

**P.O. BOX 507  
DULCE, NEW MEXICO 87528**

SUBMIT 1 COPY TO  
NATURAL  
RESOURCE DEPT  
AND OIL GAS  
ADMINISTRATION

RECEIVED  
APR 29 1999

**OIL CON. DIV.**  
**DIST. 3**

**RANKING SCORE (TOTAL POINTS) :** 4

Date Remediation Started: 9/28/98 Date Completed: 12/15/98 RAD  
10/6/98  
Remediation Method: Excavation ☒ Approx. Cubic Yards 3067 3000 RAD  
Landfarmed ☒ Amount Landfarmed (cubic yds): 2800 11/13/98  
Overburden 200 cu. yd  
(Check all appropriate sections)  
Other \_\_\_\_\_  
Remediation Location: Onsite ☒ Offsite \_\_\_\_\_  
(i.e., landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action:

Removed contaminated soil from all 4 side walls so to  
get a below 100 ppm headspace reading. Pit bottom  
at 25' depth was rock  
Excavated pit 45' x 72' x 25'

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

Final Pit Closure  
Sampling:

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

Sample Location North wall, South wall, East wall, West wall  
Bottom 3 point composite

Sample depth 25'

Sample date 10/6/98

Sample time 1015

Sample Results

Soil: Benzene (ppm) 1.3

Water: Benzene (ppb) \_\_\_\_\_

Total BTEX (ppm) 200.1

Toluene (ppb) \_\_\_\_\_

Field headspace (ppm) 1645 ppm

Ethylbenzene (ppb) \_\_\_\_\_

TPH 1200 ppm Method TPH-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 10/6/98

PRINTED NAME Ray Burnham GARY COOK

SIGNATURE Gary Cook

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.

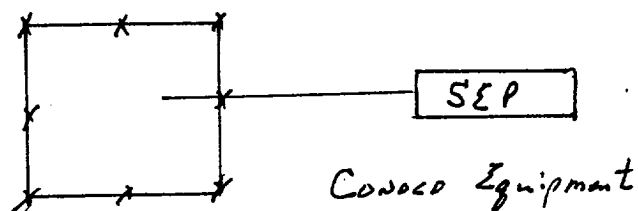
APPROVED: YES ☒ NO \_\_\_\_\_ (REASON): R.A. attached (KTS)

SIGNED: Ken C. Marshall DATE: 11-30-98


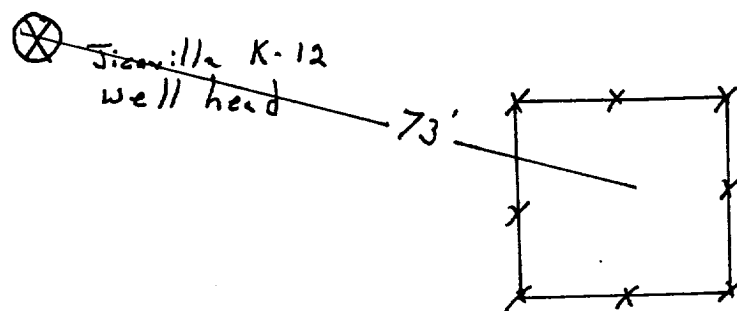
Jicarilla K-12  
Conoco  
Sec. 2, 25N, 5W, 0

9/28/98

site diagram:



Jicarilla K-12  
well head



meter house

PNM equip disconnected & moved  
before start of excavation

not to scale

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 21-Oct-98

---

**CLIENT:** PNM - Public Service Company of NM  
**Project:** Jicarilla K12  
**Lab Order:** 9810029

---

## **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.



## ANALYTICAL REPORT

Date: 21-Oct-98

Client: PNM - Public Service Company of NM  
 Work Order: 9810029  
 Lab ID: 9810029-02A Matrix: SOIL  
 Project: Jicarilla K12

Client Sample Info: Jicarilla K-12  
 Client Sample ID: 9810061015; Bottom @ 25ft.  
 Collection Date: 10/6/98 10:15:00 AM  
 COC Record: 7396

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	1200	25		mg/Kg	1	10/19/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: HR
Benzene	1300	1000		µg/Kg	1000	10/16/98
Toluene	8200	2000		µg/Kg	1000	10/16/98
Ethylbenzene	8600	1000		µg/Kg	1000	10/16/98
m,p-Xylene	170000	2000		µg/Kg	1000	10/16/98
o-Xylene	12000	1000		µg/Kg	1000	10/16/98

~~200,100~~  
 200.1 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

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 21-Oct-98

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9810029  
**Lab ID:** 9810029-01A      **Matrix:** SOIL  
**Project:** Jicarilla K12

**Client Sample Info:** Jicarilla K-12  
**Client Sample ID:** 9810061030; Walls @ 17ft.  
**Collection Date:** 10/6/98 10:30:00 AM  
**COC Record:** 7396

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	10/19/98
<b>BTEX</b>		<b>SW8020A</b>				Analyst: HR
Benzene	ND	1		µg/Kg	1	10/16/98
Toluene	ND	2		µg/Kg	1	10/16/98
Ethylbenzene	ND	1		µg/Kg	1	10/16/98
m,p-Xylene	ND	2		µg/Kg	1	10/16/98
o-Xylene	ND	1		µg/Kg	1	10/16/98

**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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



**Environmental Services**

---

Well Name:	Jicarilla K #12
Well Legals:	Unit O, Sec 2, T25N, R5W
Pit Type:	Separator
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 K #12 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 173 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 3067 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 25 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 #12 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: PNM Gas Services ( Consolid ) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Jicarilla K-12  
Location: Unit: 0 Sec. 2 T. 25 N R. 5 W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 9/28/98 Date Completed: 10/6/98  
Remediation Method: Landfirmed X Approx. cubic yards 1600  
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: 11/23/98 Time 1250  
Sampling Results:  
Field Headspace (ppm) 16.1 ppm  
TPH (ppm) 29 Method TPH-8015  
Other     

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

DATE 11/23/98 PRINTED NAME ~~Roy Burdette~~ Gary Cook  
SIGNATURE Gary Cook 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)     

SIGNED: Kenn C M... DATE: 2-17-99



OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 04-Dec-98

---

**CLIENT:** PNM - Public Service Company of NM  
**Project:** Jicarilla Pit Remediation Landfarms  
**Lab Order:** 9811075

---

## **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: 04-Dec-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Jicarilla K-12 LF
<b>Work Order:</b>	9811075	<b>Client Sample ID:</b>	9811231250; 6pt Composite
<b>Lab ID:</b>	9811075-07A	<b>Matrix:</b>	SOIL
<b>Project:</b>	Jicarilla Pit Remediation Landfarms	<b>Collection Date:</b>	11/23/98 12:50:00 PM
		<b>COC Record:</b>	7405

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015</b>				Analyst: HR
T/R Hydrocarbons: C10-C28	29	25		mg/Kg	1	12/3/98

**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

**P.O. BOX 2606 • FARMINGTON, NM 87499**

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

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: PNM Gas Services ( Conoco ) Telephone: 324-3764  
Address: 603 W. Elm Street Farmington, NM 87401  
Facility or Well Name: Jicarilla K-12 Land Farm #2  
Location: Unit: 0 Sec. 2 T. 25 N R. 5 W County Rio Arriba  
Land Type: Jicarilla Apache

Date Remediation Started: 9/28/98 Date Completed: 10-6-98  
Remediation Method: Landfarmed X Approx. cubic yards 1200 yds  
Composted — 15  
Other — 25

Depth to Ground Water: (pts.) 4  
Distance to an Ephemeral Stream: (pts.) 4  
Distance to Nearest Lake, Playa,  
or Watering Pond: (pts.) 4  
Wellhead Protection Area: (pts.) 4  
Distance to Surface Water: (pts.) 4  
Ranking Score (Total Points): 4

Final Closure Sampling:

Sampling Date: 12/14/98 Time 0822  
Sampling Results:  
Field Headspace (ppm) 38.8  
TPH (ppm) 300 Method TPH-8015  
Other —

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

DATE 1-26-99 PRINTED NAME Ray Bonham Gary Cook  
SIGNATURE Gary Cook 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) —

SIGNED: Kenneth M. [Signature] DATE: 2-17-99

Jicavilla K-12  
CONOCO  
Sec. 2, 25N, 5W, 0

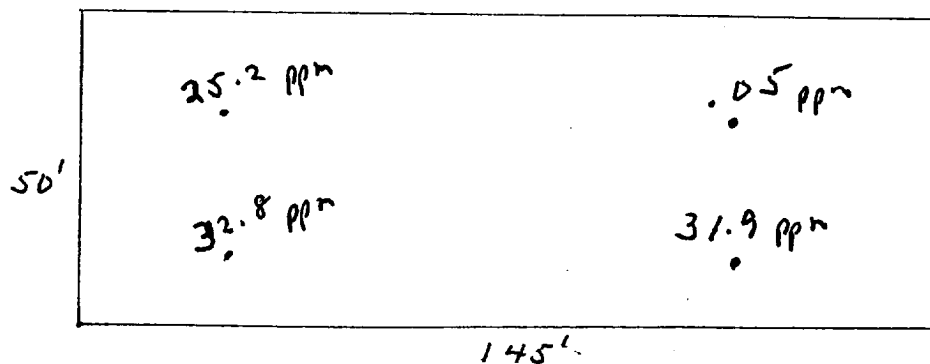
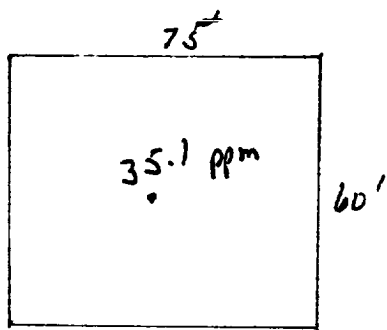
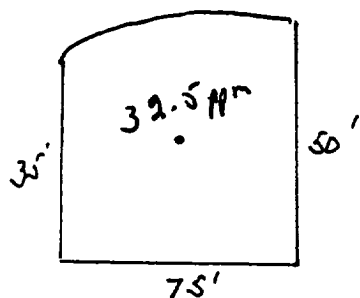
12-7-98

Land farmed: On location

(Land farm #2)

approximately 1200 yds

staged pile  
laid down after first  
land farm pushed into  
open pit.



2"-10" depth  
soil vapor head space 38.8

not to scale

↑  
N

⊗

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 21-Dec-98

---

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

**Project:** Jicarilla Pit Remediation

**Lab Order:** 9812030

## **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-Dec-98

Client: PNM - Public Service Company of NM  
Work Order: 9812030  
Lab ID: 9812030-05A Matrix: SOIL  
Project: Jicarilla Pit Remediation

Client Sample Info: Jicarilla K-12 LF #2  
Client Sample ID: 9812140822 6pt Composite  
Collection Date: 12/14/98 8:22:00 AM  
COC Record: 7452

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				
T/R Hydrocarbons: C10-C28	300	25		mg/Kg	1	Analyst: HR 12/18/98

will spread on location  
pit backfilled from borrow pit  
near Jicarilla Landfarm #4

### 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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

1 of 1