

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

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

**PIT REMEDIATION AND CLOSURE REPORT**

RECEIVED  
APR 29 1999

OIL CON. DIV.  
DIST. 3

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: McCroden #3

Location: Unit O Sec 3 T 25 N R 3 W County Rio Arriba

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: 49'

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

**Depth to Ground Water:**

(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)

10

**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 (20 points)  
No (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):**

10

McCroden #3

Date Remediation Started: 1/19/99 Date Completed: 1/19/99

Remediation Method: Excavation x Approx. Cubic Yard 200

(Check all appropriate sections)

Landfarmed x Amount Landfarmed (cubic yds) 200

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 a pit size of 19' X 19' x 15' 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 15'. See attached risk analysis form.

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

**Final Pit Closure Sampling:**

Sample Location Bottom of excavation.

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

Sample depth 15'

Sample date 1/19/99 Sample time 2:25:00 PM

**Sample Results**

Benzene (ppm) < 2.5000

Total BTEX (ppm) 388.0000 \*\*\*

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

TPH (ppm) 520.00 Method 8015A

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 April 27, 1999

SIGNATURE Maureen Gannon

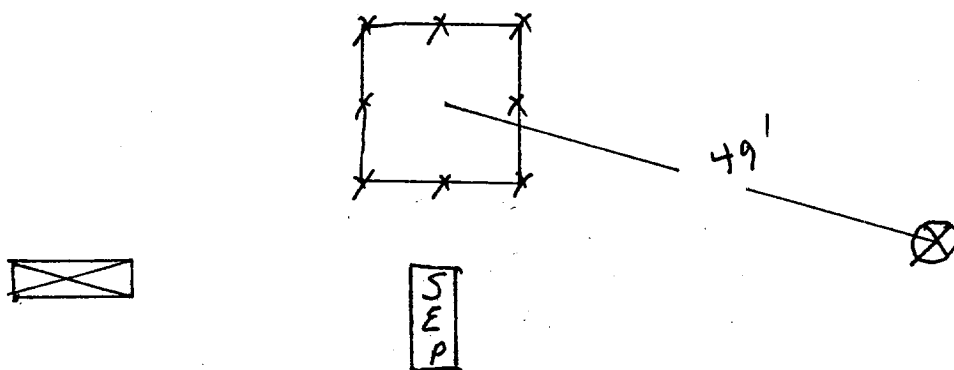
PRINTED NAME **Maureen Gannon**  
AND TITLE **Project Manager**

McCrodens #3  
Energy ~  
Sec. 3, 25N, 3W, 0

1-19-99

site drawing:

↑  
N



not to scale

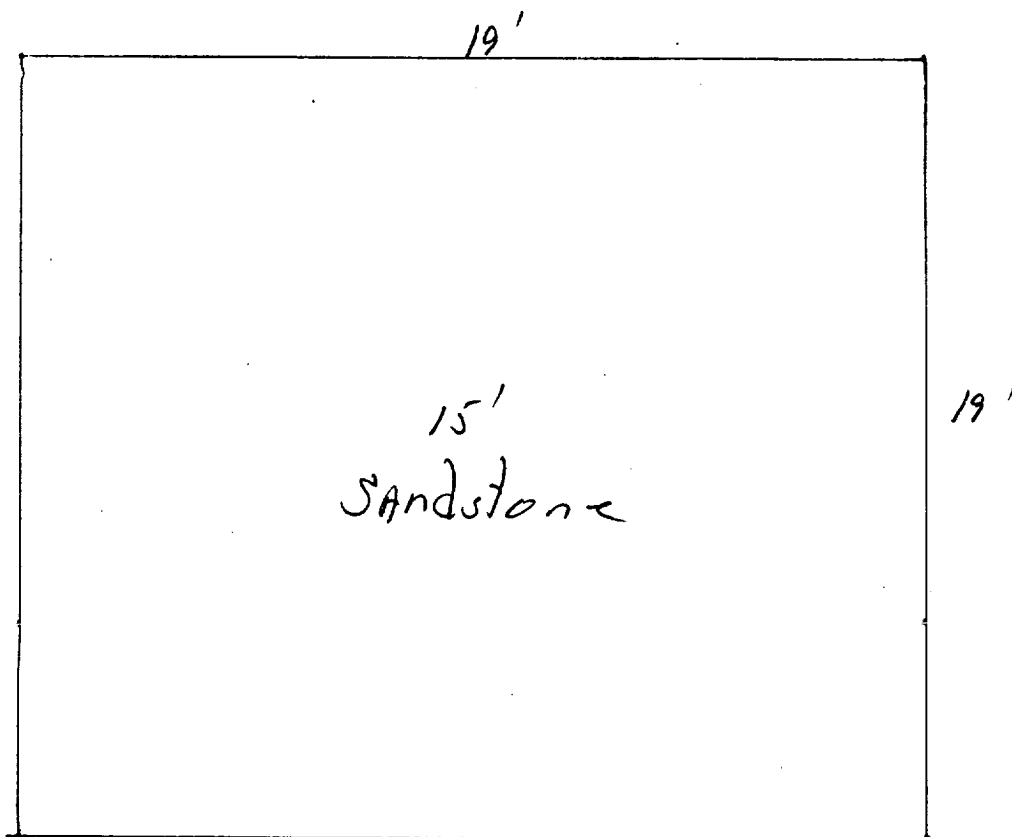
McCroden #3  
Energen  
Sec. 3, 25N, 3W, 0

1-19-99



N

End of excavation:



not to scale

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 29-Jan-99

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**CLIENT:** PNM - Public Service Company of NM

**Project:** McCroden #3

**Lab Order:** 9901010

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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.

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 29-Jan-99

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9901010  
**Lab ID:** 9901010-01A     **Matrix:** SOIL  
**Project:** McCroden #3

**Client Sample Info:** McCroden #3  
**Client Sample ID:** 9901191425 Bottom @ 15ft  
**Collection Date:** 1/19/99 2:25:00 PM  
**COC Record:** 7367

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	520	25		mg/Kg	1	1/28/99
<b>BTEX</b>		<b>SW8021B</b>				Analyst: HR
Benzene	ND	2500		µg/Kg	2500	1/25/99
Toluene	19000	5000		µg/Kg	2500	1/25/99
Ethylbenzene	29000	2500		µg/Kg	2500	1/25/99
m,p-Xylene	260000	5000		µg/Kg	2500	1/25/99
o-Xylene	80000	2500		µg/Kg	2500	1/25/99

388000  
 388 ppm

**Qualifiers:**

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 -

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 29-Jan-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b> McCroden #3
<b>Work Order:</b>	9901010	<b>Client Sample ID:</b> 9901191420 Walls @ 12ft
<b>Lab ID:</b>	9901010-02A	<b>Matrix:</b> SOIL
<b>Project:</b>	McCroden #3	<b>Collection Date:</b> 1/19/99 2:20:00 PM
		<b>COC Record:</b> 7367

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>						
T/R Hydrocarbons: C10-C28	42	25		mg/Kg	1	Analyst: HR 1/28/99
<b>BTEX</b>						
Benzene	ND	1		µg/Kg	1	Analyst: HR 1/25/99
Toluene	ND	2		µg/Kg	1	1/25/99
Ethylbenzene	ND	1		µg/Kg	1	1/25/99
m,p-Xylene	ND	2		µg/Kg	1	1/25/99
o-Xylene	ND	1		µg/Kg	1	1/25/99

<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	Sur: - Surrogate

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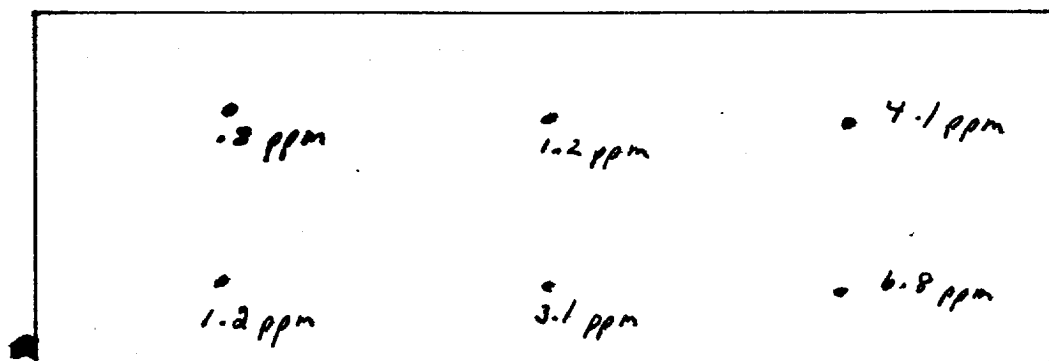
- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

McCraden #3  
Emergen Resources  
Sec. 3, 25N, 3W

3/24/99

Landfarm: On location  
Approximately 200 yards

↑  
N



⊗ well head

2" - 12" depth

Sample # 9903240920

soil vapor headspace reading = 14.3 ppm

not to scale





## Environmental Services

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Well Name:	McCroden #3
Well Legals:	Unit O, Sec 3, T25N, R3W
Pit Type:	Separator
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 McCroden #3 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 60 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Schmitz Ranch, NM series 7.5 minute topographic map.)
2. PNM excavated 200 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 15 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 McCroden #3 well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.