

*Denny E. Frost*  
DEPUTY OIL & GAS INSPECTOR

JICARILLA APACHE TRIBE  
ENVIRONMENTAL PROTECTION OFFICE

FEB 08 1999

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 (TAURUS) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Jicarilla 1-5  
Location: Unit: N Sec. 33 T. 25 N R. 5 W County Rio Arriba  
Pit Type: Separator      Dehydrator      Other Drip  
Land Type: Jicarilla Apache

Pit Location: Pit dimensions: length 20' width 20' depth 2'  
(Attach diagram) Reference: wellhead X other       
Footage from reference: 84'  
Direction from reference: 45 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: 7/14/98 Date Completed: 9/9/98

Remediation Method: Excavation X Approx. Cubic Yards 420

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds): 420

Other \_\_\_\_\_

Remediation Location: Onsite X 372 cu. yds. Offsite 48 cu. yds. TNT Land farm  
(i.e., landfarmed onsite, name and location of offsite facility) Schmitz Ranch, N. Mex.

**General Description of Remedial Action:**

Removed contaminated soil from all four side walls as to get a below 100 ppm head space reading. Pit bottom was solid rock. Had a 399 ppm head space reading. Pit size was 35' x 27' x 12'.

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 12'

Sample date 7/14/98 Sample time 0946

**Sample Results**

Soil: Benzene (ppm) 32.000 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 395.000 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 399 Ethylbenzene (ppb) \_\_\_\_\_

TPH 200 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 7/28/98 PRINTED NAME Ronald A. Dedrick

SIGNATURE Ronald A. Dedrick AND TITLE Environmental Technician II

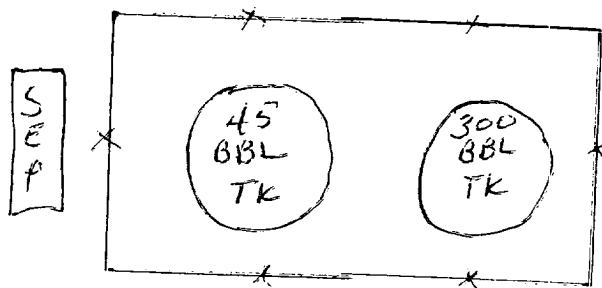
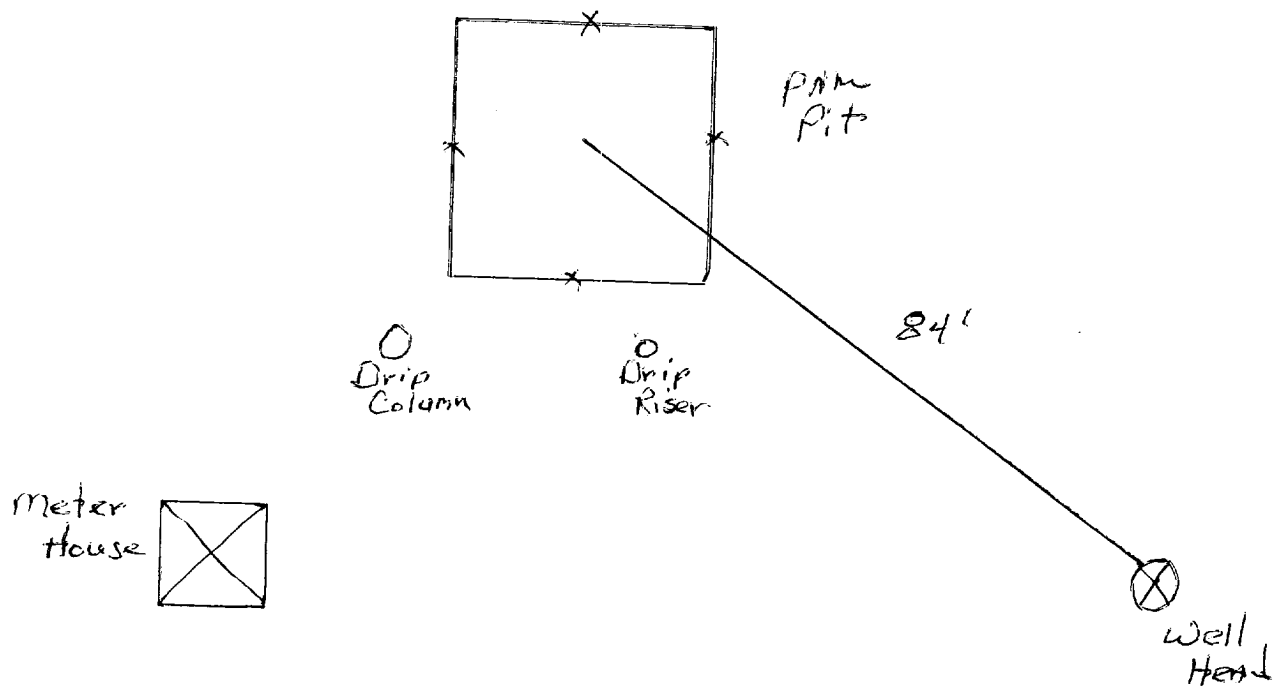
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

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

SIGNED: Ken C. Murrell DATE: 8-18-98

Sec. 33 T25N R5W Unit N  
Taurus

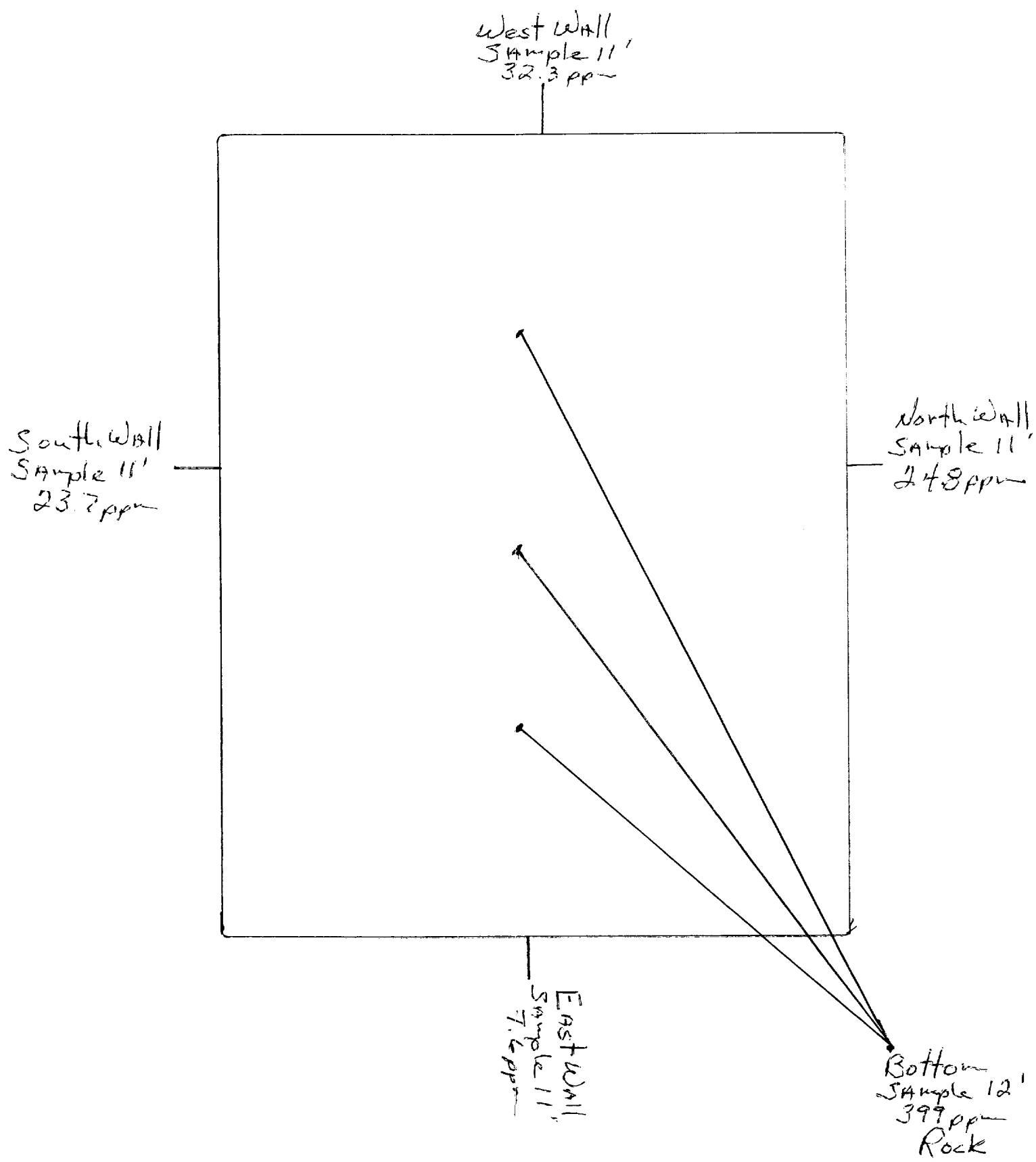
# Site Drawing



Jicarilla L-3  
Sec 33 T25N R5W Unit N  
TAURUS

# Excavation Drawing

N →



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:** 9807041

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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: 28-Jul-98

|                    |                                    |                            |                               |
|--------------------|------------------------------------|----------------------------|-------------------------------|
| <b>Client:</b>     | PNM - Public Service Company of NM | <b>Client Sample Info:</b> | Jicarilla L-5                 |
| <b>Work Order:</b> | 9807041                            | <b>Client Sample ID:</b>   | 9807140946; 3pt. Comp. Bottom |
| <b>Lab ID:</b>     | 9807041-02A                        | <b>Matrix:</b>             | SOIL                          |
| <b>Project:</b>    | PNM Pit Remediation                | <b>Collection Date:</b>    | 7/14/98 9:46:00 AM            |
|                    |                                    | <b>COC Record:</b>         | 7264                          |

| Parameter                    | Result | PQL  | Qual | Units | DF   | Date Analyzed          |
|------------------------------|--------|------|------|-------|------|------------------------|
| <b>DIESEL RANGE ORGANICS</b> |        |      |      |       |      |                        |
| T/R Hydrocarbons: C10-C28    | 200    | 25   |      | mg/Kg | 1    | Analyst: HR<br>7/24/98 |
| <b>BTEX</b>                  |        |      |      |       |      |                        |
| Benzene                      | 32000  | 2500 |      | µg/Kg | 2500 | Analyst: DC<br>7/24/98 |
| Toluene                      | 140000 | 5000 |      | µg/Kg | 2500 | 7/24/98                |
| Ethylbenzene                 | 11000  | 2500 |      | µg/Kg | 2500 | 7/24/98                |
| m,p-Xylene                   | 91000  | 5000 |      | µg/Kg | 2500 | 7/24/98                |
| o-Xylene                     | 21000  | 2500 |      | µg/Kg | 2500 | 7/24/98                |

295000  
295.0 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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- Test Method: PQL - 100 µg/Kg (100 ppm) in the 100 µg/Kg (100 ppm)

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LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 28-Jul-98

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9807041  
**Lab ID:** 9807041-01A     **Matrix:** SOIL  
**Project:** PNM Pit Remediation

**Client Sample Info:** Jicarilla L-5  
**Client Sample ID:** 9807140945; 4pt. Comp. Walls  
**Collection Date:** 7/14/98 9:45:00 AM  
**COC Record:** 7264

| Parameter                    | Result | PQL           | Qual | Units | DF | Date Analyzed          |
|------------------------------|--------|---------------|------|-------|----|------------------------|
| <b>DIESEL RANGE ORGANICS</b> |        | <b>SW8015</b> |      |       |    |                        |
| T/R Hydrocarbons: C10-C28    | ND     | 25            |      | mg/Kg | 1  | Analyst: HR<br>7/21/98 |

**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

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Well Name:

Well Legals:

Pit Type:

Horizontal Distance to Surface Water:

Groundwater Depth:

Jicarilla L #5

Unit N, Sec 33, T25N, R5W

Drip

Less than 200 feet

Greater than 100 feet

## **RISK ANALYSIS**

PNM requests closure of their former pit on the Jicarilla L #5 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 217 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash (Canada Larga). (Reference: Otero Store Mesa, 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 420 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 12 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 L #5 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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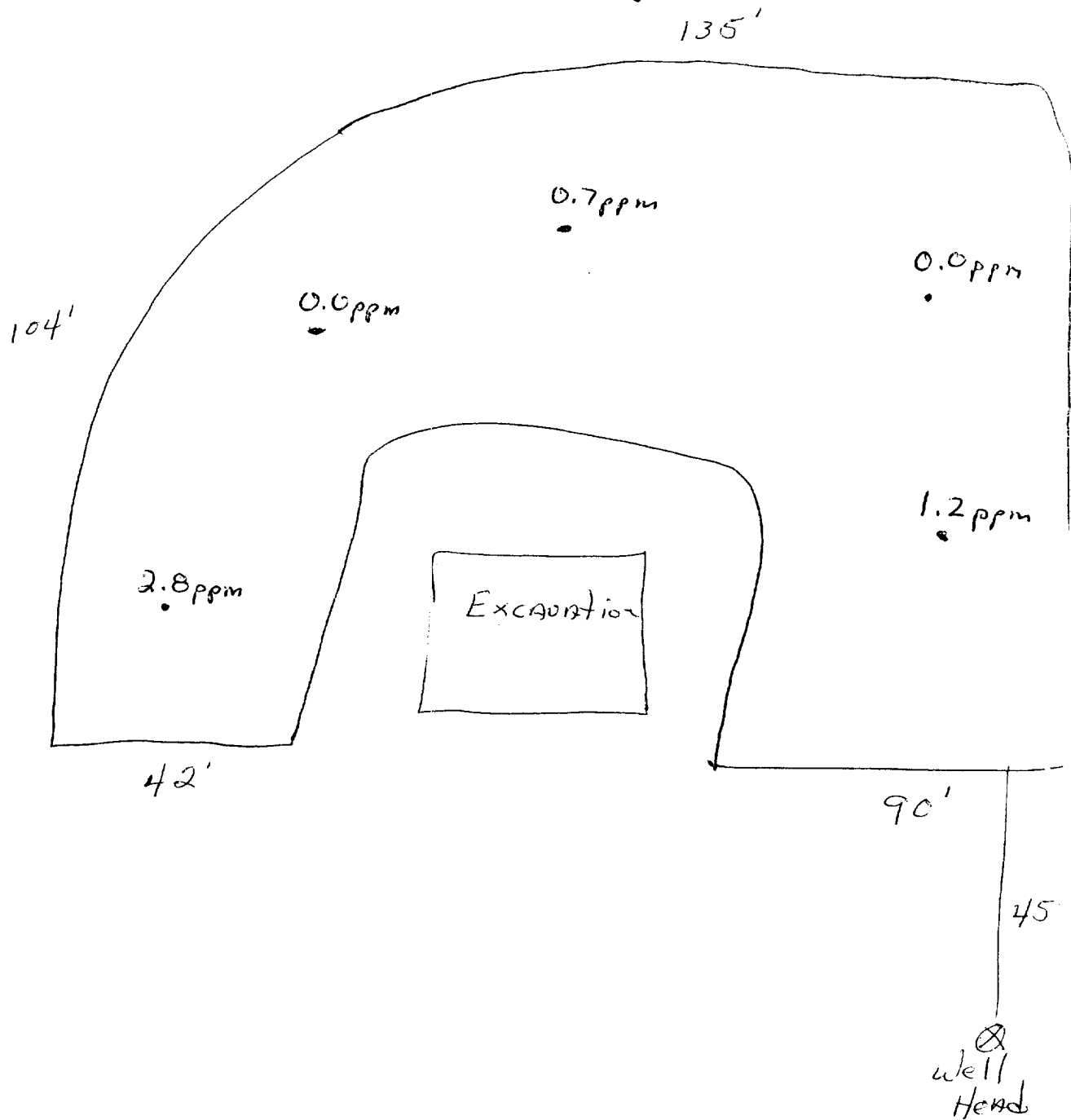
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NATURAL  
RESOURCE DEPT  
AND OIL-GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

|  |  |
|--|--|
| Operator: PNM Gas Services (Taurus) Telephone: 324-3764  |  |
| Address: 603 W. Elm Street Farmington, NM 87401  |  |
| Facility or Well Name: Jicarilla L-5   |  |
| Location: Unit: N Sec. 33 T. 25 N R. 5 W County Rio Arriba   |  |
| Land Type: Jicarilla Apache  |  |
| Date Remediation Started: 7/14/98 Date Completed: 8/20/98  |  |
| Remediation Method: Landfarmed <input checked="" type="checkbox"/> Approx. cubic yards: 420 372 RAD  |  |
| Composted <input type="checkbox"/>   |  |
| Other <input type="checkbox"/>   |  |
| Depth to Ground Water: (pts.) 0  | Final Closure Sampling:<br>Sampling Date: 8/17/98 Time 0715<br>Sampling Results:<br>Field Headspace (ppm) 2.8<br>TPH (ppm) 30 Method 8015<br>Other |
| Distance to an Ephemeral Stream: (pts.) 0  |  |
| Distance to Nearest Lake, Playa, or Watering Pond: (pts.) 0  |  |
| Wellhead Protection Area: (pts.) 0   |  |
| Distance to Surface Water: (pts.) 0  |  |
| Ranking Score (Total Points): 0  |  |
| I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF  |  |
| DATE: 8/29/98  | PRINTED NAME: Ronald A. Dedrick RB Ray Burnham   |
| SIGNATURE: Ray 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 <input checked="" type="checkbox"/> NO <input type="checkbox"/> (REASON) use as Backfill   |  |
| SIGNED: [Signature]  | DATE: 9-9-98   |

Sec. 33 T25N R8W Unit N  
Taurus

# Land farm Drawing



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 26-Aug-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** PNM Pit Remediation  
**Lab Order:** 9808036

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**CASE NARRATIVE**

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

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

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 26-Aug-98

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9808036  
**Lab ID:** 9808036-06A      **Matrix:** SOIL  
**Project:** PNM Pit Remediation

**Client Sample Info:** Jicarilla L-5 LF  
**Client Sample ID:** 9808170715; 5pt. Comp.  
**Collection Date:** 8/17/98 7:15:00 AM  
**COC Record:** 7333/34/35

| Parameter                    | Result | PQL           | Qual | Units | DF | Date Analyzed          |
|------------------------------|--------|---------------|------|-------|----|------------------------|
| <b>DIESEL RANGE ORGANICS</b> |        | <b>SW8015</b> |      |       |    |                        |
| T/R Hydrocarbons: C10-C28    | 30     | 25            |      | mg/Kg | 1  | Analyst: HR<br>8/20/98 |

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