

District I  
P.O. Box 1990, Hobbs, NM

District II  
P.O. Box 1990, Hobbs, NM

District III  
1000 Rio Brazos, Dec. 1, 1997

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco Street  
Santa Fe, New Mexico 87505

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

**PIT REMEDIATION AND CLOSURE REPORT**

*Approved*

**Operator:** PNM Gas Services ( Chateau ) **Telephone:** 324-3764

**Address:** 603 W. Elm Street Farmington, NM 87401

**Facility or Well Name:** Langendorf #1-34

**Location:** Unit: A Sec. 34 T. 31 N R. 13 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: 77'

Direction from reference: 70 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)	10

(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

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**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)	10

**RANKING SCORE (TOTAL POINTS):** 20

Date Remediation Started:

3/4/96

Date Completed:

3/7/96

Remediation Method:

Excavation

☒

Approx. Cubic Yard

433

(Check all appropriate sections)

Landfarmed

☒

Amount Landfarmed (cubic yds)

400

Other

Remediation Location:

Onsite

Offsite

Payne #2E 35-31N-13W - 240 yds

Nance #1 27-31N-13W - 160 yds

(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 30'x30'x18' and landfarmed soil offsite within a bermed area at a depth of 6" to 12". Soil was aerated by plowing and disking until soil met regulatory levels.

\*\*\* Vertical extent at 24.5' provided BTEX at 11.8 ppm and TPH at 11.5 ppm. See attached risk analysis form and lab analysis.

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

18'

Sample date

3/4/96

Sample time

4:00:00 PM

Sample Results

Benzene (ppm)

1.0587

Total BTEX (ppm)

\*\*\* 134.4794

Field headspace (ppm)

TPH

2326.00

Method

418.1

Vertical Extent (ft)

24.5'

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:	Langendorf #1-34
Well Legals:	Unit A, Sec 34, T31N, R13W
Pit Type:	Separator
Horizontal Distance to Surface Water:	200 ft to 1,000 ft
Groundwater Depth:	50 ft to 99 ft

### **RISK ANALYSIS**

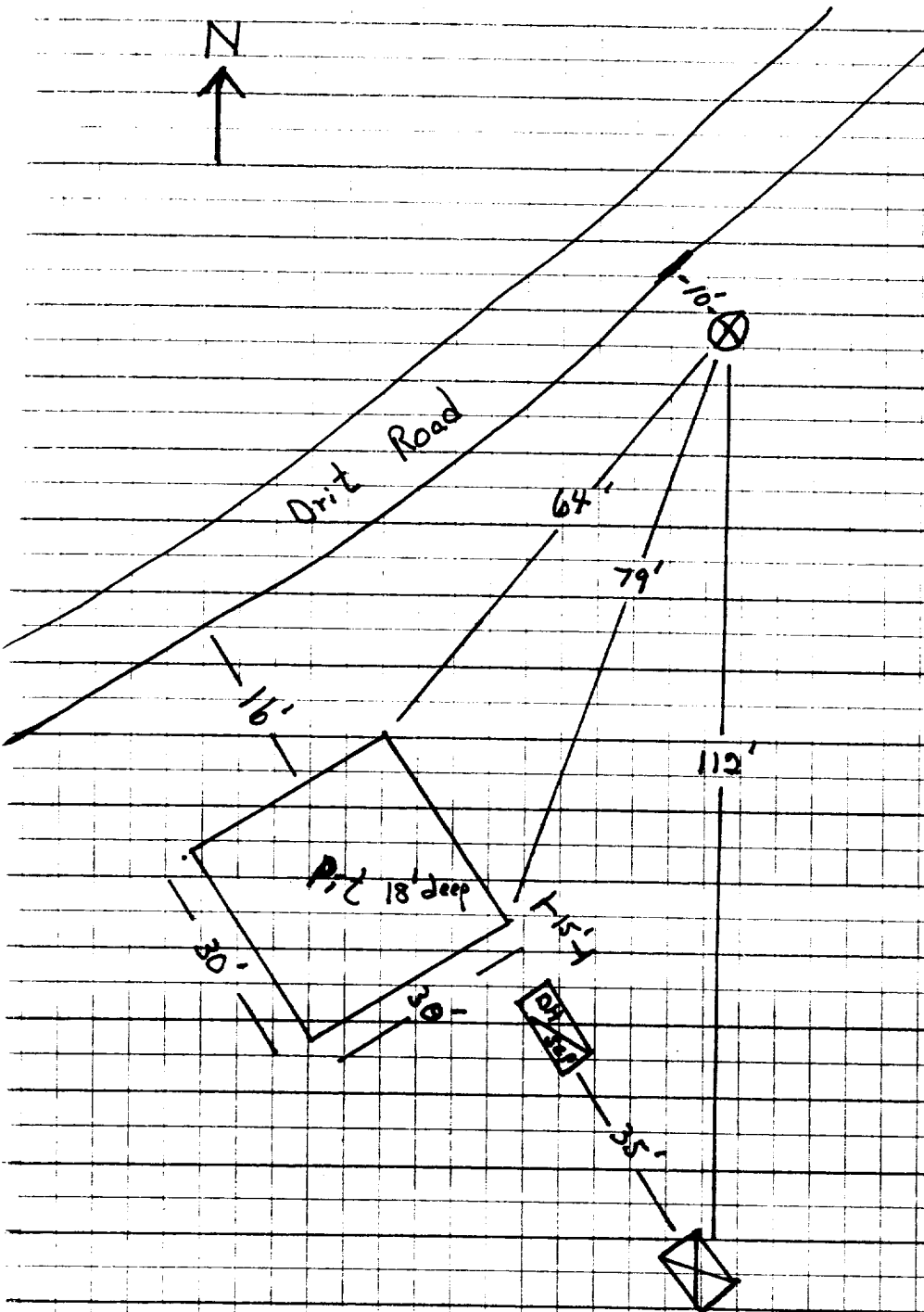
PNM requests closure of the Langendorf #1 using a limited risk analysis of the site conditions.

1. PNM estimated groundwater to be at a depth of 60 ft. based upon elevation of site to the La Plata 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 200 ft to 1,000 ft.
4. PNM excavated 433 cu. yds. from the former pit. Vertical extent was determined using a hollow stem drilling rig. Bedrock was encountered at 24.5 ft. below ground surface.

Based upon the information provided above, PNM believes the Langendorf #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.



Langendorf #1-34  
Snyder Oil Company  
Sec. 34, T31N, R13W  
750' FNL + 690' FEL  
San Juan County



OFF: (505) 325-8786



LAB: (505) 325-5667

**TOTAL PETROLEUM HYDROCARBONS**

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

Date: *6-Mar-96*  
COC No.: *4510*  
Sample No. *10366*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Langendorf #1-34*  
Project Location: *9603041600; 5pt. Composite, 4 Walls & Bottom*  
Sampled by: *GC* Date: *4-Mar-96* Time: *16:00*  
Analyzed by: *HR* Date: *6-Mar-96*  
Type of Sample: *Soil*

**Laboratory Analysis**

<b>Laboratory Identification</b>	<b>Sample Identification</b>	<b>Total Petroleum Hydrocarbons</b>
<i>10366-4510</i>	<i>PNM Gas Services - Langendorf #1-34</i> <i>9603041600; 5pt. Composite, 4 Walls &amp; Bottom</i>	<i>2,326 mg/kg</i>

**Quality Assurance Report**

<b>Laboratory Identification</b>	<b>Analyzed Value</b>	<b>Acceptable Range</b>	<b>Units of Measure</b>
<i>Laboratory Fortified Blank Soil - QCBS2</i>	<i>&lt;25</i>	<i>&lt;25</i>	<i>mg/kg</i>
<i>Laboratory Fortified Spike Soil - QCSS1</i>	<i>900</i>	<i>828 - 1024</i>	<i>mg/kg</i>

**Method** - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by: *[Signature]*  
Date: *3/6/96*

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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: *5-Mar-96*  
COC No.: *4510*  
Sample No. *10366*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Langendorf #1-34*  
Project Location: *9603041600; 5pt. Composite, 4 Walls & Bottom*  
Sampled by: *GC* Date: *4-Mar-96* Time: *16:00*  
Analyzed by: *DC* Date: *5-Mar-96*  
Type of Sample: *Soil*

**Aromatic Volatile Organics**

Component	Result	Units of Measure	Detection Limit	Units of Measure
Benzene	1058.7	ug/kg	0.2	ug/kg
Toluene	16268.6	ug/kg	0.2	ug/kg
Ethylbenzene	8498.4	ug/kg	0.2	ug/kg
m,p-Xylene	93050.7	ug/kg	0.2	ug/kg
o-Xylene	15603.0	ug/kg	0.2	ug/kg
TOTAL		134479.4	ug/kg	

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

Approved by: *[Signature]*  
Date: *3/5/96*

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Langendorf #1  
Sydney, B.I.  
Sec. 34, T31N - R13W

4-25-96

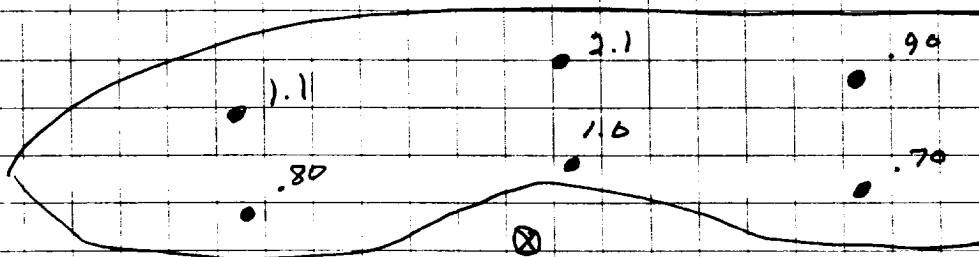
Land Farm : Payne #2E      Sec. 35, T31N, R13W      240 yds.  
Nance #1      Sec. 27, T31N, R13W      160 yds.

Composite sample :

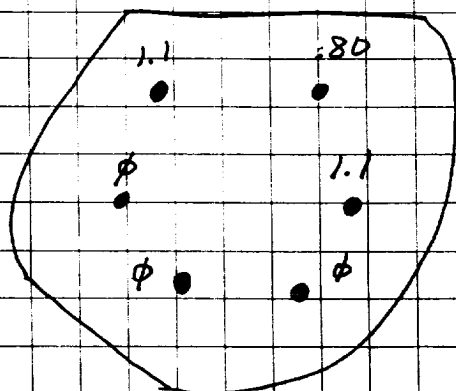
Payne #2E      # 9604250920  
Nance #1      # 9604250940

Soil Vapor head-space : Payne #2E = 93.1 ppm  
Nance #1 = 85.2 ppm

Payne #2E



Nance #1



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: *30-Apr-96*  
COC No.: *4631*  
Sample No. *10743*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Langendorf #1 Land Farm*  
Project Location: *9604250920; (Payne 2-E), 2"-12" deep*  
Sampled by: *GC* Date: *25-Apr-96* Time: *9:20*  
Analyzed by: *DC* Date: *30-Apr-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>61.6</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>1,913</i>	<i>4.3</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:

Date:

*Ja S*  
*4/30/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



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: *30-Apr-96*  
COC No.: *4631*  
Sample No. *10744*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Langendorf #1 Land Farm*  
Project Location: *9604250940; (Nance 1-E), 2"-12" deep*  
Sampled by: *GC* Date: *25-Apr-96* Time: *9:40*  
Analyzed by: *DC* Date: *30-Apr-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>30.8</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>1,913</i>	<i>4.3</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: *[Signature]*  
Date: *4/30/96*

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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

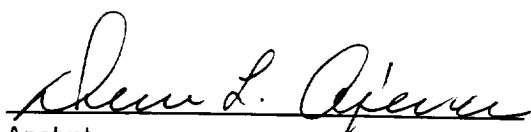
Client:	PNM	Project #:	93108-02
Sample ID:	TH - 1 @ 24.5'	Date Reported:	01-22-97
Laboratory Number:	A914	Date Sampled:	01-21-97
Chain of Custody No:	5057	Date Received:	01-21-97
Sample Matrix:	Soil	Date Extracted:	01-22-97
Preservative:	Cool	Date Analyzed:	01-22-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

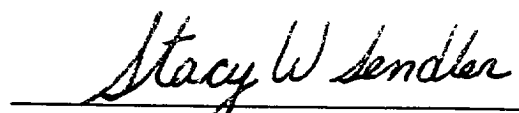
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	11.5	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	11.5	0.2

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: **Langendorf 1-34.**

  
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 @ 24.5'	Date Reported:	01-22-97
Laboratory Number:	A914	Date Sampled:	01-21-97
Chain of Custody:	5057	Date Received:	01-21-97
Sample Matrix:	Soil	Date Analyzed:	01-22-97
Preservative:	Cool	Date Extracted:	01-22-97
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	219	8.8
Toluene	4,180	8.4
Ethylbenzene	565	7.6
p,m-Xylene	5,700	10.8
o-Xylene	1,170	5.2
Total BTEX	11,800	

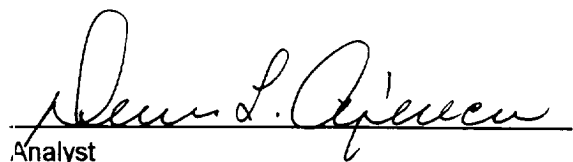
ND - Parameter not detected at the stated detection limit.

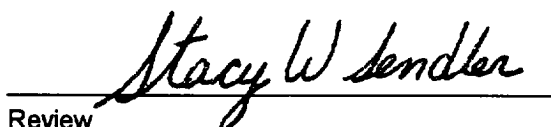
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	100 %

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: Langendorf 1 - 34.

  
Analyst

  
Review