

District I  
P.O. Box 1980, Hobbs, NM

District II  
P.O. Drawer DD, Artesia, NM 88221

District III  
1000 Rio Brazos Rd. Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO  
APPROPRIATE  
DISTRICT OFFICE  
AND 1 COPY TO  
SANTA FE OFFICE

DEPUTY OIL & GAS INSPECTOR

OIL CONSERVATION DIVISION

2040 South Pacheco Street  
Santa Fe, New Mexico 87505

FEB 28 1997

PIT REMEDIATION AND CLOSURE REPORT

RECEIVED  
OCT 8 1 1996

OIL CONSERVATION DIV.

Operator: PNM Gas Services (Amoco) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Riddle #2  
Location: Unit: N Sec. 17 T. 30 N R. 9 W County San Juan  
Pit Type: Separator ☐ Dehydrator ☒ Other ☐  
Land Type: BLM ☒ State ☐ Fee ☐ Other ☐

Pit Location: Pit dimensions: length 18 width 18 depth 3  
(Attach diagram) Reference: wellhead ☒ other ☐  
Footage from reference: 40'  
Direction from reference: 45 Degrees ☒ East North ☒  
of ☐ West South ☐

Depth to Ground Water:

(Vertical distance from contaminants to  
seasonal high water elevation of ground  
water)

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 1,000  
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 1,000 feet (10 points)  
Greater than 1,000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started:

5/1/96

Date Completed:

5/2/96

Remediation Method:

Excavation

☒

Approx. Cubic Yard

537

(Check all appropriate sections)

Landfarmed

☒

Amount Landfarmed (cubic yds)

517

Other

Remediation Location:

Onsite

☒

Offsite

(i.e., landfarmed onsite, name and location of offsite facility)

Backfill Material Location:

General Description of Remedial Action:

Excavated contaminated soil to pit size of 22'x36'x19' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by plowing/disking until soil met regulatory levels.

Ground Water Encountered:

No

☒

Yes

Depth

Final Pit Closure Sampling:

Sample Location

5 pt. composite-4 side walls and center of pit bottom

(if multiple samples, attach sample result and diagram of sample locations and depths.)

Sample depth

19'

Sample date

5/1/96

Sample time

3:15:00 PM

Sample Results

Benzene (ppm)

0.0025

Total BTEX (ppm)

0.0160

Field headspace (ppm)

TPH

&lt; 5.00

Method

8015A

Vertical Extent (ft)

Risk Assessment form attached

Yes

No

☒

Ground Water 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 MY BELIEF

DATE

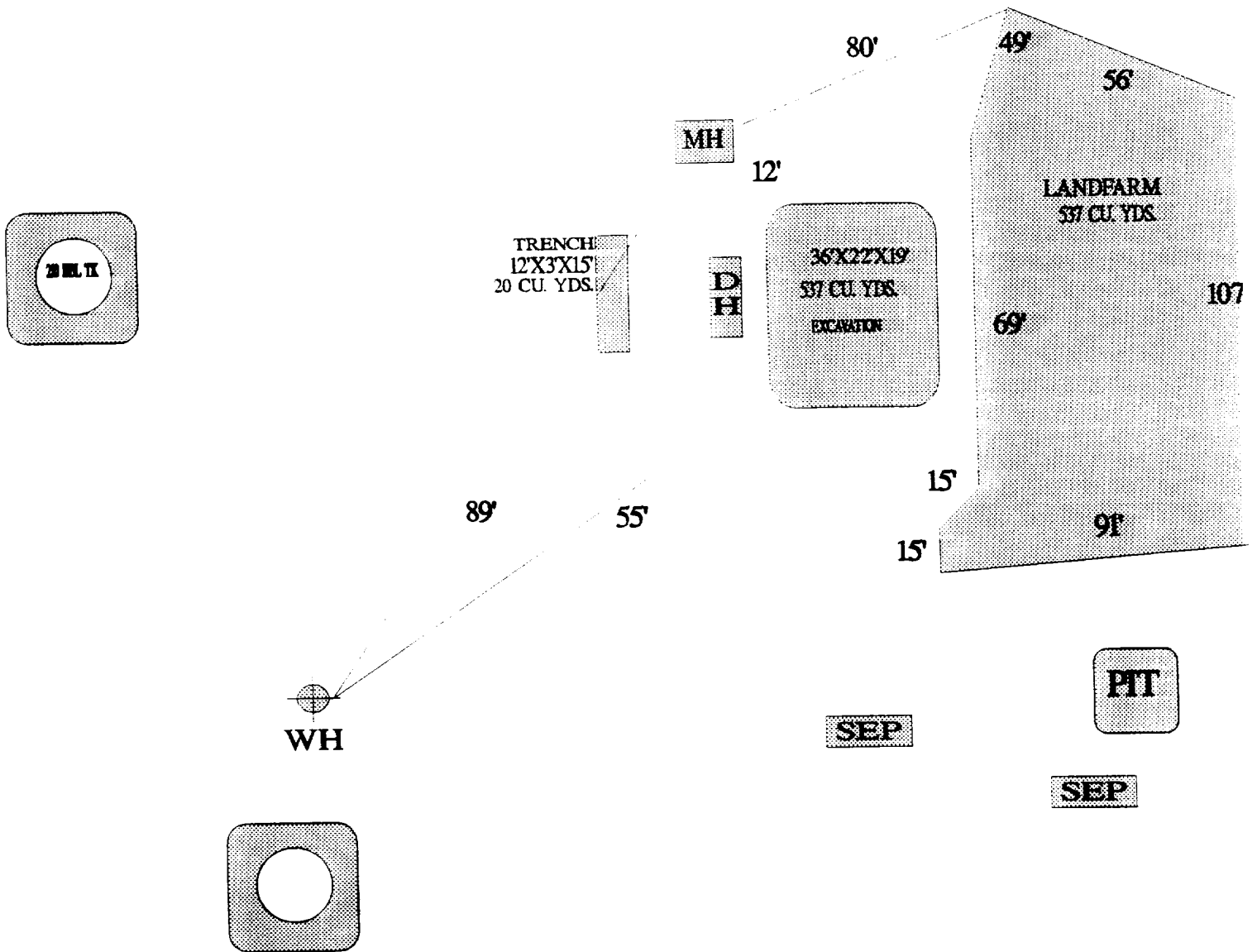
October 25, 1996

SIGNATURE

*Maureen Gannon*PRINTED NAME  
AND TITLE

Maureen Gannon

Environmental Engineer



RIDDLE #2 EXCAVATION — 05/01/96

OFF: (505) 325-8786



LAB: (505) 325-5667

***Diesel Range Organics EPA 8015-Modified***

Attn: *Denver Bearden*  
Company: *PNM Gas Services*  
Address: *603 W. Elm*  
City, State: *Farmington, NM 87401*

Date: *6-May-96*  
COC No.: *4622*  
Sample No. *10787*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Riddle #2*  
Project Location: *9605011515; Excavation Composite Sample*  
Sampled by: *RH* Date: *1-May-96* Time: *15:15*  
Analyzed by: *DC* Date: *6-May-96*  
Sample Matrix: *Soil*

***Laboratory Analysis***

<i>Analyte</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>&lt;5.0</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

***Quality Assurance Report***

DRO QC No.: *0446-STD*

***Calibration Check***

<i>Analyte</i>	<i>Method Blank</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
<i>Diesel Range (C10 - C28)</i>	<i>&lt;5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>2,106</i>	<i>5.3</i>	<i>15%</i>

***Matrix Spike***

<i>Analyte</i>	<i>1 - Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
<i>Diesel Range (C10-C28)</i>	<i>82</i>	<i>77</i>	<i>(70-130)</i>	<i>4</i>	<i>20%</i>

***Method*** - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *Ja4*  
Date: *5/6/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-8786



LAB: (505) 325-5667

**AROMATIC VOLATILE ORGANICS**

Attn: *Denver Bearden*  
Company: *PNM Gas Services*  
Address: *603 W. Elm*  
City, State: *Farmington, NM 87401*

Date: *2-May-96*  
COC No.: *4622*  
Sample No.: *10787*  
Job No.: *2-1000*

Project Name: *PNM Gas Services - Riddle #2*  
Project Location: *9605011515; Excavation Composite Sample*  
Sampled by: *RH* Date: *1-May-96* Time: *15:15*  
Analyzed by: *HR* Date: *2-May-96*  
Sample Matrix: *Soil*

**Aromatic Volatile Organics**

Component	Result	Units of Measure	Detection Limit	Units of Measure
<i>Benzene</i>	<i>2.5</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>7.4</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>1.2</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>3.2</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>1.7</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>TOTAL</i>	<i>16.0</i>	<i>ug/kg</i>		

**Method** - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: *Ja G*  
Date: *5/2/96*

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RIDDLE #2  
Amoco  
Sec. 17-30N-09W

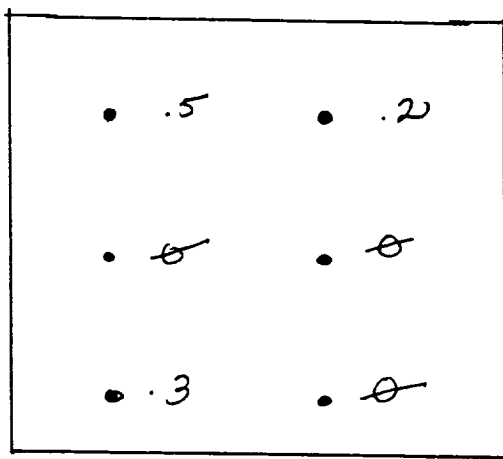
July 23, 1996

Land Farm: On Location  
557 Yards

Composite Sample #: 96 072 311 40

Soil Vapor Head-Space Reading = 7.9 ppm (PID)

Sample depths between 2" and 12"



OFF: (505) 325-5667



LAB: (505) 325-1556

**Diesel Range Organics**

Attn: *Denver Bearden*  
 Company: *PNM Gas Services*  
 Address: *603 W. Elm*  
 City, State: *Farmington, NM 87401*

Date: *24-Jul-96*  
 COC No.: *4912*  
 Sample No. *11576*  
 Job No. *2-1000*

Project Name: *PNM Gas Services - Riddle #2 Landfarm*  
 Project Location: *9607231140; 6pt. Composite, 2" - 12" depth*  
 Sampled by: *GC* Date: *23-Jul-96* Time: *11:40*  
 Analyzed by: *HR* Date: *24-Jul-96*  
 Sample Matrix: *Soil*

**Laboratory Analysis**

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>&lt;5.0</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

**Quality Assurance Report**DRO QC No.: *0479-QC***Calibration Check**

<i>Parameter</i>	<i>Method Blank</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
<i>Diesel Range (C10 - C28)</i>	<i>&lt;5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,798</i>	<i>10.1</i>	<i>15%</i>

**Matrix Spike**

<i>Parameter</i>	<i>1- Percent Recovered</i>	<i>2- Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
<i>Diesel Range (C10-C28)</i>	<i>98</i>	<i>100</i>	<i>(70-130)</i>	<i>2</i>	<i>20%</i>

**Method** - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas ChromatographyApproved by: *JCF*Date: *7/24/96*

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