

3R - 315

REPORTS

DATE:

1998

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

April 2, 1998

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

RECEIVED
APR 03 1998
Oil Conservation Bureau
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 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

PNMGS Well Site: Florance Z 40 M

Groundwater Site Summary Report

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

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

Operator: Amoco
Sec: 21 **Twn:** 30N **Rng:** 08W **Unit:** G
Canyon: Gobernador

Vulnerable Class: Original
OCD Ranking: 20
Lead Agency: NMOCD

PNM is preparing a site summary report for submittal to the OCD detailing the activities, results and further actions at the Florance Z 40 M under separate cover. The report is titled, "Florance Z 40 M Free Product and Groundwater Contamination," and will be submitted to the OCD by April 30, 1998.

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

OFF: (505) 325-5667



LAB: (505) 325-1556

12 June 1997

*Denver Bearden
PNM Gas Services
603 W. Elm Street
Farmington, NM 87401*

Reference:

*Project Name: Florance 40
Project Loc.: 970508: MW-1, MW-3, MW-4, MW-5
On Site ID: COC Record No. 5553*

Dear Denver,

Enclosed please find the analytical results for your project referenced above. Please note that the PAH EPA 8310 analysis for MW-1 was not performed due to a shipping error. Attached you will find a Sample Protocol Nonconformance Worksheet from Southern Petroleum Laboratory (SPL) stating sample condition upon receipt. UPS did not deliver via next day service and subsequently by the time the samples arrived at SPL all ice had been spent. On Site Technologies will cover all costs incurred for the re-analysis of PAH EPA 8310 for MW-1.

We trust you will find all in order and should you have any questions regarding these results please contact me at any time. (505) 325-2432.

Thank you once again for your consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox", is written above the typed name.

*David Cox
Laboratory Manager*

cc: Maureen Gannon, PNM Gas Services

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: *20-May-97*
 COC No.: *5553*
 Sample No.: *14646*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *Trip Blank*
 Sampled by: *MG/MS* Date: _____ NR Time: _____
 Analyzed by: *DC* Date: *16-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: *[Signature]*
 Date: *5/20/97*

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: *20-May-97*
 COC No.: *5553*
 Sample No.: *14501*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *9705081330; MW-1*
 Sampled by: *MG/MS* Date: *8-May-97* Time: *13:30*
 Analyzed by: *DC* Date: *16-May-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>3643</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>11525</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1097</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>12661</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3344</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>32270</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: *5/20/97*

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: *20-May-97*
 COC No.: *5553*
 Sample No.: *14502*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *9705081430; MW-3*
 Sampled by: *MG/MS* Date: *8-May-97* Time: *14:30*
 Analyzed by: *DC* Date: *16-May-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	97	ug/L	2	ug/L
<i>Toluene</i>	27	ug/L	2	ug/L
<i>Ethylbenzene</i>	115	ug/L	2	ug/L
<i>m,p-Xylene</i>	266	ug/L	2	ug/L
<i>o-Xylene</i>	36	ug/L	2	ug/L
<i>TOTAL</i>	542	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: *5/20/97*

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: *20-May-97*
 COC No.: *5553*
 Sample No.: *14503*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *9705081500; MW:-4*
 Sampled by: *MG/MS* Date: *8-May-97* Time: *15:00*
 Analyzed by: *DC* Date: *16-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>	0.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	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>	0.8	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: *5/20/97*

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: *20-May-97*
COC No.: *5553*
Sample No.: *14504*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
Project Location: *9705081530; MW-5*
Sampled by: *MG/MS* Date: *8-May-97* Time: *15:30*
Analyzed by: *DC* Date: *16-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>	0.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.4	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.6	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: *5/20/97*



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 16-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	18.3	9	15%
Toluene	ppb	20.0	19.0	5	15%
Ethylbenzene	ppb	20.0	19.3	4	15%
m,p-Xylene	ppb	40.0	37.1	7	15%
o-Xylene	ppb	20.0	19.3	4	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	90	87	(39-150)	2	20%
Toluene	93	90	(46-148)	2	20%
Ethylbenzene	92	89	(32-160)	2	20%
m,p-Xylene	90	87	(35-145)	2	20%
o-Xylene	93	90	(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)	
14646-5553	95				
14501-5553	94				
14502-5553	94				
14503-5553	95				
14504-5553	95				

S1: Fluorobenzene

(m)
5/20/97

San Protocol Nonconformance Worksheet

Prepared by: <u>S. West</u>	Date/Time:
Client: <u>On Site Analytical</u>	SPL W/O #:
Submitted to: <u>EF</u>	Samples Logged In? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

Matrix: SOIL WATER AIR OTHER
 Samples Affected: ALL Partial (See description)

Description of non-conformance: Sample were in log in at 9:00am 5/13/97 @ ambient temperature

<u>Condition</u>	<u>Information</u>	<u>Container</u>
<input checked="" type="checkbox"/> Temp > 6C	<input type="checkbox"/> No collected date	<input type="checkbox"/> Damaged containers
<input type="checkbox"/> Expired Hold Time	<input type="checkbox"/> No COC	<input type="checkbox"/> Improper containers
<input type="checkbox"/> Headspace	<input type="checkbox"/> Samples not labeled	<input type="checkbox"/> Non-SPL containers
<input type="checkbox"/> Unpreserved	<input type="checkbox"/> Sample v. COC ID disagreement	<input type="checkbox"/> Insufficient containers
<input type="checkbox"/> Improperly preserved	<input type="checkbox"/> Container v. COC disagreement	<input type="checkbox"/> Sample not on COC
<input type="checkbox"/> Insufficient Sample	<input type="checkbox"/> Method not specified or not listed	<input type="checkbox"/> Sample not received

Client Name Contacted:	Date / Time:
Phone:	Action: <input type="checkbox"/> Complete Login <input type="checkbox"/> HOLD

Client Instructions: Dave - Nice to the COC you requested

Comments:

Project Manager Signature

Date / Time

COPIES TO: File Project Manager Area Supervisor QA rev. 3/95.jja

CHAIN OF CUSTODY RECORD

6356

ON SITE

TECHNOLOGIES, LTD.

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

Date: _____

Page _____ of _____

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name <u>DAVE COX</u>		Title _____		
SEND INVOICE TO	Name _____		Company <u>ON SITE TECH.</u>		Mailing Address <u>612 E. MURRAY DR.</u>				
	Company _____		Dept. _____		City, State, Zip <u>FARMINGTON, NM 87401</u>				
	Address _____				Telephone No. <u>505-325-5667</u>		Telefax No. <u>505-325-6256</u>		
	City, State, Zip _____								
Sampling Location: <u>FLORENCE 40 / JACQUES ZA</u>				Number of Containers	ANALYSIS REQUESTED				
Sampler: _____					/ PRH				
SAMPLE IDENTIFICATION		SAMPLE			MATRIX		PRES.		LAB ID
		DATE	TIME						
<u>FLORENCE 40, 14501-5553</u>		<u>5/8/97</u>	<u>13:30</u>						
<u>JACQUES ZA, 14506-5554</u>		"	<u>11:00</u>						
* SAMPLES RECEIVED BY SPL, HOUSTON ON MONDAY 5/12/97 @ AIR BUILT TEMP									
SAMPLES SHIPPED 5/8/97 VIA UPS NEXT DAY AIR FRM 5/8/97 DELIVERY									
DID NOT MAKE IT DUE TO COOLER SITTING IN KENTUCKY WAREHOUSE									
FRIDAY. UPS RESPONSIBLE FOR ALL COSTS INVOLVED. (D)									
								<u>5/13/97</u>	
Relinquished by: <u>Heidi Rees</u>				Date/Time <u>5/8/97 17:20</u>		Received by: _____		Date/Time _____	
Relinquished by: _____				Date/Time _____		Received by: _____		Date/Time _____	
Relinquished by: _____				Date/Time _____		Received by: _____		Date/Time _____	
Method of Shipment: _____						Rush _____		Special Instructions: _____	
Authorized by: _____				Date _____		24-48 Hours _____		10 Working Days _____	
(Client Signature Must Accompany Request)									

ON SITE

CHAIN OF CUSTODY RECORD

6356

Date: _____

Page _____ of _____

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 DAVE COX		Title		
SEND INVOICE TO	Name		Company ON SITE TECH.		Mailing Address 612 E. MURRAY DR.			
	Company		Dept.		City, State, Zip FARMINGTON, NM 87401			
	Address				Telephone No. 505-325-5667		Telefax No. 505-325-6256	
	City, State, Zip							
Sampling Location: FLORANCE 40 / JACQUES ZA				ANALYSIS REQUESTED				
Sampler:				Number of Containers	PAH			LAB ID
SAMPLE IDENTIFICATION		SAMPLE			MATRIX		PRES.	
		DATE	TIME					
FLORANCE 40, 14501-5553		5/8/97	13:30					
JACQUES ZA, 14506-5554		"	11:00					
Relinquished by: Heidi Rees		Date/Time 5/8/97 17:20		Received by: S. West		Date/Time 5/12/97 0900		
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: _____ (Client Signature Must Accompany Request)				Date _____				



CHAIN OF CUSTODY RECORD

553

Date: 5/08/97

Page 1 of 1

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 Maureen Gannon		Title			
SEND INVOICE TO	Name Denver Bearden		Company PNM Gas Services		Company PNM Gas Services				
	Company PNM Gas Services		Dept. 324-3763		Mailing Address Alverado Square, Mail Stop 0408				
	Address 603 W. Elm Street				City, State, Zip Albuquerque, NM 87158				
	City, State, Zip Farmington, NM 87401				Telephone No. 505-848-2974		Telefax No.		
Sampling Location: FLORENCE 40				ANALYSIS REQUESTED					
Sampler: <i>Maureen Gannon; Mark Sekelianski</i>									
SAMPLE IDENTIFICATION		SAMPLE		Number of Containers	<div style="display: flex; justify-content: space-around;"> BICYCLE PHYS PHYS PHYS </div>			LAB ID	
		DATE	TIME						MATRIX
9705081330 NUC1 *				H2O	HCl	3	X	X	14501-5553
140 NUC2 114									
9705081430 NUC3				↓	↓	2	X		14502-5553
9705081500 NW4				↓	↓	2	X		14503
9705081530 NUC5				H2O	HCl	2	X		14504 ↓
TRIP BLANK		LIR	NR	H2O	HCl	1	X		14646-5557
⊗ SAMPLE INVALID DUE TO SHIPPING ERROR BY UPS. SEE COX #6356 TO SPL @ 5/13/97									
Relinquished by: <i>M/Gannon</i>		Date/Time: <i>5/08/97</i>		Received by: <i>[Signature]</i>		Date/Time: <i>5/8/97 1625</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: _____ Date: _____ (Client Signature Must Accompany Request)							Results to be sent to both parties.		

* "Hot" 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: *27-Aug-97*
 COC No.: *5648*
 Sample No.: *15771*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance Z 40*

Project Location: *9708131330; MW-1*

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

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>3653</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>Toluene</i>	<i>12785</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1160</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>12819</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3372</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>33789</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

- 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: *27-Aug-97*
 COC No.: *5648*
 Sample No.: *15810*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance Z 40*
 Project Location: *9708131400; MW-4*
 Sampled by: *MG/MS* Date: *13-Aug-97* Time: *14:00*
 Analyzed by: *DC* Date: *22-Aug-97*
 Sample Matrix: *Liquid*

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

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *8/28/97*

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.: *5648*
 Sample No.: *15811*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance Z 40*
 Project Location: *9708131430; MW-5*
 Sampled by: *MG/MS* Date: *13-Aug-97* Time: *14:30*
 Analyzed by: *DC* Date: *22-Aug-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>3683</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>Toluene</i>	<i>12739</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1143</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>12695</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3391</i>	<i>ug/L</i>	<i>100</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>33651</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: *Jack*
 Date: *8/28/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

Technology Bearden has been with the company since 1988



CHAIN OF CUSTODY RECORD

648

Date: 8/13/97

Page 1 of 1

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 Maureen Gannon		Title	
SEND INVOICE TO	Name Denver Bearden			Company PNM Gas Services			
	Company PNM Gas Services		Dept. 324-3763				
	Address 603 W. Elm Street						
	City, State, Zip Farmington, NM 87401						
	Mailing Address Alverado Square, Mail Stop 0408		City, State, Zip Albuquerque, NM 87158				
				Telephone No. 505-848-2974		Telefax No.	
Sampling Location: Florence 2 40				ANALYSIS REQUESTED			
Sampler: MS: Kelianos M Gannon							
SAMPLE IDENTIFICATION		SAMPLE		MATRIX	PRES.	Number of Containers	LAB ID
		DATE	TIME				
9708131330 MW-1				H ₂ O HCL	2	X	15771-51.48
9708131400 MW-4				↓ HCL	2	X	15810- ↓
9708131430 MW-5				HCL	2	X	15811 ↓
Relinquished by:		Date/Time 8/13/97 1525		Received by: Heidi Rees		Date/Time 8/13/97 1525	
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	
Authorized by:		Date 8/13/97		Special Instructions: Results to be sent to both parties.			
		(Client Signature <u>Must</u> Accompany Request)					

6+
*

BTEX 8620

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-Dec-97*
 COC No.: *7084*
 Sample No.: *16979*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - Florance Z 40***

Project Location: ***9711251330; Mw-1***

Sampled by: *MG/MS* Date: *25-Nov-97* Time: *13:30*

Analyzed by: *HR* Date: *3-Dec-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>3942</i>	<i>ug/L</i>	<i>40</i>	<i>ug/L</i>
<i>Toluene</i>	<i>14574</i>	<i>ug/L</i>	<i>40</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1262</i>	<i>ug/L</i>	<i>40</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>13903</i>	<i>ug/L</i>	<i>40</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3665</i>	<i>ug/L</i>	<i>40</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>37345</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: *12/15/97*

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: *5-Dec-97*
COC No.: *7084*
Sample No.: *16980*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance Z 40*
Project Location: *9711251400; MW-4*
Sampled by: *MG/MS* Date: *25-Nov-97* Time: *14:00*
Analyzed by: *HR* Date: *3-Dec-97*
Sample Matrix: *Liquid*

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

ND - Not Detected at Limit of Quantitation

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

Approved By: *JAC*
Date: *12/5/97*

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: *5-Dec-97*
 COC No.: *7084*
 Sample No.: *16981*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance Z 40*
 Project Location: *9711251430; MW-5*
 Sampled by: *MG/MS* Date: *25-Nov-97* Time: *14:30*
 Analyzed by: *HR* Date: *3-Dec-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: *12/5/97*

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QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 3-Dec-97

Internal QC No.: 0559-STD

Surrogate QC No.: 0556-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.3	3	15%
Toluene	ppb	20.0	20.2	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	20.3	1	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	131	100	(39-150)	2	20%
Toluene	106	101	(46-148)	2	20%
Ethylbenzene	102	91	(32-160)	2	20%
m,p-Xylene	93	89	(35-145)	2	20%
o-Xylene	98	95	(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)	
16979-7084	94				
16980-7084	94				
16981-7084	94				
				12/8/97	12/5/97

S1: Fluorobenzene



CHAIN OF CUSTODY RECORD

Date: 11/25/97

Page: 1 of 1

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

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name Maureen Gannon		Title											
SEND INVOICE TO	Name Denver Bearden				Company PNM Gas Services		Mailing Address Alverado Square, Mail Stop 0408											
	Company PNM Gas Services		Dept. 324-3763		City, State, Zip Albuquerque, NM 87158		Telephone No. 505-848-2974											
	Address 603 W. Elm Street				Telefax No.													
	City, State, Zip Farmington, NM 87401																	
Sampling Location: FLORENCE Z 40				Number of Containers	ANALYSIS REQUESTED													
Sampler: M Gannon / M Sikelianos					<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-size: 2em; opacity: 0.5;">BTEX 6000</div>													
SAMPLE IDENTIFICATION			SAMPLE		MATRIX	PRES.									LAB ID			
		DATE	TIME															
9711251330		MW1		11/25/97	/	H2O	HCL	2	x									16979-7084
9711251400		MW4		11/25/97	/	H2O	HCL	2	x									16980-1
9711251430		MW5		11/25/97	/	H2O	HCL	2	x									1698x-1
Relinquished by: <u>Maureen Gannon</u>				Date/Time <u>11/25/97</u>		Received by: <u>[Signature]</u>				Date/Time <u>11/25/97 1526</u>								
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>Maureen Gannon</u> Date <u>11/25/97</u> <small>(Client Signature Must Accompany Request)</small>														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: *2-Feb-98*
 COC No.: *7137*
 Sample No.: *17405*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *9801231230; MW-1*
 Sampled by: *MS/RD* Date: *23-Jan-98* Time: *12:30*
 Analyzed by: *DC* Date: *27-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>4421</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>15035</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1181</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>15143</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>4041</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>39821</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: *2/2/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

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

Date: *2-Feb-98*
 COC No.: *7137*
 Sample No.: *17406*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
 Project Location: *9801231300; MW-4*
 Sampled by: *MS/RD* Date: *23-Jan-98* Time: *13:00*
 Analyzed by: *DC* Date: *27-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	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: *2/4/98*

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: *2-Feb-98*
COC No.: *7137*
Sample No.: *17407*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 40*
Project Location: *9801231330; MW-5*
Sampled by: *MS/RD* Date: *23-Jan-98* Time: *13:30*
Analyzed by: *DC* Date: *27-Jan-98*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	4299	ug/L	20	ug/L
<i>Toluene</i>	14477	ug/L	20	ug/L
<i>Ethylbenzene</i>	1120	ug/L	20	ug/L
<i>m,p-Xylene</i>	14399	ug/L	20	ug/L
<i>o-Xylene</i>	3882	ug/L	20	ug/L
<i>TOTAL</i>	38178	ug/L		

ND - Not Detected at Limit of Quantitation

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

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

P.O. BOX 2606 • FARMINGTON, NM 87499

