

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

OIL CONSERVATION DIVISION

2040 South Pacheco Street  
Santa Fe, New Mexico 87505

*Risk  
bedrock*

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

PIT REMEDIATION AND CLOSURE REPORT

**RECEIVED**  
NOV - 1 1999

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

Operator: PNM Gas Services (Burlington) Telephone: 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Grenier #15E

Location: Unit K Sec 18 T 31 N R 11 W County San Juan

Pit Type: Separator ☐ Dehydrator ☒ Other                     

Land Type: BLM ☒ State ☐ Fee ☐ Other                     

Pit Location: Pit dimensions: length 20 ' width 20 ' depth 3 '

(Attach diagram) Reference: wellhead ☒ other                     

Footage from reference: 105'

Direction from reference: 80 Degrees ☐ East North ☐  
of ☒ West South ☒

<b>Depth to Ground Water:</b>  (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)	<u>10</u>

<b>Wellhead Protection Area:</b>  (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)	<u>0</u>

<b>Distance to Surface Water:</b>  (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)	<u>0</u>

**RANKING SCORE (TOTAL POINTS):** 10

Grenier #15E

Date Remediation Started: 05/24/1999 Date Completed: 05/24/1999

Remediation Method: Excavation X Approx. Cubic Yard 437

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds) 317

Other 120 cu yds overburden

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 a pit size of 23' X 27' X 19' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by disking/plowing until soil met regulatory levels.

\*\*\* Sandstone encountered at 19'. See attached risk analysis form.

Ground Water Encountered: No ☒ Yes ☐ Depth \_\_\_\_\_

**Final Pit Closure Sampling:**

Sample Location 5 pt. composite - bottom.

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

Sample depth 19'

Sample date 05/24/1999 Sample time 12:55:00 PM

**Sample Results**

Benzene (ppm) 29

Total BTEX (ppm) 793 \*\*\*

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

TPH (ppm) 1600.00 Method 8015B

Vertical Extent (ft) \_\_\_\_\_ Risk Analysis 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 **October 28, 1999**

SIGNATURE Maureen Gannon

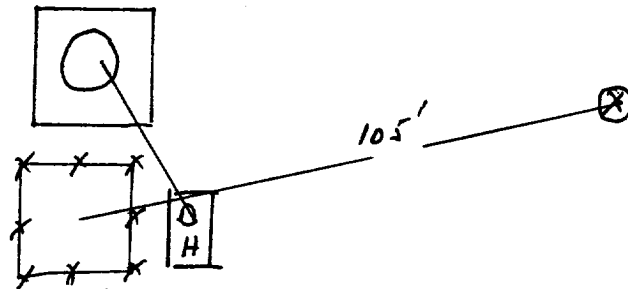
PRINTED NAME **Maureen Gannon**  
AND TITLE **Project Manager**

Grenier #15E  
Burlington  
Sec. 18, 31N, 11W, K

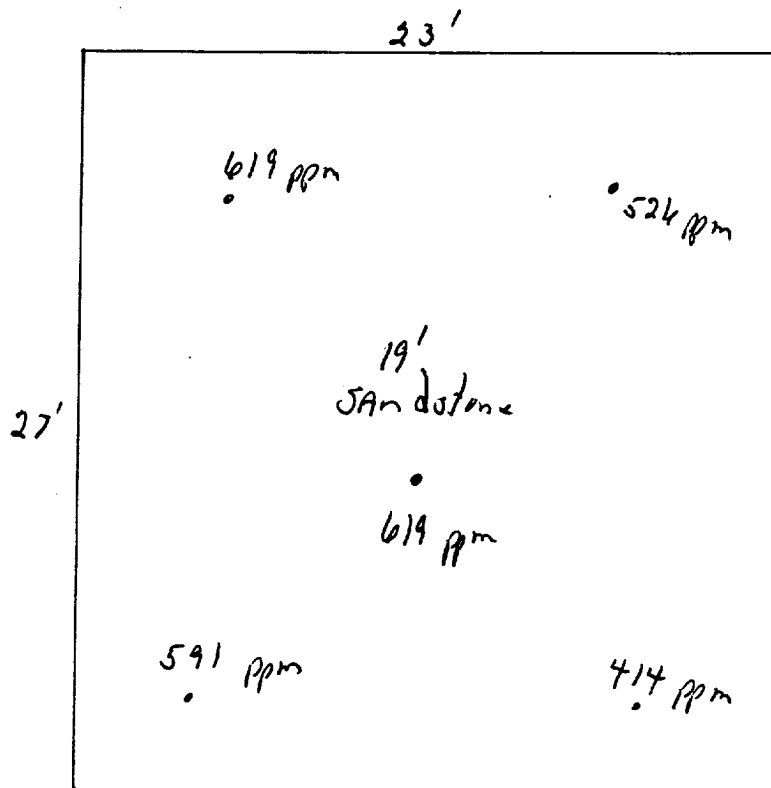
5/24/99

↑  
N

Site diagram:



End of excavation:



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 08-Jun-99

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** PNM Pit Remediation  
**Lab Order:** 9905082

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## **CASE NARRATIVE**

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

LARY

OFF: (505) 325-5667



LAB: (505) 325-1556

# ANALYTICAL REPORT

Date: 08-Jun-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Grenier #15E
<b>Work Order:</b>	9905082	<b>Client Sample ID:</b>	9905241255; Bottom @ 19ft. - 5 pt. Composite
<b>Lab ID:</b>	9905082-03A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	5/24/99 12:55:00 PM
		<b>COC Record:</b>	7598

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>						
		<b>SW8015B</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	1600	25		mg/Kg	1	6/1/99
<b>AROMATIC VOLATILES BY GC/PID</b>						
		<b>SW8021B</b>				Analyst: DC
Benzene	29000	5000		µg/Kg	5000	6/1/99
Toluene	220000	10000		µg/Kg	5000	6/1/99
Ethylbenzene	39000	5000		µg/Kg	5000	6/1/99
m,p-Xylene	440000	10000		µg/Kg	5000	6/1/99
o-Xylene	65000	5000		µg/Kg	5000	6/1/99

793000  
793ppm

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

**ANALYTICAL REPORT**

Date: 08-Jun-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Grenier #15E
<b>Work Order:</b>	9905082	<b>Client Sample ID:</b>	9905241300; Walls @ 14ft.
<b>Lab ID:</b>	9905082-04A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	5/24/99 1:00:00 PM
		<b>COC Record:</b>	7598

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>						
		<b>SW8015B</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	6/1/99
<b>AROMATIC VOLATILES BY GC/PID</b>						
		<b>SW8021B</b>				Analyst: DM
Benzene	ND	1		µg/Kg	1	5/27/99
Toluene	ND	2		µg/Kg	1	5/27/99
Ethylbenzene	ND	1		µg/Kg	1	5/27/99
m,p-Xylene	5.6	2		µg/Kg	1	5/27/99
o-Xylene	3.9	1		µg/Kg	1	5/27/99

9.5  
• 0095 ppm

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

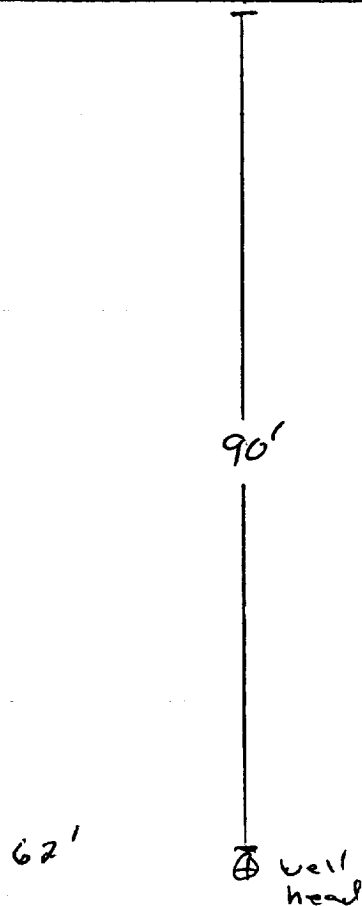
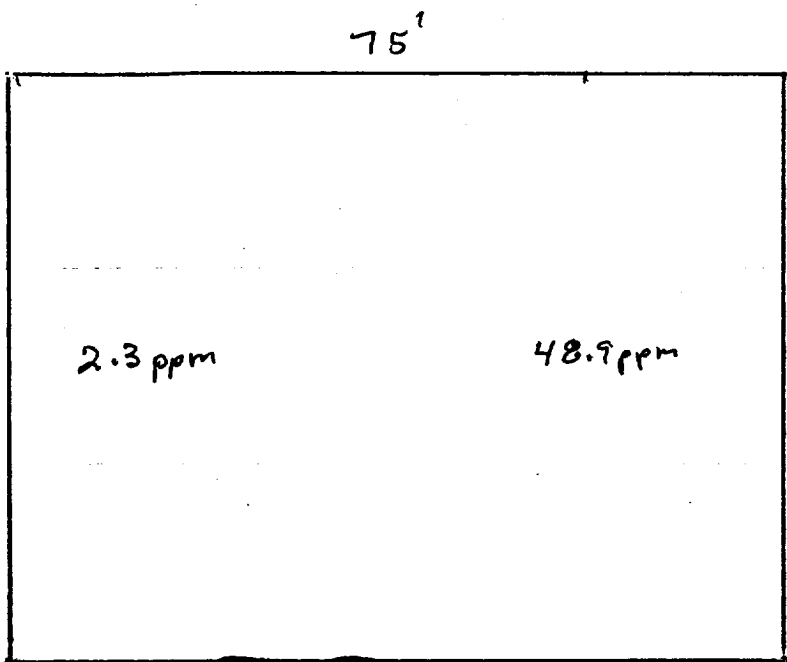
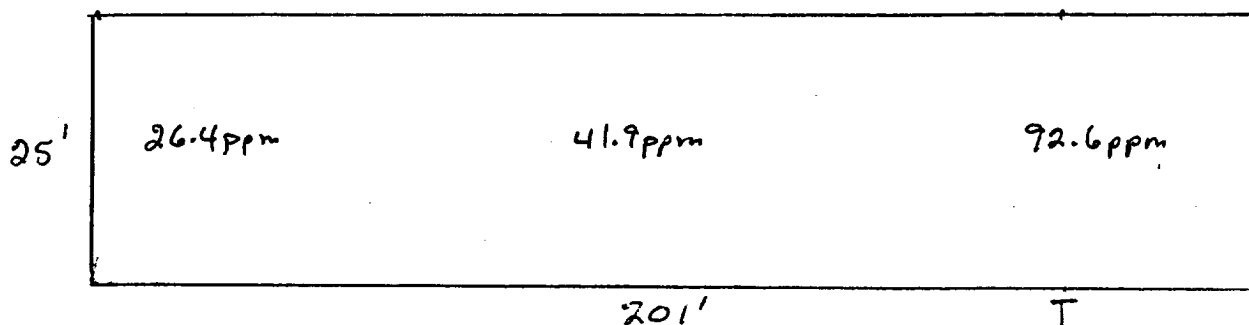
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Grenier #15E  
Sec-18 T-31N R-11W 4-4-K  
Burlington

# LAND FARM DRAWING

App 317 cu. yds



2" to 12" Depth  
Headspace 60.8ppm  
Sample # 9907120710

Not to Scale

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 23-Jul-99

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** PNM Pit Remediation Landfarms  
**Lab Order:** 9907027

**CASE NARRATIVE**

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Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.



OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 23-Jul-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Grenier 15E LF
<b>Work Order:</b>	9907027	<b>Client Sample ID:</b>	9907120710; 5pt. Comp
<b>Lab ID:</b>	9907027-03A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation Landfarms	<b>Collection Date:</b>	7/12/99 7:10:00 AM
		<b>COC Record:</b>	7484

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015B</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/22/99

**Qualifiers:**

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr - Surrogate

1 of 1

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## **Environmental Services**

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Well Name:	Grenier #15E
Well Legals:	Unit K, Sec 18, T31N, R11W
Pit Type:	Dehydrator
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	50 feet to 99 feet

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### **RISK ANALYSIS**

PNM requests closure of their former pit on the Grenier #15E well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 58 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Adobe Downs Ranch, NM series 7.5 minute topographic map.)
2. PNM excavated 437 cubic yards of soil from the former pit. Subsurface lateral contamination has been remediated (see attached map and analytical results for the side wall profiles). Source removal minimizes the possibility of surface water contamination.
3. Sandstone was encountered at 19 feet below ground surface. Bedrock/sandstone provides a barrier between remaining contamination and groundwater. Vertical migration through bedrock or sandstone to groundwater is unlikely.
4. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Grenier #15E well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 1,000 pits.