

RISK  
BTEX

*Denny S. Foust*  
DEPUTY OIL & GAS INSPECTOR

JICARILLA APACHE TRIBE

SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL GAS  
ADMINISTRATION

FEB 08 1999

ENVIRONMENTAL PROTECTION OFFICE

P.O. BOX 507  
DULCE, NEW MEXICO 87528

*Approved*

**PIT REMEDIATION AND CLOSURE REPORT**

Operator: PNM Gas Services ( *CONCO* ) Telephone: 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Jicarilla KID K-10

Location: Unit: *X* R Sec. 1 T. 25N R. 5W County Rio Arriba

Pit Type: Separator      Dehydrator *X* Other     

Land Type: Jicarilla Apache

Pit Location: Pit dimensions: length 20' width 20' depth 2'

(Attach diagram) Reference: wellhead *X* other     

Footage from reference: 102

Direction from reference: 57 Degrees      East      North     

*X* West      of      South *X*

<b>Depth to Ground Water:</b> <small>(Vertical distance from contaminants to seasonal high water elevation of ground water)</small>	Less than 50 feet (20 points)	
	50 feet to 99 feet (10 points)	<u>0</u>
	Greater than 100 feet (0 points)	
<b>Wellhead Protection Area:</b> <small>(Less than 200 feet from a private domestic water source, or, less than 1,000 feet from all other water sources)</small>	Yes (20 points)	<u>0</u>
	No (0 points)	
<b>Distance to Surface Water:</b> <small>(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)</small>	Less than 200 feet (20 points)	
	200 feet to 1,000 feet (10 points)	<u>0</u>
	Greater than 1,000 feet (0 points)	
<b>Distance to Ephemeral Stream (dry wash):</b> <small>(Horizontal distance to all downgradient streams having a width of at least 10 feet)</small>	Less than or equal to 100 feet (10 points)	
	Greater than 100 feet (0 points)	<u>0</u>
<b>Distance to Nearest Lake, Playa, or Watering Pond:</b> <small>(Horizontal distance to all downgradient lakes, playas, and livestock or wildlife water ponds)</small>	Less than or equal to 100 feet (10 points)	
	Greater than 100 feet (0 points)	<u>0</u>
<b>RANKING SCORE (TOTAL POINTS):</b>		<u>0</u>

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OIL CON. DIV.  
DIST. 3

Date Remediation Started: 10-7-98 Date Completed: 12/15/98

Remediation Method: Excavation  Approx. Cubic Yards 713

(Check all appropriate sections) Landfarmed  Amount Landfarmed (cubic yds): 713

Other \_\_\_\_\_

Remediation Location: Onsite  Offsite \_\_\_\_\_

(i.e., landfarmed onsite, name and location of offsite facility) \_\_\_\_\_

General Description of Remedial Action:  
Removal of contaminated soil from all four sidewalls as to get a below 100 ppm headspace reading. Bottom to rock.  
Final excavation dimensions: 43'(N+S) x 28'(E+W) x 16' (D)

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

Final Pit Closure Sampling: Sample Location North, South, East, and West sidewalls and a thru point composite sample of the rock bottom

(if multiple samples, attach sample result and diagram of sample locations and depths.) Sample depth 75' 110'

Sample date 10-8-98 Sample time 1355 1345

Sample Results

Soil: Benzene (ppm) 3.3 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 246.3 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 1167.5 Ethylbenzene (ppb) \_\_\_\_\_

TPH 380 ppm Method 8015 Total Xylenes (ppb) \_\_\_\_\_

Ground Water Sample: Yes \_\_\_\_\_ No  (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 10-20-98 PRINTED NAME Ray Haston

SIGNATURE Ray Haston AND TITLE Environmental Technician

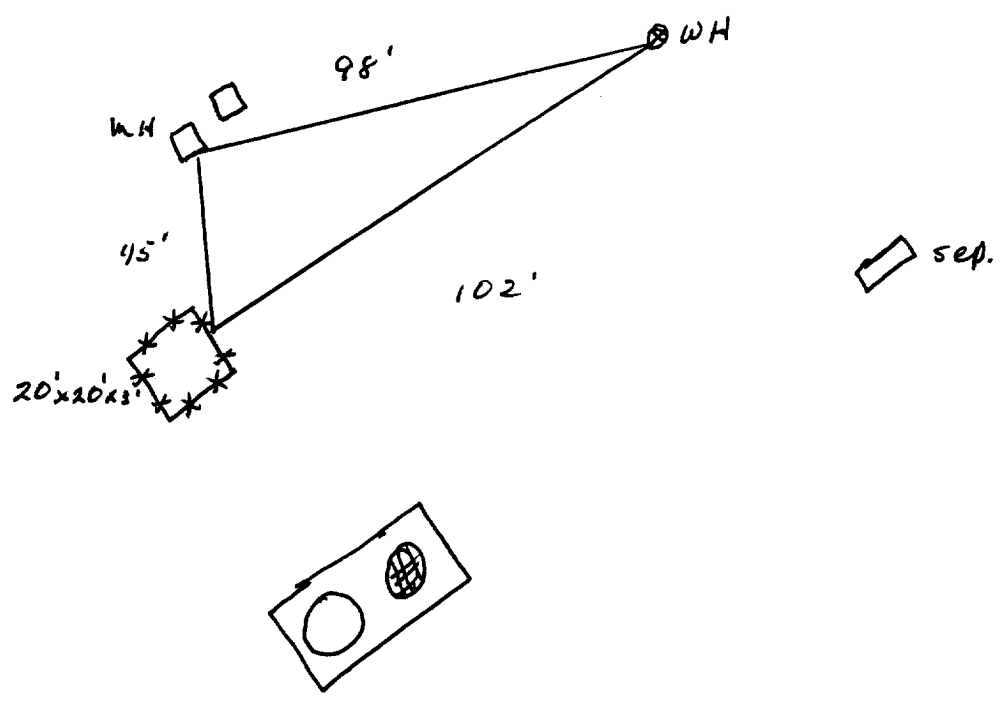
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

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

SIGNED: Ken Cymand DATE: 12-15-98



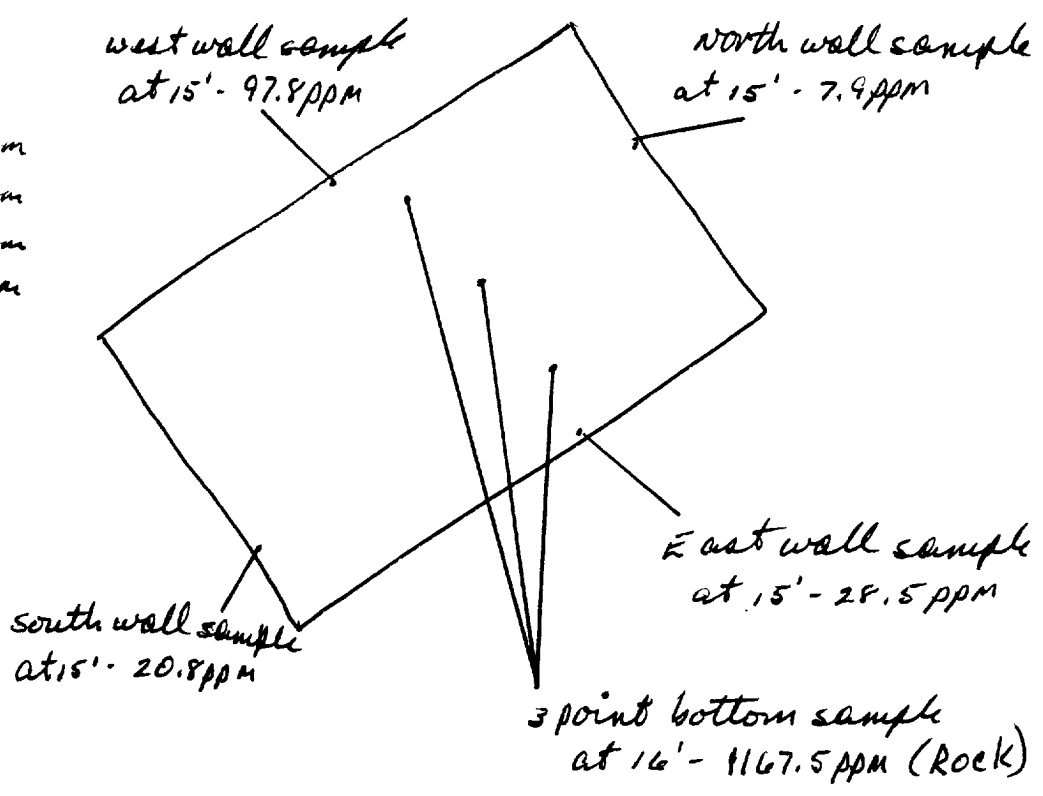
Jicarilla K10  
 (F) 1-25N-5W  
 CONOCO  
 10-6-98



Excavation Sampling

43'(N+S) x 28'(E+W) x 16'(D)

- 5' sample - 1083 ppm
- 10' sample - 1074 ppm
- 15' sample - 792 ppm
- 16' sample - 1220 ppm



not to scale

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

Date: 19-Oct-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** Jicarilla K20  
**Lab Order:** 9810027

**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.



**ANALYTICAL REPORT**

Date: 19-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K10 (As)
<b>Work Order:</b>	9810027	<b>Client Sample ID:</b>	9810081345; 3pt. Comp Bottom
<b>Lab ID:</b>	9810027-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla K20	<b>Collection Date:</b>	10/8/98 1:45:00 PM
		<b>COC Record:</b>	5762

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	380	25		mg/Kg	1	10/16/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: DC
Benzene	3300	1000		µg/Kg	1000	10/14/98
Toluene	64000	2000		µg/Kg	1000	10/14/98
Ethylbenzene	22000	1000		µg/Kg	1000	10/14/98
m,p-Xylene	120000	2000		µg/Kg	1000	10/14/98
o-Xylene	37000	1000		µg/Kg	1000	10/14/98

246,300  
 246.3 ppm OK

<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

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 19-Oct-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K20 (K20)
<b>Work Order:</b>	9810027	<b>Client Sample ID:</b>	9810081355; 4pt. Comp Walls
<b>Lab ID:</b>	9810027-02A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla K20	<b>Collection Date:</b>	10/8/98 1:55:00 PM
		<b>COC Record:</b>	5762

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	10/14/98

**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



**Environmental Services**

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Well Name:	Jicarilla K #10
Well Legals:	Unit F, Sec 1, T25N, R5W
Pit Type:	Dehydrator
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 #10 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 310 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 713 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 16 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 #10 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

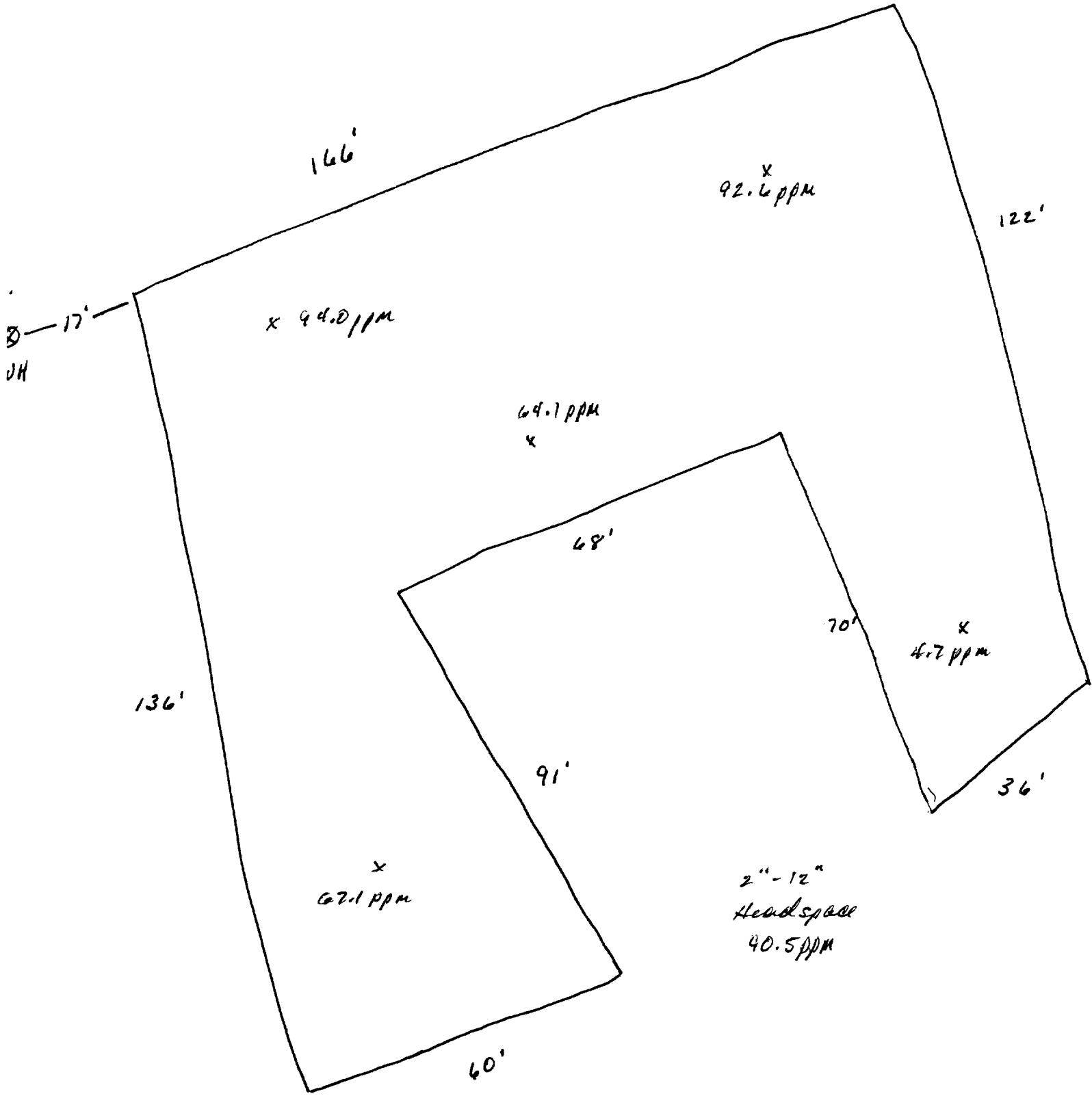
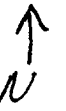
SUBMIT ONE COPY  
TO NATURAL  
RESOURCE DEPT  
AND OIL- GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: <u>PNM Gas Services</u> ( <u>CONOCO</u> ) Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street</u> <u>Farmington, NM 87401</u>	
Facility or Well Name: <u>Jicarilla K10 Land Farm</u>	
Location: Unit <u>F</u> Sec <u>1</u> T <u>25 N</u> R <u>5 W</u> County <u>Rio Arriba</u>	
Land Type: <u>Jicarilla Apache</u>	
Date Remediation Started: <u>10/7/98</u> Date Completed: <u>12/3/98</u>	
Remediation Method: Landfarmed <input checked="" type="checkbox"/> Approx. cubic yards <u>713</u> Composted <input type="checkbox"/> Other _____	
Depth to Ground Water: (pts.) <u>0</u>	<b>Final Closure Sampling:</b> Sampling Date: <del>10/7/98</del> <u>11-30-98</u> Time <u>1201</u> <b>Sampling Results:</b> Field Headspace (ppm) <u>905</u> TPH (ppm) <u>73</u> Method <u>8015</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>	
<b>Ranking Score (Total Points):</b> <u>0</u>	
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF.	
DATE: <u>12-4-98</u>	PRINTED NAME <u>Ray Haston</u>
SIGNATURE: <u>Ray Haston</u>	TITLE <u>Environmental Tech. III</u>
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE:	
APPROVED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (REASON): <u>use as Backfill</u>	
SIGNATURE: <u>[Signature]</u>	DATE: <u>12-15-98</u>



Jicarilla K10  
(F) 1-25N-5W  
CONOCO  
713 yds



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:** 9812001

**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:** 04-Dec-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-10 LF
<b>Work Order:</b>	9812001	<b>Client Sample ID:</b>	9811301201; 6pt. Composite
<b>Lab ID:</b>	9812001-04A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation Landfarms	<b>Collection Date:</b>	11/30/98 12:01:00 PM
		<b>COC Record:</b>	7444

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	73	25		mg/Kg	1	12/3/98

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
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