

3R - 310

REPORTS

DATE:

1997

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

April 15, 1997

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



RE: 1997 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1997 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 Drip~~

Florance 32A
Florance 40
Florance 44
Florance 47X
Florance 124
Hampton 4M
Honolulu Loop-Line Drip
Jacques 2A
Kaufmann 1
Mangum 1E
McClanahan A2E
McClanahan 22
McCoy A1A
Reid 16 Drip
Templeton 1E
Zachry 18E

RECEIVED

APR 16 1997

Environmental Bureau
Oil Conservation Division

PNM plans to request closure of two of the above sites, the Florance 124 and the Templeton 1E, in our April 30, 1997 filing of the San Juan Pit Closure Reports to the OCD Santa Fe office. We did not report on our newest groundwater site, the Sammons 2, since this was discovered in the second quarter of 1997. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

A handwritten signature in cursive script that reads "Maureen Gannon".

Maureen Gannon
Project Manager

Attachment

cc: Denver Bearden, PNMGS
Denny Foust, OCD-Aztec Office
Robin Prisk, WFS

**PNM 1997 San Juan Basin Groundwater Report
April 15, 1997**

Prepared for:

**New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505**

Prepared by:

**Public Service Company of New Mexico
Environmental Services Department
Alvarado Square - MS 0408
Albuquerque, New Mexico 87158**

PNMGS Well Site: Cozzens B 1

Groundwater Site Summary Report

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

Quarter/Year: 4/96 & 1/97

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 Map: Figure 2 (November 1996)
Groundwater Contour Map: Figure 3 (February 1997)
Groundwater Hydrograph: Figure 4
Analytical Results: attached

Activities for Previous Two Quarters (Oct. - Dec. 1996 & Jan. - Mar. 1997):

On November 22, 1996 and again on February 2, 1997, PNM conducted quarterly groundwater sampling at the Cozzens B1 well site. Prior to sampling, water level measurements were taken in each of the six monitoring wells. Groundwater sampling was conducted in strict compliance with EPA protocol. PNM delivered the 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 and 3 are groundwater contour maps for the months of November 1996 and March 1997, respectively. The groundwater gradient lies in a southwest 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.

As anticipated, the source well, MW-2 is showing a downward trend in groundwater contamination. However, groundwater in MW-3, located down-gradient of Burlington's operations, shows little change in BTEX concentration since last quarter.

On March 17, 1997, in cooperation with Burlington Resources, PNM performed additional source removal around and under Burlington's equipment. PNM excavated and removed from location approximately 1400 cubic yards of contaminated soil; all of the soil removed was located up-gradient of MW-3. During remedial activities, MW-6 (installed during the third quarter of 1996) was removed.

Further Action:

PNM anticipates a downward trend in concentrations at MW-3 as a result of the additional remediation. We will continue quarterly monitoring to determine the effectiveness of the recent remediation. We do not plan to reinstall MW-6 unless deemed necessary at a later date.

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. Cozzens B1 Groundwater Contour Map (November 1996)

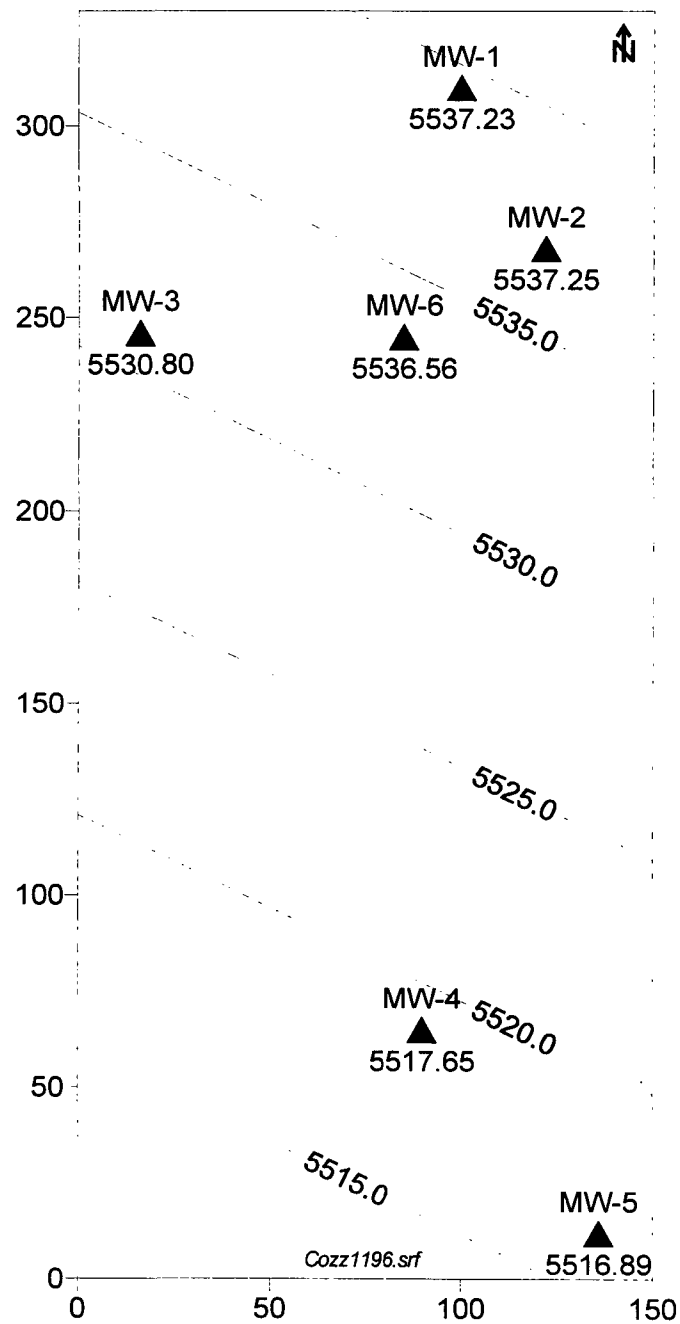


Figure 3. Cozzens B1 Groundwater Contour Map (February 1997)

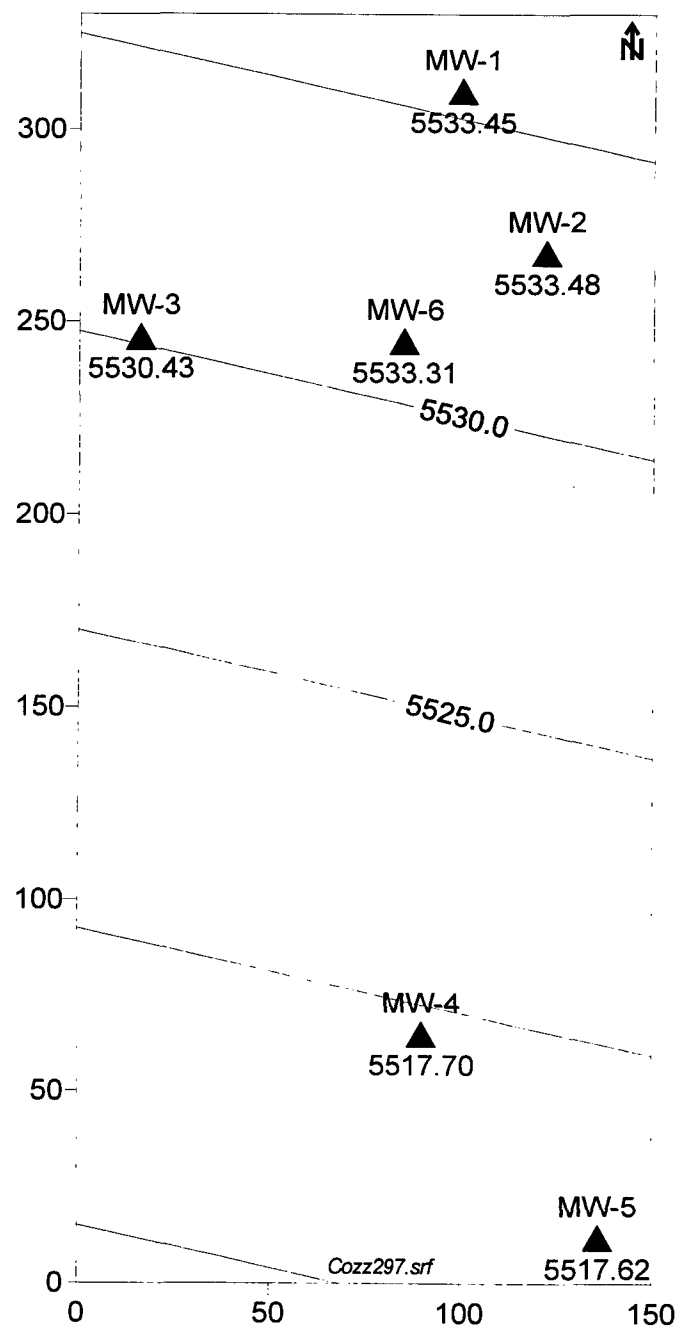
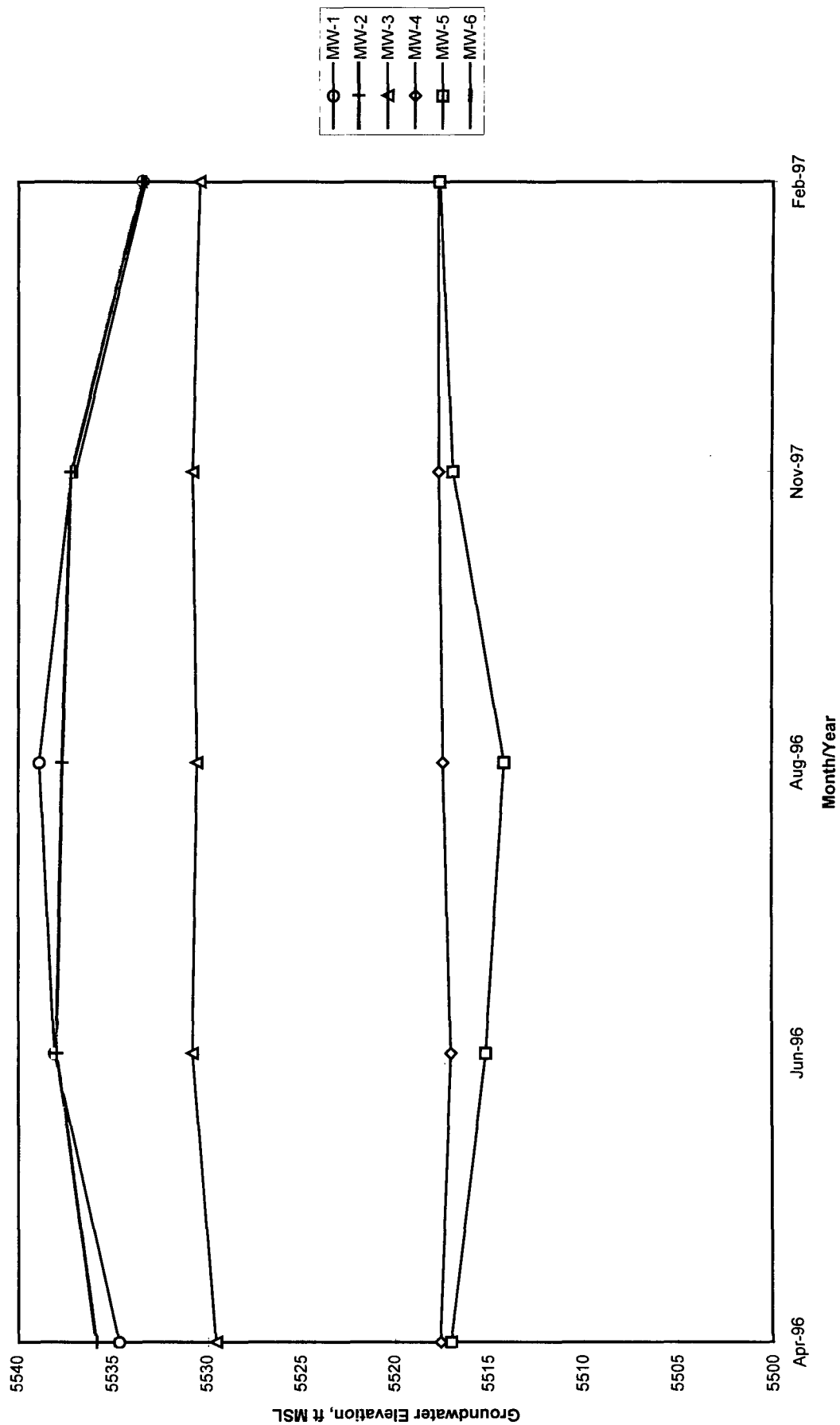


Figure 4. Cozzens B1 Hydrograph
(Time vs. Water Level)



OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13016*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9611221330; MW-1*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *22-Nov-96* Time: *13:30*
Date: *25-Nov-96*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>		<i><0.2</i>		<i>ug/L</i>

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

Approved by: *[Signature]*
Date: *11/27/96*

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13017*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9611221400; MW-2*
Sampled by: *MG* Date: *22-Nov-96* Time: *14:00*
Analyzed by: *DC* Date: *25-Nov-96*
Sample Matrix: *Water*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<i>0.3</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>1.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>6.4</i>	<i>ug/L</i>		

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

Approved by: *DC*
Date: *11/27/96*

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TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13018*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9611221430; MW-3*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *22-Nov-96* Time: *14:30*
Date: *25-Nov-96*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>20.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>45.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>86.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>550.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>10.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>713.6</i>	<i>ug/L</i>		

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

Approved by: *[Signature]*
Date: *11/27/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13019*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9611221500; MW-4*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *22-Nov-96* Time: *15:00*
Date: *25-Nov-96*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved by: *Dall*
Date: *11/27/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13020*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9611221530; MW-5*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *22-Nov-96* Time: *15:30*
Date: *25-Nov-96*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
	<i>TOTAL</i>	<i>0.2</i>		<i>ug/L</i>

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

Approved by: *[Signature]*
Date: *11/27/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *26-Nov-96*
COC No.: *5704*
Sample No.: *13021*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*

Project Location: *9611221600; MW-6*

Sampled by: *MG* Date: *22-Nov-96* Time: *16:00*

Analyzed by: *DC* Date: *25-Nov-96*

Sample Matrix: *Water*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>13.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>47.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>193.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>611.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>142.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>1008.6</i>	<i>ug/L</i>		

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

Approved by: *[Signature]*
Date: *11/27/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: **26-Nov-96**
COC No.: **5704**
Sample No.: **13022**
Job No.: **2-1000**


Project Name: **PNM Gas Services - Cozzens B1**
Project Location: **9611221445; MW-8**
Sampled by: **MG**
Analyzed by: **DC**
Sample Matrix: **Water**

Date: **22-Nov-96** Time: **14:45**
Date: **25-Nov-96**

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene	0.2	ug/L	0.2	ug/L
Toluene	0.6	ug/L	0.2	ug/L
Ethylbenzene	2.1	ug/L	0.2	ug/L
m,p-Xylene	2.0	ug/L	0.2	ug/L
o-Xylene	0.4	ug/L	0.2	ug/L
TOTAL	5.3	ug/L		

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

Approved by: 
Date: **11/27/96**

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 25-Nov-96

Internal QC No.: 0515-QC

Surrogate QC No.: 0516-QC

Reference Standard QC No.: 0417-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	18.8	6	15%
Toluene	ppb	20.0	19.5	3	15%
Ethylbenzene	ppb	20.0	19.3	4	15%
m,p-Xylene	ppb	40.0	38.8	3	15%
o-Xylene	ppb	20.0	19.6	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	95	94	(39-150)	0	20%
Toluene	99	98	(46-148)	1	20%
Ethylbenzene	94	94	(32-160)	0	20%
m,p-Xylene	89	80	(35-145)	5	20%
o-Xylene	89	89	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
13016-5704	96	
13017-5704	94	
13018-5704	80	
13019-5704	96	
13020-5704	97	
13021-5704	98	
13022-5704	96	

S1: Fluorobenzene

A handwritten signature, possibly "R2", is written in dark ink.

Purchase Order No.:		Job No.						
Name		Denver Bearden						
Company	PNM Gas Services							
Address	603 W. Elm Street							
City, State, Zip	Farmington, NM 87401							
Sampling Location: Logans Bl								
Sampler: M Gannon								
SEND INVOICE TO	Name	Company	Dept.	Job No.				
Name: Maureen Gannon Title: _____ Company: PNM Gas Services Mailing Address: Alverado Square, Mail Stop 0408 City, State, Zip: Albuquerque, NM 87158 Telephone No.: 505-848-2974 Telefax No.: _____								
ANALYSIS REQUESTED								
REPORT RESULTS TO	Number of Containers	SAMPLE IDENTIFICATION	DATE		SAMPLE TIME	MATRIX	PRES.	LAB ID
		9611221330	MW1			H ₂ O	Ice	13016-5704
		9611221400	MW2					13017
		9611221430	MW3					13018
		9611221500	MW4					13019
		9611221530	MW5					13020
		9611221600	MW6					13021
		9611221445	MWB					13022
Relinquished by: M Gannon		Date/Time: 1504 11/22/96		Received by: Bill Vukobratovic		Date/Time: 11/22/96 1504		
Relinquished by:		Date/Time:		Received by:		Date/Time:		
Relinquished by:		Date/Time:		Received by:		Date/Time:		
Method of Shipment:				Rush		10 Working Days		
Authorized by: M Gannon (Client Signature Must Accompany Request)				Date: 11/22/96		Special Instructions: Results to be sent to both parties.		

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: *4-Mar-97*
COC No.: *5741*
Sample No.: *13754*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271230; MW-1*
Sampled by: *MS* Date: *27-Feb-97* Time: *12:30*
Analyzed by: *DC* Date: *3-Mar-97*
Sample Matrix: *Liquid*

Parameter	Result	Unit of Measure	Detection Limit	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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*
Date: *3/4/97*

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: *4-Mar-97*
COC No.: *5741*
Sample No.: *13755*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271300; MW-2*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *13:00*
Date: *3-Mar-97*

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene	0.7	ug/L	0.2	ug/L
Toluene	0.5	ug/L	0.2	ug/L
Ethylbenzene	3.8	ug/L	0.2	ug/L
m,p-Xylene	10.8	ug/L	0.2	ug/L
o-Xylene	2.3	ug/L	0.2	ug/L
TOTAL	18.0	ug/L		

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

Approved By: *[Signature]*

Date: *3/4/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING LIMITED 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: *5-Mar-97*
COC No.: *5741*
Sample No.: *13756*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271330; MW-3*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *13:30*
Date: *4-Mar-97*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>132.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>39.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>263.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1955.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>15.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2406.3</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*

Date: *3/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNIQUE OF BLENDING INFORMATION WITH THE EMPLOYER'S

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *5-Mar-97*
COC No.: *5741*
Sample No.: *13757*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271400; MW-4*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *14:00*
Date: *4-Mar-97*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*

Date: *3/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *5-Mar-97*
COC No.: *5741*
Sample No.: *13758*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271430; MW-5*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *14:30*
Date: *4-Mar-97*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*
Date: *3/5/97*

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: *5-Mar-97*
COC No.: *5741*
Sample No.: *13759*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271500; MW-6*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *15:00*
Date: *4-Mar-97*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>154.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>238.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>507.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1493.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>63.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2457.0</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*

Date: *3/5/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *5-Mar-97*
COC No.: *5741*
Sample No.: *13760*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9702271530; MW-7*
Sampled by: *MS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *27-Feb-97* Time: *15:30*
Date: *4-Mar-97*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>159.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>293.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>502.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1489.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>85.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2529.8</i>	<i>ug/L</i>		

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

Approved By: *[Signature]*

Date: *3/5/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 3-Mar-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0417-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	19.5	3	15%
Toluene	ppb	20.0	20.3	1	15%
Ethylbenzene	ppb	20.0	20.8	4	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	20.6	3	15%

Matrix Spike

Parameter	1- Percent Recovered	2- Percent Recovered	Limit	%RSD	Limit
Benzene	94	94	(39-150)	0	20%
Toluene	99	98	(46-148)	0	20%
Ethylbenzene	101	100	(32-160)	0	20%
m,p-Xylene	97	97	(35-145)	0	20%
o-Xylene	99	99	(35-145)	0	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)	
13754-5741	96				
13755-5741	95				

S1: Fluorobenzene

(12)

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 4-Mar-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0417-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	19.1	5	15%
Toluene	ppb	20.0	20.4	2	15%
Ethylbenzene	ppb	20.0	20.8	4	15%
m,p-Xylene	ppb	40.0	40.8	2	15%
o-Xylene	ppb	20.0	20.7	4	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	95	91	(39-150)	3	20%
Toluene	100	96	(46-148)	3	20%
Ethylbenzene	102	98	(32-160)	3	20%
m,p-Xylene	98	95	(35-145)	3	20%
o-Xylene	101	97	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
13756-5741	94				
13757-5741	96				
13758-5741	96				
13759-5741	96				
13760-5741	97				

S1: Fluorobenzene

(PC)

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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

November 1, 1996

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



RE: SAN JUAN BASIN 3RD QUARTER 1996 GROUNDWATER REPORT

Dear Bill:

PNM Gas Services, PNMGS, (formerly Gas Company of New Mexico) is pleased to submit the 3rd Quarter 1996 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 is provided below.

Abrams Gas/Com L1
Cozzens B1
Cozzens B1E
Florance 32A
Florance 44
Florance 124
Honolulu Loop-Line Drip
Kaufmann 1
McCoy A1A
Templeton 1E
Zachry 18E

RECEIVED

NOV 04 1996

Environmental Bureau
Oil Conservation Division

PNM hereby requests two modifications of our Groundwater Management Program Unlined Surface Impoundment Closures submitted to OCD in March of 1996:

- PNM wishes to file annual groundwater progress reports to the OCD instead of quarterly reporting. Concerning sites with problematic or unusual activities, we will prepare individual reports to the OCD between annual reports as necessary. We will also file closure reports on groundwater sites as remediation is completed.
- PNM also asks for an exemption from notifying the OCD 48 hours in advance of any major sampling event or related activity at a groundwater site. We invite OCD to participate in our sampling events at any time. Please feel free to call Denver Bearden or me to schedule a time in the field with us.

If you have any questions regarding the contents of this report or the proposed modifications, please contact me at (505) 241-2974.

Sincerely,
PNM Environmental Services Department

A handwritten signature in cursive script, appearing to read "Maureen Gannon".

Maureen Gannon
Project Manager

Attachment

cc: Denver Bearden, PNMGS
Denny Foust, OCD-Aztec Office
Leigh Gooding, WFS

bcc: Colin Adams (w/o analytical results)
Ron Johnson (w/o analytical results)
Toni Ristau (w/o analytical results)
Mark Sikelianos (w/o analytical results)

PNMGS Well Site: **Cozzens B #1**

Groundwater Site Summary Report

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

Quarter: 3 Year: 96

Operator: Meridian (SRC)
Sec: 19 Twn: 29 Rng: 11 Unit: L
Canyon: San Juan

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

Topo Map: previously submitted
Groundwater Contour Map: Figure 1
Hydrograph: Figure 2
Site Map with Analysis: Figure 3
Well Completion Diagram: previously submitted
Analytical Results: attached

Activities for Quarter:

PNM conducted sampling at the Cozzens B1 well site on August 29, 1996. PNM measured water levels in each of the five monitoring wells. Groundwater sampling was conducted in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico, for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020.

Conclusions and Recommendations:

Figure 1 is the groundwater contour map for the month of August. The groundwater gradient lies in a southwest direction beneath the site and flows between MW-1 and MW-2 towards MW-3. Figure 2 is the hydrograph (water level versus time) for the site. Since June of 1996, water levels have held fairly constant except for MW-5 which dropped approximately 1 foot in elevation. This well may not be completed within the same permeable layer as the other wells. We believe it receives its groundwater from the canyon located to the northeast of the site.

Figure 3 provides a site map of the Cozzens B1 well site and includes the groundwater analytical results collected to date. As anticipated, the source well, MW-2 is showing a downward trend in groundwater contamination. However, groundwater in MW-3, located downgradient of Meridian's operations, shows little change in BTEX concentration since last quarter.

Further Action:

PNM recently installed a sixth monitoring well at the site between PNM's former pit and Meridian's present operations. PNM will sample this well and all other wells during the fourth quarter of 1996. After next quarters' sampling, we will review the groundwater results, and at that time, possibly prepare a formal request to Meridian to review the status and possible impact of their activities to the overall contamination at the 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. Cozen B1 Groundwater Contour Map (August 1996)

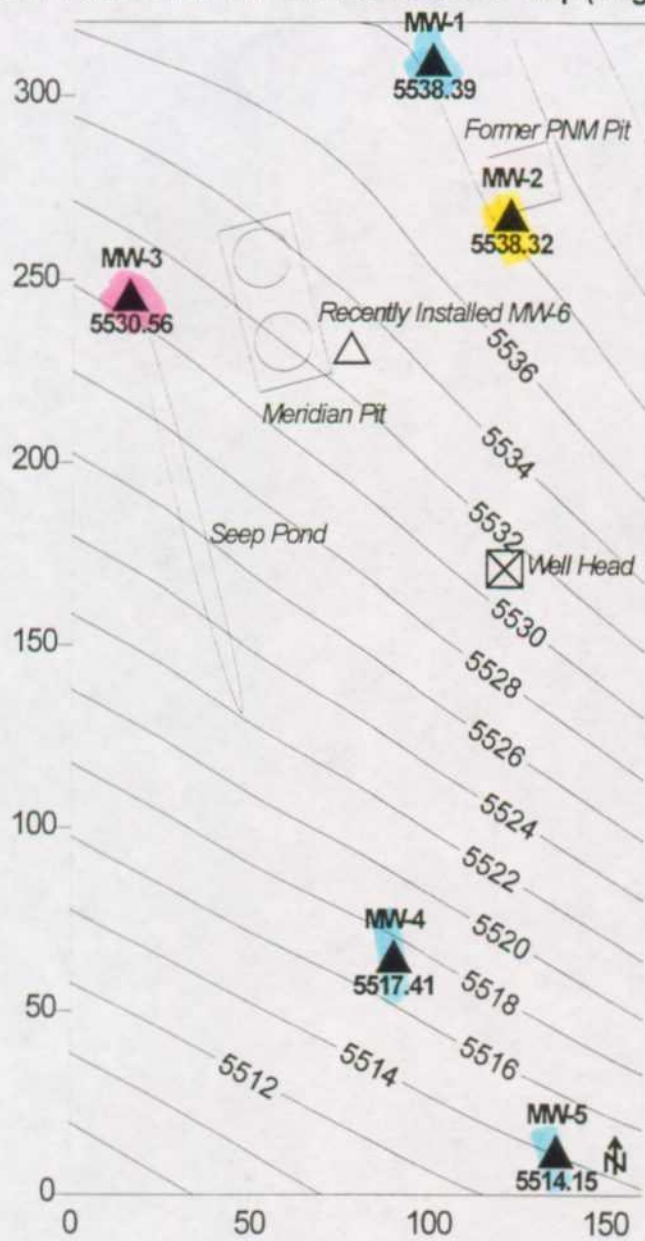


Figure 2
Cozzens B1 Hydrograph
(water level vs. time)

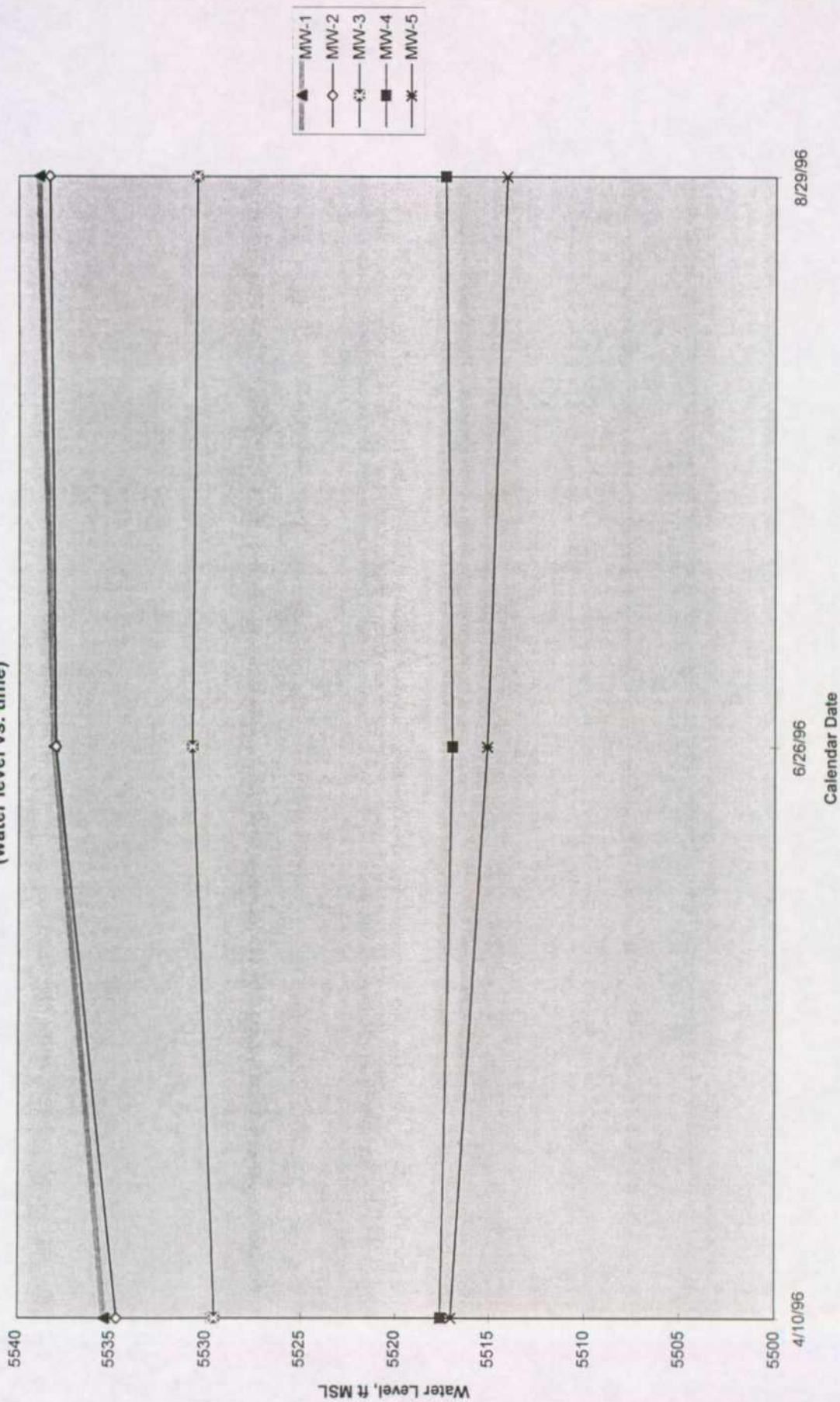
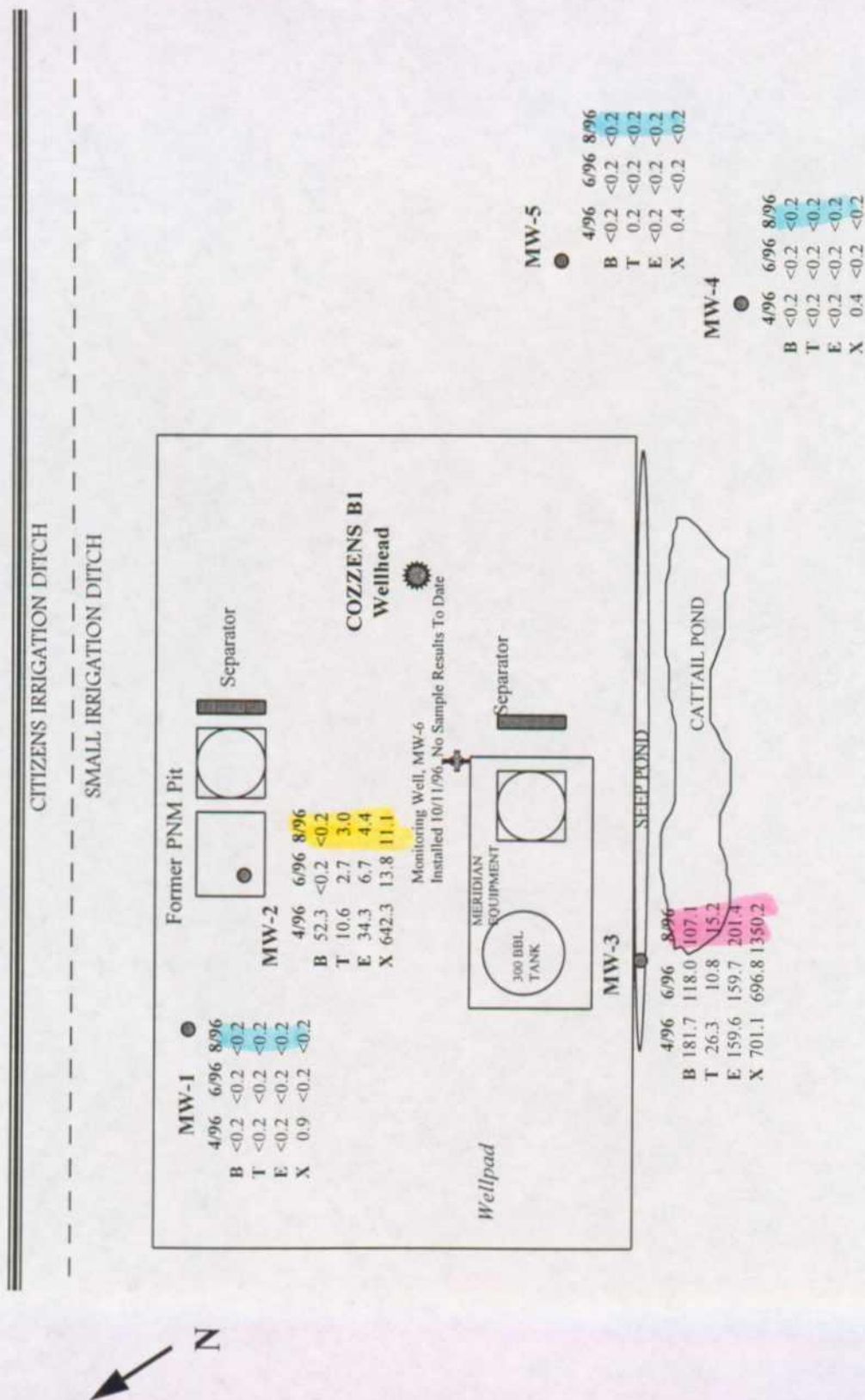


Figure 3. Cozzens B1 Well Site
Well Locations & Analytical Results
(Concentrations in ppb)



OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *30-Aug-96*
COC No.: *4609*
Sample No. *11946*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9608281000; MW-1*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *28-Aug-96* Time: *10:00*
Date: *29-Aug-96*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved by: *[Signature]*
Date: *8/30/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevardo Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *30-Aug-96*
COC No.: *4609*
Sample No. *11947*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9608281030; MW-2*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *28-Aug-96* Time: *10:30*
Date: *29-Aug-96*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	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>3.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>4.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>10.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
	<i>TOTAL</i>	<i>18.4</i>		<i>ug/L</i>

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

Approved by: *Ja C*
Date: *8/30/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *30-Aug-96*
COC No.: *4609*
Sample No. *11948*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9608281100; MW-3*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *28-Aug-96* Time: *11:00*
Date: *29-Aug-96*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	107.1	ug/L	0.2	ug/L
<i>Toluene</i>	15.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	201.4	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1343.8	ug/L	0.2	ug/L
<i>o-Xylene</i>	6.4	ug/L	0.2	ug/L
	<i>TOTAL</i>	1674.0	ug/L	

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

Approved by: *Jac*
Date: *8/30/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *30-Aug-96*
COC No.: *4609*
Sample No. *11949*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9608281130; MW-4*
Sampled by: *MG*
Analyzed by: *DC*
Sample Matrix: *Water*

Date: *28-Aug-96* Time: *11:30*
Date: *30-Aug-96*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

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

Approved by: *JaC*
Date: *8/30/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *30-Aug-96*
COC No.: *4609*
Sample No. *11950*
Job No. *2-1000*

Project Name: *PNM Gas Services - Cozzens B1*
Project Location: *9608281200; MW-5*
Sampled by: *MG* Date: *28-Aug-96* Time: *12:00*
Analyzed by: *DC* Date: *30-Aug-96*
Sample Matrix: *Water*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>		<i><0.2</i>		<i>ug/L</i>

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

Approved by: *JAC*
Date: *8/30/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 29-Aug-96

Internal QC No.: 0486-QC

Surrogate QC No.: 0488-QC

Reference Standard QC No.: 0417-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	19.4	3	15%
Toluene	ppb	20.0	19.2	4	15%
Ethylbenzene	ppb	20.0	19.4	3	15%
m,p-Xylene	ppb	40.0	38.3	4	15%
o-Xylene	ppb	20.0	18.9	5	15%

Matrix Spike

Parameter	1- Percent Recovered	2- Percent Recovered	Limit	%RSD	Limit
Benzene	91	101	(39-150)	8	20%
Toluene	92	98	(46-148)	5	20%
Ethylbenzene	101	93	(32-160)	6	20%
m,p-Xylene	96	88	(35-145)	6	20%
o-Xylene	93	85	(35-145)	6	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
11946-4609	102	
11947-4609	101	
11948-4609	102	

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 30-Aug-96

Internal QC No.: 0486-QC

Surrogate QC No.: 0488-QC

Reference Standard QC No.: 0417-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	20.6	3	15%
Toluene	ppb	20.0	20.6	3	15%
Ethylbenzene	ppb	20.0	20.9	4	15%
m,p-Xylene	ppb	40.0	41.3	3	15%
o-Xylene	ppb	20.0	20.2	1	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	91	101	(39-150)	8	20%
Toluene	92	98	(46-148)	5	20%
Ethylbenzene	101	93	(32-160)	6	20%
m,p-Xylene	96	88	(35-145)	6	20%
o-Xylene	93	85	(35-145)	6	20%

Surrogate Recoveries

	S1 Percent Recovered	S2 Percent Recovered
Laboratory Identification		
Limit Percent Recovered	(70-130)	
11949-4609	102	
11950-4609	102	

S1: Fluorobenzene

