

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

Denny E. Zant
DEPUTY OIL & GAS INSPECTOR

JUN 23 1998

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

PIT REMEDIATION AND CLOSURE REPORT

Approved

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Breech F #11M

Location: Unit P Sec 35 T 27N R 6W County Rio Arriba

Pit Type: Separator ☐ Dehydrator ☐ Other Drip (dual)

Land Type: BLM ☒ State ☐ Fee ☐ Other

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

(Attach diagram) Reference: wellhead ☒ other

Footage from reference: 6'

Direction from reference: 5 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) | |
| 50 feet to 99 feet | (10 points) | |
| Greater than 100 feet | (0 points) | <u>0</u> |

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>0</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>0</u> |

RANKING SCORE (TOTAL POINTS): 0

RECEIVED
FEB - 3 1998
OIL CON. DIV.
DIST. 3

Date Remediation Started: 9/25/97 Date Completed: 9/25/97Remediation Method: Excavation X Approx. Cubic Yard 360

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds) 360

Other _____

Remediation Location: Onsite X Offsite _____

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

Backfill Material Location: _____

General Description of Remedial Action:

Excavated contaminated soil to pit size of 20' X 27' X 18' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by plowing until soil met regulatory levels.*** Bedrock encountered at 36'. See attached risk analysis form and laboratory analysis.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 18'Sample date 9/25/97 Sample time 9:30:00 AM

Sample Results

Benzene (ppm) 26.1600Total BTEX (ppm) *** 703.3810

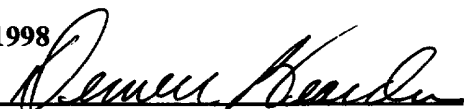
Field headspace (ppm) _____

TPH (ppm) 454.00 Method 8015AVertical Extent (ft) 36' Risk Assessment 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 January 27, 1998

SIGNATURE

PRINTED NAME Denver Bearden
AND TITLE Administrator III

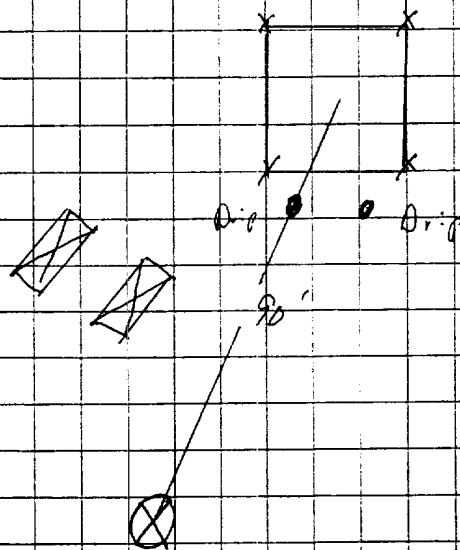
Breesh F#11 m

9/25/97

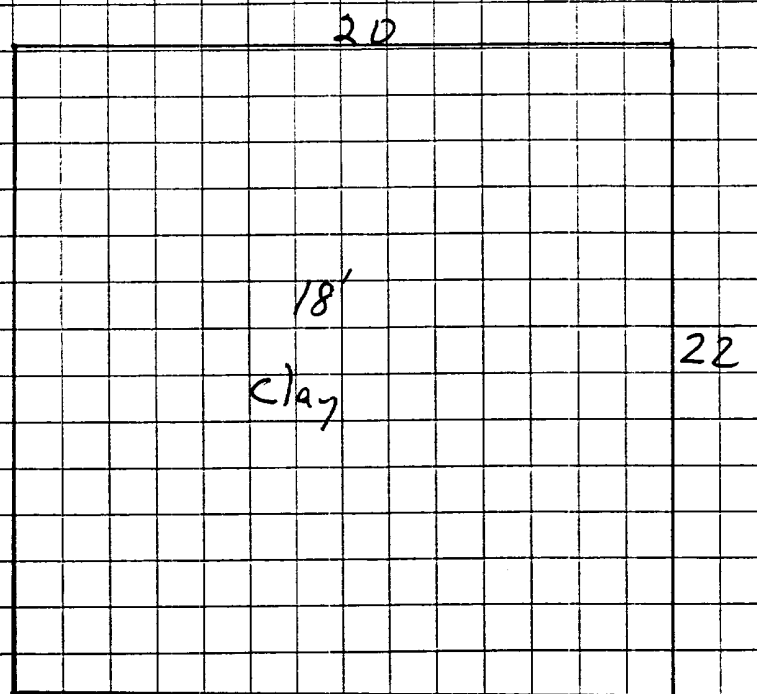
Can/Kins O:1

Sec. 35, 27N, 6W, P

start of excavation:



End of excavation:



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *2-Oct-97*
COC No.: *5808*
Sample No.: *16325*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Breech F #11M*
Project Location: *9709250930; Bottom @ 18'*
Sampled by: *GC* Date: *25-Sep-97* Time: *9:30*
Analyzed by: *HR/DC* Date: *1-Oct-97*
Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--|---------------------|-----------------|-----------------------|-----------------|
| <i>Diesel Range Organics (C10 - C28)</i> | <i>454</i> | <i>mg/kg</i> | <i>5</i> | <i>mg/kg</i> |

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

DRO QC No.: 0555-STD

Continuing Calibration Verification

| Parameter | Method Blank | Unit of Measure | True Value | Analyzed Value | RPD | RPD Limit |
|---------------------------------|--------------|-----------------|------------|----------------|------------|------------|
| <i>Diesel Range (C10 - C28)</i> | <i>ND</i> | <i>ppm</i> | <i>200</i> | <i>202</i> | <i>1.2</i> | <i>15%</i> |

Matrix Spike

| Parameter | 1- Percent Recovered | 2 - Percent Recovered | Limit | RPD | RPD Limit |
|-------------------------------|----------------------|-----------------------|-----------------|-----------|------------|
| <i>Diesel Range (C10-C28)</i> | <i>102</i> | <i>92</i> | <i>(70-130)</i> | <i>10</i> | <i>20%</i> |

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *[Signature]*
Date: *10/2/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *30-Sep-97*
COC No.: *5808*
Sample No.: *16325*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Breech F #11M*
Project Location: *9709250930; Bottom @ 18'*
Sampled by: *GC* Date: *25-Sep-97* Time: *9:30*
Analyzed by: *DC* Date: *28-Sep-97*
Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|---------------------|---------------------|-----------------|-----------------------|-----------------|
| <i>Benzene</i> | <i>26160</i> | <i>ug/kg</i> | <i>2500</i> | <i>ug/kg</i> |
| <i>Toluene</i> | <i>228877</i> | <i>ug/kg</i> | <i>2500</i> | <i>ug/kg</i> |
| <i>Ethylbenzene</i> | <i>23647</i> | <i>ug/kg</i> | <i>2500</i> | <i>ug/kg</i> |
| <i>m,p-Xylene</i> | <i>355256</i> | <i>ug/kg</i> | <i>2500</i> | <i>ug/kg</i> |
| <i>o-Xylene</i> | <i>69441</i> | <i>ug/kg</i> | <i>2500</i> | <i>ug/kg</i> |
| | <i>TOTAL</i> | <i>703381</i> | | <i>ug/kg</i> |

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *Ja C*
Date: *9/30/97*

P.O. BOX 2606 • FARMINGTON, NM 87499
- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *2-Oct-97*
COC No.: *5808*
Sample No.: *16326*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Breech F #11M*
Project Location: *9709251030; Walls @ 15'*
Sampled by: *GC* Date: *25-Sep-97* Time: *10:30*
Analyzed by: *HR/DC* Date: *1-Oct-97*
Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--|---------------------|-----------------|-----------------------|-----------------|
| <i>Diesel Range Organics (C10 - C28)</i> | <i>139</i> | <i>mg/kg</i> | <i>5</i> | <i>mg/kg</i> |

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

DRO QC No.: 0555-STD

Continuing Calibration Verification

| Parameter | Method Blank | Unit of Measure | True Value | Analyzed Value | RPD | RPD Limit |
|---------------------------------|--------------|-----------------|------------|----------------|------------|------------|
| <i>Diesel Range (C10 - C28)</i> | <i>ND</i> | <i>ppm</i> | <i>200</i> | <i>202</i> | <i>1.2</i> | <i>15%</i> |

Matrix Spike

| Parameter | 1 - Percent Recovered | 2 - Percent Recovered | Limit | RPD | RPD Limit |
|-------------------------------|-----------------------|-----------------------|-----------------|-----------|------------|
| <i>Diesel Range (C10-C28)</i> | <i>102</i> | <i>92</i> | <i>(70-130)</i> | <i>10</i> | <i>20%</i> |

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *[Signature]*
Date: *10/2/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: 30-Sep-97
COC No.: 5808
Sample No.: 16326
Job No.: 2-1000

Project Name: ***PNM Gas Services - Breech F #11M***

Project Location: **9709251030; Walls @ 15'**

Sampled by: GC

Date: 25-Sep-97 Time: 10:30

Analyzed by: DC

Date: 28-Sep-97

Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|---------------------|------------------------|--------------------|--------------------------|--------------------|
| <i>Benzene</i> | ND | ug/kg | 5 | ug/kg |
| <i>Toluene</i> | 159 | ug/kg | 5 | ug/kg |
| <i>Ethylbenzene</i> | 102 | ug/kg | 5 | ug/kg |
| <i>m,p-Xylene</i> | 1931 | ug/kg | 5 | ug/kg |
| <i>o-Xylene</i> | 336 | ug/kg | 5 | ug/kg |
| | <i>TOTAL</i> | 2528 | ug/kg | |

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved by: *[Signature]*
Date: 9/30/97

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

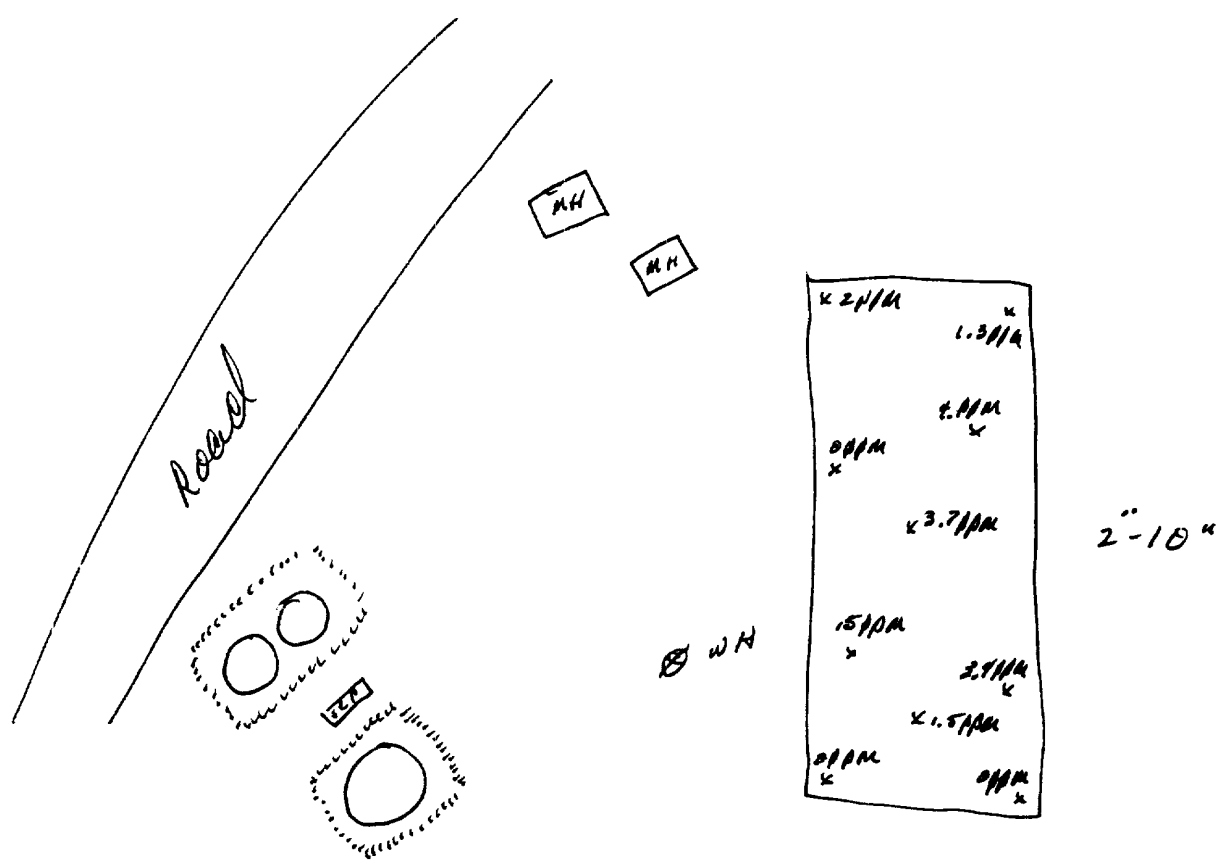
N

10-13-97 @ 1130
Breesh F HM
Coulkins

(P) 35-27N-6W
Rio Arriba

Sample # 971013 @ 1130

landfarm field headspace : 3 ppm



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *17-Oct-97*
COC No.: *5677*
Sample No.: *16584*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Breech F #11M Landfarm*

Project Location: *9710131130; Composite*

Sampled by: *RH* Date: *13-Oct-97* Time: *11:30*

Analyzed by: *DC/HR* Date: *14-Oct-97*

Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--|---------------------|-----------------|-----------------------|-----------------|
| <i>Diesel Range Organics (C10 - C28)</i> | <i>13</i> | <i>mg/kg</i> | <i>5</i> | <i>mg/kg</i> |

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

DRO QC No.: 0555-STD

Continuing Calibration Verification

| Parameter | Method Blank | Unit of Measure | True Value | Analyzed Value | RPD | RPD Limit |
|---------------------------------|--------------|-----------------|------------|----------------|------------|------------|
| <i>Diesel Range (C10 - C28)</i> | <i>ND</i> | <i>ppm</i> | <i>200</i> | <i>185</i> | <i>8.0</i> | <i>15%</i> |

Matrix Spike

| Parameter | 1- Percent Recovered | 2 - Percent Recovered | Limit | RPD | RPD Limit |
|-------------------------------|----------------------|-----------------------|-----------------|----------|------------|
| <i>Diesel Range (C10-C28)</i> | <i>87</i> | <i>87</i> | <i>(70-130)</i> | <i>0</i> | <i>20%</i> |

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *[Signature]*

Date: *10/17/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *26-Nov-97*
COC No.: *7096*
Sample No.: *16947*
Job No.: *2-1000*

Project Name: ***PNM Gas Services - Breech F #11M***
Project Location: ***9711240940; 36' depth***
Sampled by: *GC*
Analyzed by: *DC/HR*
Sample Matrix: *Soil*

Date: *24-Nov-97* Time: *9:40*
Date: *25-Nov-97*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--|---------------------|-----------------|-----------------------|-----------------|
| <i>Diesel Range Organics (C10 - C28)</i> | <i>220</i> | <i>mg/kg</i> | <i>5</i> | <i>mg/kg</i> |

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

DRO QC No.: 0555-STD

Continuing Calibration Verification

| Parameter | Method Blank | Unit of Measure | True Value | Analyzed Value | RPD | RPD Limit |
|---------------------------------|--------------|-----------------|------------|----------------|------------|------------|
| <i>Diesel Range (C10 - C28)</i> | <i>ND</i> | <i>ppm</i> | <i>200</i> | <i>194</i> | <i>2.8</i> | <i>15%</i> |

Matrix Spike

| Parameter | 1 - Percent Recovered | 2 - Percent Recovered | Limit | RPD | RPD Limit |
|-------------------------------|-----------------------|-----------------------|-----------------|----------|------------|
| <i>Diesel Range (C10-C28)</i> | <i>89</i> | <i>92</i> | <i>(70-130)</i> | <i>3</i> | <i>20%</i> |

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *Jack*
Date: *11/26/97*

P.O. BOX 2606 • FARMINGTON, NM 87499
- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *1-Dec-97*
COC No.: *7096*
Sample No.: *16947*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Breech F #11M*
Project Location: *9711240940; 36' depth*
Sampled by: *GC* Date: *24-Nov-97* Time: *9:40*
Analyzed by: *DC* Date: *26-Nov-97*
Sample Matrix: *Soil*

Laboratory Analysis

| Parameter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|---------------------|---------------------|-----------------|-----------------------|-----------------|
| <i>Benzene</i> | <i>268</i> | <i>ug/kg</i> | <i>100</i> | <i>ug/kg</i> |
| <i>Toluene</i> | <i>5742</i> | <i>ug/kg</i> | <i>100</i> | <i>ug/kg</i> |
| <i>Ethylbenzene</i> | <i>525</i> | <i>ug/kg</i> | <i>100</i> | <i>ug/kg</i> |
| <i>m,p-Xylene</i> | <i>12950</i> | <i>ug/kg</i> | <i>100</i> | <i>ug/kg</i> |
| <i>o-Xylene</i> | <i>4229</i> | <i>ug/kg</i> | <i>100</i> | <i>ug/kg</i> |
| <i>TOTAL</i> | <i>23714</i> | <i>ug/kg</i> | | |

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*
Date: *12/1/97*

P.O. BOX 2606 • FARMINGTON, NM 87499
- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



| | |
|---------------------------------------|---------------------------|
| Well Name: | Breech F #11M |
| Well Legals: | Unit P, Sec 35, T27N, R6W |
| Pit Type: | Drip |
| Horizontal Distance to Surface Water: | Greater than 1,000 ft |
| Groundwater Depth: | Greater than 100 ft |

RISK ANALYSIS

PNM requests closure of the Breech F #11M using a limited risk analysis of the site conditions.

1. PNM estimated groundwater to be at a depth of 230 ft. based upon elevation of site to the Largo Wash. (Reference: topographic map.)
2. This site is not located within 200 ft. of a domestic water well and is not within 1,000 ft. of any other water source.
3. Distance from the site to surface water is greater than 1,000 ft.
4. PNM excavated 293 cu. yds. from the former pit. Vertical extent was determined using a hollow stem drilling rig. Bedrock was encountered @ 36 ft. below ground surface.

Based upon the information provided above, PNM believes the Breech F #11M poses minimal risk to the environment. Subsurface lateral migration is limited based upon PNM's past experience in excavating 800 pits. Source removal minimizes the possibility of surface water contamination. Bedrock/sandstone provides a barrier between remaining contamination and groundwater. Vertical migration through bedrock or sandstone to groundwater is highly unlikely.