

RECEIVED  
JUL 13 1999

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

8J682  
Denny S. Faust  
DEPUTY OIL & GAS INSPECTOR  
AUG 13 1999  
NATURAL RESOURCE DEPT.  
AND OIL & GAS ADMINISTRATION

OIL CON. DIST. 3  
PIT REMEDIATION AND CLOSURE REPORT

Approved

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200  
Address: 200 Amoco Court, Farmington, NM 87401  
Facility or Well Name: JICARILLA A 121  
Location: Unit or Qtr/Qtr Sec L Sec 18 T 26N R 5W County RIO ARriba  
Pit Type: Separator ☒ Dehydrator ☐ Other ☐  
Land Type: RANGE

Pit Location: Pit dimensions: length 45', width 27', depth 22'  
(Attach diagram) Reference: wellhead ☒, other ☐  
Footage from reference: 125'  
Direction from reference: 58 Degrees ☒ East of North ☐  
West South ☒

|                                                                                                                                                           |                                                                                                          |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------|
| <b>Depth To Groundwater:</b><br>(Vertical distance from<br>contaminants to seasonal<br>high water elevation of<br>groundwater)                            | Less than 50 feet (20 points)<br>50 feet to 99 feet (10 points)<br>Greater than 100 feet (0 points)      | <u>0</u> |
| <b>Distance to an Ephemeral Stream</b><br>(Downgradient dry wash greater than<br>ten feet in width)                                                       | Less than 100 feet (10 points)<br>Greater than 100 feet (0 points)                                       | <u>0</u> |
| <b>Distance to Nearest Lake, Playa, or Watering Pond</b><br>(Downgradient lakes, playas and<br>livestock or wildlife watering ponds)                      | Less than 100 feet (10 points)<br>Greater than 100 feet (0 points)                                       | <u>0</u> |
| <b>Wellhead Protection Area:</b><br>(Less than 200 feet from a private<br>domestic water source, or: less than<br>1000 feet from all other water sources) | Yes (20 points)<br>No (0 points)                                                                         | <u>0</u> |
| <b>Distance To Surface Water:</b><br>(Horizontal distance to perennial<br>lakes, ponds, rivers, streams, creeks,<br>irrigation canals and ditches)        | Less than 100 feet (20 points)<br>100 feet to 1000 feet (10 points)<br>Greater than 1000 feet (0 points) | <u>0</u> |

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: \_\_\_\_\_

Date Completed: \_\_\_\_\_

11/24/98

Remediation Method: Excavation ☒  
Check all appropriate sections) Landfarmed ☒

Approx. cubic yards \_\_\_\_\_

800

Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Location:  
(i.e. landfarmed onsite,  
name and location of  
offsite facility)Onsite ☒ Offsite \_\_\_\_\_General Description of Remedial Action: Excavation. BEDROCK BOTTOM.

Groundwater Encountered:

No ☒

Yes \_\_\_\_\_

Depth \_\_\_\_\_

Final Pit:

Closure Sampling:

(if multiple samples,  
attach sample results  
and diagram of sample  
locations and depths)Sample location see Attached Documents

Sample depth \_\_\_\_\_

18' (NORTH SIDEWALK)

Sample date \_\_\_\_\_

11/198

Sample time \_\_\_\_\_

1105

Sample Results

Soil: Benzene

(ppm)

1710

Water: Benzene

(ppb)

Total BTEX

(ppm)

38.110

Toluene

(ppb)

Field Headspace

(ppm)

204.5

Ethylbenzene

(ppb)

TPH

(ppm)

1400

Total Xylenes

(ppb)

Groundwater Sample:

Yes \_\_\_\_\_

No ☒

(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

11/24/98

PRINTED NAME

Buddy D. Shaw

SIGNATURE

Buddy D. Shaw

AND TITLE

Environmental Coordinator

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

APPROVED: YES ☒

NO \_\_\_\_\_

(REASON) \_\_\_\_\_

SIGNED:

Ken C. M... (signature)

DATE:

12-28-98

CLIENT: AMOCOBLAGG ENGINEERING, INC.  
P.O. BOX 87, BLOOMFIELD, NM 87413  
(505) 632-1199LOCATION NO: BT682C.D.C. NO: 6312

## FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1LOCATION: NAME: TICF A WELL #: 1 PIT: SEP  
QUAD/UNIT: L SEC 18 TWP 26N RNG 5W PM: NM CNTY RA ST NM  
QTR/FOOTAGE: 180' ML 1130' FWL CONTRACTOR: P+SDATE STARTED: 11/23/98

DATE FINISHED: \_\_\_\_\_

ENVIRONMENTAL SPECIALIST: NVEXCAVATION APPROX. 45 FT. x 27 FT. x 22 FT. DEEP. CUBIC YARDAGE: 800  
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM  
LAND USE: RANGE LEASE: TIC A FORMATION: DKFIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 125 FT. SSE FROM WELLHEAD.DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'NMOC RANKING SCORE: 0 NMOC TPH CLOSURE STD: 5000 PPM

## SOIL AND EXCAVATION DESCRIPTION:

## CHECK ONE:

☒ PIT ABANDONED☐ STEEL TANK INSTALLED☐ FIBERGLASS TANK INSTALLED

SIDEWALLS - TOP HALF SAND, LT. TO DK. GRAY TO DK. YELL. ORANGE (PREDOMINATELY ON SOUTH SIDEWALL), 11'-15' BELOW GRADE - OLIVE GRAY SHALE FRIABLE HARD, 15'-18' BELOW GRADE DUSKY YELL. BROWN CLAY, HC 000R DETECTED WITH EXCAVATION APPARENT STAINING MOSTLY ON NORTH SIDEWALL, STRONG HC 000R DETECTED IN ALL OVM SAMPLES

BOTTOM - BEDROCK (SHALE) OLIVE GRAY IN COLOR, VERY HARD, NO APPARENT HC 000R IN OVM SAMPLE.

BEDROCK  
Bottom

CLOSED

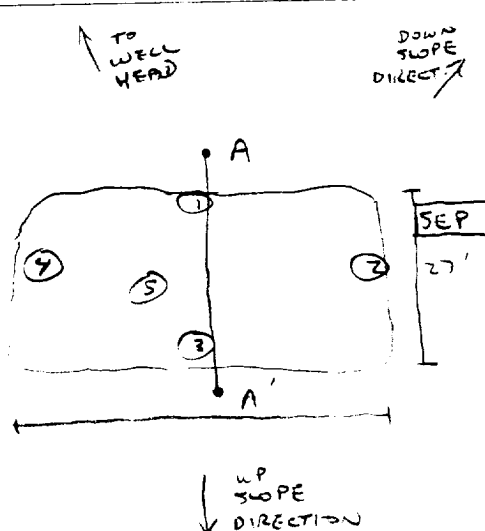
## FIELD 418.1 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------|-------------|---------|------------|-----------|----------|---------|-----------|
|      |             |         |            |           |          |         |           |
|      |             |         |            |           |          |         |           |
|      |             |         |            |           |          |         |           |
|      |             |         |            |           |          |         |           |

SCALE

0 FT

## PIT PERIMETER

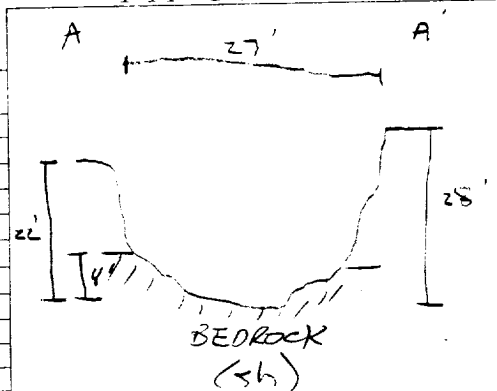
OVM  
RESULTS

| SAMPLE ID | FIELD HEADSPACE PPH (ppm) |
|-----------|---------------------------|
| 1 @ 18'   | 204.5                     |
| 2 @ 18'   | 150.1                     |
| 3 @ 19'   | 126.2                     |
| 4 @ 18'   | 168.6                     |
| 5 @ 22'   | 0.0                       |

## LAB SAMPLES

| SAMPLE ID   | ANALYSIS | TIME |
|-------------|----------|------|
| 1 @ 18'     | TPH/BTEX | 1105 |
| BOTH PASSED |          |      |

## PIT PROFILE



TRAVEL NOTES:

CALLOUT: \_\_\_\_\_

ONSITE: \_\_\_\_\_

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

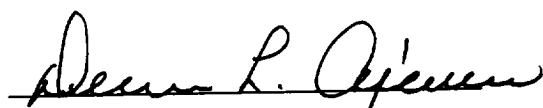
|                      |                 |                     |          |
|----------------------|-----------------|---------------------|----------|
| Client:              | Blagg / AMOCO   | Project #:          | 04034-10 |
| Sample ID:           | 1 @ 18'         | Date Reported:      | 11-24-98 |
| Laboratory Number:   | E213            | Date Sampled:       | 11-23-98 |
| Chain of Custody No: | 6312            | Date Received:      | 11-24-98 |
| Sample Matrix:       | Soil            | Date Extracted:     | 11-24-98 |
| Preservative:        | Cool            | Date Analyzed:      | 11-24-98 |
| Condition:           | Cool and Intact | Analysis Requested: | 8015 TPH |

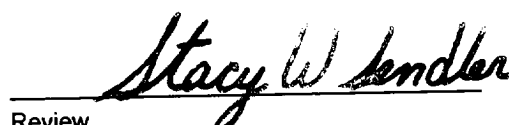
| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | 682                      | 0.2                      |
| Diesel Range (C10 - C28)     | 717                      | 0.1                      |
| Total Petroleum Hydrocarbons | 1,400                    | 0.2                      |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla A #1 Separator Pit.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | Blagg / AMOCO | Project #:          | 04034-10 |
| Sample ID:         | 1 @ 18'       | Date Reported:      | 11-24-98 |
| Laboratory Number: | E213          | Date Sampled:       | 11-23-98 |
| Chain of Custody:  | 6312          | Date Received:      | 11-24-98 |
| Sample Matrix:     | Soil          | Date Analyzed:      | 11-24-98 |
| Preservative:      | Cool          | Date Extracted:     | 11-24-98 |
| Condition:         | Cool & Intact | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene      | 1,710                    | 8.8                      |
| Toluene      | 7,620                    | 8.4                      |
| Ethylbenzene | 3,000                    | 7.6                      |
| p,m-Xylene   | 18,450                   | 10.8                     |
| o-Xylene     | 7,330                    | 5.2                      |
| Total BTEX   | 38,110                   |                          |

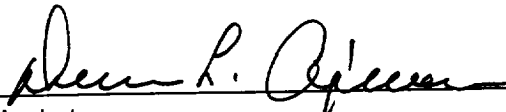
ND - Parameter not detected at the stated detection limit.

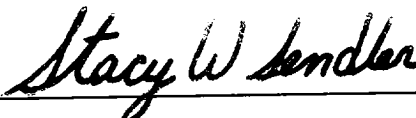
| Surrogate Recoveries: | Parameter          | Percent Recovery |
|-----------------------|--------------------|------------------|
|                       | Trifluorotoluene   | 97 %             |
|                       | Bromofluorobenzene | 97 %             |

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla A #1 Separator Pit.

  
Analyst

  
Review

## 6312

[illegible]

80606

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

SUBMIT 1 COPY TO:  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200

Address: 200 Amoco Court, Farmington, NM 87401

Facility or Well Name: JICARILLA A - 1

Location: Unit or Qtr/Qtr Sec 6 Sec 18 T 26N R 5W County RIO ARriba

Land Type: \_\_\_\_\_

Date Remediation Started: 11/23/98

Date Completed: 6/2/99

Remediation Method: Landfarmed ✓

Approx. cubic yards 800

Composted \_\_\_\_\_

Other \_\_\_\_\_

Depth To Groundwater: (pts.) 0

Distance to an Ephemeral Stream (pts.) 0

Distance to Nearest Lake, Playa, or Watering Pond (pts.) 0

Wellhead Protection Area: (pts.) 0

Distance To Surface Water: (pts.) 0

RANKING SCORE (TOTAL POINTS): 0

**Final Closure Sampling:**

Sampling Date: 5-28-99 Time: 1105

**Sample Results:**

Field Headspace (ppm) 302

TPH (ppm) 2,270 Method 8015/8021

Other BENZENE 0.178 ppm

TOT. BTEX 10.010 ppm

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

DATE 6/2/99 PRINTED NAME Buddy D. Shaw

SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO \_\_\_\_\_ (REASON) \_\_\_\_\_

SIGNED: [Signature] DATE: 6-18-99

|                      |                                                                                |                                                     |
|----------------------|--------------------------------------------------------------------------------|-----------------------------------------------------|
| CLIENT: <u>AMOCO</u> | BLAGG ENGINEERING, INC.<br>P.O. BOX 87, BLOOMFIELD, NM 87413<br>(505) 632-1199 | LOCATION NO: <u>EJ482</u><br>C.O.C. NO: <u>6937</u> |
|----------------------|--------------------------------------------------------------------------------|-----------------------------------------------------|

## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

|                                                                                                               |                                      |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------|
| LOCATION: NAME: <u>JICARILLA A</u> WELL #: <u>1</u> PITS: <u>SEP, PROD</u>                                    | DATE STARTED: <u>5-29-99</u>         |
| QUAD/UNIT: <u>L</u> SEC: <u>18</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> | DATE FINISHED: _____                 |
| DIR/FOOTAGE: <u>NW/4 SW/4</u> CONTRACTOR: <u>P+S</u>                                                          | ENVIRONMENTAL SPECIALIST: <u>REP</u> |

### SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 800  
LAND USE: PASTURE LIFT DEPTH (ft): 1.5'

### FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'  
NMOCB RANKING SCORE: 0 NMOCB TPH CLOSURE STD: 5000 PPM

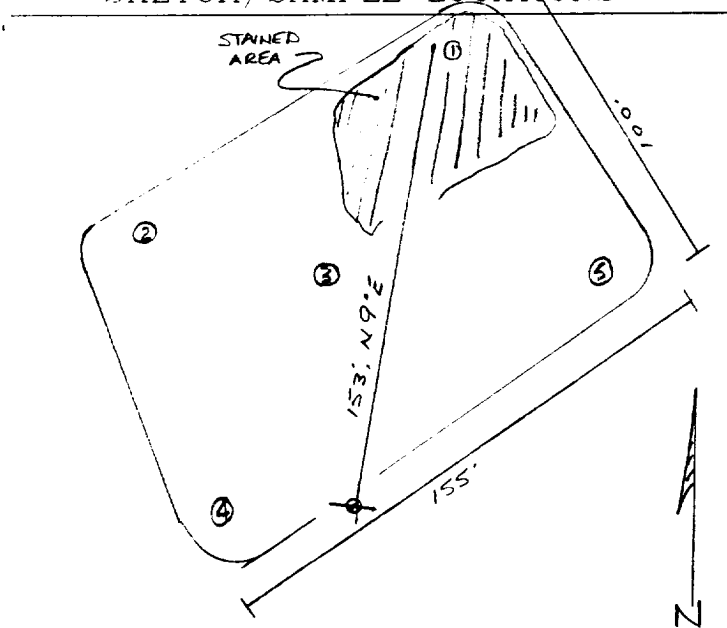
LT. YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM  
LARGE AREA OF STAINING OBSERVED IN LANDFARM AREA (SEE SKETCH BELOW)  
HC ODOR DETECTED IN SAMPLING PTS. ②, ③, ④ & ⑤. SAMPLING DEPTHS RANGE FROM 6"-12". COLLECTED A SPT. COMPOSITE SAMPLE FOR LAB ANALYSIS.

CLOSED

### FIELD 418.1 CALCULATIONS

| SAMP. TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------------|-------------|---------|------------|-----------|----------|---------|-----------|
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |

### SKETCH/SAMPLE LOCATIONS



### OVM RESULTS

### LAB SAMPLES

| SAMPLE ID | FIELD HEADSPACE PID (ppm) | SAMPLE ID | ANALYSIS   | TIME | RESULTS   |
|-----------|---------------------------|-----------|------------|------|-----------|
| LF-1      | 302                       | LF-1      | TPH (8015) | 1105 | 2270      |
|           |                           | "         | BENZENE    | "    | 178 ppb   |
|           |                           | "         | TOT. BTEX  | "    | 10010 ppb |
|           |                           |           |            |      |           |
|           |                           |           |            |      |           |
|           |                           |           |            |      |           |

### SCALE

0 1 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 5-28-99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

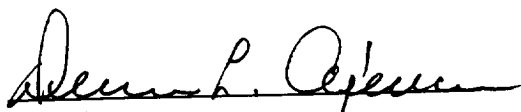
|                      |                 |                     |          |
|----------------------|-----------------|---------------------|----------|
| Client:              | Blagg / AMOCO   | Project #:          | 403410   |
| Sample ID:           | LF - 1          | Date Reported:      | 06-01-99 |
| Laboratory Number:   | F435            | Date Sampled:       | 05-28-99 |
| Chain of Custody No: | 6937            | Date Received:      | 06-01-99 |
| Sample Matrix:       | Soil            | Date Extracted:     | 06-01-99 |
| Preservative:        | Cool            | Date Analyzed:      | 06-01-99 |
| Condition:           | Cool and Intact | Analysis Requested: | 8015 TPH |

| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | 402                      | 0.2                      |
| Diesel Range (C10 - C28)     | 1,870                    | 0.1                      |
| Total Petroleum Hydrocarbons | 2,270                    | 0.2                      |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla A - 1 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | Blagg / AMOCO | Project #:          | 403410   |
| Sample ID:         | LF - 1        | Date Reported:      | 06-02-99 |
| Laboratory Number: | F435          | Date Sampled:       | 05-28-99 |
| Chain of Custody:  | 6937          | Date Received:      | 06-01-99 |
| Sample Matrix:     | Soil          | Date Analyzed:      | 06-01-99 |
| Preservative:      | Cool          | Date Extracted:     | 06-01-99 |
| Condition:         | Cool & Intact | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene      | 178                      | 10.4                     |
| Toluene      | 1,770                    | 10.4                     |
| Ethylbenzene | 5,020                    | 10.4                     |
| p,m-Xylene   | 1,860                    | 10.4                     |
| o-Xylene     | 1,180                    | 5.2                      |
| Total BTEX   | 10,010                   |                          |

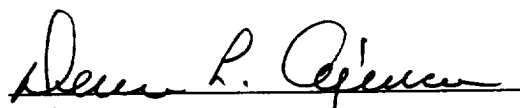
ND - Parameter not detected at the stated detection limit.

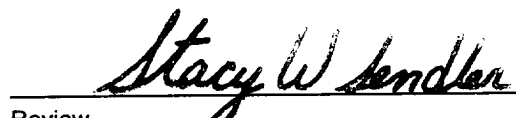
| Surrogate Recoveries: | Parameter          | Percent Recovery |
|-----------------------|--------------------|------------------|
|                       | Trifluorotoluene   | 100 %            |
|                       | Bromofluorobenzene | 100 %            |

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla A - 1 Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

6937

| Client / Project Name                                                    |         |      | Project Location                                                    |  |  | ANALYSIS / PARAMETERS                          |   |                                                      |                          |  |  |
|--------------------------------------------------------------------------|---------|------|---------------------------------------------------------------------|--|--|------------------------------------------------|---|------------------------------------------------------|--------------------------|--|--|
| BAGG/AMOCO                                                               |         |      | JICARILLA A-1                                                       |  |  |                                                |   |                                                      |                          |  |  |
| Sampler: REP<br>Sample No./ Identification<br>Sample Date<br>Sample Time |         |      | Client No.<br>403410<br>Lab Number<br>F435<br>Sample Matrix<br>Soil |  |  | No. of Containers<br>TPH (8015)<br>BTEX (8021) |   | Remarks<br>SPT. COMPOSITE<br>SAMPLE PREPARED<br>COOL |                          |  |  |
| LF-1                                                                     | 5/28/99 | 1105 |                                                                     |  |  | 1                                              | ✓ | ✓                                                    |                          |  |  |
| Relinquished by: (Signature)                                             |         |      | Date                                                                |  |  | Time                                           |   |                                                      | Received by: (Signature) |  |  |
| [Signature]                                                              |         |      | 6.1.99                                                              |  |  | 7:05                                           |   |                                                      | [Signature]              |  |  |
| Relinquished by: (Signature)                                             |         |      |                                                                     |  |  |                                                |   |                                                      | Received by: (Signature) |  |  |
| [Signature]                                                              |         |      |                                                                     |  |  |                                                |   |                                                      | [Signature]              |  |  |
| Relinquished by: (Signature)                                             |         |      |                                                                     |  |  |                                                |   |                                                      | Received by: (Signature) |  |  |
| [Signature]                                                              |         |      |                                                                     |  |  |                                                |   |                                                      | [Signature]              |  |  |

**ENVIROTECH INC.**

5796 U.S. Highway 64  
Farmington, New Mexico 87401  
(505) 632-0615

**Sample Receipt**

|                     |   |   |     |
|---------------------|---|---|-----|
| Received Intact     | Y | N | N/A |
| Cool - Ice/Blue Ice | ✓ |   |     |