

3R - 320

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 1st 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.

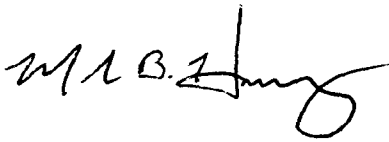
As with most projects of this magnitude, first hand knowledge is paramount to prepare a thorough summary of site activities. Given the limited firsthand knowledge of project workings, Williams is in the unenviable position of trying to glean information from only the paper record. As such, the 2000 report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

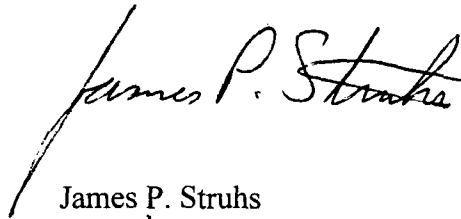
Organization of the report follows the same format used by PNM. Data for each site is contained in a separate tabbed section labeled with the site name. Each section contains a data summary table listing each monitoring well. The absence or presence of free product is indicated on the table and the concentrations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

Annual
Groundwater
Report
2000

San Juan Basin, New Mexico
Unlined Surface Impoundments

Site Summary Report

Site Name: Hampton 4M

Reporting Period: 2nd Qtr 1999 - 2nd Qtr 2000

Location: Unit N, Sec 13, Twn 30N, Rng 11W
Canyon: Hampton Arroyo
Operator: Burlington

Vulnerable Class: original
OCD Ranking: 40
Lead Agency: NMOCD

Status Narrative

This site has ten monitoring wells and one temporary monitoring point. Several of these wells (MW-11, -13, -14, -15, and -16) were installed by and belong to Burlington. To date, eleven quarters of monitoring have been conducted. At the time of this writing, Burlington was conducting additional excavation in the southeast corner of the site with plans to install a collection sump for free product.

Hampton 4M
Potentiometric Surface Map
(January 27, 2000)

MW-11



6000

MW-7

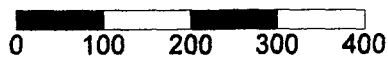


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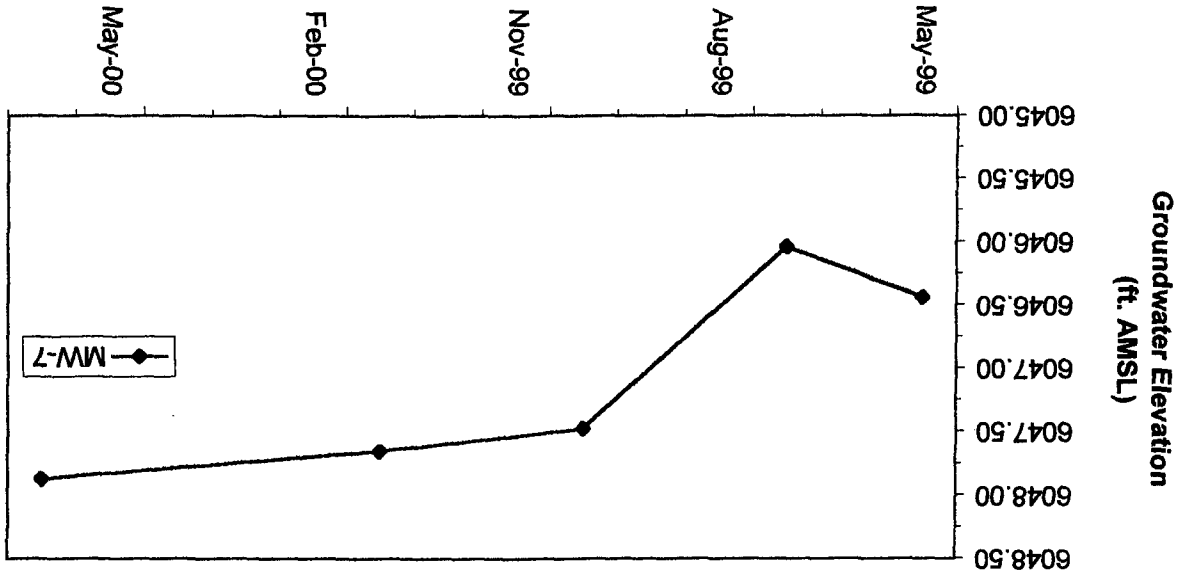
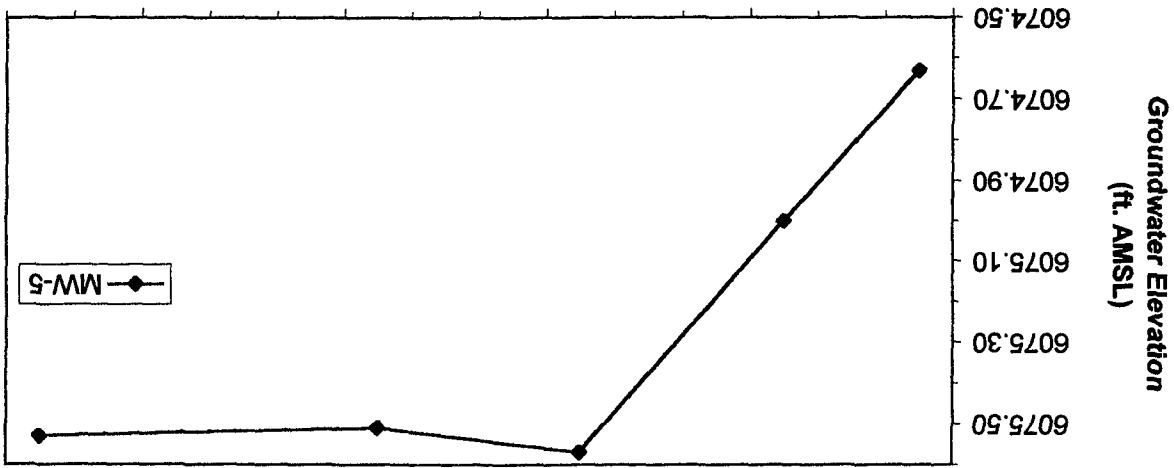
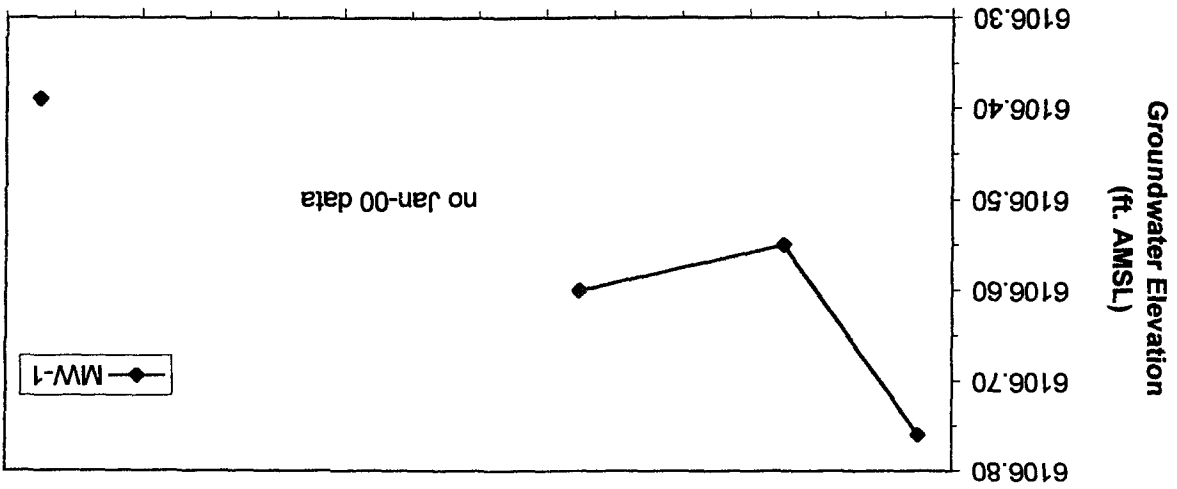
MW-5



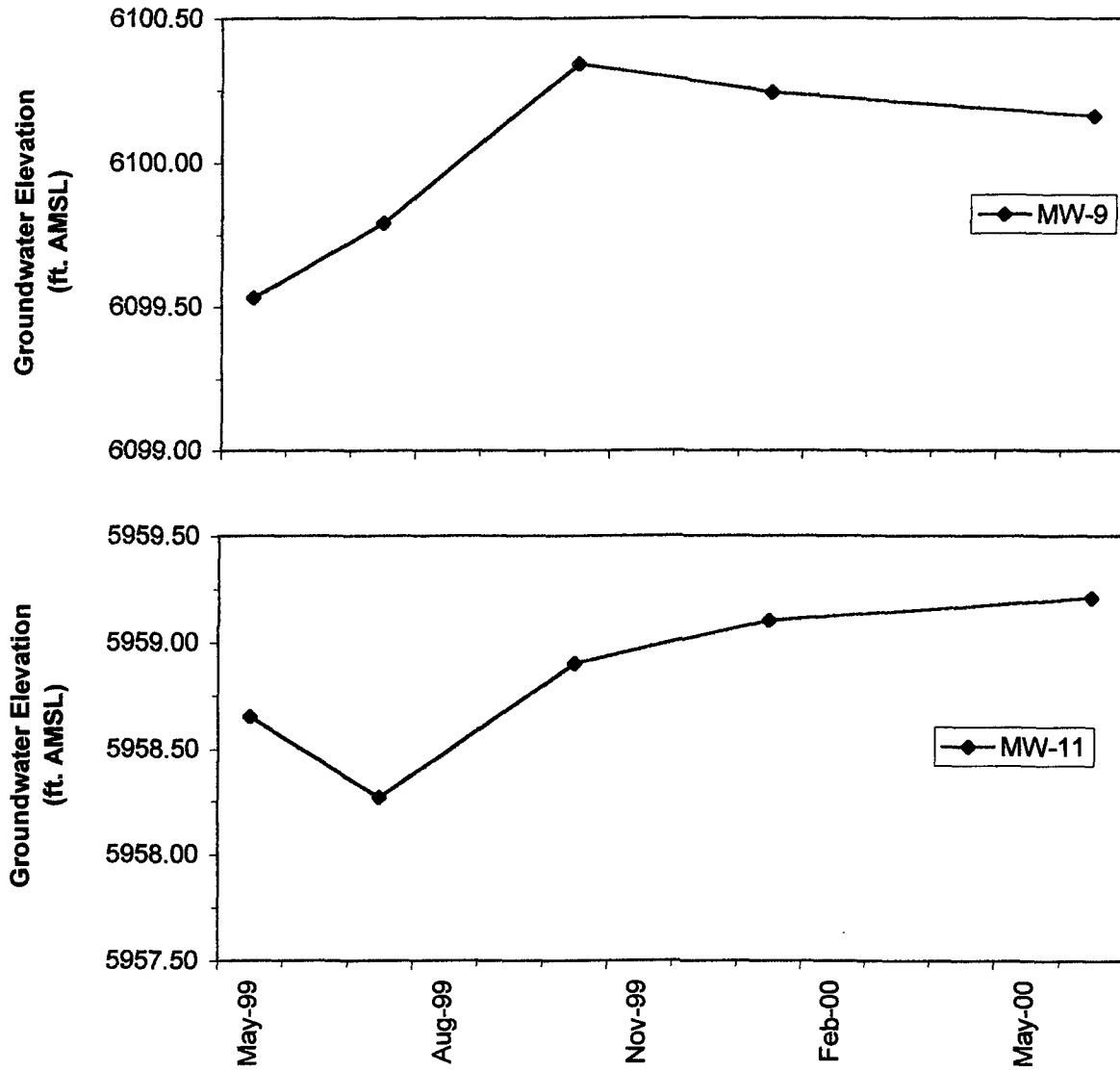
MW-9



Hampton 4M Hydrographs for Period Q2/1999 - Q2/2000 (Elevation vs. Time)



Hampton 4M
Hydrographs for Period Q2/1999 - Q2/2000
(Elevation vs. Time)



Hampton 4M
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	NS	5-May-99	N					
	9907121230	12-Jul-99	N		1.1	0.5	<0.5	<1.5
	NS	17-Aug-99	N					
	NS	21-Oct-99	N					
	NS	27-Jan-00	N					
	NS	13-Jun-00	N					
MW-5	9905051200	5-May-99	N		6800	9800	900	7800
	9907121410	12-Jul-99	N		6300	10000	750	8800
	9908171400	17-Aug-99	N		5400	9800	670	7500
	9910211240	21-Oct-99	N		5200	9600	650	6900
	0001270906	27-Jan-00	N		4700	10000	680	7400
	MW-5	13-Jun-00	N		8400	19000	1700	22000
MW-7	9905051335	5-May-99	N		210	2.9	30	147
	9907121420	12-Jul-99	N		130	7.2	22	101.3
	NS	17-Aug-99						
	9910211300	21-Oct-99	N		280	6	10	82
	0001271221	27-Jan-00	N		670	580	54	680
	MW-7	13-Jun-00	N		420	1100	75	1400
MW-9	9905051240	5-May-99	N		73	<0.5	2.2	1.6
	9905261200	26-May-99	N		120	<0.5	2.5	1.8
	9907121335	12-Jul-99	N		140	<0.5	1.5	<1.5
	9908171330	17-Aug-99	N		290	<0.5	0.6	<1.5
	9910211220	21-Oct-99	N		300	<0.5	<0.5	<1.5
	0001270941	27-Jan-00	N		130	<0.5	<0.5	<1.5
	MW-9	13-Jun-00	N		<0.5	1.9	<0.5	2.5
MW-11	9905051420	5-May-99	N		<0.5	<0.5	<0.5	<1.5
	9907121500	12-Jul-99	N		<0.5	<0.5	<0.5	<1.5
	NS	17-Aug-99	N					
	9910211340	21-Oct-99	N		<0.5	<0.5	<0.5	<1.5
	0001271312	27-Jan-00	N		<0.5	<0.5	<0.5	<1.5
	MW-11	13-Jun-00	N		<0.5	<0.5	<0.5	0.9

Hampton 4M
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-12	9905051310	5-May-99	N		790	840	260	2880
	9905261245	26-May-99	N		1900	820	200	1720
	9907121530	12-Jul-99	N		4500	760	400	3100
	9908171430	17-Aug-99	N		4800	5000	320	3390
	9910211130	21-Oct-99	N		5600	650	540	2890
	0001271200	27-Jan-00	N		4100	550	430	2379
	MW-12	13-Jun-00	N		5000	1300	490	2700
MW-13	9905261100	26-May-99	N		1800	25	12	35.3
	9907121300	12-Jul-99	N		2100	9.9	14	10.9
	9908171300	17-Aug-99	N		1900	<10	<10	<30
	9910211150	21-Oct-99	N		1600	2.8	<2.5	<7.5
	0001271015	27-Jan-00	N		1600	2.2	1.5	0.5
	MW-13	13-Jun-00	N		730	<2.5	<2.5	<2.5
MW-14	NS	21-Oct-99	Y	1.92				
	NS	4-Jan-00	Y	2.39				
	NS	13-Jun-00	Y	2.16				
MW-15	9910211030	21-Oct-99	N		<0.5	1	<0.5	<1.5
	0001271042	27-Jan-00	N		<0.5	<0.5	<0.5	<1.5
	MW-15	13-Jun-00	N		<0.5	<0.5	<0.5	<0.5
MW-16	9910211100	21-Oct-99	N		210	290	5.3	138
	0001271115	27-Jan-00	N		1600	170	56	225
	MW-16	13-Jun-00	N		8700	430	680	2200
TMP-1	9910211310	21-Oct-99	N		1000	3100	410	9700
	0001271233	27-Jan-00	N		930	1400	350	6700
	TM-W1	13-Jun-00	N		2400	3400	550	9100

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: 18-May-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905027	Client Sample ID:	9905051200; MW-5
Lab ID:	9905027-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/5/99 12:00:00 PM
		COC Record:	7537

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	6800	50		µg/L	100	5/14/99
Toluene	9800	50		µg/L	100	5/14/99
Ethylbenzene	900	50		µg/L	100	5/14/99
m,p-Xylene	6400	100		µg/L	100	5/14/99
o-Xylene	1400	50		µg/L	100	5/14/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-May-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905027	Client Sample ID:	9905051335; MW-7
Lab ID:	9905027-04A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/5/99 1:35:00 PM
		COC Record:	7537

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	210	2.5		µg/L	5	5/17/99
Toluene	2.9	2.5		µg/L	5	5/17/99
Ethylbenzene	30	2.5		µg/L	5	5/17/99
m,p-Xylene	140	5		µg/L	5	5/17/99
o-Xylene	7	2.5		µg/L	5	5/17/99

Qualifiers:

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ND - Not Detected at Practical Quantitation Limit

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B - Analyte detected in the associated Method Blank

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E - Value above quantitation range

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-May-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905027	Client Sample ID:	9905051240; MW-9
Lab ID:	9905027-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/5/99 12:40:00 PM
		COC Record:	7537

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	73	0.5		µg/L	1	5/14/99
Toluene	ND	0.5		µg/L	1	5/14/99
Ethylbenzene	2.2	0.5		µg/L	1	5/14/99
m,p-Xylene	1.6	1		µg/L	1	5/14/99
o-Xylene	ND	0.5		µg/L	1	5/14/99

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-May-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905027	Client Sample ID:	9905051420; MW-11
Lab ID:	9905027-05A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/5/99 2:20:00 PM
		COC Record:	7537

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	5/14/99
Toluene	ND	0.5		µg/L	1	5/14/99
Ethylbenzene	ND	0.5		µg/L	1	5/14/99
m,p-Xylene	ND	1		µg/L	1	5/14/99
o-Xylene	ND	0.5		µg/L	1	5/14/99

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-May-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905027	Client Sample ID:	9905051310; MW-12
Lab ID:	9905027-03A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/5/99 1:10:00 PM
		COC Record:	7537

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	790	10		µg/L	20	5/14/99
Toluene	840	10		µg/L	20	5/14/99
Ethylbenzene	260	10		µg/L	20	5/14/99
m,p-Xylene	2600	20		µg/L	20	5/14/99
o-Xylene	280	10		µg/L	20	5/14/99

Qualifiers:

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Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 07-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905092	Client Sample ID:	9905261200; MW-9
Lab ID:	9905092-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/26/99 12:00:00 PM
		COC Record:	7746

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	120	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	2.5	0.5		µg/L	1	6/3/99
m,p-Xylene	1.8	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

Qualifiers:

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R - RPD outside accepted recovery limits

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Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 07-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905092	Client Sample ID:	9905261245; MW-12
Lab ID:	9905092-03A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/26/99 12:45:00 PM
		COC Record:	7746

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1900	10		µg/L	20	6/3/99
Toluene	820	10		µg/L	20	6/3/99
Ethylbenzene	200	10		µg/L	20	6/3/99
m,p-Xylene	1500	20		µg/L	20	6/3/99
o-Xylene	220	10		µg/L	20	6/3/99

Qualifiers:

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Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 07-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9905092	Client Sample ID:	9905261100; MW-13
Lab ID:	9905092-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	5/26/99 11:00:00 AM
		COC Record:	7746

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1800	5		µg/L	10	6/5/99
Toluene	25	0.5		µg/L	1	6/3/99
Ethylbenzene	12	0.5		µg/L	1	6/3/99
m,p-Xylene	31	1		µg/L	1	6/3/99
o-Xylene	4.3	0.5		µg/L	1	6/3/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121230; MW-1
Lab ID:	9907025-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 12:30:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1.1	0.5		µg/L	1	7/14/99
Toluene	0.5	0.5		µg/L	1	7/14/99
Ethylbenzene	ND	0.5		µg/L	1	7/14/99
m,p-Xylene	ND	1		µg/L	1	7/14/99
o-Xylene	ND	0.5		µg/L	1	7/14/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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E - Value above quantitation range

Surr: - Surrogate

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121410; MW-5
Lab ID:	9907025-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 2:10:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	6300	50		µg/L	100	7/14/99
Toluene	10000	50		µg/L	100	7/14/99
Ethylbenzene	750	50		µg/L	100	7/14/99
m,p-Xylene	7100	100		µg/L	100	7/14/99
o-Xylene	1700	50		µg/L	100	7/14/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121420; MW-7
Lab ID:	9907025-03A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 2:20:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	130	0.5		µg/L	1	7/15/99
Toluene	7.2	0.5		µg/L	1	7/15/99
Ethylbenzene	22	0.5		µg/L	1	7/15/99
m,p-Xylene	100	1		µg/L	1	7/15/99
o-Xylene	1.3	0.5		µg/L	1	7/15/99

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121335; MW-9
Lab ID:	9907025-04A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 1:35:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	140	0.5		µg/L	1	7/14/99
Toluene	ND	0.5		µg/L	1	7/14/99
Ethylbenzene	1.5	0.5		µg/L	1	7/14/99
m,p-Xylene	ND	1		µg/L	1	7/14/99
o-Xylene	ND	0.5		µg/L	1	7/14/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

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

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121500; MW-11
Lab ID:	9907025-05A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 3:00:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	7/14/99
Toluene	ND	0.5		µg/L	1	7/14/99
Ethylbenzene	ND	0.5		µg/L	1	7/14/99
m,p-Xylene	ND	1		µg/L	1	7/14/99
o-Xylene	ND	0.5		µg/L	1	7/14/99

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

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Surr: - Surrogate

1 of 1

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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121530; MW-12
Lab ID:	9907025-06A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 3:30:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	4500	25		µg/L	50	7/15/99
Toluene	760	10		µg/L	20	7/14/99
Ethylbenzene	400	10		µg/L	20	7/14/99
m,p-Xylene	2800	20		µg/L	20	7/14/99
o-Xylene	300	10		µg/L	20	7/14/99

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

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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-Jul-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9907025	Client Sample ID:	9907121300; MW-13
Lab ID:	9907025-07A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/12/99 1:00:00 PM
		COC Record:	7748

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	2100	10		µg/L	20	7/15/99
Toluene	9.9	0.5		µg/L	1	7/14/99
Ethylbenzene	14	0.5		µg/L	1	7/14/99
m,p-Xylene	7.1	1		µg/L	1	7/14/99
o-Xylene	3.8	0.5		µg/L	1	7/14/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9908043	Client Sample ID:	9908171400; MW-5
Lab ID:	9908043-03A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	08/17/1999 2:00:00 PM
		COC Record:	7750

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	5400	50		µg/L	100	08/19/1999
Toluene	9800	50		µg/L	100	08/19/1999
Ethylbenzene	670	50		µg/L	100	08/19/1999
m,p-Xylene	6000	100		µg/L	100	08/19/1999
o-Xylene	1500	50		µg/L	100	08/19/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9908043	Client Sample ID:	9908171330; MW-9
Lab ID:	9908043-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	08/17/1999 1:30:00 PM
		COC Record:	7750

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	290	2.5		µg/L	5	08/20/1999
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DM
Toluene	ND	0.5		µg/L	1	08/19/1999
Ethylbenzene	0.6	0.5		µg/L	1	08/19/1999
m,p-Xylene	ND	1		µg/L	1	08/19/1999
o-Xylene	ND	0.5		µg/L	1	08/19/1999

Qualifiers:

PQL - Practical Quantitation Limit
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Surr - Surrogate

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P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9908043	Client Sample ID:	9908171430; MW-12
Lab ID:	9908043-04A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	08/17/1999 2:30:00 PM
		COC Record:	7750

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	4800	25		µg/L	50	08/19/1999
Toluene	5000	25		µg/L	50	08/19/1999
Ethylbenzene	320	25		µg/L	50	08/19/1999
m,p-Xylene	2700	50		µg/L	50	08/19/1999
o-Xylene	690	25		µg/L	50	08/19/1999

Qualifiers:

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ND - Not Detected at Practical Quantitation Limit

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Surrogate - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9908043	Client Sample ID:	9908171300; MW-13
Lab ID:	9908043-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	08/17/1999 1:00:00 PM
		COC Record:	7750

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	1900	10		µg/L	20	08/19/1999
Toluene	ND	10		µg/L	20	08/19/1999
Ethylbenzene	ND	10		µg/L	20	08/19/1999
m,p-Xylene	ND	20		µg/L	20	08/19/1999
o-Xylene	ND	10		µg/L	20	08/19/1999

Qualifiers:

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E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211240; MW-5
Lab ID:	9910035-06A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 12:40:00 PM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	5200	50		µg/L	100	10/25/99
Toluene	9600	50		µg/L	100	10/25/99
Ethylbenzene	650	50		µg/L	100	10/25/99
m,p-Xylene	5400	100		µg/L	100	10/25/99
o-Xylene	1500	50		µg/L	100	10/25/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1



ANALYTICAL REPORT

Date: 01-Nov-99

Client: PNM - Public Service Company of NM
Work Order: 9910035
Lab ID: 9910035-08A Matrix: AQUEOUS
Project: Hampton 4M

Client Sample Info: Hampton 4M
Client Sample ID: 9910211300; MW-7
Collection Date: 10/21/99 1:00:00 PM
COC Record: 7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	280	2.5		µg/L	5	10/26/99
Toluene	6.1	2.5		µg/L	5	10/26/99
Ethylbenzene	9.8	2.5		µg/L	5	10/26/99
m,p-Xylene	70	5		µg/L	5	10/26/99
o-Xylene	12	2.5		µg/L	5	10/26/99

Qualifiers: PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211220; MW-9
Lab ID:	9910035-05A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 12:20:00 PM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	300	2.5		µg/L	5	10/26/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211340; MW-11
Lab ID:	9910035-10A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 1:40:00 PM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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

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ANALYTICAL REPORT

Date: 01-Nov-99

Client: PNM - Public Service Company of NM
Work Order: 9910035
Lab ID: 9910035-03A Matrix: AQUEOUS
Project: Hampton 4M

Client Sample Info: Hampton 4M
Client Sample ID: 9910211130; MW-12
Collection Date: 10/21/99 11:30:00 AM
COC Record: 7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	5600	25		µg/L	50	10/25/99
Toluene	650	25		µg/L	50	10/25/99
Ethylbenzene	540	25		µg/L	50	10/25/99
m,p-Xylene	2700	50		µg/L	50	10/25/99
o-Xylene	190	25		µg/L	50	10/25/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211150; MW-13
Lab ID:	9910035-04A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 11:50:00 AM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1600	10		µg/L	20	10/25/99
Toluene	2.8	2.5		µg/L	5	10/26/99
Ethylbenzene	ND	2.5		µg/L	5	10/26/99
m,p-Xylene	ND	5		µg/L	5	10/26/99
o-Xylene	ND	2.5		µg/L	5	10/26/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211030; MW-15
Lab ID:	9910035-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 10:30:00 AM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	10/26/99
Toluene	1	0.5		µg/L	1	10/26/99
Ethylbenzene	ND	0.5		µg/L	1	10/26/99
m,p-Xylene	1.1	1		µg/L	1	10/26/99
o-Xylene	ND	0.5		µg/L	1	10/26/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surrogate - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

**ANALYTICAL REPORT**

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211100; MW-16
Lab ID:	9910035-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 11:00:00 AM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	210	2.5		µg/L	5	10/26/99
Toluene	290	2.5		µg/L	5	10/26/99
Ethylbenzene	5.3	2.5		µg/L	5	10/26/99
m,p-Xylene	72	5		µg/L	5	10/26/99
o-Xylene	66	2.5		µg/L	5	10/26/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9910035	Client Sample ID:	9910211310; TMP-1
Lab ID:	9910035-09A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	10/21/99 1:10:00 PM
		COC Record:	7742

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1000	10		µg/L	20	10/25/99
Toluene	3100	10		µg/L	20	10/25/99
Ethylbenzene	410	10		µg/L	20	10/25/99
m,p-Xylene	7600	20		µg/L	20	10/25/99
o-Xylene	2100	10		µg/L	20	10/25/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001270906; MW-5
Lab ID:	0001032-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 9:06:00 AM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DM
Benzene	4700	50		µg/L	100	1/28/2000
Toluene	10000	50		µg/L	100	1/28/2000
Ethylbenzene	680	50		µg/L	100	1/28/2000
m,p-Xylene	5900	100		µg/L	100	1/28/2000
o-Xylene	1500	50		µg/L	100	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surrogate - 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: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271221; MW-7
Lab ID:	0001032-07A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 12:21:00 PM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	670	2.5		µg/L	5	1/28/2000
Toluene	580	2.5		µg/L	5	1/28/2000
Ethylbenzene	54	2.5		µg/L	5	1/28/2000
m,p-Xylene	420	5		µg/L	5	1/28/2000
o-Xylene	260	2.5		µg/L	5	1/28/2000

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001270941; MW-9
Lab ID:	0001032-02A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 9:41:00 AM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	130	0.5		µg/L	1	2/3/2000
Toluene	ND	0.5		µg/L	1	2/3/2000
Ethylbenzene	ND	0.5		µg/L	1	2/3/2000
m,p-Xylene	ND	1		µg/L	1	2/3/2000
o-Xylene	ND	0.5		µg/L	1	2/3/2000

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271312; MW-11
Lab ID:	0001032-09A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 1:12:00 PM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
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AROMATIC VOLATILES BY GC/PID

SW8021B

Analyst: DM

Benzene	ND	0.5		µg/L	1	1/28/2000
Toluene	ND	0.5		µg/L	1	1/28/2000
Ethylbenzene	ND	0.5		µg/L	1	1/28/2000
m,p-Xylene	ND	1		µg/L	1	1/28/2000
o-Xylene	ND	0.5		µg/L	1	1/28/2000

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271200; MW-12
Lab ID:	0001032-06A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 12:00:00 PM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DM
Benzene	4100	25		µg/L	50	1/28/2000
Toluene	550	25		µg/L	50	1/28/2000
Ethylbenzene	430	25		µg/L	50	1/28/2000
m,p-Xylene	2300	50		µg/L	50	1/28/2000
o-Xylene	79	25		µg/L	50	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271015; MW-13
Lab ID:	0001032-03A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 10:15:00 AM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	1600	10		µg/L	20	1/28/2000
Toluene	2.2	0.5		µg/L	1	2/3/2000
Ethylbenzene	1.5	0.5		µg/L	1	2/3/2000
m,p-Xylene	ND	1		µg/L	1	2/3/2000
o-Xylene	0.5	0.5		µg/L	1	2/3/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271042; MW-15
Lab ID:	0001032-04A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 10:42:00 AM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	1/28/2000
Toluene	ND	0.5		µg/L	1	1/28/2000
Ethylbenzene	ND	0.5		µg/L	1	1/28/2000
m,p-Xylene	ND	1		µg/L	1	1/28/2000
o-Xylene	ND	0.5		µg/L	1	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271115; MW-16
Lab ID:	0001032-05A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 11:15:00 AM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
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AROMATIC VOLATILES BY GC/PID

SW8021B

Analyst: DM

Benzene	1600	10		µg/L	20	2/3/2000
Toluene	170	2.5		µg/L	5	1/28/2000
Ethylbenzene	56	2.5		µg/L	5	1/28/2000
m,p-Xylene	210	5		µg/L	5	1/28/2000
o-Xylene	15	2.5		µg/L	5	1/28/2000

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-Feb-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	0001032	Client Sample ID:	0001271233; TMW-1
Lab ID:	0001032-08A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	1/27/2000 12:33:00 PM
		COC Record:	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	930	50		µg/L	100	1/28/2000
Toluene	1400	50		µg/L	100	1/28/2000
Ethylbenzene	350	50		µg/L	100	1/28/2000
m,p-Xylene	5200	100		µg/L	100	1/28/2000
o-Xylene	1500	50		µg/L	100	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	HAMPTON #4M TM-W1	AQUEOUS	06/13/00	NA	06/15/00	100
02	HAMPTON #4M MW-05	AQUEOUS	06/13/00	NA	06/15/00	100
03	HAMPTON #4M MW-07	AQUEOUS	06/13/00	NA	06/15/00	100

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M TM-W1	HAMPTON #4M MW-05	HAMPTON #4M MW-07
BENZENE	0.5	UG/L	2400	8400	420
TOLUENE	0.5	UG/L	3400	19000	1100
ETHYLBENZENE	0.5	UG/L	550	1700	75
TOTAL XYLENES	0.5	UG/L	9100	22000	1400

SURROGATE:
BROMOFLUOROBENZENE (%) 118 115 98
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	HAMPTON #4M MW-09	AQUEOUS	06/13/00	NA	06/15/00	1
05	HAMPTON #4M MW-11	AQUEOUS	06/13/00	NA	06/15/00	1
06	HAMPTON #4M MW-12	AQUEOUS	06/13/00	NA	06/15/00	100

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M MW-09	HAMPTON #4M MW-11	HAMPTON #4M MW-12
BENZENE	0.5	UG/L	< 0.5	< 0.5	5000
TOLUENE	0.5	UG/L	1.9	< 0.5	1300
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	490
TOTAL XYLENES	0.5	UG/L	2.5	0.9	2700

SURROGATE:
BROMOFLUOROBENZENE (%) 103 103 108
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	HAMPTON #4M MW-13	AQUEOUS	06/13/00	NA	06/15/00	5
08	HAMPTON #4M MW-15	AQUEOUS	06/13/00	NA	06/15/00	1
09	HAMPTON #4M MW-16	AQUEOUS	06/13/00	NA	06/15/00	50

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M MW-13	HAMPTON #4M MW-15	HAMPTON #4M MW-16
BENZENE	0.5	UG/L	730	< 0.5	8700
TOLUENE	0.5	UG/L	< 2.5	< 0.5	430
ETHYLBENZENE	0.5	UG/L	< 2.5	< 0.5	680
TOTAL XYLENES	0.5	UG/L	< 2.5	< 0.5	2200

SURROGATE:
BROMOFLUOROBENZENE (%) 97 99 114
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A