

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

FEB 28 1993

## PIT REMEDIATION AND CLOSURE REPORT

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 #5

Location: Unit or Qtr/Qtr Sec A Sec 25 T 26 N R 3W County Rio Arriba

Pit Type: Separator: \_\_\_\_\_ Dehydrator: \_\_\_\_\_ Other: Tank Drain

Land Type: Jicarilla Tribal

Beginning Pit Dimensions: Length 25' Width 25' Depth 2'  
Pit Location: Ending Pit Dimensions: Length 30' Width 30' Depth 6'  
(Attach diagram)  
Reference: Wellhead XX Other \_\_\_\_\_  
Footage from reference: 200'  
Direction from reference: 208 Degrees \_\_\_\_\_ East \_\_\_\_\_ North \_\_\_\_\_  
\_\_\_\_\_ X West \_\_\_\_\_ South XX

### 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

Date Remediation Started:

7/21/97

Date Completed:

7/22/97

Remediation Method:

Excavation

XXX

Approx. cubic yards

133

(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 6' , took PID readings. Spread soil on

location for remediation. Took soil samples. Hit Bedrock, contour pit, spread remediated

soil on location.

Groundwater Encountered:

No

XX

Yes

Depth

Final Pit:

Sample location

5 point composite sample taken from pit sidewalls and pit bottom

Closure Sampling:

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

center.

Sample depth

6'

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

Sample Date

7/22/97

Sample Time

9:00 AM

Sample results

Benzene

(ppm)

ND

Total BTEX

(ppm)

ND

Field Headspace

(ppm)

3.258

TPH

ND

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.

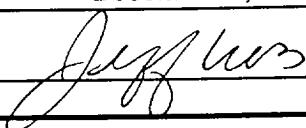
DATE

December 1, 1998

PRINTED NAME

Jeff Cross

SIGNATURE



AND TITLE

Project Manager

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>A 118 # 5</u>  |                              |                                     |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| Location:  | Unit or Qtr/Qtr              | Sec                                 | T 26N R 3W County <u>RIO ARRIBA</u> |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| Pit Type:  | Separator: <u>          </u> | Dehydrator <u>          </u>        | Other <u>TANK DRAIN</u>             |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| Land Type: <u>JIC. TRIBAL</u>  |                              |                                     |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Pit Location:</td> <td style="width: 20%;">Pit Dimensions:</td> <td style="width: 15%;">Length <u>30'</u></td> <td style="width: 15%;">Width <u>30'</u></td> <td style="width: 15%;">Depth <u>6'</u></td> </tr> <tr> <td>(Attach diagram)</td> <td>Reference:</td> <td>Wellhead <u>XXX</u></td> <td>Other <u>          </u></td> <td></td> </tr> <tr> <td></td> <td>Footage from reference:</td> <td colspan="3"><u>200'</u></td> </tr> <tr> <td></td> <td>Direction from reference:</td> <td><u>208</u> Degrees</td> <td><u>          </u> East</td> <td>North <u>          </u></td> </tr> <tr> <td></td> <td></td> <td><u>X</u> West</td> <td>of South</td> <td><u>XX</u></td> </tr> </table> |                              |                                     |                                     | Pit Location:           | Pit Dimensions: | Length <u>30'</u> | Width <u>30'</u> | Depth <u>6'</u> | (Attach diagram) | Reference: | Wellhead <u>XXX</u> | Other <u>          </u> |  |  | Footage from reference: | <u>200'</u> |  |  |  | Direction from reference: | <u>208</u> Degrees | <u>          </u> East | North <u>          </u> |  |  | <u>X</u> West | of South | <u>XX</u> |
| Pit Location:  | Pit Dimensions:              | Length <u>30'</u>                   | Width <u>30'</u>                    | Depth <u>6'</u>         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| (Attach diagram)   | Reference:                   | Wellhead <u>XXX</u>                 | Other <u>          </u>             |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
|  | Footage from reference:      | <u>200'</u>                         |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
|  | Direction from reference:    | <u>208</u> Degrees                  | <u>          </u> East              | North <u>          </u> |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
|  |                              | <u>X</u> West                       | of South                            | <u>XX</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>Distance to an Ephemeral Stream:</b>  |                              | 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  |                              |                                     |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| <b>Distance to Nearest Lake, Playa, or Watering Pond:</b>  |                              | 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)  |                              |                                     |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
| <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 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)   |                              |                                     |                                     |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |
|  |                              | <b>RANKING SCORE (TOTAL POINTS)</b> | <u>0</u>                            |                         |                 |                   |                  |                 |                  |            |                     |                         |  |  |                         |             |  |  |  |                           |                    |                        |                         |  |  |               |          |           |

Date Remediation Started: 7/21/97 Date Completed: 7-22-97

Remediation Method: Excavation XXX Approx. cubic yards 133  
 (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 6', took PID readings. spread soil on location for remediation. Took soil samples. HIT BEDROCK  
Contour pit spread remediated soil on location.

Groundwater Encountered: No XXX 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 6' 8" to 10" into pit side walls, 10" into pit bottom.

Sample Date 7/22/97 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>3.258</u> |        | Ethylbenzene  | (ppb) | <u>NA</u> |
|       | TPH             | (ppm) | <u>ND</u>    |        | Total Xylenes | (ppb) | <u>NA</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 9-14-98 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: Karen C Mammell DATE: 11-13-98



IN REPLY REFER TO:

# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Albuquerque Area Office  
P.O. Box 26567  
Albuquerque, New Mexico 87125-6567

FILE COPY

AUG - 6

380 - Branch of Natural Resources  
Services  
Jicarilla 97-198

JUL 3 1 1997

Mr. Jeff Cross  
Apache Corporation  
304 N. Behrend  
Farmington, New Mexico 87401

Dear Mr. Cross:

We have reviewed the cultural resources survey report dated July 17, 1997, and entitled, "Cultural Resource Survey: Archaeological Survey of Two Pit Remediations on Jicarilla Apache Tribal Lands." This was prepared by Mr. Gifford Velarde, Velarde Energy Service, and is numbered Report CR-96-520. The report deals with pit remediations for Jicarilla Apache A118#3 and A118#5. We understand that you also have a copy of this document.

The report, dealing with Jicarilla Apache Tribal lands, states that no surface evidence of potentially significant cultural resources was encountered during the requisite field inspection. The project location is sufficiently small and in a location where we do not expect that it will impact any areas of traditional religious or cultural importance to the Jicarilla Apache Tribe. Therefore, we have determined that no effect on any National Register listed or eligible cultural resources will result from the proposed action. We have notified the New Mexico State Historic Preservation Officer of our determination and provided a copy of this report for their files.

The proposed undertakings are in compliance with the provisions of Section 106 of the National Historic Preservation Act and may proceed under the following stipulations:

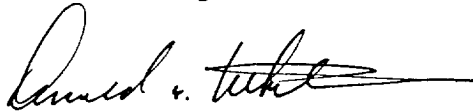
1. All land-altering activities will be confined to the areas surveyed for cultural resources.
2. If subterranean cultural resources are encountered, all land-altering activities will be halted and the Area Archeologist notified immediately.

These stipulations must be followed or project suspensions will be issued. The responsibility of project sponsors is to notify subcontractors of the project boundaries and stipulations. Any change in project boundaries will require additional survey and repetition of the compliance procedures.

This letter only serves as notification that National Historic Preservation Act Section 106 compliance has been completed for the subject project. It does not constitute approval of right-of-way or concurrence in the proposed activities by the Bureau of Indian Affairs (BIA). This compliance is one of several legal requirements which must be accomplished before BIA approval of rights-of-way, easements, or other land use contracts for land modifying projects.

If you have any questions, please contact Dr. Bruce G. Harrill, Area Archeologist, Branch of Natural Resources Services, at (505) 766-3374.

Sincerely,

A handwritten signature in dark ink, appearing to read "Donald A. Tuttle", with a long horizontal flourish extending to the right.

Assistant Area Director

A118 #5

VELARDE ENERGY SERVICE  
Dulce, New Mexico  
Cultural Resources Survey Report

JUL 23 1997

Cultural Resource Survey: Archaeological Survey of Two pit remediation on Jicarilla Apache Tribal Lands.

Preparer: Gifford Velarde, Archaeologist, Velarde Energy Service, P. O. Box 919, Dulce, New Mexico 87528

Survey Archaeologist: Same as preparer.

Other Parties: Jeff Cross and Don Shipley, Apache Corporation

Report Number: CR-97-520

Date of Report: 17 July 97

Date of Survey: 17 July 97

Sponsor Name and Address: Jeff Cross, Apache Corporation, 304 Behrend, Farmington, New Mexico, 87401.

PROJECT #1 INFORMATION

Project Name/Designation: Jicarilla Apache A118 #3

Description of Undertaking: Remediate production pit

Nature of Federal Involvement: Under Bureau of Indian Affairs Jurisdiction

Size of Project Area: A rectangular area 150 feet in length and 150 feet in width (150' x 150') for a total of .51 acre (Figure 1).

PROJECT LOCATION

State: New Mexico

County: Rio Arriba

Reservation: Jicarilla Apache

USGS Quadrangle: Ojito, N.M., 1963, 7.5, (1:24000)

Legal Description: The proposed project is located in the NE 1/4 of the NE 1/4 of Section 25, Township 26 North, Range 3 West.

UTM Coordinates: Zone 13; 312,710 mE; 4,037,100 mN (center of project)

Distance/Direction from local landmarks/geographic features:  
The project is 1.5 miles east of J-45 on the southern Jicarilla.

## PROJECT #2 INFORMATION

**Project Name/Designation:** Jicarilla Apache A118 #5

**Description of Undertaking:** Remediate production pit

**Nature of Federal Involvement:** Under Bureau of Indian Affairs Jurisdiction

**Size of Project Area:** An rectangular shaped area 100 feet in length and 100 feet in width for a total of 0.22 acre (Figure 1).

## PROJECT LOCATION

**State:** New Mexico

**County:** Rio Arriba

**Reservation:** Jicarilla Apache

**USGS Quadrangle:** Ojito, N.M., 1963, 7.5, (1:24000)

**Legal Description:** The proposed project is located in the NE 1/4 of the NW 1/4 of Section 25, Township 26 North, Range 3 West.

**UTM Coordinates:** Zone 13; 311,945 mE; 4,036,980 mN (center of project)

**Distance/Direction from local landmarks/geographic features:**  
J-45 is found approximately 1 mile to the west.

## ENVIRONMENTAL SETTING

**Topographic Situation:** Near the top of a rolling terrain is the setting for the project.

**Drainage:** The drainage from this area is south.

**Geology and Soils:** The soil has been disturbed by energy development.

**Vegetation Communities and Local Flora:** The flora backdrop consists of rabbitbrush, oak, Indian ricegrass, mountain muhly, juniper and pinon.

**Elevation (feet):** 7550 feet (map).

## SURVEY

**Dimensions & Acreage:** Same as project area.



**Survey Method:** The area was surveyed by walking a series of 4-5 meter linear transects.

**Previous Surveys:** A well inspection was done in 1984 or 1985 but never built.

**Previous Disturbance:** A production pit is present.

## CULTURAL RESOURCES

**Sites:** None

**Isolated Occurrences:** Two greyware sherds were recorded as an isolated occurrence.

**Isolated Artifacts:** None

## RECOMMENDATIONS

Archaeological clearance is recommended for Jicarilla Apache A118 #5.

**Attachments:** Project Location Map: Figure 1

## REFERENCES

Museum of New Mexico

1986

Archaeological Records Management System. Laboratory of Anthropology, Santa Fe, New Mexico.

U S Department of the Interior  
Bureau of Land Management

~~AIIB ES~~

Report Numbers (BLM)  
Survey:  
Mitigation/Study:

Cultural Resource Identification Record  
Isolated Artifact Form

I Reference Data

- 1) ID# (BLM) \_\_\_\_\_ 2) PU ID (BLM) \_\_\_\_\_ 3) JAAS # IO-620  
4) Location SW 1/4 NE 1/4 NW 1/4, Sec. 25, T 26 N, R 3 W Map 0310 N. MEX  
5) UTM Zone 13 Easting 311920 Northing 4036960  
6) Geographic Coordinates: Lat. North \_\_\_\_\_ Long. West \_\_\_\_\_  
7) # Associated Form YES 8) Artifact Collected Yes \_\_\_\_\_ No ✓  
9) Graphic File ID (BLM) \_\_\_\_\_ 10) Accessoin/Cat. ID (BLM) \_\_\_\_\_  
11) Depository Institution YES  
City Dulce  
State N. MEX

II Environmental Data

- 1) Habitat Zone (BLM) TRANSITIONARY Vegetation CAK, Indian ricegrass  
3) Major Soil Class SAND 4) Arable Land/Soils NO  
5) Elevation 7550 6) Land Form hill slope

7) Water Source

|                       | P | I | F |
|-----------------------|---|---|---|
| <u>Sleeper Canyon</u> |   | ✓ |   |
|                       |   |   |   |
|                       |   |   |   |

8) Additional Comments

III Cultural Data

- 1) Cultural Affiliation ANASAZI 2) Time Circa 950-1275 BC/AD  
3) Feature /Artifact Type:

2 SHERD  
GREY WARE

4) Inferred Function:

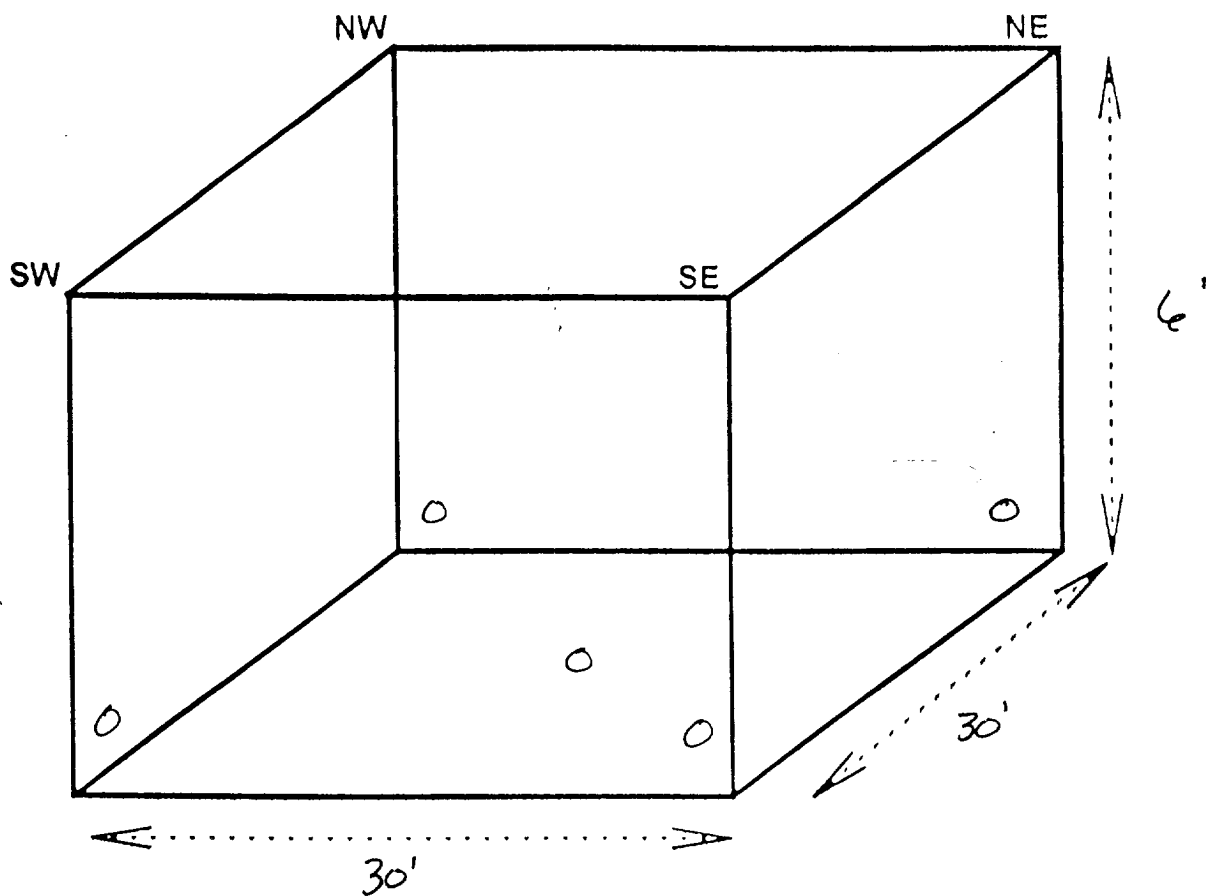
CULINARY WARE

IV Narrative

Field Observer/Recorder/Date VELARDE/VELARDE 7.17.97

replaces Form  
ADO 6231 - 4



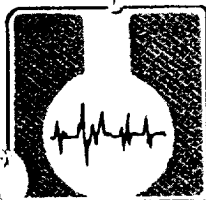


○ = SAMPLE AREA

WELL NAME A118 #5

SAMPLE DATE 7-22-97

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) 345-8964 • FAX (505) 345-7259

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

Report Generated:  
July 31, 1997 13:37

**CERTIFICATE OF ANALYSIS  
RESULTS BY SAMPLE**

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

WORKORDER # : 9707235  
WORK ID : JICARILLA PIT CLOSURES  
CLIENT CODE : APA01  
DATE RECEIVED : 07/25/97

ATTN: JEFF CROSS

Page: 1

Lab ID: 9707235-01A  
Sample ID: A118 #5 PIT SIDES

Collected: 07/22/97 09:00:00  
Matrix: SOIL

| TEST / METHOD    | RESULT | UNITS | LIMIT  | D_F | DATE<br>ANAL | BATCH_ID  |
|------------------|--------|-------|--------|-----|--------------|-----------|
| BTEX/SW846 8020A | ND     | mg/kg | 0.0050 | 100 | 07/28/97     | SBTXME180 |
| Benzene          | ND     | mg/kg | 0.0050 | 100 | 07/28/97     | SBTXME180 |
| Toluene          | ND     | mg/kg | 0.0050 | 100 | 07/28/97     | SBTXME180 |
| Ethylbenzene     | ND     | mg/kg | 0.010  | 100 | 07/28/97     | SBTXME180 |
| P-&m-Xylene      | ND     | mg/kg | 0.0050 | 100 | 07/28/97     | SBTXME180 |
| O-Xylene         | ND     | mg/kg | 0.0050 | 100 | 07/28/97     | SBTXME180 |

Lab ID: 9707235-01B  
Sample ID: A118 #5 PIT SIDES

Collected: 07/22/97 09:00:00  
Matrix: SOIL

| TEST / METHOD              | RESULT | UNITS | LIMIT | D_F | DATE<br>ANAL | BATCH_ID |
|----------------------------|--------|-------|-------|-----|--------------|----------|
| Diesel Range OG Soil/M8015 | ND     | mg/Kg | 25    | 25  | 07/30/97     | SDRO44   |
| Diesel Range OG in Soil    |        |       |       |     |              |          |

Lab ID: 9707235-02A  
Sample ID: A118 #5 PIT BOTTOM

Collected: 07/22/97 09:15:00  
Matrix: SOIL

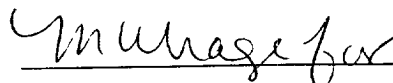
| TEST / METHOD    | RESULT | UNITS | LIMIT  | D_F | DATE<br>ANAL | BATCH_ID  |
|------------------|--------|-------|--------|-----|--------------|-----------|
| BTEX/SW846 8020A | ND     | mg/kg | 0.0050 | 500 | 07/29/97     | SBTXME180 |
| Benzene          | ND     | mg/kg | 0.0050 | 500 | 07/29/97     | SBTXME180 |
| Toluene          | ND     | mg/kg | 0.0050 | 500 | 07/29/97     | SBTXME180 |
| Ethylbenzene     | ND     | mg/kg | 0.010  | 500 | 07/29/97     | SBTXME180 |
| P-&m-Xylene      | ND     | mg/kg | 0.0050 | 500 | 07/29/97     | SBTXME180 |
| O-Xylene         | ND     | mg/kg | 0.0050 | 500 | 07/29/97     | SBTXME180 |



ID: 9707235-02B  
Sample ID: A118 #5 PIT BOTTOM

Collected: 07/22/97 09:15:00  
Matrix: SOIL

| TEST / METHOD   | RESULT | UNITS | LIMIT | D_F | DATE<br>ANAL | BATCH_ID |
|---|--------|-------|-------|-----|--------------|----------|
| Diesel Range OG Soil/M8015<br>Diesel Range OG in Soil | ND     | mg/Kg | 25    | 25  | 07/30/97     | SDRO44   |

  
\_\_\_\_\_  
William P. Biava  
President

## **WORKORDER COMMENTS**

DATE : 07/31/97  
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

Lab job no.: 7200 D. 2/25/57

Page 1 of 1

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 Hunter

Contract / Purchase Order / Quote

CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

WELCHDADES ALANIS  
6411 LOCAL UNO

6411 LOCAL UNO

CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

|  |   |   |   |
|--|---|---|---|
| Relinquished by:<br>Signature <u>John W. Cross</u><br>Printed <u>John W. Cross</u><br>Company <u>Apache Corp</u><br>Reason _____ | Date<br><u>7-25-97</u><br>Time<br><u>9:00</u> | Received by:<br>Signature <u>John J. Adams</u><br>Printed <u>John J. Adams</u><br>Company <u>Adco</u><br>Reason _____ | Relinquished by:<br>Signature <u>John J. Adams</u><br>Printed <u>John J. Adams</u><br>Company _____<br>Reason _____ |
|--|---|---|---|

#### Method of Shipment:

**Statement No.**

**Special Instructions:**

|   |   |
|---|---|
| Received by:                            | Relinquished by:                        |
| Signature <u><i>Edwin J. Carter</i></u> | Signature <u><i>Edwin J. Carter</i></u> |
| Printed <u><i>Edwin J. Carter</i></u>   | Printed <u><i>Edwin J. Carter</i></u>   |
| Company <u><i>ADP</i></u>               | Company _____                           |
| Reason _____                            | Reason _____                            |

**Comments:**

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**Abstract**

---

Received by: Edwin J. Carter  
Signature: Edwin J. Carter  
Printed: Edwin J. Carter  
Company: Adco  
Reason:

Relinquished by: \_\_\_\_\_  
Signature John J. [Signature]  
Printed John J. [Signature]  
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

|              |             |
|--------------|-------------|
| Date         | 7/25/93     |
| Time         | 5:05 PM     |
| Received by: | Carla Rubio |
| Signature    |             |
| Printed      |             |
| Company      | AAL         |
| Reason       |             |

**After analysis, samples are to be:**

☐ Disposed of (additional fee)☐ Stored (30 days max)

☐ Stored over 30 days (additional fee)

☐ Returned to customer

LABORATORY



M W PETROLEUM

JICARILLA APACHE 118 NUMBER 5

NE/4 NE/4 (A) Lease # JAT A118

SECTION 25, TOWNSHIP 28N RANGE 3W

RIO ARriba COUNTY, NM 6/2/97 MD

Pit

DIRECTION OF DRAINAGE

WELL HEAD

NORTH

METER RUN

LAND FARM.

50'x50'x18"

SEPERATOR

380 BBL  
OIL

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>M W 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 A118 #5</u>  |  |
| Location: Unit or Qtr/Qtr Sec <u>A</u> SEC 25 T 26N R 3W County <u>RIO ARRIBA</u>  |  |
| Land Type <u>JIC. TRIBAL</u>   |  |
| Date Remediation Started: <u>7/21/97</u> Date Completed: <u>6/10/98</u>  |  |
| Remediation Method: Landfarmed <u>XXX</u> Approx. cubic yards <u>133</u>   |  |
| Composted _____  |  |
| Other <u>REMEDIED SOIL TO BE SPREAD ON LOCATION.</u>   |  |
| Depth to Groundwater: (pts) <u>0</u>   | <b>Final Closure Sampling</b><br>Sampling Date: <u>6/10/98</u> Time: <u>9:50AM</u><br>Sample Results:<br>Field Headspace (ppm) <u>0</u><br>TPH (ppm) <u>2300</u> Method <u>M8015</u><br>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>9/14/98</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 _____ (REASON) _____   |  |
| SIGNED: <u>Kerr C. Marshall</u> DATE: <u>11-13-98</u>  |  |

# M W PETROLEUM/FARMINGTON DISTRICT SOIL REMEDIATIONS STATUS REPORT

REMEDIATION SITE JAT A118 #5

\* AMOUNT OF SOIL UNDERGOING REMEDIATION 133 Yds.

|   |                            |                    |                   |
|---|----------------------------|--------------------|-------------------|
| CELL No. <u>1</u>   | SampDATE<br><b>6/10/98</b> | TPH<br><b>2300</b> | BTEX<br><b>ND</b> |
| DIMENSIONS(LxWxH) <u>50' X 50' X 18"</u>                                      |                            |                    |                   |
| CELL LOCATION (dir. from well head) <u>NORTH</u>                              |                            |                    |                   |
| * DATE BEGAN: <u>7/21/97</u>  |                            |                    |                   |
| DATE TERMINATED (TPH <5,000 ppm/BTEX< 50 ppm/Benzene < 10 ppm) <u>6/10/98</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) _____          |                            |                    |                   |
| REMEDATION RECORD: (Date, Treatment, Tilling)                                 |                            |                    |                   |
| 7/24/98 TREAT SOIL WITH 46-0-0 FERTILIZER, WATER, PLOW AND TILL SOIL.         |                            |                    |                   |
| 8/13/97 PLOW AND TILL SOIL.   |                            |                    |                   |
| 9/23/97 PLOW AND TILL SOIL.   |                            |                    |                   |
| 4/22/98 PLOW SOIL.  |                            |                    |                   |
| 4/24/98 TILL SOIL.  |                            |                    |                   |
| 5/19/98 WATER AND PLOW SOIL   |                            |                    |                   |
| 5/20/98 TILL SOIL.  |                            |                    |                   |

From excavation reports.

WELL NAME:

JAT A 118 #5

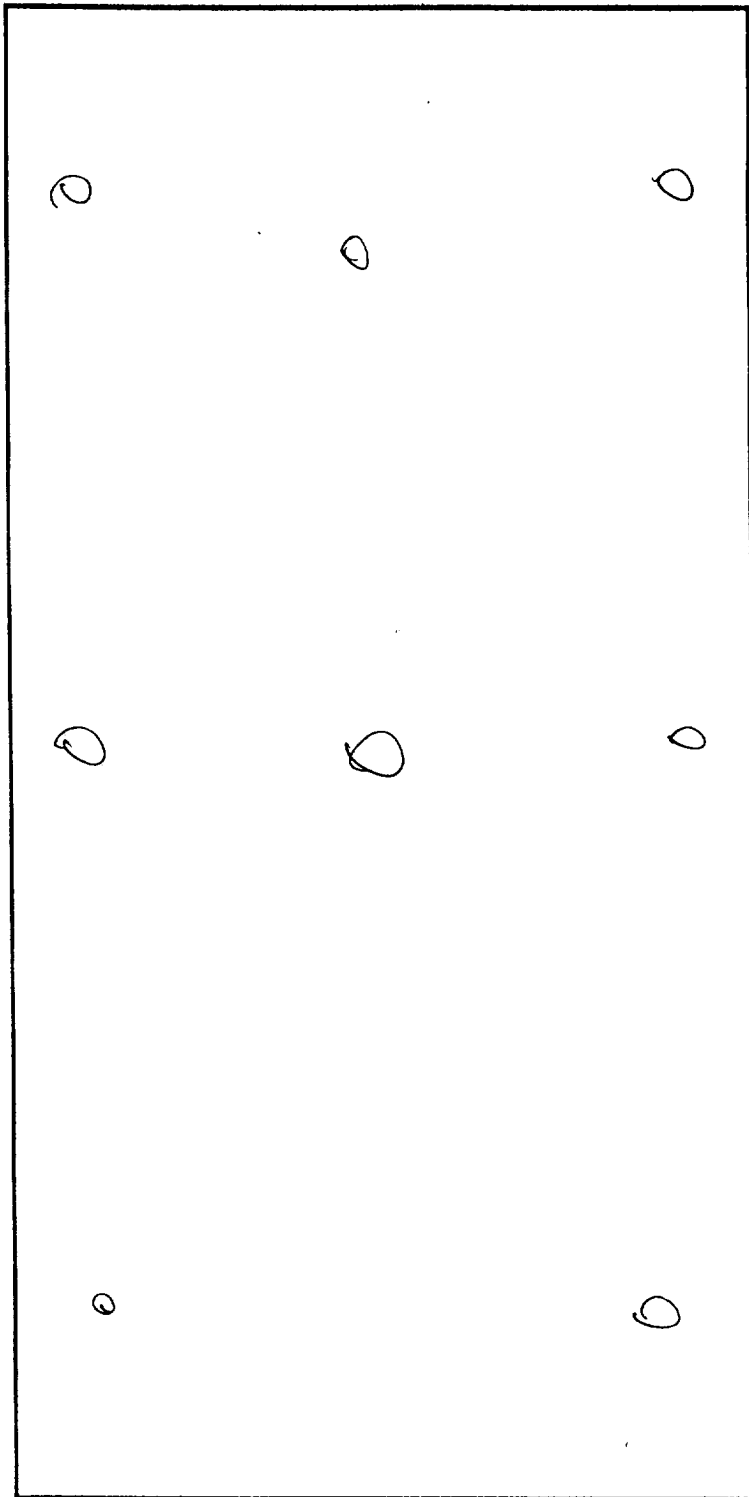
SAMPLE DATE:

6/10/98

DIMENSIONS:

50' x 50' x 18"

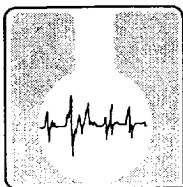
○ = SAMPLE AREA



NOTES:

ALL SAMPLES TAKEN 10" TO 12" INTO CELL.

8 Point Composite Sample



# ASSAIGAI ANALYTICAL LABORATORIES, INC.

JUN 25

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

## \* 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                     |

### APACHE CORPORATION

attn: JEFF CROSS

2855 SOUTHSIDE RIVER RD STE A  
FARMINGTON, NM 87401-7947

Assaigai Analytical Laboratories, Inc.

## Certificate of Analysis

Client: APACHE CORPORATION

Project: 9806174 JICARILLA

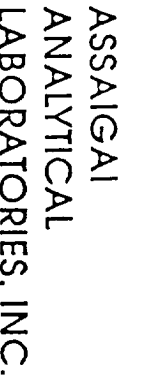
*William P. Biava*  
William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Client Sample ID: JAT A118 #5 CELL JL Sample Matrix: SOIL Sample Collected: 06/10/98 09:50:00

| Fraction                       | QC Group | CAS #    | Result                | Units | Dilution Factor | Detection Limit * | Sequence | Run Date                |
|--------------------------------|----------|----------|-----------------------|-------|-----------------|-------------------|----------|-------------------------|
| <b>SW846-8020 Volatiles</b>    |          |          |                       |       |                 |                   |          |                         |
| 9806174-01A                    | X98325   | 71-43-2  | Benzene               | ND    | mg / Kg         | 50                | 0.005    | XG.1998.544-5 06/15/98  |
|                                | X98325   | 100-41-4 | Ethylbenzene          | ND    | mg / Kg         | 50                | 0.005    | XG.1998.544-5           |
|                                | X98325   | 95-47-6  | o-Xylene              | ND    | mg / Kg         | 50                | 0.005    | XG.1998.544-5           |
|                                | X98325   |          | p/m Xylenes           | ND    | mg / Kg         | 50                | 0.01     | XG.1998.544-5           |
|                                | X98325   | 108-88-3 | Toluene               | ND    | mg / Kg         | 50                | 0.005    | XG.1998.544-5           |
| <b>SW846-8015 Modified TPH</b> |          |          |                       |       |                 |                   |          |                         |
| 9806174-01B                    | X98321   |          | Diesel Range Organics | 2300  | mg / Kg         | 25                | 25       | XG.1998.555-14 06/20/98 |

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





# Chain of Custody Record

7300 JEFFERSON, N.E.  
MIDWINTER NEW MEXICO 87109

GRADE, NEW ME  
(LEO) 715 8054

3332 WEDGEWOOD  
E1 PASO TEXAS 79925

(915) 593-6000

Page 1 of 1

Lab Job no: 6074

6/2/97

**Project Manager / Contact** Jeff Cross

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

Samplers: (Signature) Amey Mehta

[illegible]