

3R - 318

REPORTS

DATE:

1998

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

April 2, 1998

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RECEIVED
APR 03 1998
New Mexico Bureau
of Geology and
Geological Conservation Division



RE: 1998 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1998 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Cozzens B1
Dogie Compressor Station East Pit
Dogie Compressor Station North Pit
Florance 32A
Florance Z 40 M
Florance 44
Florance 47X
Florance 124
Hampton 4M
Honolulu Loop Line Drip
Ice Canyon Drip
Jacques 2A
Mangum 1E
McClanahan 22
McClanahan A2E
McCoy Gas Com A1
Miles Federal 1E
Miles Federal 1E Drip
Randleman 1
Reid 16 Drip
Sammons 2
Turner 1A
Turner 3
Zachry 18E

PNM 1998 Groundwater Report

PNM plans to request closure of two of the above sites, the Cozzens B1 and the Sammons 2, in our April 30, 1998 filing of the San Juan Pit Closure Reports to the OCD Santa Fe office. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

Attachment

cc: Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Bill VonDrehle, WFS

PNM 1998 Groundwater Report

bcc: Colin Adams (w/o analytical results)
Kathy Jukes
Ron Johnson (w/o analytical results)
Mark Sikelianos

Groundwater Site Summary Report

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

Quarter/Year: 2nd/97, 3rd/97, 4th/97 & 1st/98

Operator: Amoco
Sec: 27 Twn: 29N Rng: 9 W Unit: M
Canyon: Largo

Vulnerable Class: Original
OCD Ranking: 30
Lead Agency: NMOCD

Topo Map: previously submitted
Well Completion Diagram: previously submitted
Site Map with Groundwater Analysis: Figure 1
Groundwater Contour Map: Figure 2 (August 1997), Figure 3 (November 1997), and Figure 4 (January 1998)
Hydrograph: Figure 5
Full Suite- Groundwater Sampling: previously submitted
Analytical Results: attached

Activities for Previous Year:

Between December 1996 and August 1997, PNM ceased performing quarterly groundwater sampling at this site after submitting a request for closure due to elevated total dissolved solids (TDS) concentrations (>10000 ppm) in groundwater in all four wells at the site, and PNM's belief that the high TDS was indicative of general background water quality in the local area. OCD denied closure based upon their own test results on groundwater in the Largo Canyon Wash, located approximately 800 feet to the southwest of the well pad. TDS in groundwater beneath the wash was approximately 3000 ppm.

PNM resumed quarterly sampling on August 20, 1997. Subsequent sampling occurred on November 6, 1997 and January 19, 1998. Water levels were measured in the four monitoring wells at the site. PNM conducted groundwater sampling in each well for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). Sampling was performed in strict compliance with EPA protocol.

PNM delivered the samples to OnSite Technologies, Farmington, New Mexico. The samples were analyzed for BTEX using EPA Method 8020.

Results:

Figure 1 provides a site map showing benzene, toluene, ethylbenzene and xylenes (BTEX) and a sample portion of total dissolved solids (TDS) analytical data for each monitoring well since groundwater contamination was discovered.

Figure(s) 2, 3 and 4 provide groundwater contour maps for the months of August and November 1997 and January 1998, respectively. The groundwater flow direction is westerly to northwesterly beneath the site. Figure 5 presents a groundwater hydrograph of the site since monitoring began. In each well, the groundwater level has risen over time with the exception of the period between November 1997 and January 1998 when water levels were fairly constant.

Further Action:

PNM will continue to monitor the groundwater gradient and perform quarterly groundwater sampling at the Florance 124.

Public Service Company of New Mexico - Gas Services

Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon

Telephone: 505-241-2974

Figure 1. Florance 124: Site Map with Analytical Results
(concentrations in ppb)

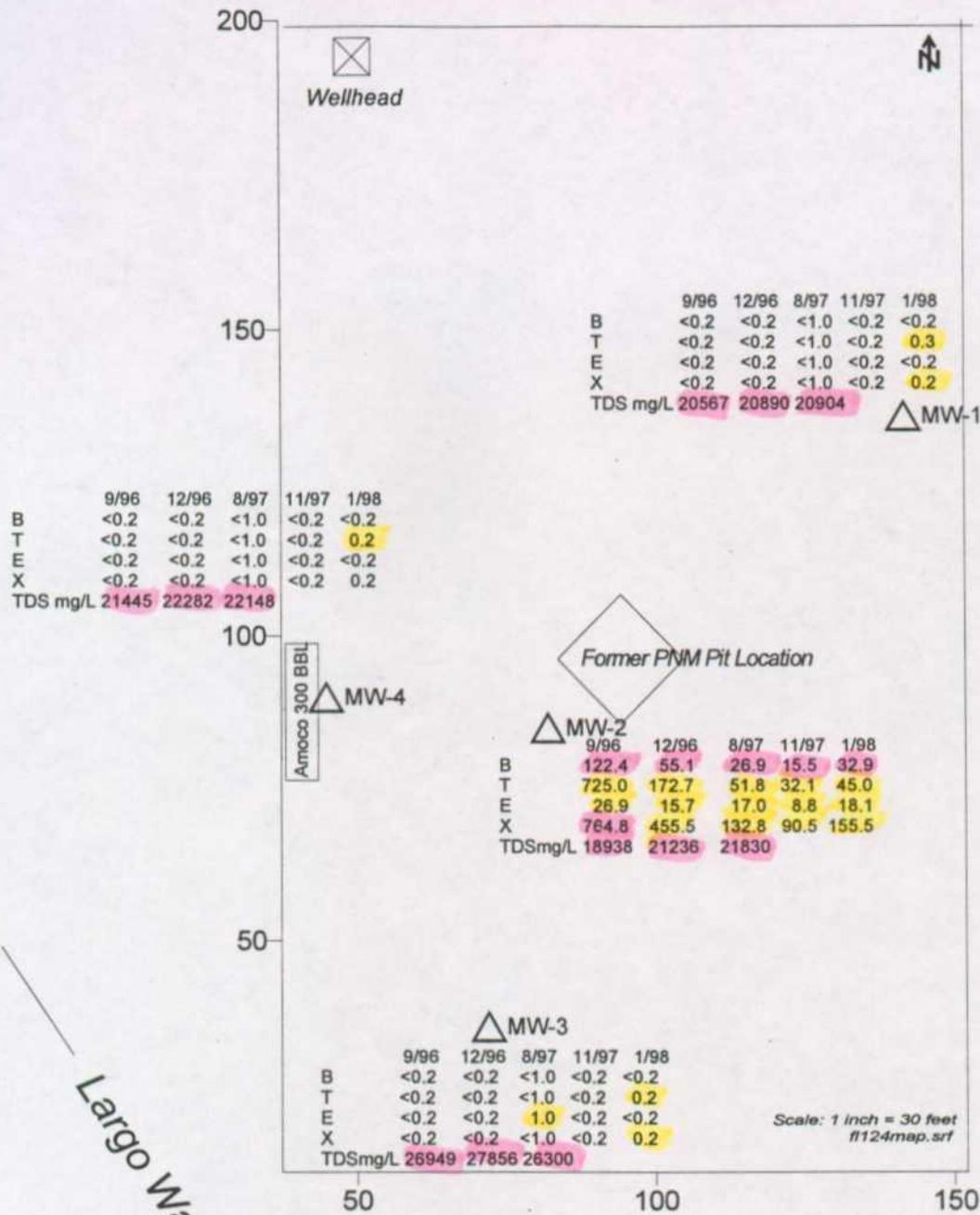


Figure 2. Florance 124 Groundwater Contour Map (August 20, 1997)

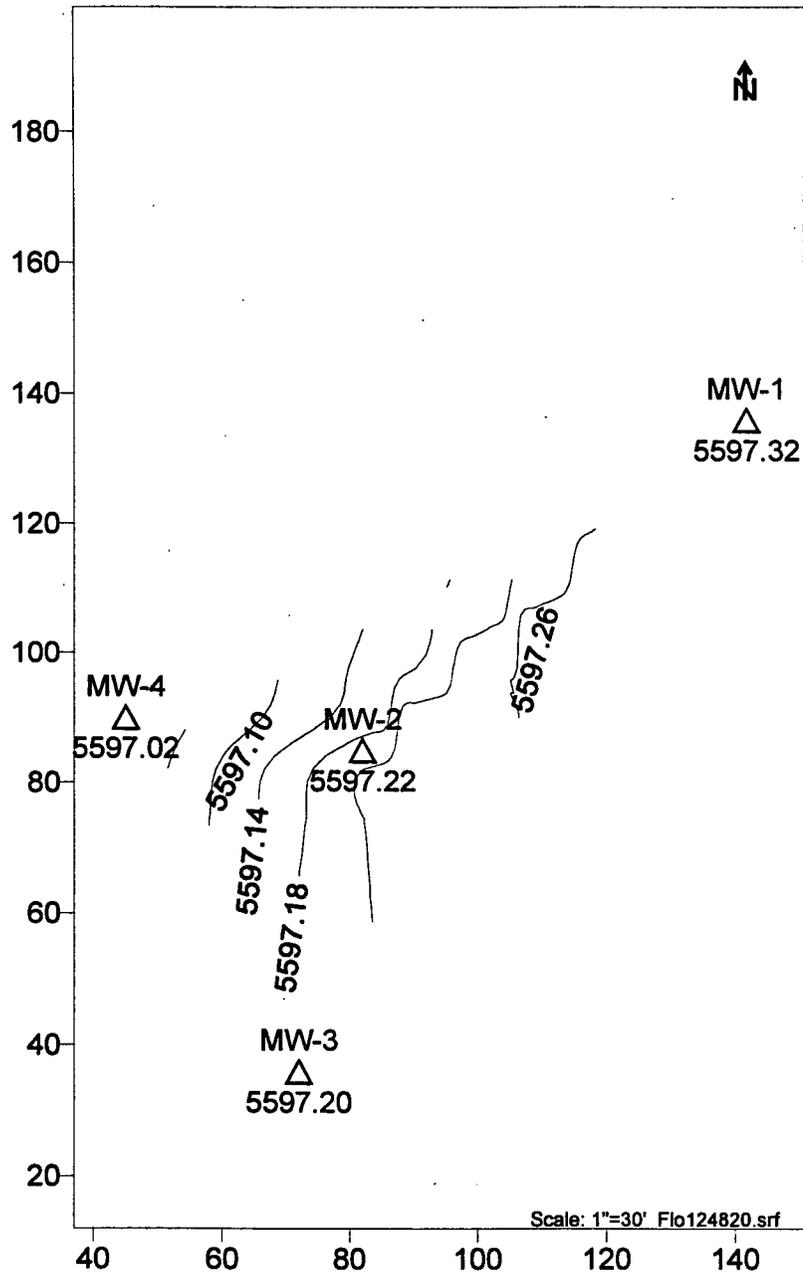


Figure 3. Florance 124 Groundwater Contour Map (November 6, 1997)

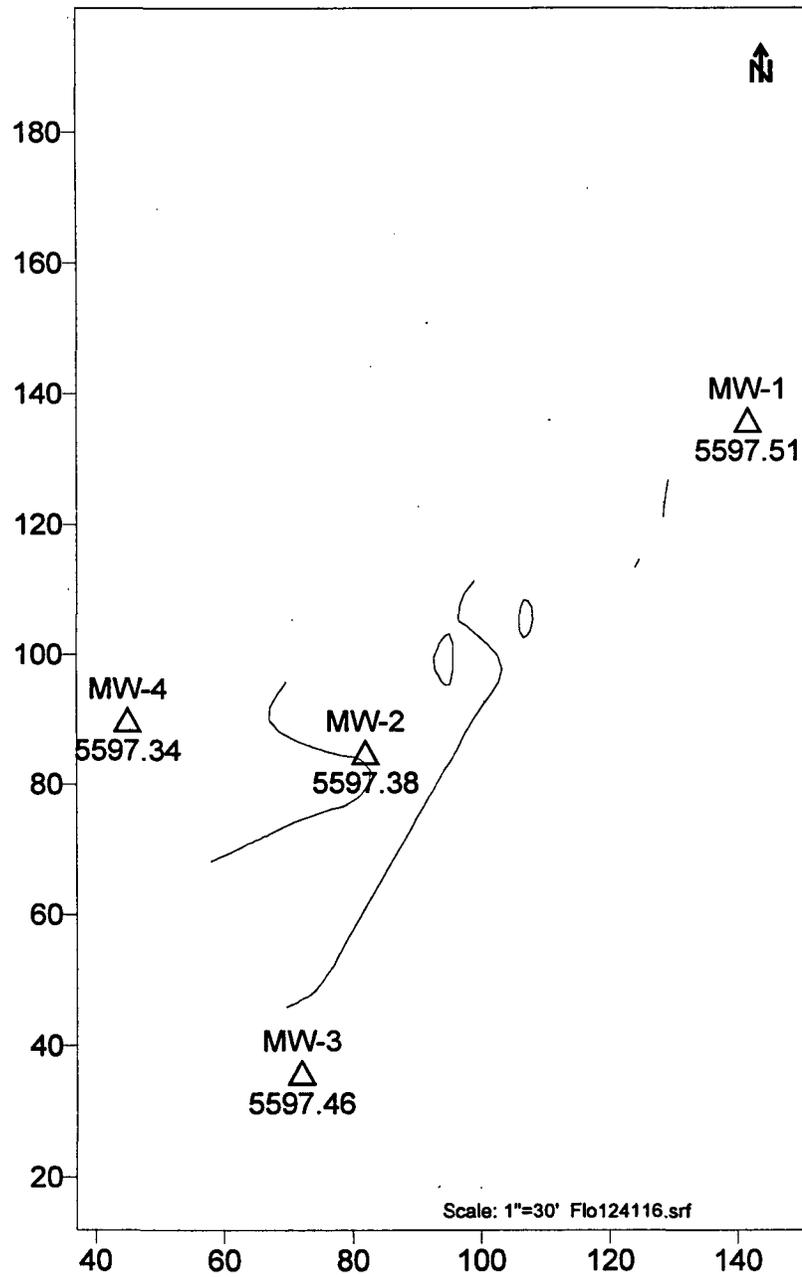


Figure 4. Florance 124 Groundwater Contour Map (January 19, 1998)

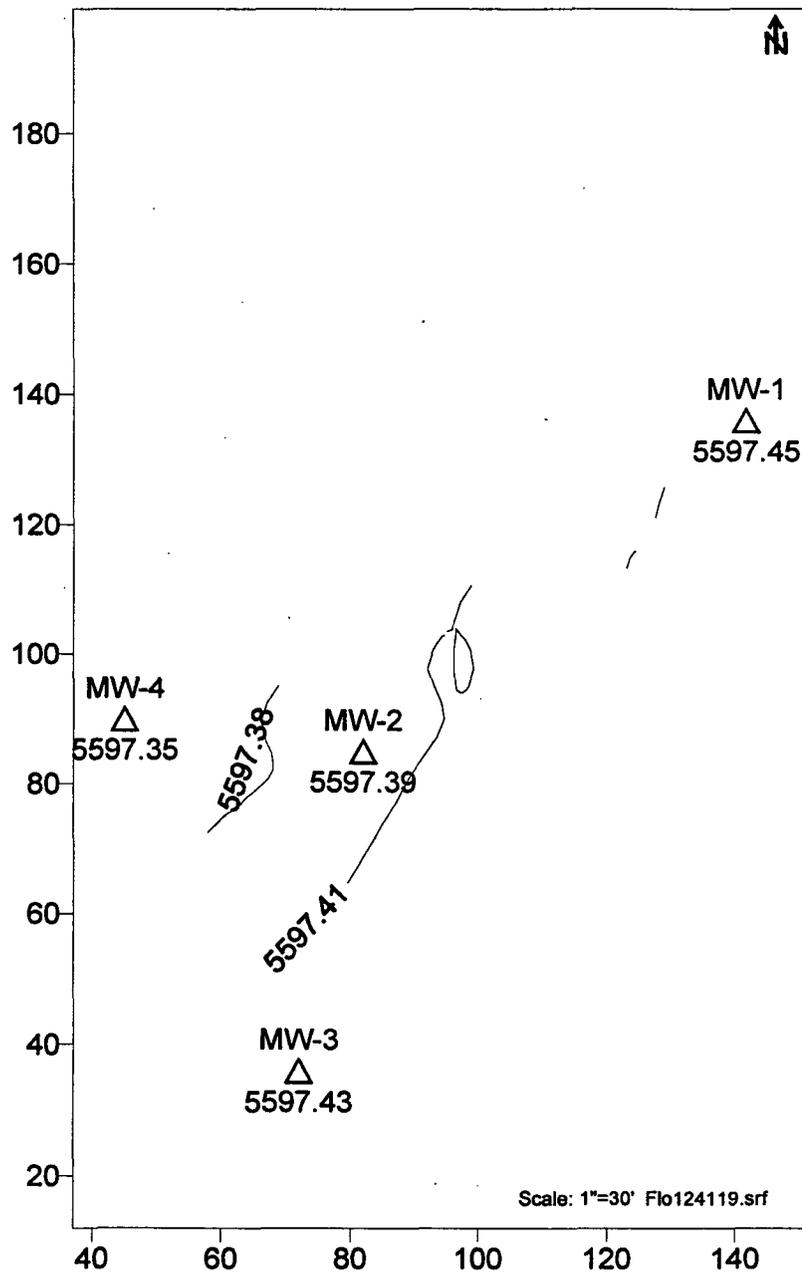
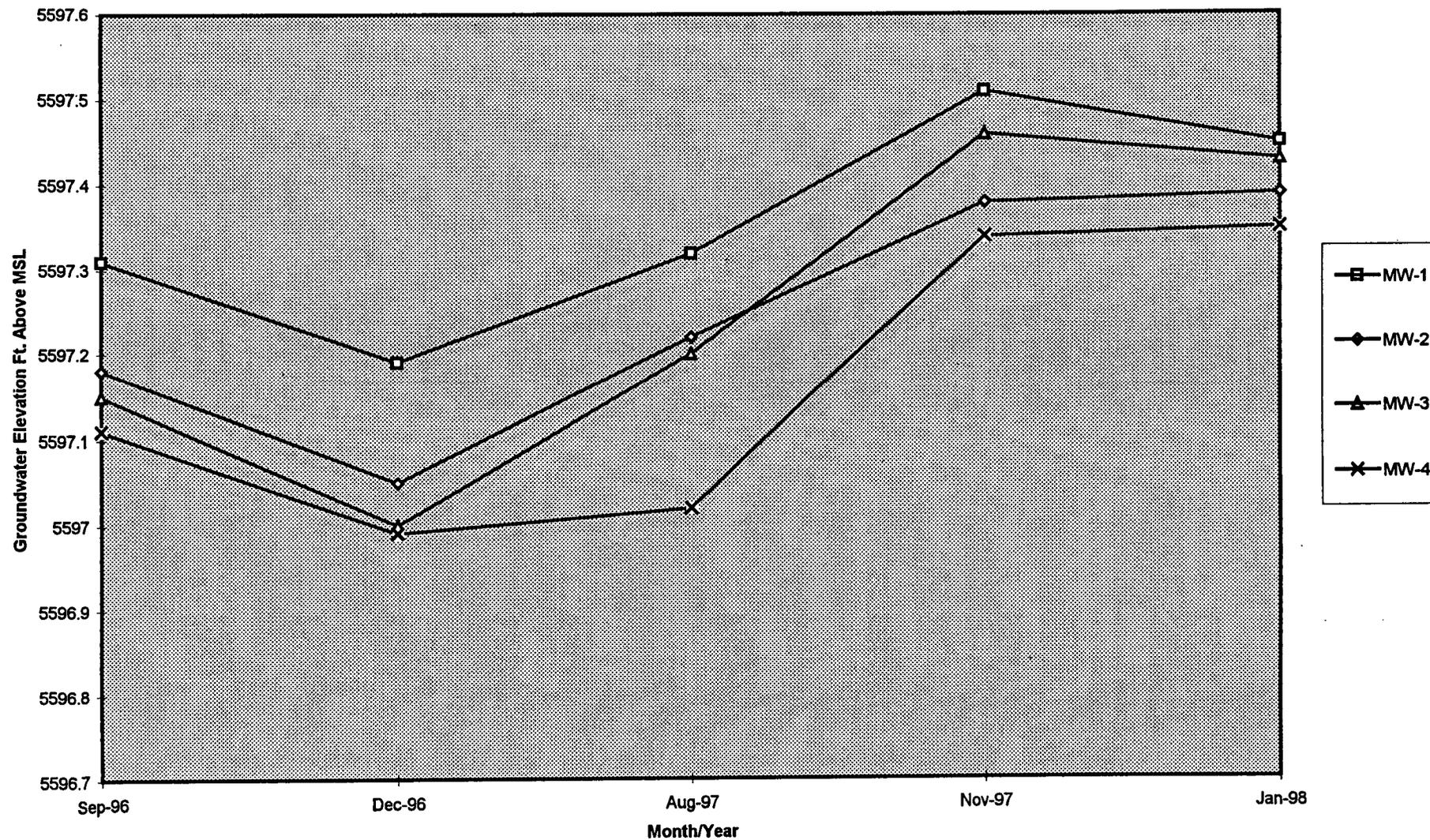


Figure 5. Florance 124 Hydrograph



OFF: (505) 325-5667

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: *27-Aug-97*
COC No.: *5650*
Sample No.: *15841*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*

Project Location: *9708201300; MW-1*

Sampled by: *MG/MS* Date: *20-Aug-97* Time: *13:00*

Analyzed by: *DC* Date: *22-Aug-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	1.0	ug/L
<i>Toluene</i>	ND	ug/L	1.0	ug/L
<i>Ethylbenzene</i>	ND	ug/L	1.0	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	1.0	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: *8/28/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

ANALYTICAL REPORT

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

Date: *3-Sep-97*
 COC No.: *5650*
 Sample ID.: *15841*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - Florance 124***

Project Location: ***9708201300; MW-1***

Sampled by: *MS/MG* Date: *20-Aug-97* Time: *13:00*

Analyzed by: *HR* Date: *2-Sep-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure		Results as Received	Unit of Measure
<i>Cations</i>					
<i>Sodium</i> <i>Na</i>	5875	mg/L		255.55	me/L
<i>Calcium</i> <i>Ca</i>	360	mg/L		17.96	me/L
<i>Magnesium</i> <i>Mg</i>	120	mg/L		9.87	me/L
<i>Potassium</i> <i>K</i>	25.3	mg/L		0.65	me/L
<i>Anions</i>					
<i>Chloride</i> <i>Cl</i>	131	mg/L		3.70	me/L
<i>Sulfate</i> <i>SO4</i>	12752	mg/L		265.49	me/L
<i>Carbonate</i> <i>CO3 as CaCO3</i>	< 1	mg/L		< 0.01	me/L
<i>Bicarbonate</i> <i>HCO3 as CaCO3</i>	432	mg/L		7.08	me/L
<i>Hydroxide</i> <i>OH as CaCO3</i>	< 1	mg/L		< 0.01	me/L
<i>Total Dissolved Solids</i>					
<i>Calculated, Sum of Cation/Anion</i>	19695	mg/L		<u>Cation-Anion Balance</u>	
<i>Total Dissolved Solids</i>				<u>7.77</u> <i>Difference Cation-Anion, me/L</i>	
<i>Dried @ 180 C</i>	20904	mg/L		<u>560.30</u> <i>Total Cation-Anion, me/L</i>	
				<u>1.4</u> <i>% Difference Cation-Anion</i>	
<i>pH</i>	7.46			<u>Comments</u>	
<i>Conductivity @ 25 C</i>	22000	uS/cm			
<i>Total Hardness as CaCO3</i>	1393	mg/L			

Approved by: *[Signature]*
 Date: *9/4/97*

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: *27-Aug-97*
 COC No.: *5650*
 Sample No.: *15842*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201330; MW-2*
 Sampled by: *MG/MS* Date: *20-Aug-97* Time: *13:30*
 Analyzed by: *DC* Date: *25-Aug-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	26.9	ug/L	0.2	ug/L
<i>Toluene</i>	51.8	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	17.0	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	109.0	ug/L	0.2	ug/L
<i>o-Xylene</i>	33.8	ug/L	0.2	ug/L
<i>TOTAL</i>	238.5	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: *8/28/97*

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... 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: *3-Sep-97*
 COC No.: *5650*
 Sample ID.: *15842*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - Florance 124***

Project Location: ***9708201330; MW-2***

Sampled by: *MS/MG* Date: *20-Aug-97* Time: *13:30*

Analyzed by: *HR* Date: *2-Sep-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure										
<i>Cations</i>														
<i>Sodium Na</i>	<i>6375</i>	<i>mg/L</i>	<i>277.30</i>	<i>me/L</i>										
<i>Calcium Ca</i>	<i>385</i>	<i>mg/L</i>	<i>19.21</i>	<i>me/L</i>										
<i>Magnesium Mg</i>	<i>126</i>	<i>mg/L</i>	<i>10.37</i>	<i>me/L</i>										
<i>Potassium K</i>	<i>28.6</i>	<i>mg/L</i>	<i>0.73</i>	<i>me/L</i>										
<i>Anions</i>														
<i>Chloride Cl</i>	<i>116</i>	<i>mg/L</i>	<i>3.27</i>	<i>me/L</i>										
<i>Sulfate SO4</i>	<i>13512</i>	<i>mg/L</i>	<i>281.31</i>	<i>me/L</i>										
<i>Carbonate CO3 as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>										
<i>Bicarbonate HCO3 as CaCO3</i>	<i>550</i>	<i>mg/L</i>	<i>9.01</i>	<i>me/L</i>										
<i>Hydroxide OH as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>										
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	<i>21093</i>	<i>mg/L</i>	<table border="0"> <tr> <td colspan="2"><u><i>Cation-Anion Balance</i></u></td> </tr> <tr> <td><i>14.01</i></td> <td><i>Difference Cation-Anion, me/L</i></td> </tr> <tr> <td><i>601.21</i></td> <td><i>Total Cation-Anion, me/L</i></td> </tr> <tr> <td><i>2.3</i></td> <td><i>% Difference Cation-Anion</i></td> </tr> <tr> <td colspan="2"><u><i>Comments</i></u></td> </tr> </table>		<u><i>Cation-Anion Balance</i></u>		<i>14.01</i>	<i>Difference Cation-Anion, me/L</i>	<i>601.21</i>	<i>Total Cation-Anion, me/L</i>	<i>2.3</i>	<i>% Difference Cation-Anion</i>	<u><i>Comments</i></u>	
<u><i>Cation-Anion Balance</i></u>														
<i>14.01</i>	<i>Difference Cation-Anion, me/L</i>													
<i>601.21</i>	<i>Total Cation-Anion, me/L</i>													
<i>2.3</i>	<i>% Difference Cation-Anion</i>													
<u><i>Comments</i></u>														
<i>Total Dissolved Solids Dried @ 180 C</i>	<i>21830</i>	<i>mg/L</i>												
<i>pH</i>	<i>7.45</i>													
<i>Conductivity @ 25 C</i>	<i>22600</i>	<i>uS/cm</i>												
<i>Total Hardness as CaCO3</i>	<i>1480</i>	<i>mg/L</i>												

Approved by: *[Signature]*
 Date: *9/4/97*

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: *27-Aug-97*
 COC No.: *5650*
 Sample No.: *15843*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201400; MW-3*
 Sampled by: *MG/MS* Date: *20-Aug-97* Time: *14:00*
 Analyzed by: *DC* Date: *22-Aug-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	1.0	ug/L
<i>Toluene</i>	ND	ug/L	1.0	ug/L
<i>Ethylbenzene</i>	ND	ug/L	1.0	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	1.0	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: *8/28/97*



ANALYTICAL REPORT

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

Date: *3-Sep-97*
 COC No.: *5650*
 Sample ID.: *15843*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201400; MW-3*

Sampled by: *MS/MG* Date: *20-Aug-97* Time: *14:00*
 Analyzed by: *HR* Date: *2-Sep-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	<i>7000</i>	<i>mg/L</i>	<i>304.48</i>	<i>me/L</i>
<i>Calcium Ca</i>	<i>373</i>	<i>mg/L</i>	<i>18.61</i>	<i>me/L</i>
<i>Magnesium Mg</i>	<i>170</i>	<i>mg/L</i>	<i>13.99</i>	<i>me/L</i>
<i>Potassium K</i>	<i>32.5</i>	<i>mg/L</i>	<i>0.83</i>	<i>me/L</i>
<i>Anions</i>				
<i>Chloride Cl</i>	<i>125</i>	<i>mg/L</i>	<i>3.53</i>	<i>me/L</i>
<i>Sulfate SO4</i>	<i>13630</i>	<i>mg/L</i>	<i>283.77</i>	<i>me/L</i>
<i>Carbonate CO3 as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Bicarbonate HCO3 as CaCO3</i>	<i>473</i>	<i>mg/L</i>	<i>7.75</i>	<i>me/L</i>
<i>Hydroxide OH as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	<i>21804</i>	<i>mg/L</i>	<i>Cation-Anion Balance</i> <hr/> <i>42.87 Difference Cation-Anion, me/L</i> <hr/> <i>632.97 Total Cation-Anion, me/L</i> <hr/> <i>6.8 % Difference Cation-Anion</i> <hr/> <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	<i>26300</i>	<i>mg/L</i>		
<i>pH</i>	<i>7.37</i>			
<i>Conductivity @ 25 C</i>	<i>26300</i>	<i>uS/cm</i>		
<i>Total Hardness as CaCO3</i>	<i>1631</i>	<i>mg/L</i>		

Approved by: *[Signature]*
 Date: *9/4/97*

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: *27-Aug-97*
 COC No.: *5650*
 Sample No.: *15844*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201430; MW-4*
 Sampled by: *MG/MS* Date: *20-Aug-97* Time: *14:30*
 Analyzed by: *DC* Date: *22-Aug-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	1.0	ug/L
<i>Toluene</i>	ND	ug/L	1.0	ug/L
<i>Ethylbenzene</i>	ND	ug/L	1.0	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	1.0	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: *8/28/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

Environmental Solutions Industry with the Environment



ANALYTICAL REPORT

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

Date: *3-Sep-97*
 COC No.: *5650*
 Sample ID.: *15844*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201430; MW-4*

Sampled by: *MS/MG* Date: *20-Aug-97* Time: *14:30*
 Analyzed by: *HR* Date: *2-Sep-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure										
<i>Cations</i>														
<i>Sodium Na</i>	<i>5900</i>	<i>mg/L</i>	<i>256.64</i>	<i>me/L</i>										
<i>Calcium Ca</i>	<i>385</i>	<i>mg/L</i>	<i>19.21</i>	<i>me/L</i>										
<i>Magnesium Mg</i>	<i>127</i>	<i>mg/L</i>	<i>10.45</i>	<i>me/L</i>										
<i>Potassium K</i>	<i>28.1</i>	<i>mg/L</i>	<i>0.72</i>	<i>me/L</i>										
<i>Anions</i>														
<i>Chloride Cl</i>	<i>117</i>	<i>mg/L</i>	<i>3.30</i>	<i>me/L</i>										
<i>Sulfate SO4</i>	<i>13097</i>	<i>mg/L</i>	<i>272.67</i>	<i>me/L</i>										
<i>Carbonate CO3 as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>										
<i>Bicarbonate HCO3 as CaCO3</i>	<i>492</i>	<i>mg/L</i>	<i>8.06</i>	<i>me/L</i>										
<i>Hydroxide OH as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>										
<i>Total Dissolved Solids</i>														
<i>Calculated, Sum of Cation/Anion</i>	<i>20146</i>	<i>mg/L</i>	<table border="0"> <tr> <td colspan="2"><i>Cation-Anion Balance</i></td> </tr> <tr> <td><i>2.98</i></td> <td><i>Difference Cation-Anion, me/L</i></td> </tr> <tr> <td><i>571.05</i></td> <td><i>Total Cation-Anion, me/L</i></td> </tr> <tr> <td><i>0.5</i></td> <td><i>% Difference Cation-Anion</i></td> </tr> <tr> <td colspan="2"><i>Comments</i></td> </tr> </table>		<i>Cation-Anion Balance</i>		<i>2.98</i>	<i>Difference Cation-Anion, me/L</i>	<i>571.05</i>	<i>Total Cation-Anion, me/L</i>	<i>0.5</i>	<i>% Difference Cation-Anion</i>	<i>Comments</i>	
<i>Cation-Anion Balance</i>														
<i>2.98</i>	<i>Difference Cation-Anion, me/L</i>													
<i>571.05</i>	<i>Total Cation-Anion, me/L</i>													
<i>0.5</i>	<i>% Difference Cation-Anion</i>													
<i>Comments</i>														
<i>Total Dissolved Solids Dried @ 180 C</i>	<i>22148</i>	<i>mg/L</i>												
<i>pH</i>	<i>7.51</i>													
<i>Conductivity @ 25 C</i>	<i>23100</i>	<i>uS/cm</i>												
<i>Total Hardness as CaCO3</i>	<i>1484</i>	<i>mg/L</i>												

Approved by: *[Signature]*
 Date: *9/4/97*

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: *27-Aug-97*
 COC No.: *5650*
 Sample No.: *15845*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9708201500; MW-5*
 Sampled by: *MG/MS* Date: *20-Aug-97* Time: *15:00*
 Analyzed by: *DC* Date: *22-Aug-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	1.0	ug/L
<i>Toluene</i>	ND	ug/L	1.0	ug/L
<i>Ethylbenzene</i>	ND	ug/L	1.0	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	1.0	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: *Jack*
 Date: *8/20/97*



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 22-Aug-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	< 1.0	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.7	2	15%
Toluene	ppb	20.0	20.4	2	15%
Ethylbenzene	ppb	20.0	20.6	3	15%
m,p-Xylene	ppb	40.0	39.4	2	15%
o-Xylene	ppb	20.0	20.4	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	96	91	(39-150)	3	20%
Toluene	100	97	(46-148)	3	20%
Ethylbenzene	100	97	(32-160)	3	20%
m,p-Xylene	96	93	(35-145)	3	20%
o-Xylene	99	96	(35-145)	2	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)	
15841-5650	97				
15843-5650	96				
15844-5650	96				
15845-5650	96				
				6/29/97	(m) 8/20/97

S1: Fluorobenzene

QUALITY ASSURANCE REPORT

Cation/Anion Balance

Date: 2-Sep-97

Quality Control Sample

Parameter	Laboratory Identification	True Value	Analyzed Value	Unit of Measure	% Diff	Limit % Diff
Sodium, Na	0451-QC	2.32	2.31	mg/L	0	10
Calcium, Ca	0465-QC	2.18	2.22	mg/L	2	10
Magnesium, Mg	0465-QC	1.14	1.23	mg/L	8	10
Potassium, K	0451-QC	1.33	1.34	mg/L	1	10
Chloride, Cl	0437-QC	200	207	mg/L	4	10
Sulfate, SO ₄	0541-QC	78	81	mg/L	4	10
Alkalinity	0541-QC	159	167	mg/L	5	10
pH	0541-QC	9.13	9.29		2	10
Conductivity	0541-QC	740	735	uS/cm	-1	15
Total Dissolved Solids, 180C	0541-QC	642	622	uS/cm	-3	15

Matrix Spike

Parameter	Laboratory Identification	Analyzed Value	Matrix Spike	Spike Value	Unit of Measure	Spike Recovery
Sodium, Na	15843-5650	1.40	0.50	1.93	mg/L	102%
Calcium, Ca	15843-5650	1.86	0.50	2.50	mg/L	106%
Magnesium, Mg	15853-5652	0.81	0.50	1.36	mg/L	104%
Potassium, K	15853-5652	1.46	0.50	2.00	mg/L	102%

Method Blank

Parameter	Laboratory Identification	Analyzed Value	Unit of Measure
Sodium, Na	LF-Blank	<0.2	mg/L
Calcium, Ca	LF-Blank	<0.05	mg/L
Magnesium, Mg	LF-Blank	<0.05	mg/L
Potassium, K	LF-Blank	<0.05	mg/L
Chloride, Cl	LF-Blank	<3 X DL	mg/L
Sulfate, SO ₄	LF-Blank	<1	mg/L
Conductivity	LF-Blank	<2	uS/cm

(pc) WR
9/4/97 9/4/97

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16792*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061330; MW-1*
 Sampled by: *MG* Date: *6-Nov-97* Time: *13:30*
 Analyzed by: *DC* Date: *12-Nov-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: *JAC*
 Date: *11/17/97*

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16792*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - Florance 124***
 Project Location: ***9711061330; MW-1***
 Sampled by: *MG* Date: *6-Nov-97* Time: *13:30*
 Analyzed by: *HR* Date: *17-Nov-97*
 Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Limit of Quantitation	Unit of Measure	Method
<i>Total Dissolved Solids. TDS</i>	<i>1130</i>	<i>10</i>	<i>mg/L</i>	<i>EPA Method 160.1</i>

Quality Assurance Report

Quality Control Sample

Parameter	LAB ID No.	True Value	Analyzed Value	Unit of Measure	RPD	Limit RPD
<i>Total Dissolved Solids</i>	<i>0563-STD</i>	<i>732</i>	<i>788</i>	<i>mg/L</i>	<i>7</i>	<i>10</i>

Duplication

Laboratory Identification	RPD	Limit RPD
<i>16830-6576</i>	<i>12.8</i>	<i>15.0</i>

Approved by: *[Signature]*
 Date: *11/17/97*

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: 17-Nov-97
 COC No.: 7082
 Sample No.: 16793
 Job No.: 2-1000

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061400; MW-2*
 Sampled by: MG Date: 6-Nov-97 Time: 14:00
 Analyzed by: DC Date: 12-Nov-97
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	15.5	ug/L	0.2	ug/L
<i>Toluene</i>	32.1	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	8.8	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	64.0	ug/L	0.2	ug/L
<i>o-Xylene</i>	26.5	ug/L	0.2	ug/L
<i>TOTAL</i>	146.9	ug/L		

26.9
51.8
17.0
109.0
33.8

238.5

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *11/17/97*

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16793*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061400; MV:-2*
 Sampled by: *MG* Date: *6-Nov-97* Time: *14:00*
 Analyzed by: *HR* Date: *17-Nov-97*
 Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Limit of Quantitation	Unit of Measure	Method
<i>Total Dissolved Solids, TDS</i>	<i>700</i>	<i>10</i>	<i>mg/L</i>	<i>EPA Method 160.1</i>

Quality Assurance Report

Quality Control Sample

Parameter	LAB ID No.	True Value	Analyzed Value	Unit of Measure	RPD	Limit RPD
<i>Total Dissolved Solids</i>	<i>0563-STD</i>	<i>732</i>	<i>788</i>	<i>mg/L</i>	<i>7</i>	<i>10</i>

Duplication

Laboratory Identification	RPD	Limit RPD
<i>16830-6576</i>	<i>12.8</i>	<i>15.0</i>

Approved by: *JAC*
 Date: *11/17/97*

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16794*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061430; MW-3*
 Sampled by: *MG* Date: *6-Nov-97* Time: *14:30*
 Analyzed by: *DC* Date: *12-Nov-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>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.2	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: *11/17/97*

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16794*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061430; MW-3*
 Sampled by: *MG* Date: *6-Nov-97* Time: *14:30*
 Analyzed by: *HR* Date: *17-Nov-97*
 Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Limit of Quantitation	Unit of Measure	Method
<i>Total Dissolved Solids, TDS</i>	<i>26900</i>	<i>10</i>	<i>mg/L</i>	<i>EPA Method 160.1</i>

Quality Assurance Report

Quality Control Sample

Parameter	LAB ID No.	True Value	Analyzed Value	Unit of Measure	RPD	Limit RPD
<i>Total Dissolved Solids</i>	<i>0563-STD</i>	<i>732</i>	<i>788</i>	<i>mg/L</i>	<i>7</i>	<i>10</i>

Duplication

Laboratory Identification	RPD	Limit RPD
<i>16830-6576</i>	<i>12.8</i>	<i>15.0</i>

Approved by: *JaE*
 Date: *11/17/97*

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: *17-Nov-97*
COC No.: *7082*
Sample No.: *16795*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
Project Location: *9711061500; MW-4*
Sampled by: *MG* Date: *6-Nov-97* Time: *15:00*
Analyzed by: *DC* Date: *12-Nov-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: *JAG*
Date: *11/17/97*

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: *17-Nov-97*
 COC No.: *7082*
 Sample No.: *16795*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9711061500; MVJ-4*
 Sampled by: *MG* Date: *6-Nov-97* Time: *15:00*
 Analyzed by: *HR* Date: *17-Nov-97*
 Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Limit of Quantitation	Unit of Measure	Method
<i>Total Dissolved Solids, TDS</i>	<i>22300</i>	<i>10</i>	<i>mg/L</i>	<i>EPA Method 160.1</i>

Quality Assurance Report

Quality Control Sample

Parameter	LAB ID No.	True Value	Analyzed Value	Unit of Measure	RPD	Limit RPD
<i>Total Dissolved Solids</i>	<i>0563-STD</i>	<i>732</i>	<i>788</i>	<i>mg/L</i>	<i>7</i>	<i>10</i>

Duplication

Laboratory Identification	RPD	Limit RPD
<i>16830-6576</i>	<i>12.8</i>	<i>15.0</i>

Approved by: *[Signature]*
 Date: *11/17/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 12-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-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	19.7	1	15%
Toluene	ppb	20.0	20.4	2	15%
Ethylbenzene	ppb	20.0	20.6	3	15%
m,p-Xylene	ppb	40.0	39.3	2	15%
o-Xylene	ppb	20.0	20.7	4	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	96	103	(39-150)	3	20%
Toluene	99	113	(46-148)	7	20%
Ethylbenzene	97	101	(32-160)	2	20%
m,p-Xylene	94	99	(35-145)	2	20%
o-Xylene	95	99	(35-145)	2	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)	
16792-7082	95				
16793-7082	87				
16794-7082	95				
16795-7082	95				
				JHC 11/21/97	(DC) 11/17/97

S1: Fluorobenzene



CHAIN OF CUSTODY RECORD

702

Date: 11-06-97

Page: 1 of 1

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
 LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name Maureen Gannon		Title																																												
SEND INVOICE TO	Name Denver Bearden				Company PNM Gas Services		Mailing Address Alverado Square, Mail Stop 0408																																												
	Company PNM Gas Services		Dept. 324-3763		Mailing Address Alverado Square, Mail Stop 0408		City, State, Zip Albuquerque, NM 87158																																												
	Address 603 W. Elm Street				City, State, Zip Albuquerque, NM 87158		Telephone No. 505-848-2974		Telefax No.																																										
	City, State, Zip Farmington, NM 87401				Telephone No. 505-848-2974		Telefax No.																																												
Sampling Location: FLORANCE 124				Number of Containers	ANALYSIS REQUESTED																																														
Sampler: <i>Maureen Gannon</i>					<table border="1" style="width:100%; height: 100px;"> <tr> <td style="width: 5%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">BIEX</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">TDS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																											BIEX	TDS																		
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SAMPLE IDENTIFICATION					SAMPLE		MATRIX		PRES.																																										
				DATE		TIME				LAB ID																																									
9711061330 MW1						H2O		NC		3		X		X																																					
9711061400 MW2						↓		↓		3		X		X																																					
9711061430 MW3						↓		↓		3		X		X																																					
9711061500 MW4						H2O		NC		3		X		X																																					
Relinquished by: <i>Maureen Gannon</i>				Date/Time 11/06/97 1530				Received by: <i>[Signature]</i>				Date/Time 11/6/97 1530																																							
Relinquished by:				Date/Time				Received by:				Date/Time																																							
Relinquished by:				Date/Time				Received by:				Date/Time																																							
Method of Shipment:				Rush		24-48 Hours		10 Working Days		Special Instructions:																																									
Authorized by: <i>Maureen Gannon</i> Date 11-06-97												Results to be sent to both parties.																																							
(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: *23-Jan-98*
 COC No.: *7134*
 Sample No.: *17366*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9801191011; MW-1*
 Sampled by: *RD* Date: *19-Jan-98* Time: *10:11*
 Analyzed by: *DC* Date: *21-Jan-98*
 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>	0.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.3	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.5	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *JAG*
 Date: *2/2/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- Environmental Services Department -

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: *23-Jan-98*
 COC No.: *7134*
 Sample No.: *17367*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9801191031; MW-2*
 Sampled by: *RD* Date: *19-Jan-98* Time: *10:31*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	32.9	ug/L	0.2	ug/L
<i>Toluene</i>	45.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	18.1	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	114.1	ug/L	0.2	ug/L
<i>o-Xylene</i>	41.4	ug/L	0.2	ug/L
<i>TOTAL</i>	251.5	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *Jac*
 Date: *2/2/98*

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: *23-Jan-98*
 COC No.: *7134*
 Sample No.: *17368*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9801191046; MW-3*
 Sampled by: *RD* Date: *19-Jan-98* Time: *10:46*
 Analyzed by: *DC* Date: *21-Jan-98*
 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>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.4	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: *2/2/98*

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: *23-Jan-98*
 COC No.: *7134*
 Sample No.: *17369*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
 Project Location: *9801191103; MW-4*
 Sampled by: *RD* Date: *19-Jan-98* Time: *11:03*
 Analyzed by: *DC* Date: *21-Jan-98*
 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>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.4	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: *2/2/98*

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: *23-Jan-98*
COC No.: *7134*
Sample No.: *17370*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 124*
Project Location: *9801191121; MW-5*
Sampled by: *RD* Date: *19-Jan-98* Time: *11:21*
Analyzed by: *DC* Date: *21-Jan-98*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>21.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>30.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>12.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>72.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>26.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>162.4</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: *Jag*
Date: *2/2/98*

P.O. BOX 2606 • FARMINGTON, NM 87499



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 21-Jan-98

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-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	30.0	30.6	2	15%
Toluene	ppb	30.0	30.8	3	15%
Ethylbenzene	ppb	30.0	31.4	5	15%
m,p-Xylene	ppb	60.0	59.7	0	15%
o-Xylene	ppb	30.0	31.1	4	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	102	92	(39-150)	2	20%
Toluene	108	105	(46-148)	2	20%
Ethylbenzene	108	105	(32-160)	3	20%
m,p-Xylene	104	102	(35-145)	3	20%
o-Xylene	110	107	(35-145)	2	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)	
17366-7134	101				
17367-7134	92				
17368-7134	102				
17369-7134	102				
17370-7134	92			2/2 1/26/98	(nc) 2/2/98

S1: Fluorobenzene



CHAIN OF CUSTODY RECORD

Date: 1/19/98

Page: 1 of 1

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
 LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name Maureen Gannon		Title		
SEND INVOICE TO	Name Denver Bearden		Company PNM Gas Services		Mailing Address Alverado Square, Mail Stop 0408				
	Company PNM Gas Services		Dept. 324-3763		City, State, Zip Albuquerque, NM 87158				
	Address 603 W. Elm Street				Telephone No. 505-848-2974		Telefax No.		
	City, State, Zip Farmington, NM 87401								
Sampling Location: Florence 124				Number of Containers	ANALYSIS REQUESTED				
Sampler: R. Dedrick					<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;">STEX-0020</div>				
SAMPLE IDENTIFICATION		SAMPLE		MATRIX		PRES.		LAB ID	
		DATE	TIME						
9801191011	MW 1	1/19/98	1011	H₂O	HCl	1	X	17366-7134	
9801191031	MW 2	1/19/98	1031	H₂O	HCl	1	X	17367-	
9801191046	MW 3	1/19/98	1046	H₂O	HCl	1	X	17368-	
9801191103	MW 4	1/19/98	1103	H₂O	HCl	1	X	17369-	
9801191121	MW 5	1/19/98	1121	H₂O	HCl	1	X	17370- ✓	
Relinquished by: R. Dedrick		Date/Time 1/19/98 1529		Received by: [Signature]		Date/Time 1/19/98 1529			
Relinquished by:		Date/Time		Received by:		Date/Time			
Relinquished by:		Date/Time		Received by:		Date/Time			
Method of Shipment:				Rush	24-48 Hours	10 Working Days	Special Instructions:		
Authorized by: [Signature] Date 1/19/98							Results to be sent to both parties.		
(Client Signature <u>Must</u> Accompany Request)									