

3R - 326

REPORTS

DATE:

Oct. 28, 1997

Public Service Company
of New Mexico
603 W. Elm - P.O. Box 4750
Farmington, NM 87499
505 950-1997
Fax 505 325-7365

October 28, 1997



Oil Conservation Division
Attention: Bill Olson
2040 South Pacheco
Santa Fe, NM 87505

RECEIVED

OCT 30 1997

Subject: OCD Closure Reports
3rd Reporting Quarter, 1997

Environmental Bureau
Oil Conservation Division

Dear Mr. Olson:

PNM Gas Services is submitting closure reports to the Oil Conservation Division for the sites listed below. These sites were remediated between July 1, 1997 and September 30, 1997. Our office is also submitting one groundwater site, the Kaufmann #1 for closure.

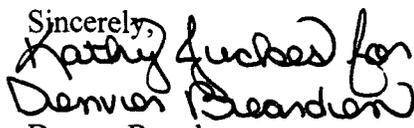
- | | | |
|------------------------|--------------------------|------------------------|
| 1. Breech #228 | 24. Breech C #244E | 47. Breech E #54 |
| 2. Breech #258 | 25. Breech C #244E Drip | 48. Breech E #85 |
| 3. Breech #854 | 26. Breech C #247 | 49. Breech E #87 |
| 4. Breech A #129 | 27. Breech C #248 | 50. Breech E #89E Drip |
| 5. Breech A #131 | 28. Breech C #299 | 51. Breech E #99 |
| 6. Breech A #132 | 29. Breech C #301 | 52. Breech F #40 |
| 7. Breech A #132E | 30. Breech C #323D | 53. Reuter #297 |
| 8. Breech A #136E | 31. Breech C #323E Drip | 54. Reuter #321 |
| 9. Breech A #173 | 32. Breech C #328 | 55. Reuter D #343 |
| 10. Breech A #175 | 33. Breech C #389 | 56. Scott C #1 |
| 11. Breech A #179 | 34. Breech C #389E | 57. State A #113 |
| 12. Breech A #181 | 35. Breech C #744 | 58. State A #268E Drip |
| 13. Breech A #183 | 36. Breech D #140 | 59. State Com C #235R |
| 14. Breech A #625E | 37. Breech D #140 Drip | |
| 15. Breech A #675 | 38. Breech D #185 | |
| 16. Breech A #682 Drip | 39. Breech D #212 | |
| 17. Breech A #729 | 40. Breech D #237 | |
| 18. Breech B #172 | 41. Breech D #239 | |
| 19. Breech B #196 | 42. Breech D #240 E Drip | |
| 20. Breech C #141 | 43. Breech D #342 | |
| 21. Breech C #189 | 44. Breech D #345 | |
| 22. Breech C #216 | 45. Breech D #685E | |
| 23. Breech C #244 | 46. Breech E #117 | |

In addition PNM Gas Services is filing closure for the following Jicarilla Apache Locations:

- | | | |
|-------------------------------|-------------------------------------|---------------------------|
| 1. 12-11-01 Drip | 27. Jicarilla Apache 102 #22 | 52. Jicarilla G #10 |
| 2. 12-11-02 Drip | 28. Jicarilla Apache 102 #23 | 53. Jicarilla G #10 Drip |
| 3. 12-11-03 Drip | 29. Jicarilla Apache 102 #23 Drip | 54. Jicarilla G #10M |
| 4. 12-11-04 Drip | 30. Jicarilla Apache 102 #25 | 55. Jicarilla G #10M Drip |
| 5. 12-11-05 Drip | 31. Jicarilla Apache 102 #26 | 56. Jicarilla G #11 |
| 6. 12-11-06 Drip | 32. Jicarilla Apache 102 #29A | 57. Jicarilla G #11 Drip |
| 7. Axi Apache K #6 | 33. Jicarilla Apache 102 #3 | 58. Jicarilla G #12 |
| 8. Axi Apache K #6 Drip | 34. Jicarilla Apache 102 #30A | 59. Jicarilla G #12 Drip |
| 9. Axi Apache K #6A | 35. Jicarilla Apache 102 #4 | 60. Jicarilla G #1A |
| 10. Axi Apache K-1 #1 | 36. Jicarilla Apache 102 #4A | 61. Jicarilla G #1E |
| 11. Axi Apache K-1 #2 | 37. Jicarilla Apache 102 #5 | 62. Jicarilla G #1E Drip |
| 12. Axi Apache K-1A Drip | 38. Jicarilla Apache 102 #5A | 63. Jicarilla G #2R |
| 13. Huron #1 | 39. Jicarilla Apache 102 #6 | 64. Jicarilla G #3 |
| 14. Huron #2E | 40. Jicarilla Apache 102 #6 Drip | 65. Jicarilla G #4A Drip |
| 15. Huron #3 | 41. Jicarilla Apache Tribal #151-2 | 66. Jicarilla G #4E |
| 16. Huron #4 | 42. Jicarilla Apache Tribal #151-3E | 67. Jicarilla G #5M |
| 17. Huron #4E MM | 43. Jicarilla Apache Tribal #151-4E | 68. Jicarilla G #5M Drip |
| 18. Jicarilla 101 #8 Drip | 44. Jicarilla Apache Tribal #151-5E | 69. Jicarilla G #7 |
| 19. Jicarilla 103 #12 | 45. Jicarilla Apache Tribal #151-6 | 70. Jicarilla G #7R Drip |
| 20. Jicarilla 103 #9 | 46. Jicarilla Apache Tribal #151-8 | 71. Jicarilla G #9 |
| 21. Jicarilla Apache 102 #15 | 47. Jicarilla C #1A | 72. Jicarilla G #9 Drip |
| 22. Jicarilla Apache 102 #15A | 48. Jicarilla C #3 | 73. Jicarilla G #9A |
| 23. Jicarilla Apache 102 #18 | 49. Jicarilla C #4 | 74. Jicarilla G #9A Drip |
| 24. Jicarilla Apache 102 #19 | 50. Jicarilla C #5 | 75. Jicarilla G #9E |
| 25. Jicarilla Apache 102 #2 | 51. Jicarilla E #9 | 76. Jicarilla G #9E Drip |
| 26. Jicarilla Apache 102 #21 | | |

We have noted the change in sampling procedures which you outlined in your letter dated October 14, 1997. We initiated changes in our procedures effective on the date your letter was received.

If you have any questions, please call Kathy Juckes at (505) 324-3764.

Sincerely,

Denver Bearden
Administrator III

cc: Denny Foust
BLM - Farmington
Williams Field Services

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

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

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

APPROVED

PIT REMEDIATION AND CLOSURE REPORT

Operator: <u>PNM Gas Services (Snyder)</u>		Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>			
Facility or Well Name: <u>Kaufmann #1</u>			
Location:	Unit <u>H</u>	Sec <u>33</u>	T <u>31 N</u> R <u>13 W</u> County <u>San Juan</u>
Pit Type:	Separator <input type="checkbox"/>	Dehydrator <input checked="" type="checkbox"/>	Other _____
Land Type:	BLM <input type="checkbox"/>	State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/> Other <u>No</u>
Pit Location:	Pit dimensions: length <u>20</u> width <u>20</u> depth <u>3</u>		
(Attach diagram)	Reference: wellhead <input checked="" type="checkbox"/> other _____		
	Footage from reference: <u>318'</u>		
	Direction from reference: <u>20</u> Degrees <input checked="" type="checkbox"/> East <input checked="" type="checkbox"/> North <input type="checkbox"/> West of <input type="checkbox"/> South <input type="checkbox"/>		
Depth to Ground Water:	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)		<u>20</u>
<small>(Vertical distance from contaminants to seasonal high water elevation of ground water)</small>			
Wellhead Protection Area:	Yes (20 points) No (0 points)		<u>0</u>
<small>(Less than 200 feet from a private domestic water source, or: less than 1,000 feet from all other water sources)</small>	Environmental Bureau Oil Conservation Division		
Distance to Surface Water:	Less than 200 feet (20 points) 200 feet to 1,000 feet (10 points) Greater than 1,000 feet (0 points)		<u>20</u>
<small>(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)</small>			
RANKING SCORE (TOTAL POINTS):			<u>40</u>

RECEIVED

OCT 30 1997

Kaufmann #1

Date Remediation Started: 2/29/96

Date Completed: 3/12/96

Remediation Method: Excavation x

Approx. Cubic Yard 899

(Check all appropriate sections)

Landfarmed x

Amount Landfarmed (cubic yds)

Other

Remediation Location: Onsite

Offsite Langendorf #1E Sec. 34, T31N, R13W

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

Backfill Material Location:

General Description of Remedial Action:

Excavated contaminated soil to pit sizes of 40' X 48' X 7' & 144' X 5' X 6' and landfarmed soil offsite at Langendorf #1E within a bermed area at a depth of 6" to 12". Soil was aerated by plowing/disking until soil met regulatory levels.

Ground Water Encountered: No [] Yes [x] Depth 4'

Final Pit Closure Sampling:

Sample Location **

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

Sample depth

Sample date ** Sample time

Sample Results

Benzene (ppm) **

** - Soil samples not taken. See groundwater report.

Total BTEX (ppm) **

Field headspace (ppm)

TPH (ppm) ** Method

Vertical Extent (ft) Risk Assessment form attached Yes [] No [x]

Ground Water Sample: Yes [x] 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 October 27, 1997

SIGNATURE

[Handwritten Signature]

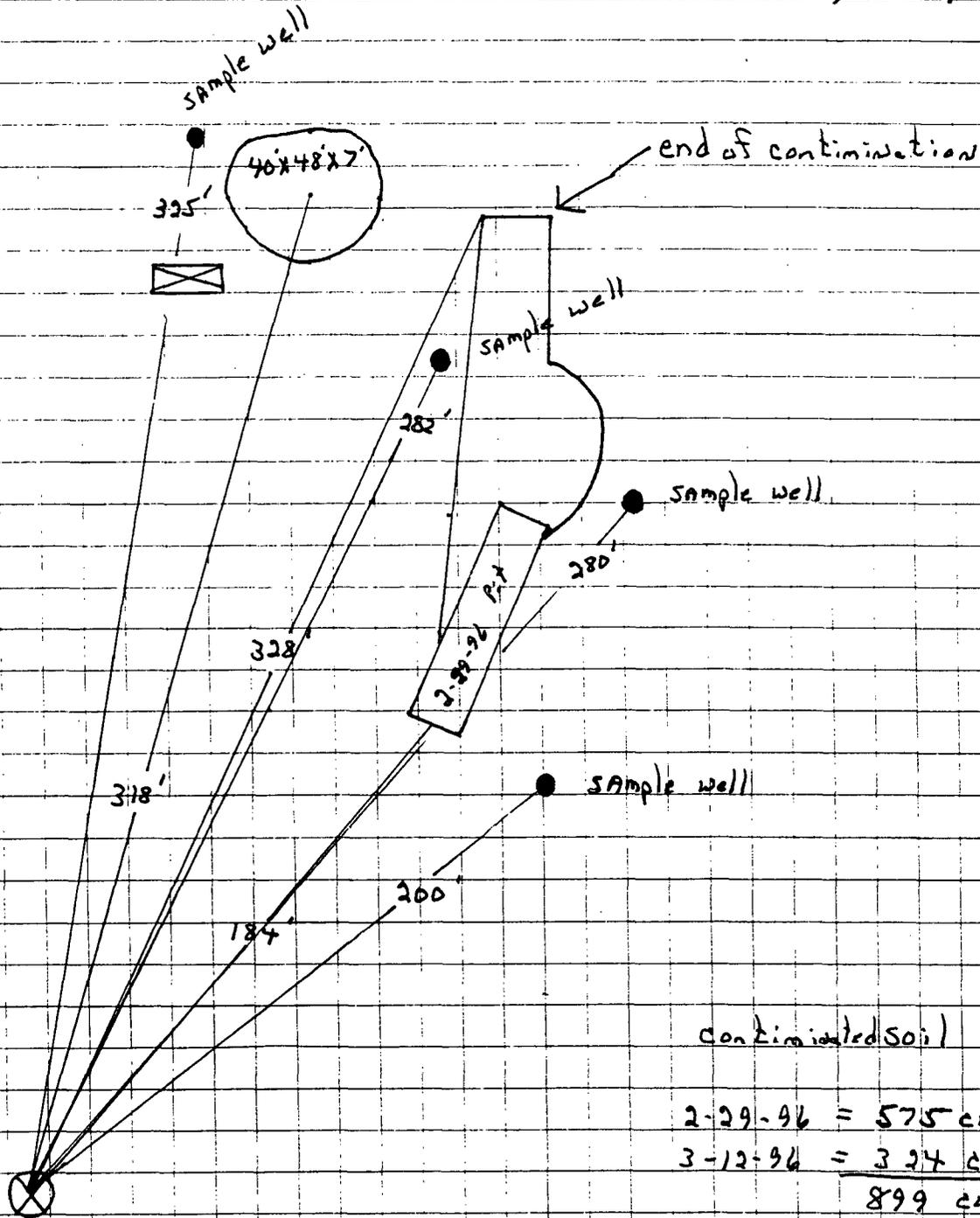
PRINTED NAME AND TITLE

Denver Bearden Administrator III

N
↑

3-12-96

Kaufman #1
Snyder Oil
Sec. 33, T31N, R13W, Unit H



Continued Soil removed
2-29-96 = 575 cubic yards
3-12-96 = 324 cubic yards
899 cubic yards

Kaufman # 1
Snyder Oil
Sec. 33, T31N, R13W

4-25-96

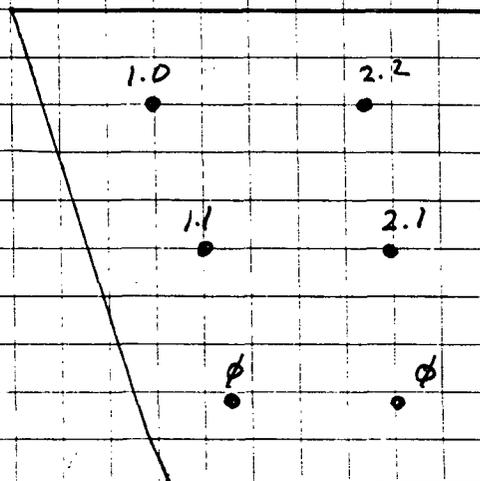
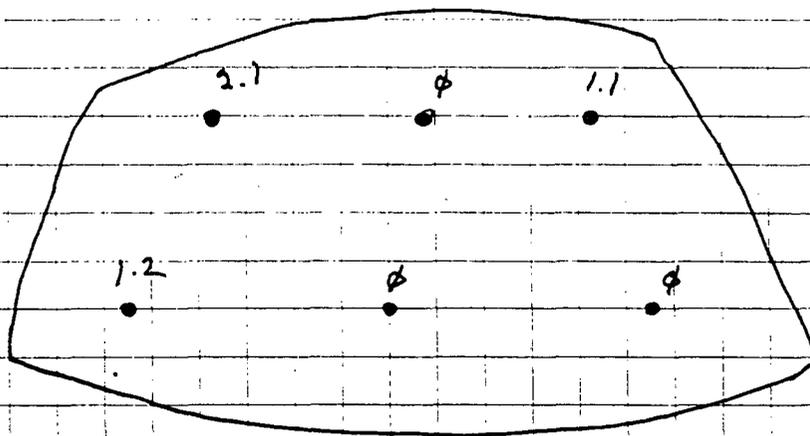
Land Farm : Langendorf # 1 E
Sec. 34, T31N, R13W

900 yds.

Composite sample # 9604250900 12 pt.

Soil vapor head-space = 46.3 ppm

2 Farms same location



Sample depths 2" - 12"



OFF: (505) 325-8786

LAB: (505) 325-5667

Diesel Range Organics EPA 8015-Modified

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

Date: *30-Apr-96*
 COC No.: *4630*
 Sample No. *10742*
 Job No. *2-1000*

Project Name: ***PNM Gas Services - Kaufman #1 (Langendorf #1-E) Land Farm***
 Project Location: ***9604250900; 12pt. Composite, 2"-12" deep***
 Sampled by: GC Date: *25-Apr-96* Time: *9:00*
 Analyzed by: DC Date: *30-Apr-96*
 Sample Matrix: *Soil*

Laboratory Analysis

Analyte	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Diesel Range Organics (C10 - C28)</i>	<i>78.5</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: *0446-STD*

Calibration Check

Analyte	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,913</i>	<i>4.3</i>	<i>15%</i>

Matrix Spike

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
<i>Diesel Range (C10-C28)</i>	<i>82</i>	<i>77</i>	<i>(70-130)</i>	<i>4</i>	<i>20%</i>

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

Approved by: *JaG*
 Date: *4/30/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Groundwater Site Summary Report

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Quarter/Year: 2nd 1997 & 3rd 1997

Operator: Synder
Sec: 33 Twn: 31 Rng: 13 Unit: H
Canyon: La Plata River

Vulnerable Class: Original
OCD Ranking: 40
Lead Agency: NMOCD

Topo Map: previously submitted
Well Completion Diagram: previously submitted
Site Map with Analytical Results: Figure 1
Groundwater Contour Map: Figure 2 (May 1997)
Groundwater Contour Map: Figure 3 (August 1997)
Hydrograph: Figure 4
Analytical Results: attached

Activities for Previous Two Quarters (Apr. -June 1997 & July - Sept. 1997):

PNM performed groundwater monitoring at the Kaufmann 1 well site on May 29, 1997 and again on August 28, 1997. Water level measurements were taken in each of the four monitoring wells. PNM conducted groundwater sampling in all wells for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Sampling was performed in strict compliance with EPA protocol. PNM hand-delivered samples to OnSite Technologies, Farmington, New Mexico.

Results for Previous Quarters (Apr. -June 1997 & July - Sept. 1997):

Figure 1 presents the Kaufmann 1 site map with BTEX analytical results to date. Results for the past two quarters indicate that BTEX concentrations in groundwater are at non-detectable or below Water Quality Control Commission (WQCC) standards.

Figures 2 and 3 provide groundwater contour maps for May 1996 and August 1997, respectively. For both quarters, groundwater flow is in a southeasterly direction beneath the site. The flow direction has shown minimal change over the course of monitoring at the site. Figure 4 presents the groundwater hydrograph (water level versus time) for the site. Water levels in all wells fell during the third quarter of this year and are consistent with water levels measured during the same period last year.

Future Actions:

Consistent with PNM's San Juan Basin Groundwater Management Plan, we request closure of the Kaufmann 1. This request is based upon the analytical data collected over the last year at the site (see figure 1). BTEX concentrations in all groundwater monitoring wells have been consistently below WQCC standards for four consecutive quarters.

Upon completion of monitoring and remedial actions, PNM will plug and abandon the four groundwater monitoring wells at the Kaufmann 1. The concrete pad and the metal vault surrounding each well will be removed. The well casing will be cut to ground surface and each well will be plugged to the surface with cement containing 5% bentonite.

Figure 1. Kaufmann 1 Site Map with Analytical Results
(Concentrations in ppb)

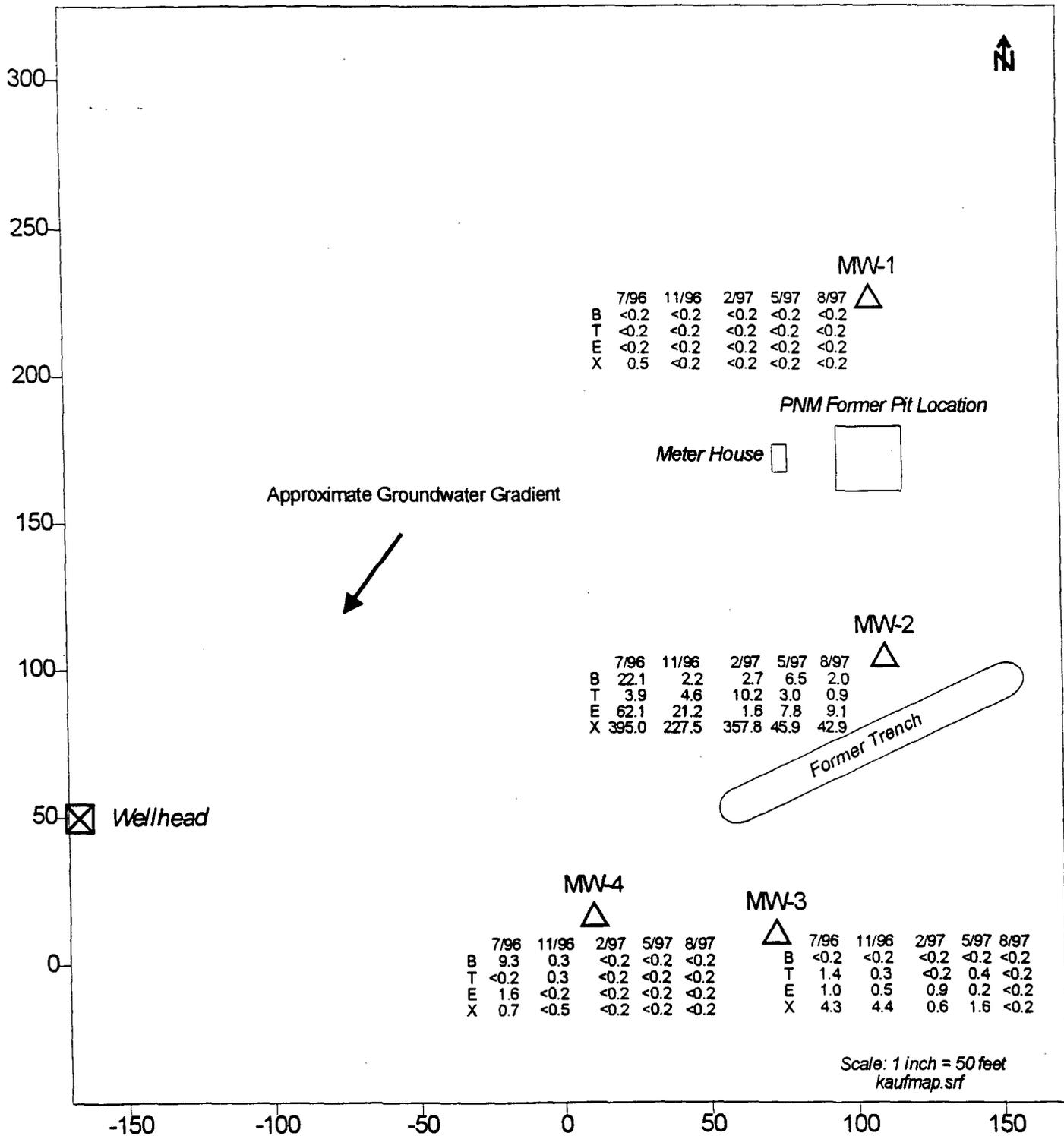


Figure 2. Kaufmann 1 Groundwater Contour Map (May 1997)

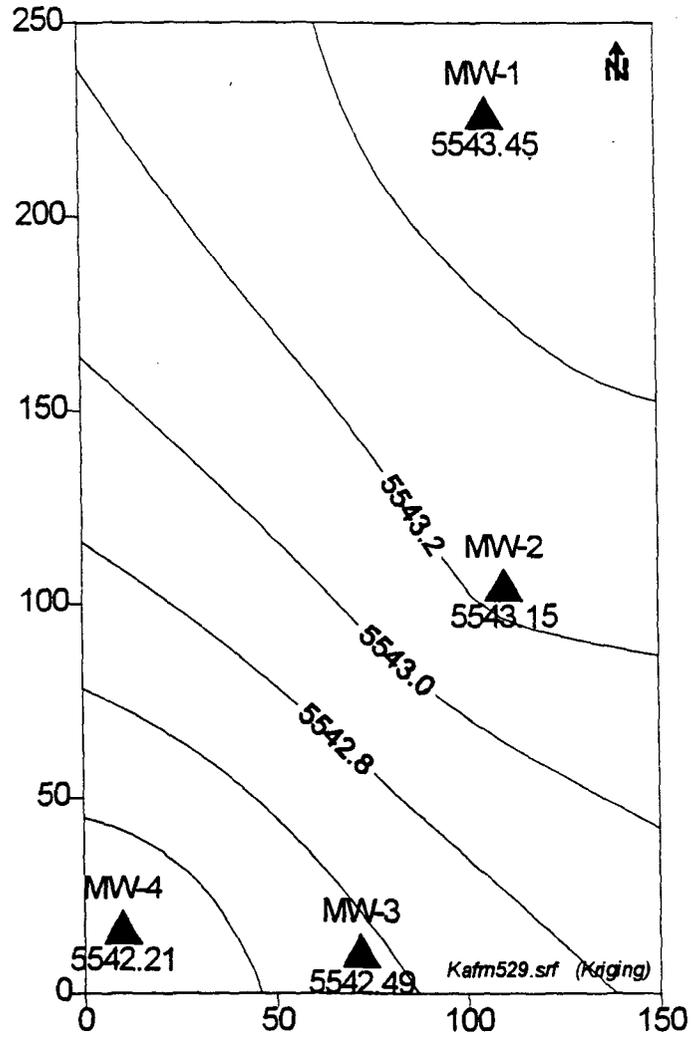


Figure 3. Kaufmann 1 Groundwater Contour Map (August 1997)

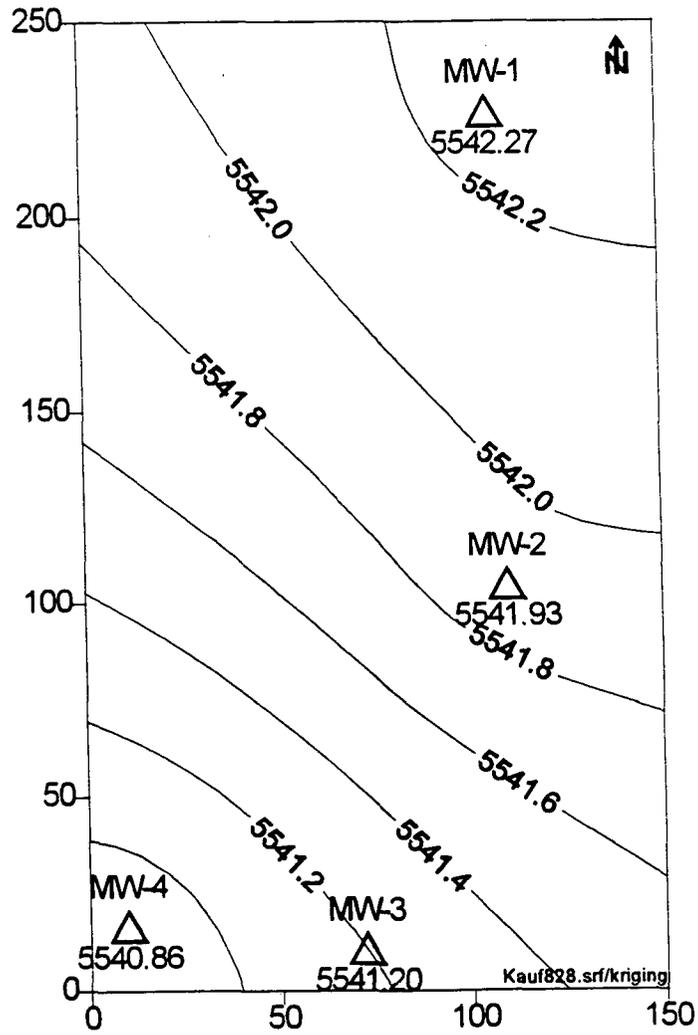
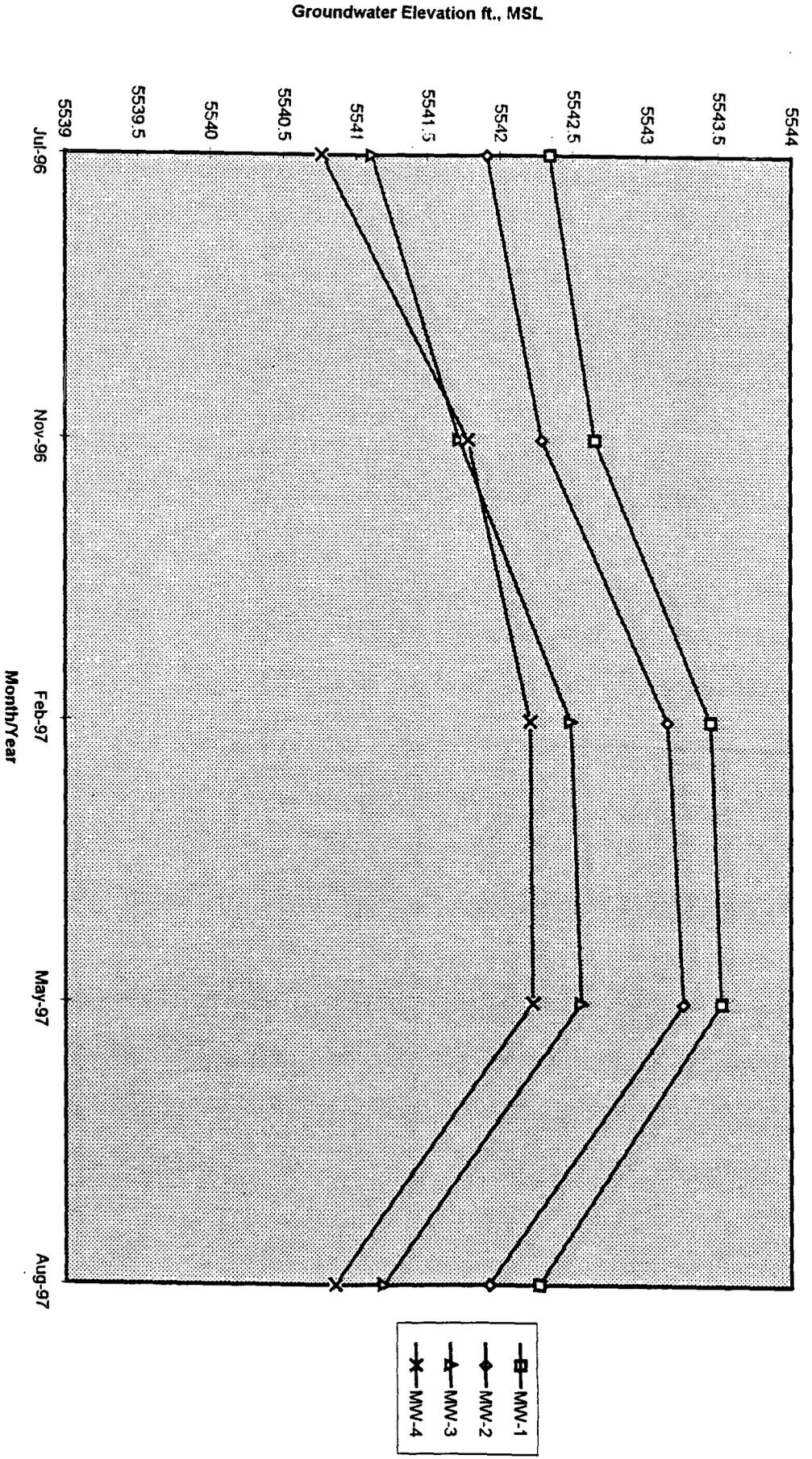


Figure 4. Kaufmann 1 Hydrograph
(Water Level vs. Time)



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: *5-Sep-97*
 COC No.: *5682*
 Sample No.: *16005*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
 Project Location: *9708281100; MW-1*
 Sampled by: *MG/MS* Date: *28-Aug-97* Time: *11:00*
 Analyzed by: *DC* Date: *3-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *5-Sep-97*
COC No.: *5682*
Sample No.: *16006*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
Project Location: *9708281130; MW-2*
Sampled by: *MG/MS* Date: *28-Aug-97* Time: *11:30*
Analyzed by: *DC* Date: *3-Sep-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>9.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>35.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>7.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>54.8</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *5-Sep-97*
 COC No.: *5682*
 Sample No.: *16008*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
 Project Location: *9708281230; MW-3*
 Sampled by: *MG/MS* Date: *28-Aug-97* Time: *12:30*
 Analyzed by: *DC* Date: *3-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *5-Sep-97*
COC No.: *5682*
Sample No.: *16009*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
Project Location: *9708281300; MW-4*
Sampled by: *MG/MS* Date: *28-Aug-97* Time: *13:00*
Analyzed by: *DC* Date: *3-Sep-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1536

ANALYTICAL REPORT

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

Date: *5-Sep-97*
 COC No.: *5682*
 Sample No.: *16010*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
 Project Location: *9708281330; MW-5 Duplicate of MW-4*
 Sampled by: *MG/MS* Date: *28-Aug-97* Time: *13:30*
 Analyzed by: *DC* Date: *3-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 3-Sep-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.4	3	15%
Toluene	ppb	20.0	20.3	1	15%
Ethylbenzene	ppb	20.0	20.4	2	15%
m,p-Xylene	ppb	40.0	39.6	1	15%
o-Xylene	ppb	20.0	20.4	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	93	88	(39-150)	5	20%
Toluene	97	92	(46-148)	5	20%
Ethylbenzene	97	93	(32-160)	4	20%
m,p-Xylene	94	90	(35-145)	5	20%
o-Xylene	96	92	(35-145)	4	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16005-5682	97				
16006-5682	94				
16008-5682	96				
16009-5682	97				
16010-5682	96				
				HLK 9/5/97	(DC) 9/5/97

S1: Fluorobenzene



CHAIN OF CUSTODY RECORD

5682

Page 1 of 1

Date: 8/28/97

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
 LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.	
Name: Denver Bearden		Name: Maureen Gannon	
Company: PNM Gas Services		Company: PNM Gas Services	
Address: 603 W. Elm Street		Mailing Address: Aiverado Square, Mail Stop 0408	
City, State, Zip: Farmington, NM 87401		City, State, Zip: Albuquerque, NM 87158	
Telephone No.:		Telephone No.:	
Title:		Title:	

Purchase Order No.:		Job No.	
Name: Denver Bearden		Name: Maureen Gannon	
Company: PNM Gas Services		Company: PNM Gas Services	
Address: 603 W. Elm Street		Mailing Address: Aiverado Square, Mail Stop 0408	
City, State, Zip: Farmington, NM 87401		City, State, Zip: Albuquerque, NM 87158	
Telephone No.:		Telephone No.:	
Title:		Title:	

Sampling Location: **Kearfmann #1**

Sampler: **MS. MG.**

SAMPLE IDENTIFICATION	SAMPLE DATE		MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED	LAB ID
	DATE	TIME					
9708281100 MW-1			H2O	HCL	2		16005-5282
9708281130 MW-2					2		16006-
9708281200 MW-3					2		16007-
9708281230 MW-4					2		16008-
9708281300 MW-5					2		16009-
9708281330 MW-5					2		16010-

Relinquished by: *[Signature]* Date: 8/28/97 1555 Received by: *[Signature]* Date/Time: 8/26/97 1558

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Method of Shipment: _____ Date: 8/28/97 Special Instructions: **Results to be sent to both parties.**

Authorized by: *[Signature]* (Client Signature - Must Accompany Request)

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: *10-Jun-97*
 COC No.: *5561*
 Sample No.: *14784*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann 1*
 Project Location: *9705291030; MW-1*
 Sampled by: *MG/MS* Date: *29-May-97* Time: *10:30*
 Analyzed by: *DC* Date: *3-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/11/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

uw

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: *10-Jun-97*
 COC No.: *5561*
 Sample No.: *14785*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann 1*

Project Location: *9705291100; MW-2*

Sampled by: *MG/MS* Date: *29-May-97* Time: *11:00*

Analyzed by: *DC* Date: *3-Jun-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>6.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>3.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>7.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>40.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>5.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>63.2</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/11/97*

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TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

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LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *11-Jun-97*
 COC No.: *5561*
 Sample No.: *14786*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann 1*
 Project Location: *9705291130; MW-3*
 Sampled by: *MG/MS* Date: *29-May-97* Time: *11:30*
 Analyzed by: *DC* Date: *4-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	0.4	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.4	ug/L	0.2	ug/L
<i>TOTAL</i>	2.3	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/11/97*

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: *10-Jun-97*
 COC No.: *5561*
 Sample No.: *14787*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann 1*
 Project Location: *9705291200; MW-4*
 Sampled by: *MG/MS* Date: *29-May-97* Time: *12:00*
 Analyzed by: *DC* Date: *3-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/11/97*

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- 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: *10-Jun-97*
 COC No.: *5561*
 Sample No.: *14788*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Kaufmann 1*
 Project Location: *9705291230; MW-5 Duplicate of MW-2*
 Sampled by: *MG/MS* Date: *29-May-97* Time: *12:30*
 Analyzed by: *DC* Date: *3-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>5.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>6.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>32.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>4.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>51.8</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/11/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 3-Jun-97

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	21.2	6	15%
Toluene	ppb	20.0	21.9	10	15%
Ethylbenzene	ppb	20.0	22.3	11	15%
m,p-Xylene	ppb	40.0	42.5	6	15%
o-Xylene	ppb	20.0	22.0	10	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	92	92	(39-150)	0	20%
Toluene	96	96	(46-148)	0	20%
Ethylbenzene	96	97	(32-160)	0	20%
m,p-Xylene	91	92	(35-145)	0	20%
o-Xylene	97	98	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14784-5561	96				
14785-5561	94				
14786-5561	96				
14788-5561	93				
				JR 6/11/97	(JR) 6/11/97

S1: Fluorobenzene



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 4-Jun-97

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	21.4	7	15%
Toluene	ppb	20.0	22.2	11	15%
Ethylbenzene	ppb	20.0	22.7	14	15%
m,p-Xylene	ppb	40.0	43.2	8	15%
o-Xylene	ppb	20.0	22.5	12	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	90	81	(39-150)	3	20%
Toluene	99	94	(46-148)	3	20%
Ethylbenzene	100	96	(32-160)	3	20%
m,p-Xylene	95	91	(35-145)	3	20%
o-Xylene	98	94	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14786-5561	98				
				JHR	(M)
				6/11/97	6/11/97

S1: Fluorobenzene

