

**3R - 313**

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# **REPORTS**

**DATE:**

**2000**

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

September 18, 2000

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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.

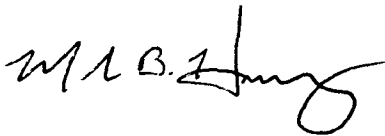
As with most projects of this magnitude, first hand knowledge is paramount to prepare a thorough summary of site activities. Given the limited firsthand knowledge of project workings, Williams is in the unenviable position of trying to glean information from only the paper record. As such, the 2000 report 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.

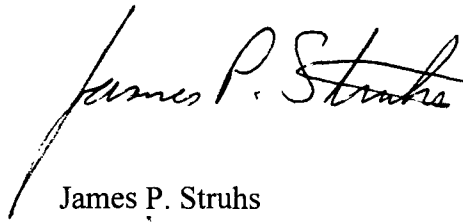
Organization of the report follows the same format used by PNM. Data for each site is contained in a separate tabbed section labeled with the site name. Each section contains a data summary table listing each monitoring well. The absence or presence of free product is indicated on the table and the concentrations 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



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# **Annual Groundwater Report 2000**

San Juan Basin, New Mexico  
Lined Surface Impoundments

## Site Summary Report

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**Site Name:** Dogie North Pit

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

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**Location:** Unit D, Sec 4, Twn 25N, Rng 6W

**Vulnerable Class:** original

**Canyon:** Largo

**OCD Ranking:** 40

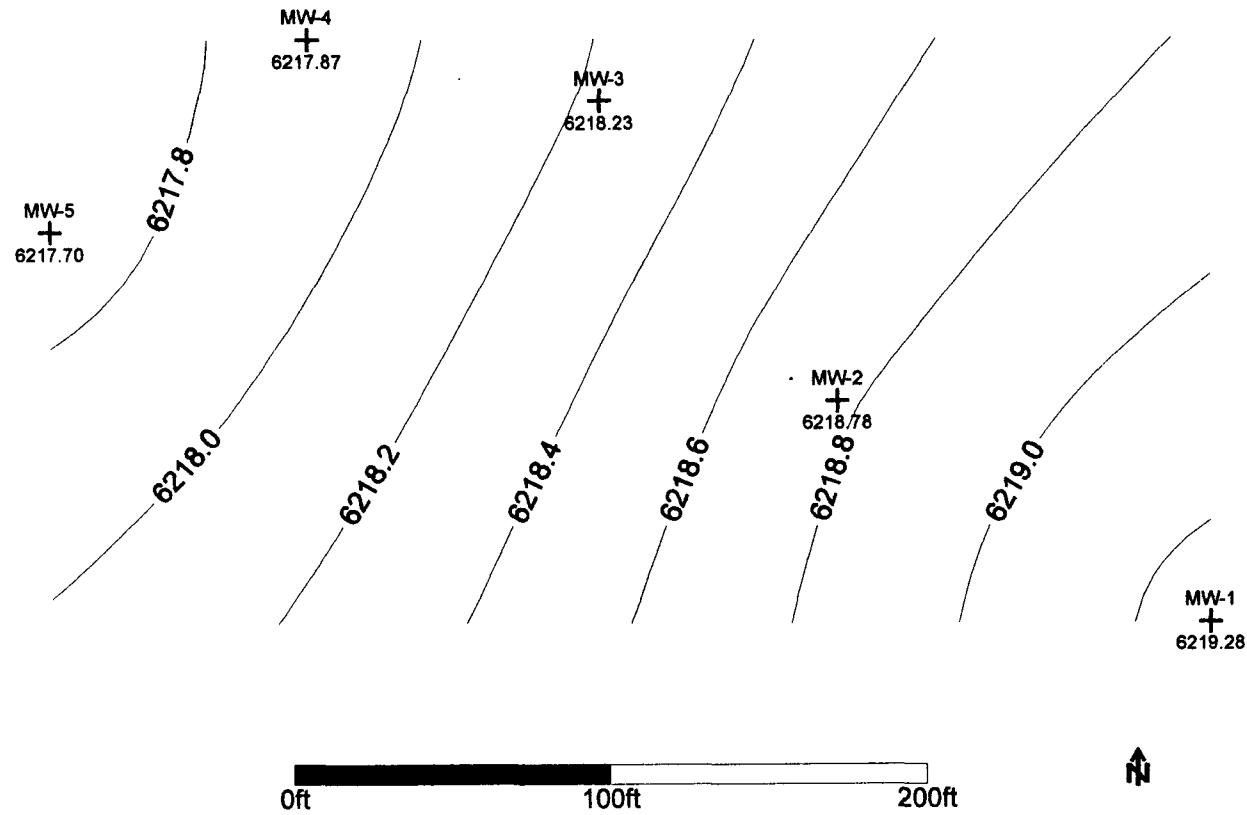
**Operator:** Williams

**Lead Agency:** NMOCD

### Status Narrative

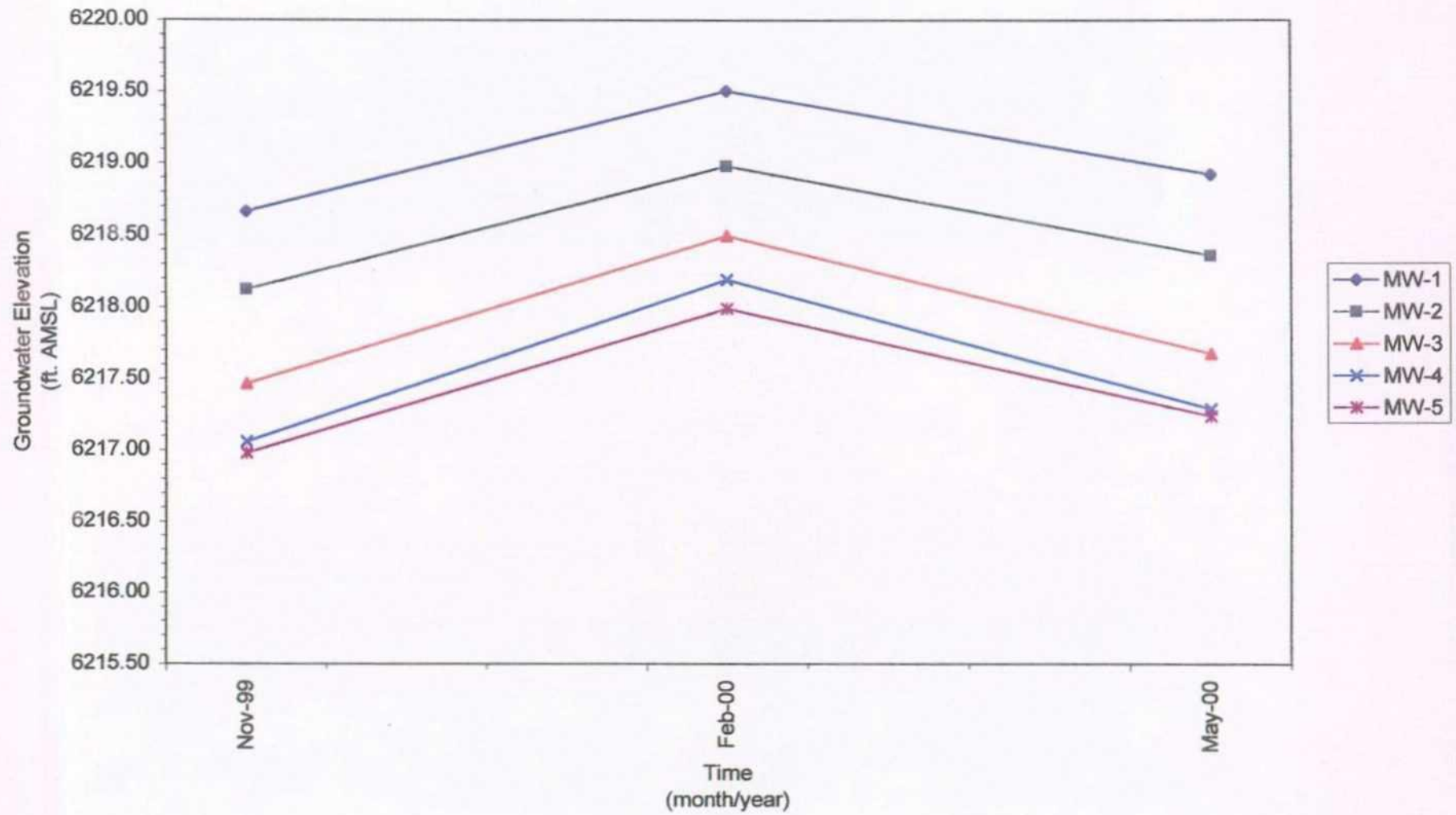
This site has five monitoring wells and one temporary water-point installed, with twelve quarters of ground water monitoring completed to date. The ground water gradient and areal extent of contamination has been established. Only well MW-2 (the source area well) remains above WQCC standards. Contaminant concentrations in this well do not appear to be attenuating. This circumstance may be an artifact of the well installation procedures. Wells having screened intervals located within contaminated soil horizons may not provide samples representative of actual dissolved constituent levels due to the presence of contaminated particles or colloids in the samples. All the other monitoring wells have been below WQCC standards for more than four consecutive quarters.

Dogie North Pit  
Potentiometric Surface Map  
(April 27, 1999)





Dogie North Pit  
Hydrograph for Period Q2/1999 - Q2/2000  
(Elevation vs. Time)



**Dogie North Pit**  
**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	ethy/benzene	total xylenes
MW-2	9904271400	27-Apr-99			130	1	8	31
	9909211230	21-Sep-99			59	<0.5	3	17
	9911160905	16-Nov-99			58	1	3	16
	0002151032	15-Feb-00			34	<0.5	4	18
	0005100919	10-May-00			67	2.8	11	30.8
TMW-1	NS	27-Apr-99						
	9909211300	21-Sep-99			<0.5	1	<0.5	2
	NS	16-Nov-99						
	NS	15-Feb-00						
	NS	10-May-00						

ND = analyte not detected above method detection limit

NS = well not sampled for specified analytes

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 07-May-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie North
<b>Work Order:</b>	9904067	<b>Client Sample ID:</b>	9904271400; MW-2
<b>Lab ID:</b>	9904067-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie North	<b>Collection Date:</b>	4/27/99 2:00:00 PM
		<b>COC Record:</b>	7534

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	130	0.5		µg/L	1	5/5/99
Toluene	1.2	0.5		µg/L	1	5/5/99
Ethylbenzene	7.6	0.5		µg/L	1	5/5/99
m,p-Xylene	28	1		µg/L	1	5/5/99
o-Xylene	2.7	0.5		µg/L	1	5/5/99

**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

1 of 1

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 01-Oct-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie Compressor Station N. Pit
<b>Work Order:</b>	9909067	<b>Client Sample ID:</b>	9909211230; MW-2
<b>Lab ID:</b>	9909067-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie Compressor Station North Pit	<b>Collection Date:</b>	09/21/1999 12:30:00 PM
		<b>COC Record:</b>	7544

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>		<b>Analyst: HR</b>		
Benzene	59	0.5		µg/L	1	09/22/1999
Toluene	ND	0.5		µg/L	1	09/22/1999
Ethylbenzene	3.1	0.5		µg/L	1	09/22/1999
m,p-Xylene	14	1		µg/L	1	09/22/1999
o-Xylene	2.8	0.5		µg/L	1	09/22/1999

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## ANALYTICAL REPORT

Date: 01-Oct-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie Compressor Station N. Pit
<b>Work Order:</b>	9909067	<b>Client Sample ID:</b>	9909211300; TMW-1
<b>Lab ID:</b>	9909067-02A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie Compressor Station North Pit	<b>Collection Date:</b>	09/21/1999 1:00:00 PM
		<b>COC Record:</b>	7544

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	09/22/1999
Toluene	0.6	0.5		µg/L	1	09/22/1999
Ethylbenzene	ND	0.5		µg/L	1	09/22/1999
m,p-Xylene	1.6	1		µg/L	1	09/22/1999
o-Xylene	ND	0.5		µg/L	1	09/22/1999

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OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 23-Nov-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie North
<b>Work Order:</b>	9911028	<b>Client Sample ID:</b>	9911160905; MW-2
<b>Lab ID:</b>	9911028-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie North	<b>Collection Date:</b>	11/16/99 9:05:00 AM
		<b>COC Record:</b>	7859

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>AROMATIC VOLATILES BY GC/PID</b>		<b>SW8021B</b>				<b>Analyst: DM</b>
Benzene	58	0.5		µg/L	1	11/18/99
Toluene	1	0.5		µg/L	1	11/18/99
Ethylbenzene	3.3	0.5		µg/L	1	11/18/99
m,p-Xylene	13	1		µg/L	1	11/18/99
o-Xylene	2.6	0.5		µg/L	1	11/18/99

**Qualifiers:**

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B - Analyte detected in the associated Method Blank

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr - Surrogate

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1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 28-Feb-00

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie North
<b>Work Order:</b>	0002040	<b>Client Sample ID:</b>	0002151032; MW-2
<b>Lab ID:</b>	0002040-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie North	<b>Collection Date:</b>	2/15/2000 10:32:00 AM
		<b>COC Record:</b>	7874

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	2/23/2000
Toluene	ND	0.5		µg/L	1	2/23/2000
Ethylbenzene	4.4	0.5		µg/L	1	2/23/2000
m,p-Xylene	16	1		µg/L	1	2/23/2000
o-Xylene	2.3	0.5		µg/L	1	2/23/2000

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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: 22-May-00

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Dogie North
<b>Work Order:</b>	0005023	<b>Client Sample ID:</b>	0005100919; MW-2
<b>Lab ID:</b>	0005023-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Dogie North	<b>Collection Date:</b>	5/10/2000 9:19:00 AM
		<b>COC Record:</b>	7892

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	67	2.5		µg/L	5	5/20/2000
Toluene	2.8	2.5		µg/L	5	5/20/2000
Ethylbenzene	11	2.5		µg/L	5	5/20/2000
m,p-Xylene	28	5		µg/L	5	5/20/2000
o-Xylene	2.8	2.5		µg/L	5	5/20/2000

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