

**3R - 317**

# **REPORTS**

**DATE:**

**2000**

---



*Environmental Services*  
187 County Road 4980  
Bloomfield, New Mexico 87413  
(505) 632-4409  
(505) 632-4405

September 18, 2000

RECEIVED

SEP 28 2000

Mr. William Olson  
Hydrologist  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**RE: 2000 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT**

Dear Mr. Olson:

Enclosed for your review is the 2000 San Juan Basin Annual Groundwater Report prepared by Williams for work conducted by Public Service New Mexico (PNM). The report presents monitoring data for twenty-two sites having petroleum hydrocarbon impacted groundwater, which resulted from the past use of unlined surface impoundments. The reporting period begins in the second quarter of 1999 and ends in the second quarter of 2000. The sites included in the report are listed in Table 1, attached.

The natural gas production and gathering facilities at which the impacted groundwater sites are located were formerly owned and operated by PNM. The facilities became assets of Williams upon purchase of the Gas Company of New Mexico (GCNM) from PNM. PNM had retained certain environmental liabilities associated with the assets including obligations for unlined surface impoundment impacts to soil and groundwater. Subsequent negotiations between PNM and Williams resulted in an agreement whereby Williams would complete further investigations and remediation at sites not previously closed by PNM. The agreement also states that Williams will complete work at sites where PNM has identified soil or groundwater contamination or otherwise initiated remedial actions.

During PNM's tenure, management of sites with hydrocarbon impacted groundwater was directed by their Ground Water Management Plan. This plan specified general procedures for site investigation, remediation, and reporting. The plan called for PNM to prepare an annual report summarizing the results of groundwater monitoring at each site. The report was to be submitted each April 1<sup>st</sup> and include data collected during the second, third and fourth quarters of the previous year and data from the first quarter of the reporting year.

Anticipating termination of their environmental obligations, PNM requested on March 4, 2000 an extension for submittal of the 2000 annual report so that they could also include data collected during the second quarter of 2000. Although PNM completed collection of monitoring data for the second quarter of 2000, they did not prepare and submit an annual report. Williams has prepared the 2000 annual report in an effort to maintain project continuity and to provide closure to PNM's management of the project.

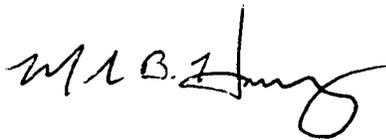
As with most projects of this magnitude, first hand knowledge is paramount to prepare a thorough summary of site activities. Given the limited firsthand knowledge of project workings, Williams is in the unenviable position of trying to glean information from only the paper record. As such, the 2000 report simply transmits the PNM-collected data to OCD in what we hope is a concise and useable format. Initially, it was Williams' goal to provide more comprehensive reporting on the status of each site, however, preliminary evaluation of the data soon revealed that accurate interpretations could not be formulated in a timely manner.

Williams is continuing to review and evaluate the data provided by PNM to determine the best course for future actions at the sites. Preliminary review has revealed several high priority needs. For the majority of sites, accurate surveys are needed along with development of site base maps and a comprehensive database to facilitate project management. Moreover, sites with free product should be evaluated to determine the efficacy of free-product recovery and whether or not all source contributions are known.

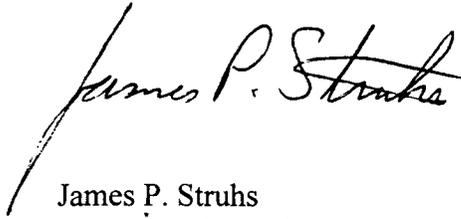
Organization of the report follows the same format used by PNM. Data for each site is contained in a separate tabbed section labeled with the site name. Each section contains a data summary table listing each monitoring well. The absence or presence of free product is indicated on the table and the concentrations of the BTEX compounds for the reporting period are noted. Following the data summary table are the actual laboratory analytical reports. In an effort to make this document more manageable, the laboratory quality control reports have not been included. These reports will of course remain a part of the project file and be made available for review upon request. In addition to the analytical data, a contour map depicting the elevation of the water table as interpolated from water-level data is also included. When possible, hydrographs illustrating the seasonal fluctuations in water-table elevations are presented.

Thank you for your understanding of the Williams position and the time to review this submittal. Mr. Jim Struhs has been assigned the role of Project Hydrogeologist and as such will be involved in many of the day to day project operations. If you have any questions regarding the report, you may call me at (505) 632-4409 or Jim at (505) 632-4457.

Best regards,



Mark B. Harvey  
Project Manager  
Mark.Harvey@Williams.com



James P. Struhs  
Project Hydrogeologist  
Jim.Struhs@Williams.com

Attachment  
Enclosure

c: Denny Foust, OCD Aztec District Office  
Bill Liess, BLM Farmington District Office  
Allen Talley, Williams

**Table 1. List of Sites for Period Q2/1999 to Q2/2000**

Site Name	Section	Township	Range	Unit Letter	OCD Notified	Installed Wells	2nd QTR 1999	3rd QTR 1999	4th QTR 1999	1st QTR 2000	2nd QTR 2000
Albright #4 Drip	22	29N	10W	F	9-Jul-99	28-Jul-99		5-Aug-99	6-Dec-99	5-Mar-00	7-Jun-00
Blanco Wash Drip	31	27N	8W	J	19-Feb-99	6-Apr-99	28-Apr-99	28-Sep-99	6-Dec-99	17-Mar-00	7-Jun-00
Chamberlain 1	14	32N	12W	F	30-Sep-99	13-Sep-99			11-Nov-99	1-Feb-00	2-May-00
Davis 1	11	31N	12W	E	2-Mar-99	2-Aug-99	25-May-99	20-Sep-99	8-Dec-99	14-Mar-00	8-Jun-00
Dogie East Pit	4	25N	6W	D	7-Jul-97	20-May-98	27-Apr-99	21-Sep-99	16-Nov-99	15-Feb-00	11-May-00
Dogie North Pit	4	25N	6W	D	7-Jul-97	6-Jul-97	27-Apr-99	21-Sep-99	16-Nov-99	15-Feb-00	11-May-00
Florance 124	27	29N	9W	C	12-Aug-96	28-Aug-96	7-Apr-99	28-Jul-99	14-Oct-99	1-Feb-00	26-Apr-00
Florance 40	21	30N	8W	G	27-Jan-97	29-Jan-97	21-Apr-99	28-Jul-99	1-Nov-99	21-Mar-00	14-Jun-00
Florance M 47X	5	30N	9W	G	27-Jan-97	6-Feb-97	21-Apr-99	28-Jul-99	3-Nov-99	23-Mar-00	14-Jun-00
Grenier 4A	7	31N	11W	M	18-Oct-99	28-Sep-99			3-Nov-99	7-Mar-00	12-Jun-00
Hampton 4M	13	30N	11W	N	7-Jan-97	31-Jan-97	5-May-99	12-Jul-99	21-Oct-99	27-Jan-00	13-Jun-00
Honolulu Drip	15	26N	4W	B	18-Jun-96	13-Jun-96	14-Apr-99	21-Sep-99	23-Nov-99	9-Feb-00	23-May-00
Ice Canyon Drip	15	26N	6W	B	1-Dec-97	13-May-98	27-Apr-99	20-Sep-99	16-Nov-99	7-Feb-00	18-May-00
Jicarilla Contract 147-6	6	25N	5W	C	13-Aug-98	27-Jan-99	14-Apr-99	27-Sep-99	15-Nov-99	20-Mar-00	7-Jun-00
Kaufman 1	33	31N	13W	H	9-Mar-00					9-Mar-00	22-May-00
Miles Federal 1E Drip	5	26N	7W	N	23-Jun-97	7-Jul-97	1-Jun-99	3-Aug-99	23-Nov-99	7-Feb-00	18-May-00
O' Shea 1M	3	31N	13W	F	6-Jun-98	9-Jul-98	24-May-99	6-Aug-99	12-Nov-99	3-Feb-00	9-May-00
Patterson A Com A1	2	31N	12W	G	2-Mar-99	15-Mar-99	2-Jun-99	6-Aug-99	22-Nov-99	15-Mar-00	8-Jun-00
Pritchard 2	6	30N	8W	J	22-Feb-99	1-Apr-99	26-May-99	17-Aug-99	20-Oct-99	26-Jan-00	17-Apr-00
Randleman 1	13	31N	11W	K	9-May-97	14-May-97	19-Apr-99	17-Aug-99	27-Oct-99	25-Jan-00	10-Apr-00
Wilmerding 1M	10	31N	13W	C	5-Jun-98	1-Jul-98	1-Jun-99	10-Aug-99	12-Oct-99	1-Feb-00	1-May-00
Zachry 18E	11	28N	10W	O	6-Sep-96	19-Nov-96	20-Apr-99	2-Aug-99	1-Nov-99	31-Jan-00	26-Apr-00



RECEIVED

SEP 20 2000

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**Annual**  
**Groundwater**  
**Report**  
**2000**

San Juan Basin, New Mexico  
Lined Surface Impoundments

## Site Summary Report

---

**Site Name: Florance 47X**

**Reporting Period: 2<sup>nd</sup> Qtr 1999 - 2<sup>nd</sup> Qtr 2000**

---

**Location: Unit G, Sec 5, Twn 30N, Rng 8W**

**Vulnerable Class: original**

**Canyon: Crow**

**OCD Ranking: 10**

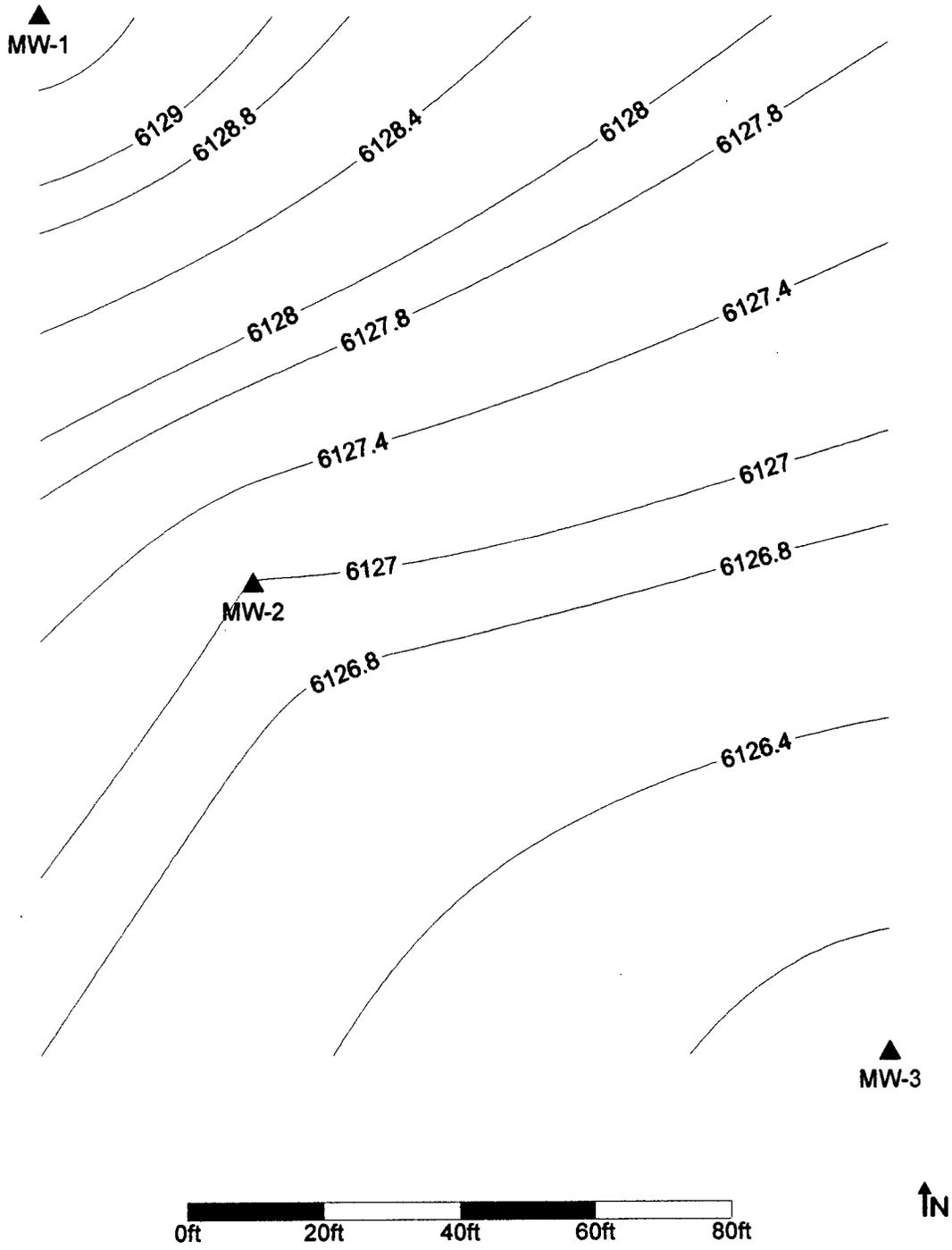
**Operator: Amoco**

**Lead Agency: NMOCD**

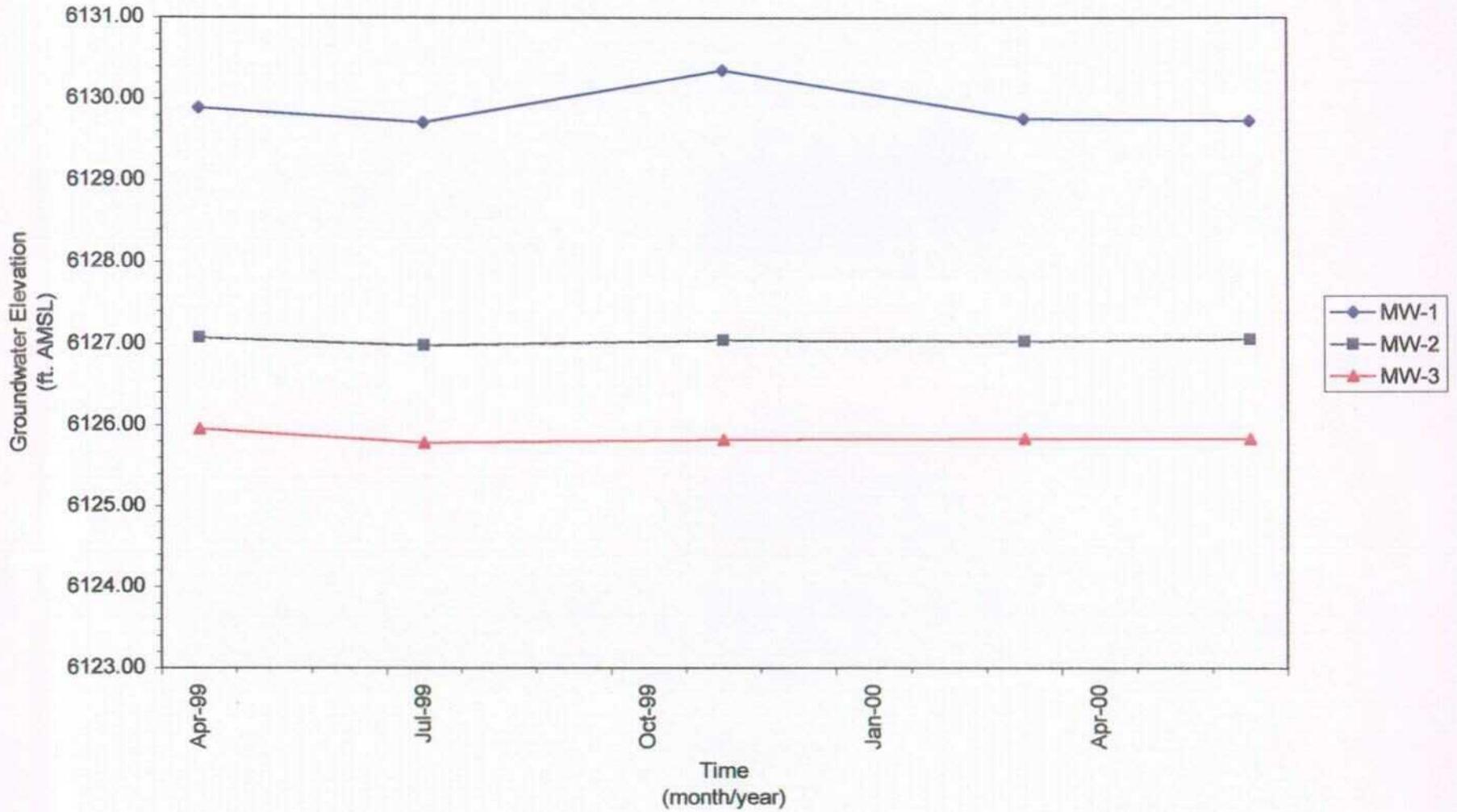
### Status Narrative

This site has five monitoring wells, with thirteen quarters of ground water monitoring completed to date. Two of these monitoring wells (MW-2 and -3) have contained free-phase hydrocarbon at various times. Monitoring well MW-1, upgradient of PNM's former dehydrator pit and downgradient of Amoco's equipment, confirms the presence of upgradient contamination. This source is most likely related to activities associated with Amoco's separator pit/equipment. Recent activities at this site include the installation of two additional monitoring wells. These include: well MW-4 located up-and cross-gradient of PNM's former dehydrator pit; and well MW-5 located downgradient of monitor well MW-3.

Florance 47X  
Potentiometric Surface Map  
(July 28, 1999)



Florance 47X  
Hydrograph for Period Q2/1999 - Q2/2000  
(Elevation vs. Time)



**Florance 47X**  
**Summary of Groundwater Analytical Data**  
**(Q2/1999 - Q2/2000)**

Well ID	Sample ID	Sample Date	Free Product		Analytes (values in ug/L)			
			Present Yes/No	Thickness (ft.)	benzene	toluene	ethylbenzene	total xylenes
MW-1	9904211026	21-Apr-99	N		40	15	6.4	10.4
	9907280715	28-Jul-99	N		34	7.8	3	2.9
	9911030906	3-Nov-99	N		2.9	<0.5	<0.5	<1.5
	0003230817	23-Mar-00	N		10	1.1	<0.5	<1.5
	0006140949	14-Jun-00	N		4.1	1.4	0.6	<1.5
MW-2	9904211120	21-Apr-99	N		14000	20000	850	8500
	9907280753	28-Jul-99	N		11000	15000	740	6800
	9911031032	3-Nov-99	N		11000	14000	770	8100
	0003230903	23-Mar-00	N		12000	15000	810	8200
	0006141042	14-Jun-00	N		6400	7000	570	5800
MW-3	NS	21-Apr-99	Y	0.97				
	NS	28-Jul-99	Y	1.15				
	NS	3-Nov-99	Y	1.12				
	NS	23-Mar-00	Y	1.12				
	NS	14-Jun-00	Y	1.11				
MW-4	0006141106	14-Jun-00	N		28	42	7	135
MW-5	0006141137	14-Jun-00	N		1100	710	100	1100

NS = well not sampled for specified analytes

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 28-Apr-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	9904052	<b>Client Sample ID:</b>	9904211026; MW 1
<b>Lab ID:</b>	9904052-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	4/21/99 10:26:00 AM
		<b>COC Record:</b>	7042

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>		<b>Analyst: HR</b>		
Benzene	40	0.5		µg/L	1	4/23/99
Toluene	15	0.5		µg/L	1	4/23/99
Ethylbenzene	6.4	0.5		µg/L	1	4/23/99
m,p-Xylene	8.8	1		µg/L	1	4/23/99
o-Xylene	1.6	0.5		µg/L	1	4/23/99

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 28-Apr-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	9904052	<b>Client Sample ID:</b>	9904211120; MW 2
<b>Lab ID:</b>	9904052-02A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	4/21/99 11:20:00 AM
		<b>COC Record:</b>	7042

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>			<b>Analyst: HR</b>	
Benzene	14000	62		µg/L	125	4/23/99
Toluene	20000	62		µg/L	125	4/23/99
Ethylbenzene	850	62		µg/L	125	4/23/99
m,p-Xylene	6800	120		µg/L	125	4/23/99
o-Xylene	1700	62		µg/L	125	4/23/99

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 27-Aug-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	9907062	<b>Client Sample ID:</b>	9907280715; MW-1
<b>Lab ID:</b>	9907062-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	07/28/1999 7:15:00 AM
		<b>COC Record:</b>	7496

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>			<b>Analyst: DC</b>	
Benzene	34	0.5		µg/L	1	08/03/1999
Toluene	7.8	0.5		µg/L	1	08/03/1999
Ethylbenzene	3	0.5		µg/L	1	08/03/1999
m,p-Xylene	2.2	1		µg/L	1	08/03/1999
o-Xylene	0.7	0.5		µg/L	1	08/03/1999

**Qualifiers:**

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

**Date: 27-Aug-99**

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	9907062	<b>Client Sample ID:</b>	9907280753; MW-2
<b>Lab ID:</b>	9907062-02A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	07/28/1999 7:53:00 AM
		<b>COC Record:</b>	7496

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>				<b>Analyst: DC</b>
Benzene	11000	50		µg/L	100	08/03/1999
Toluene	15000	50		µg/L	100	08/03/1999
Ethylbenzene	740	50		µg/L	100	08/03/1999
m,p-Xylene	5400	100		µg/L	100	08/03/1999
o-Xylene	1400	50		µg/L	100	08/03/1999

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

**P.O. BOX 2606 • FARMINGTON, NM 87499**

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



OFF: (505) 325-5667

LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 16-Nov-99

<b>Client:</b> PNM - Public Service Company of NM	<b>Client Sample Info:</b> Florance 47X
<b>Work Order:</b> 9911014	<b>Client Sample ID:</b> 9911030906; MW-1
<b>Lab ID:</b> 9911014-01A <b>Matrix:</b> AQUEOUS	<b>Collection Date:</b> 11/3/99 9:06:00 AM
<b>Project:</b> Florance 47X	<b>COC Record:</b> 7791

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>		<b>Analyst: DM</b>		
Benzene	2.9	0.5		µg/L	1	11/8/99
Toluene	ND	0.5		µg/L	1	11/8/99
Ethylbenzene	ND	0.5		µg/L	1	11/8/99
m,p-Xylene	ND	1		µg/L	1	11/8/99
o-Xylene	ND	0.5		µg/L	1	11/8/99

**Qualifiers:** PQL - Practical Quantitation Limit     S - Spike Recovery outside accepted recovery limits  
 ND - Not Detected at Practical Quantitation Limit     R - RPD outside accepted recovery limits  
 J - Analyte detected below Practical Quantitation Limit     E - Value above quantitation range  
 B - Analyte detected in the associated Method Blank     Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 16-Nov-99

<b>Client:</b> PNM - Public Service Company of NM	<b>Client Sample Info:</b> Florance 47X
<b>Work Order:</b> 9911014	<b>Client Sample ID:</b> 9911031032; MW-2
<b>Lab ID:</b> 9911014-02A <b>Matrix:</b> AQUEOUS	<b>Collection Date:</b> 11/3/99 10:32:00 AM
<b>Project:</b> Florance 47X	<b>COC Record:</b> 7791

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>				<b>Analyst: DM</b>
Benzene	11000	50		µg/L	100	11/8/99
Toluene	14000	50		µg/L	100	11/8/99
Ethylbenzene	770	50		µg/L	100	11/8/99
m,p-Xylene	6500	100		µg/L	100	11/8/99
o-Xylene	1600	50		µg/L	100	11/8/99

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 27-Mar-00

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	0003034	<b>Client Sample ID:</b>	0003230817; MW-1
<b>Lab ID:</b>	0003034-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	3/23/2000 8:17:00 AM
		<b>COC Record:</b>	8506

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
-----------	--------	-----	------	-------	----	---------------

AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	10	0.5		µg/L	1	3/24/2000
Toluene	1.1	0.5		µg/L	1	3/24/2000
Ethylbenzene	ND	0.5		µg/L	1	3/24/2000
m,p-Xylene	ND	1		µg/L	1	3/24/2000
o-Xylene	ND	0.5		µg/L	1	3/24/2000

<b>Qualifiers:</b>	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	I - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Date: 27-Mar-00

<b>Client:</b> PNM - Public Service Company of NM	<b>Client Sample Info:</b> Florance 47X
<b>Work Order:</b> 0003034	<b>Client Sample ID:</b> 0003230903; MW-2
<b>Lab ID:</b> 0003034-02A <b>Matrix:</b> AQUEOUS	<b>Collection Date:</b> 3/23/2000 9:03:00 AM
<b>Project:</b> Florance 47X	<b>COC Record:</b> 8506

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>				<b>Analyst: DM</b>
Benzene	12000	50		µg/L	100	3/24/2000
Toluene	15000	50		µg/L	100	3/24/2000
Ethylbenzene	810	50		µg/L	100	3/24/2000
m,p-Xylene	6500	100		µg/L	100	3/24/2000
o-Xylene	1700	50		µg/L	100	3/24/2000

**Qualifiers:**

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667  
FAX: (505) 327-1496



LAB: (505) 325-1556  
FAX: (505) 327-1496

**ANALYTICAL REPORT**

Date: 27-Jun-00

---

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	0006035	<b>Client Sample ID:</b>	0006140949; MW-1
<b>Lab ID:</b>	0006035-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	6/14/2000 9:49:00 AM
		<b>COC Record:</b>	7895

---

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>		<b>Analyst: DC</b>		
Benzene	4.1	0.5		µg/L	1	6/24/2000
Toluene	1.4	0.5		µg/L	1	6/24/2000
Ethylbenzene	0.6	0.5		µg/L	1	6/24/2000
m,p-Xylene	ND	1		µg/L	1	6/24/2000
o-Xylene	ND	0.5		µg/L	1	6/24/2000

**Qualifiers:** PQL - Practical Quantitation Limit S - Spike Recovery outside accepted recovery limits  
ND - Not Detected at Practical Quantitation Limit R - RPD outside accepted recovery limits  
J - Analyte detected below Practical Quantitation Limit E - Value above quantitation range  
B - Analyte detected in the associated Method Blank Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667  
FAX: (505) 327-1496



LAB: (505) 325-1556  
FAX: (505) 327-1496

**ANALYTICAL REPORT**

Date: 27-Jun-00

---

<b>Client:</b> PNM - Public Service Company of NM	<b>Client Sample Info:</b> Florance 47X
<b>Work Order:</b> 0006035	<b>Client Sample ID:</b> 0006141042; MW-2
<b>Lab ID:</b> 0006035-02A <b>Matrix:</b> AQUEOUS	<b>Collection Date:</b> 6/14/2000 10:42:00 AM
<b>Project:</b> Florance 47X	<b>COC Record:</b> 7895

---

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>		Analyst: DC		
Benzene	6400	50		µg/L	100	6/24/2000
Toluene	7000	50		µg/L	100	6/24/2000
Ethylbenzene	570	50		µg/L	100	6/24/2000
m,p-Xylene	4600	100		µg/L	100	6/24/2000
o-Xylene	1200	50		µg/L	100	6/24/2000

**Qualifiers:** PQL - Practical Quantitation Limit     S - Spike Recovery outside accepted recovery limits  
ND - Not Detected at Practical Quantitation Limit     R - RPD outside accepted recovery limits  
J - Analyte detected below Practical Quantitation Limit     E - Value above quantitation range  
B - Analyte detected in the associated Method Blank     Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667  
FAX: (505) 327-1496



LAB: (505) 325-1556  
FAX: (505) 327-1496

### ANALYTICAL REPORT

Date: 27-Jun-00

---

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	0006035	<b>Client Sample ID:</b>	0006141106; MW-4
<b>Lab ID:</b>	0006035-03A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	6/14/2000 11:06:00 AM
		<b>COC Record:</b>	7895

---

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
-----------	--------	-----	------	-------	----	---------------

---

**AROMATIC VOLATILES BY GC/PID**

**SW8021B**

Analyst: DC

Benzene	28	0.5		µg/L	1	6/24/2000
Toluene	42	0.5		µg/L	1	6/24/2000
Ethylbenzene	7	0.5		µg/L	1	6/24/2000
m,p-Xylene	120	1		µg/L	1	6/24/2000
o-Xylene	15	0.5		µg/L	1	6/24/2000

**Qualifiers:**

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Sur: - Surrogate

**P.O. BOX 2606 • FARMINGTON, NM 87499**

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667  
FAX: (505) 327-1496



LAB: (505) 325-1556  
FAX: (505) 327-1496

**ANALYTICAL REPORT**

Date: 27-Jun-00

---

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 47X
<b>Work Order:</b>	0006035	<b>Client Sample ID:</b>	0006141137; MW-5
<b>Lab ID:</b>	0006035-04A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 47X	<b>Collection Date:</b>	6/14/2000 11:37:00 AM
		<b>COC Record:</b>	7895

---

---

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
-----------	--------	-----	------	-------	----	---------------

---

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>				<b>Analyst: DC</b>
Benzene	1100	5		µg/L	10	6/24/2000
Toluene	710	5		µg/L	10	6/24/2000
Ethylbenzene	100	5		µg/L	10	6/24/2000
m,p-Xylene	940	10		µg/L	10	6/24/2000
o-Xylene	160	5		µg/L	10	6/24/2000

**Qualifiers:**

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Sur: - Surrogate