

*Denny L. Faust*  
DEPUTY OIL & GAS INSPECTOR

FEB 08 1999

JICARILLA APACHE TRIBE  
ENVIRONMENTAL PROTECTION OFFICE

P.O. BOX 507  
DULCE, NEW MEXICO 87528

Risk  
BTEX

SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL GAS  
ADMINISTRATION

*Approved*

**PIT REMEDIATION AND CLOSURE REPORT**

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: JICARILLA K-12E

Location: Unit: M Sec. 2 T. 25N R. 5W County Rio Arriba

Pit Type: Separator      Dehydrator      Other Line Drip

Land Type: Jicarilla Apache

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

(Attach diagram) Reference: wellhead X other     

Footage from reference: 87

Direction from reference: DUE Degrees X East of North       
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)	<u>0</u>

**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)	<u>0</u>

**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)	<u>0</u>

**Distance to Ephemeral Stream (dry wash):**

(Horizontal distance to all downgradient streams having a width of at least 10 feet)

Less than or equal to 100 feet	(10 points)	
Greater than 100 feet	(0 points)	<u>0</u>

**Distance to Nearest Lake, Playa, or Watering Pond:**

(Horizontal distance to all downgradient lakes, playas, and livestock or wildlife water ponds)

Less than or equal to 100 feet	(10 points)	
Greater than 100 feet	(0 points)	<u>0</u>

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

Date Remediation Started: 9/24/98 Date Completed: 1/6/99  
Remediation Method: Excavation X Approx. Cubic Yards 240

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds): 240  
Other \_\_\_\_\_

Remediation Location: Onsite X Offsite \_\_\_\_\_  
(i.e., landfarmed onsite, name and location of offsite facility)

**General Description of Remedial Action:**

Removed contaminated soil from all four side walls as to get a below 100 ppm headspace reading. Bottom of Pit is sandstone.  
Final excavation: 33' X 28' X 7'.

Ground Water Encountered: No X Yes \_\_\_\_\_ Depth \_\_\_\_\_

**Final Pit Closure Sampling:**

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

Sample Location North, East, South, West Side walls and Pit bottom

Sample depth 7'

Sample date 9/28/98 Sample time C935 C936 ✓

**Sample Results**

Soil: Benzene (ppm) 1.1 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 179.600 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 1430 Ethylbenzene (ppb) \_\_\_\_\_

TPH 1900 ppm Method 8015 Total Xylenes (ppb) \_\_\_\_\_

Ground Water Sample: Yes \_\_\_\_\_ No X (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 10/25/98 PRINTED NAME Roy Burnham

SIGNATURE Roy Burnham AND TITLE Environmental Technician II

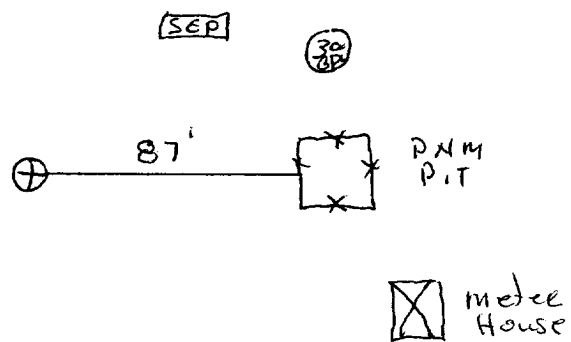
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO \_\_\_\_\_ (REASON): RA Attached

SIGNED: Kec Mamb DATE: 11-30-98

JICARILLA K-12E  
Sec-2 T25N R-5W UL M  
Conoco

## Site Drawing

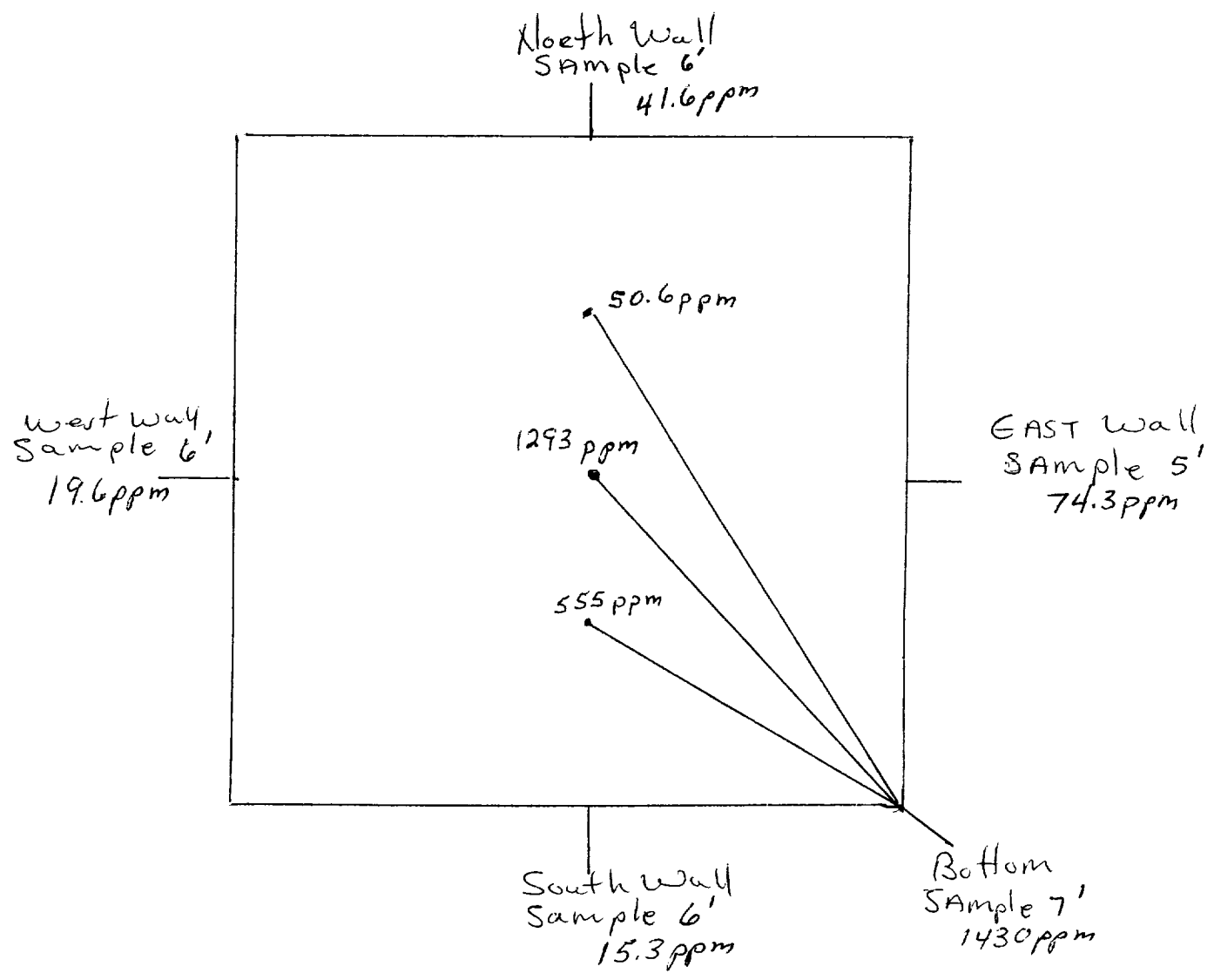


Not To Scale

SICARUA R 122  
Sec-2 T-25N R-5W ULM  
CONOCO

EXCAVATION DRAWING

33'x28'x7'



Not To Scale

**ANALYTICAL REPORT**

Date: 14-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-12E
<b>Work Order:</b>	9809084	<b>Client Sample ID:</b>	9809280936; 3pt. Bottom Comp.
<b>Lab ID:</b>	9809084-02A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	9/28/98 9:36:00 AM
		<b>COC Record:</b>	7350

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	1900	25		mg/Kg	1	10/9/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: DC
Benzene	1100	500		µg/Kg	500	10/8/98
Toluene	15000	1000		µg/Kg	500	10/8/98
Ethylbenzene	5500	500		µg/Kg	500	10/8/98
m,p-Xylene	130000	1000		µg/Kg	500	10/8/98
o-Xylene	28000	500		µg/Kg	500	10/8/98

179600  
179.6

**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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 14-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-12E
<b>Work Order:</b>	9809084	<b>Client Sample ID:</b>	9809280935; 4pt. Wall Comp.
<b>Lab ID:</b>	9809084-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	9/28/98 9:35:00 AM
		<b>COC Record:</b>	7350

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	51	25		mg/Kg	1	10/5/98

**Qualifiers:**

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1 of 1

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## ***Environmental Services***

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Well Name:	Jicarilla K #12E
Well Legals:	Unit M, Sec 2, T25N, R5W
Pit Type:	Line Drip
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	Greater than 100 feet

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### **RISK ANALYSIS**

PNM requests closure of their former pit on the Jicarilla K #12E well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 117 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Lapis Point, NM series 7.5 minute topographic map.)
2. The site is located outside of the "vulnerable area" as defined under OCC Order No. R-7940-C.
3. PNM excavated 240 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.
4. Bedrock was encountered at 7 feet below ground surface. Bedrock/sandstone provides a barrier between remaining contamination and groundwater. Vertical migration through bedrock or sandstone to groundwater is unlikely.
5. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Jicarilla K #12E well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.

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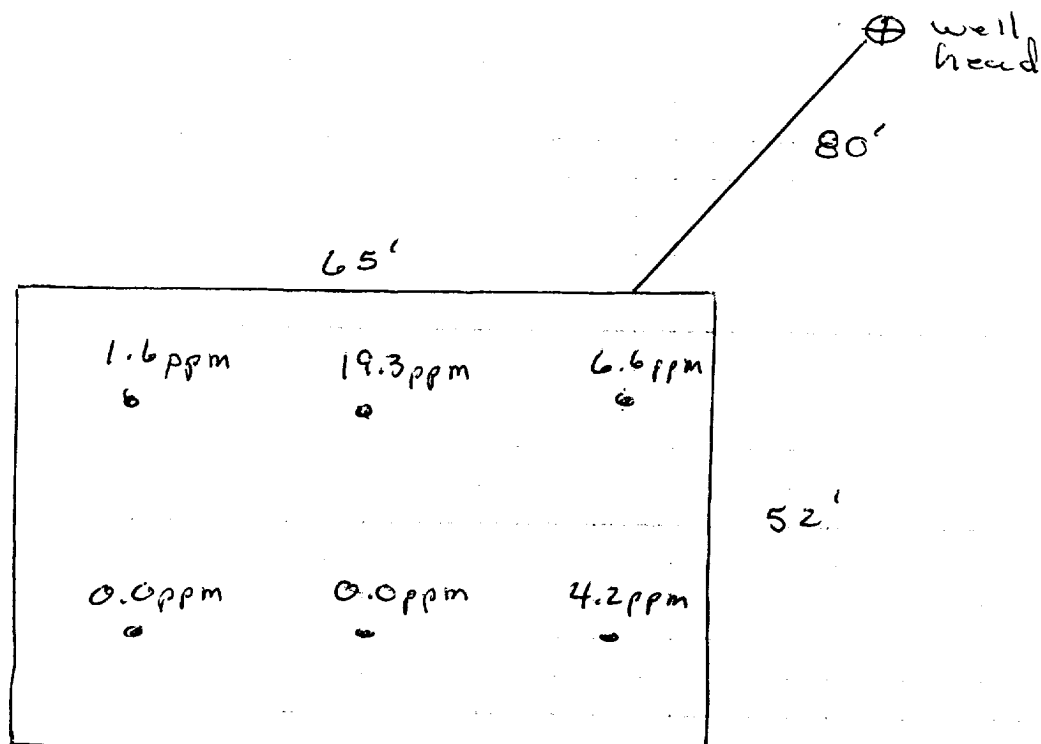
ON-SITE SOIL REMEDIATION REPORT

Operator: PNM Gas Services ( <u>Conoco</u> ) Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>	
Facility or Well Name: <u>JICARILLA K-12E</u>	
Location: Unit: <u>M</u> Sec. <u>2</u> T. <u>25</u> N. R. <u>5</u> W. County <u>Rio Arriba</u>	
Land Type: <u>Jicarilla Apache</u>	
Date Remediation Started: <u>9/24/98</u> Date Completed: <u>12/2/98</u>	
Remediation Method: Landfarmed <u>X</u> Approx. cubic yards <u>240</u> Composted <u>    </u> Other <u>    </u>	
Depth to Ground Water: (pts.) <u>Ø</u> Distance to an Ephemeral Stream: (pts.) <u>Ø</u> Distance to Nearest Lake, Playa, or Watering Pond: (pts.) <u>Ø</u> Wellhead Protection Area: (pts.) <u>Ø</u> Distance to Surface Water: (pts.) <u>Ø</u> Ranking Score (Total Points): <u>Ø</u>	Final Closure Sampling: Sampling Date: <u>11/23/98</u> Time <u>1200</u> Sampling Results: Field Headspace (ppm) <u>19.3</u> TPH (ppm) <u>210</u> Method <u>8015</u> Other <u>    </u>
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF	
DATE <u>1/5/99</u> PRINTED NAME <u>Roy Burnham</u>	
SIGNATURE <u>Roy Burnham</u> AND TITLE <u>Environmental Technician II</u>	
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE	
APPROVED: YES <u>X</u> NO <u>    </u> (REASON) <u>Don't use as backfill.</u>	
SIGNED: <u>Karena L. Callado</u> DATE: <u>01-06-98</u>	



JICARILLA K-12E  
Sec-2 T-25N R-5W ULM  
CONOCO

# Landfarm Drawing



not to scale

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 04-Dec-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** Jicarilla Pit Remediation Landfarms  
**Lab Order:** 9811075

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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.

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LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 04-Dec-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-12E LF
<b>Work Order:</b>	9811075	<b>Client Sample ID:</b>	9811231200; 6pt Composite
<b>Lab ID:</b>	9811075-04A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation Landfarms	<b>Collection Date:</b>	11/23/98 12:00:00 PM
		<b>COC Record:</b>	7405

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	210	25		mg/Kg	1	12/2/98

**Qualifiers:**

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