

3R - 310

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,

A handwritten signature in black ink, appearing to read "Maureen Gannon", with a horizontal line extending to the right.

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: Burlington Resources
Sec: 19 Twn: 29 Rng: 11 Unit: L
Canyon: San Juan

Vulnerable Class: Original
OCD Ranking: 60
Lead Agency: NMOCD

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

Activities for Previous Year:

On May 29 and August 28, 1997, PNM conducted quarterly groundwater sampling at the Cozzens B1 well site. Prior to sampling, water level measurements were taken in MW-1, -2, -3, -4 and -5.

During the August sampling event, free phase product was discovered in monitor well MW-3. This well is located in a southwesterly direction downgradient of Burlington Resources' (BR) 300 bbl product storage tank. PNM immediately notified BR of a potential leak in their tank. PNM and BR visited the site on September 24, 1997, and discovered that a flange located near the bottom of the tank was leaking.

In a November 12, 1997 letter to OCD, PNM proposed to install a groundwater monitoring well in a true downgradient direction from our former pit and monitor MW-1, MW-2 and the new downgradient well to demonstrate successful remediation of groundwater beneath our former pit. OCD provided approval of our recommendations in a March 3, 1998 letter to PNM.

On January 27, 1998, two monitor wells, MW-7 and MW-8, were installed immediately downgradient of our former pit. The wells were developed. Water levels were not taken in the new wells and therefore a groundwater contour map is not provided for January 1998. PNM performed sampling in MW-1, -2, -7 and -8.

All groundwater sampling at the Cozzens B1 well site was conducted in strict compliance with EPA protocol. PNM delivered groundwater samples to OnSite Technologies, Farmington, New Mexico, for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020.

Results:

Figure 1 is a site map of the Cozzens B1 well site and includes the groundwater analytical results. Figure(s) 2, 3 and 4 are groundwater contour maps for the months of May and August 1997. The groundwater gradient flows in a southwesterly direction beneath the site and is dependent on discharge from the Citizens Ditch which flows in a northwesterly direction above the well site. Figure 4 is the hydrograph (water level versus time) for the site. Since June of 1996, water levels have held fairly constant except for MW-5. This well may not be completed within the same permeable layer as the other wells. We believe MW-5 receives groundwater from the canyon located to the northeast of the site.

Results of all sampling events show that BTEX concentrations in MW-1 and MW-2 have been below WQCC standards or non-detectable for seven quarters of monitoring. BTEX concentrations in the newest wells, MW-7 and MW-8, are also below WQCC standards or non-detectable.

Further Action:

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM will request closure of the Cozzens B1 pit in our April 30, 1998 filing of San Juan Basin Pit Closure Reports to the OCD Santa Fe office. This

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

request is based upon the analytical data collected over the last two years at the site. BTEX concentrations in upgradient and source wells at our former pit have been consistently below WQCC standards for over four calendar quarters. Sampling of MW-7 and MW-8 also indicated that BTEX concentrations in groundwater downgradient of our former pit area are non-detectable or below WQCC standards.

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. Cozzens B1 Site Map With Analytical Results
(Concentrations in ppb)

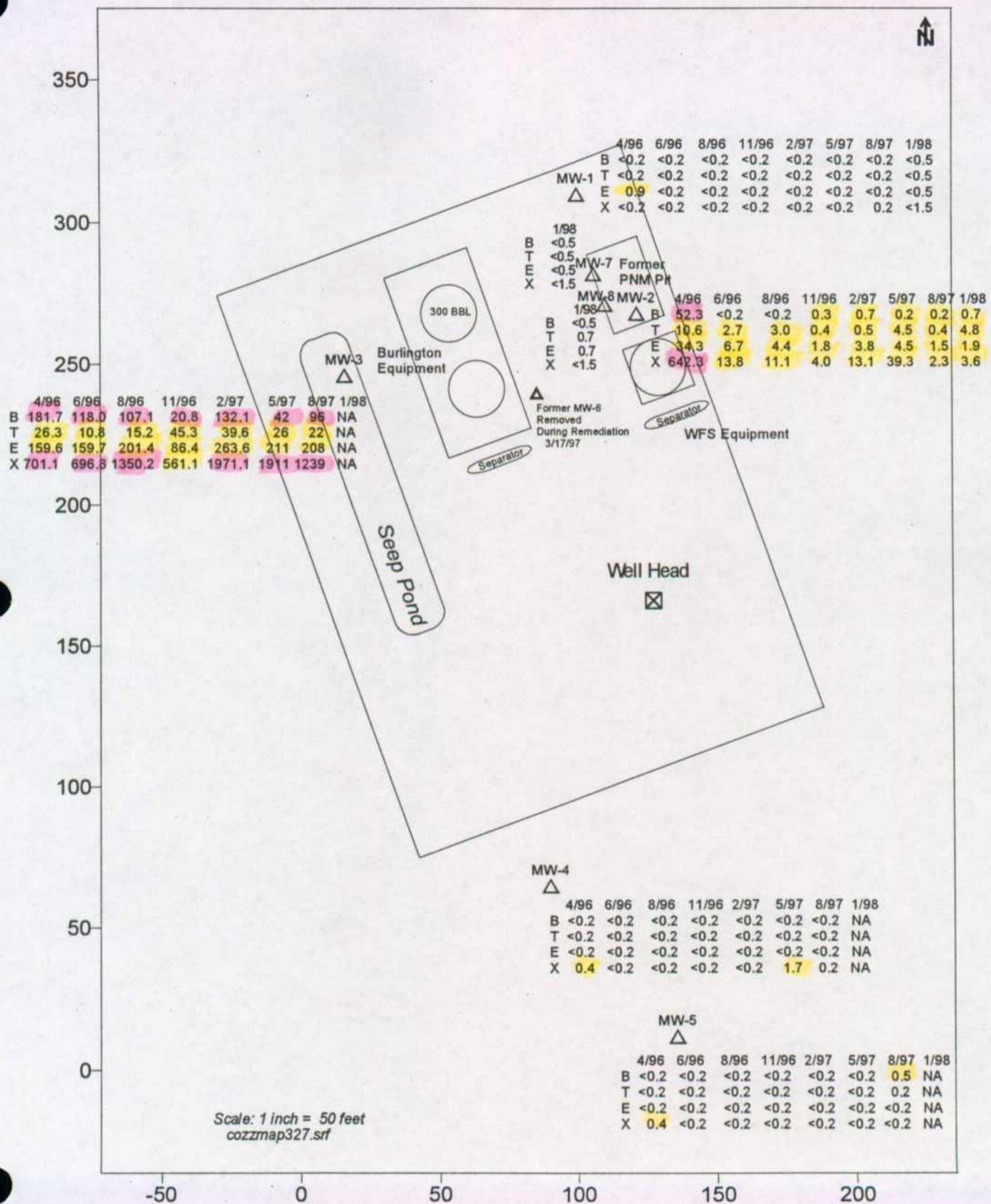


Figure 2. Cozzen B1 Groundwater Contour Map (May 29, 1997)

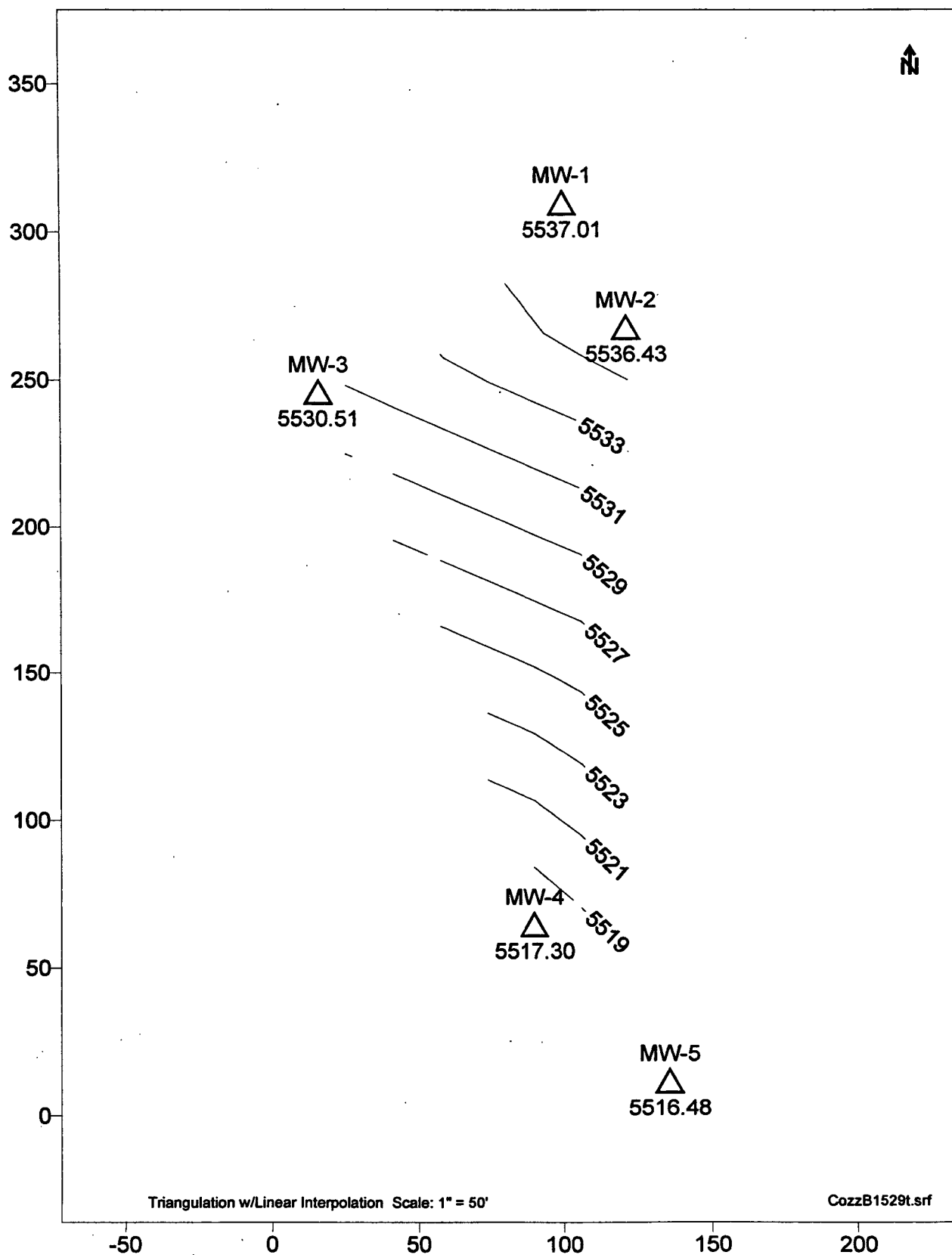


Figure 3. Cozzen B Groundwater Contour Map (August 28, 1997)

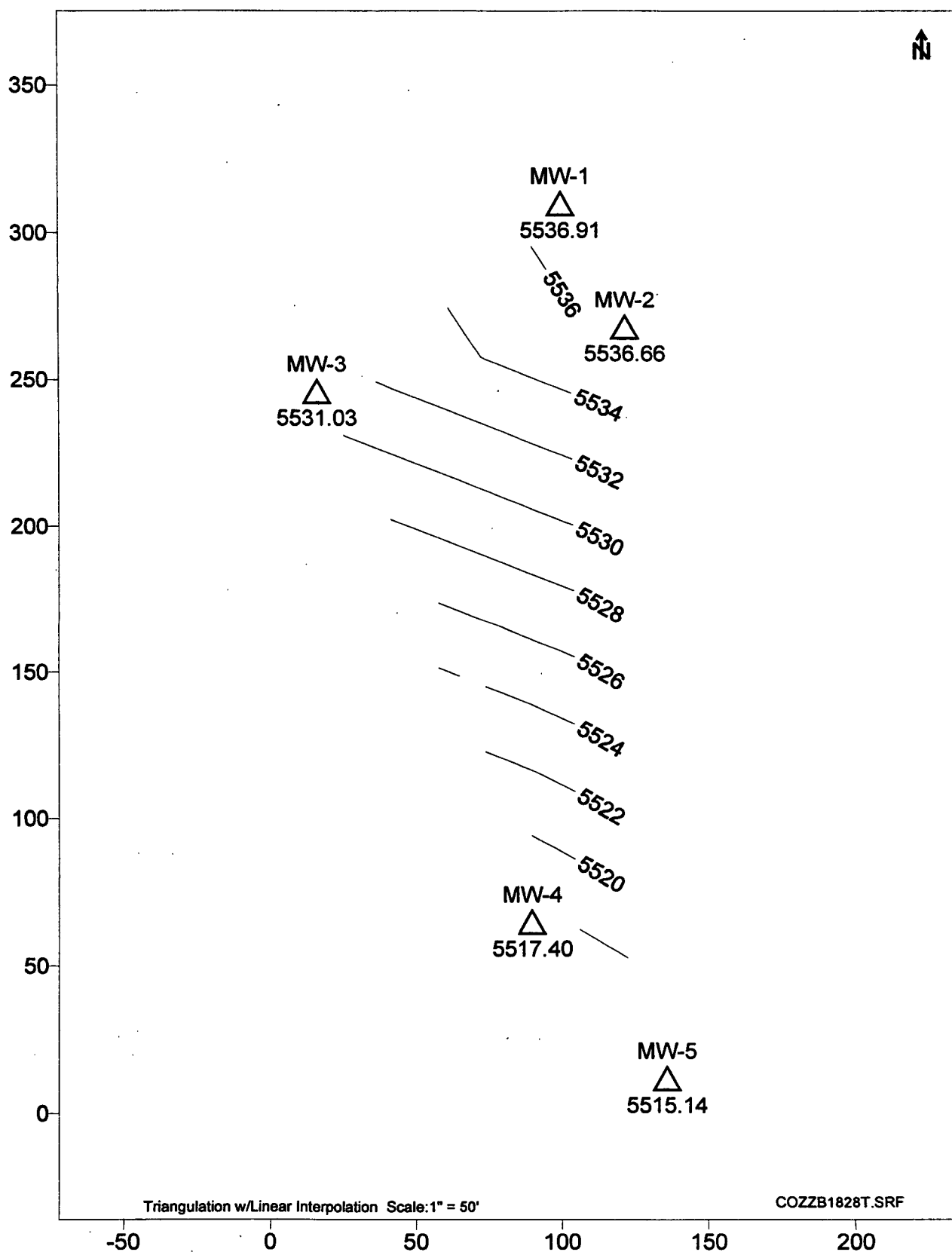
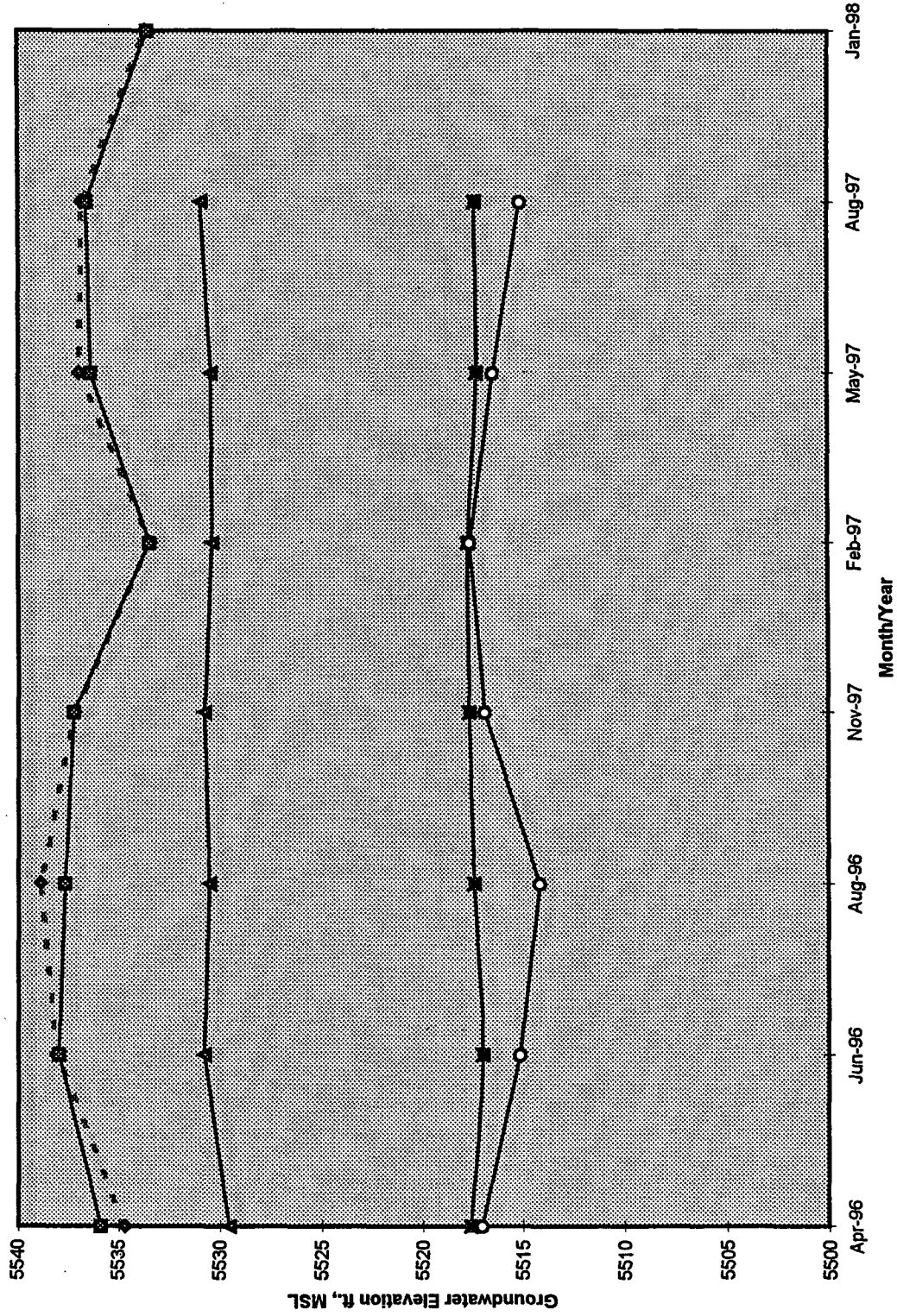


Figure 4. Cozen B1 Hydrograph
(Water Level vs. Time)



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: *10-Jun-97*
COC No.: *5560*
Sample No.: *14778*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9705291300; MW-1*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-May-97* Time: *13:00*
Date: *4-Jun-97*

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. SERVING 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: *11-Jun-97*
COC No.: *5560*
Sample No.: *14779*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9705291330; MW-2*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-May-97* Time: *13:30*
Date: *4-Jun-97*

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>	4.5	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	4.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	30.7	ug/L	0.2	ug/L
<i>o-Xylene</i>	8.6	ug/L	0.2	ug/L
<i>TOTAL</i>	48.3	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*

P.O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *10-Jun-97*
COC No.: *5560*
Sample No.: *14780*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9705291400; MW-3*
Sampled by: *MG/MS* Date: *29-May-97* Time: *14:00*
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>42</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>26</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>211</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1906</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>5</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2191</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*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *10-Jun-97*
COC No.: *5560*
Sample No.: *14781*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*

Project Location: *9705291430; MW-4*

Sampled by: *MG/MS*

Date: *29-May-97* Time: *14:30*

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>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.7	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	1.7	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: 
Date: *6/11/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *10-Jun-97*
COC No.: *5560*
Sample No.: *14782*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*

Project Location: *9705291500; MW-5*

Sampled by: *MG/MS*

Date: *29-May-97* Time: *15:00*

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: *Jack*
Date: *6/11/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *11-Jun-97*
COC No.: *5560*
Sample No.: *14783*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9705291530; MW-6*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *29-May-97* Time: *15:30*
Date: *4-Jun-97*

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>	4.8	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	4.6	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	31.4	ug/L	0.2	ug/L
<i>o-Xylene</i>	8.7	ug/L	0.2	ug/L
<i>TOTAL</i>	49.5	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: *6/11/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

• SERVING THE BLENDING INDUSTRY WITH THE ENVIRONMENT •

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

[illegible]

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

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *15998*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281330; MW-1*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *28-Aug-97* Time: *13:30*
Date: *3-Sep-97*

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: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *15999*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281400; MW-2*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *28-Aug-97* Time: *14:00*
Date: *3-Sep-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>2.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>4.5</i>	<i>ug/L</i>		

5/29

ND

4.5

4.5

30.7

0.6

48.3

ND - Not Detected at Limit of Quantitation

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

Approved By: *DAE*
Date: *9/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *16000*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281430; MW-3*

Sampled by: *MG/MS* Date: *28-Aug-97* Time: *14:30*
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>	96	ug/L	2	ug/L
<i>Toluene</i>	22	ug/L	2	ug/L
<i>Ethylbenzene</i>	208	ug/L	2	ug/L
<i>m,p-Xylene</i>	1233	ug/L	2	ug/L
<i>o-Xylene</i>	6	ug/L	2	ug/L
<i>TOTAL</i>	1565	ug/L		

5/29

42

26

211

1906

5

2191

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

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *16001*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281500; MW-4*
Sampled by: *MG/MS* Date: *28-Aug-97* Time: *15:00*
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>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>0.4</i>	<i>ug/L</i>		

ND
ND
ND
1.7
ND
1.7

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

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *16002*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281530; MW-6*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *28-Aug-97* Time: *15:30*
Date: *3-Sep-97*

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>	1.7	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	3.0	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>TOTAL</i>	5.1	ug/L		

ND - Not Detected at Limit of Quantitation

Dup of MW-2

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

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: *5-Sep-97*
COC No.: *5680*
Sample No.: *16003*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9708281600; MW-5*
Sampled by: *MG/MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *28-Aug-97* Time: *16:00*
Date: *3-Sep-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>0.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>0.7</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

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)	
15998-5680	97				
15999-5680	95				
16000-5680	96				
16001-5680	97				
16002-5680	95				
16003-5680	97				
				9/5/97	(92) 9/5/97

S1: Fluorobenzene

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BEYOND IMAGINATION WITH THE QUALITY OF A SCIENTIST -

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

TECHNOLOGIES, LTD.

Purchase Order No.:		Job No.		REPORT RESULTS TO	
SEND INVOICE TO		Denver Bearden			
		Name			
		Company	Dept.		
		Address			
City, State, Zip		Farmington, NM 87401		City, State, Zip	
Albuquerque, NM 87158		Albuquerque, NM 87158		City, State, Zip	
Mailing Address		Alverado Square, Mail Stop 0408		Mailing Address	
Company		PNM Gas Services		Company	
Name		Maureen Gannon		Name	
Title				Title	

ANALYSIS REQUESTED

Sampler:

Maurice Haxson / Mark Skianos

[illegible]

Relinquished by: <i>M. K. K. K.</i>	Date/Time <i>6-20-17</i>	Received by: <i>DS</i>	Date/Time <i>6/26/17 600</i>
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: <u>M. J. C. C. C.</u> (Client Signature <u>Must</u> Accompany Request)	Date <u>8/28/77</u>	Results to be sent to both parties.		

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

V-INITIATED SAMPLE

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: *22-Oct-97*
COC No.: *5848*
Sample No.: *16598*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9710151030; Seep Pond*
Sampled by: *MG/MS* Date: *15-Oct-97* Time: *10:30*
Analyzed by: *DC* Date: *20-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>972</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Toluene</i>	<i>461</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>233</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1592</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>443</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>3700</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: *10/22/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- THE FINEST IN SERVING THE INDUSTRY WITH THE FINEST PEOPLE -



CHAIN OF CUSTODY RECORD

3848

Date: 10-15-97

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: Alverado Square, Mail Stop 0408	
City, State, Zip: Farmington, NM 87401		City, State, Zip: Albuquerque, NM 87158	
Telephone No.:		Telephone No.:	
505-848-2974		505-848-2974	
Title:		Title:	
Analyst:		Analyst:	
Maureen Gannon		Maureen Gannon	
LAB ID:		LAB ID:	
16508-5848		16508-5848	
Number of Containers:		Number of Containers:	
2		2	
Received by:		Received by:	
J-L		J-L	
Date/Time: 10/15/97 1330		Date/Time: 10/15/97 1330	
Relinquished by:		Relinquished by:	
Maureen Gannon		Maureen Gannon	
Date/Time:		Date/Time:	
10/15/97		10/15/97	
Relinquished by:		Relinquished by:	
Maureen Gannon		Maureen Gannon	
Date/Time:		Date/Time:	
10/15/97		10/15/97	
Method of Shipment:		Method of Shipment:	
24-48 Hours		24-48 Hours	
Rush		Rush	
Special Instructions:		Special Instructions:	
Results to be sent to both parties.		Results to be sent to both parties.	
Authorized by:		Authorized by:	
Maureen Gannon		Maureen Gannon	
(Client Signature Must Accompany Request)		(Client Signature Must Accompany Request)	
Date: 10/15/97		Date: 10/15/97	

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: *3-Feb-98*
COC No.: *7169*
Sample No.: *17415*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzen B-1*
Project Location: *9801271015; MW-1*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Jan-98* Time: *10:15*
Date: *30-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*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *3-Feb-98*
COC No.: *7169*
Sample No.: *17416*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzen B-1*
Project Location: *9801271030; MW-2*
Sampled by: *MS/RD* Date: *27-Jan-98* Time: *10:30*
Analyzed by: *DC* Date: *30-Jan-98*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	0.7	ug/L	0.5	ug/L
<i>Toluene</i>	4.8	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	1.9	ug/L	0.5	ug/L
<i>m,p-Xylene</i>	3.0	ug/L	1.0	ug/L
<i>o-Xylene</i>	0.6	ug/L	0.5	ug/L
<i>TOTAL</i>	10.9	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *DAK*
Date: *2/3/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *3-Feb-98*
COC No.: *7169*
Sample No.: *17417*
Job No.: *2-1000*

Project Name: ***PNM Gas Services - Cozzen B-1***
Project Location: ***9801271045; MW-7***
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Jan-98* Time: *10:45*
Date: *30-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*

P.O. BOX 2606 • FARMINGTON, NM 87499

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: *3-Feb-98*
COC No.: *7169*
Sample No.: *17418*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzen B-1*
Project Location: *9801271100; MW-8*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Jan-98* Time: *11:00*
Date: *30-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>	0.7	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	0.7	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>	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: *2/3/98*

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: *3-Feb-98*
COC No.: *7169*
Sample No.: *17419*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzen B-1*
Project Location: *9801271115; MW-9*
Sampled by: *MS/RD*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Jan-98* Time: *11:15*
Date: *30-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>	0.8	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	0.7	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>	1.5	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: *2/3/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 30-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	21.7	8	15%
Toluene	ppb	20.0	21.9	9	15%
Ethylbenzene	ppb	20.0	22.9	13	15%
m,p-Xylene	ppb	40.0	42.8	7	15%
o-Xylene	ppb	20.0	22.1	10	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	108	95	(39-150)	12	20%
Toluene	106	97	(46-148)	9	20%
Ethylbenzene	110	100	(32-160)	9	20%
m,p-Xylene	103	94	(35-145)	8	20%
o-Xylene	108	99	(35-145)	8	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)	
17415-7169	100				
17416-7169	99				
17417-7169	100				
17418-7169	100				
17419-7169	100				

S1: Fluorobenzene

CHAIN OF CUSTODY RECORD

[illegible]