / Kg	25	25	XG.1998.1006-6 11/13/98





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

Lab job no.: 1105 Date           

Page \_\_\_\_\_ of \_\_\_\_\_

**Project Manager / Contact Jeff Cross**

Telephone No. (505) 774-6643

Fax No. (505) 774-6624

Samplers: (Signature) Jeffrey P. 10/17/08

Contract / Purchase Order / Quote

Retinquired by <u>Danny Butler</u>	Date <u>11/11/98</u>	Received by: <u>Don. P. Davis</u>	Relinquished by:
Signature <u>Danny Butler</u>	Time	Signature <u>Don. P. Davis</u>	Signature _____
Printed <u>Danny Butler</u>		Printed <u>Don. P. Davis</u>	Printed _____
Company <u>APACHE CORP.</u>		Company <u>ANL Inc.</u>	Company _____
Reason _____		Reg. <u>Del. T. N. 11/11/98</u>	Reason _____

**Method of Shipment:**

Shipment No.

**Special instructions:**

Retinquished by Signature <u>Danny Butler</u> Printed <u>Danny Butler</u> Company <u>APACHE CORP.</u>	Date <u>11/11/98</u> Time _____
Reason _____	

Comments:

Received by:	Relinquished by:
Signature <u>Don. P. Davis</u>	Signature _____
Printed <u>Don. P. Davis</u>	Printed _____
Company <u>AAL Inc.</u>	Company _____
Ref. <u>Del. T. Noel</u>	Reason _____

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Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LABORATORY

Analysis Required		Received by:	
No. of Containers	Remarks	Date	Signature
BTEX DRO TKN		11-12-78	<i>[Signature]</i>
		Time	Printed
		0015	Company
			Reason

After analysis, samples are to be:

☐ Disposed of (additional fee)

☐ Stored (30 days max)

☐ Stored over 30 days (additional fee)

☐ Returned to customer