

3R - 348

REPORTS

DATE:

1999

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	<u>Zachry 18E</u>
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 1st 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



RECEIVED

APR 07 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



Annual Groundwater Report 1999

Volume II

*Unlined Surface Impoundments
San Juan Basin*



Groundwater Site Summary Report

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

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

Operator: Burlington Resources
Sec: 11 **Twn:** 28 N **R:** 10W **Unit:** O
Canyon: Armenta

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

Topo Map: previously submitted

Well Completion Diagram: previously submitted

Site Map with Analytical Results: Figure 1

Groundwater Contour Map: Figure 2a (June 1998), Figure 2b (September 1998), Figure 2c (December 1998), & Figure 2d (February 1999)

Hydrograph: Figure 3

Full-suite of Groundwater Sampling Results: previously submitted

Analytical Results: attached

Site Hydrology:

The Zachry 18E site lies within Armenta Canyon, a north-draining tributary to the San Juan River located about 8 miles east-southeast of Bloomfield, New Mexico. The canyon's confluence with the San Juan River lies about 2 miles north of the site. The site lies at an elevation of about 5594 ft. amsl, which is about ten feet higher than the streambed in the broad canyon floor. The canyon floor spans about 2000 feet (Figure 1) and the site is located about 150 feet east of the floor of Armenta Wash, on the east flank of the alluvium-filled valley near the steep sandstone cliffs which bound the valley.

Subsurface materials beneath the site are composed of sands, typically gravelly, as determined from the six monitoring wells installed. The thickness of alluvium is typically less than 50 feet in many of the area drainages (Stone et al., 1983). Total depths of the wells were 20 feet or less, and no apparent bedrock units were encountered in the monitor well borings.

Depth to water has ranged from 6 to 11 feet beneath the site. No appreciable seasonal changes in flow direction are apparent, as evidenced by the groundwater flow maps spanning the year in Figures 2a through 2d. Groundwater flow direction is predominantly towards the north-northwest, which follows the surface topography and the direction of streamflow in Armenta Canyon.

The site hydrograph (Figure 3) shows that in general water levels rose through most of 1998, and exhibit seasonal fluctuations thereafter, with water tables higher in winter and spring, and lower in summertime. About one foot of seasonal water level fluctuations were observed in 1999, and the total water level rise in 1998 was almost three feet. Similar seasonal fluctuations have been observed at other sites in Armenta Canyon (the McClanahan A2E and McClanahan 22 sites).

Activities for Previous Year:

Due to high concentrations of BTEX in MW-4, PNM conducted additional source removal at the Zachry 18E on January 29, 1998. Field crews removed approximately 3500 cubic yards north of the former PNM pit. At that time, MW-4 was removed. In March, 1998 well MW-4 was reinstalled.

Well MW-4 had shown benzene levels above standards; therefore in December, 1998 well MW-6 was installed to assess downgradient concentrations of BTEX compounds. At this time, PNM found that well MW-4 had been destroyed by onsite activities, so this well was again reinstalled.

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

PNMGS Well Site: Zachry 18E (continued)

PNM performed quarterly sampling of groundwater monitoring wells at the Zachry 18E on June 25, September 2, and December 14, 1998 and again on February 22, 1999. Water levels were measured in each of the six wells. Groundwater in wells MW-4 and MW-6 was sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX). Sampling was performed in strict compliance with EPA protocol. In all instances, PNM delivered the samples to OnSite Technologies, Farmington, New Mexico for analysis of BTEX using EPA Method 8020.

Results:

Figure 1 presents the Zachry 18E site map with BTEX analytical results to date. All wells at the site show BTEX concentrations below WQCC standards except MW-4. With the recent additional source removal at the site, the BTEX concentration in MW-4 showed a significant reduction, and no free product or sheen has been observed in MW-4 since that time. The additional source removal appears to have accelerated the reduction of benzene in this area.

Future Actions:

PNM will continue to observe groundwater gradient and perform quarterly groundwater monitoring at the Zachry 18E well site. These activities should verify if the recent source removal was successful and whether or not natural attenuation is occurring.

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.
Zachry 18E Site Map With Analytical Results
(Concentrations in ppb)

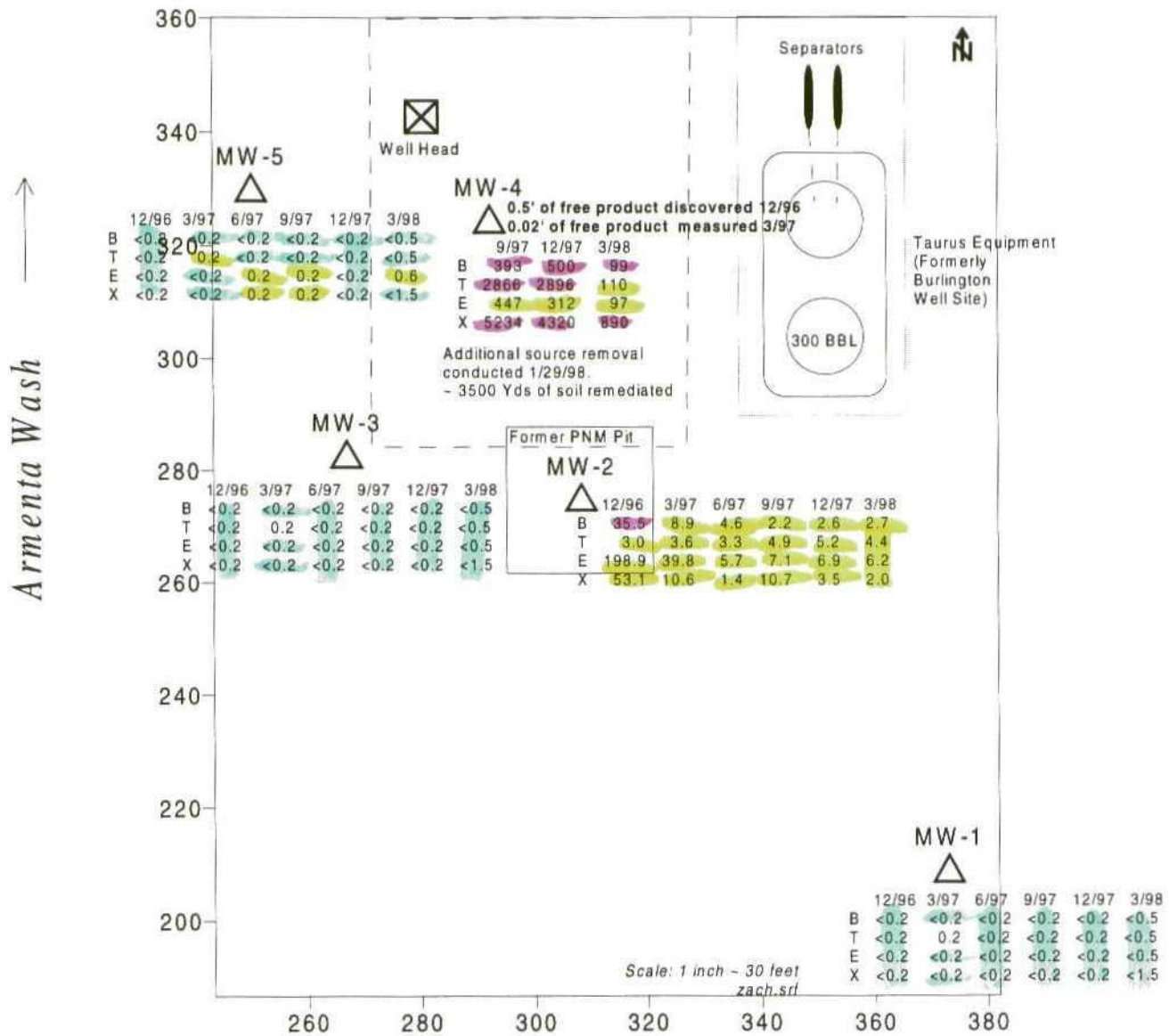
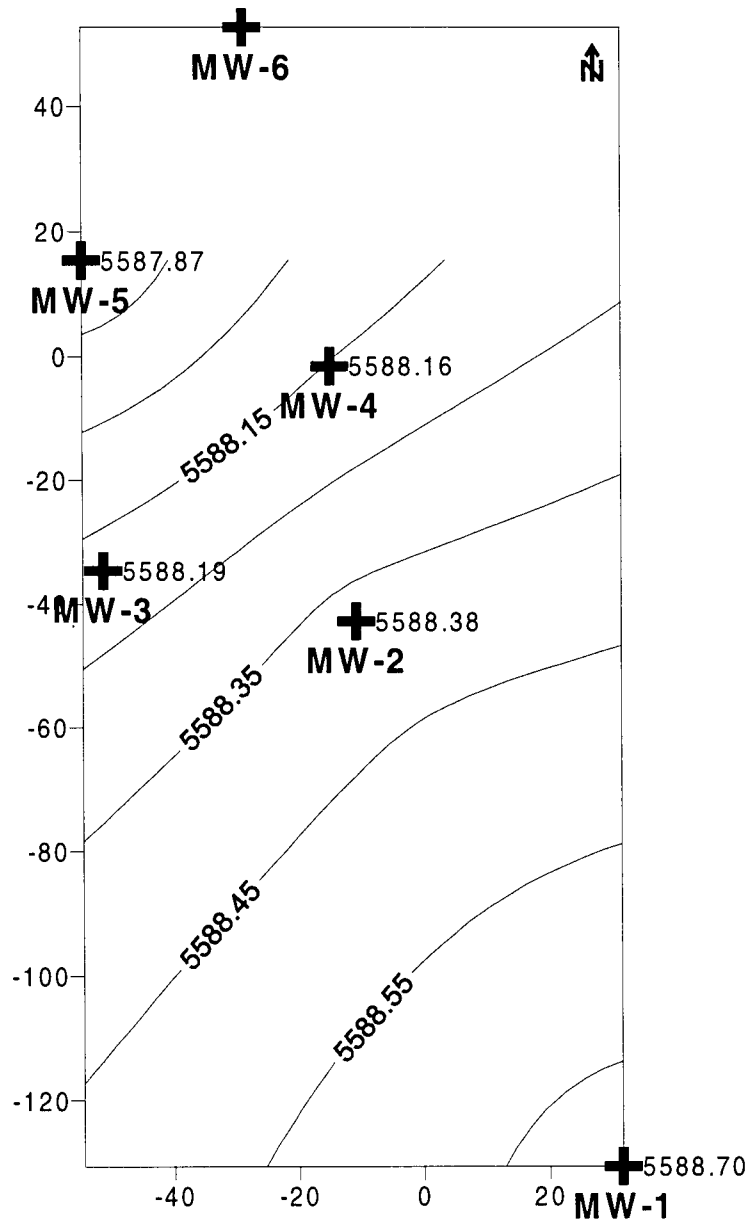
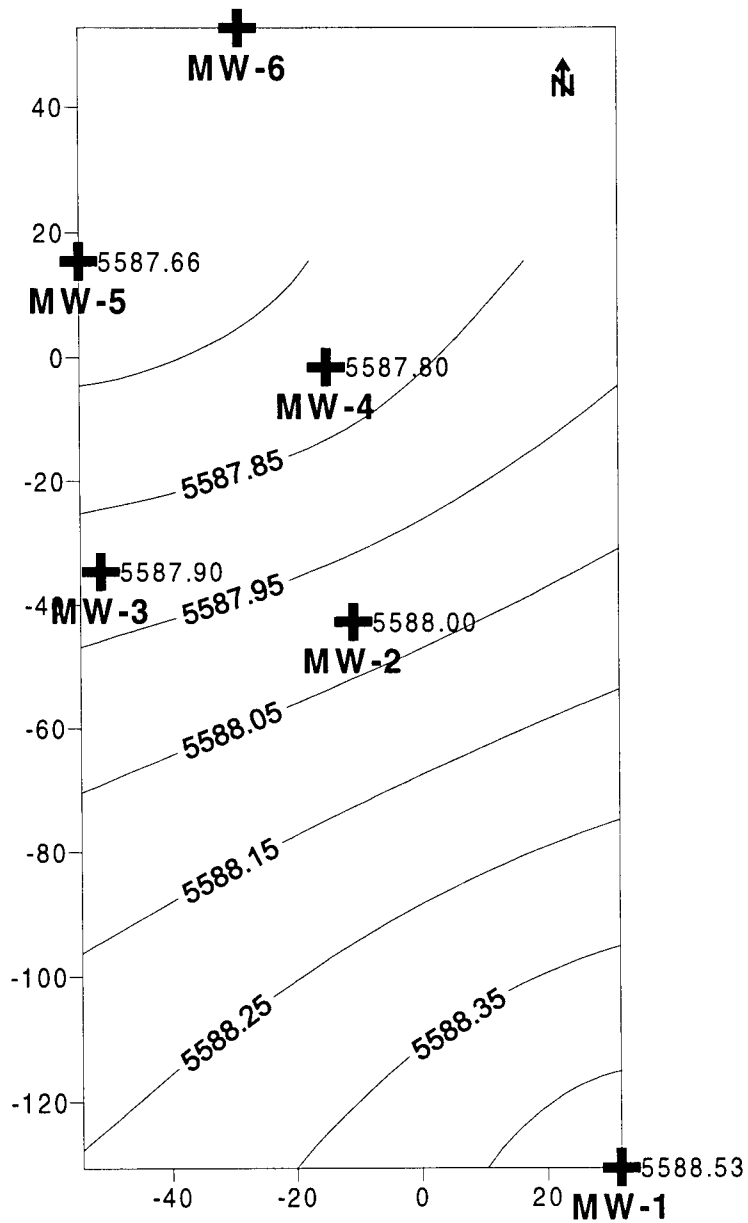


Figure 2a.
Zachry 18E Groundwater Contour Map
(June 25, 1998)



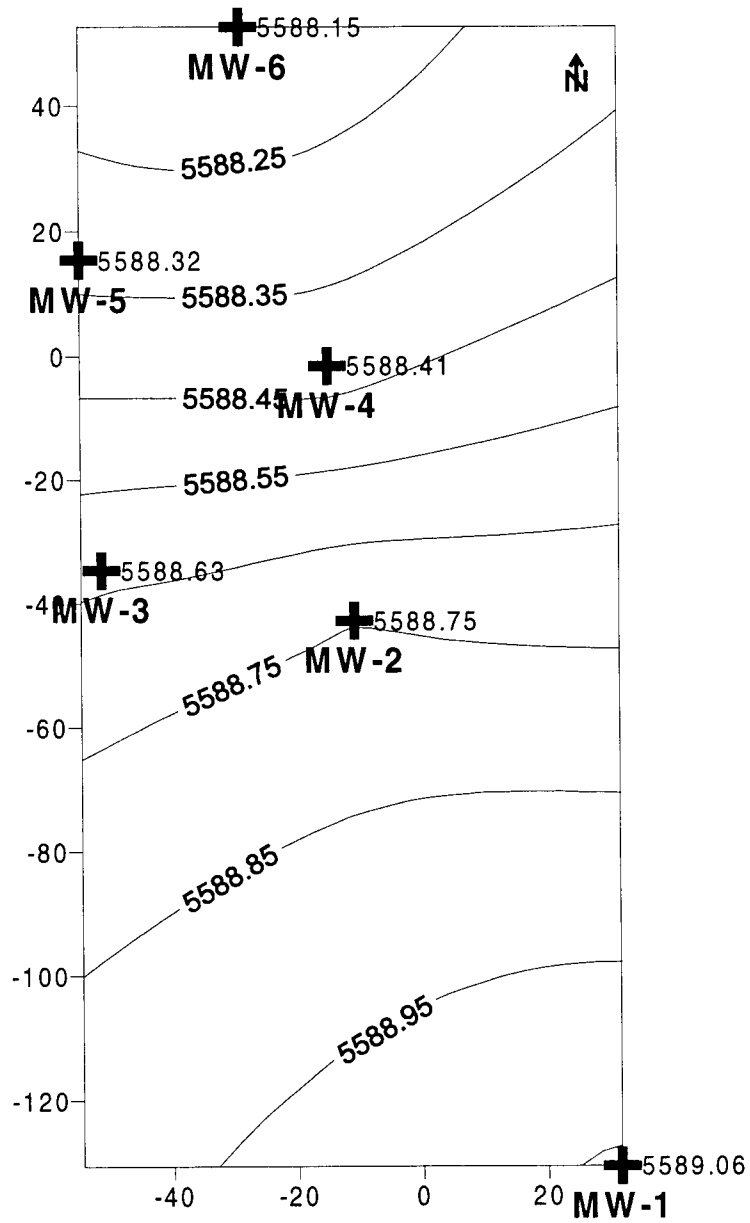
SCALE IN FEET
 (X axis = Easting, Y-axis = Northing)

Figure 2b.
Zachry 18E Groundwater Contour Map
(September 2, 1998)



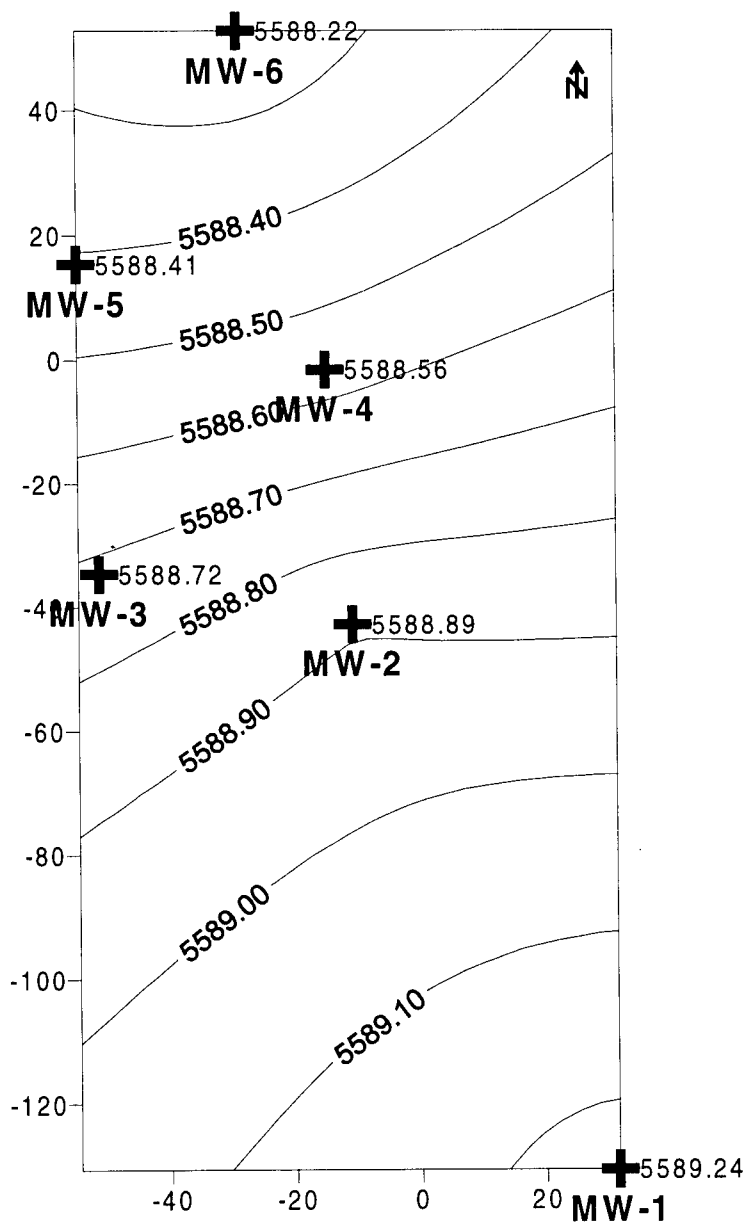
SCALE IN FEET
(X axis = Easting, Y-axis = Northing)

Figure 2c.
Zachry 18E Groundwater Contour Map
(December 14, 1998)



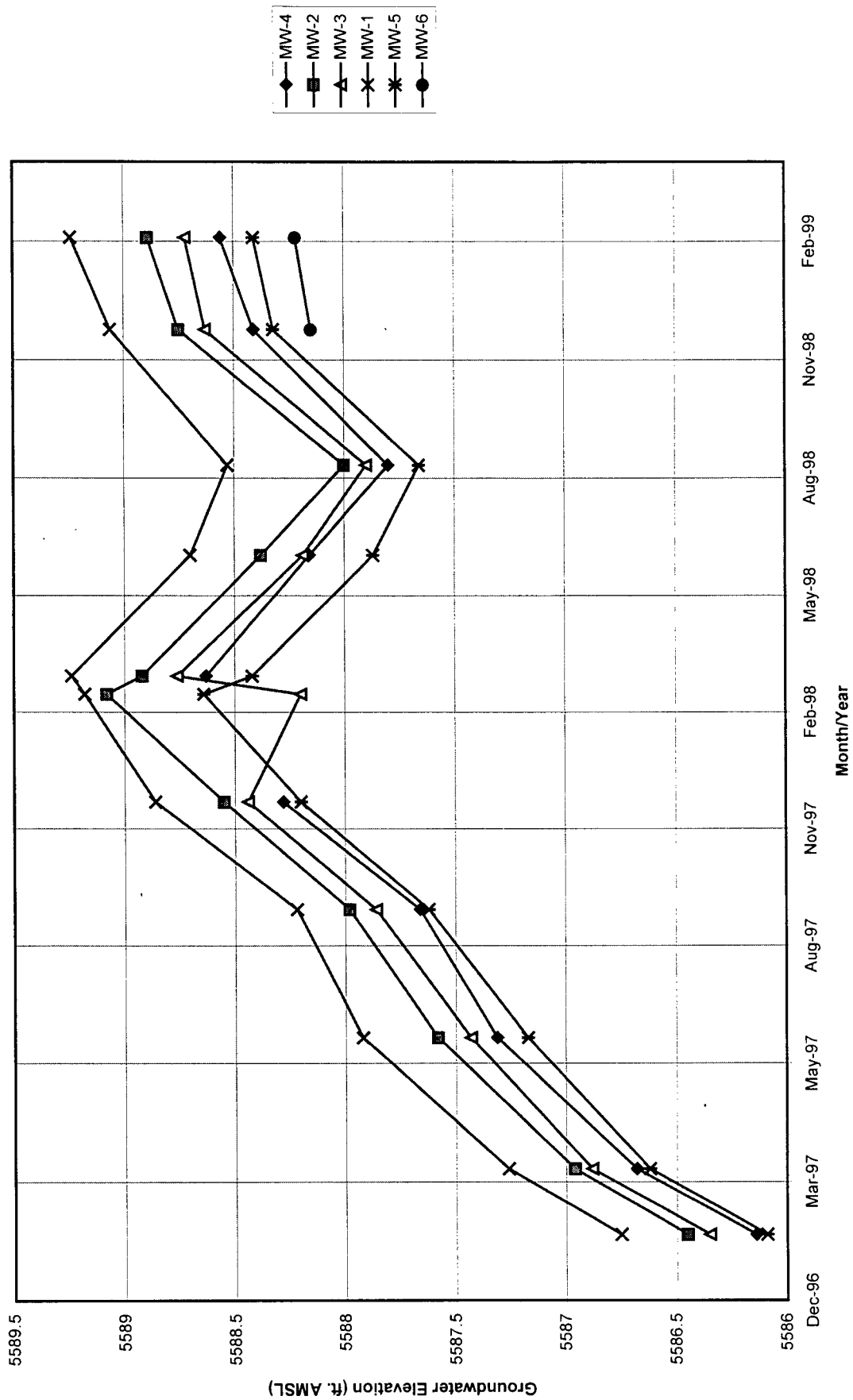
SCALE IN FEET
 (X axis = Easting, Y-axis = Northing)

Figure 2d.
Zachry 18E Groundwater Contour Map
(February 22, 1999)



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

Figure 3. Zachry 18E Hydrograph
(Water Level vs. Time)



OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

July 01, 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: Zachry 18E

Order No.: 9806109

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 6/26/98 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

ON SITE

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: PNM - Public Service Company of NM

Project: Zachry 18E

Lab Order: 9806109

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: 01-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9806109	Client Sample ID:	9806251700; MW-4
Lab ID:	9806109-01A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	6/25/98 5:00:00 PM
		COC Record:	7272

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	150	0.5		µg/L	1	6/29/98
Toluene	2.4	0.5		µg/L	1	6/29/98
Ethylbenzene	52	0.5		µg/L	1	6/29/98
m,p-Xylene	390	5		µg/L	5	6/29/98
o-Xylene	0.8	0.5		µg/L	1	6/29/98

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

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9806109

Project: Zachry 18E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/29/98	Prep Date:
Client ID: 9806109	Run ID: GC-1_980629A			SeqNo: 3789	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0605	0.5			
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0959	0.5			

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: 01-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9806109
 Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806108-01AMS		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806109		Run ID: GC-1_980629A		PQL		SPK value		SeqNo: 3790			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	804	10	800	9.574	99.3%	56	128				
Ethylbenzene	799.9	10	800	5.584	99.3%	78	107				
m,p-Xylene	1558	20	1600	35.42	95.2%	67	118				
Methyl tert-Butyl Ether	815.6	20	800	1.918	101.7%	70	130				
o-Xylene	811.5	10	800	30.23	97.7%	78	107				
Toluene	806.7	10	800	7.356	99.9%	74	116				

Sample ID: 9806108-01AMS		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806109		Run ID: GC-1_980629A		PQL		SPK value		SeqNo: 3791			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	801.9	10	800	9.574	99.0%	56	128	804	0.3%	12	
Ethylbenzene	828.2	10	800	5.584	102.8%	78	107	799.9	3.5%	11	
m,p-Xylene	1599	20	1600	35.42	97.7%	67	118	1558	2.6%	10	
Methyl tert-Butyl Ether	793.5	20	800	1.918	99.0%	70	130	815.6	2.7%	15	
o-Xylene	810	10	800	30.23	97.5%	78	107	811.5	0.2%	14	
Toluene	805.6	10	800	7.356	99.8%	74	116	806.7	0.1%	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: 01-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9806109

Project: Zachry 18E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L	Analysis Date 6/29/98		Prep Date:				
Client ID:	9806109	Run ID:	GC-1_980629A		SeqNo:	3788					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.9	0.5	40	0.0605	102.1%	56	128				
Ethylbenzene	41.34	0.5	40	0	103.4%	78	107				
m,p-Xylene	79.94	1	80	0	99.9%	67	118				
Methyl tert-Butyl Ether	39.65	1	40	0	99.1%	70	130				
o-Xylene	41.28	0.5	40	0	103.2%	78	107				
Toluene	41.14	0.5	40	0.0959	102.6%	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: 01-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9806109

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806109		Run ID:		GC-1_980629A		SeqNo: 3783			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.81	0.5	20	0	109.0%	85	115				
Ethylbenzene	22.74	0.5	20	0	113.7%	85	115				
m,p-Xylene	43.02	1	40	0	107.6%	85	115				
Methyl tert-Butyl Ether	21.12	1	20	0	105.6%	85	115				
o-Xylene	21.94	0.5	20	0	109.7%	85	115				
Toluene	21.92	0.5	20	0	109.6%	85	115				
1,4-Difluorobenzene	92.74	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	78.19	0	100	0	78.2%	70	130				
Fluorobenzene	92.95	0	100	0	93.0%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806109		Run ID:		GC-1_980629A		SeqNo: 3784			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	20.86	0.5	20	0	104.3%	85	115				
m,p-Xylene	39.92	1	40	0	99.8%	85	115				
Methyl tert-Butyl Ether	21.44	1	20	0	107.2%	85	115				
o-Xylene	21.96	0.5	20	0	109.8%	85	115				
Toluene	20.91	0.5	20	0	104.6%	85	115				
1,4-Difluorobenzene	93.16	0	100	0	93.2%	70	130				
4-Bromochlorobenzene	82.4	0	100	0	82.4%	70	130				
Fluorobenzene	92.45	0	100	0	92.5%	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: 9806109

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806109	Run ID: GC-1_980629A			SeqNo: 3785			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	40.4	0.5	40	0	101.0%	85	115		
Ethylbenzene	41.74	0.5	40	0	104.3%	85	115		
m,p-Xylene	79.6	1	80	0	99.5%	85	115		
Methyl tert-Butyl Ether	38.21	1	40	0	95.5%	85	115		
o-Xylene	40.66	0.5	40	0	101.7%	85	115		
Toluene	40.64	0.5	40	0	101.6%	85	115		
1,4-Difluorobenzene	91.47	0	100	0	91.5%	70	130		
4-Bromochlorobenzene	76.37	0	100	0	76.4%	70	130		
Fluorobenzene	92.11	0	100	0	92.1%	70	130		

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806109	Run ID: GC-1_980629A			SeqNo: 3786			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	20.71	0.5	20	0	103.5%	85	115		
Ethylbenzene	21.81	0.5	20	0	109.1%	85	115		
m,p-Xylene	41.38	1	40	0	103.4%	85	115		
o-Xylene	20.98	0.5	20	0	104.9%	85	115		
Toluene	20.99	0.5	20	0	105.0%	85	115		
1,4-Difluorobenzene	91.74	0	100	0	91.7%	70	130		
4-Bromochlorobenzene	69.12	0	100	0	69.1%	70	130		S
Fluorobenzene	92.31	0	100	0	92.3%	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: 9806109

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0529/30		Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806109		Run ID: GC-1_980629A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 3787
Analyte	Result								
Benzene	20.56		0.5	20	0	102.8%	85	115	
Ethylbenzene	20.99		0.5	20	0	105.0%	85	115	
m,p-Xylene	40.25		1	40	0	100.6%	85	115	
o-Xylene	20.86		0.5	20	0	104.3%	85	115	
Toluene	20.94		0.5	20	0	104.7%	85	115	
1,4-Difluorobenzene	91.64		0	100	0	91.6%	70	130	
4-Bromochlorobenzene	67.61		0	100	0	67.6%	70	130	S
Fluorobenzene	91.88		0	100	0	91.9%	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: 01-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9806109
Project: Zachry 18E
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9806097-01A	90.6	60 *	90.8
9806097-06A	91.5	54.3 *	90.3
9806097-07A	92.5	77.5	92.7
9806097-08A	90.2	55.1 *	90.5
9806097-09A	89.3	81.5	90.4
9806097-12A	90.8	83.3	91.3
9806097-13A	90.8	82.6	91.5
9806097-15A	92.6	81.8	91.9
9806108-01A	91.3	70.4	91.7
9806108-01AMS	92.2	84.3	92.7
9806108-01AMSD	92.1	80	92.5
9806108-02A	91.1	60 *	91.1
9806108-03A	91	54.8 *	90.3
9806109-01A	91.5	68.4 *	92.7
9806115-01A	87	76.1	89.4
CCV1 QC0529/30	92.7	78.2	93
CCV2 QC0529/30	93.2	82.4	92.4
CCV3 QC0529/30	91.5	76.4	92.1
CCV4 QC0529/30	91.7	69.1 *	92.3
CCV5 QC0529/30	91.6	67.6 *	91.9
LCS WATER	92.4	78.2	92.3
MBI	93.2	72.5	93

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

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

[illegible]

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



2

Page: 1 of 1

TECHNOLOGIES, LTD.

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

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

September 10, 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

3rd Quarter 98

RE: Zachry 18E

Order No.: 9809003

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 9/2/98 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: 10-Sep-98

CLIENT: PNM - Public Service Company of NM

Project: Zachry 18E

Lab Order: 9809003

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

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 10-Sep-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9809003	Client Sample ID:	9809021200; MW-4
Lab ID:	9809003-01A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	9/2/98 12:00:00 PM
		COC Record:	7438

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	79	1		µg/L	1	9/8/98
Toluene	2.7	1		µg/L	1	9/8/98
Ethylbenzene	43	1		µg/L	1	9/8/98
m,p-Xylene	140	2		µg/L	1	9/8/98
o-Xylene	ND	1		µg/L	1	9/8/98

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

1 of 1

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On Site Technologies, LTD.

Date: 10-Sep-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809003

Project: Zachry 18E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980908	Test Code: SW8020A	Units: µg/L	Analysis Date: 9/8/98	Prep Date:
Client ID:	9809003	Run ID: GC-1_980908A		SeqNo: 6239	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1435	1			J
Ethylbenzene	.1562	1			J
m,p-Xylene	.2875	2			J
Methyl tert-Butyl Ether	ND	1			J
o-Xylene	.098	1			J
Toluene	.1843	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: 10-Sep-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9809003
Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809004-01AMS			Batch ID: GC-1_980908		Test Code: SW8020A		Units: µg/L		Analysis Date 9/8/98				Prep Date:	
Client ID:		9809003		Run ID:		GC-1_980908A				SeqNo: 6240				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual			
Benzene	365.6	10	400	0	91.4%	56	128							
Ethylbenzene	739.1	10	400	395.1	86.0%	78	107							
m,p-Xylene	1335	20	800	619.7	89.4%	67	118							
Methyl tert-Butyl Ether	333	10	400	6.379	81.7%	70	130							
o-Xylene	461.1	10	400	81.48	94.9%	78	107							
Toluene	414.6	10	400	20.62	98.5%	74	116							

Sample ID: 9809004-01AMSD		Batch ID: GC-1_980908	Test Code: SW8020A	Units: µg/L	Analysis Date 9/8/98		Prep Date:					
Client ID: 9809003		Run ID: GC-1_980908A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	385.3		10	400	0	96.3%	56	128	365.6	5.2%	12	
Ethylbenzene	780.7		10	400	395.1	96.4%	78	107	739.1	5.5%	11	
m,p-Xylene	1411		20	800	619.7	98.9%	67	118	1335	5.5%	10	
Methyl tert-Butyl Ether	340.5		10	400	6.379	83.5%	70	130	333	2.2%	15	
o-Xylene	486		10	400	81.48	101.1%	78	107	461.1	5.3%	14	
Toluene	437.1		10	400	20.62	104.1%	74	116	414.6	5.3%	14	

Qualifiers:

NID - 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: 10-Sep-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809003

Project: Zachry 18E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980908		Test Code: SW8020A		Units: µg/L		Analysis Date 9/8/98		Prep Date:	
Client ID:		9809003		Run ID:		GC-1_980908A		SeqNo: 6238			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.2	1	40	0.1435	97.6%	56	128				
Ethylbenzene	40.3	1	40	0.1562	100.3%	78	107				
m,p-Xylene	80.16	2	80	0.2875	99.8%	67	118				
Methyl tert-Butyl Ether	34.92	1	40	0	87.3%	70	130				
o-Xylene	40.52	1	40	0.098	101.1%	78	107				
Toluene	40.1	1	40	0.1843	99.8%	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: 10-Sep-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809003

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980908		Test Code: SW8020A		Units: µg/L		Analysis Date 9/8/98		Prep Date:	
Client ID:		9809003		Run ID:		GC-1_980908A		SeqNo: 6234			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.13	1	20	0	105.6%	85	115				
Ethylbenzene	21.71	1	20	0	108.6%	85	115				
m,p-Xylene	42.82	2	40	0	107.1%	85	115				
Methyl tert-Butyl Ether	19.04	1	20	0	95.2%	85	115				
o-Xylene	21.76	1	20	0	108.8%	85	115				
Toluene	21.7	1	20	0	108.5%	85	115				
1,4-Difluorobenzene	92.03	0	100	0	92.0%	70	130				
4-Bromochlorobenzene	84.58	0	100	0	84.6%	70	130				
Fluorobenzene	91.58	0	100	0	91.6%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_980908	Test Code: SW8020A	Units: µg/L	Analysis Date 9/8/98	Prep Date:						
Client ID:	Run ID:	GC-1_980908A		SeqNo:							
9809003				6235							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.51	1	40	0	98.8%	85	115				
Ethylbenzene	42.32	1	40	0	105.8%	85	115				
m,p-Xylene	83.07	2	80	0	103.8%	85	115				
Methyl tert-Butyl Ether	33.78	1	40	0	84.5%	85	115				
o-Xylene	41.39	1	40	0	103.5%	85	115				S
Toluene	41.04	1	40	0	102.6%	85	115				
1,4-Difluorobenzene	91.73	0	100	0	91.7%	70	130				
4-Bromochlorobenzene	82.14	0	100	0	82.1%	70	130				
Fluorobenzene	91.12	0	100	0	91.1%	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: 9809003

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV4 QC0606/07 Batch ID: GC-1_980908 Test Code: SW8020A Units: µg/L Analysis Date 9/9/98

Client ID: 9809003 Run ID: GC-1_980908A SeqNo: 6237

Prep Date:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.77	1	20	0	103.8%	85	115				
Ethylbenzene	21.61	1	20	0	108.1%	85	115				
m,p-Xylene	42.58	2	40	0	106.5%	85	115				
Methyl tert-Butyl Ether	17.57	1	20	0	87.8%	85	115				
o-Xylene	21.69	1	20	0	108.5%	85	115				
Toluene	21.51	1	20	0	107.5%	85	115				
1,4-Difluorobenzene	92.2	0	100	0	92.2%	70	130				
4-Bromochlorobenzene	77.84	0	100	0	77.8%	70	130				
Fluorobenzene	91.26	0	100	0	91.3%	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: 10-Sep-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9809003
Project: Zachry 18E
Test No: SW8020A

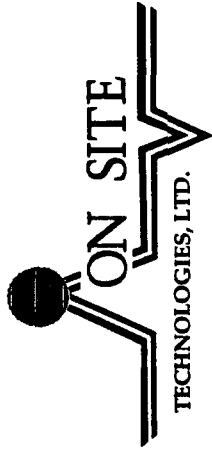
QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9808059-06A	94	86.5	92.6
9808059-13A	92.6	87.8	92.2
9808059-14A	93.3	87.4	93.7
9808059-22A	93.8	86.2	93.5
9808059-24A	96.6	88.1	92.8
9809003-01A	89.5	91.3	89.6
9809004-01AMS	88.6	81.5	89.2
9809004-01AMSD	88.4	80	89.3
9809004-02A	88.9	83.4	108
CCV1 QC0606/07	92	84.6	91.6
CCV2 QC0606/07	91.7	82.1	91.1
CCV4 QC0606/07	92.2	77.8	91.2
LCS WATER	91.9	84.8	91.6
MB1	92	84.7	91.9

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

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

Date:

Page:

of

Purchase Order No.:		Job No.	
Name		Denver Bearden	
Company	PNM Gas Services		
Address	603 W. Elm Street		
City, State, Zip	Farmington, NM 87401		
Sampling Location:			
Zachry 18E			
Sampler: R. Dedrick			
SAMPLE IDENTIFICATION		SAMPLE DATE	MATRIX PRES
7809021200		9/15/96	14.0 161
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7809021327			
7809021328			

Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
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OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

December 24, 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 Qtr 1998

RE: Zachry 18E

Order No.: 9812035

Dear Maureen Gannon,

On Site Technologies, LTD. received 3 samples on 12/15/98 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,



David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 24-Dec-98

CLIENT: PNM - Public Service Company of NM

Project: Zachry 18E

Lab Order: 9812035

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

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Dec-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9812035	Client Sample ID:	9812141430 MW-6
Lab ID:	9812035-01A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	12/14/98 2:30:00 PM
		COC Record:	7526

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: DC
Benzene	ND	1		µg/L	1	12/23/98
Toluene	ND	1		µg/L	1	12/23/98
Ethylbenzene	2	1		µg/L	1	12/23/98
m,p-Xylene	4.5	2		µg/L	1	12/23/98
o-Xylene	ND	1		µg/L	1	12/23/98

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

- TIGHTENING UP BLENDING PLANTS WITH THE ENVIRONMENT -

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Dec-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9812035	Client Sample ID:	9812141500 MW-4
Lab ID:	9812035-02A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	12/14/98 3:00:00 PM
		COC Record:	7526

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX	SW8021B				Analyst: HR	
Benzene	21	1		µg/L	1	12/22/98
Toluene	150	1		µg/L	1	12/22/98
Ethylbenzene	24	1		µg/L	1	12/22/98
m,p-Xylene	160	2		µg/L	1	12/22/98
o-Xylene	36	1		µg/L	1	12/22/98

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 DEFENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Dec-98

Client: PNM - Public Service Company of NM
Work Order: 9812035
Lab ID: 9812035-03A
Project: Zachry 18E

Client Sample Info: Zachry 18E
Client Sample ID: 9812141530 MW-7
Collection Date: 12/14/98 3:30:00 PM
COC Record: 7526

Matrix: AQUEOUS

*Duplicate
of MW-4*

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	24	1		µg/L	1	12/22/98
Toluene	190	1		µg/L	1	12/22/98
Ethylbenzene	32	1		µg/L	1	12/22/98
m,p-Xylene	230	2		µg/L	1	12/22/98
o-Xylene	48	1		µg/L	1	12/22/98

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

On Site Technologies, LTD.

Date: 24-Dec-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9812035

Project: Zachry 18E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981222	Test Code: SW8021B	Units: µg/L	Analysis Date 12/22/98	Prep Date:
Client ID:	9812035	Run ID: GC-1_981222A		SeqNo: 9740	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1373	1			J
Ethylbenzene	.211	1			J
m,p-Xylene	.5428	2			J
Methyl tert-Butyl Ether	ND	1			J
o-Xylene	.244	1			J
Toluene	.2765	1			J

Sample ID: MB1	Batch ID: GC-1_981223	Test Code: SW8021B	Units: µg/L	Analysis Date 12/23/98	Prep Date:
Client ID:	9812035	Run ID: GC-1_981223A		SeqNo: 9751	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	ND	1			J
Ethylbenzene	ND	1			
m,p-Xylene	ND	2			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	1			
Toluene	.1198	1			

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: 24-Dec-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9812035

Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9812035-01AMS		Batch ID: GC-1_981222		Test Code: SW8021B		Units: µg/L		Analysis Date 12/22/98		Prep Date:									
Client ID: 9812141430 MW-6		Run ID: 9812035		PQL		SPK value		SeqNo: 9741											
Analyte		Result		PQL		SPK value		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	
Benzene		187.6		5		200		0.6055		56		128							
Ethylbenzene		195.6		5		200		2.26		78		107							
m,p-Xylene		389.8		10		400		4.374		67		118							
Methyl tert-Butyl Ether		184.1		5		200		0		70		130							
o-Xylene		209.5		5		200		1.841		78		107							
Toluene		197.4		5		200		2.739		74		116							

Sample ID: 9812035-01AMSD		Batch ID: GC-1_981222	Test Code: SW8021B	Units: µg/L	Analysis Date 12/22/98		Prep Date:				
Client ID: 9812141430 MW-6	9812035	Run ID:	GC-1_981222A		SeqNo: 9742						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	190.9	5	200	0.6055	95.1%	56	128	187.6	1.7%	12	
Ethylbenzene	198.8	5	200	2.26	98.2%	78	107	195.6	1.6%	11	
m,p-Xylene	386.4	10	400	4.374	95.5%	67	118	389.8	0.9%	10	
Methyl tert-Butyl Ether	181.1	5	200	0	90.6%	70	130	184.1	1.6%	15	
o-Xylene	195.6	5	200	1.841	96.9%	78	107	209.5	6.9%	14	
Toluene	197.2	5	200	2.739	97.2%	74	116	197.4	0.1%	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

CLIENT: PNM - Public Service Company of NM

Work Order: 9812035

Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9812044-01AMS Batch ID: GC-1_981223 Test Code: SW8021B Units: µg/L

Analysis Date 12/23/98

Prep Date:

Client ID: 9812035 Run ID: GC-1_981223A

SeqNo: 9754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	400.5	10	400	12.5	97.0%	56	128				
Ethylbenzene	976.7	10	400	631.4	86.3%	78	107				
m,p-Xylene	1116	20	800	399.6	89.5%	67	118				
Methyl tert-Butyl Ether	374.4	10	400	0	93.6%	70	130				
o-Xylene	519	10	400	140.7	94.6%	78	107				
Toluene	982.8	10	400	626.5	89.1%	74	116				

Sample ID: 9812044-01AMSD Batch ID: GC-1_981223 Test Code: SW8021B Units: µg/L

Analysis Date 12/23/98

Prep Date:

Client ID: 9812035 Run ID: GC-1_981223A

SeqNo: 9755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	393.5	10	400	12.5	95.3%	56	128	400.5	1.8%	12	
Ethylbenzene	957	10	400	631.4	81.4%	78	107	976.7	2.0%	11	
m,p-Xylene	1094	20	800	399.6	86.9%	67	118	1116	1.9%	10	
Methyl tert-Butyl Ether	375.2	10	400	0	93.8%	70	130	374.4	0.2%	15	
o-Xylene	511.9	10	400	140.7	92.8%	78	107	519	1.4%	14	
Toluene	963	10	400	626.5	84.1%	74	116	982.8	2.0%	14	

Qualifiers:

NID - 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: 24-Dec-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9812035
 Project: Zachry 18E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_981222	Test Code: SW8021B	Units: µg/L	Analysis Date 12/22/98	Prep Date:
Client ID: 9812035	Run ID: GC-1_981222A	PQL	SPK value	SeqNo: 9739	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
Benzene	37.57	1	0.1373	56	128
Ethylbenzene	39.37	1	0.211	78	107
m,p-Xylene	76.89	2	0.5428	67	118
Methyl tert-Butyl Ether	37.32	1	0	70	130
o-Xylene	39.78	1	0.244	78	107
Toluene	38.65	1	0.2765	74	116

Sample ID: LCS Water	Batch ID: GC-1_981223	Test Code: SW8021B	Units: µg/L	Analysis Date 12/23/98	Prep Date:
Client ID: 9812035	Run ID: GC-1_981223A	PQL	SPK value	SeqNo: 9753	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
Benzene	40.51	1	0	56	128
Ethylbenzene	41.06	1	0	78	107
m,p-Xylene	79.81	2	0	67	118
Methyl tert-Butyl Ether	38.65	1	0	70	130
o-Xylene	41.21	1	0	78	107
Toluene	40.64	1	0.1198	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: 24-Dec-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9812035

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981222		Test Code: SW8021B		Units: µg/L		Analysis Date 12/22/98		Prep Date:	
Client ID:		9812035		Run ID:		GC-1_981222A		SeqNo: 9736			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.72	1	20	0	98.6%	85	115				
Ethylbenzene	20.66	1	20	0	103.3%	85	115				
m,p-Xylene	40.12	2	40	0	100.3%	85	115				
Methyl tert-Butyl Ether	19.5	1	20	0	97.5%	85	115				
o-Xylene	20.92	1	20	0	104.6%	85	115				
Toluene	20.31	1	20	0	101.5%	85	115				
1,4-Difluorobenzene	88.17	0	100	0	88.2%	70	130				
4-Bromochlorobenzene	101.7	0	100	0	101.7%	70	130				
Fluorobenzene	85.26	0	100	0	85.3%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981222		Test Code: SW8021B		Units: µg/L		Analysis Date 12/22/98		Prep Date:	
Client ID:		9812035		Run ID: GC-1_981222A				SeqNo: 9737			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.12	1	20	0	100.6%	85	115				
Ethylbenzene	21.04	1	20	0	105.2%	85	115				
m,p-Xylene	40.62	2	40	0	101.5%	85	115				
Methyl tert-Butyl Ether	19.26	1	20	0	96.3%	85	115				
o-Xylene	21.19	1	20	0	106.0%	85	115				
Toluene	20.66	1	20	0	103.3%	85	115				
1,4-Difluorobenzene	88.39	0	100	0	88.4%	70	130				
4-Bromochlorobenzene	102.6	0	100	0	102.6%	70	130				
Fluorobenzene	84.99	0	100	0	85.0%	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: 9812035

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07	Batch ID: GC-1_981222	Test Code: SW8021B	Units: µg/L	Analysis Date 12/22/98	Prep Date:
Client ID: 9812035	Run ID: GC-1_981222A	PQL	SPK value	SeqNo: 9738	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Benzene	39.02	1	40	85	115
Ethylbenzene	40.7	1	40	85	115
m,p-Xylene	79.27	2	80	85	115
Methyl tert-Butyl Ether	38.29	1	40	85	115
o-Xylene	41.02	1	40	85	115
Toluene	40.08	1	40	85	115
1,4-Difluorobenzene	88.08	0	100	70	130
4-Bromochlorobenzene	100.8	0	100	70	130
Fluorobenzene	85.21	0	100	70	130

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_981223	Test Code: SW8021B	Units: µg/L	Analysis Date 12/23/98	Prep Date:
Client ID: 9812035	Run ID: GC-1_981223A	PQL	SPK value	SeqNo: 9752	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Benzene	21.13	1	20	85	115
Ethylbenzene	21.48	1	20	85	115
m,p-Xylene	41.47	2	40	85	115
Methyl tert-Butyl Ether	19.99	1	20	85	115
o-Xylene	21.57	1	20	85	115
Toluene	21.28	1	20	85	115
1,4-Difluorobenzene	88.54	0	100	70	130
4-Bromochlorobenzene	101.5	0	100	70	130
Fluorobenzene	84.95	0	100	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: 9812035

Project: Zachry 18E

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981223		Test Code: SW8021B		Units: µg/L		Analysis Date 12/23/98		Prep Date:	
Client ID: 9812035		Run ID: GC-1_981223A		SeqNo: 9743		LowLimit HighLimit		RPDLimit		RPDLimit	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.85	1	20	0	104.3%	85	115				
Ethylbenzene	21.19	1	20	0	105.9%	85	115				
m,p-Xylene	40.82	2	40	0	102.0%	85	115				
Methyl tert-Butyl Ether	20.29	1	20	0	101.5%	85	115				
o-Xylene	21.41	1	20	0	107.0%	85	115				
Toluene	20.98	1	20	0	104.9%	85	115				
1,4-Difluorobenzene	87.86	0	100	0	87.9%	70	130				
4-Bromochlorobenzene	101.5	0	100	0	101.5%	70	130				
Fluorobenzene	85.17	0	100	0	85.2%	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

CLIENT: PNM - Public Service Company of NM
Work Order: 9812035
Project: Zachry 18E
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9812028-01A	81.9	94	80.5
9812029-01A	88.1	101	85.6
9812031-01A	89.4	101	86.9
9812031-03A	89.4	100	88.4
9812032-01A	88.4	99.2	84.6
9812035-01A	85	98.4	82.5
9812035-01AMS	88.8	102	85.7
9812035-01AMSD	87.2	100	84
9812035-02A	84.9	96.8	85.8
9812035-03A	83.5	94.1	86.6
9812036-01A	88.6	103	85.2
9812037-13A	87.8	102	85.2
9812037-18A	100	101	90.5
9812037-21A	94	101	87.4
9812037-24A	93.3	101	87.6
9812037-26A	86.1	99.4	88.6
9812040-01A	88.7	103	85.8
9812041-01A	87.3	102	84.3
9812041-02A	87.7	102	85.2
9812041-03A	87.2	101	84.6
9812044-01A	88.2	102	85.4
9812044-01AMS	88.3	102	85
9812044-01AMSD	88.4	102	84.9
9812047-01A	87.6	102	85.3
9812047-02A	88.6	103	85.1
9812048-01A	88.7	102	85.1
9812048-02A	86.1	98.7	87.6

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

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9812035
Project: Zachry 18E
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
CCV1 QC0606/07	88.5	102	84.9
CCV2 QC0606/07	87.8	101	85.2
CCV3 QC0606/07	88.1	101	85.2
LCS WATER	87.9	102	85
MB1	88.3	102	85.2

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

* Surrogate recovery outside acceptance limits

Page: 1 of 1

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

[illegible]

Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
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OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

March 10, 1999

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

RECEIVED
MAR 16 1999

RECEIVED
MAR 16 1999

134 Q00-10-1999

RE: Zachry 18E

Order No.: 9902083

Dear Maureen Gannon,

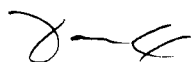
On Site Technologies, LTD. received 3 samples on 2/23/99 for the analyses presented in the following report.

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,



David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 10-Mar-99

CLIENT: PNM - Public Service Company of NM
Project: Zachry 18E
Lab Order: 9902083

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

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 10-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9902083	Client Sample ID:	9902221420; MW-4
Lab ID:	9902083-01A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	2/22/99 2:20:00 PM
		COC Record:	7379

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	32	2.5		µg/L	5	3/2/99
Toluene	14	2.5		µg/L	5	3/2/99
Ethylbenzene	ND	2.5		µg/L	5	3/2/99
m,p-Xylene	420	5		µg/L	5	3/2/99
o-Xylene	60	2.5		µg/L	5	3/2/99

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

- THE QUALITY OF OUR ANALYSIS IS GUARANTEED WITH THE LATEST TECHNOLOGY -

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 10-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Zachry 18E
Work Order:	9902083	Client Sample ID:	9902221440; MW-6
Lab ID:	9902083-02A	Matrix:	AQUEOUS
Project:	Zachry 18E	Collection Date:	2/22/99 2:40:00 PM
		COC Record:	7379

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	3/2/99
Toluene	0.8	0.5		µg/L	1	3/2/99
Ethylbenzene	1	0.5		µg/L	1	3/2/99
m,p-Xylene	1.2	1		µg/L	1	3/2/99
o-Xylene	ND	0.5		µg/L	1	3/2/99

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

Sum: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 10-Mar-99

Client: PNM - Public Service Company of NM
Work Order: 9902083
Lab ID: 9902083-03A
Project: Zachry 18E

Client Sample Info: Zachry 18E
Client Sample ID: 9902221500; MW-7
Collection Date: 2/22/99 3:00:00 PM
COC Record: 7379

MW-6
Duplicate

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/2/99
Toluene	0.6	0.5		µg/L	1	3/2/99
Ethylbenzene	0.9	0.5		µg/L	1	3/2/99
m,p-Xylene	ND	1		µg/L	1	3/2/99
o-Xylene	ND	0.5		µg/L	1	3/2/99

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

- TECHNICAL SERVICES FOR INDUSTRIAL AND ENVIRONMENTAL -

On Site Technologies, LTD.

Date: 10-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902083
Project: Zachry 18E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L	Analysis Date: 2/28/99	Prep Date:
Client ID:	9902083	Run ID: GC-1_990228A		SeqNo: 11597	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0645	0.5			
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.0443	0.5			J
Toluene	.1322	0.5			J

Sample ID: MB1	Batch ID: GC-1_990302	Test Code: SW8021B	Units: µg/L	Analysis Date: 3/2/99	Prep Date:
Client ID:	9902083	Run ID: GC-1_990302B		SeqNo: 11630	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0388	0.5			J
Ethylbenzene	.3876	0.5			J
m,p-Xylene	.2018	1			J
Methyl tert-Butyl Ether	ND	1			J
o-Xylene	.1155	0.5			J
Toluene	.1957	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: 10-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902083-02AMS		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L		Analysis Date 2/28/99			Prep Date:				
Client ID: 9902221440; MW-		9902083	Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	210.5		2.5	200	0.4105		105.1%	73	115				
Ethylbenzene	210.5		2.5	200	0.7455		104.9%	74	117				
m,p-Xylene	402.3		5	400	1.028		100.3%	76	112				
Methyl tert-Butyl Ether	213.8		5	200	0		106.9%	62	122				
o-Xylene	208		2.5	200	0.2425		103.9%	83	112				
Toluene	209.3		2.5	200	0.73		104.3%	71	120				

Sample ID: 9902083-02AMSD		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L		Analysis Date 2/28/99			Prep Date:				
Client ID: 9902221440; MW-		9902083	Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	199.7		2.5	200	0.4105		99.7%	73	115	210.5	5.3%	8	
Ethylbenzene	199.9		2.5	200	0.7455		99.6%	74	117	210.5	5.2%	9	
m,p-Xylene	381.9		5	400	1.028		95.2%	76	112	402.3	5.2%	9	
Methyl tert-Butyl Ether	205.3		5	200	0		102.7%	62	122	213.8	4.0%	7	
o-Xylene	197.8		2.5	200	0.2425		98.8%	83	112	208	5.0%	9	
Toluene	198.9		2.5	200	0.73		99.1%	71	120	209.3	5.1%	9	

Qualifiers: NID - 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: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Sample Matrix Spike

Prep Date:

Analysis Date 3/2/99

SeqNo: 11631

Units: µg/L

Test Code: SW8021B

Batch ID: GC-1_990302

Run ID: GC-1_990302B

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	219.7	2.5	200	31.98	93.9%	73	115				S ✓ LCS
Ethylbenzene	99.69	2.5	200	0	49.8%	74	117				3/10/99
m,p-Xylene	780.1	5	400	423.4	89.2%	76	112				3/10/99
Methyl tert-Butyl Ether	206.4	5	200	4.614	100.9%	62	122				3/10/99
o-Xylene	253.6	2.5	200	60.42	96.6%	83	112				
Toluene	194.1	2.5	200	14.53	89.8%	71	120				

Prep Date:

Analysis Date 3/2/99

SeqNo: 11632

Units: µg/L

Test Code: SW8021B

Batch ID: GC-1_990302

Run ID: GC-1_990302B

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	223.1	2.5	200	31.98	95.6%	73	115	219.7	1.5%	8	S ✓ LCS
Ethylbenzene	92.86	2.5	200	0	46.4%	74	117	99.69	7.1%	9	
m,p-Xylene	783.2	5	400	423.4	89.9%	76	112	780.1	0.4%	9	3/10/99
Methyl tert-Butyl Ether	212.8	5	200	4.614	104.1%	62	122	206.4	3.1%	7	3/10/99
o-Xylene	259.8	2.5	200	60.42	99.7%	83	112	253.6	2.4%	9	3/10/99
Toluene	194.2	2.5	200	14.53	89.8%	71	120	194.1	0.0%	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: 10-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L	Analysis Date 2/28/99	Prep Date:
Client ID: 9902083	Run ID: GC-1_990228A	PQL	SPK value	SeqNo: 11596	
Analyte	Result	PQL	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	41.3	0.5	0.0645	103.1%	84 110
Ethylbenzene	41.59	0.5	0	104.0%	86 113
m,p-Xylene	79.78	1	0	99.7%	81 114
Methyl tert-Butyl Ether	41.82	1	0	104.5%	69 129
o-Xylene	41.2	0.5	0.0443	102.9%	86 112
Toluene	41.19	0.5	0.1322	102.7%	85 111

Sample ID: LCS WATER	Batch ID: GC-1_990302	Test Code: SW8021B	Units: µg/L	Analysis Date 3/2/99	Prep Date:
Client ID: 9902083	Run ID: GC-1_990302B	PQL	SPK value	SeqNo: 11629	
Analyte	Result	PQL	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	40.48	0.5	0.0388	101.1%	84 110
Ethylbenzene	41.09	0.5	0.3876	101.7%	86 113
m,p-Xylene	78.92	1	0.2018	98.4%	81 114
Methyl tert-Butyl Ether	40.91	1	0	102.3%	69 129
o-Xylene	40.89	0.5	0.1155	101.9%	86 112
Toluene	40.62	0.5	0.1957	101.1%	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: 10-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L		Analysis Date 2/28/99		Prep Date:	
Client ID: 9902083		Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 11593
Analyte	Result								
Benzene	20.49		0.5	20	0	102.5%	85	115	
Ethylbenzene	20.66		0.5	20	0	103.3%	85	115	
m,p-Xylene	39.66		1	40	0	99.2%	85	115	
Methyl tert-Butyl Ether	20.84		1	20	0	104.2%	85	115	
o-Xylene	20.5		0.5	20	0	102.5%	85	115	
Toluene	20.38		0.5	20	0	101.9%	85	115	
1,4-Difluorobenzene	93.45		0	100	0	93.4%	84	100	
4-Bromochlorobenzene	94.35		0	100	0	94.4%	87	105	
Fluorobenzene	93.8		0	100	0	93.8%	87	99	

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L		Analysis Date 2/28/99		Prep Date:	
Client ID: 9902083		Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 11594
Analyte	Result								
Benzene	21.41		0.5	20	0	107.0%	85	115	
Ethylbenzene	21.45		0.5	20	0	107.3%	85	115	
m,p-Xylene	40.97		1	40	0	102.4%	85	115	
Methyl tert-Butyl Ether	21.78		1	20	0	108.9%	85	115	
o-Xylene	21.19		0.5	20	0	105.9%	85	115	
Toluene	21.17		0.5	20	0	105.9%	85	115	
1,4-Difluorobenzene	93.49		0	100	0	93.5%	84	100	
4-Bromochlorobenzene	95.82		0	100	0	95.8%	87	105	
Fluorobenzene	94.72		0	100	0	94.7%	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: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L		Analysis Date 2/28/99		Prep Date:	
Client ID: 9902083		Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 11595
Analyte	Result								
Benzene	40.63		0.5	40	0	101.6%	85	115	
Ethylbenzene	40.87		0.5	40	0	102.2%	85	115	
m,p-Xylene	78.27		1	80	0	97.8%	85	115	
Methyl tert-Butyl Ether	39.55		1	40	0	98.9%	85	115	
o-Xylene	40.69		0.5	40	0	101.7%	85	115	
Toluene	40.57		0.5	40	0	101.4%	85	115	
1,4-Difluorobenzene	92.8		0	100	0	92.8%	84	100	
4-Bromochlorobenzene	95.12		0	100	0	95.1%	87	105	
Fluorobenzene	94.01		0	100	0	94.0%	87	99	

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_990302	Test Code: SW8021B	Units: µg/L		Analysis Date 3/2/99		Prep Date:	
Client ID: 9902083		Run ID: GC-1_990302B	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 11627
Analyte	Result								
Benzene	21.15		0.5	20	0	105.8%	85	115	
Ethylbenzene	21.49		0.5	20	0	107.5%	85	115	
m,p-Xylene	41.38		1	40	0	103.4%	85	115	
Methyl tert-Butyl Ether	21.06		1	20	0	105.3%	85	115	
o-Xylene	21.37		0.5	20	0	106.8%	85	115	
Toluene	21.21		0.5	20	0	106.1%	85	115	
1,4-Difluorobenzene	93.52		0	100	0	93.5%	84	100	
4-Bromochlorobenzene	94.12		0	100	0	94.1%	87	105	
Fluorobenzene	93.71		0	100	0	93.7%	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: 9902083

Project: Zachry 18E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_990302	Test Code: SW8021B	Units: µg/L		Analysis Date 3/2/99		Prep Date:	
Client ID: 9902083		Run ID: 9902083	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 11628
Analyte	Result								
Benzene	21.23		0.5	20	0	106.2%	85	115	
Ethylbenzene	21.69		0.5	20	0	108.4%	85	115	
m,p-Xylene	41.65		1	40	0	104.1%	85	115	
Methyl tert-Butyl Ether	20.59		1	20	0	102.9%	85	115	
o-Xylene	21.51		0.5	20	0	107.5%	85	115	
Toluene	21.45		0.5	20	0	107.2%	85	115	
1,4-Difluorobenzene	93.2		0	100	0	93.2%	84	100	
4-Bromochlorobenzene	95.51		0	100	0	95.5%	87	105	
Fluorobenzene	94.04		0	100	0	94.0%	87	99	

Qualifiers: NID - 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: 9902083

Project: Zachry 18E

Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9902082-01A	93.9	94.5	95
9902082-02A	94	94	95.8
9902083-01A	88.3	92.3	90.6
9902083-01AMS	88	93	90
9902083-01AMSD	91.4	96.3	93
9902083-02A	92.3	93.6	93.7
9902083-02AMS	92.8	94.8	93.6
9902083-02AMSD	92.5	95.7	93.6
9902083-03A	94.3	96.3	96.6
9902084-01A	94.1	95.7	95
9902084-02A	93.5	94.8	94.5
9902084-03A	93.5	94.2	94.7
9902084-04A	93.1	94.1	95.2
9902085-01A	94.6	95.6	95.8
9902085-02A	94.3	95.7	95.4
9902085-03A	94.2	95.8	95.8
9902085-04A	92.9	92.9	93.4
9902094-01A	93.8	94.5	95.2
9902094-02A	94.2	93.8	95.4
9902094-03A	93.5	94.9	95.2
9902094-04A	95	93.5	95.8
9902094-05A	94.7	96.1	95.5
9902094-06A	92.4	95	94.4
9902094-07A	93.9	95.8	95.2
9902094-08A	93.1	95.3	94.7
9902094-09A	93.3	96.7	94.8
9902094-15A	94.1	95	95.6

AcronymSurrogateQC Limits

14FBZ

= 1,4-Difluorobenzene

84-100

4BCBZ

= 4-Bromochlorobenzene

87-105

FLBZ

= Fluorobenzene

87-99

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9902083
Project: Zachry 18E
Test No: SW8021B

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9902094-21A	93.6	96.1	95.4
9902096-04A	93.6	96.1	95
9902096-06A	93.8	95.7	95
CCV1 QC0606/07	93.5	94.1	93.7
CCV2 QC0606/07	93.2	95.5	94
CCV3 QC0606/07	92.8	95.1	94
LCS WATER	93	95.9	93.4
MB1	93	94	94.7

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	84-100
4BCBZ	= 4-Bromochlorobenzene	87-105
FLBZ	= Fluorobenzene	87-99

* Surrogate recovery outside acceptance limits



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Date:

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Page: _____ of _____

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

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Distribution:	White - On Site	Yellow - 1 AB	Pink - Sampler	Goldenrod - Client