

DEPUTY OIL & GAS INSPECTOR

FEB 08 1999

## 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**

Risk  
BTEX

no  
Bedrak

## 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 151-4

**Location:** Unit: C Sec. 3 T. 26 N R. 5 W County Rio Arriba

**Pit Type:**      Separator      Dehydrator      ☒      Other

**Land Type:** Jicarilla Apache

**Pit Location:** Pit dimensions: length 21 width 21 depth 3

(Attach diagram)      Reference:      wellhead    ☒      other

Footage from reference: 180'

Direction from reference: 15° Degrees      East      North       
 West ← of → 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: 5/21/98 Date Completed: 9/23/98

Remediation Method: Excavation X Approx. Cubic Yards 2661

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds): 2,661 <sup>(28)</sup>

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 100ppm head space reading. Dug down 31' and grabbed a 3 Point Composite of PIT Bottom. EXCAVATION SIZE 61'X38'X31'

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

Final Pit Closure Sampling:

Sample Location North, East, South, West side walls and PIT Bottom.

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

Sample depth 31'

Sample date 5/28/98 Sample time 1427

Sample Results

Soil: Benzene (ppm) 4.20 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 302.20 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 2004 Ethylbenzene (ppb) \_\_\_\_\_

TPH <sup>930</sup> AD55 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 6/6/98

PRINTED NAME Roy Burnham

SIGNATURE Roy Burnham

AND TITLE Environmental Technician II

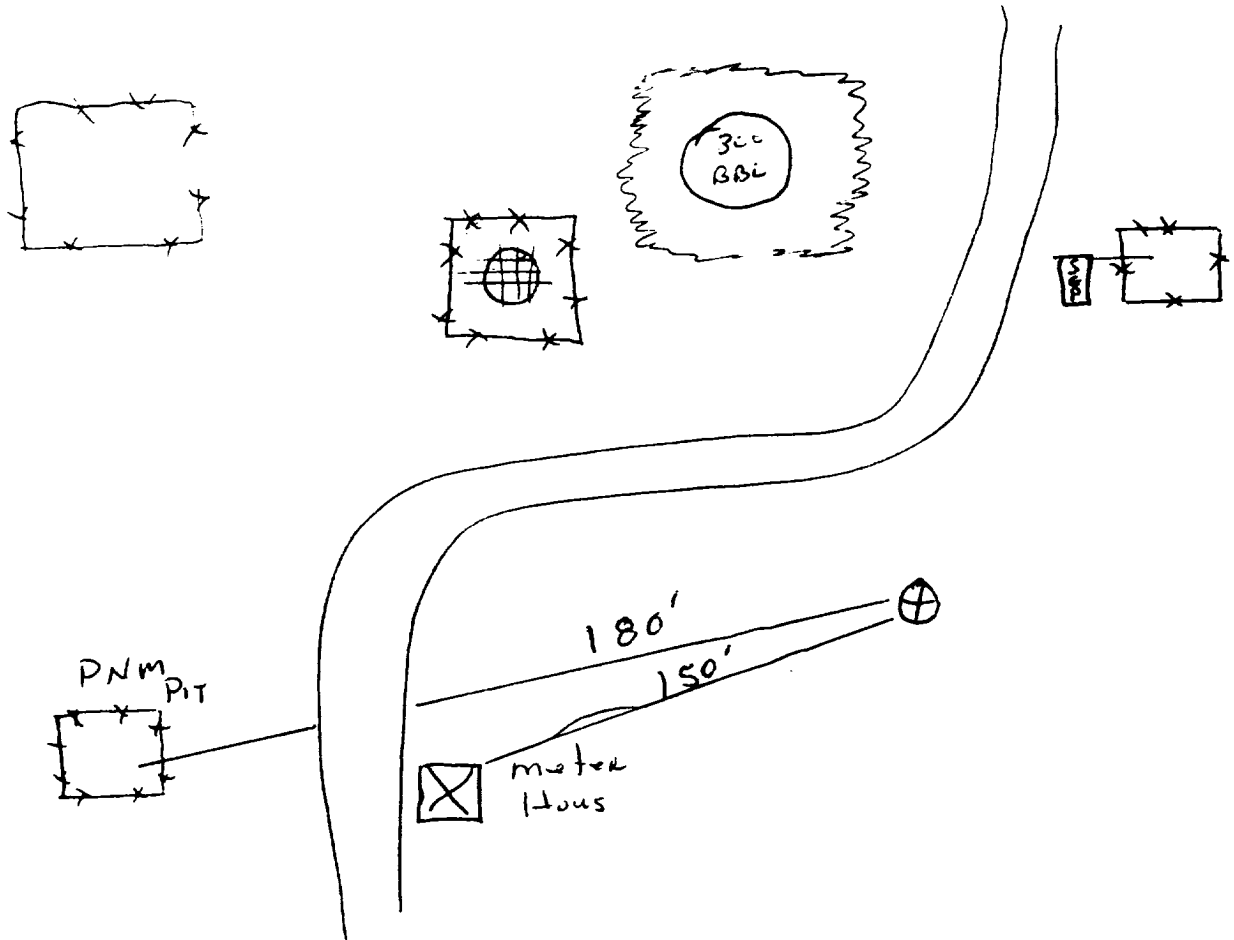
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

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

SIGNED: Kenneth M. M...ll DATE: 5-28-98

Jicarilla Apache Tribal 151-4  
Sec 3 T-26N R 5W unit C

# SITE DRAWING



SICARINA TYPHOON DIVISION  
Sec-3 T26N R5W Unit C  
Amcco

38'x61'x31'

North wall  
Sample 27  
10.6 ppm

West wall  
Sample 29  
87.5 ppm

EAST WALL  
Sample 28  
33.8 ppm

South wall  
Sample 28  
6.7 ppm

Bottom Sample  
3 point composite  
AT 31' 2004 ppm

5' Sample - 1563 ppm  
10' Sample - 1361 ppm  
15' Sample - 1336 ppm  
20' Sample - 1287 ppm  
25' Sample - 1236 ppm  
30' Sample - 1190 ppm  
31' Sample - 144/1008/986 ppm

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 04-Jun-98

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

**Project:** PNM Pit Remediation

**Lab Order:** 9805085

## **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-Jun-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla Apache Tribal 151-4
<b>Work Order:</b>	9805085	<b>Client Sample ID:</b>	9805281427; 3pt. Comp. Bottom
<b>Lab ID:</b>	9805085-02A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	5/28/98 2:27:00 PM
		<b>COC Record:</b>	7155

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				<b>Analyst: HR</b>
T/R Hydrocarbons: C10-C28	930	25		mg/Kg	1	6/3/98
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	4200	1000		µg/Kg	1000	6/3/98
Toluene	89000	2000		µg/Kg	1000	6/3/98
Ethylbenzene	14000	1000		µg/Kg	1000	6/3/98
m,p-Xylene	160000	2000		µg/Kg	1000	6/3/98
o-Xylene	35000	1000		µg/Kg	1000	6/3/98

302,200  
302.2 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	Sur: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 04-Jun-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla Apache Tribal 151-4
<b>Work Order:</b>	9805085	<b>Client Sample ID:</b>	9805281426; 4pt. Comp. Walls
<b>Lab ID:</b>	9805085-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	5/28/98 2:26:00 PM
		<b>COC Record:</b>	7155

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	6/1/98

**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

1 of 1

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Well Name:	Jicarilla Apache Tribal 151-4
Well Legals:	Unit C, Sec 3, 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 151-4 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 135 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 2661 cubic yards of soil from the former pit. Subsurface lateral contamination has been remediated (see attached map and analytical results for the side walls profile). Source removal minimizes the possibility of surface water contamination.
5. The excavation was terminated at a depth of 31 feet. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Jicarilla Apache Tribal 151-4 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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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 1514  
Location: Unit: C Sec. 3 T. 26 N R. 5 W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 5/21/98 Date Completed: 7/29/98  
Remediation Method: Landfarmed X Approx. cubic yards 1774  
Composted       
Other     

Depth to Ground Water: (pts.) 0  
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

Final Closure Sampling:  
Sampling Date: 7/28/98 Time 1100  
Sampling Results:  
Field Headspace (ppm) 42.6  
TPH (ppm) ND Method 8015  
Other     

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

DATE 8/16/98 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 X NO      (REASON) was as Backfill  
SIGNED: Ken C. M... DATE: 8-18-98

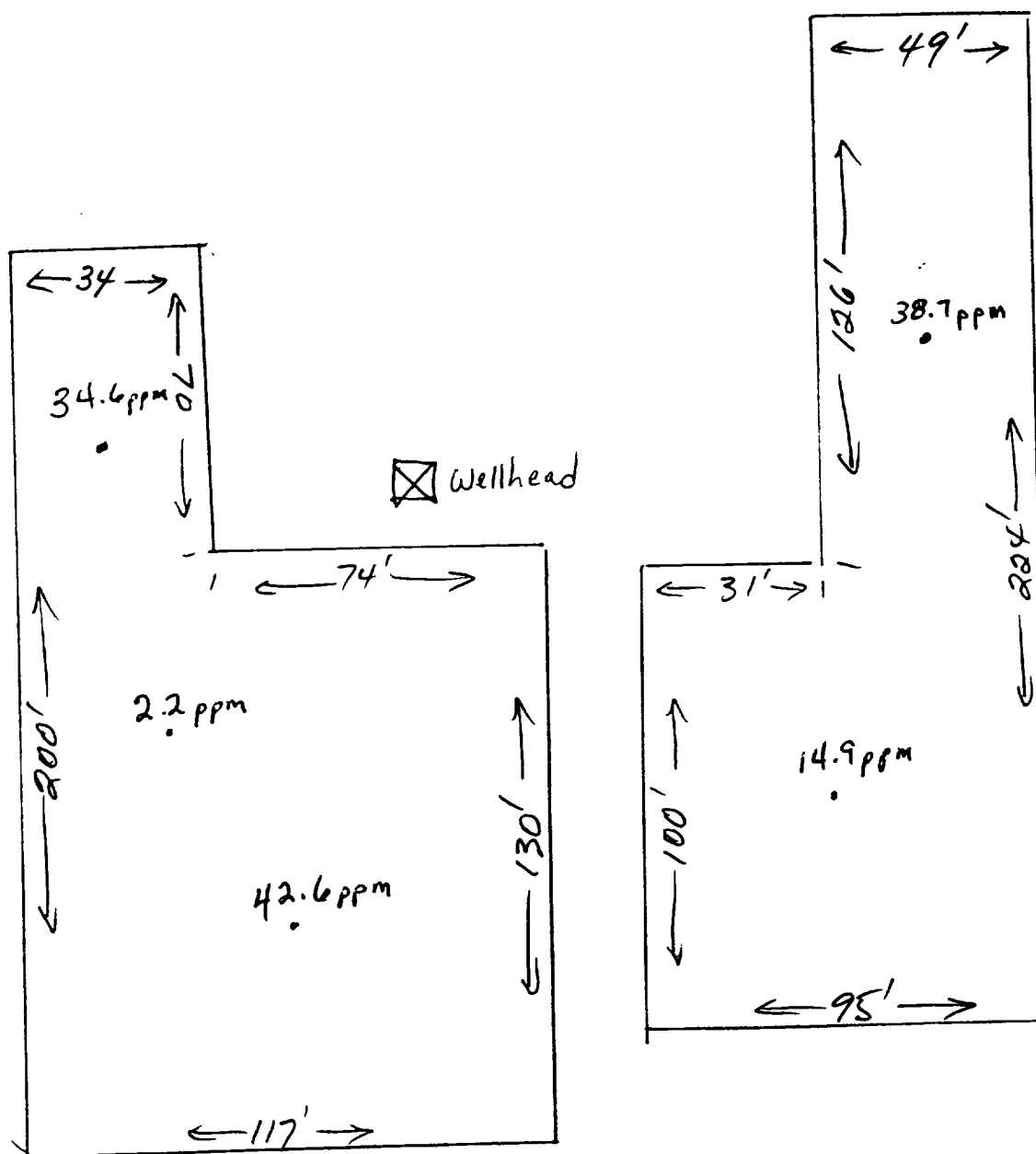
11

JICARILLA APACHE TRIBAL 151-4

AMOCO

UNIT C SEC 3 T26N R5W

LAND FARM #1

↑  
N

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 30-Jul-98

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

**Project:** PNM Pit Remediation

**Lab Order:** 9807081

## **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: 30-Jul-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b> Jic. Apache Tribal 151-4 LF
<b>Work Order:</b>	9807081	<b>Client Sample ID:</b> 9807280911; 5pt. Comp.
<b>Lab ID:</b>	9807081-01A	<b>Matrix:</b> SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b> 7/28/98 9:11:00 AM
		<b>COC Record:</b> 7319

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	7/29/98

**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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AND OIL GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT # 2

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Jicarilla Apache Tribal 151-4

Location: Unit: C Sec. 3 T. 26 N R. 5 W County Rio Arriba

Land Type: Jicarilla Apache

Date Remediation Started: 5/21/98

Date Completed: 9/17/98

Remediation Method: Landfirmed X

Approx. cubic yards 887

Composted

Other

Depth to Ground Water: (pts.) 0

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

Final Closure Sampling:

Sampling Date: 9/16/98 Time 1305

Sampling Results:

Field Headspace (ppm) 52.9

TPH (ppm) 29 Method 8015

Other

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

DATE 9/22/98 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 X NO (REASON) use as Backfill

SIGNED: Ken C. M... DATE: 9-23-98

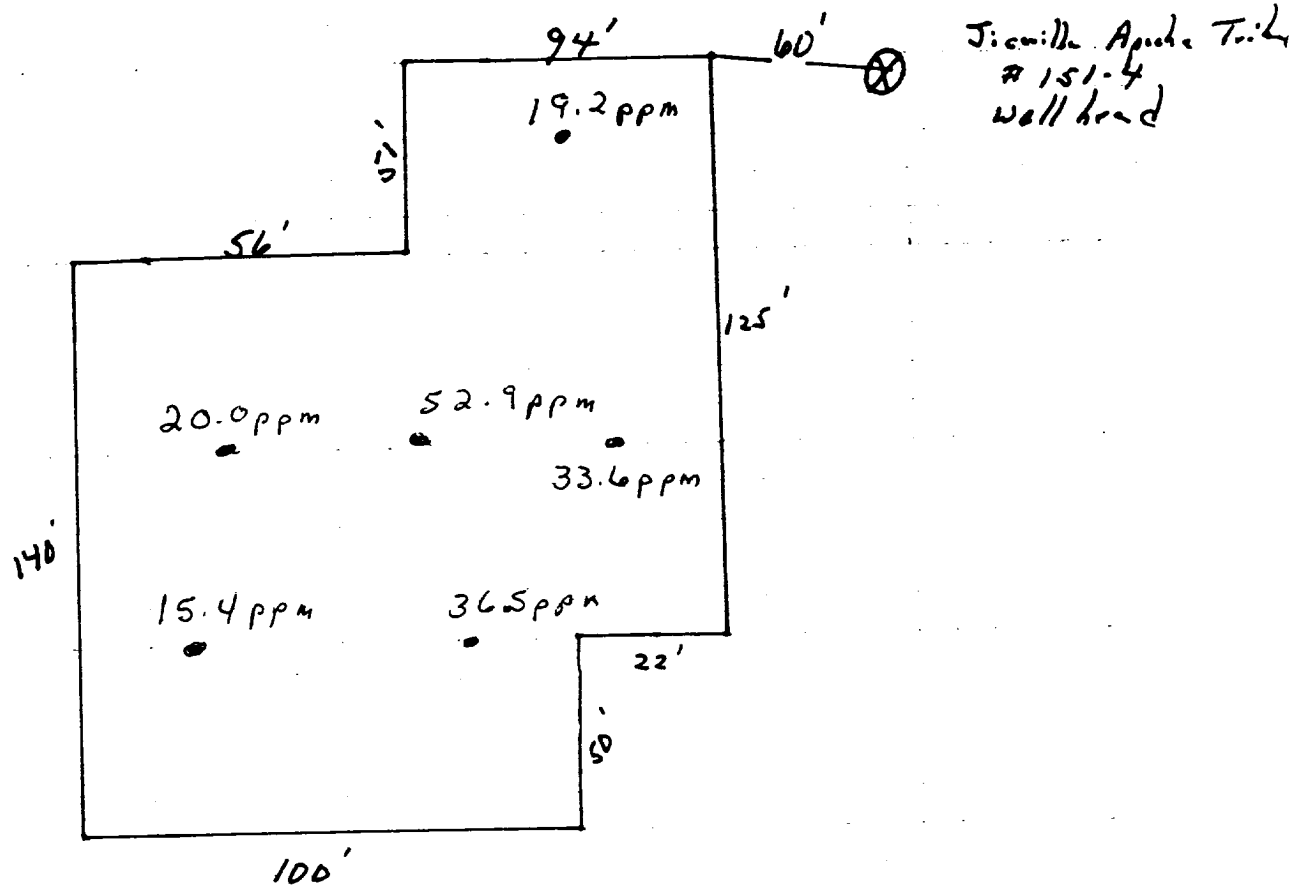
Jicarilla Apache Tribal 151-4 #2

8/13/98

Amoco

Sec. 3, 26N, 5W, C

Landfarmed: On location



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 21-Sep-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** PNM Pit Remediation  
**Lab Order:** 9809038

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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: 21-Sep-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jic. Apache Tribal 151-4 #2 LF
<b>Work Order:</b>	9809038	<b>Client Sample ID:</b>	9809161305; 6pt. Comp.
<b>Lab ID:</b>	9809038-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	PNM Pit Remediation	<b>Collection Date:</b>	9/16/98 1:05:00 PM
		<b>COC Record:</b>	7504

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				<b>Analyst: HR</b>
T/R Hydrocarbons: C10-C28	29	25		mg/Kg	1	9/17/98

**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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