

OK

*Bernard E. Frost*  
DEPUTY OIL & GAS INSPECTOR

FEB 11 1999

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

SUBMIT COPY TO  
NATURAL RESOURCE DEPT  
AND OIL & GAS ADMINISTRATION

*Approved*

PIT REMEDIATION AND CLOSURE REPORT

RECEIVED  
DEC 14 1998  
OIL CON. DIV.  
DIST. 3

Operator: Marathon Oil Co. Telephone: 505-326-2783  
Address: P.O. Box 1439 Farmington, N.M. 87499  
Facility or Well Name: Jicarilla Apache #16E  
Location: Unit or Qtr Qtr Sec A Sec 34 T 26N R 5W County Rio Arriba  
Pit Type: Separator ☐ Dehydrator ☐ Other produced water evaporation pit  
Land Type: Jicarilla Apache

Pit Location: Pit dimensions length 30 width 30 depth 5'  
(Attach diagram)  
Reference wellhead ☒ other ☐  
Footage from reference 108'  
Direction from reference \_\_\_\_\_ Degrees \_\_\_\_\_ East North ☒ NE  
\_\_\_\_\_ West South \_\_\_\_\_

|                                                                                                                                                   |                                                                                                          |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------|
| Depth To Groundwater:<br>(Vertical distance from<br>contaminants to seasonal<br>high water elevation or<br>groundwater)                           | Less than 5 feet (20 points)<br>5 feet to 99 feet (10 points)<br>Greater than 100 feet (0 points)        | <u>0</u> |
| Distance to an Ephemeral Stream<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> |
| Distance to Nearest Lake, Playa, or Watering Pond<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> |
| Wellhead Protection Area:<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> |
| Distance To Surface Water:<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: 7-18-97 Date Completed: 10-31-97

Remediation Method: excavation ☒ Approx. cubic yards 166 cu yd  
☒ Check and report to the State ☒ Initial to Remediation

Remediation Location: Onsite ☒ Offsite \_\_\_\_\_  
\_\_\_\_\_  
name and location of offsite facility

General Description of Remedial Action: Spread on location 6" thick  
for natural bio-remediation.

Groundwater Encountered: no ☒ Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit: \_\_\_\_\_ Sample location Composite each side wall

Closure Sampling: \_\_\_\_\_  
attach sample results \_\_\_\_\_  
and amount of sample \_\_\_\_\_ Sample depth 5'  
\_\_\_\_\_ Sample date 7-18-97 Sample time 1330

Sample results

|                  |     |             |               |     |       |
|------------------|-----|-------------|---------------|-----|-------|
| Soil Benzene     | ppm | _____       | Water Benzene | ppb | _____ |
| Total BTEX       | ppm | <u>.077</u> | Toluene       | ppb | _____ |
| Field Head space | ppm | <u>42</u>   | Ethylbenzene  | ppb | _____ |
| TPH              | ppm | <u>9.5</u>  | Total Nylones | 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 7-29-97 PRINTED NAME Gary W. Donaghey  
SIGNATURE Gary W. Donaghey TITLE Production Supervisor

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) Spill is close  
SIGNED: Ken Mc DATE: 7-30-97

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

|                    |                     |                     |          |
|--------------------|---------------------|---------------------|----------|
| Client:            | Marathon Oil        | Project #:          | 95047    |
| Sample ID:         | Jicarilla #16E E.P. | Date Reported:      | 07-22-97 |
| Laboratory Number: | B684                | Date Sampled:       | 07-18-97 |
| Chain of Custody:  | 5316                | Date Received:      | 07-18-97 |
| Sample Matrix:     | Soil                | Date Analyzed:      | 07-21-97 |
| Preservative:      | Cool                | Date Extracted:     | 07-21-97 |
| Condition:         | Cool & Intact       | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene      | ND                       | 8.7                      |
| Toluene      | 14.7                     | 8.3                      |
| Ethylbenzene | 10.3                     | 7.6                      |
| p,m-Xylene   | 32.3                     | 10.8                     |
| o-Xylene     | 19.7                     | 5.2                      |
| Total BTEX   | 77.0                     | .077 ppm                 |

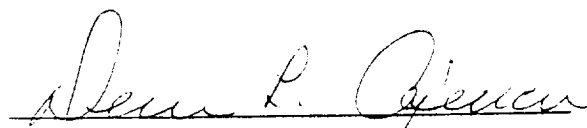
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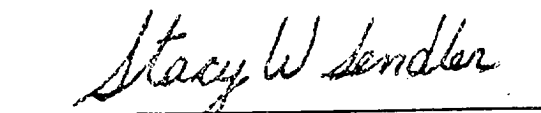
| Surrogate Recoveries: | Parameter          | Percent Recovery |
|-----------------------|--------------------|------------------|
|                       | Trifluorotoluene   | 98 %             |
|                       | Bromofluorobenzene | 98 %             |

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: Jicarilla Pits. 4 - PNT COMP.

  
Analyst

  
Review

# ENVIROTECH LABS

~~PRACTICAL SOLUTIONS FOR A BETTER TOMORROW~~

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

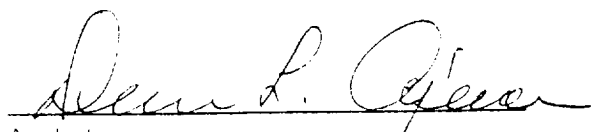
|                      |                     |                     |          |
|----------------------|---------------------|---------------------|----------|
| Client:              | Marathon Oil        | Project #:          | 95047    |
| Sample ID:           | Jicarilla #16E E.P. | Date Reported:      | 07-22-97 |
| Laboratory Number:   | B684                | Date Sampled:       | 07-18-97 |
| Chain of Custody No: | 5316                | Date Received:      | 07-18-97 |
| Sample Matrix:       | Soil                | Date Extracted:     | 07-21-97 |
| Preservative:        | Cool                | Date Analyzed:      | 07-21-97 |
| Condition:           | Cool and Intact     | Analysis Requested: | 8015 TPH |

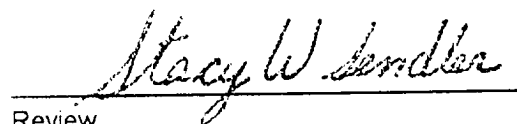
| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | ND                       | 0.2                      |
| Diesel Range (C10 - C28)     | 9.5                      | 0.1                      |
| Total Petroleum Hydrocarbons | 9.5                      | 0.2                      |

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Jicarilla Pits. 4 Pnt. Comp.

  
Analyst

  
Review

160

unit 4 sec 34 26N 5W

12

Separator pit

30x33x3'

N-60

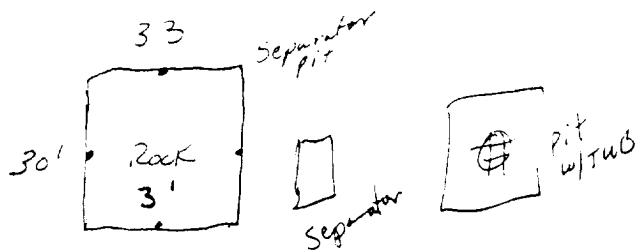
E-10

W-35

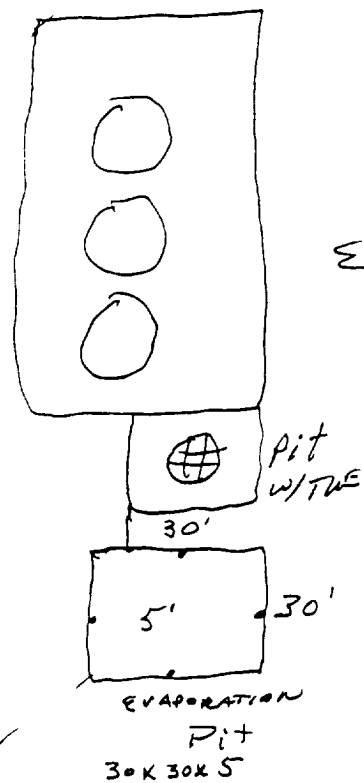
S-11.3

Bottom Rock

unpaved - 31 ppm



168



N-36

E-7.8

W-58

S-51

B-Rock

Composite 42

#16E

108

5

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

ON-SITE SOIL REMEDIATION REPORT

Operator: Marathon Oil Co. Telephone: 505-326-2783  
Address: P.O. Box 1439 Farmington, N.M. 87499  
Facility or Well Name: Jicarilla Apache #16E  
Location: Unit or Qtr/Qtr Sec A Sec 34 T26N R5W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 7-18-97 Date Completed: 31 OCT 97  
Remediation Method: Landfarmed ☒ Approx. cubic yards 276  
Composted ☐  
Other ☐

|                                                   |                 | Final Closure Sampling:       |                                   |
|---------------------------------------------------|-----------------|-------------------------------|-----------------------------------|
| Depth To Groundwater:                             | (pts.) <u>0</u> | Sampling Date: <u>9-24-97</u> | Time: _____                       |
| Distance to an Ephemeral Stream                   | (pts.) <u>0</u> | Sample Results:               |                                   |
| Distance to Nearest Lake, Playa, or Watering Pond | (pts.) <u>0</u> | Field Headspace (ppm)         | <u>11</u>                         |
| Wellhead Protection Area:                         | (pts.) <u>0</u> | TPH (ppm)                     | <u>133</u> Method <u>8015 Mod</u> |
| Distance To Surface Water:                        | (pts.) <u>0</u> | Other                         | _____                             |
| 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 10-14-97 PRINTED NAME Gary W. Donaghey  
SIGNATURE Gary W. Donaghey AND TITLE Production Supervisor

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

APPROVED: YES ☒ NO ☐ (REASON) \_\_\_\_\_

SIGNED: Kent M. ... DATE: 10-15-97

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

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

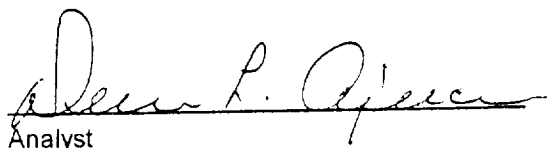
|                      |                      |                     |          |
|----------------------|----------------------|---------------------|----------|
| Client:              | Marathon Oil Company | Project #:          | 95047    |
| Sample ID:           | Jicarilla 16E        | Date Reported:      | 09-29-97 |
| Laboratory Number:   | C163                 | Date Sampled:       | 09-24-97 |
| Chain of Custody No: | 5465                 | Date Received:      | 09-25-97 |
| Sample Matrix:       | Soil                 | Date Extracted:     | 09-25-97 |
| Preservative:        | Cool                 | Date Analyzed:      | 09-26-97 |
| Condition:           | Cool and Intact      | Analysis Requested: | 8015 TPH |

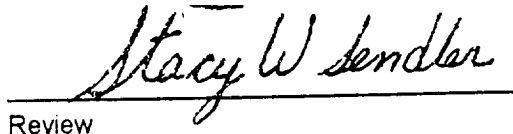
| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | 4.4                      | 0.2                      |
| Diesel Range (C10 - C28)     | 129                      | 0.1                      |
| Total Petroleum Hydrocarbons | 133                      | 0.2                      |

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA. July 1992.

Comments: **Jicarilla.**

  
Analyst

  
Review

16 E

N

NE

1.9

NW

2.0

C

13

SW

10

SE

7.5

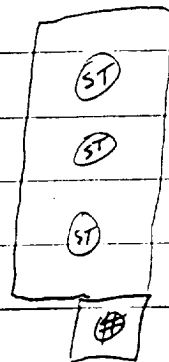
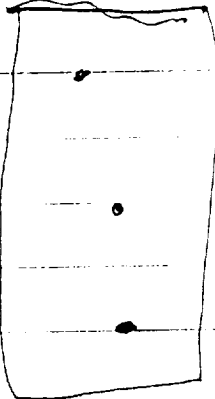
Composite

11



pit with tub

MEBBE HOUSE



30'



30'

50

