

OK
RISK
BTEX

Dennis E. Frost
DEPUTY OIL & GAS INSPECTOR

JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE

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

FEB 28 1999

P.O. BOX 507
DULCE, NEW MEXICO 87528

Approved

PIT REMEDIATION AND CLOSURE REPORT

Operator: PNM Gas Services (WFS) Telephone: 324-3764
Address: 603 W. Elm Street Farmington, NM 87401
Facility or Well Name: Jicarilla 107-9 Drip
Location: Unit: P Sec. 28 T. 26 N R. 4 W County Rio Arriba
Pit Type: Separator Dehydrator Other Drip
Land Type: Jicarilla Apache

Pit Location: Pit dimensions: length 20' width 20' depth 3'
(Attach diagram) Reference: wellhead X other
Footage from reference: 168'
Direction from reference: 30° Degrees East North
X West of South X

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>0</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)	<u>0</u>
	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)	<u>0</u>
	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)	<u>0</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>0</u>

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OIL CON. DIV
DIST. 3

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 10/30/98 Date Completed: 12/15/98 ^{RAD}
10/30/98

Remediation Method: Excavation ✓ Approx. Cubic Yards 132

(Check all appropriate sections)

Landfarmed ✓ Amount Landfarmed (cubic yds): 132

Other _____

Remediation Location: Onsite _____ Offsite Jicarilla 107-9
(i.e., landfarmed onsite, name and location of offsite facility) Sec. 28, 26N, 4W, P

General Description of Remedial Action:

Removed contamination from all 4 side walls to below
100 ppm head space reading
Bottom was Rock at 10' depth
Excavated pit 17' X 21' X 10'

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 wall, East wall, South wall, West wall

Sample depth Bottom 3 point composite

Sample date 10/30/98 Sample time 1415

Sample Results

Soil: Benzene (ppm) 10.0 ppm Water: Benzene (ppb) _____

Total BTEX (ppm) 144.9 ppm Toluene (ppb) _____

Field headspace (ppm) 1266 Ethylbenzene (ppb) _____

TPH 240 ppm Method TPH-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 10/30/98 PRINTED NAME Gary Cook

SIGNATURE Mary Cook 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 X NO _____ (REASON): P.A Attached

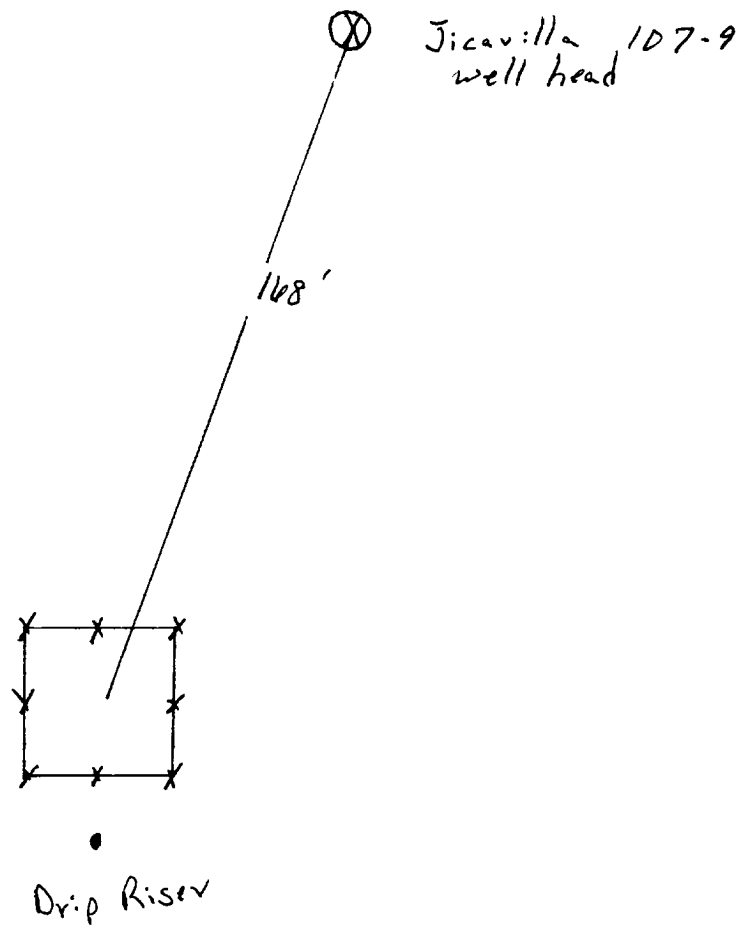
SIGNED: Ken C. Man DATE: 12-15-98

Jicarilla 107-9 Drip
WFS
Sec. 28, 26N, 4W, P

10/30/98

Site drawing:

↑
N

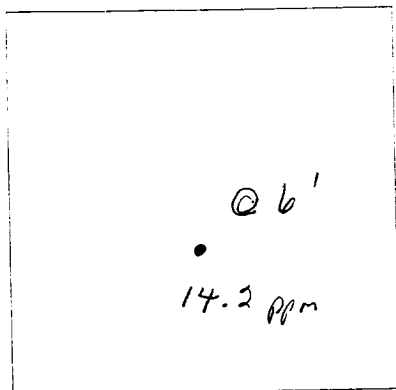


not to scale

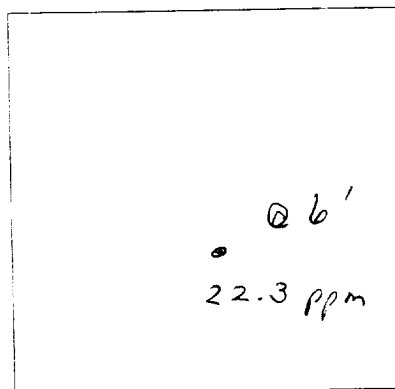
Jicaville 107.9 Drip
WFS
Sec. 28, 26N, 4W, P

10/30/98

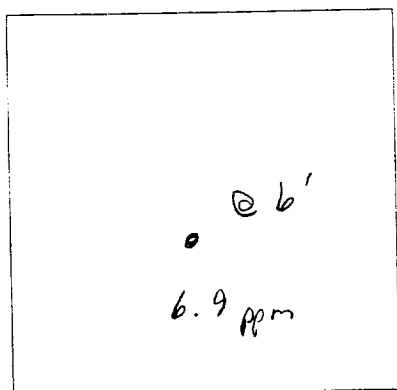
North Wall



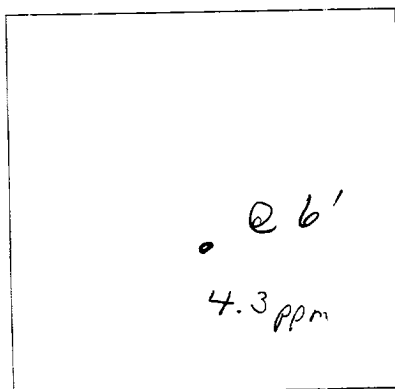
South Wall



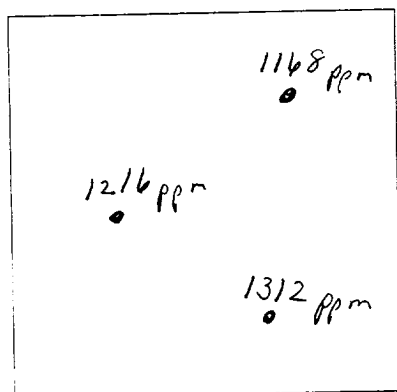
East Wall



West Wall



Bottom



3 pt. Composite - 1266

@ 10' depth

Rock

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 16-Nov-98

CLIENT: PNM - Public Service Company of NM

Project: Jicarilla 107-9 Drip

Lab Order: 9811005

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:** 16-Nov-98

Client: PNM - Public Service Company of NM
Work Order: 9811005
Lab ID: 9811005-01A **Matrix:** SOIL
Project: Jicarilla 107-9 Drip

Client Sample Info: Jicarilla 107-9 Drip
Client Sample ID: 9810301415; Bottom @ 10ft.
Collection Date: 10/30/98 2:15:00 PM
COC Record: 7415

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	240	25		mg/Kg	1	11/11/98
BTEX		SW8020A				Analyst: HR
Benzene	10000	1000		µg/Kg	1000	11/2/98
Toluene	62000	2000		µg/Kg	1000	11/2/98
Ethylbenzene	5900	1000		µg/Kg	1000	11/2/98
m,p-Xylene	55000	2000		µg/Kg	1000	11/2/98
o-Xylene	12000	1000		µg/Kg	1000	11/2/98

144,900
 144.9 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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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 16-Nov-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Jicarilla 107-9 Drip
Work Order:	9811005	Client Sample ID:	9810301420; Walls @ 6ft.
Lab ID:	9811005-02A	Matrix:	SOIL
Project:	Jicarilla 107-9 Drip	Collection Date:	10/30/98 2:20:00 PM
		COC Record:	7415

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	11/11/98

Qualifiers:

PQL - Practical Quantitation Limit
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Environmental Services

Well Name:	Jicarilla 107-9 Drip
Well Legals:	Unit P, Sec 28, T26N, R4W
Pit Type:	Drip
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	Greater than 100 feet

RISK ANALYSIS

PNM requests closure of their former pit on the Jicarilla 107-9 Drip well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 381 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 132 cubic yards of soil from the former pit. Subsurface lateral contamination has been remediated (see attached analytical results). Source removal minimizes the possibility of surface water contamination.
4. Rock was encountered at 10 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 107-9 Drip 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 1 COPY TO
NATURAL
RESOURCE DEPT
AND OIL & GAS
ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: <u>PNM Gas Services (WFS)</u> Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>	
Facility or Well Name: <u>Jicarilla 107-9 Dr: p</u>	
Location: Unit: <u>P</u> Sec. <u>28</u> T. <u>26</u> N R. <u>4</u> W County <u>Rio Arriba</u>	
Land Type: <u>Jicarilla Apache</u>	
Date Remediation Started: <u>10-30-98</u> Date Completed: <u>12-15-98</u>	
Remediation Method: Landfarmed <u>X</u> Approx. cubic yards <u>132 yds</u> Composted <u> </u> Other <u> </u>	
Depth to Ground Water: (pts.) <u>0</u> 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> Ranking Score (Total Points): <u>0</u>	Final Closure Sampling: Sampling Date: <u>12/1/98</u> Time <u>0915</u> Sampling Results: Field Headspace (ppm) <u>15.6</u> ppm TPH (ppm) <u>26</u> Method <u>TPH-8015</u> Other <u> </u>
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF	
DATE <u>12/14/98</u> PRINTED NAME <u>Ronald A. Dedrick</u> <u>GARY COLL</u>	
SIGNATURE <u>[Signature]</u> AND TITLE <u>Environmental Technician II1</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>use as Backfill</u>	
SIGNED: <u>[Signature]</u> DATE: <u>12-15-98</u>	

Jicarilla 107-9 Ovip
WFS
Sec. 28, 26U, 4W, P

11/2/98

↑
NI

Landfarmed: Jicarilla 107-9
same legal

⊗ Jic. 107-9
wellhead

8.1 ppm	6.9 ppm	8.7 ppm
3.7 ppm	9.1 ppm	7.2 ppm

2"-12" depth

soil vapor headspace = 15.6 ppm

Not to scale

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 10-Dec-98

CLIENT: PNM - Public Service Company of NM

Project: Jicarilla Pit Remediation

Lab Order: 9812004

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: 10-Dec-98

Client: PNM - Public Service Company of NM
Work Order: 9812004
Lab ID: 9812004-02A **Matrix:** SOIL
Project: Jicarilla Pit Remediation

Client Sample Info: Jicarilla 107-9 Drip LF
Client Sample ID: 9812010915; 6pt Composite
Collection Date: 12/1/98 9:15:00 AM
COC Record: 7446

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	26	25		mg/Kg	1	12/9/98

Pit will be backfilled with land farm

Qualifiers: PQL - Practical Quantitation Limit
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