

*Denny E. Faust*

DEPUTY OIL & GAS INSPECTOR

JICARILLA APACHE TRIBE

FEB 08 1999

ENVIRONMENTAL PROTECTION OFFICE

P.O. BOX 507  
DULCE, NEW MEXICO 87528

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-11*

Location: Unit: *K* Sec. *2* T. *25* N R. *8* W County *Rio Arriba*

Pit Type: Separator ☐ Dehydrator ☒ Other ☐

Land Type: *Jicarilla Apache*

Pit Location: Pit dimensions: length *15'* width *15'* depth *3'*

(Attach diagram) Reference: wellhead ☒ other ☐

Footage from reference: *150'*

Direction from reference: *Straight* Degrees ☐ East ☐ 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)

**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)

**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)

**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)

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

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

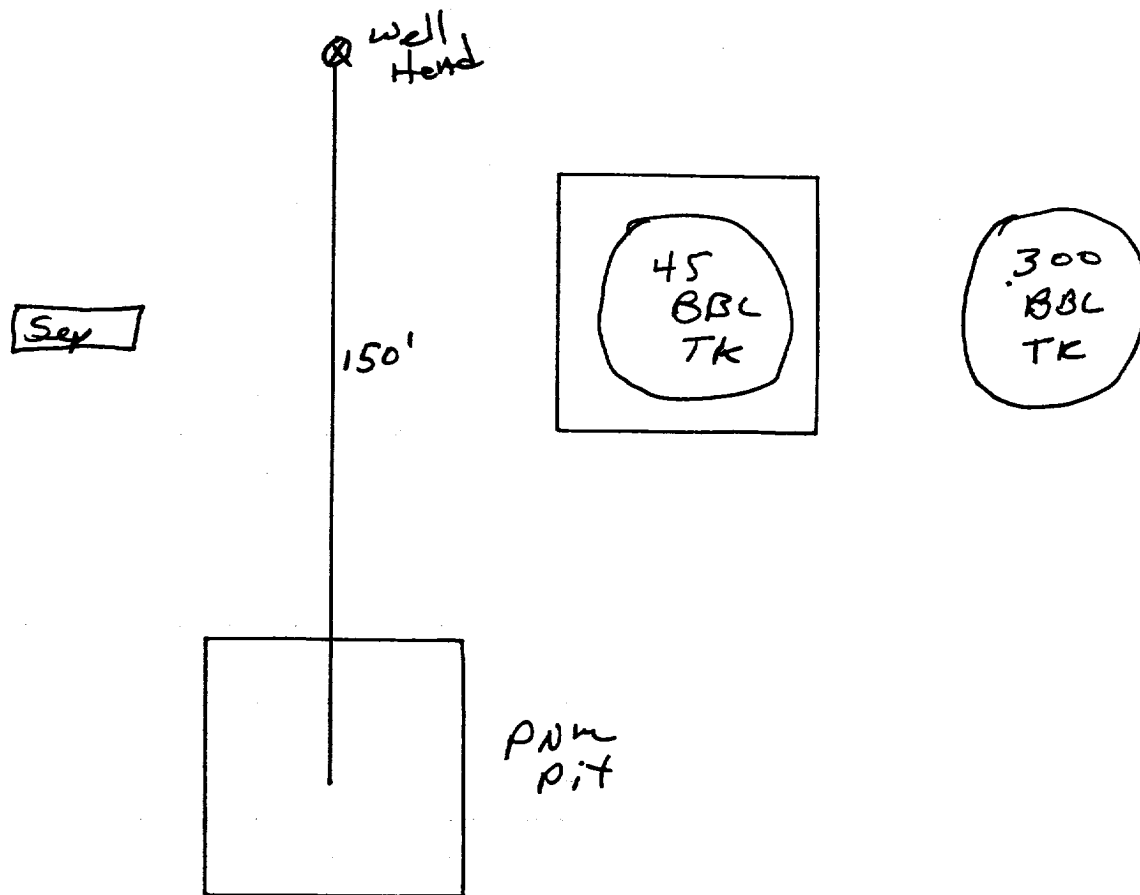
Less than or equal to 100 feet (10 points)  
Greater than 100 feet (0 points)

RANKING SCORE (TOTAL POINTS):

Date Remediation Started: <u>9/30/98</u>		Date Completed: <u>1/6/99</u>	
(Check all appropriate sections)	Remediation Method: Excavation <u>X</u>	Approx. Cubic Yards <u>162</u>	
	Landfarmed <u>X</u>	Amount Landfarmed (cubic yds): <u>162</u>	
	Other _____		
Remediation Location: Onsite <u>X</u>		Offsite _____	
(i.e., landfarmed onsite, name and location of offsite facility)			
<b>General Description of Remedial Action:</b> <u>Removed contaminated soil from all four side walls as to get it below 100 ppm headspace reading. Bottom was sand stone at 6'</u> <u>Excavation size: 28'x26'x6'</u>			
Ground Water Encountered: No <u>X</u> Yes _____ Depth _____			
<b>Final Pit Closure Sampling:</b>  (if multiple samples, attach sample result and diagram of sample locations and depths.)	Sample Location <u>North, East, South, West side walls 4'</u> <u>Bottom 6'</u>		
	Sample depth <u>6'</u>		
	Sample date <u>9/30/98</u>		Sample time <u>1512</u>
	Sample Results		
	Soil: Benzene (ppm) <u>16.0</u>	Water: Benzene (ppb) _____	
	Total BTEX (ppm) <u>600.000</u>	Toluene (ppb) _____	
	Field headspace (ppm) <u>888</u>	Ethylbenzene (ppb) _____	
	TPH <u>2800</u> ppm Method <u>8015</u>	Total Xylenes (ppb) _____	
Ground Water Sample: Yes _____ No <u>X</u> (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>10/25/98</u>		PRINTED NAME <u>Ronald A. Dedrick Roy Burnham</u>	
SIGNATURE <u>Roy Burnham</u>		AND TITLE <u>Environmental Technician II</u>	
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.			
APPROVED: YES <u>X</u> NO _____ (REASON): <u>R.A. Attached</u>			
SIGNED: <u>Ken C. M...</u>		DATE: <u>11-30-98</u>	

Jicani/A K-11  
Sec. 2 T25N R5W Unit K  
20000

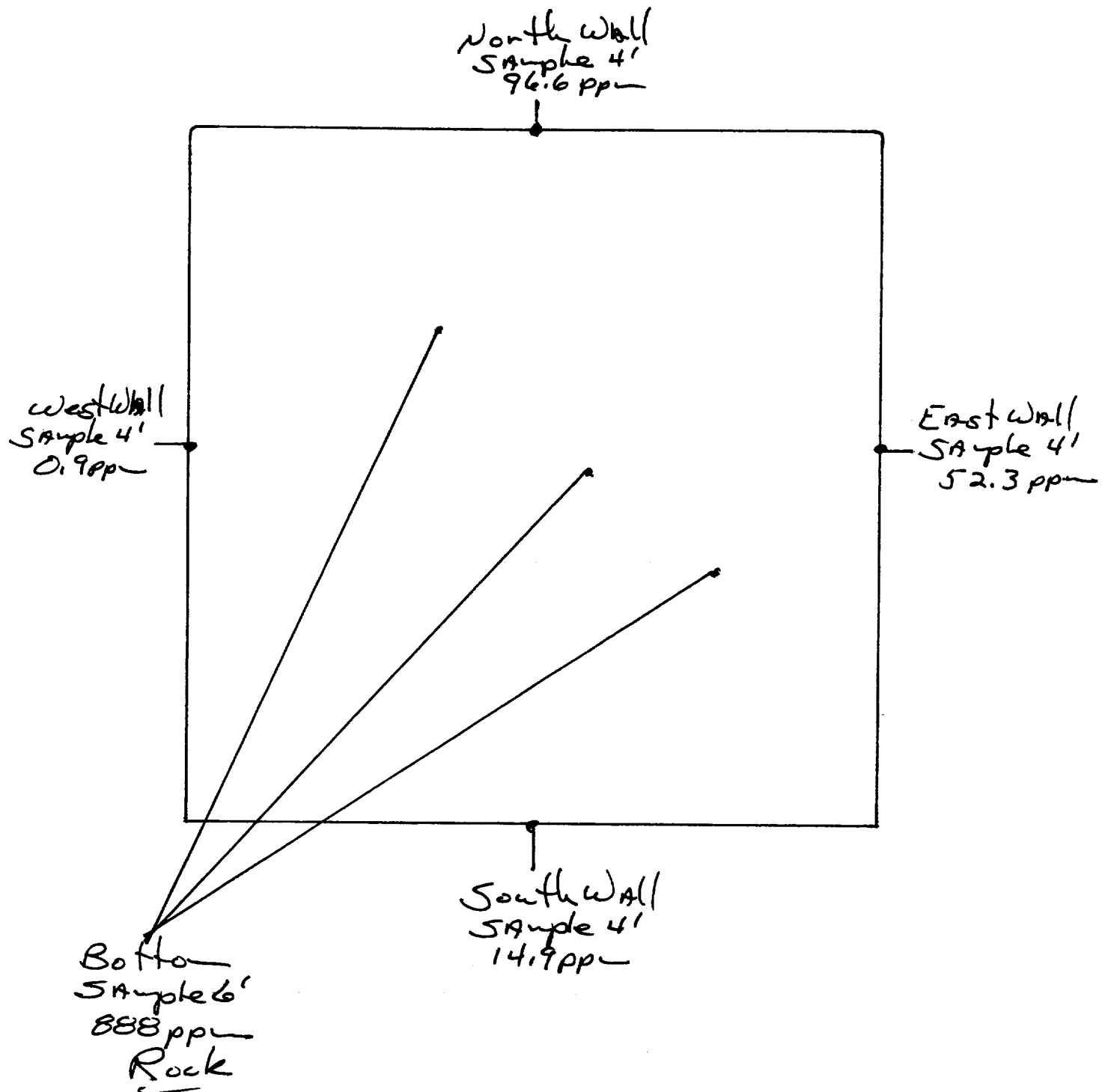
# Site Drawing



Jicavilla K-11  
Sec. 2 T25N R5W Unit K  
Conoco

# Excavation Drawing

28'x26'x6'



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 15-Oct-98

---

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

**Project:** Jicarilla Pit Remediation

**Lab Order:** 9810004

## **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: 16-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-11
<b>Work Order:</b>	9810004	<b>Client Sample ID:</b>	9809301512; 3pt. Comp. Bottom
<b>Lab ID:</b>	9810004-04A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	9/30/98 3:12:00 PM
		<b>COC Record:</b>	7508

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>						
		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	2800	25		mg/Kg	1	10/13/98
<b>BTEX</b>						
		<b>SW8020A</b>				Analyst: DC
Benzene	16000	1000		µg/Kg	1000	10/8/98
Toluene	230000	5000		µg/Kg	2500	10/14/98
Ethylbenzene	28000	1000		µg/Kg	1000	10/8/98
m,p-Xylene	270000	2000		µg/Kg	1000	10/8/98
o-Xylene	56000	1000		µg/Kg	1000	10/8/98

600,000  
600 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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 15-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-11
<b>Work Order:</b>	9810004	<b>Client Sample ID:</b>	9809301511; 4pt. Comp. Walls
<b>Lab ID:</b>	9810004-03A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	9/30/98 3:11:00 PM
		<b>COC Record:</b>	7508

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				
T/R Hydrocarbons: C10-C28	51	25		mg/Kg	1	Analyst: HR 10/6/98

**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 -

1 of 1



**Environmental Services**

---

Well Name:	Jicarilla K #11
Well Legals:	Unit K, Sec 2, T25N, R5W
Pit Type:	Dehydrator
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	Greater than 100 feet

---

**RISK ANALYSIS**

PNM requests closure of their former pit on the Jicarilla K #11 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 114 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 162 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 6 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 #11 well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.



JICARILLA APACHE TRIBE  
ENVIRONMENTAL  
PROTECTION OFFICE  
P.O. BOX 507  
DULCE, NEW MEXICO 87528

SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: <u>PNM Gas Services (Conoco)</u> Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>	
Facility or Well Name: <u>Jicarilla K-11</u>	
Location: Unit: <u>K</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>9/30/98</u> Date Completed: <u>12/4/98</u>	
Remediation Method: Landfarmed <input checked="" type="checkbox"/> Approx. cubic yards <u>162</u>	
Composted <input type="checkbox"/>	
Other <input type="checkbox"/>	
Depth to Ground Water: (pts.) <u>0</u>	Final Closure Sampling: Sampling Date: <u>11/23/98</u> Time <u>1305</u> Sampling Results: Field Headspace (ppm) <u>20.3</u> TPH (ppm) <u>130</u> Method <u>GC/MS</u> Other _____
Distance to an Ephemeral Stream: (pts.) <u>0</u>	
Distance to Nearest Lake, Playa, or Watering Pond: (pts.) <u>0</u>	
Wellhead Protection Area: (pts.) <u>0</u>	
Distance to Surface Water: (pts.) <u>0</u>	
Ranking Score (Total Points): <u>0</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 <input checked="" type="checkbox"/> NO <input type="checkbox"/> (REASON) <u>Don't use as backfill.</u>	
SIGNED: <u>Karena L. Callado</u>	DATE: <u>01-06-99</u>

Jicarilla K-11  
Sec. 2 T25N R5W Unit K  
Conoco

# Landfarm Drawing

Well Head

120'

87'

20.3 ppm

0.0 ppm

7.4 ppm

0.6 ppm

3.0 ppm

14.5 ppm

48'

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 08-Dec-98

---

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

**Project:** Jicarilla Pit Remediation

**Lab Order:** 9811076

**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: 08-Dec-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-11 LF
<b>Work Order:</b>	9811076	<b>Client Sample ID:</b>	9811231305; 6pt Composite
<b>Lab ID:</b>	9811076-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	11/23/98 1:05:00 PM
		<b>COC Record:</b>	7406

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	130	25		mg/Kg	1	12/4/98

<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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -