

District I  
P.O. Box 1940, Hobbs, NM  
District II  
P.O. Box 1940, Hobbs, NM 88241  
District III  
1000 Rio Brizos Rd. Aztec, NM 87410

**DEPUTY OIL & GAS INSPECTOR**

**OCT 11 9 1996**

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco Street  
Santa Fe, New Mexico 87505

**RECEIVED**  
JUL 30 1996

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

**OIL CON. DIV.**  
**DIST. 3**

**PIT REMEDIATION AND CLOSURE REPORT**

Operator: PNM Gas Services (SRC) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Pierce #1  
Location: Unit: H Sec. 30 T. 31 N R. 10 W County San Juan  
Pit Type: Separator Dehydrator ☒ Other No  
Land Type: BLM State Fee ☒ Other No

Pit Location: Pit dimensions: length 21 width 21 depth 4  
(Attach diagram) Reference: wellhead ☒ other \_\_\_\_\_  
Footage from reference: 221'  
Direction from reference: 15 Degrees ☐ East ☐ North  
of ☒ 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: Yes (20 points)  
No (0 points) 0  
(Less than 200 feet from a private domestic water source, or, less than 1,000 feet from all other water sources)

Distance to Surface Water: Less than 200 feet (20 points)  
200 feet to 1,000 feet (10 points)  
Greater than 1,000 feet (0 points) 0  
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)

**RANKING SCORE (TOTAL POINTS):** 0

**Date Remediation Started:** 2/14/96 **Date Completed:** 2/15/96

**Remediation Method:** Excavation X **Approx. Cubic Yard** 237

(Check all appropriate sections) Landfarmed X **Amount Landfarmed (cubic yds)** 237

Other \_\_\_\_\_

**Remediation Location:** Onsite \_\_\_\_\_ Offsite Pierce #6 30-31N-11W

(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 21'x19'x16' and landfarmed offsite within a bermed area at a depth of 6" to 12". Soil will be aerated by plowing/disking until soil meets 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 16'

Sample date 2/14/96 Sample time 1:51:00 PM

**Sample Results**

Benzene (ppm) 1.4738

Total BTEX (ppm) 107.8818

Field headspace (ppm) \_\_\_\_\_

TPH 1658.00 Method 418.1

Vertical Extent (ft) 42 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 7-26-96 PRINTED NAME \_\_\_\_\_  
SIGNATURE Dennis Bearden AND TITLE \_\_\_\_\_

OFF: (505) 325-8786

**ON SITE**  
**TECHNOLOGIES, LTD.**

LAB: (505) 325-5667

**TOTAL PETROLEUM HYDROCARBONS**

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

Date: 15-Feb-96  
COC No.: 4534  
Sample No. 10303  
Job No. 2-1000

Project Name: *PNM Gas Services - Pierce #1*  
Project Location: *9602141351; 4 Walls and Bottom Composite*  
Sampled by: RD Date: 14-Feb-96 Time: 13:51  
Analyzed by: HR Date: 15-Feb-96  
Type of Sample: *Soil*

**Laboratory Analysis**

<b>Laboratory Identification</b>	<b>Sample Identification</b>	<b>Total Petroleum Hydrocarbons</b>
10303-4534	<i>PNM Gas Services - Pierce #1</i> <i>9602141351; 4 Walls and Bottom Composite</i>	1,658 mg/kg

**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>	< 25	< 25	mg/kg
<i>Laboratory Fortified Spike Soil - QCSS1</i>	917	828 - 1024	mg/kg

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

Approved by: *DLL*  
Date: *2/15/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

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OFF: (505) 325-8786

**ON SITE**  
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

**AROMATIC VOLATILE ORGANICS**

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

Date: *15-Feb-96*  
COC No.: *4534*  
Sample No. *10303*  
Job No. *2-1000*

Project Name: *PNM Gas Services - Pierce #1*  
Project Location: *9602141351; 4 Walls and Bottom Composite*  
Sampled by: *RD* Date: *14-Feb-96* Time: *13:51*  
Analyzed by: *HR* Date: *15-Feb-96*  
Type of Sample: *Soil*

**Aromatic Volatile Organics**

<b>Component</b>	<b>Result</b>	<b>Units of Measure</b>	<b>Detection Limit</b>	<b>Units of Measure</b>
<i>Benzene</i>	<i>1473.8</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>16547.8</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>7276.0</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>67865.2</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>14719.0</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>TOTAL</i>	<i>107881.8</i>	<i>ug/kg</i>		

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

Approved by: *[Signature]*  
Date: *2/15/96*

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OFF: (505) 325-5667



LAB: (505) 325-1556

Mr. Denver Bearden  
Public Service Company Of New Mexico  
Farmington, NM 87401

July 15, 1996

RE: Results of Vertical Assessments  
Pierce 1, (H) Sec 30, T31N, R10W, NMPM, San Juan Co., NM  
Pierce 2A, (E) Sec 30, T31N, R10W, NMPM, San Juan Co., NM  
Lester 1, (H) Sec 3, T30N, R11W, NMPM, San Juan Co., NM  
On Site Project: 4-1272

The enclosed site diagrams and boring logs summarize the assessment of vertical extent of contamination for the three referenced dehydrator pit locations. Also attached are the laboratory results of soil samples taken at the total depth of the borings.

The assessment of Pierce 1 is a redrill due to drilling difficulties and lack of sufficient drill pipe during the May 1996 assessment. Based on the results, the Pierce 1 pit can be closed by risk assessment with vertical extent at approximately 42 feet.

The assessment of Pierce 2A indicated a vertical extent of 22 feet and this pit may also be closed by risk assessment.

Numerous attempts were made to establish the vertical extent of contamination at the Lester 1. As was observed in the on-site landfarm, the subsurface soils at the site consist of sands and gravels with cobbles and boulders. We were unable to successfully penetrate these soils with a maximum depth of 16 feet reached in five attempts. No representative samples were recovered. If the vertical extent must be reached at this location, we suggest air percussion, air or mud rotary, or similar drilling technology be used, as conventional auger and geoprobe technology is limited in these severe subsurface soil conditions.

This completes the further assessment efforts for PNM, as requested to date. If risk assessment or additional drilling is needed, please contact Cindy Gray or me at (505) 325-5667. Thanks for considering On Site.

Respectfully submitted,  
On Site Technologies, Ltd.

Michael K. Lane, P.E.  
Senior Engineer  
NMED-Certified Environmental Scientist

enclosures

MKL/mkl  
File: vert2.ltr

DATE : 06-06-96

CLIENT : PNM

SITE LOCATION : PIERCE #1  
 Unit H, Sec. 30, T31N, R10W, NMPM  
 San Juan County, NM

CONTRACTOR : ON SITE EQUIPMENT : GEOPROBE (2" AUGER w/ Split Spoon)

## ASSESSMENT SUMMARY

CO. # : PNM1001

LOGGER : MKL

JOB # : 4-1272

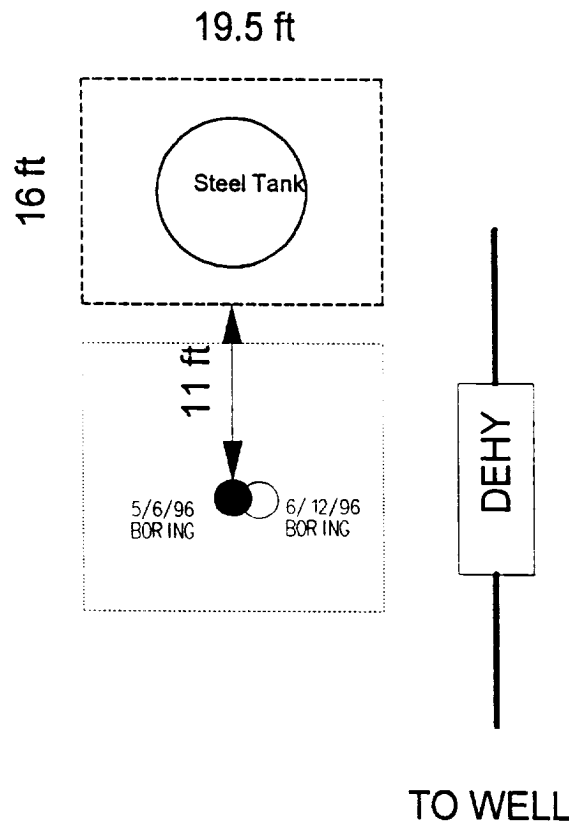
PAGE # : 1

START : 5/6/96

FINISH : 6/12/96

### NOTES:

Follow-up pit assessment for vertical extent and risk assessment.  
 Dehy. Refer to boring log.



**Not to Scale**

# ON SITE TECHNOLOGIES, LTD.

P.O. BOX 2606, FARMINGTON, NM 87499

(505) 325-5667

PROJECT: Follow-up Pit Assessment

CLIENT: PNM

SITE LOCATION: PIERCE #1, Dehy Pit  
H-S30-T3 1N-R 10W, NMPM  
San Juan County, NM

CONTRACTOR: ON SITE

EQUIPMENT: GEOPROBE w/2" Flight Auger

## TEST HOLE LOG

TEST HOLE: #1

LOGGER: MKL

JOB #: 4-1272

PAGE #: 1

START: 5/06/96

FINISH: 06/12/96

DEPTH (ft)	SOIL TYPE	LITHOLOGY	FIELD SCREEN PID: (units)	LAB ANALYSES (ppm)	FIELD CLASSIFICATION & REMARKS
SURFACE	SM				LT. BROWN SILTY FINE TO MEDIUM SAND, SL. MOIST, LOOSE. NO ODOR OR DISCOLORATION.
10'					
			178		
20'			222		
			368		SAME AS ABOVE (SAA), OLIVE GRAY, SL. PETROLEUM ODOR, LOOSE.
30'			1244	Benz: 0.291 BTEX: 155.91 TPH: 1379.7	SAA, BROWN, MOIST, STRONG PETROLEUM ODOR.
					HOLE COLAPSING, POOR SAMPLE RECOVERY.
					TOTAL DEPTH: 31'(bgs) (Initial Boring of 5/6/96)
40'			58.0	TPH: <5.0	REDRILLED WITH GEOPROBE ASSEMBLY.
					SOILS SIMILAR TO ABOVE.
					TOTAL DEPTH: 42'(bgs) (6/10/96 Redrill)
50'					

☐ Soil sample taken from cuttings on auger flights.

☒ Soil sample collected with split-tube sampler.

BY: MKL  
DATE: 06/05/96  
REV: 07/12/96  
FILE: 41272681.CAD

OFF: (505) 325-8786



LAB: (505) 325-5667

**TPH - Gasoline / Diesel Range Organics**

Attn: **Michael K. Lane**  
 Company: **On Site Technologies, Ltd. c/o PNM**  
 Address: **612 E. Murray Drive**  
 City, State: **Farmington, NM 87401**

Date: **8-May-96**  
 COC No.: **4075**  
 Sample No. **10818**  
 Job No. **4-1000**

Project Name: **PNM Gas Services - Pierce #1**  
 Project Location: **B1 @ 31'**  
 Sampled by: **ML**  
 Analyzed by: **DC**  
 Sample Matrix: **Soil**

Date: **6-May-96** Time: **13:20**  
 Date: **8-May-96**

**Laboratory Analysis**

Analyte	Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	1226.1	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)	153.6	mg/kg	5.0	mg/kg
	<b>TOTAL</b>	<b>1379.7</b>		<b>mg/kg</b>

**Quality Assurance Report**GRO QC No.: **0447-STD**DRO QC No.: **0446-STD****Calibration Check**

Analyte	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	< 50	ppb	900	873	3.0	15%
Diesel Range (C10 - C28)	< 5.0	ppm	2,000	2,120	6.0	15%

**Matrix Spike**

Analyte	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	79	78	(70-130)	2	20%
Diesel Range (C10-C28)	96	98	(70-130)	2	20%

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

Approved by:

Date: **5/9/96****P. O. BOX 2606 • FARMINGTON, NM 87499**

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OFF: (505) 325-8786



LAB: (505) 325-5667

**AROMATIC VOLATILE ORGANICS**

Attn: **Michael K. Lane**  
Company: **On Site Technologies, Ltd. c/o PNM**  
Address: **612 E. Murray Drive**  
City, State: **Farmington, NM 87401**

Date: **7-May-96**  
COC No.: **4075**  
Sample No. **10818**  
Job No. **4-1000**


Project Name: **PNM Gas Services - Pierce #1**  
Project Location: **B1 @ 31'**  
Sampled by: **ML**  
Analyzed by: **DC**  
Sample Matrix: **Soil**

Date: **6-May-96** Time: **13:20**  
Date: **7-May-96**

**Aromatic Volatile Organics**

Component	Result	Units of Measure	Detection Limit	Units of Measure
Benzene	291.1	ug/kg	0.2	ug/kg
Toluene	20456.2	ug/kg	0.2	ug/kg
Ethylbenzene	8261.4	ug/kg	0.2	ug/kg
m,p-Xylene	107005.5	ug/kg	0.2	ug/kg
o-Xylene	19898.3	ug/kg	0.2	ug/kg
	TOTAL	155912.6	ug/kg	

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

Approved by:   
Date: **5/7/96**

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- FARMINGTON BLENDING INDUSTRY WITH -

OFF: (505) 325-8786

# ON SITE

## TECHNOLOGIES, LTD.

LAB: (505) 325-5667

### TPH - Gasoline / Diesel Range Organics

Attn: **Myke Lane**  
 Company: **On Site Technologies, Ltd. c/o PNM Gas Services**  
 Address: **612 E. Murray Drive**  
 City, State: **Farmington, NM 87401**

Date: **17-Jun-96**  
 COC No.: **4214**  
 Sample No. **11168**  
 Job No. **4-1272**

Project Name: **PNM Gas Services - Pierce #1**  
 Project Location: **Dehy Pit; following Remediation by Excavation @ 42'**  
 Sampled by: **ML** Date: **10-Jun-96** Time: **13:30**  
 Analyzed by: **DC** Date: **14-Jun-96**  
 Sample Matrix: **Soil**

#### Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)	<5.0	mg/kg	5.0	mg/kg
	TOTAL	<5.0		mg/kg

#### Quality Assurance Report

GRO QC No.: **0461-STD**DRO QC No.: **0475-STD**

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,283	4.9	15%
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,918	4.1	15%

#### Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	110	88	(70-130)	15	20%
Diesel Range (C10-C28)	98	102	(70-130)	3	20%

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

Approved by:

Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

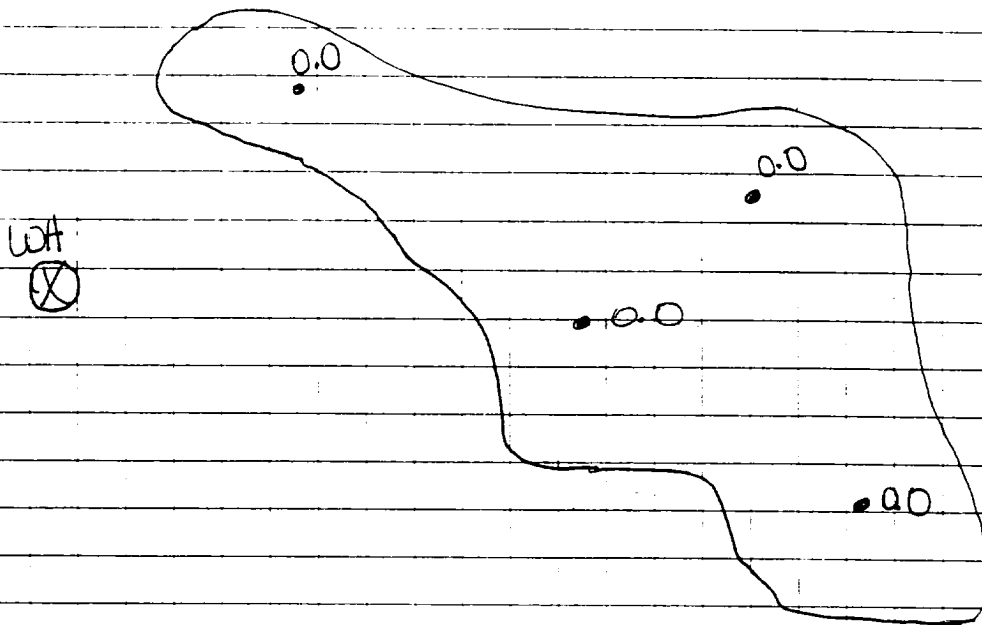
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Pierce # 6 Landfarm (Pierce #1)

7-2-96

Composite Sample # 9607021205

Soil Vapor Reading 15.6



Sample Depth 2"-12"

OFF: (505) 325-5667

# ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

## Diesel Range Organics

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

Date: *10-Jul-96*  
 COC No.: *4900*  
 Sample No. *11396*  
 Job No. *2-1000*

Project Name: *PNM Gas Services - Pierce #6 Landfarm*  
 Project Location: *9607021205; 6pt. Composite, 2"-12" deep*  
 Sampled by: *GC* Date: *2-Jul-96* Time: *12:05*  
 Analyzed by: *DC* Date: *9-Jul-96*  
 Sample Matrix: *Soil*

### Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<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.: *0475-QC*

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
<i>Diesel Range (C10 - C28)</i>	<i>&lt;5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,960</i>	<i>2.0</i>	<i>15%</i>

#### Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
<i>Diesel Range (C10-C28)</i>	<i>114</i>	<i>104</i>	<i>(70-130)</i>	<i>7</i>	<i>20%</i>

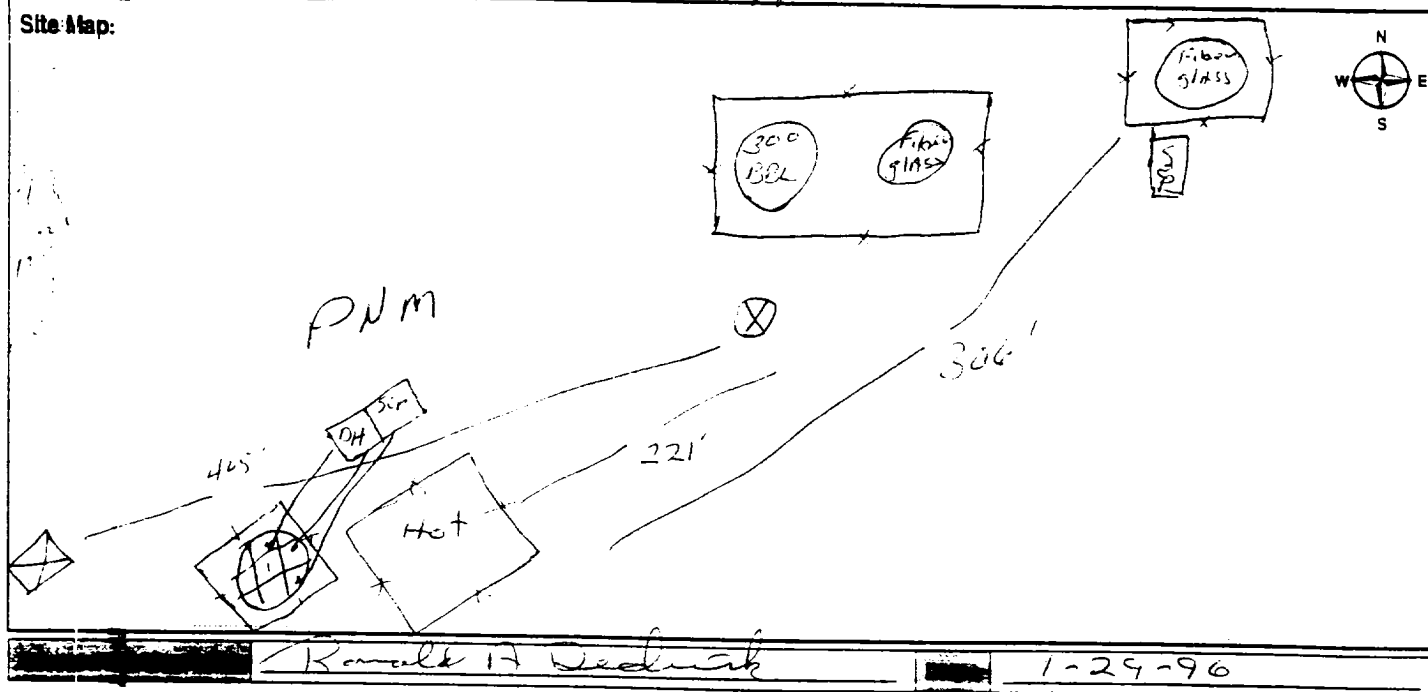
**Method** - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *[Signature]*  
 Date: *2/10/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

Site Map:



# PNM GAS SERVICES

## SOIL RISK ASSESSMENT FORM FOR PIT CLOSURES

Well Name: Pierce #1

Legal Location: Sec. 30 Twn. 31 Rng. 10 Unit Letter H

Operator: SRC

Vulnerable Area Classification Expanded

OCD Ranking 0

Depth to Groundwater (GW): 400 Ft. GW Reference: Animas River/Topo Map

Water Source in Area: No Type: Distance to Source:

### Pit Remediation Activities

Excavation Size: 21'x19'x16' (Ft. Wide X Ft. Long X Ft. Deep)

### Final TPH/BTEX Results from Excavation

Constituent	Units	Test Method	OCD/BLM Recommended Remediation Levels	Results (Five point composite)
ETEX	ppb		50 ppm	107.882
TPH	ppm	418.1	5000 ppm	1658.000

### Definition of Vertical Extent

Method Used:

Depth	TPH
2ft	ppm
4ft	ppm
6ft	ppm
8ft	ppm
10ft	ppm
12ft	ppm
14ft	ppm
16ft	ppm
18ft	ppm
20ft	ppm
22ft	ppm
24ft	ppm
26ft	ppm
28ft	ppm
30ft	ppm
32ft	ppm
34ft	ppm
36ft	ppm
38ft	ppm
40ft	ppm
42ft	ppm
44ft	ppm
46ft	ppm
48ft	ppm
50ft	ppm

### SIDE VIEW

See Attached

### TOP VIEW (include dimensions)

North Side	ppm
East Side	ppm
South Side	ppm
West Side	ppm

See Attached