

District I  
P.O. Box 12500, Albuquerque, NM 87112

District II  
P.O. Drawer 90, Aztec, NM 88021

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

JUL 18 1997

**PIT REMEDIATION AND CLOSURE REPORT**

Operator: PNM Gas Services (Four Star) Telephone: 324-3764

Address: 603 W. Elm Street Farmington, NM 87-01

Facility or Well Name: Mexico Federal K #1

Location: Unit M Sec 9 T. 28 N R. 10 W County San Juan

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

Land Type: BLM ☒ State ☐ Fee ☐ Other ☐ No ☐

Pit Location: Pit dimensions: length 18 width 18 depth 4

(Attach diagram) Reference: wellhead ☒ other ☐

Footage from reference: 148'

Direction from reference: 20 Degrees East North ☒  
West South ☐

Depth to Ground Water:

Less than 50 feet	(20 points)	
50 feet to 99 feet	(10 points)	
Greater than 100 feet	(0 points)	0

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

**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 ☐ No ☒ (20 points)  
(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:

8/29/96

Date Completed:

9/3/96

Remediation Method:

Excavation

x

Approx. Cubic Yard

287

(Check all appropriate sections)

Landfarmed

x

Amount Landfarmed (cubic yds)

287

Other

Remediation Location:

Onsite

x

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 19'x34'x12' 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.

\*\*\* Total BTEX above regulatory level; further excavation impossible due to bedrock.

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

12'

Sample date

8/29/96

Sample time

4:00:00 PM

Sample Results

Benzene (ppm)

0.0776

Total BTEX (ppm)

\*\*\*

58.5385

Field headspace (ppm)

TPH

198.90

Method

8015A

Vertical Extent (ft)

17'

Risk Assessment form attached

Yes

✓

No

Ground Water Sample:

Yes

No

✓

(If yes, see attached Groundwater Site Summary Report)

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

DATE

April 28, 1997

SIGNATURE



PRINTED NAME  
AND TITLE

Denver Bearden  
Administrator III



Well Name:	Mexico Federal K #1
Well Legals:	Unit M, Sec 9, T28N, R10W
Pit Type:	Separator
Horizontal Distance to Surface Water:	Greater than 1,000 ft
Groundwater Depth:	Greater than 100 ft

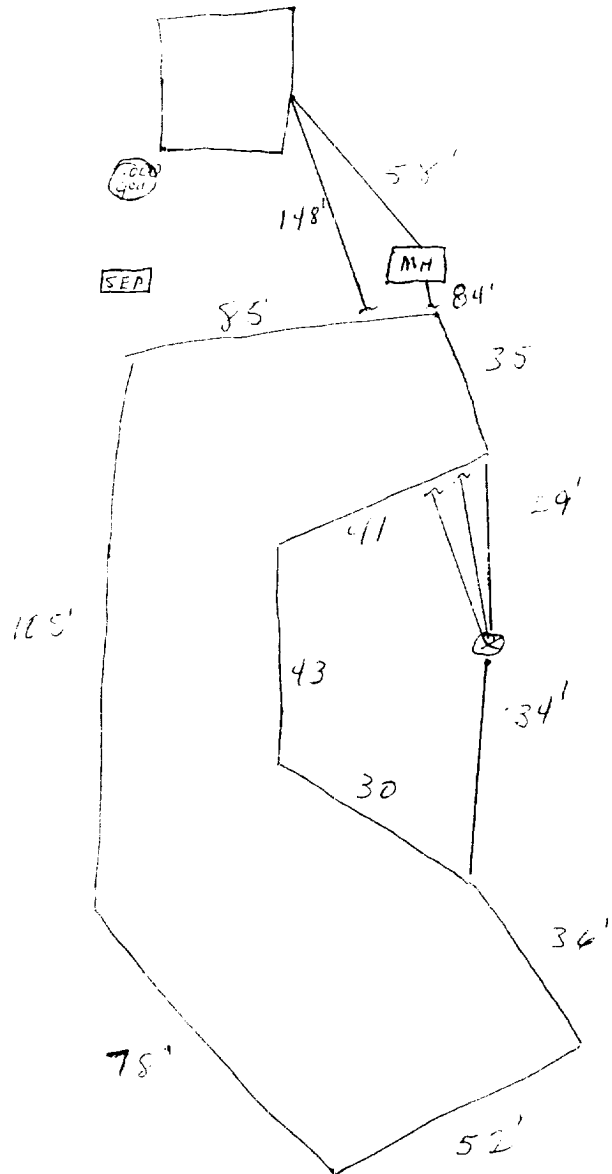
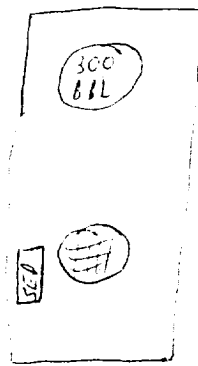
### **RISK ANALYSIS**

PNM requests closure of the Mexico Federal K #1 using a limited risk analysis of the site conditions.

1. PNM estimated groundwater to be at a depth of 180 ft. based upon elevation of site to the San Juan River. (Reference: topographic map.)
2. This site is not located within 200 ft. of a domestic water well and is not within 1,000 ft. of any other water source.
3. Distance from the site to surface water is greater than 1,000 ft.
4. PNM excavated 287 cu. yds. from the former pit. Vertical extent was determined using a hollow stem drilling rig. Bedrock was encountered @ 17 ft. below ground surface.

Based upon the information provided above, PNM believes the Mexico Federal K #1 poses minimal risk to the environment. Subsurface lateral migration is limited based upon PNM's past experience in excavating 400 pits. Source removal minimizes the possibility of surface water contamination. Bedrock provides an impermeable layer between remaining contamination and groundwater. Vertical migration through bedrock to groundwater is highly unlikely.

Mexico Federal R#1



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: *3-Sep-96*  
COC No.: *4742*  
Sample No. *11955*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Mexico Federal K #1*  
Project Location: *9608291600; Pit Excavation Composite Sample*  
Sampled by: *RH* Date: *29-Aug-96* Time: *16:00*  
Analyzed by: *DC* Date: *3-Sep-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>198.9</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

### *Quality Assurance Report*

DRO QC No.: *0489-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>100</i>	<i>106</i>	<i>5.9</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>104</i>	<i>96</i>	<i>(70-130)</i>	<i>5</i>	<i>20%</i>

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

Approved by: *JAG*

Date: *9/3/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

### AROMATIC VOLATILE ORGANICS

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

Date: *3-Sep-96*  
COC No.: *4742*  
Sample No. *11955*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Mexico Federal K #1*  
Project Location: *9608291600; Pit Excavation Composite Sample*  
Sampled by: *RH* Date: *29-Aug-96* Time: *16:00*  
Analyzed by: *DC* Date: *3-Sep-96*  
Sample Matrix: *Soil*

#### Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene	77.6	ug/kg	0.2	ug/kg
Toluene	8423.7	ug/kg	0.2	ug/kg
Ethylbenzene	3374.1	ug/kg	0.2	ug/kg
m,p-Xylene	45475.9	ug/kg	0.2	ug/kg
o-Xylene	1187.2	ug/kg	0.2	ug/kg
	TOTAL	58538.5	ug/kg	

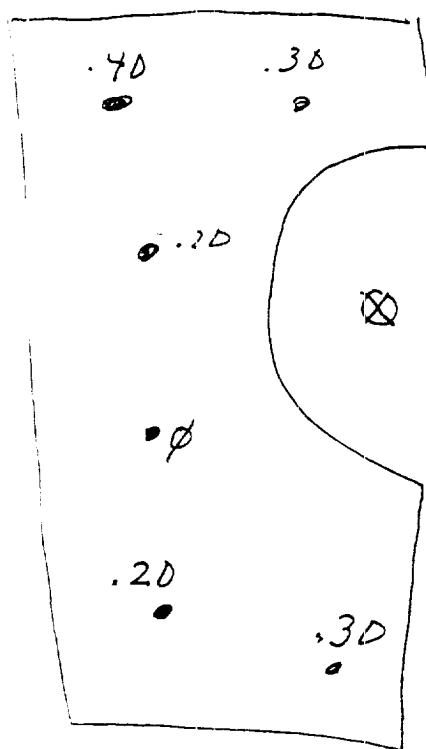
**Method** - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: *Ja G*  
Date: *9/3/96*

Mexico Federal K#1  
Four Star  
Sec 9, 28N, 10 W

10-1-96

Land Farm : On location  
composite sample # 9610011215  
Soil vapor head space PID read = 11.1 ppm



2"-12" depth

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: *3-Oct-96*  
 COC No.: *5080*  
 Sample No. *12404*  
 Job No. *2-1000*

Project Name: ***PNM Gas Services - Mexico Federal K #1 Landfarm***  
 Project Location: ***9610011215; 6pt. Composite, 2"-12" depth***  
 Sampled by: GC Date: *1-Oct-96* Time: *12:15*  
 Analyzed by: DC/HR Date: *3-Oct-96*  
 Sample Matrix: *Soil*

***Laboratory Analysis***

<b><i>Parameter</i></b>	<b><i>Result</i></b>	<b><i>Unit of Measure</i></b>	<b><i>Detection Limit</i></b>	<b><i>Unit of Measure</i></b>
<i>Diesel Range Organics (C10 - C28)</i>	<i>76.5</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

***Quality Assurance Report***DRO QC No.: *0489-QC****Calibration Check***

<b><i>Parameter</i></b>	<b><i>Method Blank</i></b>	<b><i>Unit of Measure</i></b>	<b><i>True Value</i></b>	<b><i>Analyzed Value</i></b>	<b><i>% Diff</i></b>	<b><i>Limit</i></b>
<i>Diesel Range (C10 - C28)</i>	<i>&lt;5.0</i>	<i>ppm</i>	<i>100</i>	<i>110</i>	<i>9.9</i>	<i>15%</i>

***Matrix Spike***

<b><i>Parameter</i></b>	<b><i>1 - Percent Recovered</i></b>	<b><i>2 - Percent Recovered</i></b>	<b><i>Limit</i></b>	<b><i>%RSD</i></b>	<b><i>Limit</i></b>
<i>Diesel Range (C10-C28)</i>	<i>112</i>	<i>103</i>	<i>(70-130)</i>	<i>6</i>	<i>20%</i>

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

Approved by: *[Signature]*  
 Date: *10/3/96*



# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

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

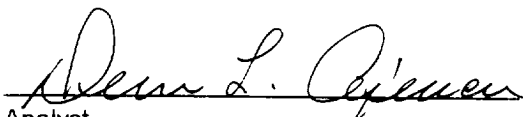
Client:	PNM	Project #:	93108-02
Sample ID:	TH - 1 @ 17'	Date Reported:	01-28-97
Laboratory Number:	A919	Date Sampled:	01-27-97
Chain of Custody No:	5060	Date Received:	01-27-97
Sample Matrix:	Soil	Date Extracted:	01-28-97
Preservative:	Cool	Date Analyzed:	01-28-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

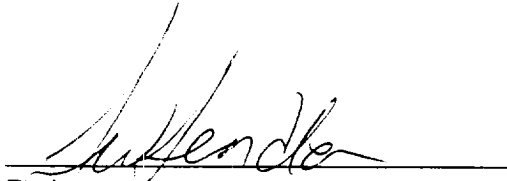
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	230	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	230	0.2

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: **Mexico Fed. K #1.**

  
Analyst

  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	PNM	Project #:	93108-02
Sample ID:	TH - 1 @ 17'	Date Reported:	01-28-97
Laboratory Number:	A919	Date Sampled:	01-27-97
Chain of Custody:	5060	Date Received:	01-27-97
Sample Matrix:	Soil	Date Analyzed:	01-28-97
Preservative:	Cool	Date Extracted:	01-28-97
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	868	17.5
Toluene	41,900	16.7
Ethylbenzene	7,960	15.2
p,m-Xylene	61,300	21.6
o-Xylene	15,000	10.4
Total BTEX	127,000	

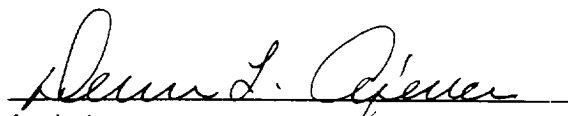
ND - Parameter not detected at the stated detection limit.

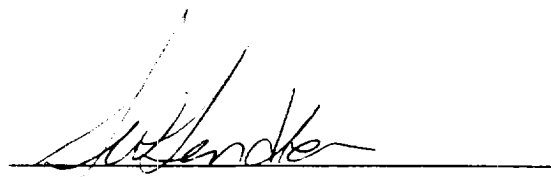
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	100 %

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: Mexico Fed. K #1.

  
Analyst

  
Review