

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

District II
P.O. Drawer DD, Artesia, NM 88221

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

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OIL CON. DIV.
DIST. 3

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: Patterson A Com #1

Location: Unit O Sec 2 T 31N R 12W County San Juan

Pit Type: Separator ☐ Dehydrator ☒ Other

Land Type: BLM ☐ State ☐ Fee ☒ Other

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

(Attach diagram) Reference: wellhead ☒ other

Footage from reference: 120'

Direction from reference: 85 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	(20 points)	<u>10</u>
	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)	<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)	<u>0</u>
	200 feet to 1,000 feet	(10 points)	
	Greater than 1,000 feet	(0 points)	

RANKING SCORE (TOTAL POINTS): 10

Patterson A Com #1

Date Remediation Started: 5/18/98

Date Completed: 5/19/98

Remediation Method: Excavation ☒

Approx. Cubic Yard 975

(Check all appropriate sections)

Landfarmed ☒

Amount Landfarmed (cubic yds) 700

Other 275 cu yds clean overburden

Remediation Location:

Onsite

☒

Offsite

(i.e., landfarmed onsite, name and location of offsite facility)

Backfill Material Location:

General Description of Remedial Action:

Excavated contaminated soil to a pit size of 47' X 35' X 16' 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.

***Vertical extent drilling conducted to 41'. Sandstone encountered. See attached risk analysis form.

Ground Water Encountered:

No



Yes



Depth

Final Pit Closure Sampling:

Sample Location

Bottom of excavation.

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

Sample depth

19'

Sample date

5/18/98

Sample time

2:15:00 PM

Sample Results

Benzene (ppm)

230.0000

Total BTEX (ppm)

2459.0000 ***

Field headspace (ppm)

TPH (ppm)

1300.00 ***

Method

8015A

Vertical Extent (ft) 41'

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 April 27, 1999

SIGNATURE

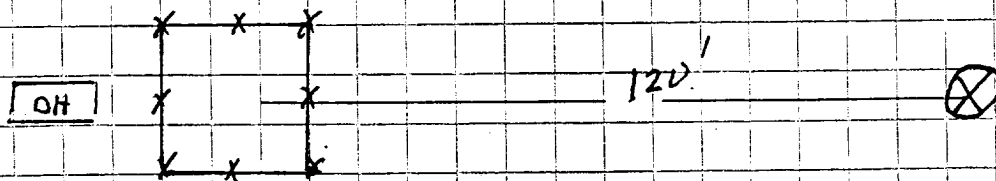
Maureen Gannon

PRINTED NAME Maureen Gannon
AND TITLE Project Manager

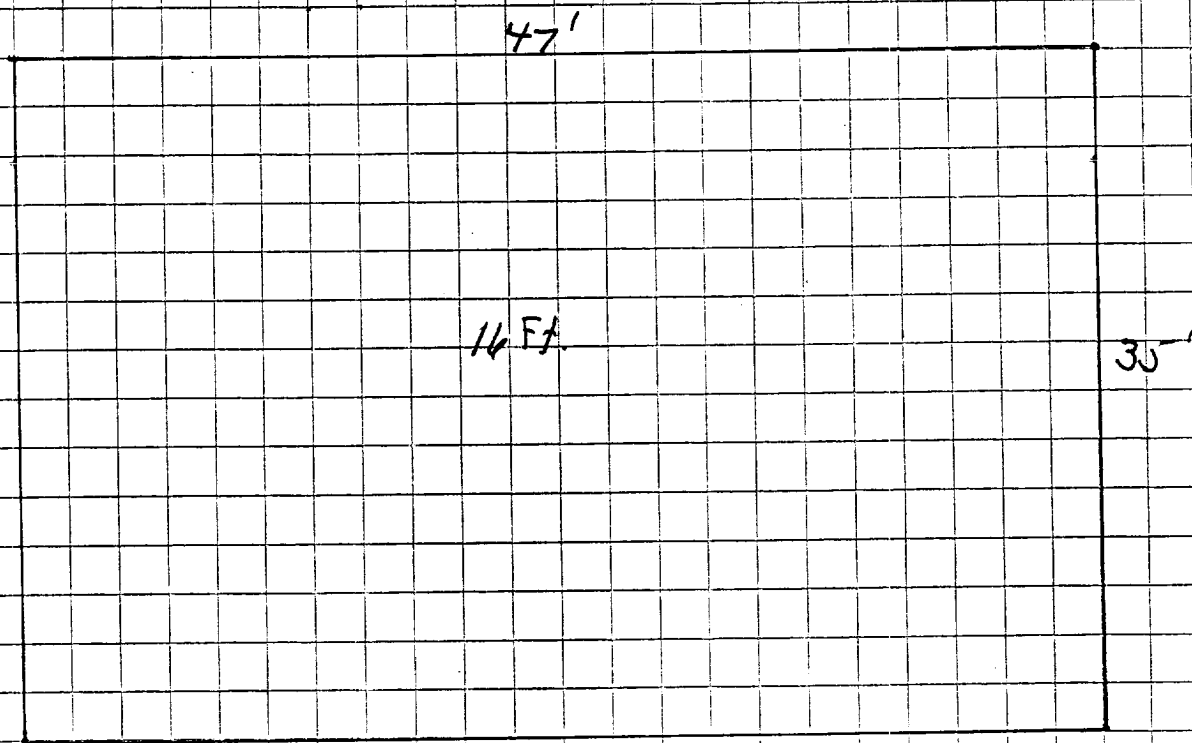
Patterson "A" Com #1
Burlington
Sec. 2, 31N, 12W, 0

5/18/98

start:



End of excavation:



OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 28-May-98

CLIENT: PNM - Public Service Company of NM

Project: Patterson "A" Com #1

Lab Order: 9805056

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: 28-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Patterson "A" Com #1
Work Order:	9805056	Client Sample ID:	9805181415; Bottom @ 19ft.
Lab ID:	9805056-01A	Matrix:	SOIL
Project:	Patterson "A" Com #1	Collection Date:	5/18/98 2:15:00 PM
		COC Record:	7221

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS						
		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	1300	25		mg/Kg	1	5/26/98
BTEX						
		SW8020A				Analyst: HR
Benzene	230000	10000		µg/Kg	10000	5/20/98
Toluene	980000	20000		µg/Kg	10000	5/20/98
Ethylbenzene	99000	10000		µg/Kg	10000	5/20/98
m,p-Xylene	990000	20000		µg/Kg	10000	5/20/98
o-Xylene	160000	10000		µg/Kg	10000	5/20/98

2459000
2459.0 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

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ANALYSIS OF BLENDING INDUSTRY WITH THE U.S. 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 Work Order: 9805056 Lab ID: 9805056-02A Matrix: SOIL Project: Patterson "A" Com #1	Client Sample Info: Patterson "A" Com #1 Client Sample ID: 9805190800; Walls @ 15ft. Collection Date: 5/19/98 8:00:00 AM COC Record: 7221
---	--

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	1.9	1		µg/Kg	1	5/19/98
Toluene	7.6	2		µg/Kg	1	5/19/98
Ethylbenzene	ND	1		µg/Kg	1	5/19/98
m,p-Xylene	8.5	2		µg/Kg	1	5/19/98
o-Xylene	2.1	1		µg/Kg	1	5/19/98

20.1
0.02010 ppm

Qualifiers:

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

Surr: - Surrogate

1 of 1

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Patterson "A" Com # 1

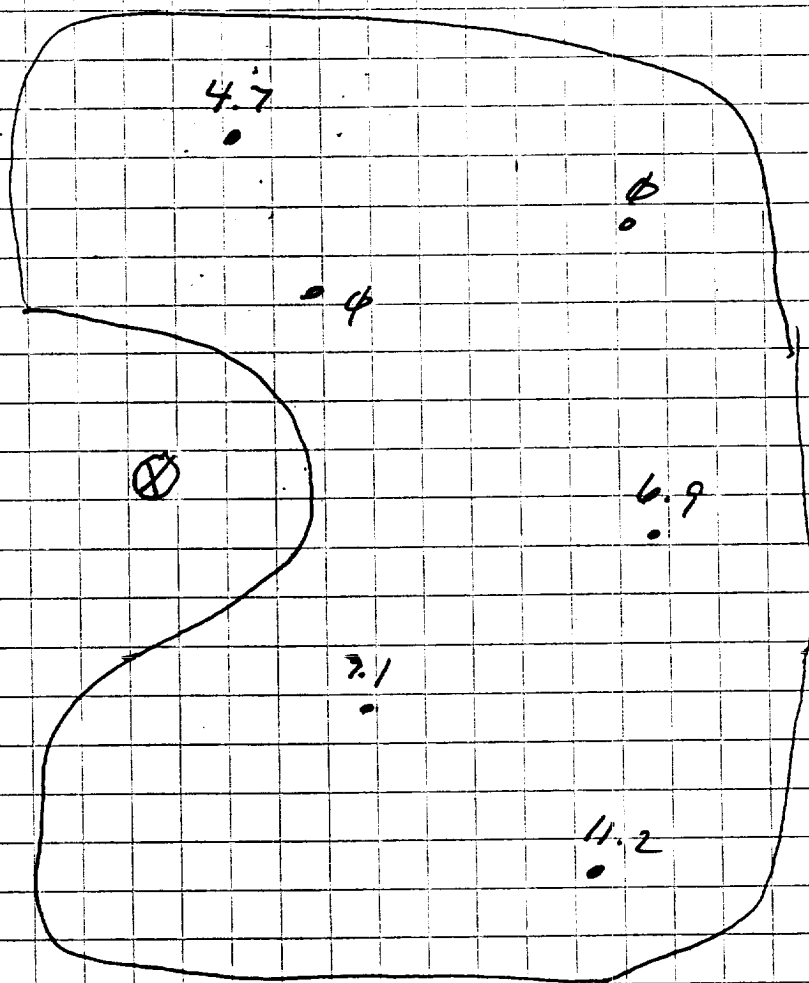
6/30/98

BR

Sec. 2, 31N, 12W, 0

Land Farm:

975 yds



9806300900

2"-12" depth

soil water head space = 58.3 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.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 07-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Patterson "A" Com #1 LF
Work Order:	9806116	Client Sample ID:	9806300900; 6pt. Comp. 2-12in.
Lab ID:	9806116-03A	Matrix:	SOIL
Project:	Landfarms	Collection Date:	6/30/98 9:00:00 AM
		COC Record:	7307

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	86	25		mg/Kg	1	6/30/98

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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OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 04-Mar-99

CLIENT: PNM - Public Service Company of NM

Project: Vertical Extent Drilling

Lab Order: 9902050

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: 04-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Patterson A Com #1
Work Order:	9902050	Client Sample ID:	9902091127; Vert. Extent @ 41ft.
Lab ID:	9902050-01A	Matrix:	SOIL
Project:	Vertical Extent Drilling	Collection Date:	2/9/99 11:27:00 AM
		COC Record:	7548

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	2/25/99
BTEX		SW8021B				Analyst: HR
Benzene	1300	500		µg/Kg	500	2/11/99
Toluene	29000	1000		µg/Kg	500	2/11/99
Ethylbenzene	5400	500		µg/Kg	500	2/11/99
m,p-Xylene	53000	1000		µg/Kg	500	2/11/99
o-Xylene	10000	500		µg/Kg	500	2/11/99

98700
98.7 ppm.

Qualifiers:	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	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNICAL SERVICES AGREEMENT WITH THE ENVIRONMENT -

RECORD OF SUBSURFACE EXPLORATION

PHILIP SERVICES CORP.

30 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Borehole # BH- 01
 Well # _____
 Page 1 of 2

Project Number 20731 Phase 6001
 Project Name PNM VERTICAL EXTENT
 Project Location PATTON A COM #1

Location _____
 Borehole Location LTR: D S: 2 T: 31N R: 12W
 Borehole Depth _____
 Drilled By K. PADILLA
 Well Logged By D. Fernald
 Date Started 2/18/04
 Date Completed 2/18/04

Drilling Method 4 1/4 ID HSA
 Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM <u>92</u> BH S/HS			Drilling Conditions & Blow Counts
0				Instructed by Gary Cook- PNM to start sampling @ 25'						BZ=Breathing Zone BH=Borehole S/HS=Sample/Headspace
5										
10				Fill						
15										
20				light gray fine silty sand						
25	01	2'		olive gray silty, fine sand MC ODOES			1343	1343		50 Blows
30	02	2'		lt. brown-yellowish fine-med silty sand MC ODOES			1532	1532		50 Blows
35	03	2'		lt. brown-yellow fine-med silty sand			1999	1999		50 Blows
40										

Comments: _____

Geologist Signature

D. Fernald

RECORD OF SUBSURFACE EXPLORATION

HILIP SERVICES CORP.

100 Monroe Road
 Farmington, New Mexico 87401
 (505) 325-2262 FAX (505) 326-2388

Borehole # BH-1
 Well # _____
 Page 2 of 2

Project Number 20731 Phase 10001
 Project Name PNM VERTICAL EXTENT
 Project Location Patterson A Com #1

Elevation _____
 Borehole Location LTR: 0 S: 2 T: 3N R: 12W
 Borehole Depth _____
 Drilled By K. PADILLA
 Well Logged By D. Fernald
 Date Started 2/9/99
 Date Completed 2/9/99

Drilling Method 4 1/4 ID HSA

Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ BH S/HS	Drilling Conditions & Blow Counts
40	04	2'	4"	1/2 brown-yellowish-white med silty sand, loosely cemented - very hard, auger refusal Terminated boring sample obtained for laboratory analysis.			2000	BZ=Breathing Zone BH=Borehole 50 Blows S/HS=Sample/Headspace
45								
50								
55								
60								
65								
70								
75								
80								

Comments:

Geologist Signature



Environmental Services

Well Name:	Patterson A Com #1
Well Legals:	Unit O, Sec 2, T31N, R12W
Pit Type:	Dehydrator
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	50 feet to 99 feet

RISK ANALYSIS

PNM requests closure of their former pit on the Patterson A Com #1 well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 95 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Adobe Downs Ranch, NM series 7.5 minute topographic map.)
2. Distance from the site to surface water is greater than 1,000 ft.
3. PNM excavated 975 cu. yds. from the former pit. Vertical extent was determined using a hollow stem drilling rig. Sandstone was encountered at 41' 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 Patterson A Com #1 well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 800 pits.