

Risk  
BTE

*Denny S. Faust*

JICARILLA APACHE TRIBE

DEPUTY OIL & GAS INSPECTOR ENVIRONMENTAL PROTECTION OFFICE

SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL GAS  
ADMINISTRATION

FEB 08 1999

P.O. BOX 507  
DULCE, NEW MEXICO 87528

*Approved*  
**PIT REMEDIATION AND CLOSURE REPORT**

Operator: PNM Gas Services (AMOCO)		Telephone: 324-3764	
Address: 603 W. Elm Street Farmington, NM 87401			
Facility or Well Name: Jicarilla Apache Tribal 151-7			
Location:	Unit: M	Sec. 4	T. 26 N R. 5 W County Rio Arriba
Pit Type:	Separator	Dehydrator X	Other
Land Type:	Jicarilla Apache		
Pit Location:	Pit dimensions: length 21' width 21' depth 3'		
(Attach diagram)	Reference: wellhead X other		
	Footage from reference: 255'		
	Direction from reference: 45 Degrees East of North		
	West of South		
Depth to Ground Water:	Less than 50 feet (20 points)		
(Vertical distance from contaminants to seasonal high water elevation of ground water)	50 feet to 99 feet (10 points)		
	Greater than 100 feet (0 points)		Ø
Wellhead Protection Area:	Yes (20 points)		
(Less than 200 feet from a private domestic water source, or; less than 1,000 feet from all other water sources)	No (0 points)		Ø
Distance to Surface Water:	Less than 200 feet (20 points)		
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	200 feet to 1,000 feet (10 points)		
	Greater than 1,000 feet (0 points)		Ø
Distance to Ephemeral Stream (dry wash):	Less than or equal to 100 feet (10 points)		
(Horizontal distance to all downgradient streams having a width of at least 10 feet)	Greater than 100 feet (0 points)		Ø
Distance to Nearest Lake, Playa, or Watering Pond:	Less than or equal to 100 feet (10 points)		
(Horizontal distance to all downgradient lakes, playas, and livestock or wildlife water ponds)	Greater than 100 feet (0 points)		Ø
RANKING SCORE (TOTAL POINTS):			Ø

Date Remediation Started: 6/11/98 Date Completed: 7/28/98

Remediation Method: Excavation X Approx. Cubic Yards 1108

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds): 1108

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 solid sandstone rock. 3 point composite of Pit bottom. EXCAVATION SIZE 45'X35'X19'

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

Final Pit Closure Sampling:

Sample Location North, East, South, west side walls and bottom of Pit

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

Sample depth 19'

Sample date 6/15/98 Sample time 1117

Sample Results

Soil: Benzene (ppm) 3.600 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 163.300 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 1091 Ethylbenzene (ppb) \_\_\_\_\_

TPH 310 ~~310~~ 310 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 6/27/98 PRINTED NAME Roy Burnham

SIGNATURE Roy Burnham AND TITLE Environmental Technician II

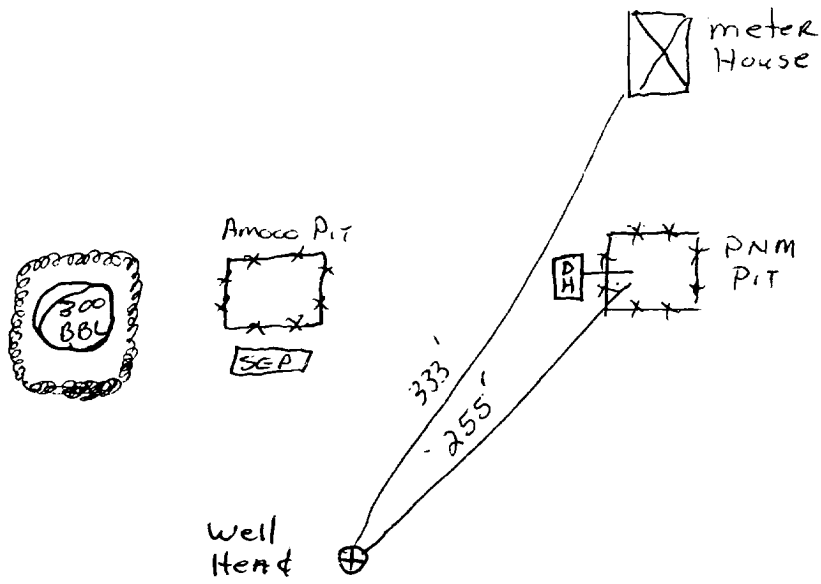
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO \_\_\_\_\_ (REASON): R.A. Attached

SIGNED: Kenn C Mamm DATE: 7-28-98

Sicaiilla Apache Tribal 151-7  
Sec 4 T26N R5W  
Amoco

# SITE DRAWING



JICARILLA APACHE TRIBAL 151  
Sec-4 T-26N R-5W unit M  
Amoco

# Excavation Drawing

45' x 35' x 19'

North wall  
Sample 13'  
24.0ppm

West wall  
Sample 14'  
45.6ppm

East wall  
Sample 14'  
29.8ppm

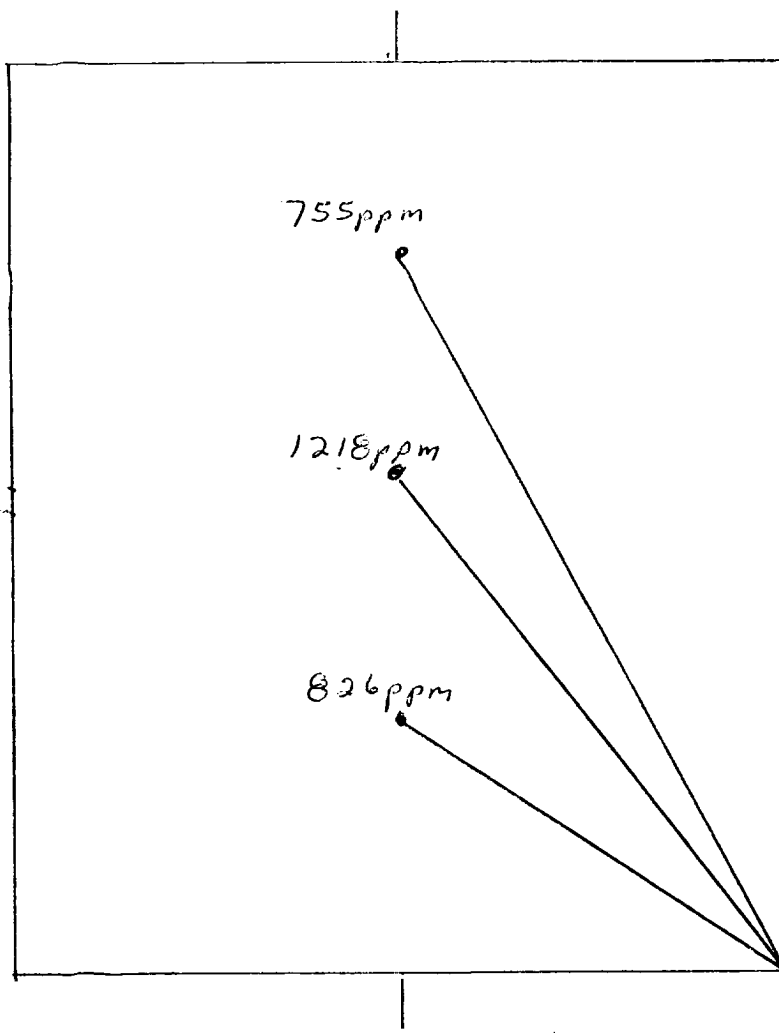
755ppm

1218ppm

826ppm

South wall  
Sample 31.0ppm  
14'

Bottom  
Sample 19'  
1091ppm



OFF: (505) 325-5667



# ON SITE

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

**On Site Technologies, LTD.**

**Date:** 24-Jun-98

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

**Project:** Jicarilla Pit Remediation

**Lab Order:** 9806064

## 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: 24-Jun-98

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9806064  
**Lab ID:** 9806064-02A **Matrix:** SOIL  
**Project:** Jicarilla Pit Remediation

**Client Sample Info:** Jic. Apache Tribal 151-7  
**Client Sample ID:** 9806151117; 3pt. Comp.  
**Collection Date:** 6/15/98 11:17:00 AM  
**COC Record:** 7165

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	310	25		mg/Kg	1	6/24/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: DC
Benzene	3600	1000		µg/Kg	1000	6/18/98
Toluene	56000	2000		µg/Kg	1000	6/18/98
Ethylbenzene	5700	1000		µg/Kg	1000	6/18/98
m,p-Xylene	82000	2000		µg/Kg	1000	6/18/98
o-Xylene	16000	1000		µg/Kg	1000	6/18/98

143,300  
163.3 ppm

**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

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OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 24-Jun-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jic. Apache Tribal 151-7
<b>Work Order:</b>	9806064	<b>Client Sample ID:</b>	9806151116; 4pt. Comp.
<b>Lab ID:</b>	9806064-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation	<b>Collection Date:</b>	6/15/98 11:16:00 AM
		<b>COC Record:</b>	7165

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	6/17/98

<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

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Well Name:	Jicarilla Apache Tribal 151-7
Well Legals:	Unit M, Sec 4, T26N, R5W
Pit Type:	Dehydrator
Horizontal Distance to Surface Water:	Greater than 1,000 ft
Groundwater Depth:	Greater than 100 ft

## **RISK ANALYSIS**

PNM requests closure of their former pit on the Jicarilla Apache Tribal 151-7 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 136 feet based upon the elevation of the site and the elevation of the nearest "named" wash (Cereza Canyon). (Reference: Vigas Canyon 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. The site is not located within 200 feet of a domestic water well and is not within 1,000 feet of any other water source.
4. PNM excavated 1,108 cubic yards of soil from the former pit. Subsurface lateral contamination has been remediated. Source removal minimizes the possibility of surface water contamination.
5. Bedrock 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.
6. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Jicarilla Apache Tribal 151-7 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  
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SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL-GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: PNM Gas Services (Amoco) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Jicarilla Apache Tribal - 156-7  
Location: Unit: M Sec. 4 T. 26 N R. 5 W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 6/11/98 Date Completed: 7/24/98  
Remediation Method: Landfarmed ☒ Approx. cubic yards 1108  
Composted ☐  
Other ☐

Depth to Ground Water: (pts.)  $\emptyset$   
Distance to an Ephemeral Stream: (pts.)  $\emptyset$   
Distance to Nearest Lake, Playa,  
or Watering Pond: (pts.)  $\emptyset$   
Wellhead Protection Area: (pts.)  $\emptyset$   
Distance to Surface Water: (pts.)  $\emptyset$   
Ranking Score (Total Points):

Final Closure Sampling:  
Sampling Date: 7/23/98 Time 1233  
Sampling Results:  
Field Headspace (ppm) 49.8  
TPH (ppm) 65 Method 8015  
Other

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 7/28/98 PRINTED NAME Roy Burnham  
SIGNATURE Roy Burnham AND TITLE Environmental Technician II

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION APPROVED IN ACCORDANCE TO THE  
JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE

APPROVED: YES ☒ NO ☐ (REASON) Use as Backfill  
SIGNED: Keith M. M... DATE: 7-28-98

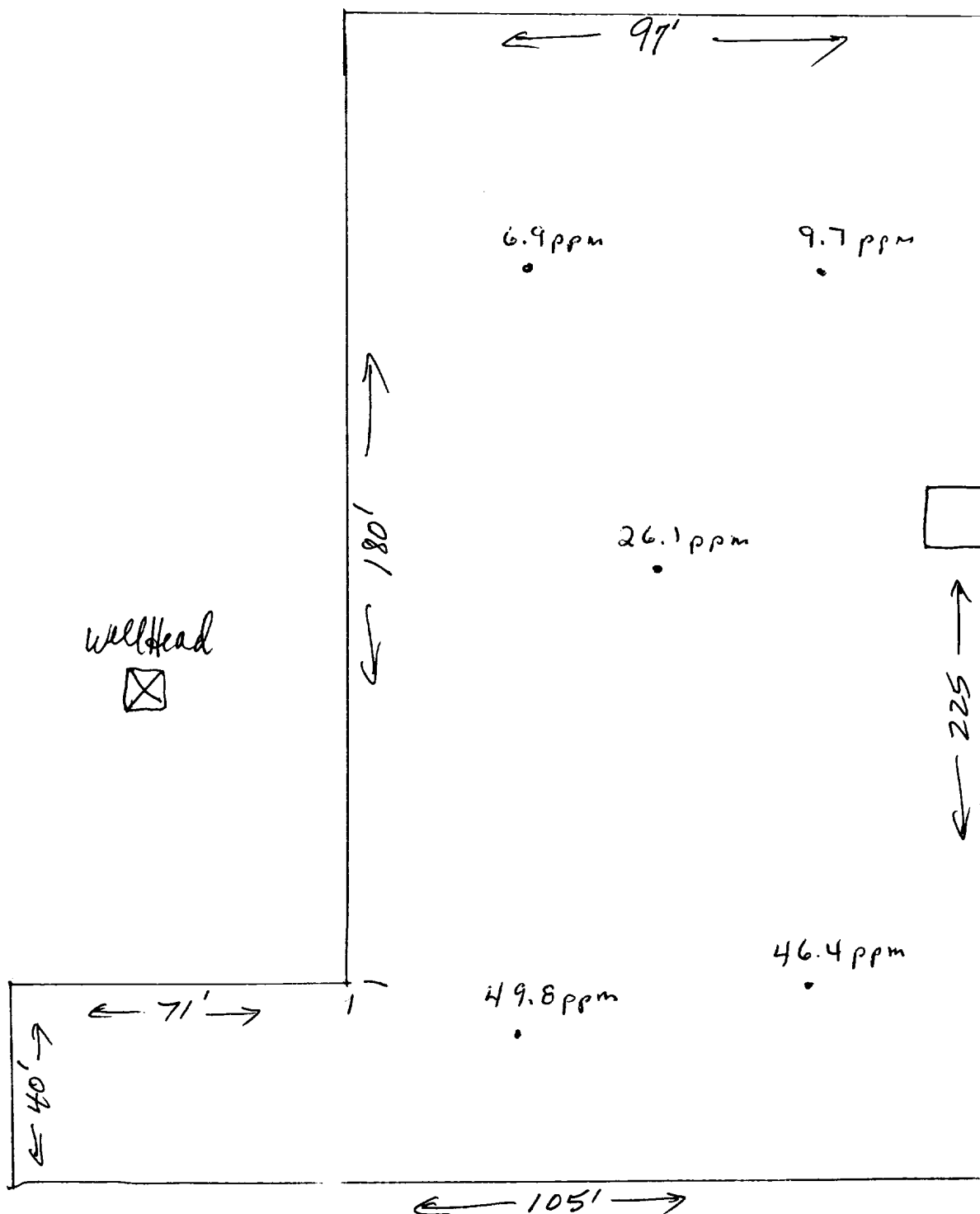
23

JICARILLA APACHE TRIBAL 151-7

AMOCO

UNIT M SEC 4 T-26N R5W

LAND FARM DRAWING



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 28-Jul-98

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

**Project:** PNM Pit Remediation

**Lab Order:** 9807068

**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.

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LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 28-Jul-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jic. Apache Tribal 151-7 LF
<b>Work Order:</b>	9807068	<b>Client Sample ID:</b>	9807231233; 5pt. Composite
<b>Lab ID:</b>	9807068-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	7/23/98 12:33:00 PM
		<b>COC Record:</b>	7318

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	65	25		mg/Kg	1	7/24/98

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
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- TECHNICAL REPORTS MUST BE PRINTED WITH THE QUALITY CONTROL SHEET -