

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

Risk Depth  
31' BTEX  
SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL CON  
ADMINISTRATION  
**RECEIVED**  
APR 29 1999  
OIL CON. DIV.  
DIST. 3

PIT REMEDIATION AND CLOSURE REPORT

Operator: PNM Gas Services (BROG) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: JICARILLA G-6M  
Location: Unit: D Sec. 2 T. 26 N R. 5 W County Rio Arriba  
Pit Type: Separator      Dehydrator XX Other       
Land Type: Jicarilla Apache

Pit Location: Pit dimensions: length 20' width 20' depth 4'  
(Attach diagram) Reference: wellhead X other       
Footage from reference: 93'  
Direction from reference: 45 (K5) 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)	<u>Ø</u>
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)	<u>Ø</u>

**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)	<u>Ø</u>

**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)	<u>Ø</u>

**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)	<u>Ø</u>

RANKING SCORE (TOTAL POINTS): Ø

Date Remediation Started: 5/12/98 Date Completed: 9/23/98

Remediation Method: Excavation X Approx. Cubic Yards 1,722

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds): 1,722

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 readings.  
Dug down 31' and grabbed a 3 point Composite of  
P.Y bottom. EXCAVATION SIZE 50'X30'X31'

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 bottom of Pit

Sample depth 31'

Sample date 5/14/98 Sample time 1142

Sample Results

Soil: Benzene (ppm) 1.0 Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 184.0 Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 2208 Ethylbenzene (ppb) \_\_\_\_\_

TPH 430 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 5/27/98

PRINTED NAME Roy Burnham

SIGNATURE Roy Burnham

AND TITLE Environmental Technician II

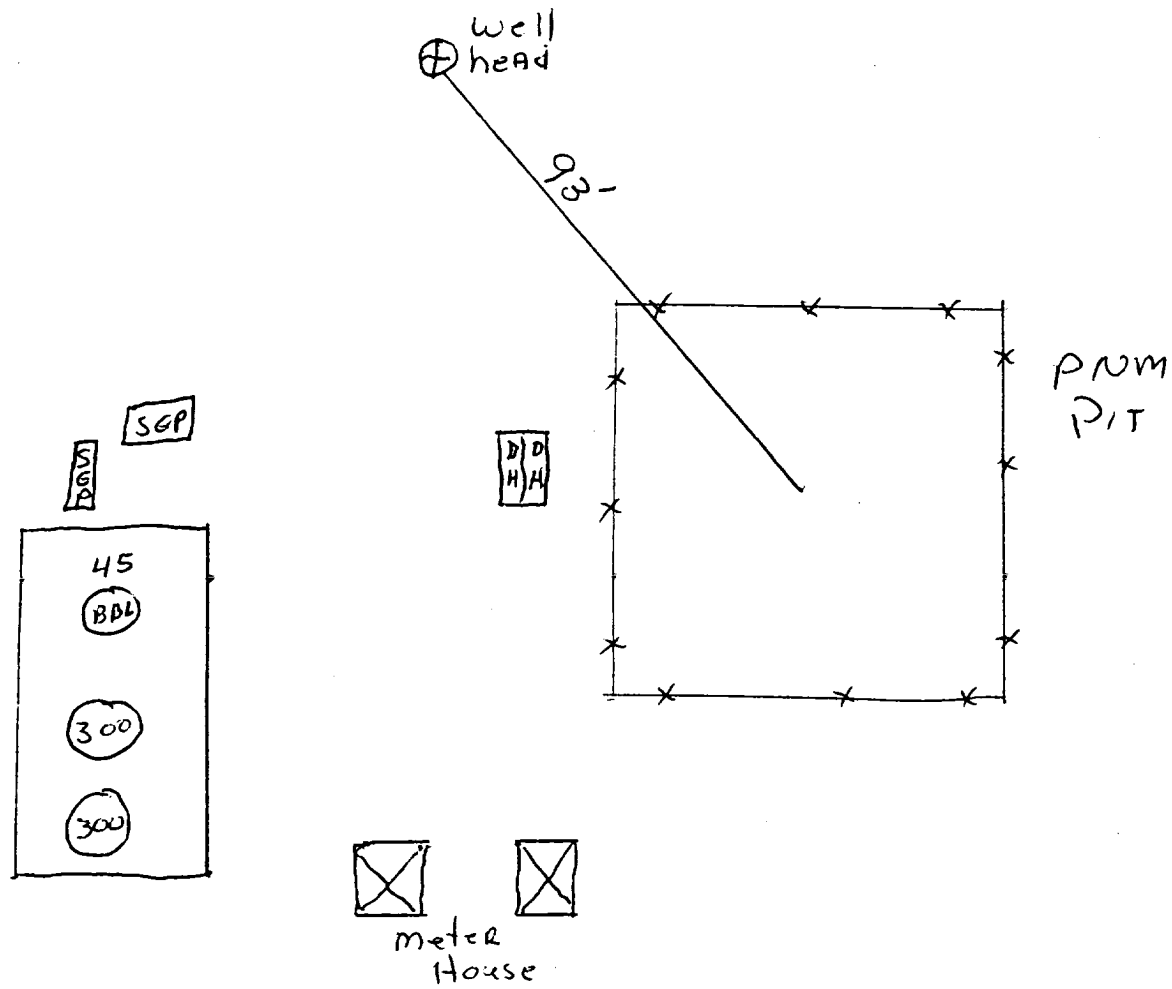
AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO \_\_\_\_\_ (REASON): 30' + Depth

SIGNED: Lee C Mammill DATE: 5-27-98

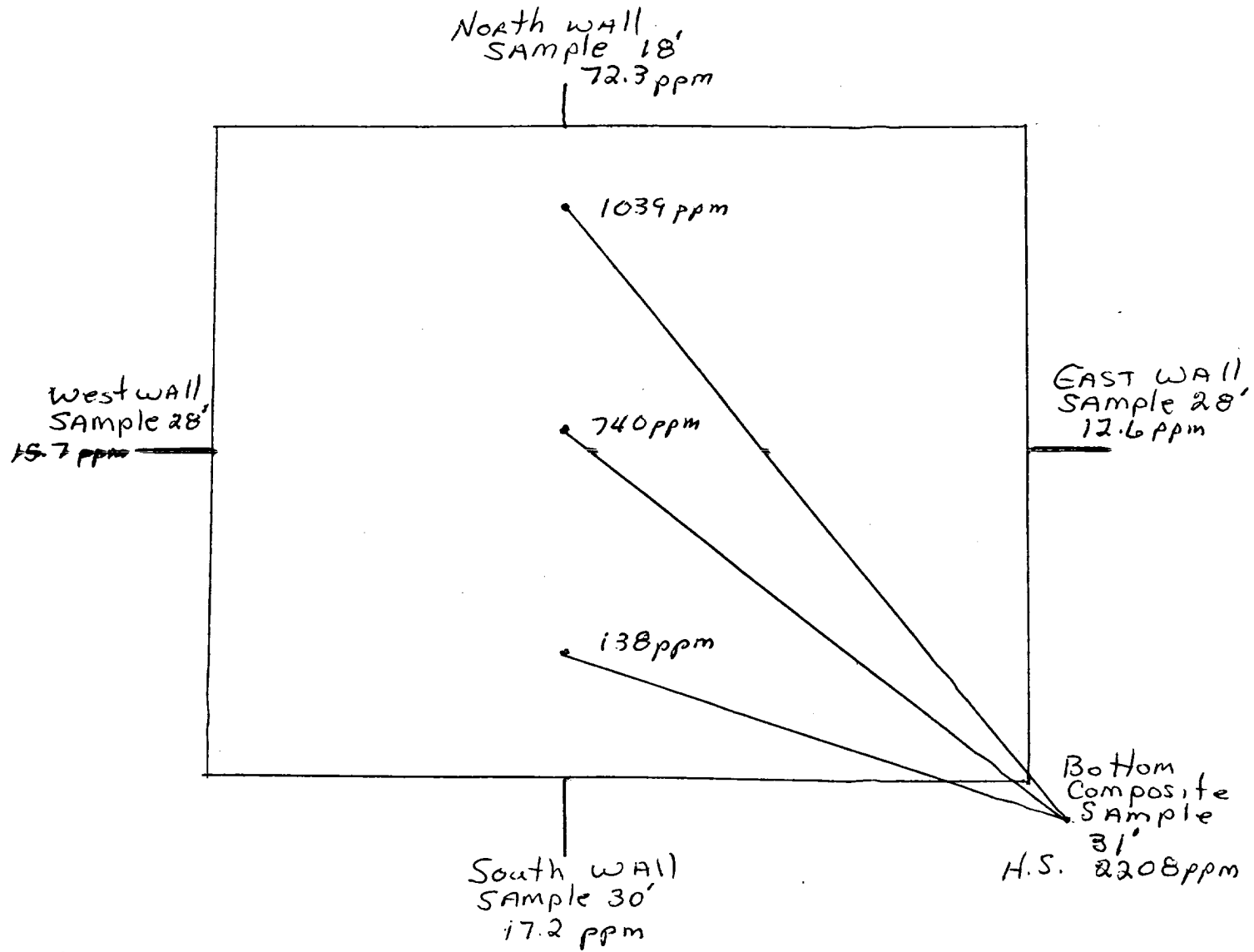
JICARILLA G-6/M  
SEC-2 T-26N R-5W UNIT 0

# SITE DRAWING



JICARILLA G-6/M  
SEC-2 T-26N R-5W UNIT 0

# Excavation Drawing



5' 1142 ppm  
10' 1104 ppm  
15' 1004 ppm  
20' 1084 ppm  
25' 1100 ppm  
30' 980 ppm  
31' 1039/740/138 ppm

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 26-May-98

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

**Project:** Jicarilla G-6M

**Lab Order:** 9805049

## **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: 26-May-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla G-6M
<b>Work Order:</b>	9805049	<b>Client Sample ID:</b>	9805141142; Bottom, 3pt. Comp.
<b>Lab ID:</b>	9805049-02A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla G-6M	<b>Collection Date:</b>	5/14/98 11:42:00 AM
		<b>COC Record:</b>	7152

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	430	25		mg/Kg	1	5/21/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: HR
Benzene	1000	1000		µg/Kg	1000	5/18/98
Toluene	57000	2000		µg/Kg	1000	5/18/98
Ethylbenzene	10000	1000		µg/Kg	1000	5/18/98
m,p-Xylene	98000	2000		µg/Kg	1000	5/18/98
o-Xylene	18000	1000		µg/Kg	1000	5/18/98

184,000 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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 26-May-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla G-6M
<b>Work Order:</b>	9805049	<b>Client Sample ID:</b>	9805141141; Walls, 4pt. Comp.
<b>Lab ID:</b>	9805049-01A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla G-6M	<b>Collection Date:</b>	5/14/98 11:41:00 AM
		<b>COC Record:</b>	7152

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	5/18/98

**Qualifiers:**

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J - Analyte detected below Practical Quantitation Limit  
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1 of 1

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SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL-GAS  
ADMINISTRATION

#1  
ON-SITE SOIL REMEDIATION REPORT

Operator: PNM Gas Services ( <u>BROG</u> ) Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>	
Facility or Well Name: <u>JICARILLA G-6M</u>	
Location: Unit: <u>D</u> Sec. <u>2</u> T. <u>26</u> N R. <u>5</u> W County <u>Rio Arriba</u>	
Land Type: <u>Jicarilla Apache</u>	
Date Remediation Started: <u>5/12/98</u> Date Completed: <u>7/14/98</u>	
Remediation Method: Landfarmed <u>X</u> Approx. cubic yards <u>861</u>	
Composted <u>    </u>	
Other <u>    </u>	
Depth to Ground Water: (pts.) <u>Ø</u>	Final Closure Sampling: Sampling Date: <u>7/7/98</u> Time <u>0742</u> Sampling Results: Field Headspace (ppm) <u>39.0</u> TPH (ppm) <u>ND</u> Method <u>8015</u> Other <u>    </u>
Distance to an Ephemeral Stream: (pts.) <u>Ø</u>	
Distance to Nearest Lake, Playa, or Watering Pond: (pts.) <u>Ø</u>	
Wellhead Protection Area: (pts.) <u>Ø</u>	
Distance to Surface Water: (pts.) <u>Ø</u>	
Ranking Score (Total Points): <u>Ø</u>	
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF	
DATE <u>7/14/98</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 <u>X</u> NO <u>    </u> (REASON) <u>was on Backfill</u>	
SIGNED: <u>Kew C Mammill</u> DATE: <u>7-28-98</u>	



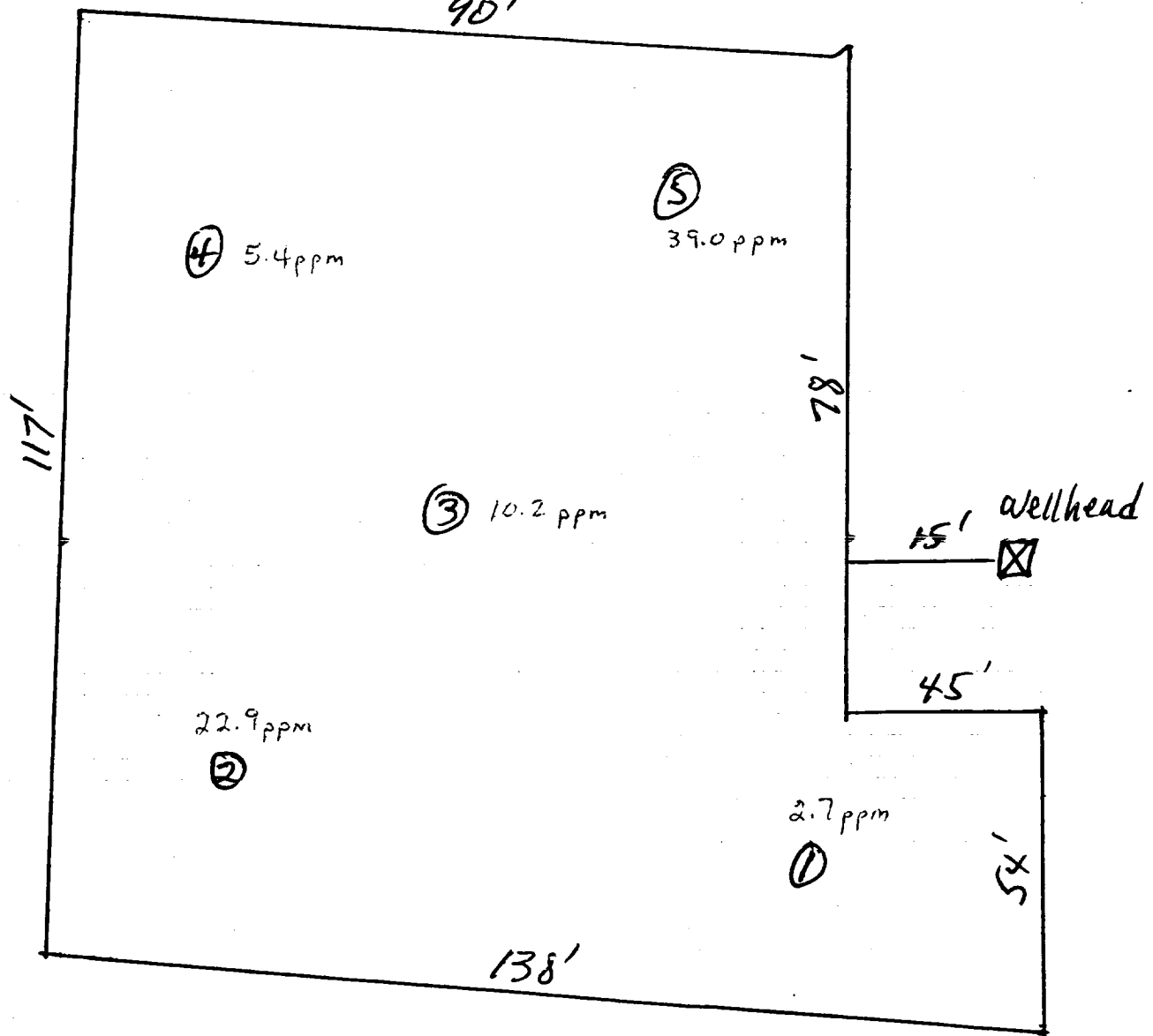
9  
JILARILLA G-6M

BURLINGTON

UNIT D SEC 2 T26N R5W

LAND FARM #1

90'



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 14-Jul-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** Landfarms  
**Lab Order:** 9807018

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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: 14-Jul-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla G-6M #1 LF
<b>Work Order:</b>	9807018	<b>Client Sample ID:</b>	9807070742; 5pt. Comp
<b>Lab ID:</b>	9807018-02A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Landfarms	<b>Collection Date:</b>	7/7/98 7:42:00 AM
		<b>COC Record:</b>	7261

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/14/98

**Qualifiers:**

PQL - Practical Quantitation Limit

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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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AND OIL GAS  
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT #2

Operator: PNM Gas Services (BROG) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Jicarilla G-6M  
Location: Unit: D Sec. 2 T. 26 N R. 5 W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 5/12/98 Date Completed: 9/3/98  
Remediation Method: Landfarmed X Approx. cubic yards 861  
Composted  
Other

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

Final Closure Sampling:

Sampling Date: 8/31/98 Time 0847  
Sampling Results:  
Field Headspace (ppm) 68.8  
TPH (ppm) 50 Method 8015  
Other

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

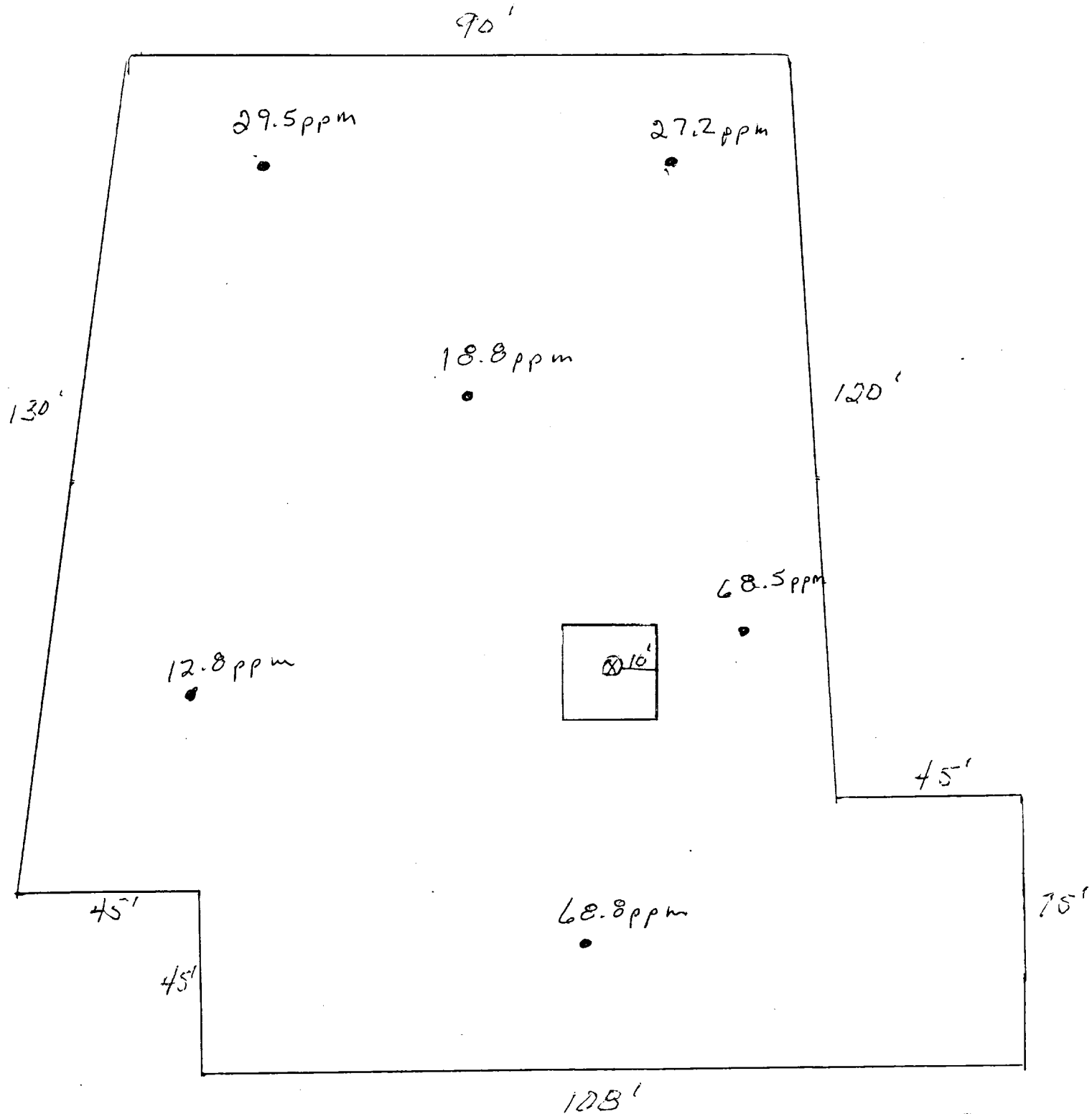
DATE 9/14/98 PRINTED NAME Roy Burnham  
SIGNATURE Roy Burnham AND TITLE Environmental Technician II

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: [Signature] DATE: 9-23-98

Jicarilla G-6M  
Sec. 2 T23N R5W Unit D  
BROG

Land farm #2 Final



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 10-Sep-98

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

**Project:** Jicarilla Landfarms

**Lab Order:** 9808064

## **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: 10-Sep-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla G-6M #2 LF
<b>Work Order:</b>	9808064	<b>Client Sample ID:</b>	9808310847; 6pt. Comp
<b>Lab ID:</b>	9808064-06A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Landfarms	<b>Collection Date:</b>	8/31/98 8:47:00 AM
		<b>COC Record:</b>	7435

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	50	25		mg/Kg	1	9/3/98

**Qualifiers:**

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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

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- TECHNOLOGY BLENDING INDUSTRIAL WITH THE ENVIRONMENT -



## Environmental Services

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Well Name:	Jicarilla G #6M
Well Legals:	Unit D, Sec 2, T26N, 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 G #6M well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 181 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Vigas Canyon, 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 1,722 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. 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 G #6M well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.