

3R - 314

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 23 1998
Oil 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 Juckes
Ron Johnson (w/o analytical results)
Mark Sikelianos

Groundwater Site Summary Report

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

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

Operator: Amoco

Sec: 15 **Twn:** 30 **Rng:** 8 **Unit:** F

Canyon: San Juan River

Vulnerable Class: Original

OCD Ranking: 30

Lead Agency: NMOCD

Topo Map: previously submitted

Well Completion Diagram: previously submitted

Site Map with Analysis: Figure 1

Groundwater Contour Map: Figure 2 (May 1997), Figure 3 (August 1997), Figure 4 (November 1997), & Figure 5 (January 1998)

Groundwater Hydrograph: Figure 6

Full-Suite Groundwater Results: previously submitted

Analytical Results: attached

Activities for Previous Year:

PNM conducted quarterly groundwater sampling at the Florance 32A on May 21, August 13 and November 6, 1997, and again on January 28, 1998. PNM collected groundwater samples in all wells except MW-4 for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). MW-4 was not sampled since its location to the former pit is similar to MW-3. Prior to sampling, water level measurements were taken in MW-1, -2, -3 and -5. All sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico for chemical analyses of BTEX using EPA method 8020.

Due to the presence of high BTEX concentrations in MW-2, PNM conducted additional source removal at the site on January 5, 1998. Field crews removed approximately 2000 cubic yards in and around PNM's former pit. MW-2 was removed during the excavation. PNM re-installed MW-2 on January 29, 1998.

Results:

Figure 1 is a site map of the Florance 32A and includes groundwater analytical results. BTEX concentrations in the area of the former pit remain above standards but show a downward trend. The additional source removal appears to have accelerated the reduction of benzene in this area.

Figure(s) 2, 3, 4 and 5 are groundwater contour maps of the site for May, August and November 1997 and January 1998, respectively. Groundwater tends to flow in a southwesterly direction beneath the site. Figure 6 is the hydrograph of the site. Groundwater elevations were highest in March of 1997, showed a decreasing trend between March and November, and rose again in January 1998.

Further Action:

PNM will continue to monitor the groundwater gradient and perform quarterly groundwater sampling at the Florance 32A well site.

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 32A: Site Map With Analytical Results
(Concentrations in ppb)

← San Juan River

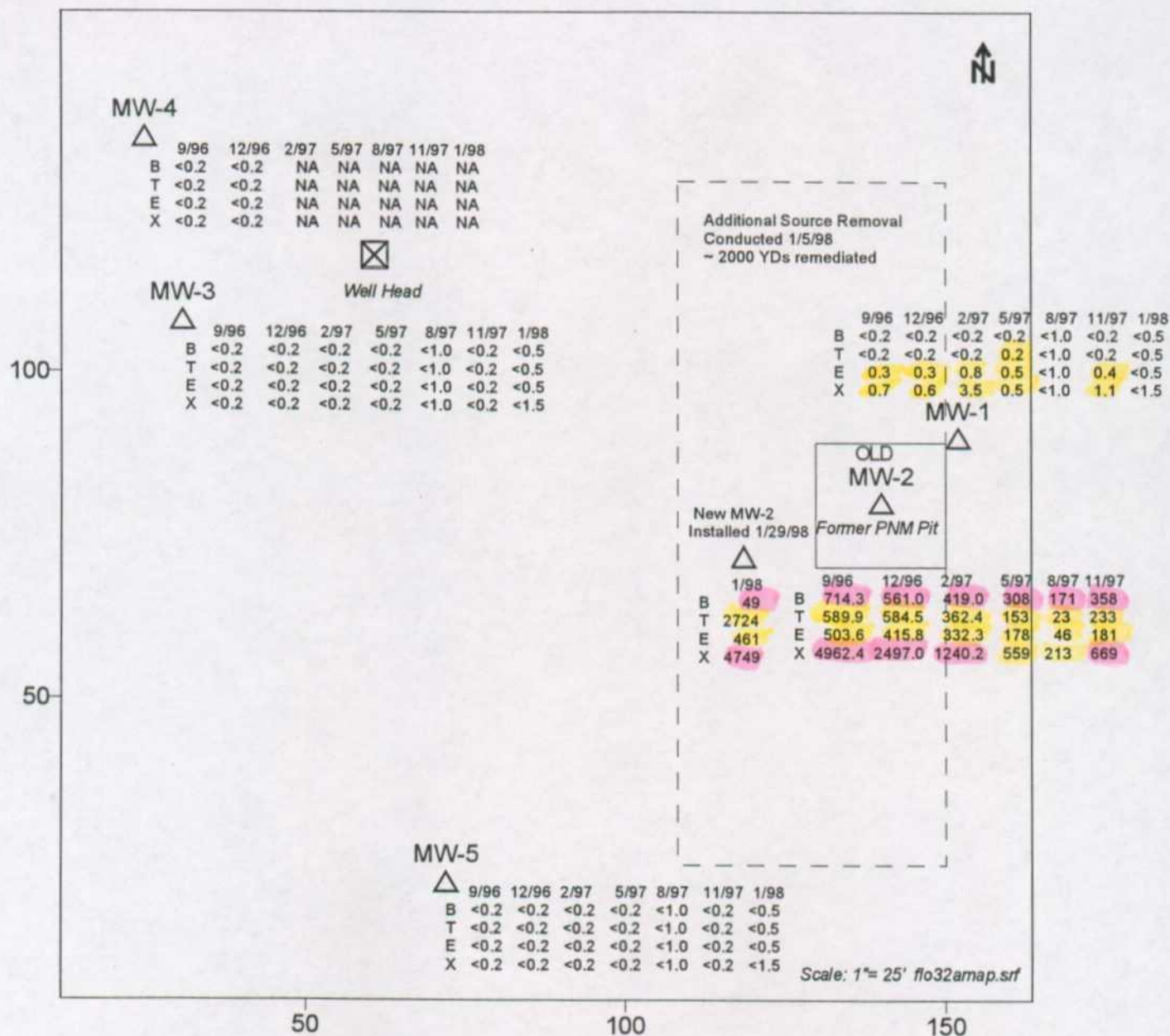


Figure 2. Florance 32A Groundwater Contour Map (May 21, 1997)

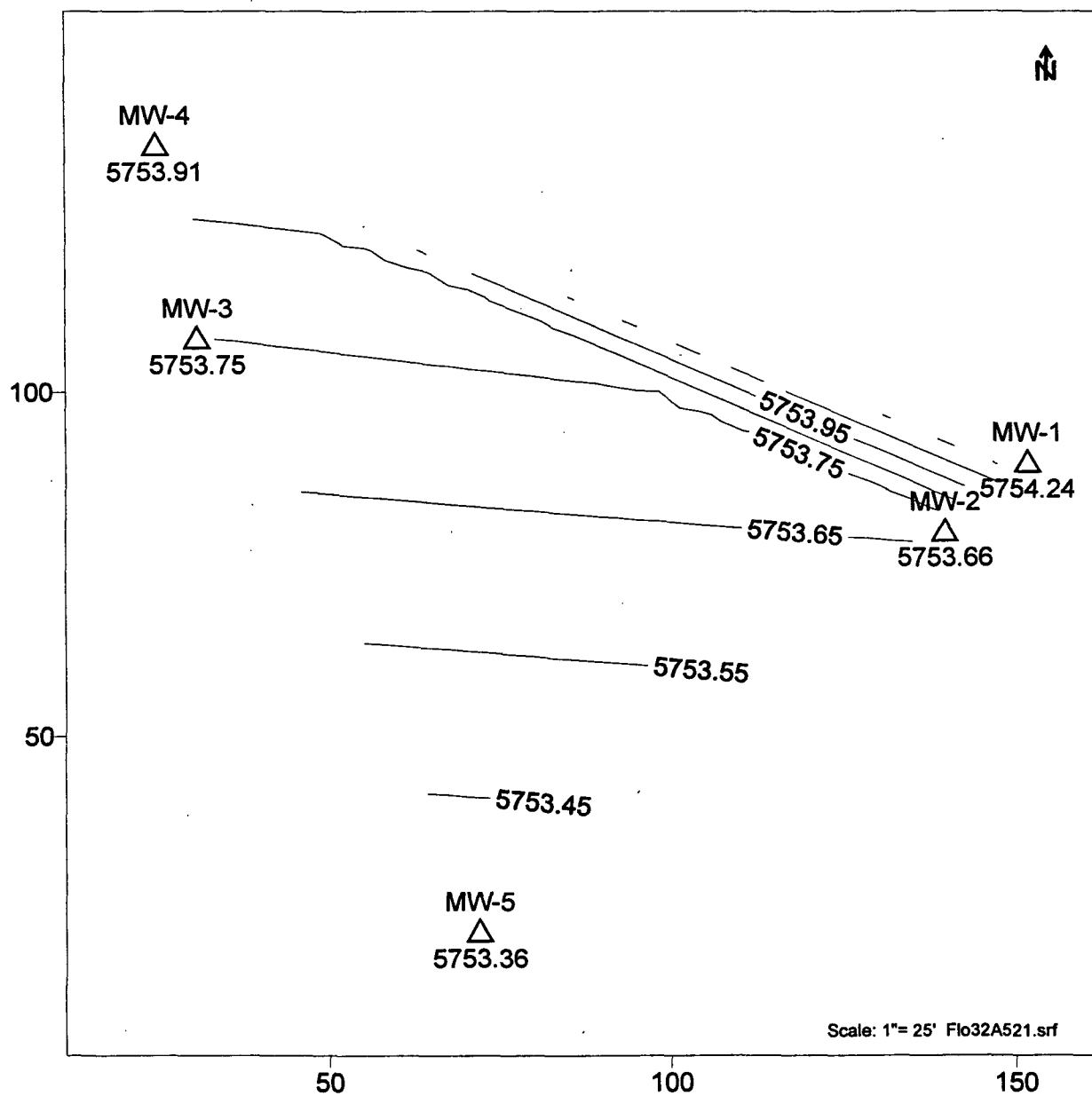


Figure 3. Florance 32A Groundwater Contour Map (August 13, 1997)

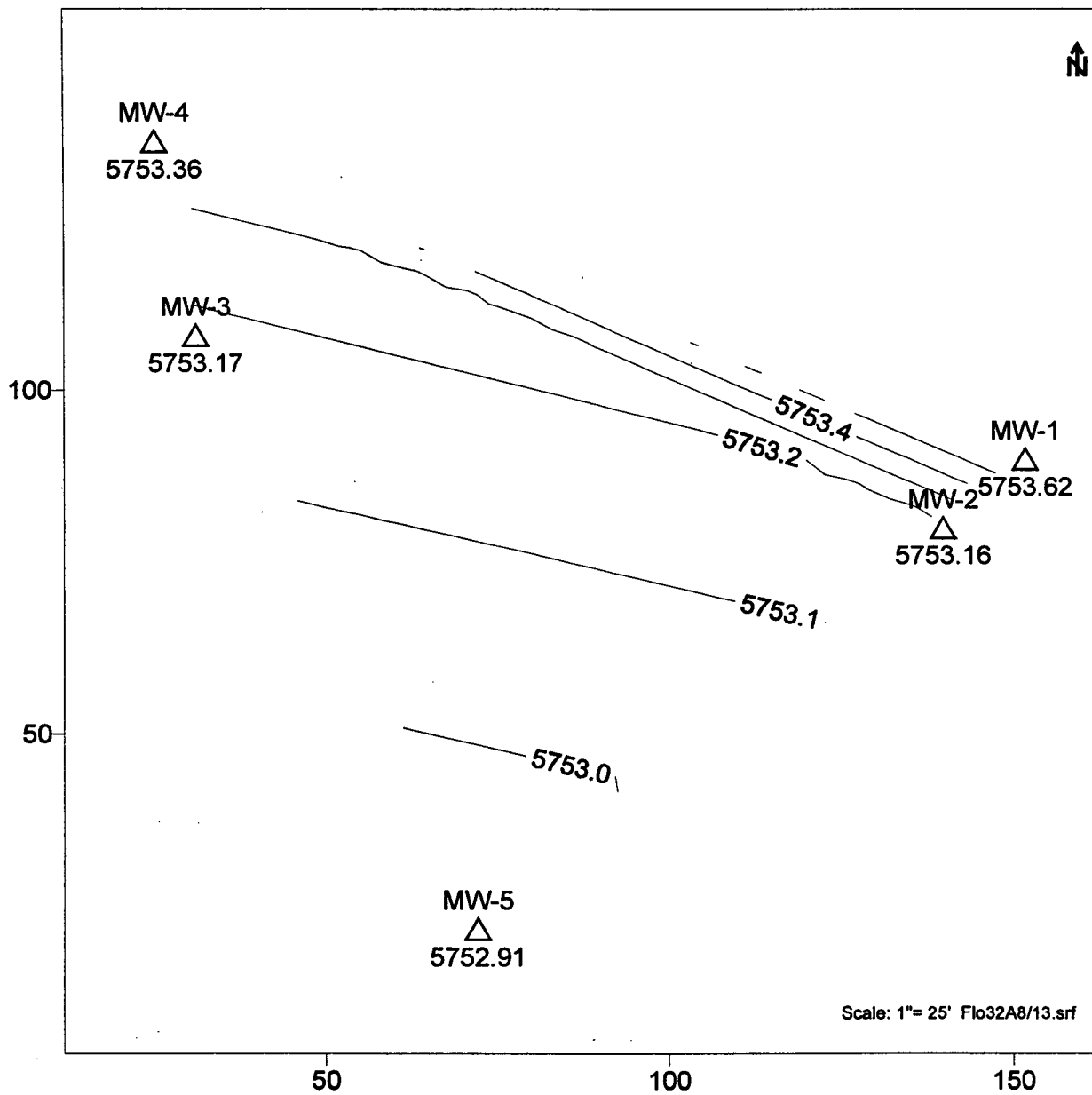


Figure 4. Florance 32A Groundwater Contour Map (November 6, 1997)

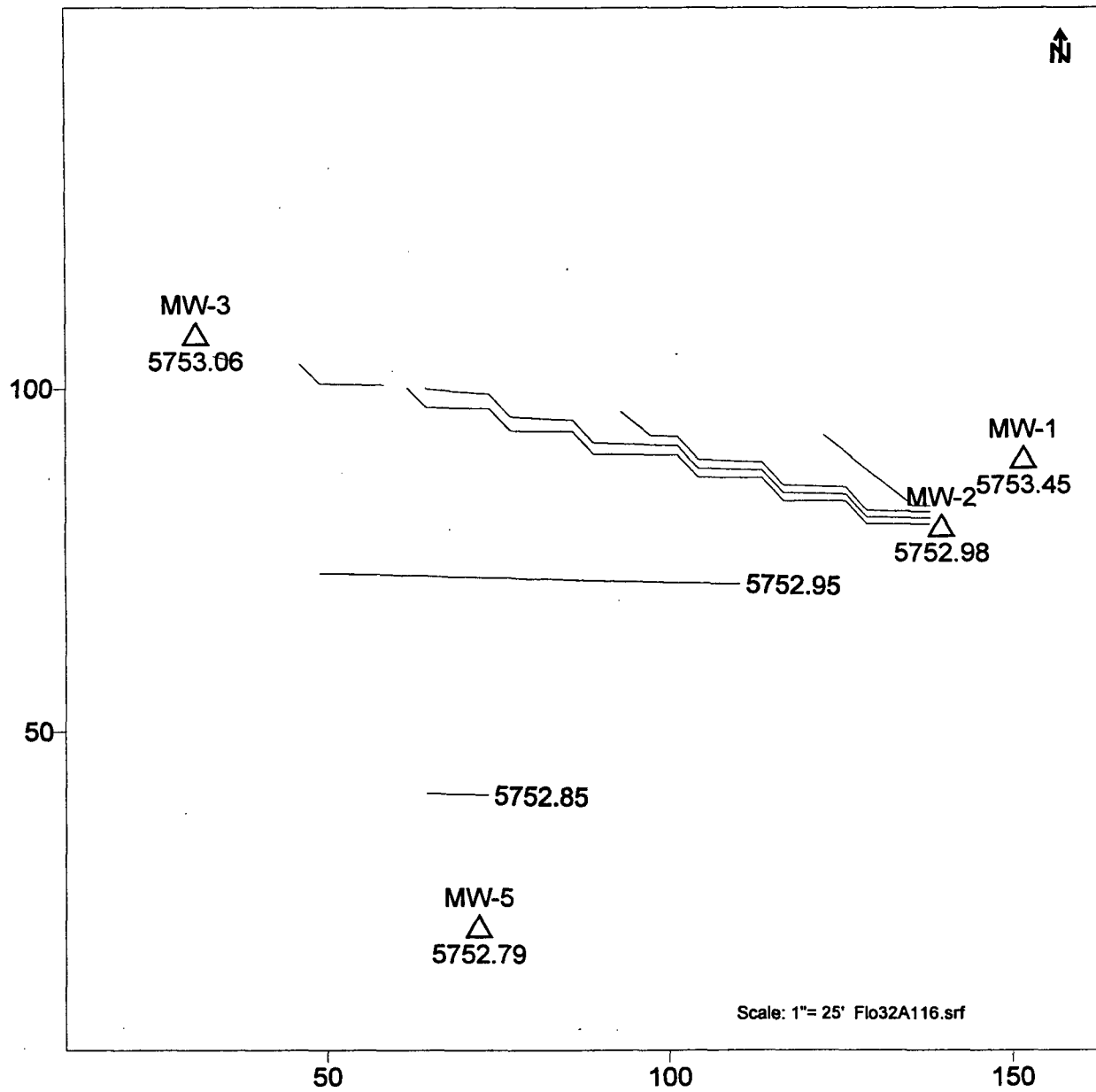


Figure 5. Florance 32A Groundwater Contour Map (January 29, 1998)

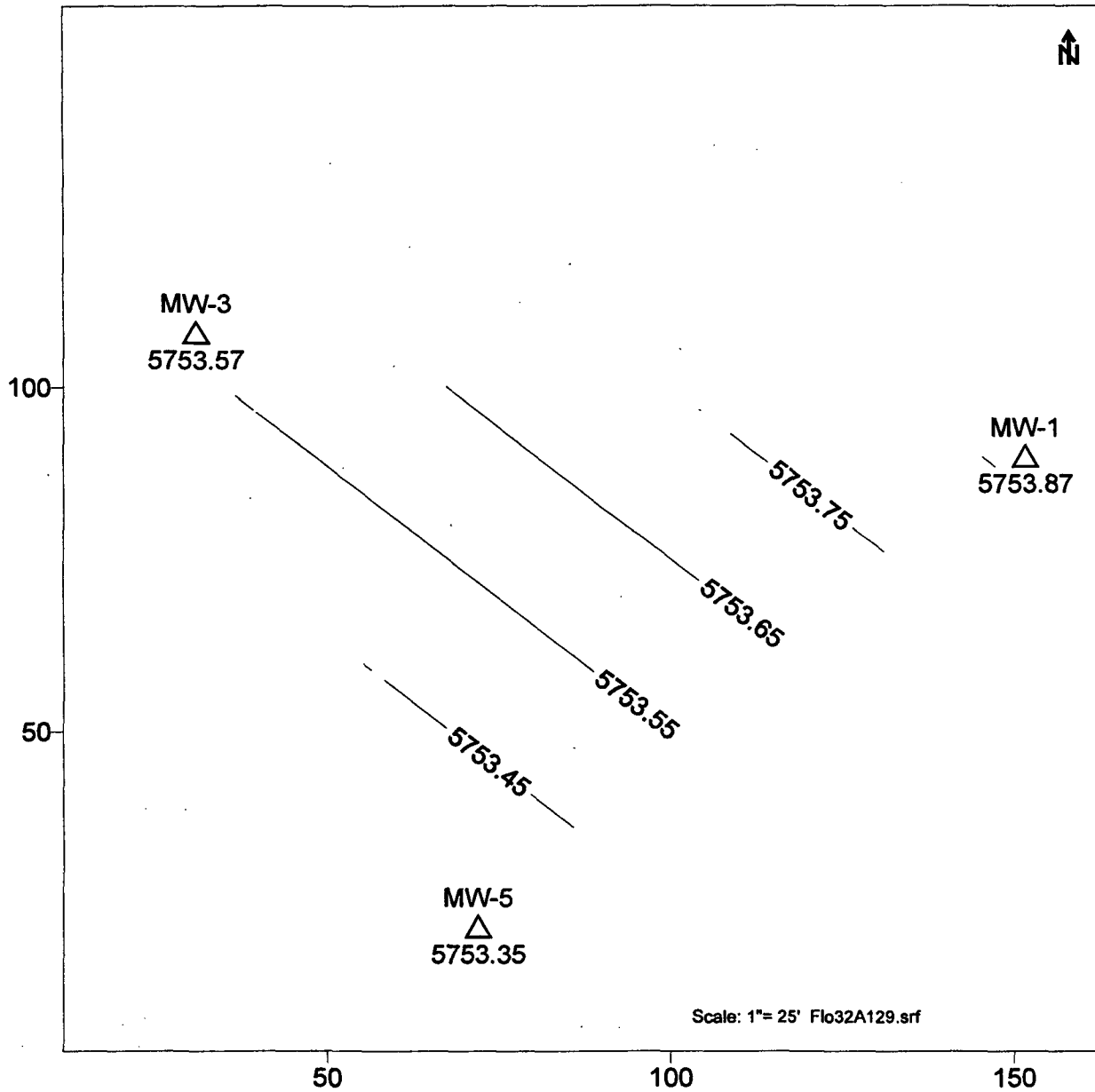
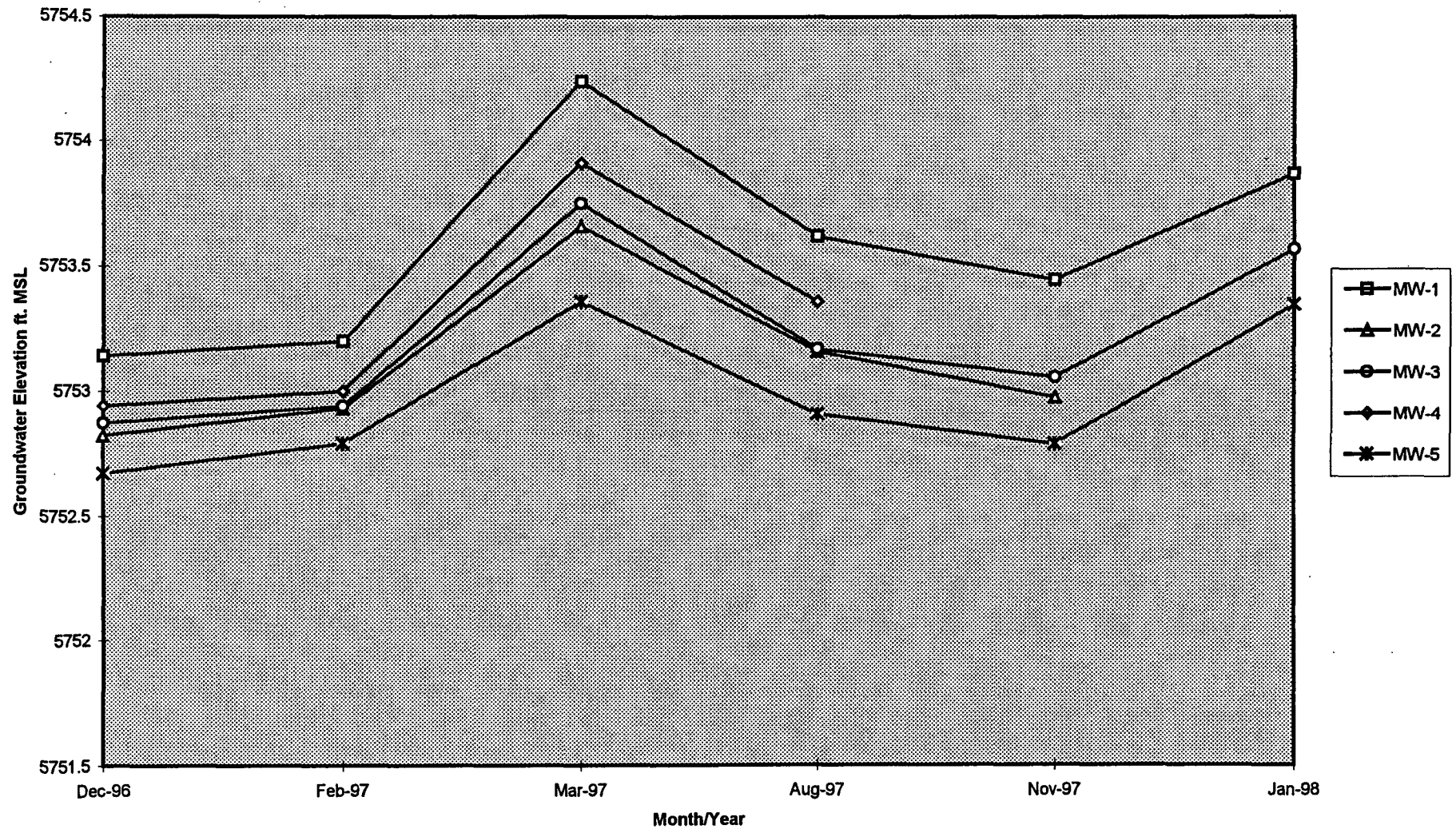


Figure 6. Florance 32A Hydrograph
(Water Level vs. Time)



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: *28-May-97*
COC No.: *5558*
Sample No.: *14672*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9705211030; MW-1*

Sampled by: *MS/MG*

Date: *21-May-97* Time: *10:30*

Analyzed by: *DC*

Date: *22-May-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>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.5	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	1.2	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: _____

Date: _____

OFF: (505) 325-5667

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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: *28-May-97*
COC No.: *5558*
Sample No.: *14673*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9705211100; MW-2*

Sampled by: *MS/MG*

Date: *21-May-97* Time: *11:00*

Analyzed by: *DC*

Date: *22-May-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>308</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>153</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>178</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>388</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>171</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>1198</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: _____

Date: _____

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ANALYTICAL REPORT

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

Date: *28-May-97*
COC No.: *5558*
Sample No.: *14674*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9705211130; MW-3*

Sampled by: *MS/MG*

Date: *21-May-97* Time: *11:30*

Analyzed by: *DC*

Date: *22-May-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: _____

Date: _____

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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: *28-May-97*
COC No.: *5558*
Sample No.: *14675*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9705211200; MW-5*

Sampled by: *MS/MG*

Date: *21-May-97* Time: *12:00*

Analyzed by: *DC*

Date: *22-May-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:
Date:

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ANALYTICAL REPORT

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

Date: *28-May-97*
COC No.: *5558*
Sample No.: *14676*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9705211230; MW-6*

Sampled by: *MS/MG*

Date: *21-May-97* Time: *12:30*

Analyzed by: *DC*

Date: *22-May-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>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.5	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	1.2	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: _____

Date: _____

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LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 22-May-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	17.7	11	15%
Toluene	ppb	20.0	18.1	9	15%
Ethylbenzene	ppb	20.0	18.3	9	15%
m,p-Xylene	ppb	40.0	35.0	13	15%
o-Xylene	ppb	20.0	18.2	9	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	96	80	(39-150)	7	20%
Toluene	97	85	(46-148)	7	20%
Ethylbenzene	95	83	(32-160)	6	20%
m,p-Xylene	94	81	(35-145)	6	20%
o-Xylene	95	83	(35-145)	6	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)	
14672-5558	95				
14673-5558	97				
14674-5558	95				
14675-5558	95				
14676-5558	95				

S1: Fluorobenzene

558

TECHNOLOGIES, LTD.

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

Date: 5/21/97

Page 1 of 1[illegible]

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

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.: *5647*
Sample No.: *15764*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9708131100; MW-1*

Sampled by: *MG/MS*

Date: *13-Aug-97* Time: *11:00*

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: *8/20/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGICAL RESEARCH & CONSULTING, INC. -

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.: *5647*
Sample No.: *15765*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9708131130; MW-2*

Sampled by: *MG/MS*

Date: *13-Aug-97* Time: *11:30*

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>	<i>171</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Toluene</i>	<i>23</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>46</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>117</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>96</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>453</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: *8/28/97*

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: *27-Aug-97*
COC No.: *5647*
Sample No.: *15766*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9708131200; MW-3*

Sampled by: *MG/MS* Date: *13-Aug-97* Time: *12:00*

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		

5/21/97

ND

ND

ND

ND

ND

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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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.: *5647*
Sample No.: *15767*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9708131230; MW-5*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *13-Aug-97* Time: *12:30*
Date: *22-Aug-97*

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		

5-21-97

ND
ND
ND
ND
ND

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

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.: *5647*
Sample No.: *15768*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9708131300; MW-6*
Sampled by: *MG/MS* Date: *13-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

TECHNICAL PLANNING INDUSTRIES, INC.

OFF: (505) 325-5667



LAB: (505) 325-1556

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)	
15764-5647	97				
15765-5647	97				
15766-5647	97				
15767-5647	96				
15768-5647	96				
				JK	(12)
				8/29/97	8/28/97

S1: Fluorobenzene

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- TECHNICAL PERSONNEL ONLY -

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.: *7081*
Sample No.: *16788*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9711061100; MW-1*
Sampled by: *MG/MS* Date: *6-Nov-97* Time: *11:00*
Analyzed by: *DC* Date: *13-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>	0.4	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.8	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.3	ug/L	0.2	ug/L
<i>TOTAL</i>	1.4	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: *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.: *7081*
Sample No.: *16789*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9711061130; MW-2*
Sampled by: *MS/MG* Date: *6-Nov-97* Time: *11:30*
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>	<i>358</i>	<i>ug/L</i>	<i>1</i>	<i>ug/L</i>
<i>Toluene</i>	<i>233</i>	<i>ug/L</i>	<i>1</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>181</i>	<i>ug/L</i>	<i>1</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>511</i>	<i>ug/L</i>	<i>1</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>158</i>	<i>ug/L</i>	<i>1</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>1440</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: *11/17/97*

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ANALYTICAL REPORT

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

Date: *17-Nov-97*
COC No.: *7081*
Sample No.: *16790*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9711061200; MW-3*
Sampled by: *MS/MG* Date: *6-Nov-97* Time: *12:00*
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: *[Signature]*
Date: *11/17/97*

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ANALYTICAL REPORT

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

Date: *17-Nov-97*
COC No.: *7081*
Sample No.: *16791*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*

Project Location: *9711061230; MW-5*

Sampled by: *MS/MG*

Date: *6-Nov-97* Time: *12:30*

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

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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: *3-Feb-98*
COC No.: *7171*
Sample No.: *17442*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9801291300; MW-1*
Sampled by: *MS/RD* Date: *29-Jan-98* Time: *13:00*
Analyzed by: *DC* Date: *31-Jan-98*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.5	ug/L
<i>Toluene</i>	ND	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.5	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	0.5	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: *2/3/98*

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ANALYTICAL REPORT

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

Date: *3-Feb-98*
COC No.: *7171*
Sample No.: *17443*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9801291320; MW-2*
Sampled by: *MS/RD* Date: *29-Jan-98* Time: *13:20*
Analyzed by: *DC* Date: *2-Feb-98*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	49	ug/L	5	ug/L
<i>Toluene</i>	2724	ug/L	10	ug/L
<i>Ethylbenzene</i>	461	ug/L	5	ug/L
<i>m,p-Xylene</i>	3871	ug/L	20	ug/L
<i>o-Xylene</i>	878	ug/L	5	ug/L
<i>TOTAL</i>	7983	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: *2/3/98*

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ANALYTICAL REPORT

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

Date: *3-Feb-98*
COC No.: *7171*
Sample No.: *17444*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9801291340; MW-3*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-Jan-98* Time: *13:40*
Date: *31-Jan-98*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.5	ug/L
<i>Toluene</i>	ND	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.5	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	0.5	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: *DC*
Date: *2/3/98*

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ANALYTICAL REPORT

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

Date: *3-Feb-98*
COC No.: *7171*
Sample No.: *17445*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9801291420; MW-5*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-Jan-98* Time: *14:20*
Date: *31-Jan-98*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.5	ug/L
<i>Toluene</i>	ND	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.5	ug/L
<i>m,p-Xylene</i>	ND	ug/L	1.0	ug/L
<i>o-Xylene</i>	ND	ug/L	0.5	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: *2/3/98*

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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: *3-Feb-98*
COC No.: *7171*
Sample No.: *17446*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 32A*
Project Location: *9801291440; MW-6*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-Jan-98* Time: *14:40*
Date: *2-Feb-98*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>46</i>	<i>ug/L</i>	<i>5</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2751</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>438</i>	<i>ug/L</i>	<i>5</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>3950</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>837</i>	<i>ug/L</i>	<i>5</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>8022</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: *DA*
Date: *2/3/98*

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OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT*for EPA Method 8020*

Date Analyzed: 31-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	20.0	22.1	10	15%
Toluene	ppb	20.0	22.3	11	15%
Ethylbenzene	ppb	20.0	23.1	14	15%
m,p-Xylene	ppb	40.0	43.3	8	15%
o-Xylene	ppb	20.0	22.3	11	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	100	94	(39-150)	3	20%
Toluene	105	100	(46-148)	4	20%
Ethylbenzene	104	100	(32-160)	3	20%
m,p-Xylene	100	97	(35-145)	3	20%
o-Xylene	105	103	(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)	
17442-7171	101				
17443-7171	102				
17444-7171	101				
17445-7171	101				
17446-7171	102				
				2/3/98	2/3/98

S1: Fluorobenzene

Reference Standard QC No.: 0529/30-QC

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client