

District I
P.O. Box 1000, Clovis, NM

Don and Bob Frost
DEPUTY OIL & GAS INSPECTOR

State of New Mexico
Energy, Minerals and Natural Resources Department

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

District II
P.O. Drawer DD, Artesia, NM 87211

MAR 28 1997

OIL CONSERVATION DIVISION

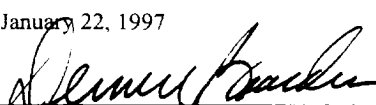
District III
1000 Rio Brazos Rd. Aztec, NM 87410

2040 South Pacheco Street
Santa Fe, New Mexico 87505

PIT REMEDIATION AND CLOSURE REPORT

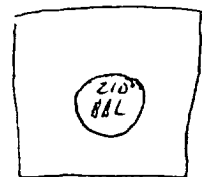
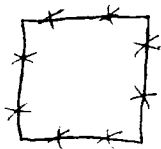
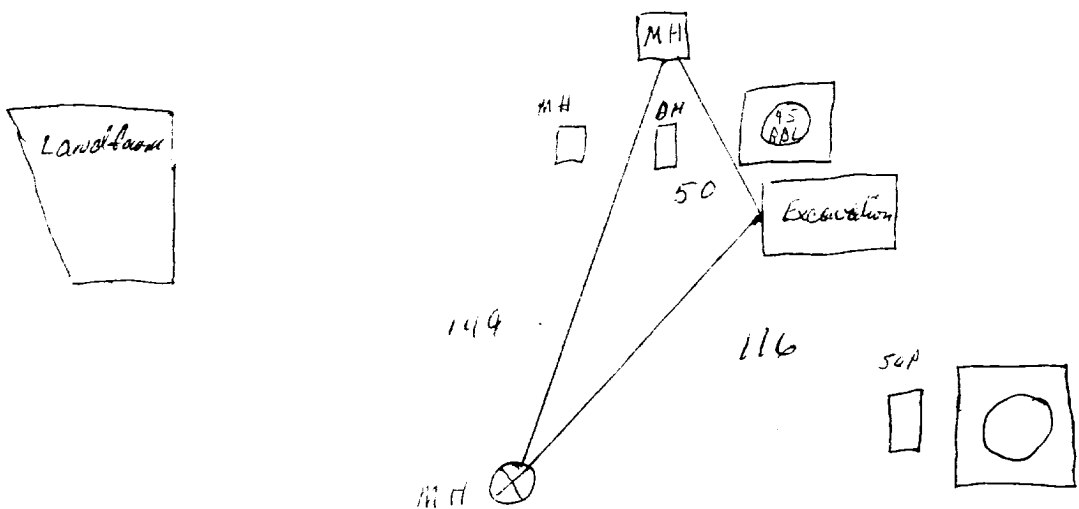
Operator: PNM Gas Services (SRC)		Telephone: 324-3764	
Address: 603 W. Elm Street Farmington, NM 87401			
Facility or Well Name: Cain #11E			
Location:	Unit: O	Sec. 15	T. 28 N R. 10 W County San Juan
Pit Type:	Separator <input type="checkbox"/>	Dehydrator <input checked="" type="checkbox"/>	Other <input type="checkbox"/>
Land Type:	BLM <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Fee <input type="checkbox"/> Other <input type="checkbox"/>
Pit Location:	Pit dimensions: length 20 ' width 20 ' depth 3 '		
(Attach diagram)	Reference: wellhead <input checked="" type="checkbox"/> other <input type="checkbox"/>		
	Footage from reference: 116'		
	Direction from reference: 42 Degrees <input checked="" type="checkbox"/> East <input type="checkbox"/> North <input checked="" type="checkbox"/> of <input type="checkbox"/> West <input type="checkbox"/> South <input type="checkbox"/>		
Depth to Ground Water: <small>(Vertical distance from contaminants to seasonal high water elevation of ground water)</small>	Less than 50 feet 50 feet to 99 feet Greater than 100 feet		(20 points) (10 points) (0 points) 0
Wellhead Protection Area: <small>(Less than 200 feet from a private domestic water source, or; less than 1,000 feet from all other water sources)</small>	Yes No		(20 points) (0 points) 0
Distance to Surface Water: <small>(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)</small>	Less than 200 feet 200 feet to 1,000 feet Greater than 1,000 feet		(20 points) (10 points) (0 points) 0
RANKING SCORE (TOTAL POINTS) :			0

Date Remediation Started:		<u>9/10/96</u>		Date Completed:		<u>9/13/96</u>	
Remediation Method: (Check all appropriate sections)	Excavation	<u>X</u>	Approx. Cubic Yard		<u>34</u>		
	Landfarmed	<u>X</u>	Amount Landfarmed (cubic yds)		<u>34</u>		
	Other	<u></u>					
Remediation Location:		Onsite	<u>X</u>	Offsite	<u></u>		
(i.e., landfarmed onsite, name and location of offsite facility)							
Backfill Material Location: <u></u>							
General Description of Remedial Action:							
Excavated contaminated soil to pit size of 14'x13'x5' 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.							
<u></u>							
<u></u>							
<u></u>							
Ground Water Encountered:		No	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	Depth	<u></u>

Final Pit Closure Sampling: (if multiple samples, attach sample result and diagram of sample locations and depths.)	Sample Location	<u>5 pt composite-4 side walls and center of pit bottom</u>					
	Sample depth	<u>5'</u>					
	Sample date	<u>9/10/96</u>		Sample time	<u>1:45:00 PM</u>		
	Sample Results						
	Benzene (ppm)	<u>0.2090</u>					
	Total BTEX (ppm)	<u>** 60.7519</u>					
	Field headspace (ppm)	<u></u>					
	TPH	<u>1196.8</u>		Method	<u>8015A</u>		
Vertical Extent (ft)	<u></u>		Risk Assessment form attached	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Ground Water Sample:		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	(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	<u>January 22, 1997</u>			PRINTED NAME	<u>Denver Bearden</u>		
SIGNATURE				AND TITLE	<u>Administrator III</u>		

Line #1/E S15T28N R10W

17



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: *16-Sep-96*
 COC No.: *4750*
 Sample No. *12110*
 Job No. *2-1000*

Project Name: ***PNM Gas Services - Cain #11E***
 Project Location: ***9609101345; Pit Excavation Composite Sample***
 Sampled by: *RH* Date: *10-Sep-96* Time: *13:45*
 Analyzed by: *DC* Date: *13-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>1196.8</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance ReportDRO 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><5.0</i>	<i>ppm</i>	<i>100</i>	<i>95</i>	<i>5.3</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>82</i>	<i>96</i>	<i>(70-130)</i>	<i>11</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas ChromatographyApproved by: *[Signature]*Date: *9/16/96*

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: *16-Sep-96*
COC No.: *4750*
Sample No. *12110*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cain #11E*
Project Location: *9609101345; Pit Excavation Composite Sample*
Sampled by: *RH* Date: *10-Sep-96* Time: *13:45*
Analyzed by: *DC* Date: *11-Sep-96*
Sample Matrix: *Soil*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	209.0	ug/kg	0.2	ug/kg
<i>Toluene</i>	6533.4	ug/kg	0.2	ug/kg
<i>Ethylbenzene</i>	2210.9	ug/kg	0.2	ug/kg
<i>m,p-Xylene</i>	41298.6	ug/kg	0.2	ug/kg
<i>o-Xylene</i>	10500.0	ug/kg	0.2	ug/kg
	<i>TOTAL</i>	60751.9	ug/kg	

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

Approved by: *[Signature]*
Date: *9/16/96*

Cain #11-E

10-23-96

Meridian Oil

Sec. 15, 28N, 10 W

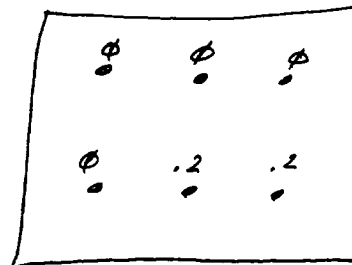
Land Farm: On location

Composite sample # 9610230930

soil vapor head space PID reading = 2.9 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: *25-Oct-96*
COC No.: *5089*
Sample No. *12679*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cain #11E Landfarm*
Project Location: *9610230930; 6pt. Composite, 2"-12" depth*
Sampled by: *GC* Date: *23-Oct-96* Time: *9:30*
Analyzed by: *DC/HR* Date: *25-Oct-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>210.7</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><5.0</i>	<i>ppm</i>	<i>100</i>	<i>92</i>	<i>7.6</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>114</i>	<i>104</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: 
Date: *10/25/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Well Name:	Cain #11E
Well Legals:	Unit O, Sec 15, T28N, R10W
Pit Type	Dehydrator
Horizontal Distance to Surface Water:	200ft to 1000ft
Groundwater Depth:	Greater than 100 ft

RISK ANALYSIS

PNM requests closure of the Cain #11E using a limited risk analysis of the site conditions.

1. PNM determined groundwater to be at a depth of 213 ft. to San Juan River and 152 ft to Armenta Wash. (Reference: topographic map).
2. This site is not located within 200 ft. of a domestic water well and is not within 1000 ft. of any other water source.
3. Distance from the site to surface water is greater than 1,000 ft.
4. PNM excavated 34 cu. yds. from the former pit. Bedrock was encountered in the bottom of the pit at 5 ft.

Based upon the information provided above, PNM believes the Cain #11E 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. With groundwater at 213 ft. in depth to San Juan River and 152 ft to Armenta Wash, vertical migration through bedrock to groundwater is highly unlikely.