Denny E. Foust
DEPUTY OIL & GAS INSPECTOR

DEC 17 1998

District I
P.O. Box 1980, Hobbs, NM 88241

District II
P.O. Drawer DD, Artesia, NM 88211

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

RECEIVED
JUL 31 1998
OIL CON. DIV.
DIST. 3

Approved

PIT REMEDIATION AND CLOSURE REPORT

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Richardson #8

Location: Unit P Sec 10 T 31 N R 12 W County San Juan

Pit Type: Separator ☐ Dehydrator ☑ Other

Land Type: BLM ☑ State ☐ Fee ☐ Other No

Pit Location: Pit dimensions: length 20 ' width 20 ' depth 3 '

(Attach diagram) Reference: wellhead ☑ other

Footage from reference: 145'

Direction from reference: 80 Degrees ☑ East North ☐ of ☐ West South ☑

Depth to Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	20
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 No	(20 points) (0 points)	0
Distance to Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches	Less than 200 feet 200 feet to 1,000 feet Greater than 1,000 feet	(20 points) (10 points) (0 points)	0
RANKING SCORE (TOTAL POINTS):			20

Richardson #8

Date Remediation Started: 5/19/98 **Date Completed:** 5/19/98

Remediation Method: (Check all appropriate sections)
Excavation X Approx. Cubic Yard 142
Landfarmed X Amount Landfarmed (cubic yds) 142
Other

Remediation Location: (i.e., landfarmed onsite, name and location of offsite facility)
Onsite X Offsite

Backfill Material Location:

General Description of Remedial Action:

Excavated contaminated soil to a pit size of 16' X 16' X 15' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by disking/plowing until soil met regulatory levels.

*** Sandstone encountered at 15'. See attached risk analysis and lab analysis form.

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: Bottom of excavation.

Sample depth: 15'

Sample date: 5/19/98 Sample time: 3:20:00 PM

Sample Results

Benzene (ppm) *** 47.0000

Total BTEX (ppm) 1383.0000

Field headspace (ppm)

TPH (ppm) 720.00 Method 8015

Vertical Extent (ft)

Risk Analysis form attached Yes ☑ No ☐

Ground Water Sample: Yes ☐ No ☑ (If yes, see attached Groundwater Site Summary Report)

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

DATE **July 27, 1998**

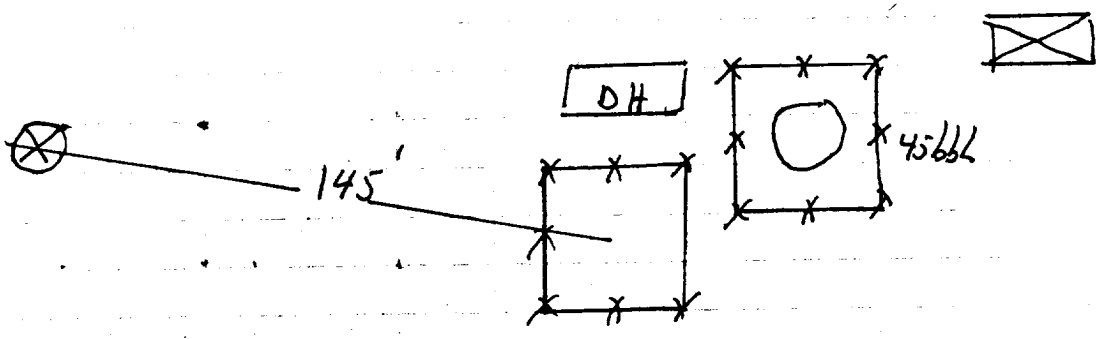
SIGNATURE Gary Cook

PRINTED NAME AND TITLE **Gary Cook, Environmental Technician III**

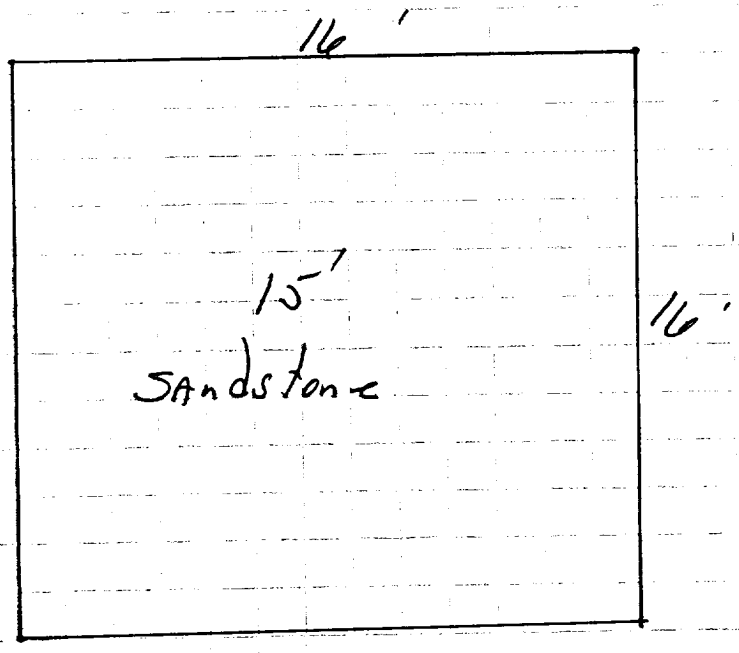
Richardson #8
Burlington Resources
Sec 10, 31N, 12W, P

5/19/98

Start:



End of excavation:



OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *28-May-98*

CLIENT: PNM - Public Service Company of NM
Project: Richardson #8
Lab Order: 9805060

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.

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *28-May-98*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Richardson #8
Work Order:	9805060	**Client Sample ID:**	9805191520; Bottom @ 15ft.
Lab ID:	9805060-01A **Matrix:** SOIL	**Collection Date:**	5/19/98 3:20:00 PM
Project:	Richardson #8	**COC Record:**	7225

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	720	25		mg/Kg	1	5/27/98
BTEX		**SW8020A**				Analyst: **HR**
Benzene	47000	5000		µg/Kg	5000	5/20/98
Toluene	610000	10000		µg/Kg	5000	5/20/98
Ethylbenzene	56000	5000		µg/Kg	5000	5/20/98
m,p-Xylene	560000	10000		µg/Kg	5000	5/20/98
o-Xylene	110000	5000		µg/Kg	5000	5/20/98

1,383,000
1383.00 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

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *28-May-98*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Richardson #8
Work Order:	9805060	**Client Sample ID:**	9805191530; Walls @ 11ft.
Lab ID:	9805060-02A **Matrix:** SOIL	**Collection Date:**	5/19/98 3:30:00 PM
Project:	Richardson #8	**COC Record:**	7225

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	5/27/98
BTEX		**SW8020A**				Analyst: **HR**
Benzene	1.3	1		µg/Kg	1	5/19/98
Toluene	8.4	2		µg/Kg	1	5/19/98
Ethylbenzene	1	1		µg/Kg	1	5/19/98
m,p-Xylene	10	2		µg/Kg	1	5/19/98
o-Xylene	2.7	1		µg/Kg	1	5/19/98

23.4
.0234 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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Richardson # 8

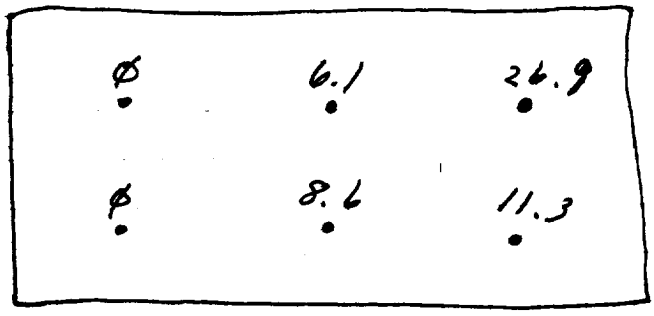
6/30/98

BR

Sec. 10, 31N, 12W, P

Landfarm:

142 yards



⊗

980630 1100

2"-12" depth

Soil vapor headspace = 47.8 ppm

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *07-Jul-98*

CLIENT: PNM - Public Service Company of NM
Project: Landfarms
Lab Order: 9806116

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.

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *07-Jul-98*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Richardson #8 LF
Work Order:	9806116	**Client Sample ID:**	9806301100; 6pt. Comp. 2-12in.
Lab ID:	9806116-07A **Matrix:** SOIL	**Collection Date:**	6/30/98 11:00:00 AM
Project:	Landfarms	**COC Record:**	7307

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
		SW8015				Analyst: **HR**
DIESEL RANGE ORGANICS						
T/R Hydrocarbons: C10-C28	66	25		mg/Kg	1	7/2/98

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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PNM®

Environmental Services

Well Name:	Richardson #8
Well Legals:	Unit P, Sec 10, T31N, R12W
Pit Type:	Dehydrator
Horizontal Distance to Surface Water:	Less than 200 feet
Groundwater Depth:	Less than 50 feet

RISK ANALYSIS

PNM requests closure of their former pit on the Richardson #8 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 40 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash (Farmington Glade Canyon). (Reference: topographic map.)

2. PNM excavated 142 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.

3. Sandstone was encountered at 15 feet below ground surface. Bedrock/sandstone provides a barrier between remaining contamination and groundwater. Vertical migration through bedrock or sandstone to groundwater is unlikely.

4. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Richardson #8 well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.