

1000 Rio Brazos Rd.
Albuquerque, NM 87110
DEPT. OF OIL & GAS INSPECTOR

State of New Mexico
Energy, Minerals and Natural Resources Department

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

JAN 29 1989

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

PIT REMEDIATION AND CLOSURE REPORT

Operator: (MW PETROLEUM) APACHE CORPORATION		Telephone: 505-325-0318	
Address: 2855 Southside River Road, Suite A, Farmington, NM 87401			
Facility or Well Name:		FRED PHILLIPS C # 1	
Location: Unit or Qtr/Qtr Sec	SE/NE	Sec 15	T 25N R 3W County Rio Arriba
Pit Type: Separator:		Dehydrator	Other BLOW PIT
Land Type:	FEE		
Pit Dimensions	START:	Length 18'	Width 18' Depth 3'
Pit Location:	FINISH:	Length 20'	Width 20' Depth 10'
(Attach diagram)			
Reference:	Wellhead	XX	Other
Footage from reference:		150'	
Direction from reference:		5 Degrees	X East North XX West of South
Depth To Groundwater:		Less than 50 feet	(20 points)
(vertical distance from		50 feet to 99 feet	(10 points)
contaminants to seasonal		Greater than 100 feet	(0 points) 0
high water elevation of			
groundwater)			
Wellhead Protection Area:		Yes	(20 points)
(Less than 200 feet from a private		No	(0 points) 0
domestic water source, or; less than			
1000 feet from all other water sources)			
Distance To Surface Water:		Less than 200 feet	(20 points)
(Horizontal distance to perennial		200 feet to 1000 feet	(10 points)
lakes, ponds, rivers, streams, creeks,		Greater than 1000 feet	(0 points) 0
irrigation canals and ditches)			
RANKING SCORE (TOTAL POINTS)			0

Date Remediation Started: 4/13/97 Date Completed: 6/13/98

Remediation Method: Excavation XX Approx. cubic yards 104
(Check all appropriate sections) Landfarmed XX Insitu Bioremediation _____
Other _____

Remediation Location: Onsite XX Offsite _____
(i.e. landfarmed onsite, name and location of offsite facility) REMEDIATED SOIL TO BE PUT BACK IN PIT.

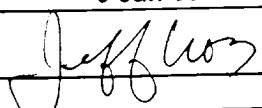
General Description of Remedial Action: _____
EXCAVATE PIT TO 10', TOOK PID READINGS. SPREAD SOIL ON LOCATION,
TREAT SOIL WITH FERTILIZER, WATER AND TILL SOIL. TOOK SOIL SAMPLES.

Groundwater Encountered: No X Yes _____ Depth _____

Final Pit: Sample location 5 point composite taken from pit sidewalls, and pit bottom center.
Closure Sampling:
(in multiple samples, attach sample results and diagram of sample locations and depths)
Sample depth 10'
Sample Date 4/15/97 Sample Time 12:07pm
Sample results
Benzene (ppm) ND
Total BTEX (ppm) ND
Field Headspace (ppm) 5.06
TPH ND

Groundwater Sample: Yes _____ No X (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 6-Jan-99 PRINTED NAME Jeff Cross
SIGNATURE  AND TITLE Project Manager

APACHE CORPORATION/FARMINGTON DISTRICT PIT EXCAVATION AND CLOSURE REPORT

(MW PETROLEUM)

LOCATION FRED PHILLIPS C # 1

PIT COUNT 1

START		4/13/97			FINISH			4/15/97	
DIMENSIONS									
	L	W	D		L	W	D	CU YDS	
Pit 1	18'	18'	3'	Pit 1	20'	20'	10'	104	
Pit 2				Pit 2					
Pit 3				Pit 3					
		Pit 1 @ 7'	Pit 2 @ 10'	Pit 3 @			Pit 2 @ 10'	Pit 2 @	Pit 3 @
P I D	Center	275.4	10.8		P I D	Center	10.8		
	NW Corner	180.2	7.5			NW Corner	7.5		
	NE Corner	178	4.3			NE Corner	4.3		
	SW Corner	152.3	1.2			SW Corner	1.2		
	SE Corner	109.7	1.5			SE Corner	1.5		

NOTES:

4/13/97 START EXCAVATION ON PIT , EXCAVATE PIT TO 7' , LIGHT ODOR AND STAINING.

4/15/97 FINISH EXCAVATION ON PIT , PID READINGS GOOD, NO STAINING OR ODOR.

4/15/97 TOOK SOIL SAMPLES AND SENT TO ASSAIGAI

LAYED EXCAVATED SOIL OUT ON LOCATION FOR REMEDIATION.

6/13/98 TOOK SOIL SAMPLE OF LANDFARM AND SENT TO ASSAIGAI LABS.

ALL SOIL SAMPLES WERE (ND)

DATE		4/15/97			SOIL SAMPLING				
		Pit 2 @ 10'	Pit 2 @	Pit 3 @	ANALYSIS RESULTS			PER LAB	Assaigai
P I D	Center	10.8			PIT NO	TPH	BETEX	WITNESS	DATE
	NW Corner	7.5			1	ND	ND	J.C.	4/15/97
	NE Corner	4.3			2				
	SW Corner	1.2			3				
	SE Corner	1.5							

RE-SAMPLE

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

RE-SAMPLE

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

M W PETROLEUM

FRED PHILLIPS C NUMBER 1
SE/4 NE/4 (H)

SECTION 15, TOWNSHIP 25N, RANGE 3W

RIO ARRIBA COUNTY, NM

NORTH
↓

PIT(D)

↘
DRAINAGE

EPNG METER
74-657

-||
GM||

↘
DRAINAGE

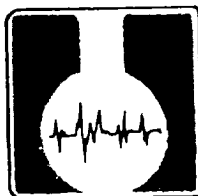
LAND FAEN.

70' X 40' X 12"

↘
DRAINAGE

○
WELL HEAD

[illegible]



**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:
April 23, 1997 14:02

**CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE**

APR 25 1997

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

WORKORDER # : 9704172
WORK ID : PIT REMEDIATION
CLIENT CODE : APA01
DATE RECEIVED : 04/17/97

ATTN: JEFF CROSS

Page: 1

Lab ID: 9704172-01A
Sample ID: FRED PHILLIPS C-1 PIT

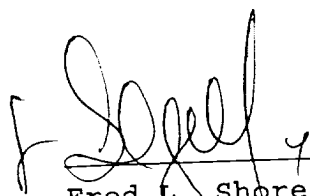
Collected: 04/15/97 12:07:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
BTEX/SW846 8020A	ND	mg/Kg	0.0010	500	04/18/97	SBTXME154
Benzene	ND	mg/Kg	0.0010	500	04/18/97	SBTXME154
Toluene	ND	mg/Kg	0.0010	500	04/18/97	SBTXME154
Ethylbenzene	ND	mg/Kg	0.0020	500	04/18/97	SBTXME154
P-&m-Xylene	ND	mg/Kg	0.0010	500	04/18/97	SBTXME154
O-Xylene	ND	mg/Kg	0.0010	500	04/18/97	SBTXME154

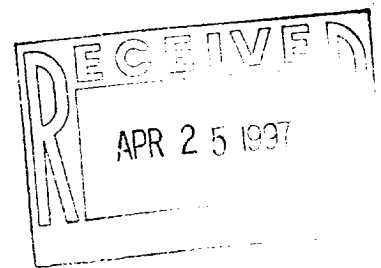
Lab ID: 9704172-01B
Sample ID: FRED PHILLIPS C-1 PIT

Collected: 04/15/97 12:07:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Diesel Range OG Soil/M8015	ND	mg/Kg	50	1.0	04/19/97	SDR0022
Diesel Range OG in Soil						


Fred L. Shore, Ph.D.
VP of Laboratory Operations





WORKORDER COMMENTS

DATE : 04/23/97
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.

*** Analytical results reported pertain only to the samples provided ***
*** for analysis and may not represent actual field conditions. ***

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*** written approval of Assaigai Analytical Inc. ***

REPORT COMMENTS

SSAIGAL
ANALYTICAL
LABORATORIES

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

Page 1 of 1

Project Manager / Contact Jeff Cross

Telephone No. 505-774-6672

Fax No. 505-114-6068

Samplers: (Signature) [Signature]

Journal of Management Education 30(6)p.789-804
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Analic Corporation

301 N. Bohlen

Remington N.M. 87401

P. + Remediation

Contract / Purchase Order / Quote

Sample	Preservation

[illegible]

DATE	DESCRIPTION	AMOUNT	BALANCE
9-12-11	100.00		
9-13-11	100.00		
9-14-11	100.00		
9-15-11	100.00		
9-16-11	100.00		
9-17-11	100.00		
9-18-11	100.00		
9-19-11	100.00		
9-20-11	100.00		
9-21-11	100.00		
9-22-11	100.00		
9-23-11	100.00		
9-24-11	100.00		
9-25-11	100.00		
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9-27-11	100.00		
9-28-11	100.00		
9-29-11	100.00		
9-30-11	100.00		
10-1-11	100.00		
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12-15-11	100.00		

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Received by: _____
Date: _____

Signature [Signature] 4-11-71

Signature [Signature] 4-11-71

Printed _____

Printed _____ time _____
Scribo orzacfid
Company _____
Company _____

Reason	Reason	Reason
8-123		

100

Method of Shipment: _____

Special Instructions:

COPIED

COURIER

APACHE CORPORATION/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

(MW PETROLEUM)

REMEDIATION SITE

FRED PHI

* AMOUNT OF SOIL UNDERGOING REMEDIATION 104 Yds.

CELL No. <u>1</u>	SampDATE 6/13/98	TPH ND	BTEX ND
DIMENSIONS(LxWxH) <u>70' X 40' X 12"</u>			
CELL LOCATION (dir. from well head) <u>WEST</u>			
* DATE BEGAN: <u>4/13/97</u>			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>6/13/98</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) 5/6/97 TREAT WITH 46-0-0 FERTILIZER, WATER, PLOW AND TILL SOIL. 5/19/97 PLOW AND TILL SOIL. 6/11/97 PLOW AND TILL SOIL. 5/12/98 WATER, PLOW AND TILL SOIL. 6/27/97 WATER, PLOW AND TILL SOIL. 5/16/98 PLOW AND TILL SOIL. 7/7/97 PLOW AND TILL SOIL. 6/3/98 WATER, PLOW AND TILL SOIL. 7/24/97 PLOW AND TILL SOIL. 6/10/98 PLOW AND TILL SOIL. 8/6/97 WATER, PLOW AND TILL SOIL. 6/13/98 SAMPLE SOIL. 8/26/97 PLOW AND TILL SOIL.			

From excavation reports.

APACHE CORPORATION/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

(MW PETROLEUM)

REMEDIATION SITE FRED PHILLIPS C # 1

* AMOUNT OF SOIL UNDERGOING REMEDIATION 104 Yds.

CELL No. <u>1</u>	SampDATE 6/13/98	TPH ND	BTEX ND
DIMENSIONS(LxWxH) <u>70' X 40' X 12"</u>			
CELL LOCATION (dir. from well head) <u>WEST</u>			
* DATE BEGAN: <u>4/13/97</u>			
DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>6/13/98</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) _____			
REMEDICATION RECORD: (Date, Treatment, Tilling)			
5/6/97 TREAT WITH 46-0-0 FERTILIZER, WATER, PLOW AND TILL SOIL.			
5/19/97 PLOW AND TILL SOIL.			
6/11/97 PLOW AND TILL SOIL.			
6/27/97 WATER, PLOW AND TILL SOIL.			
7/7/97 PLOW AND TILL SOIL.			
7/24/97 PLOW AND TILL SOIL.			
8/6/97 WATER, PLOW AND TILL SOIL.			
8/26/97 PLOW AND TILL SOIL.			
5/12/98 WATER, PLOW AND TILL SOIL.			
5/16/98 PLOW AND TILL SOIL.			
6/3/98 WATER, PLOW AND TILL SOIL.			
6/10/98 PLOW AND TILL SOIL.			
6/13/98 SAMPLE SOIL.			

From excavation reports.

WELL NAME:

FRED PHILLIPS C # 1

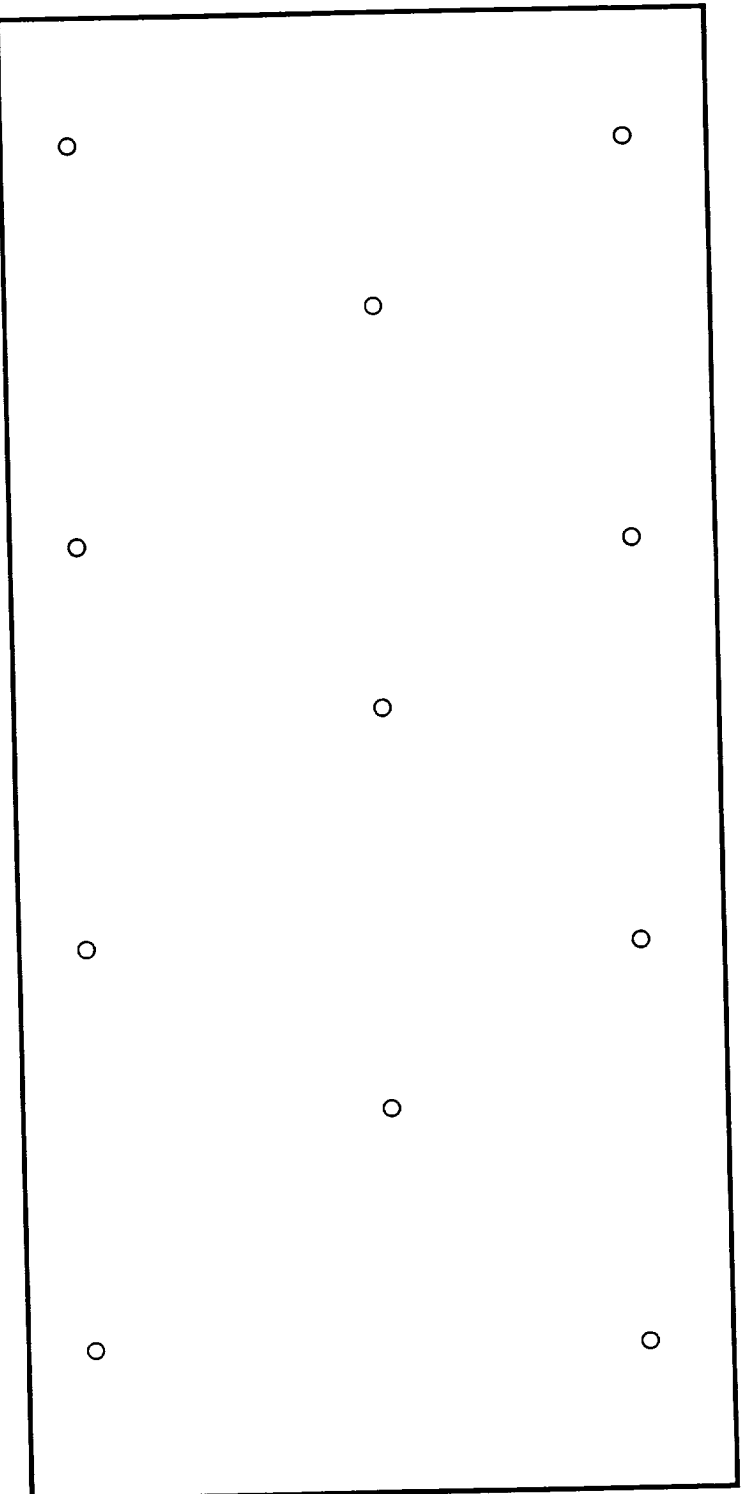
SAMPLE DATE:

6/13/98

DIMENSIONS:

70' X 40' X 12"

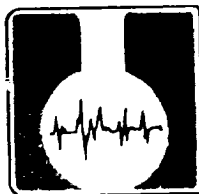
○ = SAMPLE AREA



NOTES:

ALL SAMPLES TAKEN 10" TO 12" INTO CELL.

11 POINT COMPOSITE SAMPLE



**ASSAIGAI
ANALYTICAL
LABORATORIES, INC.**

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

JUN 26 1998

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: **9806214 JICARILLA**

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

Client Sample ID: **M.W.P. FRED PHILLIPS C #1** Sample Matrix: **SOIL** Sample Collected: **06/13/98 13:25:00**

Location	QC Group	CAS #	Result	Units	Dilution Factor	Detection Limit	Sequence	Run Date
SW846-8010/8020 Volatiles								
9806214-01A	X98329	71-43-2	Benzene	ND	mg / Kg	50	0.005	XG 1998.550-14 06/17/98
	X98329	100-41-4	Ethylbenzene	ND	mg / Kg	50	0.005	XG 1998.550-14
	X98329	95-47-6	o-Xylene	ND	mg / Kg	50	0.005	XG 1998.550-14
	X98329		p-M-Xylenes	ND	mg / Kg	50	0.01	XG 1998.550-14
	X98329		Toluene	ND	mg / Kg	50	0.005	XG 1998.550-14
	X98329	108-88-3						
SW846-8015 Modified TPH								
9806214-01B	X98332		Diesel Range Organics	ND	mg / Kg	25	25	XG 1998.561-11 06/23/98

*** Sample specific analytical Detection Limit is determined by multiplying the sample Dilution Factor by the listed method Detection Limit ***



**ASSAIGAI
ANALYTICAL
LABORATORIES, INC.**

0410

[illegible]

LABORATORY