

3R - 326

REPORTS

DATE:

Nov. 1, 1996

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

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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: **Kaufmann #1**

Groundwater Site Summary Report

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

Quarter: 3 Year: 96

Operator: Synder

Vulnerable Class: Original

Sec: 33 Twn: 31 Rng: 13 Unit: H

OCD Ranking: 40

Canyon: La Plata River

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 performed groundwater monitoring at the Kaufmann #1 well site on July 24, 1996. Water level measurements were taken in each of the four monitoring wells. PNM conducted groundwater sampling in all wells for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Sampling was performed in strict compliance with EPA protocol. PNM hand-delivered samples to OnSite Technologies, Farmington, New Mexico.

Since the second quarter of 1996, PNM backfilled the pit excavation and upgradient trench formerly at the site.

Conclusions and Recommendations:

Figure 1 is the groundwater contour map of the site for the third quarter of 1996. Groundwater flows in a southwesterly direction beneath the site. Figure 2 is a graph of the third quarter groundwater elevation for each well.

Figure 3 provides the BTEX concentrations in each monitoring well at the site. BTEX concentrations were below WQCC standards in all wells except for MW-2. MW-2 had a benzene concentration of 22.1 ppb. This well is located downgradient of PNM's former pit. PNM expects that natural attenuation will remediate groundwater in the area of this well since source removal has taken place.

Future Actions:

PNM will continue to monitor groundwater gradient and perform quarterly sampling at the Kaufmann #1 well site.

Public Service Company of New Mexico - Gas Services

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

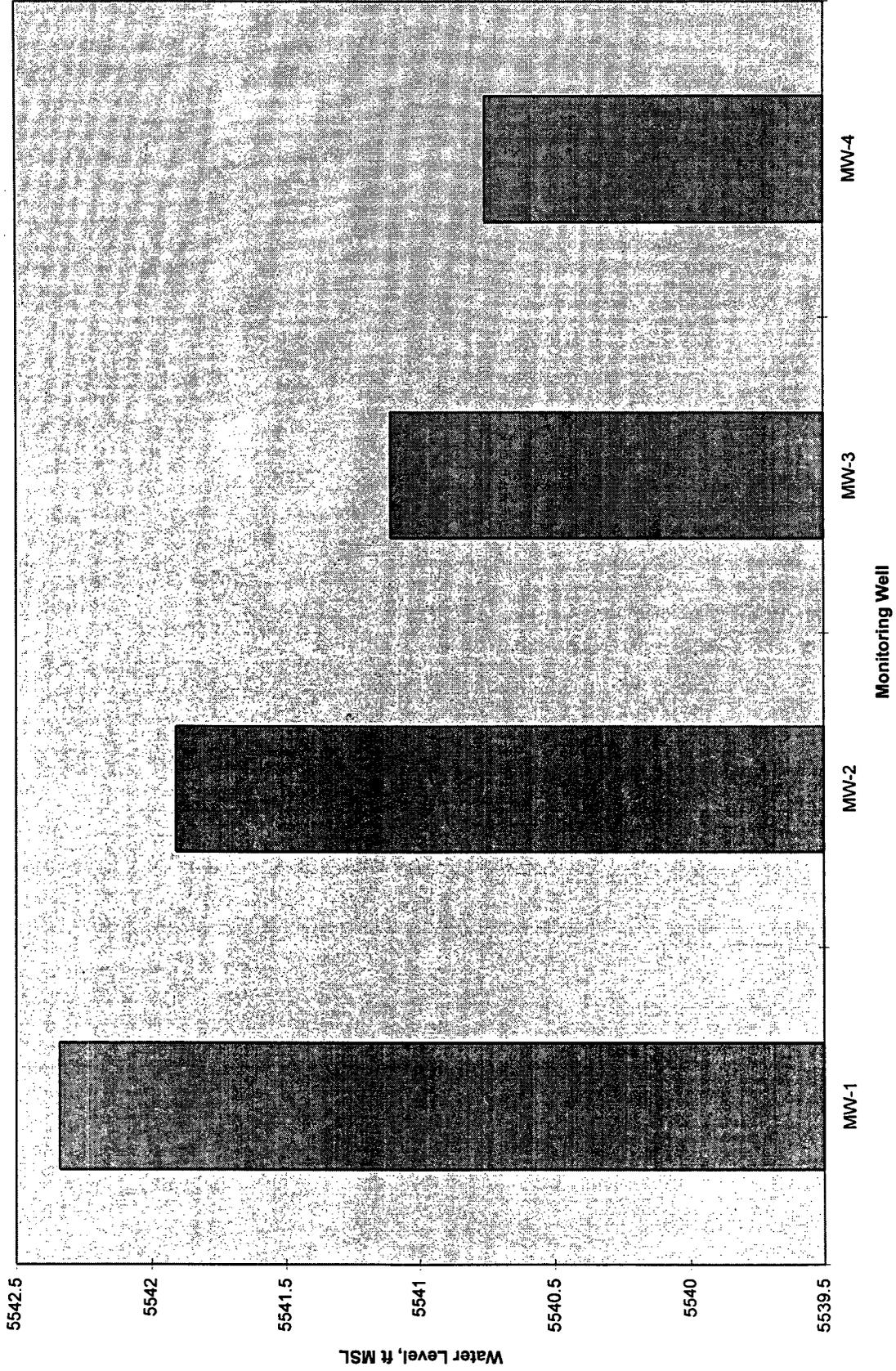
Contact: **Maureen Gannon**

Telephone: **505-241-2974**

Figure 1. Kaufmann 1 Groundwater Contour Map (July 1996)



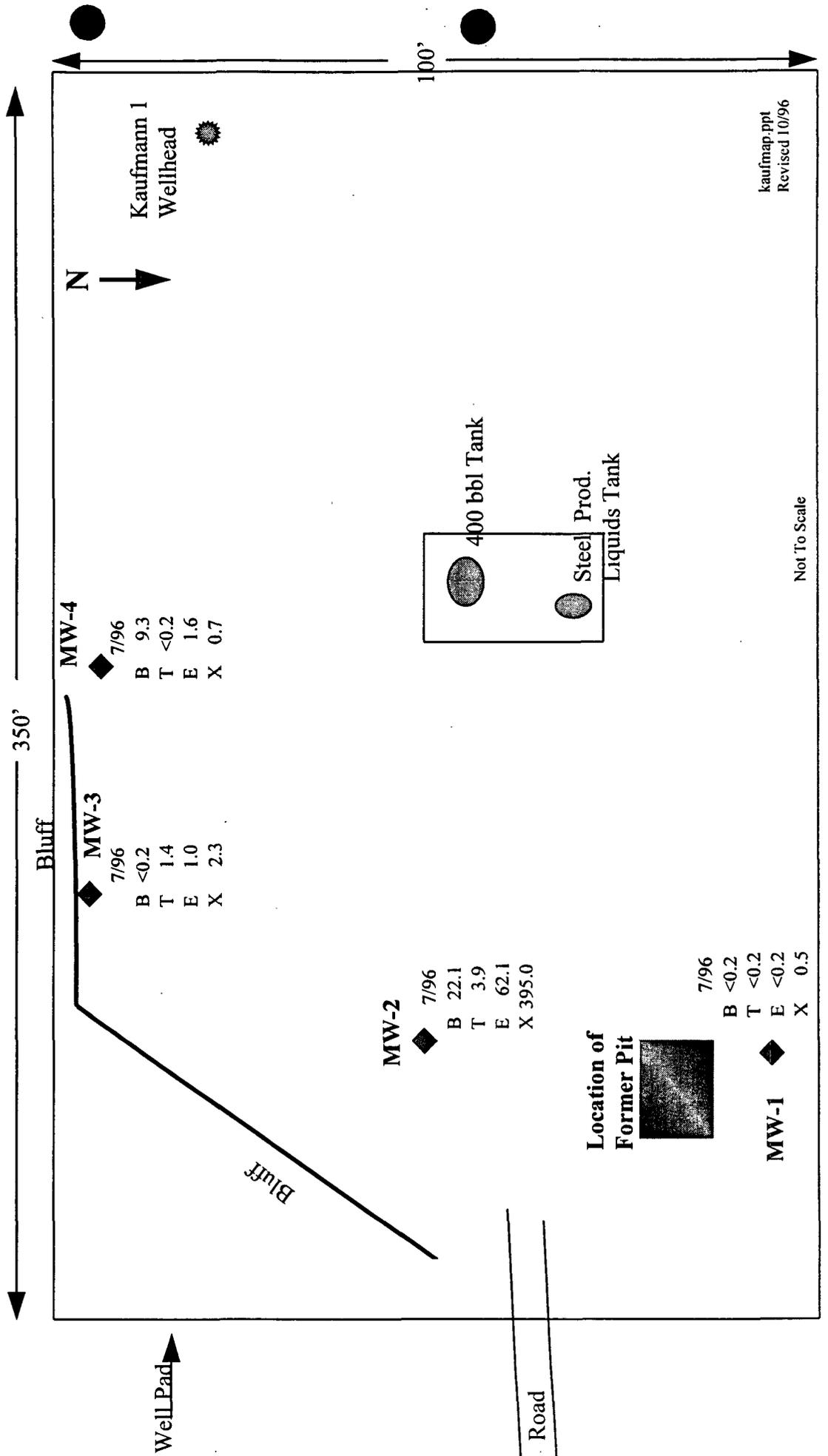
Figure 2. Third Quarter Groundwater Elevations
Kaufmann #1 Well Site



7/24/96

Figure 3. Kaufmann 1 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: *25-Jul-96*
COC No.: *4608*
Sample No. *11597*
Job No. *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
Project Location: *9607241130; MW-1*
Sampled by: *MG* Date: *24-Jul-96* Time: *11:30*
Analyzed by: *DC* Date: *24-Jul-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><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>0.5</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>0.5</i>		<i>ug/L</i>

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

Approved by: *Jac*
Date: *7/25/96*

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: 25-Jul-96
COC No.: 4608
Sample No. 11598
Job No. 2-1000

Project Name: *PNM Gas Services - Kaufmann #1*
Project Location: *9607241200; MW-2*
Sampled by: *MG* Date: 24-Jul-96
Analyzed by: *DC* Date: 24-Jul-96
Sample Matrix: *Water*

Time: 12:00

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>	22.1	ug/L	0.2	ug/L
<i>Toluene</i>	3.9	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	62.1	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	345.7	ug/L	0.2	ug/L
<i>o-Xylene</i>	49.3	ug/L	0.2	ug/L
TOTAL	483.1	ug/L		

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

Approved by: *[Signature]*
Date: 7/25/96

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AROMATIC VOLATILE ORGANICS

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

Date: *25-Jul-96*
 COC No.: *4608*
 Sample No. *11599*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*

Project Location: *9607241230; MW-3*

Sampled by: *MG*

Date: *24-Jul-96* Time: *12:30*

Analyzed by: *DC*

Date: *24-Jul-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><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>1.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>2.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
	<i>TOTAL</i>	<i>4.7</i>		<i>ug/L</i>

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Approved by: *[Signature]*
 Date: *7/25/96*

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: *25-Jul-96*
 COC No.: *4608*
 Sample No. *11600*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
 Project Location: *9607241300; MW-4*
 Sampled by: *MG* Date: *24-Jul-96*
 Analyzed by: *DC* Date: *24-Jul-96*
 Sample Matrix: *Water*

Time: *13:00*

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>9.3</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>1.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.7</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>11.6</i>	<i>ug/L</i>		

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

Approved by: *[Signature]*
 Date: *7/25/96*

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: *25-Jul-96*
 COC No.: *4608*
 Sample No. *11601*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Kaufmann #1*
 Project Location: *9607241330; MW-5 (Duplicate of MW-1)*
 Sampled by: *MG* Date: *24-Jul-96* Time: *13:30*
 Analyzed by: *DC* Date: *24-Jul-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><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: *JAG*
 Date: *7/25/96*



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 24-Jul-96

Internal QC No.: 0444-STD
Surrogate QC No.: 0445-STD
Reference Standard QC No.: 0417-STD

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	19.7	1	15%
Toluene	ppb	20.0	20.1	1	15%
Ethylbenzene	ppb	20.0	20.2	1	15%
m,p-Xylene	ppb	40.0	39.7	1	15%
o-Xylene	ppb	20.0	20.3	1	15%

Matrix Spike

Parameter	1- Percent Recovered	2- Percent Recovered	Limit	%RSD	Limit
Benzene	118	102	(39-150)	11	20%
Toluene	121	103	(46-148)	11	20%
Ethylbenzene	124	105	(32-160)	11	20%
m,p-Xylene	119	100	(35-145)	12	20%
o-Xylene	116	98	(35-145)	12	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
11597-4608	100	
11598-4608	97	
11599-4608	97	
11600-4608	100	
11601-4608	100	

S1: Fluorobenzene

