

3R - 332

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	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 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



PNN[®]
Environmental Services

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

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

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

Operator: Amoco

Sec: 18 Twn: 31N Rng: 10W Unit: F

Canyon: Animas River

Vulnerable Class: Original

OCD Ranking: 40

Lead Agency: NMOCD

Topo Map: previously submitted

Well Completion Diagram: previously submitted

Site Map with Analysis: Figure 1

Groundwater Contour Map: Figure 2a (June 1998), Figure 2b (August 1998), Figure 2c (November 1998) & Figure 2d (January 1999)

Groundwater Hydrograph Figure 3

Full-Suite Groundwater Sampling Results: Table 1

Analytical Results: attached

Site Hydrology:

The McCoy Gas Com A1 site (Figure 1) lies upon coarse, alluvial floodplain deposits of the Animas River valley, and is located northeast of Aztec, New Mexico. Materials beneath the site are essentially the same as the modern river's bedload, spanning the broad alluvial plains along the major river systems of the San Juan Basin (Stone et al., 1983). The valley floor of the Animas is about one mile wide near the McCoy site. Hydraulic conductivity of these materials is expected to be very high, as they are described as "cobbles" in site excavations and monitor wells.

Irrigation ditches skirt the south and west sides of the site. Recharge to groundwater is likely from drainage of these irrigated lands. The site lies about 500 feet from the river's waterline, which forms an arc to the west and north of the site. The site elevation is about 5751 ft. amsl, while the river is perhaps 10 to 15 feet lower in elevation. Depth to water has ranged from ten to fourteen feet in site monitor wells. Topographic gradient is west to north, towards the Animas River.

In the vicinity of wells, MW-2, -3 and -4, the local summertime groundwater gradient is northwest, towards the Animas River (see Figures 2a and 2b from June and August, 1998). This pattern is consistent with topography (elevations fall northward towards the river) and reflects recharge from the irrigation ditches lying south and west of the site. Factoring in well, MW-1, imparts a more northeasterly flow direction, which is probably due to the presence of the river towards the northeast, as it curves around the site in this area (see Figure 1). The local summertime groundwater gradients have values of about 0.003 (or .03 feet per 100 feet).

In the fall and winter the groundwater gradient is much flatter, and groundwater flow appears to be practically static. The extreme proximity of the irrigation ditches, and the fall-winter cessation of irrigation (and recharge), is probably responsible for the low gradients. November 1998 groundwater contours (Figure 2c) drop only 0.01 feet near MW-2, -3 and -4, and fall gently northeast towards MW-1 with gradient of 0.06 feet over 180 feet (or 0.0003), an order of magnitude smaller in gradient than summertime values. However, these flow patterns are near the limits of measurement with conventional sounding and surveying equipment (accurate to 0.01 foot) and, for all practical purposes, represent static groundwater conditions. A similar effect is observed in January, 1999 (Figure 2d), where only 0.01 foot of elevation difference was measured between wells MW-2, -3 and -4. Computer-generated contours in Figure 2d indicate a southwest flow direction, but an alternate interpretation (dashed lines in Figure 2d) indicates a west-northwest flow direction. In Figure 2d, the gradient between MW-2 and MW-4 is 0.02 feet over 80 feet, or 0.0003 – again, near the limits of accurate measurement, and indicating a practically static water table surface during wintertime conditions near PNM's former pit area.

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: McCoy Gas Com A1 (continued)

The site hydrograph (Figure 3) indicate large fluctuations over time in site water levels (more than three feet over the last two years). Highest water levels were observed during spring of 1998, probably reflecting irrigation leakage, and/or high river stage from spring snowmelt. Lowest water levels are found during the winter months.

Activities for Previous Year:

Due to high concentrations of xylenes in MW-3 and -4, PNM conducted additional source removal at the McCoy Gas Com A1 in March 1998. Field crews removed approximately 2600 cubic yards in and around the former PNM pit, and also removed wells MW-2, -3 and -4. These wells were reinstalled in May, 1998.

Quarterly sampling took place on June 11, August 12, and November 11, 1998 and again on January 21, 1999. Water level measurements were taken in the four monitoring wells. PNM conducted groundwater sampling in wells MW-2, -3 and -4 for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). All sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico. The samples were analyzed for BTEX using EPA Method 8020

Results:

Figure 1 presents a site map showing BTEX concentrations for each monitoring well since groundwater contamination was discovered. MW-1, the upgradient well, has shown "non-detect" for BTEX since it was installed. Benzene concentrations in MW-2, -3 and -4 have decreased over time, and after secondary source removal in March, 1998 all wells are below standards. The source well, MW-2, has been below standards for three consecutive quarters.

Future Actions:

PNM plans to sample the site monitoring wells for an two additional quarters, at which time there should be sufficient evidence to close the site.

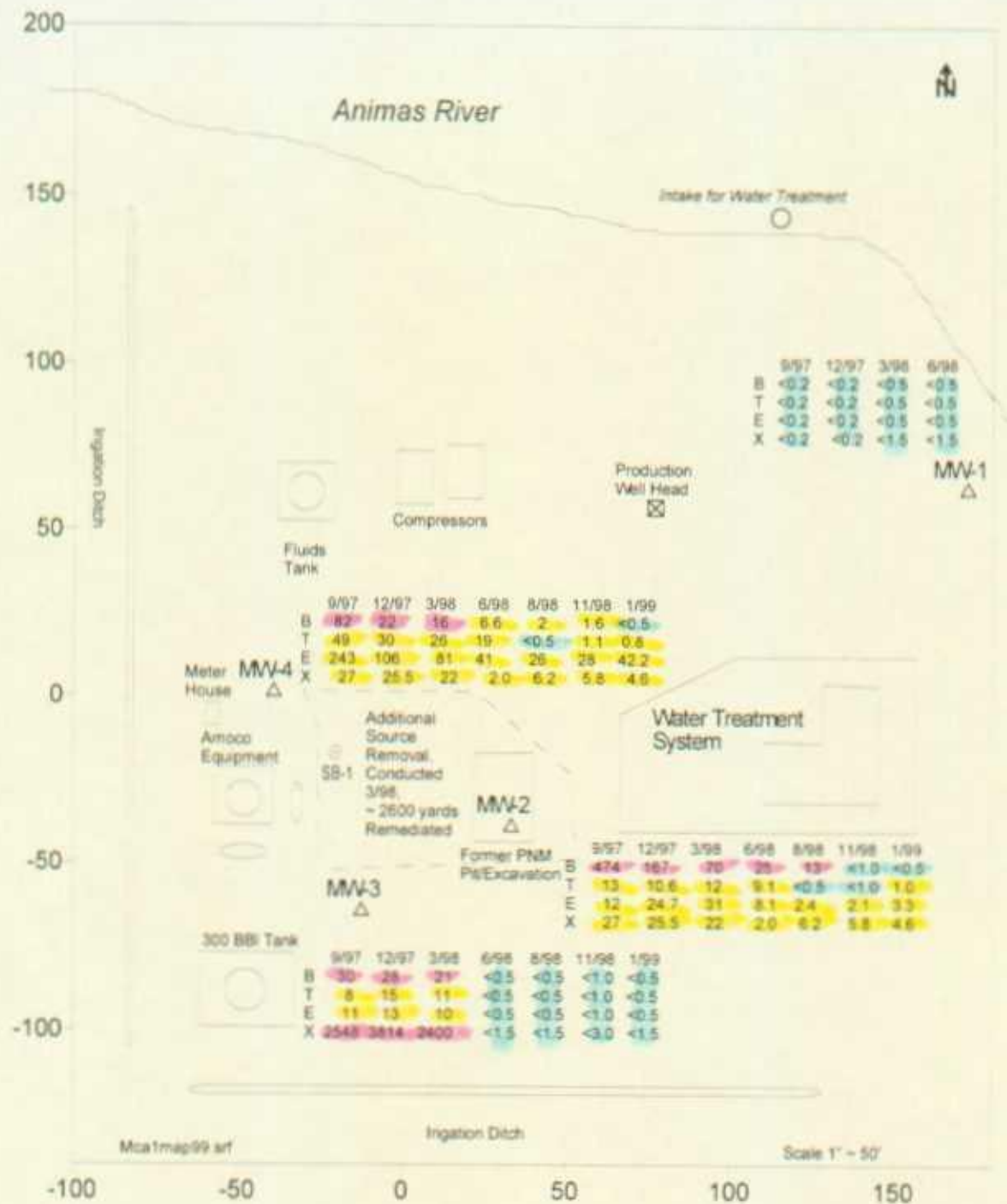
Public Service Company of New Mexico - Gas Services

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

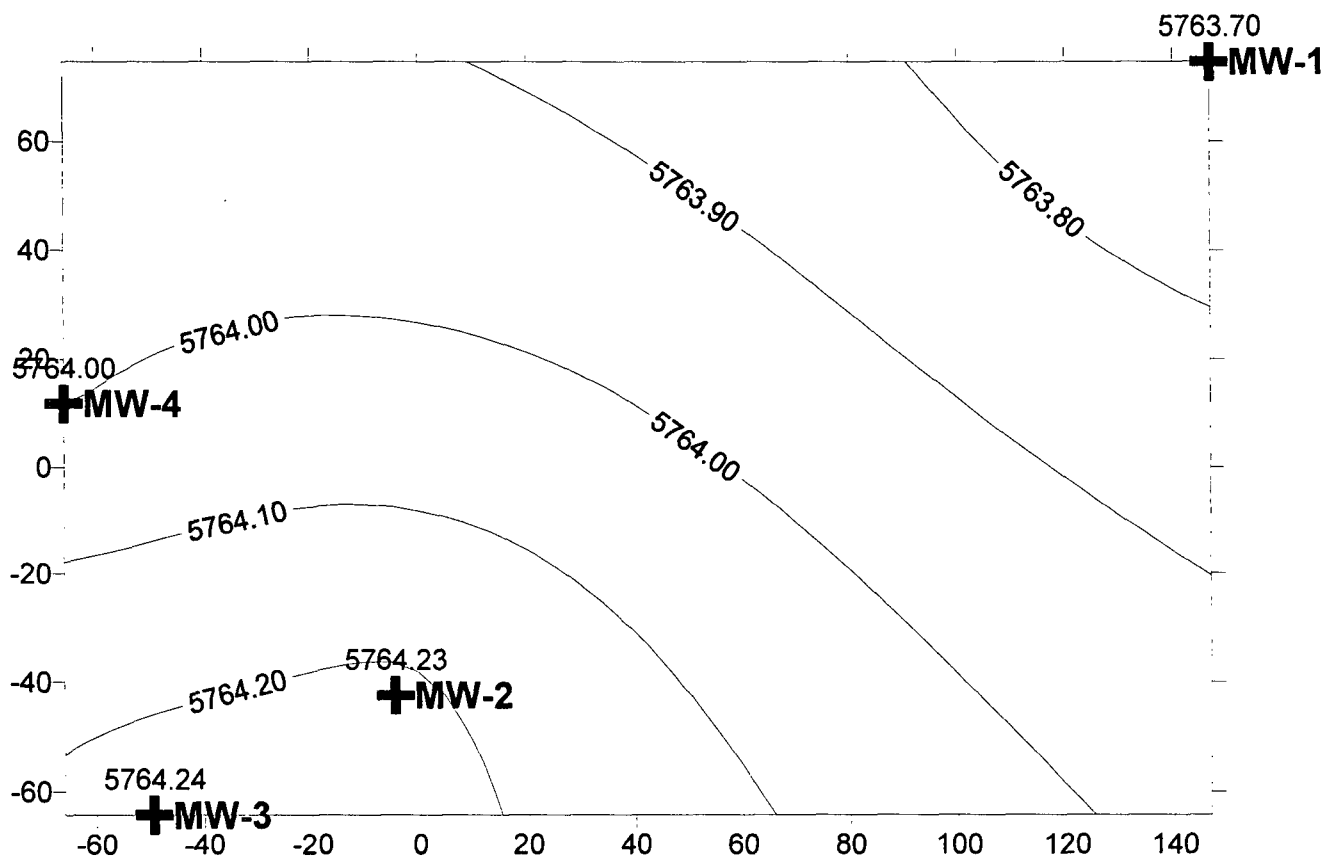
Contact: Maureen Gannon

Telephone: 505-241-2974

Figure 1. McCoy Gas Com A1 Site Map
& Analytical Results (ppb)

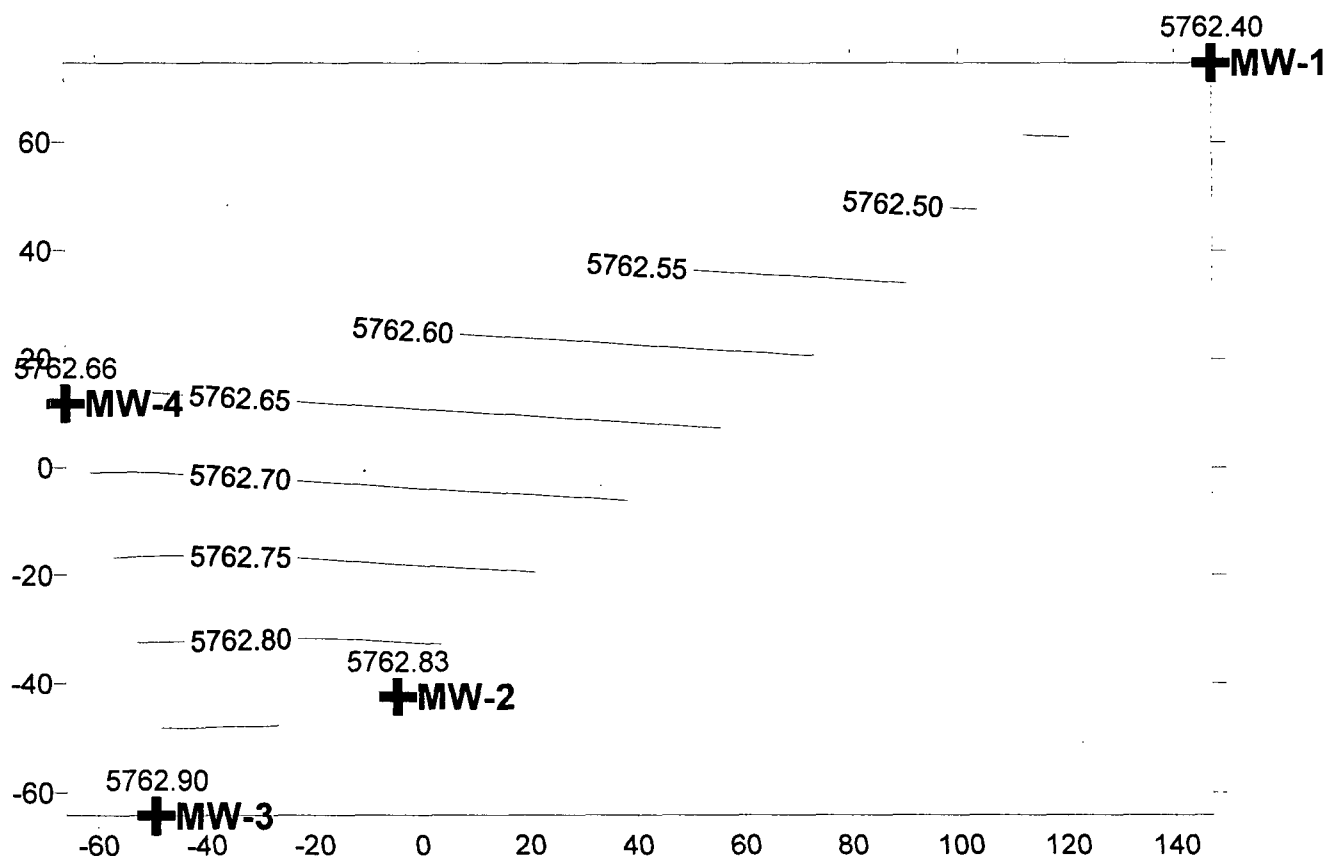


**Figure 2a. McCoy Gas Com A1 Groundwater Contour Map
(June 11, 1998)**



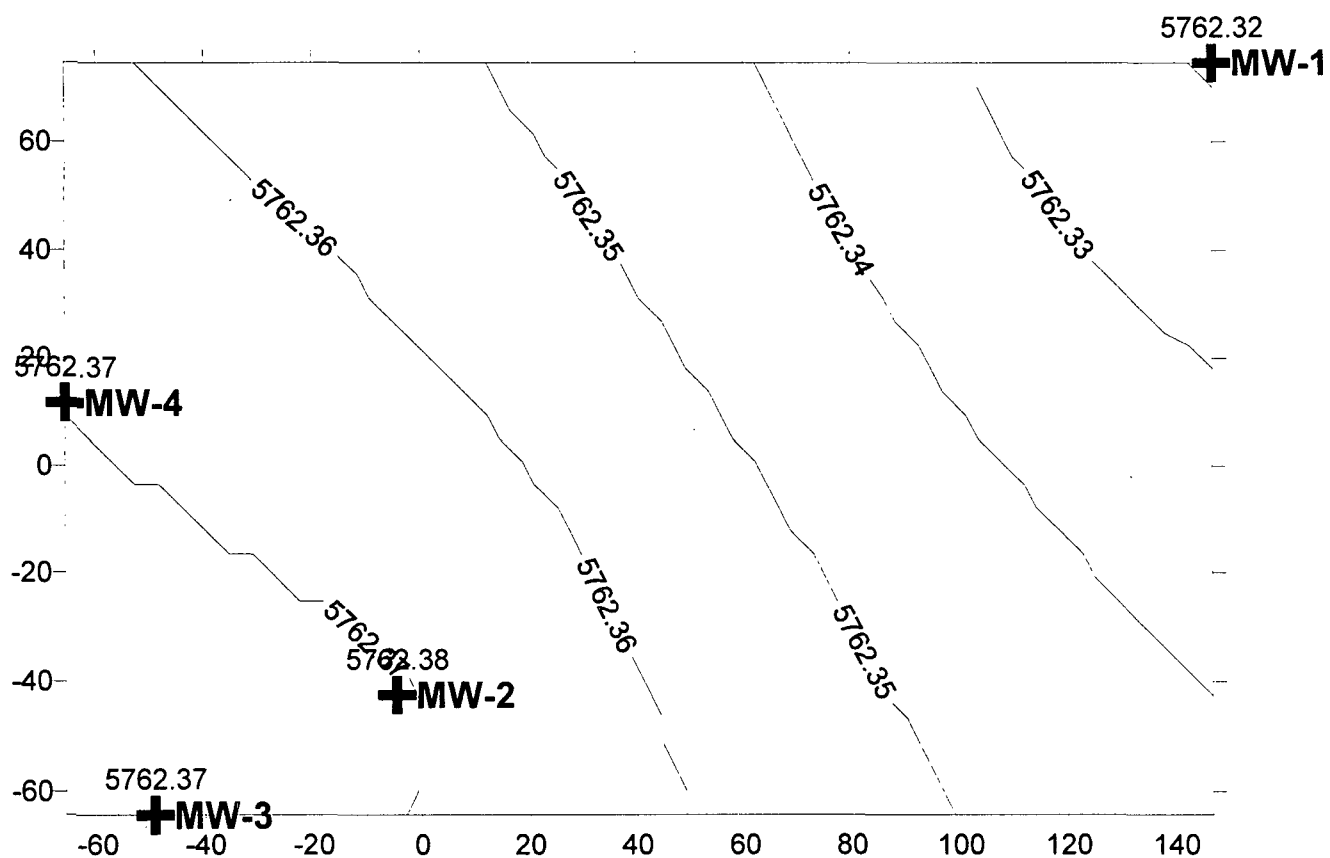
SCALE IN FEET
(X-axis = Easting,
Y-axis = Northing)

**Figure 2b. McCoy Gas Com A1 Groundwater Contour Map
(August 12, 1998)**



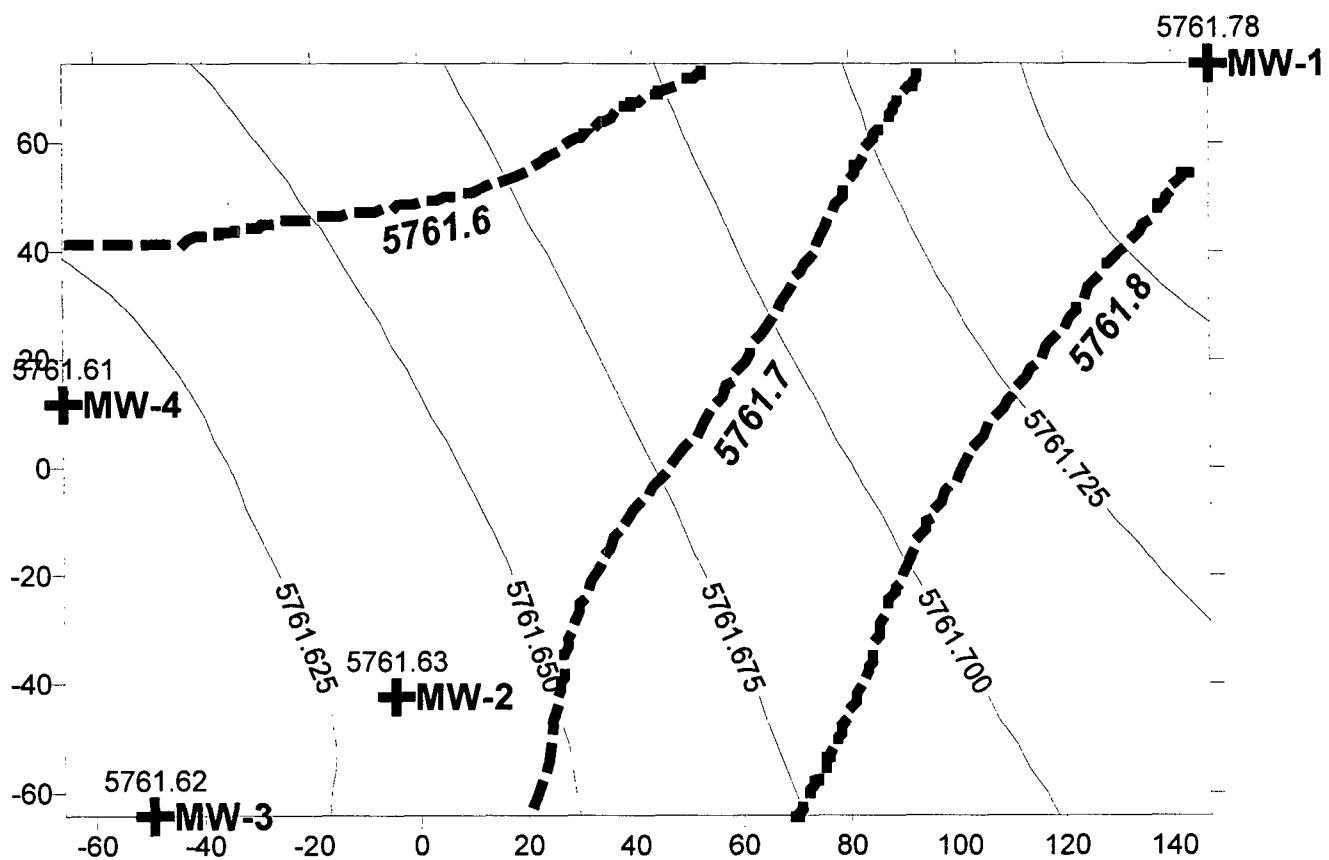
SCALE IN FEET
(X-axis = Easting,
Y-axis = Northing)

**Figure 2c. McCoy Gas Com A1 Groundwater Contour Map
(November 11, 1998)**



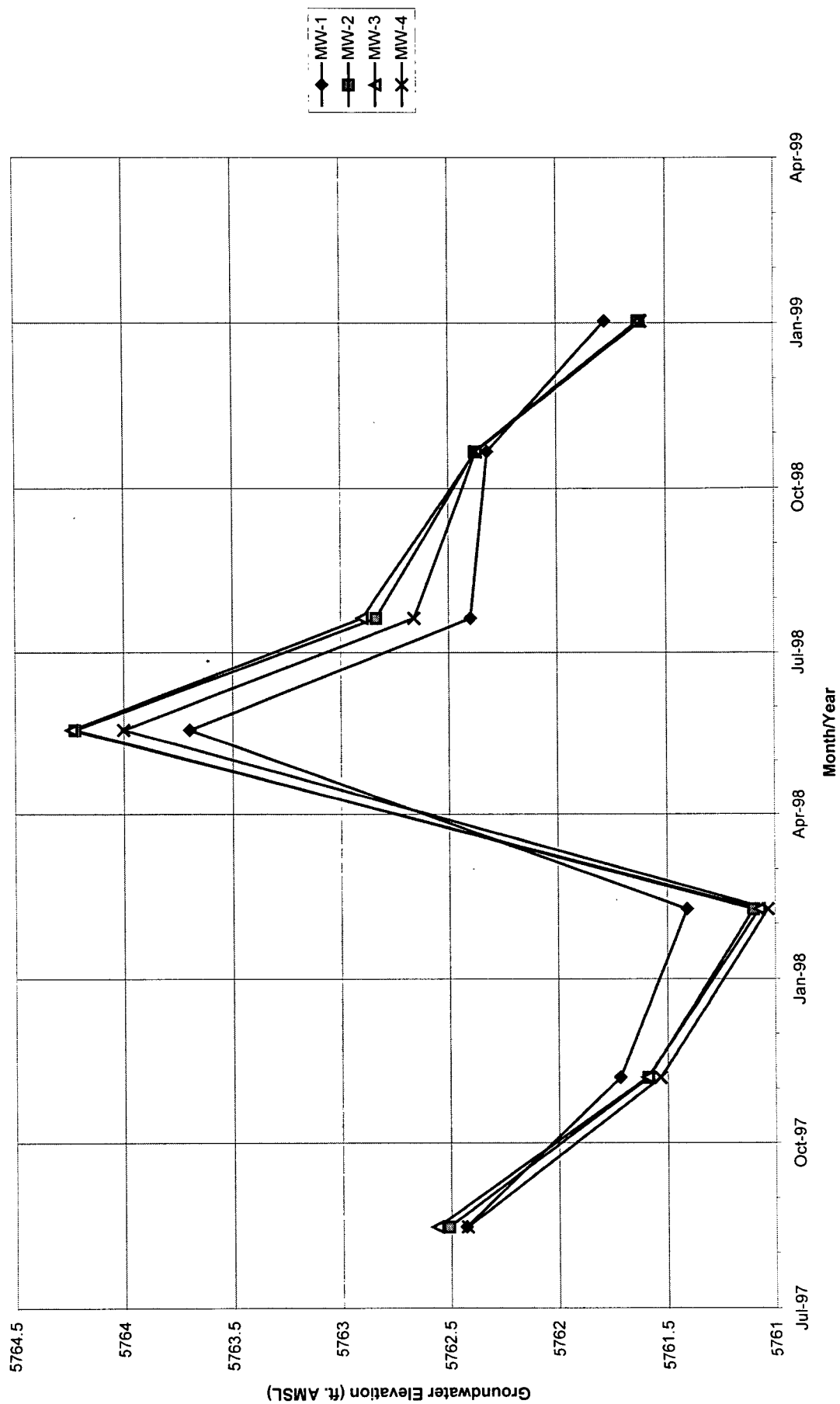
SCALE IN FEET
(X-axis = Easting,
Y-axis = Northing)

**Figure 2d. McCoy Gas Com A1 Groundwater Contour Map
(January 21, 1999)**



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

Figure 3. McCoy Gas Com A1 Hydrograph
(Water Level vs. Time)



OFF: (505) 325-5667

ON SITE

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

June 18, 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 93

RE: McCoy Gas Com A1

Order No.: 9806044

Dear Maureen Gannon,

On Site Technologies, LTD. received 5 samples on 6/11/98 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

ON SITE

OFF: (505) 325-5667

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: PNM - Public Service Company of NM

Project: McCoy Gas Com A1

Lab Order: 9806044

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: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9806044	Client Sample ID:	9806111230; MW-1
Lab ID:	9806044-01A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	6/11/98 12:30:00 PM
		COC Record:	7259

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/15/98
Toluene	ND	0.5		µg/L	1	6/15/98
Ethylbenzene	ND	0.5		µg/L	1	6/15/98
m,p-Xylene	ND	1		µg/L	1	6/15/98
o-Xylene	ND	0.5		µg/L	1	6/15/98

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

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9806044	Client Sample ID:	9806111245; MW-2
Lab ID:	9806044-02A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	6/11/98 12:45:00 PM
		COC Record:	7259

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	25	0.5		µg/L	1	6/15/98
Toluene	9.1	0.5		µg/L	1	6/15/98
Ethylbenzene	8.1	0.5		µg/L	1	6/15/98
m,p-Xylene	1.4	1		µg/L	1	6/15/98
o-Xylene	0.6	0.5		µg/L	1	6/15/98

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

OFF: (505) 325-5667

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9806044	Client Sample ID:	9806111300; MW-3
Lab ID:	9806044-03A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	6/11/98 1:00:00 PM
		COC Record:	7259

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

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

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9806044	Client Sample ID:	9806111315; MW-4
Lab ID:	9806044-04A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	6/11/98 1:15:00 PM
		COC Record:	7259

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	6.6	0.5		µg/L	1	6/15/98
Toluene	19	0.5		µg/L	1	6/15/98
Ethylbenzene	41	0.5		µg/L	1	6/15/98
m,p-Xylene	650	5		µg/L	5	6/16/98
o-Xylene	0.6	0.5		µg/L	1	6/15/98

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

1 of 1

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9806044	Client Sample ID:	9806111330; MW-5
Lab ID:	9806044-05A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	6/11/98 1:30:00 PM
		COC Record:	7259

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

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.

CLIENT: PNM - Public Service Company of NM
Work Order: 9806044
Project: McCoy Gas Com A1

Date: 18-Jun-98

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980615	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/15/98		Prep Date:					
Client ID:	9806044	Run ID: GC-1_980615A		SeqNo: 3106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0418	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	.1275	1									J
o-Xylene	ND	0.5									
Toluene	.1234	0.5									J

Sample ID: MB1	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:						
Client ID:	9806044	Run ID: GC-1_980616A		SeqNo: 3136							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0478	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	.1193	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.0988	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-Jun-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9806044
 Project: McCoy Gas Com AI

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806015-02AMS	Batch ID: GC-1_980615	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/15/98	Prep Date:
Client ID: 9806044	Run ID: GC-1_980615A	PQL	SPK value	SeqNo: 3107	
Analyte	Result	PQL	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	8159	50	4153	100.1%	56 128
Ethylbenzene	4411	50	421	99.7%	78 107
m,p-Xylene	14170	100	6527	95.5%	67 118
o-Xylene	5239	50	1346	97.3%	78 107
Toluene	7282	50	3434	96.2%	74 116

Sample ID: 9806015-02AMS	Batch ID: GC-1_980615	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/15/98	Prep Date:
Client ID: 9806044	Run ID: GC-1_980615A	PQL	SPK value	SeqNo: 3108	
Analyte	Result	PQL	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	7966	50	4153	95.3%	56 128 8159 2.4% 12
Ethylbenzene	4305	50	421	97.1%	78 107 4411 2.4% 11
m,p-Xylene	13820	100	6527	91.2%	67 118 14170 2.5% 10
o-Xylene	5137	50	1346	94.8%	78 107 5239 2.0% 14
Toluene	7100	50	3434	91.6%	74 116 7282 2.5% 14

Sample ID: 9806052-02AMS	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID: 9806044	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3137	
Analyte	Result	PQL	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	1823	10	1021	100.3%	56 128
Ethylbenzene	1178	10	404.6	96.7%	78 107
m,p-Xylene	2263	20	739.2	95.2%	67 118
Methyl tert-Butyl Ether	776.8	20	22.28	94.3%	70 130
o-Xylene	1042	10	243.9	99.8%	78 107
Toluene	1298	10	507.9	98.8%	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

CLIENT: PNM - Public Service Company of NM
Work Order: 9806044
Project: McCoy Gas Com A1

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: 9806052-02AMSD		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806044		Run ID:		GC-1_980616A		SeqNo: 3138			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1771	10	800	1021	93.8%	56	128	1823	2.9%	12	
Ethylbenzene	1146	10	800	404.6	92.7%	78	107	1178	2.7%	11	
m,p-Xylene	2188	20	1600	739.2	90.6%	67	118	2263	3.3%	10	
Methyl tert-Butyl Ether	760.7	20	800	22.28	92.3%	70	130	776.8	2.1%	15	
o-Xylene	1026	10	800	243.9	97.8%	78	107	1042	1.5%	14	
Toluene	1284	10	800	507.9	94.5%	74	116	1298	2.7%	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-Jun-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9806044
 Project: McCoy Gas Com A1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980615	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/15/98		Prep Date:				
Client ID:		9806044	Run ID: GC-1_980615A		SeqNo: 3105						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.12	0.5	40	0.0418	102.7%	56	128				
Ethylbenzene	42.19	0.5	40	0	105.5%	78	107				
m,p-Xylene	80.34	1	80	0.1275	100.3%	67	118				
o-Xylene	40.85	0.5	40	0	102.1%	78	107				
Toluene	40.86	0.5	40	0.1234	101.8%	74	116				

Sample ID: LCS WATER		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98			Prep Date:	
Client ID:		9806044		Run ID:		GC-1_980616A		SeqNo:		3135		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	41.01	0.5	40	0.0478	102.4%	56	128					
Ethylbenzene	41.79	0.5	40	0	104.5%	78	107					
m,p-Xylene	79.51	1	80	0.1193	99.2%	67	118					
Methyl tert-Butyl Ether	44.96	1	40	0	112.4%	70	130					
o-Xylene	40.79	0.5	40	0	102.0%	78	107					
Toluene	40.42	0.5	40	0.0988	100.8%	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: 18-Jun-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9806044
Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980615		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/15/98		Prep Date:	
Client ID:		9806044		Run ID: GC-1_980615A				SeqNo: 3102			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.44	0.5	20	0	107.2%	85	115				
Ethylbenzene	22.16	0.5	20	0	110.8%	85	115				
m,p-Xylene	41.99	1	40	0	105.0%	85	115				
o-Xylene	21.39	0.5	20	0	106.9%	85	115				
Toluene	21.37	0.5	20	0	106.9%	85	115				
1,4-Difluorobenzene	92.64	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	79.51	0	100	0	79.5%	70	130				
Fluorobenzene	92.78	0	100	0	92.8%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980615		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/15/98		Prep Date:	
Client ID:		9806044		Run ID:		GC-1_980615A		SeqNo: 3103			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.66	0.5	20	0	103.3%	85	115				
Ethylbenzene	21.47	0.5	20	0	107.3%	85	115				
m,p-Xylene	40.93	1	40	0	102.3%	85	115				
o-Xylene	20.77	0.5	20	0	103.9%	85	115				
Toluene	20.79	0.5	20	0	104.0%	85	115				
1,4-Difluorobenzene	92.43	0	100	0	92.4%	70	130				
4-Bromochlorobenzene	68.57	0	100	0	68.6%	70	130				S
Fluorobenzene	92.48	0	100	0	92.5%	70	130				

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: 9806044
Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980615		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/15/98		Prep Date:	
Client ID:		9806044		Run ID: GC-1_980615A				SeqNo: 3104			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.25	0.5	20	0	106.3%	85	115				
Ethylbenzene	21.75	0.5	20	0	108.7%	85	115				
m,p-Xylene	40.9	1	40	0	102.3%	85	115				
o-Xylene	21.08	0.5	20	0	105.4%	85	115				
Toluene	21	0.5	20	0	105.0%	85	115				
1,4-Difluorobenzene	93.05	0	100	0	93.1%	70	130				
4-Bromochlorobenzene	84.48	0	100	0	84.5%	70	130				
Fluorobenzene	92.77	0	100	0	92.8%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806044		Run ID: GC-1_980616A				SeqNo: 3132			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.71	0.5	20	0	108.5%	85	115				
Ethylbenzene	22.4	0.5	20	0	112.0%	85	115				
m,p-Xylene	42.29	1	40	0	105.7%	85	115				
Methyl tert-Butyl Ether	23.12	1	20	0	115.6%	85	115				S
o-Xylene	21.74	0.5	20	0	108.7%	85	115				
Toluene	21.52	0.5	20	0	107.6%	85	115				
1,4-Difluorobenzene	93.47	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	85.45	0	100	0	85.4%	70	130				
Fluorobenzene	93.66	0	100	0	93.7%	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: 9806044

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806044		Run ID: GC-1_980616A		SeqNo: 3133							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene	39.94	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	21.29	1	20	0	106.5%	85	115				
o-Xylene	21.45	0.5	20	0	107.2%	85	115				
Toluene	20.47	0.5	20	0	102.3%	85	115				
1,4-Difluorobenzene	93.62	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	83.56	0	100	0	83.6%	70	130				
Fluorobenzene	93.34	0	100	0	93.3%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806044		Run ID: GC-1_980616A		SeqNo: 3134							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.28	0.5	40	0	100.7%	85	115				
Ethylbenzene	40.18	0.5	40	0	100.5%	85	115				
m,p-Xylene	77.38	1	80	0	96.7%	85	115				
Methyl tert-Butyl Ether	37.36	1	40	0	93.4%	85	115				
o-Xylene	40.35	0.5	40	0	100.9%	85	115				
Toluene	40.24	0.5	40	0	100.6%	85	115				
1,4-Difluorobenzene	92.6	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	80.3	0	100	0	80.3%	70	130				
Fluorobenzene	93.09	0	100	0	93.1%	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: 9806044

Project: McCoy Gas Com A1

Test No: SW8020A

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

Sample ID	14FBZ	4BCBZ	FLBZ
9806014-02A	93.9	77.6	94.9
9806014-03A	92.3	86.2	93
9806014-04A	91.9	86.7	92.8
9806014-05A	92	86.3	93.2
9806015-01A	93.2	69.9 *	93
9806015-02A	91.6	67.9 *	92.5
9806015-02AMS	91.8	69.1 *	92.5
9806015-02AMSD	91.8	68.4 *	92.8
9806015-03A	92.5	67.4 *	93
9806030-01A	92.6	67.6 *	92.8
9806040-01A	92	60.6 *	92
9806041-01A	92.1	76.9	92.1
9806041-02A	92.5	65.2 *	92.3
9806041-03A	93	69.9 *	92.4
9806043-01A	93	74	93.1
9806043-02A	91.8	68.1 *	91.3
9806043-03A	93.3	84	94.6
9806043-04A	93.2	82.9	94.6
9806044-01A	92.4	66.8 *	93
9806044-02A	89.1	65.2 *	89
9806044-03A	93.8	86.5	94
9806044-04A	92.3	85.8	95.6
9806044-05A	93.3	86.1	94.2
9806045-01A	90.2	84.9	91.2
9806052-01A	90.4	83.2	90.4
9806052-02A	92.4	75.5	93.2
9806052-02AMS	91.9	86.3	92.5

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: 9806044
Project: McCoy Gas Com A1
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9806052-02AMSD	92.4	85.4	92.6
9806052-03A	93.5	85.8	94.6
9806053-01A	99.2	103	125
9806053-02A	93.4	82.8	94.1
9806053-03A	93.5	82.4	94.1
9806054-01A	93.3	82.3	94.3
9806054-02A	93.6	81.9	94
9806055-01A	94	81.1	93.8
9806055-02A	91.8	81.8	93.8
9806058-01A	93.8	85.9	94.1
9806058-02A	97.8	82.9	93.9
9806063-01A	94.8	84	94.4
9806063-02A	93.6	87.3	94.6
CCV1 QC0529/30	93.5	85.4	93.7
CCV2 QC0529/30	93.6	83.6	93.3
CCV3 QC0529/30	92.6	80.3	93.1
LCS WATER	93.8	85.4	93.7
MBI	93.6	84.4	94.4

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

* Surrogate recovery outside acceptance limits

ON SITE

TECHNOLOGIES, LTD.

[illegible]

ON SITE

TECHNOLOGIES, LTD.

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

Date:

Page: 1 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:			
Sampler:			
Sample Identification			
Date			
Time			
Matrix			
Pres.			
7506111330			
7506111345			
7506111350			
7506111355			
7506111360			
7506111365			
7506111370			
7506111375			
7506111380			
7506111385			
7506111390			
7506111395			
7506111400			
7506111405			
7506111410			
7506111415			
7506111420			
7506111425			
7506111430			
7506111435			
7506111440			
7506111445			
7506111450			
7506111455			
7506111460			
7506111465			
7506111470			
7506111475			
7506111480			
7506111485			
7506111490			
7506111495			
7506111500			
7506111505			
7506111510			
7506111515			
7506111520			
7506111525			
7506111530			
7506111535			
7506111540			
7506111545			
7506111550			
7506111555			
7506111560			
7506111565			
7506111570			
7506111575			
7506111580			
7506111585			
7506111590			
7506111595			
7506111600			
7506111605			
7506111610			
7506111615			
7506111620			
7506111625			
7506111630			
7506111635			
7506111640			
7506111645			
7506111650			
7506111655			
7506111660			
7506111665			
7506111670			
7506111675			
7506111680			
7506111685			
7506111690			
7506111695			
7506111700			
7506111705			
7506111710			
7506111715			
7506111720			
7506111725			
7506111730			
7506111735			
7506111740			
7506111745			
7506111750			
7506111755			
7506111760			
7506111765			
7506111770			
7506111775			
7506111780			
7506111785			
7506111790			
7506111795			
7506111800			
7506111805			
7506111810			
7506111815			
7506111820			
7506111825			
7506111830			
7506111835			
7506111840			
7506111845			
7506111850			
7506111855			
7506111860			
7506111865			
7506111870			
7506111875			
7506111880			
7506111885			
7506111890			
7506111895			
7506111900			
7506111905			
7506111910			
7506111915			
7506111920			
7506111925			
7506111930			
7506111935			
7506111940			
7506111945			
7506111950			
7506111955			
7506111960			
7506111965			
7506111970			
7506111975			
7506111980			
7506111985			
7506111990			
7506111995			
7506112000			
7506112005			
7506112010			
7506112015			
7506112020			
7506112025			
7506112030			
7506112035			
7506112040			
7506112045			
7506112050			
7506112055			
7506112060			
7506112065			
7506112070			
7506112075			
7506112080			
7506112085			
7506112090			
7506112095			
7506112100			
7506112105			
7506112110			
7506112115			
7506112120			
7506112125			
7506112130			
7506112135			
7506112140			
7506112145			
7506112150			
7506112155			
7506112160			
7506112165			
7506112170			
7506112175			
7506112180			
7506112185			
7506112190			
7506112195			
7506112200			
7506112205			
7506112210			
750			

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

OFF: (505) 325-5667



LAB: (505) 325-1556

August 20, 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: McCoy Gas Com A1

Order No.: 9808026

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 samples on 8/12/98 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: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
Project: McCoy Gas Com A1
Lab Order: 9808026

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: 20-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9808026	Client Sample ID:	9808121030; MW-2
Lab ID:	9808026-01A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	8/12/98 10:30:00 AM
		COC Record:	7290

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	13	0.5		µg/L	1	8/18/98
Toluene	ND	0.5		µg/L	1	8/18/98
Ethylbenzene	2.4	0.5		µg/L	1	8/18/98
m,p-Xylene	4.8	1		µg/L	1	8/18/98
o-Xylene	1.4	0.5		µg/L	1	8/18/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY SERVING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9808026	Client Sample ID:	9808121100; MW-3
Lab ID:	9808026-02A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	8/12/98 11:00:00 AM
		COC Record:	7290

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	ND	0.5		µg/L	1	8/18/98
Toluene	ND	0.5		µg/L	1	8/18/98
Ethylbenzene	ND	0.5		µg/L	1	8/18/98
m,p-Xylene	ND	1		µg/L	1	8/18/98
o-Xylene	ND	0.5		µg/L	1	8/18/98

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

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: 20-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9808026	Client Sample ID:	9808121130; MW-4
Lab ID:	9808026-03A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	8/12/98 11:30:00 AM
		COC Record:	7290

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	2	0.5		µg/L	1	8/18/98
Toluene	ND	0.5		µg/L	1	8/18/98
Ethylbenzene	26	0.5		µg/L	1	8/18/98
m,p-Xylene	300	5		µg/L	5	8/18/98
o-Xylene	2	0.5		µg/L	1	8/18/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9808026	Client Sample ID:	9808121200; MW-5
Lab ID:	9808026-04A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	8/12/98 12:00:00 PM
		COC Record:	7290

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	13	0.5		µg/L	1	8/18/98
Toluene	ND	0.5		µg/L	1	8/18/98
Ethylbenzene	2.3	0.5		µg/L	1	8/18/98
m,p-Xylene	4.4	1		µg/L	1	8/18/98
o-Xylene	1.2	0.5		µg/L	1	8/18/98

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 BLINDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9808026
Project: McCoy Gas Com A1

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980818	Test Code: SW8020A	Units: µg/L	Analysis Date 8/18/98	Prep Date:						
Client ID:	9808026	Run ID: GC-1_980818A		SeqNo: 5567							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0836										J
Ethylbenzene	ND										
m,p-Xylene	ND										
o-Xylene	ND										
Toluene	.1803										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: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9808026
Project: McCoy Gas Com A1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9808023-04AMS		Batch ID: GC-1_980818		Test Code: SW8020A		Units: µg/L		Analysis Date 8/18/98		Prep Date:	
Client ID:		9808026		Run ID:		GC-1_980818A		SeqNo: 5568			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1363	10	800	622.2	92.6%	56	128				
Ethylbenzene	830.2	10	800	61.24	96.1%	78	107				
m,p-Xylene	2023	20	1600	564.9	91.1%	67	118				
o-Xylene	882.7	10	800	118.7	95.5%	78	107				
Toluene	2372	10	800	1637	91.9%	74	116				

Sample ID: 9808023-04AMSD		Batch ID: GC-1_980818		Test Code: SW8020A		Units: µg/L		Analysis Date 8/18/98		Prep Date:	
Client ID:		9808026		Run ID:		GC-1_980818A		SeqNo: 5569			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1322	10	800	622.2	87.5%	56	128	1363	3.0%	12	
Ethylbenzene	804	10	800	61.24	92.8%	78	107	830.2	3.2%	11	
m,p-Xylene	1962	20	1600	564.9	87.3%	67	118	2023	3.1%	10	
o-Xylene	859.2	10	800	118.7	92.6%	78	107	882.7	2.7%	14	
Toluene	2303	10	800	1637	83.2%	74	116	2372	3.0%	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: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9808026
 Project: McCoy Gas Com A1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980818	Test Code: SW8020A	Units: µg/L	Analysis Date 8/18/98	Prep Date:
Client ID:		9808026	Run ID: GC-1_980818A		SeqNo: 5566	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	39.09	0.5	40	0.0836	97.5%	56 128
Ethylbenzene	40.29	0.5	40	0	100.7%	78 107
m,p-Xylene	76.06	1	80	0	95.1%	67 118
o-Xylene	39.11	0.5	40	0	97.8%	78 107
Toluene	38.82	0.5	40	0.1803	96.6%	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: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9808026
Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980818		Test Code: SW8020A		Units: µg/L		Analysis Date 8/18/98				Prep Date:	
Client ID:		9808026		Run ID:		GC-1_980818A		SeqNo: 5563					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Benzene	19.47	0.5	20	0	97.3%	85	115						
Ethylbenzene	19.82	0.5	20	0	99.1%	85	115						
m,p-Xylene	37.59	1	40	0	94.0%	85	115						
o-Xylene	19.39	0.5	20	0	97.0%	85	115						
Toluene	19.42	0.5	20	0	97.1%	85	115						
1,4-Difluorobenzene	86.24	0	100	0	86.2%	70	130						
4-Bromochlorobenzene	88.2	0	100	0	88.2%	70	130						
Fluorobenzene	82.92	0	100	0	82.9%	70	130						

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_980818	Test Code: SW8020A	Units: µg/L	Analysis Date 8/18/98		Prep Date:				
Client ID:		9808026	Run ID: GC-1_980818A		SeqNo: 5564						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.01	0.5	20	0	95.1%	85	115				
Ethylbenzene	20.16	0.5	20	0	100.8%	85	115				
m,p-Xylene	37.65	1	40	0	94.1%	85	115				
o-Xylene	19.21	0.5	20	0	96.0%	85	115				
Toluene	19.3	0.5	20	0	96.5%	85	115				
1,4-Difluorobenzene	84.85	0	100	0	84.9%	70	130				
4-Bromochlorobenzene	79.12	0	100	0	79.1%	70	130				
Fluorobenzene	82.05	0	100	0	82.1%	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: 9808026

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980818		Test Code: SW8020A		Units: µg/L		Analysis Date 8/18/98		Prep Date:	
Client ID: 9808026		Run ID: GC-1_980818A		SeqNo: 5565							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.77	0.5	20	0	93.9%	85	115				
Ethylbenzene	19.41	0.5	20	0	97.1%	85	115				
m,p-Xylene	36.75	1	40	0	91.9%	85	115				
o-Xylene	19.81	0.5	20	0	99.1%	85	115				
Toluene	19.16	0.5	20	0	95.8%	85	115				
1,4-Difluorobenzene	85.5	0	100	0	85.5%	70	130				
4-Bromochlorobenzene	79.98	0	100	0	80.0%	70	130				
Fluorobenzene	82.31	0	100	0	82.3%	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: 20-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9808026
Project: McCoy Gas Com A1
Test No: SW8020A

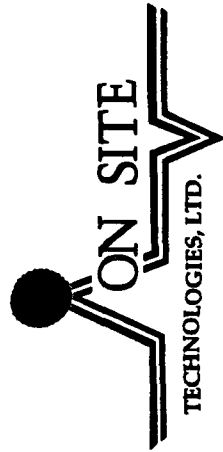
QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9808023-03A	85	84.3	82.7
9808023-04A	85.2	93	83.5
9808023-04AMS	85	91.6	82.6
9808023-04AMSD	85	91.2	82.8
9808026-01A	83.6	85.7	81
9808026-02A	86.6	80.2	83.5
9808026-03A	85.1	80.5	81.5
9808026-04A	82.9	76.8	80.2
CCV1 QC0606/07	86.2	88.2	82.9
CCV2 QC0606/07	84.8	79.1	82
CCV3 QC0606/07	85.5	80	82.3
LCS WATER	86.1	90.2	83.2
MBI	86.8	87.9	83.9

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

Page: 1 of 1

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

Date: _____

Purchase Order No.:		Job No.	
Name: Denver Bearden		Title: Maureen Gannon	
Company: PNM Gas Services		Company: PNM Gas Services	
Address: 603 W. Elm Street		Mailing Address: Alverado Square, Mail Stop 0408	
City, State, Zip: Farmington, NM 87401		City, State, Zip: Albuquerque, NM 87158	
		Telephone No.: 505-848-2974	
		Telefax No.:	
Sampling Location:		ANALYSIS REQUESTED	
Sampler:		LAB ID	
SAMPLE IDENTIFICATION		LAB ID	
DATE		DATE	
TIME		TIME	
MATRIX		PRES.	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Method of Shipment:		Rush	
Authorized by:		Date:	
(Client Signature Must Accompany Request)		Results to be sent to both parties.	

OFF: (505) 325-5667



LAB: (505) 325-1556

November 16, 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

RE: McCoy Gas Com A1

Order No.: 9811036

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 samples on 11/11/98 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: 16-Nov-98

CLIENT: PNM - Public Service Company of NM

Project: McCoy Gas Com A1

Lab Order: 9811036

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: 16-Nov-98

Client: PNM - Public Service Company of NM
Work Order: 9811036
Lab ID: 9811036-01A **Matrix:** AQUEOUS
Project: McCoy Gas Com A1

Client Sample Info: McCoy Gas Com A1
Client Sample ID: 9811110944; MW-2
Collection Date: 11/11/98 9:44:00 AM
COC Record: 7519

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	11/12/98
Toluene	ND	1		µg/L	1	11/12/98
Ethylbenzene	2.1	1		µg/L	1	11/12/98
m,p-Xylene	4.4	2		µg/L	1	11/12/98
o-Xylene	1.4	1		µg/L	1	11/12/98

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



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 16-Nov-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9811036	Client Sample ID:	9811111007; MW-3
Lab ID:	9811036-02A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	11/11/98 10:07:00 AM
		COC Record:	7519

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	11/12/98
Toluene	ND	1		µg/L	1	11/12/98
Ethylbenzene	ND	1		µg/L	1	11/12/98
m,p-Xylene	ND	2		µg/L	1	11/12/98
o-Xylene	ND	1		µg/L	1	11/12/98

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 BRIDGING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 16-Nov-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9811036	Client Sample ID:	9811111030; MW-4
Lab ID:	9811036-03A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	11/11/98 10:30:00 AM
		COC Record:	7519

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	1.6	1		µg/L	1	11/12/98
Toluene	1.1	1		µg/L	1	11/12/98
Ethylbenzene	28	1		µg/L	1	11/12/98
m,p-Xylene	290	2		µg/L	1	11/12/98
o-Xylene	2.3	1		µg/L	1	11/12/98

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



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 16-Nov-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9811036	Client Sample ID:	9811111040; MW-5
Lab ID:	9811036-04A	Matrix:	AQUEOUS
Project:	McCoy Gas Com A1	Collection Date:	11/11/98 10:40:00 AM
		COC Record:	7519

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	11/12/98
Toluene	ND	1		µg/L	1	11/12/98
Ethylbenzene	2.1	1		µg/L	1	11/12/98
m,p-Xylene	4.4	2		µg/L	1	11/12/98
o-Xylene	1.2	1		µg/L	1	11/12/98

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: 16-Nov-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9811036
 Project: McCoy Gas Com A1

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981112	Test Code: SW8020A	Units: µg/L	Analysis Date: 11/12/98	Prep Date:
Client ID: 9811036	Run ID: 9811036	GC-1_981112A		SeqNo: 8677	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0351	1			
Ethylbenzene	ND	1			
m,p-Xylene	ND	2			
o-Xylene	ND	1			
Toluene	.0976	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: 16-Nov-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9811036

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9811034-03AMS		Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98		Prep Date:	
Client ID: 9811036		Run ID: GC-1_981112A		SeqNo: 8678							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7926	50	2000	6234	84.6%	56	128				
Ethylbenzene	2492	50	2000	674.8	90.9%	78	107				
m,p-Xylene	8658	100	4000	5220	86.0%	67	118				
o-Xylene	3141	50	2000	1306	91.7%	78	107				
Toluene	9893	50	2000	8242	82.5%	74	116				

Sample ID: 9811034-03AMSD		Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98		Prep Date:	
Client ID: 9811036		Run ID: GC-1_981112A		SeqNo: 8679							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7793	50	2000	6234	77.9%	56	128	7926	1.7%	12	
Ethylbenzene	2453	50	2000	674.8	88.9%	78	107	2492	1.6%	11	
m,p-Xylene	8527	100	4000	5220	82.7%	67	118	8658	1.5%	10	
o-Xylene	3108	50	2000	1306	90.1%	78	107	3141	1.1%	14	
Toluene	9744	50	2000	8242	75.1%	74	116	9893	1.5%	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: 16-Nov-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9811036

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_981112	Test Code: SW8020A	Units: µg/L	Analysis Date 11/12/98		Prep Date:				
Client ID:		9811036	Run ID:	GC-1_981112A	SeqNo:	8676					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.85	1	40	0.0351	97.0%	56	128				
Ethylbenzene	39.14	1	40	0	97.9%	78	107				
m,p-Xylene	77.2	2	80	0	96.5%	67	118				
o-Xylene	39.64	1	40	0	99.1%	78	107				
Toluene	39.09	1	40	0.0976	97.5%	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: 16-Nov-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9811036

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07			Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98		Prep Date:	
Client ID:		9811036	Run ID:		GC-1_981112A				SeqNo: 8671			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.15	1	20	0	100.7%	85	115					
Ethylbenzene	20.45	1	20	0	102.3%	85	115					
m,p-Xylene	40.24	2	40	0	100.6%	85	115					
o-Xylene	20.8	1	20	0	104.0%	85	115					
Toluene	20.34	1	20	0	101.7%	85	115					
1,4-Difluorobenzene	89.84	0	100	0	89.8%	70	130					
4-Bromochlorobenzene	99.48	0	100	0	99.5%	70	130					
Fluorobenzene	89.17	0	100	0	89.2%	70	130					

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98		Prep Date:	
Client ID:		9811036		Run ID:		GC-1_981112A		SeqNo: 8672			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.61	1	20	0	98.0%	85	115				
Ethylbenzene	19.22	1	20	0	96.1%	85	115				
m,p-Xylene	39.46	2	40	0	98.6%	85	115				
o-Xylene	20.76	1	20	0	103.8%	85	115				
Toluene	19.92	1	20	0	99.6%	85	115				
1,4-Difluorobenzene	90.49	0	100	0	90.5%	70	130				
4-Bromochlorobenzene	100.6	0	100	0	100.6%	70	130				
Fluorobenzene	89.24	0	100	0	89.2%	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: 9811036

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98		Prep Date:	
Client ID: 9811036		Run ID: GC-1_981112A		PQL		SPK value		SeqNo: 8673			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	36.92	1	40	0	92.3%	85	115				
Ethylbenzene	37.18	1	40	0	92.9%	85	115				
m,p-Xylene	73.32	2	80	0	91.7%	85	115				
o-Xylene	37.97	1	40	0	94.9%	85	115				
Toluene	37.26	1	40	0	93.2%	85	115				
1,4-Difluorobenzene	89.36	0	100	0	89.4%	70	130				
4-Bromochlorobenzene	100.1	0	100	0	100.1%	70	130				
Fluorobenzene	88.84	0	100	0	88.8%	70	130				

Sample ID: CCV4 QC0606/07		Batch ID: GC-1_981112		Test Code: SW8020A		Units: µg/L		Analysis Date 11/12/98			Prep Date:	
Client ID: 9811036		Run ID: GC-1_981112A		PQL		SPK value		SeqNo: 8674				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.49	1	20	0	102.4%	85	115					
Ethylbenzene	20.65	1	20	0	103.3%	85	115					
m,p-Xylene	40.68	2	40	0	101.7%	85	115					
o-Xylene	21.04	1	20	0	105.2%	85	115					
Toluene	20.5	1	20	0	102.5%	85	115					
1,4-Difluorobenzene	89.48	0	100	0	89.5%	70	130					
4-Bromochlorobenzene	97.39	0	100	0	97.4%	70	130					
Fluorobenzene	88.98	0	100	0	89.0%	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: 9811036

Project: McCoy Gas Com A1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Prep Date:

Analysis Date 11/12/98

SeqNo: 8675

Units: µg/L

Test Code: SW8020A

Run ID: GC-1_981112A

Batch ID: GC-1_981112

Result

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.38	1	20	0	96.9%	85	115				
Ethylbenzene	19.66	1	20	0	98.3%	85	115				
m,p-Xylene	38.67	2	40	0	96.7%	85	115				
o-Xylene	20.02	1	20	0	100.1%	85	115				
Toluene	19.57	1	20	0	97.8%	85	115				
1,4-Difluorobenzene	89.93	0	100	0	89.9%	70	130				
4-Bromochlorobenzene	99.65	0	100	0	99.7%	70	130				
Fluorobenzene	88.87	0	100	0	88.9%	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

CLIENT: PNM - Public Service Company of NM
Work Order: 9811036
Project: McCoy Gas Com A1
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9811027-01A	83.9	93	84.4
9811027-02A	84.5	93	84.8
9811034-01A	89.8	99.7	89.2
9811034-02A	89.4	99.8	89
9811034-03A	87.6	99.5	87.7
9811034-03AMS	86.8	98.9	86.9
9811034-03AMSD	87.8	100	87.4
9811034-04A	87.8	99.3	87.5
9811034-05A	84.8	97.6	85
9811034-06A	89.6	100	88.6
9811036-01A	86.8	97.2	85.3
9811036-02A	88.7	92.2	89
9811036-03A	81.2	93.9	80.5
9811036-04A	86.2	97.6	85.1
CCV1 QC0606/07	89.8	99.5	89.2
CCV2 QC0606/07	90.5	100	89.2
CCV3 QC0606/07	89.4	100	88.8
CCV4 QC0606/07	89.5	97.4	89
CCV5 QC0606/07	89.9	99.6	88.9
LCS WATER	89.8	99.6	88.7
MB1	90.2	98.8	89.2

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

* Surrogate recovery outside acceptance limits



ON SITE

TECHNOLOGIES, LTD.

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

Date:

Page: 1 of 1

[illegible]

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

OFF: (505) 325-5667



LAB: (505) 325-1556

February 10, 1999

RECEIVED
FEB 19 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

RE: McCoy Gas Com 1A

Order No.: 9901016

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 samples on 1/21/99 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 black 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: 10-Feb-99

CLIENT: PNM - Public Service Company of NM

Project: McCoy Gas Com 1A

Lab Order: 9901016

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: 10-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9901016	Client Sample ID:	9901211220; MW 2
Lab ID:	9901016-01A	Matrix:	AQUEOUS
Project:	McCoy Gas Com 1A	Collection Date:	1/21/99 12:20:00 PM
		COC Record:	7461

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	2/1/99
Toluene	1	0.5		µg/L	1	2/1/99
Ethylbenzene	2.3	0.5		µg/L	1	2/1/99
m,p-Xylene	3.3	1		µg/L	1	2/1/99
o-Xylene	1.3	0.5		µg/L	1	2/1/99

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 10-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9901016	Client Sample ID:	9901211155; MW 3
Lab ID:	9901016-02A	Matrix:	AQUEOUS
Project:	McCoy Gas Com 1A	Collection Date:	1/21/99 11:55:00 AM
		COC Record:	7461

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

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: 10-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9901016	Client Sample ID:	9901211250; MW 4
Lab ID:	9901016-03A	Matrix:	AQUEOUS
Project:	McCoy Gas Com 1A	Collection Date:	1/21/99 12:50:00 PM
		COC Record:	7461

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	2/1/99
Toluene	0.8	0.5		µg/L	1	2/1/99
Ethylbenzene	0.5	0.5		µg/L	1	2/1/99
m,p-Xylene	40	1		µg/L	1	2/1/99
o-Xylene	2.2	0.5		µg/L	1	2/1/99

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: 10-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	McCoy Gas Com A1
Work Order:	9901016	Client Sample ID:	9901211320; MW 5
Lab ID:	9901016-04A	Matrix:	AQUEOUS
Project:	McCoy Gas Com 1A	Collection Date:	1/21/99 1:20:00 PM
		COC Record:	7461

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	2/1/99
Toluene	1	0.5		µg/L	1	2/1/99
Ethylbenzene	1.8	0.5		µg/L	1	2/1/99
m,p-Xylene	3.2	1		µg/L	1	2/1/99
o-Xylene	1.1	0.5		µg/L	1	2/1/99

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 -

