

**3R - 314**

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# **REPORTS**

**DATE:**

**1999**

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

RECEIVED

April 5, 1999

APR 07 1999

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

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION



**RE: 1999 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT**

Dear Bill:

PNM is pleased to submit the 1999 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.

Blanco Wash Drip	Mangum 1E
Davis 1	McClanahan 22
Dogie East Pit	McClanahan A 2E
Dogie North Pit	McCoy Gas Com A1
Florance 124	Miles Federal 1E Drip
Florance 32A	O' Shea 1M
Florance 40	Patterson A Com A1
Florance 44	Pritchard 2
Florance M 47X	Randleman 1
Hampton 4M	Reid 16 Drip
Honolulu Drip	Turner 1A
Ice Canyon Drip	Wilmerding 1M
Jacques 2A	Zachry 18E
Jicarilla Contract 147-6	
Linda 1A	

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM will request closure of four of the above sites, the Florance 32A, Jacques 2A, Mangum 1E and the McClanahan A2E, with the submittal of the 1<sup>st</sup> Quarter 1999 Pit Closures Report. This request is based upon the analytical data collected over the last two years at each of the sites. BTEX concentrations have been consistently below WQCC standards for four consecutive quarters.

Upon approval of the groundwater closure report, PNM will plug and abandon all of the groundwater monitoring wells at each of the locations. The concrete pad and metal vault surrounding each well will be removed. The well casing will be cut to ground surface and each well will be plugged to the surface

Bill Olson  
04/05/99  
Page 2

with cement containing 5% bentonite. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

A handwritten signature in cursive script, appearing to read "Maureen Gannon", with a long horizontal flourish extending to the right.

Maureen Gannon  
Project Manager

Enclosure

cc: Colin Adams, Esq.  
Ingrid Deklau, WFS  
Denny Foust, OCD-Aztec Office  
Ron Johnson  
Mark Sikelianos  
Bill VonDrehle, WFS



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ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**PM**<sup>®</sup>  
Environmental Services

# Annual

# Groundwater Report

# 1999

Volume II

***Unlined Surface Impoundments  
San Juan Basin***



## Groundwater Site Summary Report

Quarter/Year: 2<sup>nd</sup>/98, 3<sup>rd</sup>/98, 4<sup>th</sup>/98 & 1<sup>st</sup>/99

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

**Operator:** Amoco

**Sec:** 15 **Twn:** 30 **Rng:** 8 **Unit:** F

**Canyon:** San Juan River

**Vulnerable Class:** Original

**OCD Ranking:** 30

**Lead Agency:** NMOCD

**Topo Map:** previously submitted

**Well Completion Diagram:** previously submitted

**Site Map with Analysis:** Figure 1

**Groundwater Contour Map:** Figure 2a (April 1998), Figure 2b (August 1998), Figure 2c (November 1998), & Figure 2d (February 1999)

**Groundwater Hydrograph:** Figure 3

**Full-Suite Groundwater Results:** previously submitted

**Analytical Results:** attached

### Site Hydrology:

Florance 32A site (Figure 1) lies on the alluvial floodplain of the San Juan River, about three miles upstream (northeast) of Archuleta, New Mexico. The river meanders over a broad flat alluvial plain spanning a width of about half a mile, contained within steep valley walls. The site lies at an elevation of about 5695 ft. amsl, and the river is perhaps ten feet lower in elevation. A steep canyon wall lies just southeast of the site, and the river is about 600 feet north.

The five monitor wells at the site (Figure 1) showed sand and gravel materials in the subsurface. Several borings also found a cobble layer at shallow depths (less than 20 feet). These materials are characteristic of the bedload of the modern river. Depth to water is from 6 to 8 feet at the site.

Groundwater flows southwest beneath the site, as shown in Figures 2a, 2b, 2c and 2d. The flow direction is parallel to the orientation of the river valley axis.

The hydrograph (Figure 3) shows water level shifts in tandem in all the wells, indicating no seasonal change in groundwater flow direction; this is corroborated by plots of groundwater levels during different time periods (Figures 2a through 2d). Well MW-2 shows an anomalous water table elevation after it was reinstalled in January, 1998; however, this most likely reflects the undeveloped state of the well, and not the true water table elevation. After the sampling event of January, 1998, the water levels in well MW-2 again began to track parallel with the other wells. The hydrograph also shows marked seasonal changes in water levels, typically with higher levels during spring runoff. Comparison with USGS stream gauging records (site 09355500 - San Juan River near Archuleta) shows a direct relationship between river stage and groundwater elevation, thus emphasizing the direct hydraulic connection between the river and the shallow alluvial aquifer at the site.

### Activities for Previous Year:

Due to the presence of high BTEX concentrations in MW-2, PNM conducted additional source removal at the site on January 5, 1998. Field crews removed approximately 2000 cubic yards in and around PNM's former pit. MW-2 was removed during the excavation. PNM re-installed MW-2 on January 29, 1998.

PNM conducted quarterly groundwater sampling at the Florance 32A on April 29, August 7 and November 4, 1998, and again on February 10, 1998. Water level data were collected from all wells during each sampling event. All sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico for chemical analyses of BTEX using EPA method 8020.

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### **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

**Results:**

Figure 2 is a site map of the Florance 32A and includes groundwater analytical results. BTEX concentrations in the area of the former pit (well MW-2) have been below standards for four consecutive quarters. Apparently the additional source removal performed in January, 1998 appears to have accelerated the reduction of benzene in this area. The secondary source removal action was prompted by elevated BTEX concentrations in the source well.

Other wells have not shown detectable concentrations of BTEX compounds, except for MW-1 (the upgradient well). Concentrations in well MW-1 have also been below standards during every sampling event.

**Future Actions:**

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM will request closure of the Florance 32A with the submittal of the 1<sup>st</sup> Quarter 1999 Pit Closures Report. This request is based upon the analytical data collected over the last two years at the site. The secondary excavation of additional source materials appears to have been successful in achieving clean-up at the Jacques 2A; the BTEX concentrations in the source well (MW-2) have been below standards for four consecutive quarters. Resampling of all monitor wells also shows that BTEX compounds are below detection limits in the other wells.

Upon approval of the groundwater closure report, PNM will plug and abandon the five groundwater monitoring wells at the site. The concrete pad and metal vault surrounding each well will be removed. The well casing will be cut to ground surface and each well will be plugged to the surface with cement containing 5% bentonite.

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**Public Service Company of New Mexico - Gas Services**

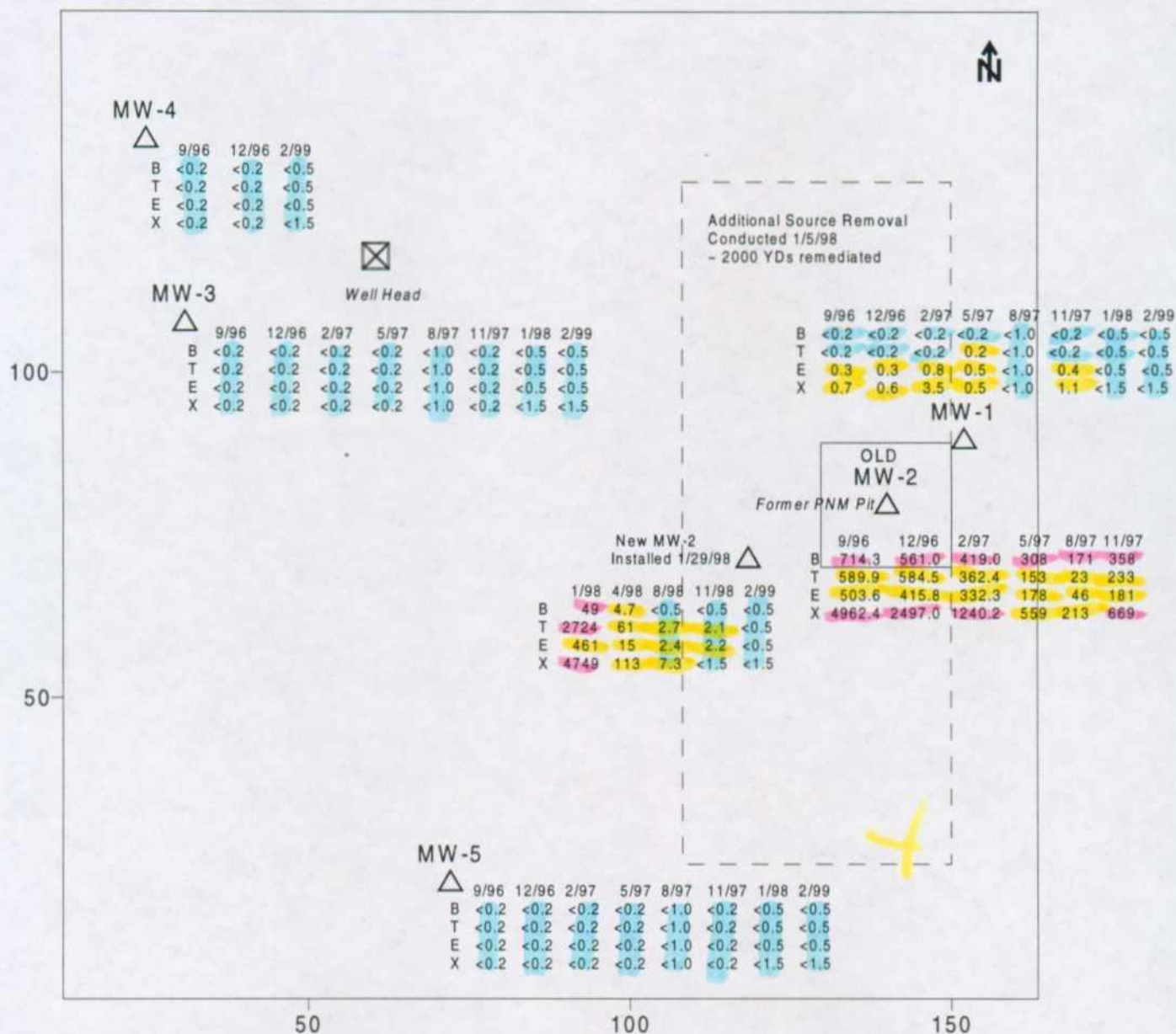
Environmental Services Division - Alvarado Square, MS-0408  
Albuquerque, NM 87158

**Contact: Maureen Gannon**

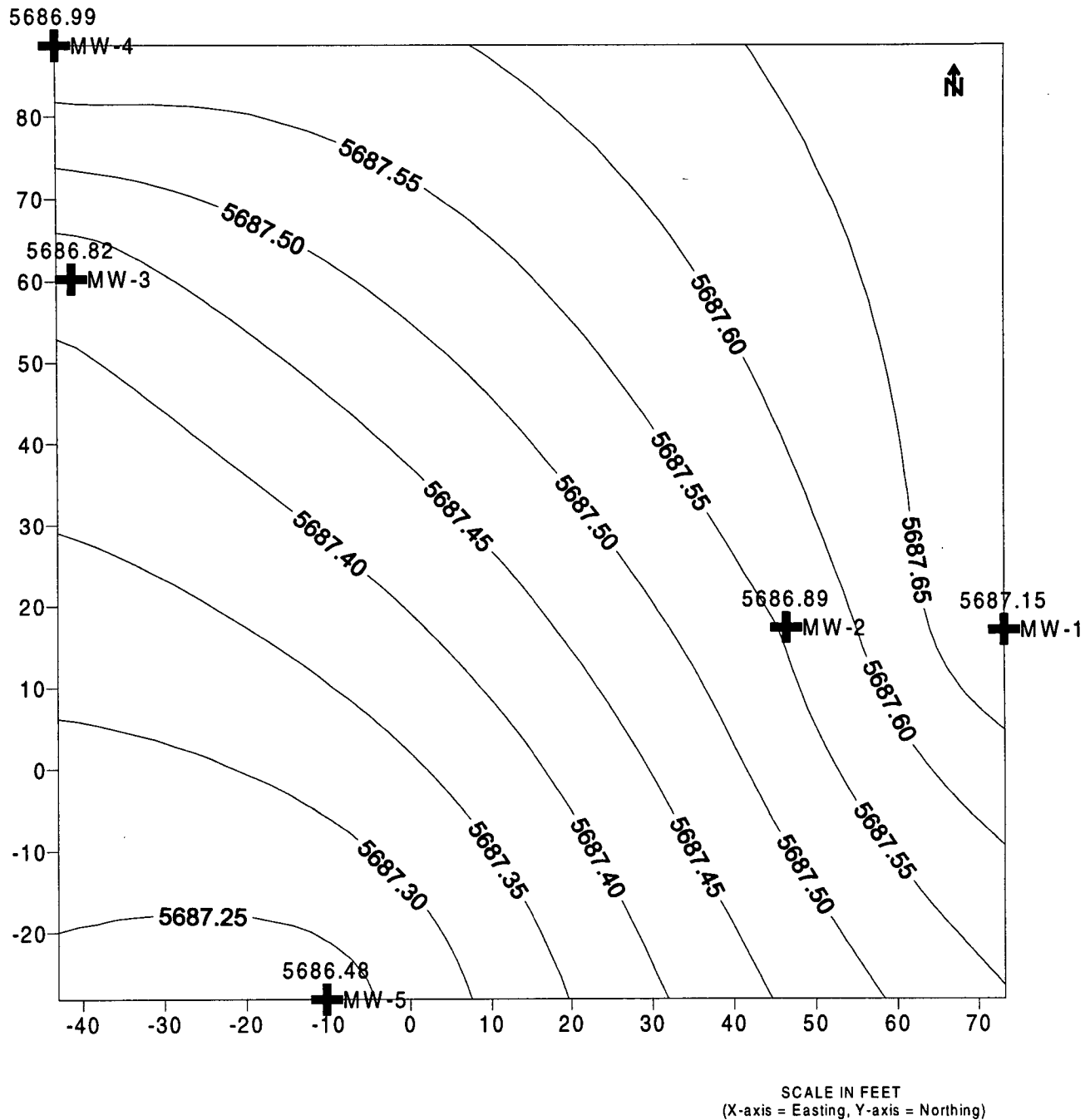
**Telephone: 505-241-2974**

**Figure1.**  
**Florance 32A: Site Map With Analytical Results**  
**(Concentrations in ppb)**

← San Juan River

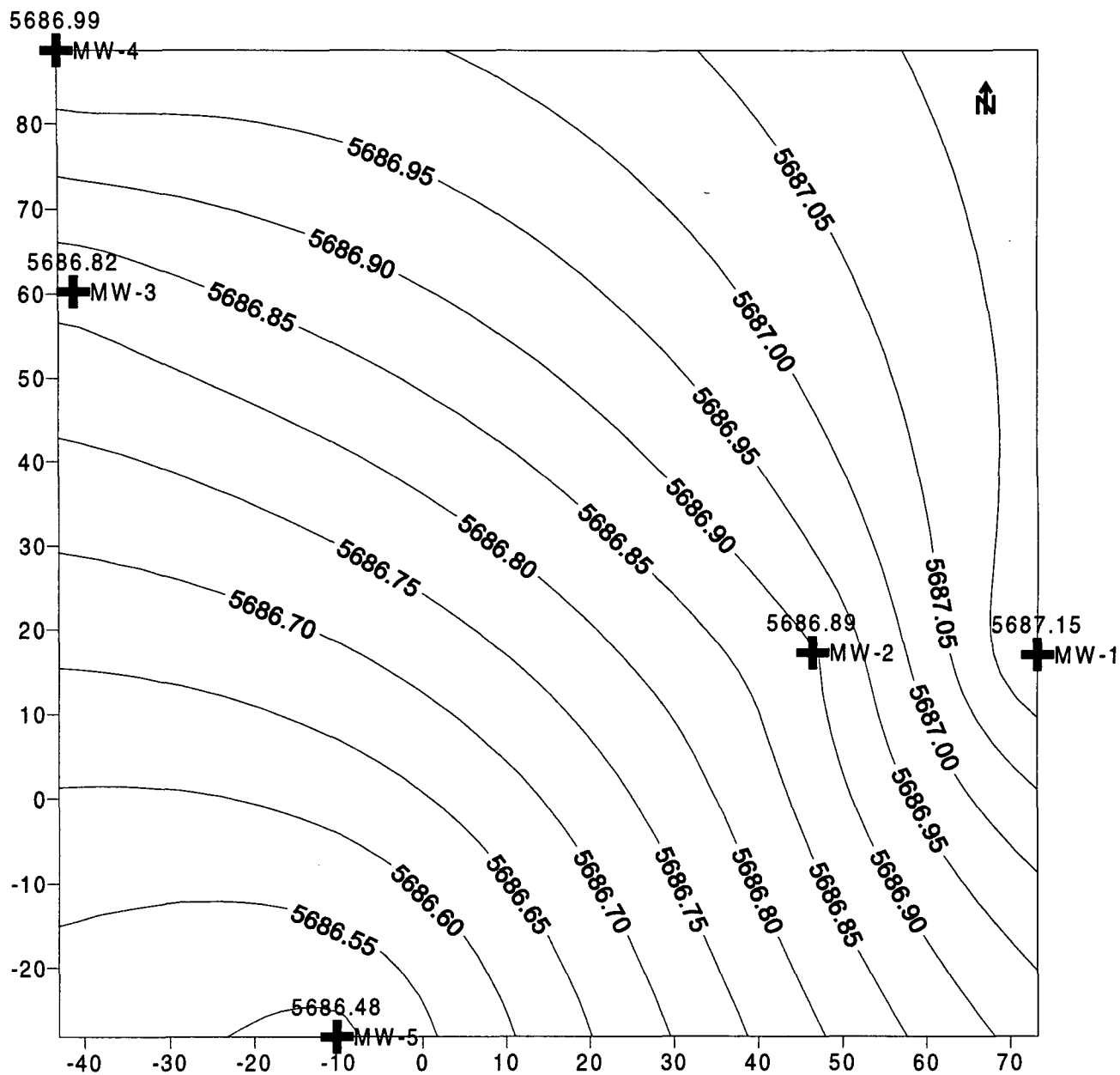


**Figure 2a.**  
**Florance 32A Groundwater Contour Map**  
**(April 29, 1998)**



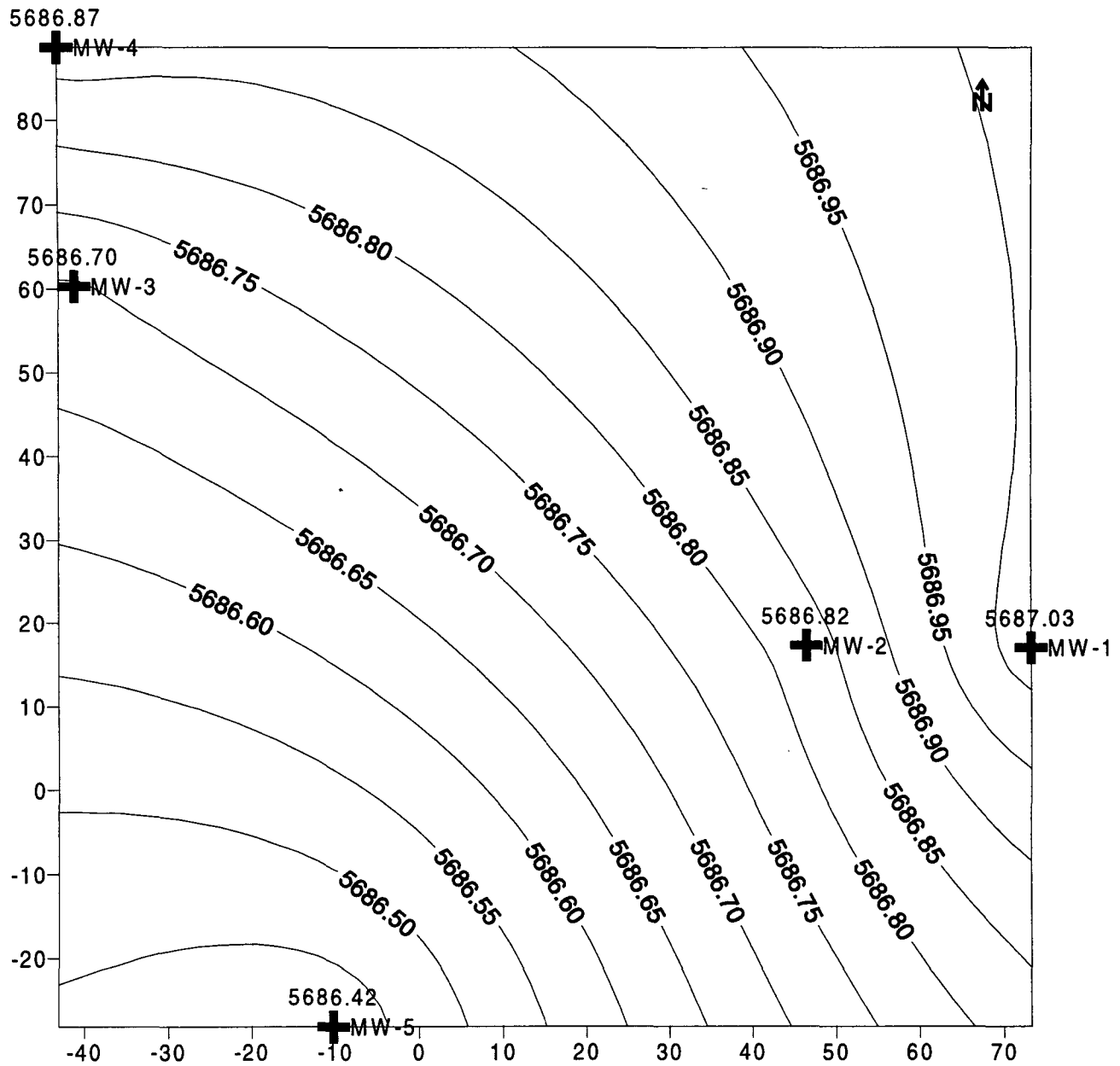


**Figure 2b.**  
**Florance 32A Groundwater Contour Map**  
**(August 7, 1998)**



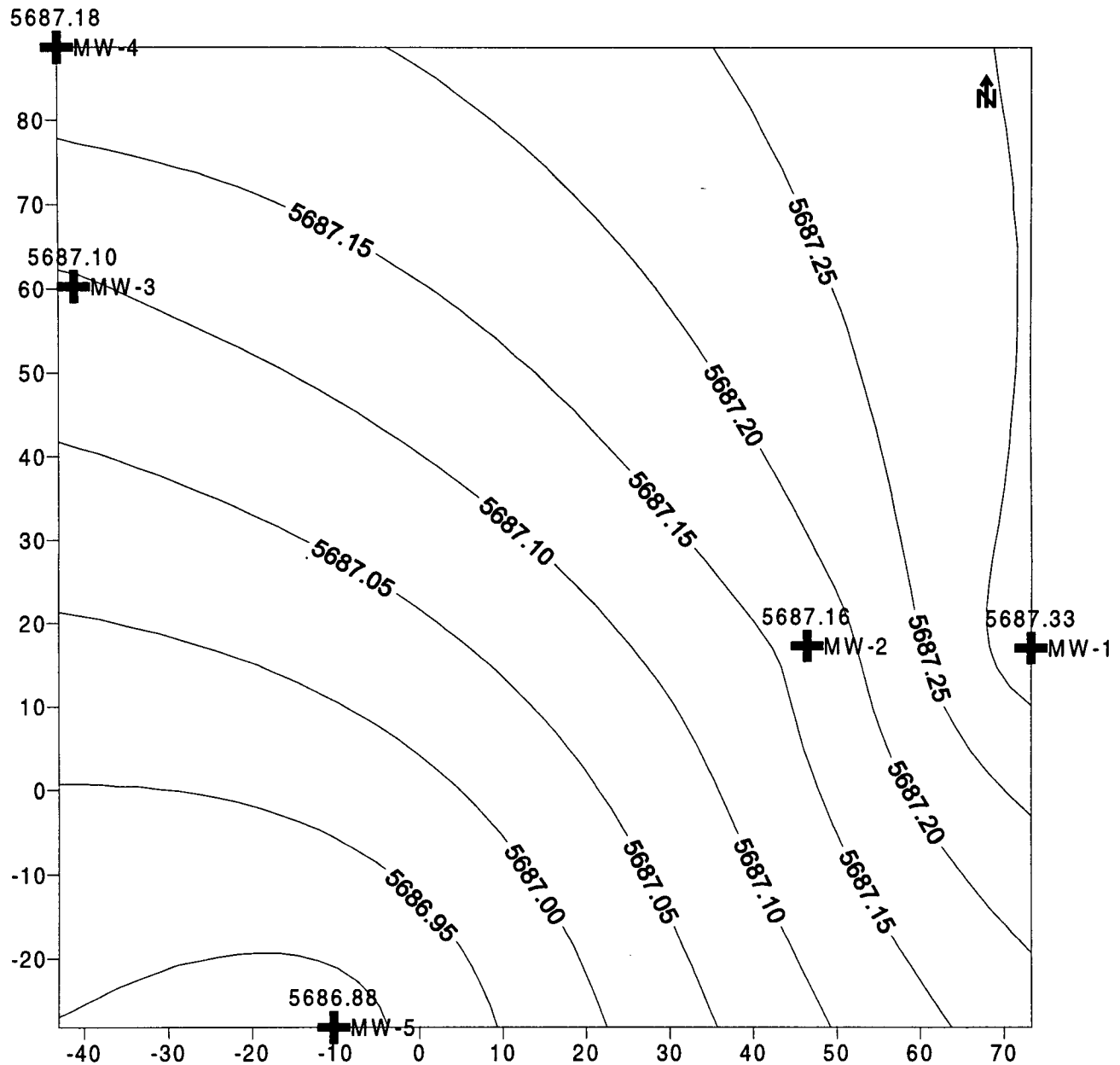
SCALE IN FEET  
(X-axis = Easting, Y-axis = Northing)

**Figure 2c.**  
**Florance 32A Groundwater Contour Map**  
**(November 4, 1998)**



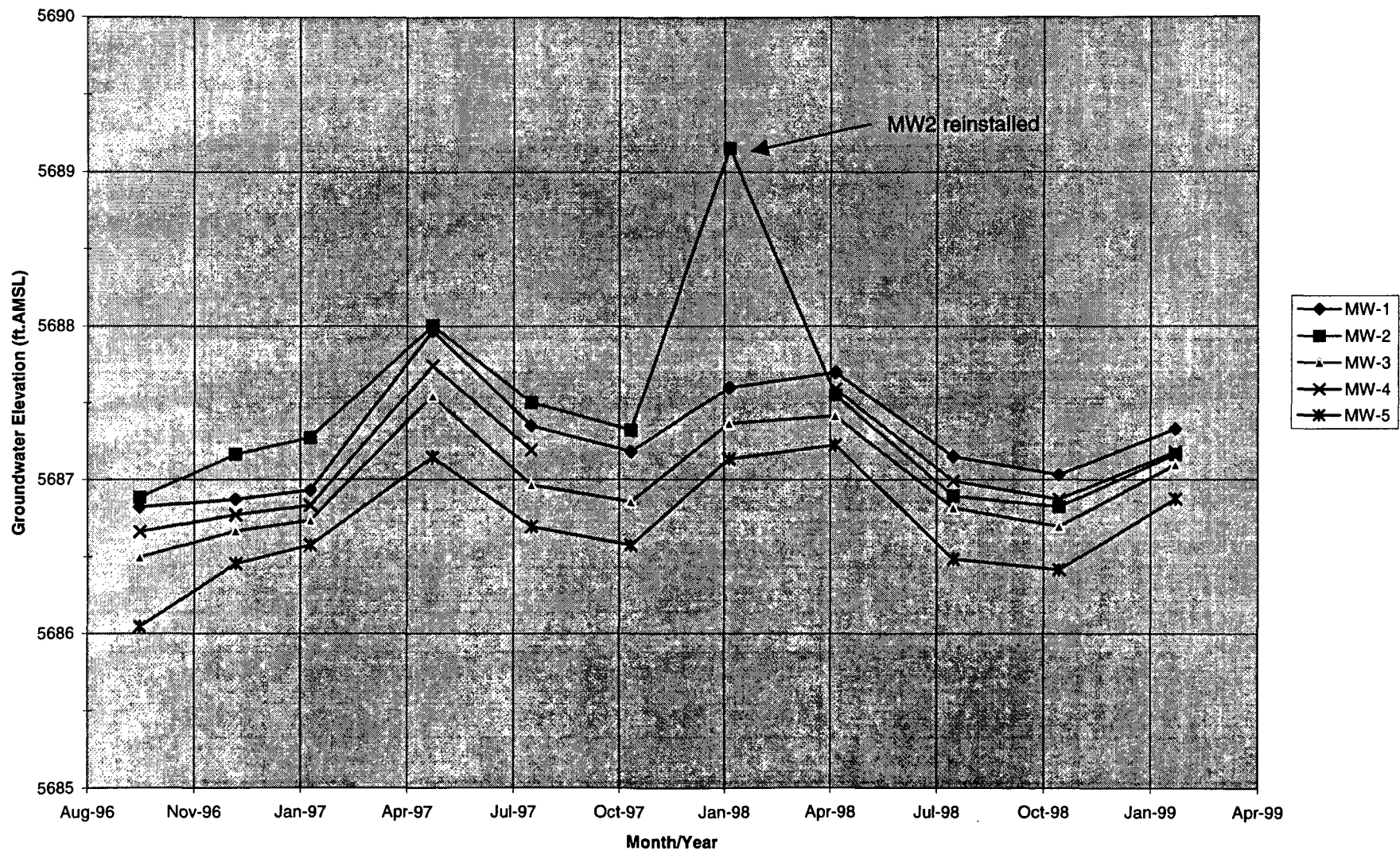
SCALE IN FEET  
(X-axis = Easting, Y-axis = Northing)

**Figure 2d.**  
**Florance 32A Groundwater Contour Map**  
**(February 10, 1999)**



SCALE IN FEET  
(X-axis = Easting, Y-axis = Northing)

Figure 3. Florance 32A Hydrograph  
(Water Level vs. Time)



OFF: (505) 325-5667

**ON SITE**  
**TECHNOLOGIES, LTD.**

LAB: (505) 325-1556

May 11, 1998

Maureen Gannon  
PNM - Public Service Company of NM  
Alvarado Square Mail Stop 0408  
Albuquerque, NM 87158  
TEL: (505) 241-2974  
FAX (505) 241-2340

2nd Quarter 98

RE: Florance 32A

Order No.: 9804055

Dear Maureen Gannon,

On Site Technologies, LTD. received 2 samples on 4/29/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:  
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

  
David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 11-May-98

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** Florance 32A  
**Lab Order:** 9804055

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**CASE NARRATIVE**

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-May-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9804055	<b>Client Sample ID:</b>	9804291130; MW-2
<b>Lab ID:</b>	9804055-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	4/29/98 11:30:00 AM
		<b>COC Record:</b>	7250

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	4.7	0.5		µg/L	1	5/7/98
Toluene	61	0.5		µg/L	1	5/7/98
Ethylbenzene	15	0.5		µg/L	1	5/7/98
m,p-Xylene	93	1		µg/L	1	5/7/98
o-Xylene	20	0.5		µg/L	1	5/7/98

**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

# ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-May-98

**Client:** PNM - Public Service Company of NM  
**Work Order:** 9804055  
**Lab ID:** 9804055-02A      **Matrix:** AQUEOUS  
**Project:** Florance 32A

**Client Sample Info:** Florance 32A  
**Client Sample ID:** 9804291200; MW-6  
**Collection Date:** 4/29/98 12:00:00 PM  
**COC Record:** 7250

*Duplicate  
of  
MW-2*

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	2.8	0.5		µg/L	1	5/7/98
Toluene	32	0.5		µg/L	1	5/7/98
Ethylbenzene	11	0.5		µg/L	1	5/7/98
m,p-Xylene	61	1		µg/L	1	5/7/98
o-Xylene	8	0.5		µg/L	1	5/7/98

**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 -



On Site Technologies, LTD.

Date: 11-May-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9804055

Project: Florance 32A

## QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L		Analysis Date 5/7/98				Prep Date:		
Client ID:	9804055	Run ID:	GC-1_980507A		SeqNo:		1678				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0604	0.5									J
Ethylbenzene	.0824	0.5									J
m,p-Xylene	.2996	1									J
Methyl tert-Butyl Ether	.0751	1									J
o-Xylene	.1208	0.5									J
Toluene	.173	0.5									J

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

# On Site Technologies, LTD.

Date: 11-May-98

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9804055  
**Project:** Florance 32A

## QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804054-01AMS		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98			Prep Date:	
Client ID:		9804055		Run ID: GC-1_980507A				SeqNo: 1679				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	8323	50	4000	3999	108.1%	56	128					
Ethylbenzene	5411	50	4000	995.8	110.4%	78	107				S	
m,p-Xylene	28750	100	8000	14760	174.9%	67	118				S	
Methyl tert-Butyl Ether	3732	100	4000	18.23	92.9%	70	130				S	
o-Xylene	9129	50	4000	3818	132.8%	78	107				S	
Toluene	18610	50	4000	12990	140.7%	74	116				S	

✓ CONFIRMED  
 L.C.S.  
 5/11/98  
 #51115

Sample ID: 9804054-01AMSD		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98			Prep Date:	
Client ID:		9804055		Run ID: GC-1_980507A		SeqNo: 1680						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	7975	50	4000	3999	99.4%	56	128	8323	4.3%	12		
Ethylbenzene	5198	50	4000	995.8	105.1%	78	107	5411	4.0%	11		
m,p-Xylene	27560	100	8000	14760	160.1%	67	118	28750	4.2%	10	S	
Methyl tert-Butyl Ether	3664	100	4000	18.23	91.1%	70	130	3732	1.9%	15		
o-Xylene	8811	50	4000	3818	124.8%	78	107	9129	3.5%	14	S	
Toluene	17820	50	4000	12990	120.7%	74	116	18610	4.4%	14	S	

✓ CONFIRMED  
 L.C.S.  
 5/11/98  
 #51115

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9804055

Project: Florance 32A

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98				Prep Date:			
Client ID:	9804055	Run ID:	GC-1_980507A		SeqNo:		1677				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.28	0.5	40	0.0604	105.6%	56	128				
Ethylbenzene	42.69	0.5	40	0.0824	106.5%	78	107				
m,p-Xylene	82.27	1	80	0.2996	102.5%	67	118				
Methyl tert-Butyl Ether	38.02	1	40	0.0751	94.9%	70	130				
o-Xylene	42.5	0.5	40	0.1208	105.9%	78	107				
Toluene	42.21	0.5	40	0.173	105.1%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

# On Site Technologies, LTD.

Date: 11-May-98

CLIENT: PNM - Public Service Company of NM  
Work Order: 9804055  
Project: Florance 32A

## QC SUMMARY REPORT

### Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98				Prep Date:			
Client ID:	9804055	Run ID:	GC-1_980507A	SeqNo: 1672							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.26	0.5	20	0	106.3%	85	115				
Ethylbenzene	21.65	0.5	20	0	108.3%	85	115				
m,p-Xylene	41.55	1	40	0	103.9%	85	115				
Methyl tert-Butyl Ether	19.41	1	20	0	97.0%	85	115				
o-Xylene	21.46	0.5	20	0	107.3%	85	115				
Toluene	21.37	0.5	20	0	106.8%	85	115				
1,4-Difluorobenzene	92.8	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	89.27	0	100	0	89.3%	70	130				
Fluorobenzene	92.92	0	100	0	92.9%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9804055		Run ID: GC-1_980507A		SeqNo:		1673			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.82	0.5	20	0	104.1%	85	115				
Ethylbenzene	21.2	0.5	20	0	106.0%	85	115				
m,p-Xylene	40.61	1	40	0	101.5%	85	115				
Methyl tert-Butyl Ether	18.49	1	20	0	92.4%	85	115				
o-Xylene	21.2	0.5	20	0	106.0%	85	115				
Toluene	20.97	0.5	20	0	104.9%	85	115				
1,4-Difluorobenzene	92.53	0	100	0	92.5%	70	130				
4-Bromochlorobenzene	90.18	0	100	0	90.2%	70	130				
Fluorobenzene	92.97	0	100	0	93.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9804055  
**Project:** Florance 32A

## QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID: 9804055		Run ID: GC-1_980507A				SeqNo: 1674					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.24	0.5	20	0	106.2%	85	115				
Ethylbenzene	21.5	0.5	20	0	107.5%	85	115				
m,p-Xylene	41.01	1	40	0	102.5%	85	115				
Methyl tert-Butyl Ether	17.96	1	20	0	89.8%	85	115				
o-Xylene	22.72	0.5	20	0	113.6%	85	115				
Toluene	21.47	0.5	20	0	107.3%	85	115				
1,4-Difluorobenzene	92.47	0	100	0	92.5%	70	130				
4-Bromochlorobenzene	88.18	0	100	0	88.2%	70	130				
Fluorobenzene	92.84	0	100	0	92.8%	70	130				

Sample ID: <b>CCV4 QC0529/30</b>		Batch ID: <b>GC-1_980507</b>		Test Code: <b>SW8020A</b>		Units: <b>µg/L</b>		Analysis Date <b>5/7/98</b>			Prep Date:	
Client ID:		<b>9804055</b>		Run ID:		<b>GC-1_980507A</b>		SeqNo: <b>1675</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.82	0.5	20	0	104.1%	85	115					
Ethylbenzene	21.86	0.5	20	0	109.3%	85	115					
m,p-Xylene	41.02	1	40	0	102.6%	85	115					
Methyl tert-Butyl Ether	18.32	1	20	0	91.6%	85	115					
o-Xylene	21.68	0.5	20	0	108.4%	85	115					
Toluene	21.03	0.5	20	0	105.1%	85	115					
1,4-Difluorobenzene	92.66	0	100	0	92.7%	70	130					
4-Bromochlorobenzene	88.98	0	100	0	89.0%	70	130					
Fluorobenzene	92.65	0	100	0	92.6%	70	130					

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9804055  
**Project:** Florance 32A

**QC SUMMARY REPORT**  
Continuing Calibration Verification Standard

Sample ID: <b>CCV5 QC0529/30</b>		Batch ID: <b>GC-1_980507</b>		Test Code: <b>SW8020A</b>		Units: <b>µg/L</b>		Analysis Date <b>5/7/98</b>		Prep Date:	
Client ID:		<b>9804055</b>		Run ID: <b>GC-1_980507A</b>		SeqNo: <b>1676</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.54	0.5	20	0	102.7%	85	115				
Ethylbenzene	20.93	0.5	20	0	104.6%	85	115				
m,p-Xylene	40.5	1	40	0	101.2%	85	115				
Methyl tert-Butyl Ether	17.55	1	20	0	87.8%	85	115				
o-Xylene	20.6	0.5	20	0	103.0%	85	115				
Toluene	21.34	0.5	20	0	106.7%	85	115				
1,4-Difluorobenzene	91.93	0	100	0	91.9%	70	130				
4-Bromochlorobenzene	88.69	0	100	0	88.7%	70	130				
Fluorobenzene	92.03	0	100	0	92.0%	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM

Work Order: 9804055

Project: Florance 32A

Test No: SW8020A

QC SUMMARY REPORT  
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9804051-01A	89.6	85	90.3					
9804051-02A	89.5	84.7	89.6					
9804052-01A	90.3	88	91.7					
9804053-01A	78	80	80.4					
9804054-01A	91.5	89.1	92.8					
9804054-01AMS	91.5	91.3	93.3					
9804054-01AMSD	90	89.2	91.1					
9804055-01A	81.8	77.1	87.9					
9804055-02A	85.9	83.4	88.5					
9804056-01A	85.8	85.3	86.6					
9804057-01A	93.4	88.7	93.7					
9804057-02A	90.2	88.6	91.3					
9804057-03A	91.2	88.6	91.7					
9805003-01A	93.1	88.8	93.5					
9805003-02A	90.7	88.8	91.6					
CCV1 QC0529/30	92.8	89.3	92.9					
CCV2 QC0529/30	92.5	90.2	93					
CCV3 QC0529/30	92.5	88.2	92.8					
CCV4 QC0529/30	92.7	89	92.6					
CCV5 QC0529/30	91.9	88.7	92					
LCS WATER	92.5	89.2	92.5					
MB1	93.1	86.4	93.6					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

\* Surrogate recovery outside acceptance limits

Distribution: White - On Site    Yellow - LAB    Pink - Sampler    Goldenrod - Client





OFF: (505) 325-5667



LAB: (505) 325-1556

August 18, 1998

3rd Quarter 98

Maureen Gannon  
PNM - Public Service Company of NM  
Alvarado Square Mail Stop 0408  
Albuquerque, NM 87158  
TEL: (505) 241-2974  
FAX (505) 241-2340

RE: Florance 32A

Order No.: 9808013

Dear Maureen Gannon,

On Site Technologies, LTD. received 2 samples on 8/7/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:  
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", is written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 18-Aug-98

---

**CLIENT:** PNM - Public Service Company of NM  
**Project:** Florance 32A  
**Lab Order:** 9808013

---

**CASE NARRATIVE**

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 18-Aug-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9808013	<b>Client Sample ID:</b>	9808070730; MW-2
<b>Lab ID:</b>	9808013-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	8/7/98 7:30:00 AM
		<b>COC Record:</b>	7283

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	ND	0.5		µg/L	1	8/15/98
Toluene	2.7	0.5		µg/L	1	8/15/98
Ethylbenzene	2.4	0.5		µg/L	1	8/15/98
m,p-Xylene	7.3	1		µg/L	1	8/15/98
o-Xylene	ND	0.5		µg/L	1	8/15/98

<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 -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 18-Aug-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A	<i>MW-2 Duplicate</i>
<b>Work Order:</b>	9808013	<b>Client Sample ID:</b>	9808070800; MW-6	
<b>Lab ID:</b>	9808013-02A	<b>Matrix:</b>	AQUEOUS	
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	8/7/98 8:00:00 AM	
		<b>COC Record:</b>	7283	

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	ND	0.5		µg/L	1	8/15/98
Toluene	2.8	0.5		µg/L	1	8/15/98
Ethylbenzene	3.1	0.5		µg/L	1	8/15/98
m,p-Xylene	9.6	1		µg/L	1	8/15/98
o-Xylene	ND	0.5		µg/L	1	8/15/98

<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 -

On Site Technologies, LTD.

Date: 18-Aug-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9808013

Project: Florance 32A

## QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L	Analysis Date 8/15/98				Prep Date:			
Client ID:	9808013	Run ID:	GC-1_980815A	SeqNo: 5509							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0541	0.5									J
Ethylbenzene	.0909	0.5									J
m,p-Xylene	.2062	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.1945	0.5									J
Toluene	.1879	0.5									J

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Aug-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9808013

Project: Florance 32A

## QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9808014-01AMS	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L	Analysis Date 8/15/98				Prep Date:			
Client ID:	9808013	Run ID:	GC-1_980815A	SeqNo: 5510							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7147	50	4000	3566	89.5%	56	128				
Ethylbenzene	4629	50	4000	970.6	91.5%	78	107				
m,p-Xylene	19620	100	8000	12540	88.5%	67	118				
Methyl tert-Butyl Ether	3512	100	4000	15.95	87.4%	70	130				
o-Xylene	6971	50	4000	3355	90.4%	78	107				
Toluene	14820	50	4000	11270	88.9%	74	116				

Sample ID: 9808014-01AMSD	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L	Analysis Date 8/15/98				Prep Date:			
Client ID:	9808013	Run ID:	GC-1_980815A	SeqNo: 5511							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6980	50	4000	3566	85.4%	56	128	7147	2.4%	12	
Ethylbenzene	4502	50	4000	970.6	88.3%	78	107	4629	2.8%	11	
m,p-Xylene	19120	100	8000	12540	82.2%	67	118	19620	2.6%	10	
Methyl tert-Butyl Ether	3530	100	4000	15.95	87.8%	70	130	3512	0.5%	15	
o-Xylene	6840	50	4000	3355	87.1%	78	107	6971	1.9%	14	
Toluene	14440	50	4000	11270	79.4%	74	116	14820	2.6%	14	

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Aug-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9808013

Project: Florance 32A

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L			Analysis Date 8/15/98			Prep Date:		
Client ID:	9808013	Run ID:	GC-1_980815A			SeqNo:	5508				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.72	0.5	40	0.0541	96.7%	56	128				
Ethylbenzene	38.44	0.5	40	0.0909	95.9%	78	107				
m,p-Xylene	73.37	1	80	0.2062	91.5%	67	118				
Methyl tert-Butyl Ether	45.59	1	40	0	114.0%	70	130				
o-Xylene	38.61	0.5	40	0.1945	96.0%	78	107				
Toluene	38.26	0.5	40	0.1879	95.2%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



# On Site Technologies, LTD.

Date: 18-Aug-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9808013

Project: Florance 32A

## QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L		Analysis Date 8/15/98			Prep Date:			
Client ID:	9808013	Run ID:	GC-1_980815A		SeqNo: 5505						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.31	0.5	20	0	101.5%	85	115				
Ethylbenzene	20.3	0.5	20	0	101.5%	85	115				
m,p-Xylene	38.57	1	40	0	96.4%	85	115				
Methyl tert-Butyl Ether	23.28	1	20	0	116.4%	85	115				S
o-Xylene	20.24	0.5	20	0	101.2%	85	115				
Toluene	20.32	0.5	20	0	101.6%	85	115				
1,4-Difluorobenzene	86.44	0	100	0	86.4%	70	130				
4-Bromochlorobenzene	94.3	0	100	0	94.3%	70	130				
Fluorobenzene	82.86	0	100	0	82.9%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_980815	Test Code: SW8020A	Units: µg/L		Analysis Date 8/15/98			Prep Date:			
Client ID:	9808013	Run ID:	GC-1_980815A		SeqNo: 5506						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.94	0.5	20	0	99.7%	85	115				
Ethylbenzene	20.15	0.5	20	0	100.8%	85	115				
m,p-Xylene	38.21	1	40	0	95.5%	85	115				
Methyl tert-Butyl Ether	21.47	1	20	0	107.4%	85	115				
o-Xylene	20.07	0.5	20	0	100.3%	85	115				
Toluene	20.18	0.5	20	0	100.9%	85	115				
1,4-Difluorobenzene	86.16	0	100	0	86.2%	70	130				
4-Bromochlorobenzene	88.01	0	100	0	88.0%	70	130				
Fluorobenzene	82.37	0	100	0	82.4%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9808013  
**Project:** Florance 32A

**QC.SUMMARY REPORT**  
Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980815		Test Code: SW8020A		Units: µg/L		Analysis Date 8/15/98		Prep Date:	
Client ID:		9808013		Run ID: GC-1_980815A		SeqNo: 5507					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.5	0.5	40	0	96.2%	85	115				
Ethylbenzene	38.74	0.5	40	0	96.9%	85	115				
m,p-Xylene	73.86	1	80	0	92.3%	85	115				
Methyl tert-Butyl Ether	36.95	1	40	0	92.4%	85	115				
o-Xylene	38.49	0.5	40	0	96.2%	85	115				
Toluene	38.67	0.5	40	0	96.7%	85	115				
1,4-Difluorobenzene	85.82	0	100	0	85.8%	70	130				
4-Bromochlorobenzene	82.98	0	100	0	83.0%	70	130				
Fluorobenzene	82.15	0	100	0	82.2%	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Aug-98

CLIENT: PNM - Public Service Company of NM  
Work Order: 9808013  
Project: Florance 32A  
Test No: SW8020A

## QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ				
9808008-02A	87.3	95.1	83.7				
9808008-03A	87.9	91	84				
9808008-04A	85.4	74.5	83.7				
9808008-05A	85.7	88.8	83.3				
9808008-06A	82.6	76	87.6				
9808008-07A	89.5	85.7	83.3				
9808008-08A	86.1	85.4	83.2				
9808008-09A	87.1	85.6	83.3				
9808008-10A	87	83.9	83				
9808008-11A	87.3	85.3	83.6				
9808008-12A	86.5	94	83.8				
9808013-01A	83.3	77.3	79.8				
9808013-02A	83.8	78.9	80.7				
9808014-01A	85	77.8	82				
9808014-01AMS	84.6	79.4	81.8				
9808014-01AMSD	84.6	80.6	81.7				
9808015-01A	87	87.1	83.3				
9808015-02A	87.1	89.3	83.4				
9808015-03A	87.2	87.4	83.6				
9808015-04A	87.3	86.8	83.4				
CCV1 QC0606/07	86.4	94.3	82.9				
CCV2 QC0606/07	86.2	88	82.4				
CCV3 QC0606/07	85.8	83	82.2				
LCS WATER	86.1	94.3	82.7				
MB1	87.1	93.2	83.6				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

\* Surrogate recovery outside acceptance limits



# CHAIN OF CUSTODY RECORD

Date: 8/7/98Page: 1 of 1612 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 <b>Maureen Gannon</b>		Title							
SEND INVOICE TO	Name <b>Denver Bearden</b>				Company <b>PNM Gas Services</b>									
	Company <b>PNM Gas Services</b>				Dept. <b>324-3763</b>									
	Address <b>603 W. Elm Street</b>				Mailing Address <b>Alverado Square, Mail Stop 0408</b>									
	City, State, Zip <b>Farmington, NM 87401</b>				City, State, Zip <b>Albuquerque, NM 87158</b>		Telephone No. <b>505-848-2974</b> Telefax No.							
Sampling Location: <b>Florance 32A</b>				Number of Containers <b>8/5X 8020</b>	ANALYSIS REQUESTED									
Sampler: <b>Mark Sikelianos</b>														
SAMPLE IDENTIFICATION					LAB ID									
		SAMPLE			MATRIX		PRES.							
		DATE	TIME											
<b>9808070730</b>		<b>MW-2</b>			<b>H<sub>2</sub>O</b>		<b>Acc</b>		<b>2</b>	<b>X</b>				<b>FILED UP-CL</b>
<b>9808070800</b>		<b>MW-6</b>			<b>H<sub>2</sub>O</b>		<b>Hel</b>		<b>2</b>	<b>X</b>				<b>1 - ORA</b>
Relinquished by: <u>[Signature]</u>				Date/Time <u>8/7/98 1345</u>		Received by: <u>[Signature]</u>				Date/Time <u>8/10/98</u>				
Relinquished by:				Date/Time		Received by:				Date/Time				
Relinquished by:				Date/Time		Received by:				Date/Time				
Method of Shipment: <u>Hand Delivered</u>				Rush		24-48 Hours		10 Working Days		Special Instructions:				
Authorized by: <u>[Signature]</u> Date <u>8/7/98</u> (Client Signature Must Accompany Request)										Results to be sent to both parties.				

OFF: (505) 325-5667



LAB: (505) 325-1556

November 06, 1998

Maureen Gannon  
PNM - Public Service Company of NM  
Alvarado Square Mail Stop 0408  
Albuquerque, NM 87158  
TEL: (505) 241-2974  
FAX (505) 241-2340

4th Quarter 1998

RE: Florance 32A

Order No.: 9811013

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 11/4/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:  
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to be "David Cox", written in a cursive style.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 06-Nov-98

---

**CLIENT:** PNM - Public Service Company of NM  
**Project:** Florance 32A  
**Lab Order:** 9811013

---

**CASE NARRATIVE**

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 06-Nov-98

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9811013	<b>Client Sample ID:</b>	9811040839; MW-2
<b>Lab ID:</b>	9811013-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	11/4/98 8:39:00 AM
		<b>COC Record:</b>	7516

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8020A</b>				<b>Analyst: DC</b>
Benzene	ND	1		µg/L	1	11/4/98
Toluene	2.1	1		µg/L	1	11/4/98
Ethylbenzene	2.2	1		µg/L	1	11/4/98
m,p-Xylene	ND	2		µg/L	1	11/4/98
o-Xylene	ND	1		µg/L	1	11/4/98

**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 -

On Site Technologies, LTD.

Date: 06-Nov-98

CLIENT: PNM - Public Service Company of NM  
Work Order: 9811013  
Project: Florance 32A

## QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981104	Test Code: SW8020A	Units: µg/L	Analysis Date 11/4/98	Prep Date:						
Client ID:	9811013	Run ID: GC-1_981104A	SeqNo: 8462								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	.1915	2									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	1									
Toluene	.1132	1									J

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



On Site Technologies, LTD.

Date: 06-Nov-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9811013

Project: Florance 32A

## QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9810083-01AMS		Batch ID: GC-1_981104		Test Code: SW8020A		Units: µg/L		Analysis Date 11/4/98		Prep Date:	
Client ID:		9811013		Run ID: GC-1_981104A				SeqNo: 8463			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	557.3	10	400	174.9	95.6%	56	128				
Ethylbenzene	495.2	10	400	103.2	98.0%	78	107				
m,p-Xylene	1867	20	800	1118	93.6%	67	118				
Methyl tert-Butyl Ether	414	10	400	2.82	102.8%	70	130				
o-Xylene	744.5	10	400	345.3	99.8%	78	107				
Toluene	1168	10	400	794.7	93.3%	74	116				

Sample ID: 9810083-01AMSD		Batch ID: GC-1_981104		Test Code: SW8020A		Units: µg/L		Analysis Date 11/4/98		Prep Date:	
Client ID:		9811013		Run ID: GC-1_981104A				SeqNo: 8464			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	540.5	10	400	174.9	91.4%	56	128	557.3	3.1%	12	
Ethylbenzene	480	10	400	103.2	94.2%	78	107	495.2	3.1%	11	
m,p-Xylene	1809	20	800	1118	86.4%	67	118	1867	3.1%	10	
Methyl tert-Butyl Ether	409.9	10	400	2.82	101.8%	70	130	414	1.0%	15	
o-Xylene	726	10	400	345.3	95.2%	78	107	744.5	2.5%	14	
Toluene	1132	10	400	794.7	84.4%	74	116	1168	3.1%	14	

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 06-Nov-98

CLIENT: PNM - Public Service Company of NM  
Work Order: 9811013  
Project: Florance 32A

**QC SUMMARY REPORT**  
Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_981104	Test Code: SW8020A	Units: µg/L		Analysis Date 11/4/98				Prep Date:		
Client ID:	9811013	Run ID:	GC-1_981104A		SeqNo:		8461				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.08	1	40	0	97.7%	56	128				
Ethylbenzene	39.35	1	40	0	98.4%	78	107				
m,p-Xylene	77.64	2	80	0.1915	96.8%	67	118				
Methyl tert-Butyl Ether	39.46	1	40	0	98.6%	70	130				
o-Xylene	39.78	1	40	0	99.5%	78	107				
Toluene	39.28	1	40	0.1132	97.9%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 06-Nov-98

CLIENT: PNM - Public Service Company of NM  
Work Order: 9811013  
Project: Florance 32A

**QC SUMMARY REPORT**  
Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_981104	Test Code: SW8020A	Units: µg/L	Analysis Date 11/4/98				Prep Date:			
Client ID:	9811013	Run ID:	GC-1_981104A	SeqNo: 8459							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.15	1	20	0	105.7%	85	115				
Ethylbenzene	21.33	1	20	0	106.7%	85	115				
m,p-Xylene	42	2	40	0	105.0%	85	115				
Methyl tert-Butyl Ether	20.99	1	20	0	105.0%	85	115				
o-Xylene	21.54	1	20	0	107.7%	85	115				
Toluene	21.27	1	20	0	106.3%	85	115				
1,4-Difluorobenzene	89.74	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	102.7	0	100	0	102.7%	70	130				
Fluorobenzene	87.6	0	100	0	87.6%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_981104	Test Code: SW8020A	Units: µg/L	Analysis Date 11/4/98				Prep Date:			
Client ID:	9811013	Run ID:	GC-1_981104A		SeqNo:	8460					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	1	20	0	104.0%	85	115				
Ethylbenzene	20.93	1	20	0	104.6%	85	115				
m,p-Xylene	41.08	2	40	0	102.7%	85	115				
Methyl tert-Butyl Ether	21.31	1	20	0	106.5%	85	115				
o-Xylene	21.31	1	20	0	106.6%	85	115				
Toluene	20.99	1	20	0	105.0%	85	115				
1,4-Difluorobenzene	89.25	0	100	0	89.2%	70	130				
4-Bromochlorobenzene	102.4	0	100	0	102.4%	70	130				
Fluorobenzene	87.7	0	100	0	87.7%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9811013  
**Project:** Florance 32A  
**Test No:** SW8020A

## QC SUMMARY REPORT SURROGATE RECOVERIES

**BTEX**

Sample ID	14FBZ	4BCBZ	FLBZ					
9810083-01A	90.1	103	88.1					
9810083-01AMS	90.2	103	87.8					
9810083-01AMSD	89.9	103	87.6					
9810094-01A	90	102	88					
9810094-02A	89.8	103	87.9					
9811008-01A	89.1	99.6	96.9					
9811012-01A	82.6	97.4	82.6					
9811012-02A	82.4	96.4	82					
9811013-01A	88	102	85.6					
9811014-01A	89.7	104	88					
9811014-02A	89.8	104	88					
CCV1 QC0606/07	89.7	103	87.6					
CCV2 QC0606/07	89.2	102	87.7					
LCS WATER	89	102	87.6					
MB1	90.2	103	88					

**Acronym****Surrogate****QC Limits**

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

\* Surrogate recovery outside acceptance limits

Distribution: White - On Site    Yellow - LAB    Pink - Sampler    Goldenrod - Client

OFF: (505) 325-5667



LAB: (505) 325-1556

February 23, 1999

*Received  
Mar 02 99*

Maureen Gannon  
PNM - Public Service Company of NM  
Alvarado Square Mail Stop 0408  
Albuquerque, NM 87158  
TEL: (505) 241-2974  
FAX (505) 241-2340

*1st Quarter 1999*

RE: Florance 32A

Order No.: 9902066

Dear Maureen Gannon,

On Site Technologies, LTD. received 6 samples on 2/11/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:  
BTEX (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox", with a stylized flourish at the end.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

**Date:** 23-Feb-99

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**CLIENT:** PNM - Public Service Company of NM  
**Project:** Florance 32A  
**Lab Order:** 9902066

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**CASE NARRATIVE**

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101200; MW-1
<b>Lab ID:</b>	9902066-01A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 12:00:00 PM
		<b>COC Record:</b>	7530

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>				<b>Analyst: HR</b>
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101220; MW-2
<b>Lab ID:</b>	9902066-02A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 12:20:00 PM
		<b>COC Record:</b>	7530

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>				<b>Analyst: HR</b>
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101230; MW-6
<b>Lab ID:</b>	9902066-03A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 12:30:00 PM
		<b>COC Record:</b>	7530

*Duplicate  
of  
MW-2*

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>				<b>Analyst: HR</b>
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	0.6	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101300; MW-3
<b>Lab ID:</b>	9902066-04A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 1:00:00 PM
		<b>COC Record:</b>	7530

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>		Analyst: HR		
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101320; MW-4
<b>Lab ID:</b>	9902066-05A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 1:20:00 PM
		<b>COC Record:</b>	7530

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>				<b>Analyst: HR</b>
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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: 23-Feb-99

<b>Client:</b>	PNM - Public Service Company of NM	<b>Client Sample Info:</b>	Florance 32A
<b>Work Order:</b>	9902066	<b>Client Sample ID:</b>	9902101340; MW-5
<b>Lab ID:</b>	9902066-06A	<b>Matrix:</b>	AQUEOUS
<b>Project:</b>	Florance 32A	<b>Collection Date:</b>	2/10/99 1:40:00 PM
		<b>COC Record:</b>	7530

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
<b>BTEX</b>		<b>SW8021B</b>		Analyst: HR		
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

**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 -

On Site Technologies, LTD.

Date: 23-Feb-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902066

Project: Florance 32A

## QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990216	Test Code: SW8021B	Units: µg/L	Analysis Date 2/16/99				Prep Date:			
Client ID:	9902066	Run ID:	GC-1_990216A	SeqNo: 11158							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0456	0.5									J
Ethylbenzene	.0406	0.5									J
m,p-Xylene	.1017	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0444	0.5									J
Toluene	.1013	0.5									J

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Feb-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902066

Project: Florance 32A

## QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902064-01AMS	Batch ID: GC-1_990216	Test Code: SW8021B	Units: µg/L	Analysis Date 2/16/99				Prep Date:			
Client ID:	9902066	Run ID:	GC-1_990216A	SeqNo: 11159							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	208.4	2.5	200	18.29	95.1%	73	115				
Ethylbenzene	212.9	2.5	200	27.38	92.8%	74	117				
m,p-Xylene	738.5	5	400	382.3	89.0%	76	112				
Methyl tert-Butyl Ether	204	5	200	40.74	81.6%	62	122				
o-Xylene	219.6	2.5	200	34.65	92.5%	83	112				
Toluene	208.2	2.5	200	33.82	87.2%	71	120				

Sample ID: 9902064-01AMSD	Batch ID: GC-1_990216	Test Code: SW8021B	Units: µg/L	Analysis Date 2/16/99				Prep Date:			
Client ID:	9902066	Run ID:	GC-1_990216A	SeqNo: 11160							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	205.4	2.5	200	18.29	93.5%	73	115	208.4	1.5%	8	
Ethylbenzene	209	2.5	200	27.38	90.8%	74	117	212.9	1.9%	9	
m,p-Xylene	725.4	5	400	382.3	85.8%	76	112	738.5	1.8%	9	
Methyl tert-Butyl Ether	200	5	200	40.74	79.6%	62	122	204	2.0%	7	
o-Xylene	216.4	2.5	200	34.65	90.9%	83	112	219.6	1.5%	9	
Toluene	196.2	2.5	200	33.82	81.2%	71	120	208.2	5.9%	9	

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Feb-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902066

Project: Florance 32A

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_990216	Test Code: SW8021B	Units: µg/L			Analysis Date 2/16/99			Prep Date:		
Client ID:	9902066	Run ID:	GC-1_990216A			SeqNo:	11157				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.2	0.5	40	0.0456	100.4%	84	110				
Ethylbenzene	40.73	0.5	40	0.0406	101.7%	86	113				
m,p-Xylene	78.45	1	80	0.1017	97.9%	81	114				
Methyl tert-Butyl Ether	41.75	1	40	0	104.4%	69	129				
o-Xylene	40.64	0.5	40	0.0444	101.5%	86	112				
Toluene	40.36	0.5	40	0.1013	100.6%	85	111				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



On Site Technologies, LTD.

Date: 23-Feb-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902066

Project: Florance 32A

## QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: <b>CCV1 QC0606/07</b>	Batch ID: <b>GC-1_990216</b>	Test Code: <b>SW8021B</b>	Units: <b>µg/L</b>	Analysis Date <b>2/16/99</b>	Prep Date:						
Client ID:	<b>9902066</b>	Run ID: <b>GC-1_990216A</b>		SeqNo: <b>11154</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.53	0.5	20	0	102.6%	85	115				
Ethylbenzene	20.79	0.5	20	0	103.9%	85	115				
m,p-Xylene	39.96	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	20.9	1	20	0	104.5%	85	115				
o-Xylene	20.73	0.5	20	0	103.6%	85	115				
Toluene	20.53	0.5	20	0	102.7%	85	115				
1,4-Difluorobenzene	93.7	0	100	0	93.7%	84	100				
4-Bromochlorobenzene	96.58	0	100	0	96.6%	87	105				
Fluorobenzene	93.28	0	100	0	93.3%	87	99				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_990216	Test Code: SW8021B	Units: µg/L			Analysis Date 2/16/99			Prep Date:		
Client ID:	9902066	Run ID:	GC-1_990216A			SeqNo:		11155			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.81	0.5	20	0	104.0%	85	115				
Ethylbenzene	21.09	0.5	20	0	105.4%	85	115				
m,p-Xylene	40.47	1	40	0	101.2%	85	115				
Methyl tert-Butyl Ether	20.8	1	20	0	104.0%	85	115				
o-Xylene	21.01	0.5	20	0	105.0%	85	115				
Toluene	20.89	0.5	20	0	104.5%	85	115				
1,4-Difluorobenzene	93.54	0	100	0	93.5%	84	100				
4-Bromochlorobenzene	97.32	0	100	0	97.3%	87	105				
Fluorobenzene	93.55	0	100	0	93.6%	87	99				

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** PNM - Public Service Company of NM  
**Work Order:** 9902066  
**Project:** Florance 32A

## QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: <b>CCV3 QC0606/07</b>		Batch ID: <b>GC-1_990216</b>		Test Code: <b>SW8021B</b>		Units: <b>µg/L</b>		Analysis Date <b>2/16/99</b>			Prep Date:	
Client ID:		<b>9902066</b>		Run ID:		<b>GC-1_990216A</b>		SeqNo: <b>11156</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	41.78	0.5	40	0	104.4%	85	115					
Ethylbenzene	40.52	0.5	40	0	101.3%	85	115					
m,p-Xylene	77.9	1	80	0	97.4%	85	115					
Methyl tert-Butyl Ether	40.67	1	40	0	101.7%	85	115					
o-Xylene	40.4	0.5	40	0	101.0%	85	115					
Toluene	40.32	0.5	40	0	100.8%	85	115					
1,4-Difluorobenzene	93.87	0	100	0	93.9%	84	100					
4-Bromochlorobenzene	97.43	0	100	0	97.4%	87	105					
Fluorobenzene	93.97	0	100	0	94.0%	87	99					

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM

Work Order: 9902066

Project: Florance 32A

Test No: SW8021B

**QC SUMMARY REPORT  
SURROGATE RECOVERIES****BTEX**

Sample ID	14FBZ	4BCBZ	FLBZ				
9902048-01A	92.7	97.4	93.3				
9902059-04A	91.4	96.4	92.1				
9902059-05A	89.1	91.8	94				
9902060-01A	94.1	96.5	94.6				
9902060-02A	92.8	97	93				
9902060-03A	94	97.3	94.7				
9902063-01A	92.8	96.4	94.4				
9902063-02A	95	95.7	94.1				
9902064-01A	86.3	89.1	89.3				
9902064-01AMS	86.3	88.9	87.9				
9902064-01AMSD	86	88.4	88.3				
9902064-02A	87.3	91.2	89.6				
9902066-01A	93.8	96.5	94.9				
9902066-02A	93.8	97.4	94.8				
9902066-03A	93.1	96.2	93.6				
9902066-04A	94.2	96.9	94.6				
9902066-05A	93.7	96.3	94.9				
9902066-06A	93.4	97	94.9				
CCV1 QC0606/07	93.7	96.6	93.3				
CCV2 QC0606/07	93.5	97.3	93.6				
CCV3 QC0606/07	93.9	97.4	94				
LCS WATER	93.5	97.8	93				
MB1	94.3	96.5	94.2				

**Acronym****Surrogate****QC Limits**

14FBZ

= 1,4-Difluorobenzene

84-100

4BCBZ

= 4-Bromochlorobenzene

87-105

FLBZ

= Fluorobenzene

87-99

\* Surrogate recovery outside acceptance limits



# CHAIN OF CUSTODY RECORD

Date: 2/10/99

Page: 1 of 1

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499  
LAB: (505) 325-5667 • FAX: (505) 325-6258

Purchase Order No.:		Job No.		REPORT RESULTS TO	Name <b>Maureen Gannon</b>		Title																
SEND INVOICE TO	Name <b>Denver Bearden</b>		Company <b>PNM Gas Services</b>		Mailing Address <b>Alverado Square, Mail Stop 0408</b>																		
	Company <b>PNM Gas Services</b>		Dept. <b>324-3763</b>		City, State, Zip <b>Albuquerque, NM 87158</b>																		
	Address <b>603 W. Elm Street</b>				Telephone No. <b>505-848-2974</b>																		
	City, State, Zip <b>Farmington, NM 87401</b>				Telefax No.																		
Sampling Location: <b>Florange 32A</b>				Number of Containers	ANALYSIS REQUESTED																		
Sampler: <b>Mark S. Kelionas</b>					<div style="display: flex; justify-content: space-between;"> <div style="transform: rotate(-45deg); border: 1px solid black; padding: 5px;">BTEX 8020</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>																		
SAMPLE IDENTIFICATION		SAMPLE											MATRIX	PRES.									
		DATE	TIME																				
<b>MW-1 9902101200</b>													<b>H<sub>2</sub>O</b>	<b>HCL</b>	<b>2</b>	<b>X</b>							
<b>MW-2 9902101220</b>													↓	↓	<b>2</b>	<b>X</b>							
<b>MW-6 9902101230</b>					↓	↓	<b>2</b>	<b>X</b>															
<b>MW-3 9902101300</b>					↓	↓	<b>2</b>	<b>X</b>															
<b>MW-4 9902101320</b>					↓	↓	<b>2</b>	<b>X</b>															
<b>MW-5 9902101340</b>					↓	↓	<b>2</b>	<b>X</b>															
Relinquished by: <i>[Signature]</i>		Date/Time <b>2/10/99 1700</b>		Received by: <i>[Signature]</i>		Date/Time <b>2/10/99 1700</b>																	
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: <i>[Signature]</i> Date <b>2/10/99</b> (Client Signature Must Accompany Request)										Results to be sent to both parties.													