

3R - 340

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



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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: Burlington Resources
Sec: 13 Twn: 31N Rng: 11W Unit: K
Canyon: Animas

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 (February 1999)

Hydrograph: Figure 3

Cation/Anion Groundwater Sampling Results: Table 1 & Table 2

Analytical Results: attached

Site Hydrology:

The Randleman 1 site lies on alluvial terrace deposits of Kiffen Canyon, a perennial stream draining an area of moderate size. The site is about 100 feet west of the wash, and perhaps 20 feet higher. The site is located where Kiffen Canyon flows into the Animas River, but the site lies 30 or more feet above the broad alluvium plain that forms the mile-wide Animas River valley floor, and is therefore influenced more by the hydrologic setting of the local terrace deposits.

Monitor wells installed at the site revealed predominantly coarse sands in the subsurface, with occasional gravel and clay materials. Depth to water varies from 13 to 15 feet. One test hole (boring 4b on Figure 1), located next to Kiffen Canyon, penetrated hard sandstone bedrock at 15.5 feet, but typically sands were found to about 25 feet deep.

Groundwater flows southeast, towards the perennial stream in Kiffen Canyon and away from bedrock outcrops west of the site. The groundwater contour maps (Figures 2a and 2b) show groundwater gradients as low as 0.4 ft. over 90 ft. (0.004) to as high as 1.05 ft. over 60 ft. (0.018). Seasonal variations in flow direction may occur, but are expected to be minor; in previous Groundwater Reports to OCD, flow direction had a stronger eastern component, but was predominantly southeast. (It was not possible to construct water level maps for September and December, 1998 because the wells were not accessible, having been buried by operator landfarming activities.)

Water level fluctuations were observed to be less than 1 foot (Figure 3). Levels were lowest in the winter of 1997-1998, and were highest in the summer of 1998. Currently water levels appear to be declining.

Activities for Previous Year:

Figure 1 presents a site map showing BTEX for each monitoring well since groundwater contamination was discovered. On June 11, September 25 and December 14, 1998 and again on February 22, 1999, PNM performed quarterly sampling of groundwater monitoring wells at the site. PNM did not perform sampling during the second quarter of 1998 due to secondary source removal activities as discussed below. Landfarming debris covered wells MW-1 and MW-3 in September and December, so these wells were not sampled or water levels taken. Where possible, PNM measured water levels and conducted groundwater sampling for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). All sampling was performed in strict compliance with EPA protocol, and in all instances, PNM delivered the samples to OnSite Technologies, Farmington, New Mexico. The samples were analyzed for BTEX using EPA Method 8020.

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: Randleman 1 (continued)

In May, 1998, PNM conducted additional removal of contaminated soil at the Randleman. During remediation, PNM notified Burlington Resources of contamination in the area of their existing operations. Burlington commenced remediation in the area under and downgradient of their operations.

Results:

Since monitoring began almost two years ago, MW-1 has shown BTEX concentrations below WQCC standards (see Figure 1). BTEX concentrations in MW-2, the source well, have decreased over time and have now been below WQCC standards for four consecutive quarters. After the secondary source removal activities conducted by Burlington, the BTEX concentrations in well MW-3 fell below standards and have remained so for two quarters.

On February 22, 1999, PNM sampled MW-1 and MW-2 for water quality parameters to verify the previous water quality data from sampling events of June 25, 1997 and September 25, 1998. The comparative results are provided in table 1 and 2 below.

Table 1. Comparison of MW-1 Water Quality Data 6/25/97 & 2/22/99

Cations/Anions	6/25/97	2/22/99
Na	678	630
Ca	472	410
Mg	23.6	23
K	8.2	6.9
Cl	170	160
SO4	2348	2200
CO3	<1	<5
HCO3	218	250
OH	<1	<5
Total Cation-Anion	112.45 meq/L	103.92 meq/l
Difference Cation-Anion	2.06 meq/L	4.19 meq/l
%Difference	1.8	4.0
TDS	3937	3900
Hardness, total	1276	1100

Table 2. Comparison of MW-2 Water Quality Data 6/25/97, 9/25/98 & 2/22/99

Cations/Anions	6/25/97	9/25/98	2/22/99
Na	1235	1300	1200
Ca	540	500	390
Mg	23.3	33	26
K	9.7	7.4	7.4
Cl	645	620	610
SO4	2982	2690	2200
CO3	<1	<1	<5
HCO3	355	240	250
OH	<1	<i>not reported</i>	<5
Total Cation-Anion	167.11 meq/L	160.17 meq/L	151.04 meq/l
Difference Cation-Anion	1.44 meq/L	6.06 meq/L	4.77 meq/l
%Difference	0.9	3.8	3.2
TDS	5744	5300	3900
Hardness, total	1444	1400	1100

Water quality data from event to event in MW-1 and in MW-2 are consistent indicating that the data collected to date is representative of site conditions. Sulfates and TDS in both MW-1 and MW-2 are elevated (aesthetic standard: 600 mg/L sulfate; 1000 mg/L TDS). Chloride concentrations in MW-2 are also high (aesthetic standard:

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Albuquerque, NM 87158

Contact: Maureen Gannon

Telephone: 505-241-2974

PNMGS Well Site: Randleman 1 (continued)

250 mg/L). Since the standards are non-health based and not enforceable, no further sampling will be performed for these constituents.

Further Action:

Recent source control activity by the operator has apparently been successful in reducing BTEX concentrations in well MW-3, which could be a common downgradient well to both operator and PNM. Therefore, PNM plans to continue groundwater monitoring for two consecutive quarters, and if MW-3 remains below standards, then PNM will file for closure of the Randleman 1 site.

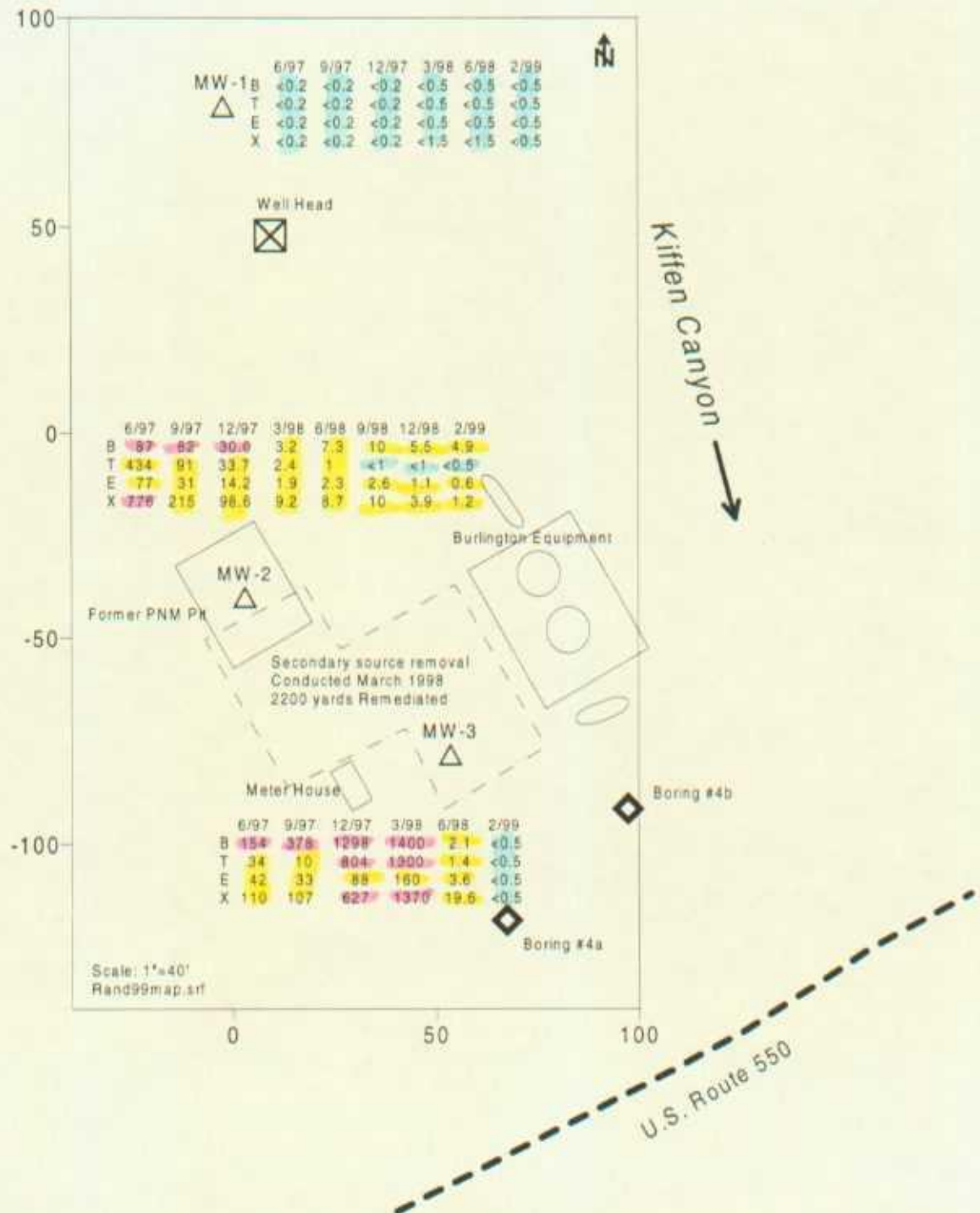
Public Service Company of New Mexico - Gas Services

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

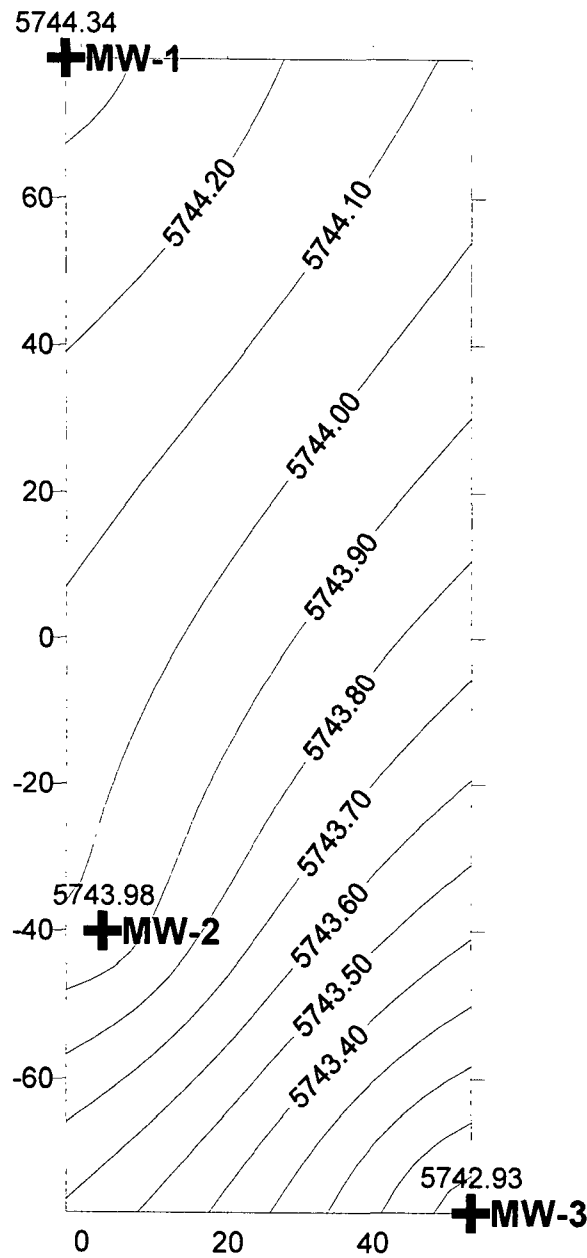
Contact: Maureen Gannon

Telephone: 505-241-2974

Figure 1. Randleman 1 Site Map and Analytical Results
(concentrations in ppm)

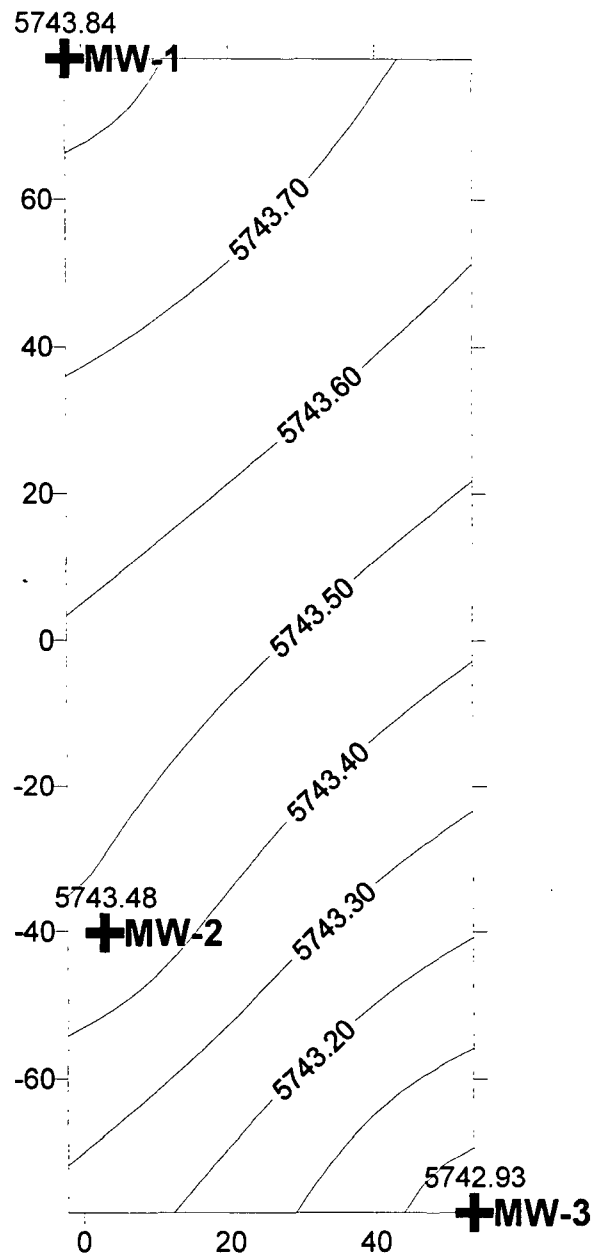


**Figure 2a. Randleman 1 Groundwater Contour Map
(June 11, 1998)**



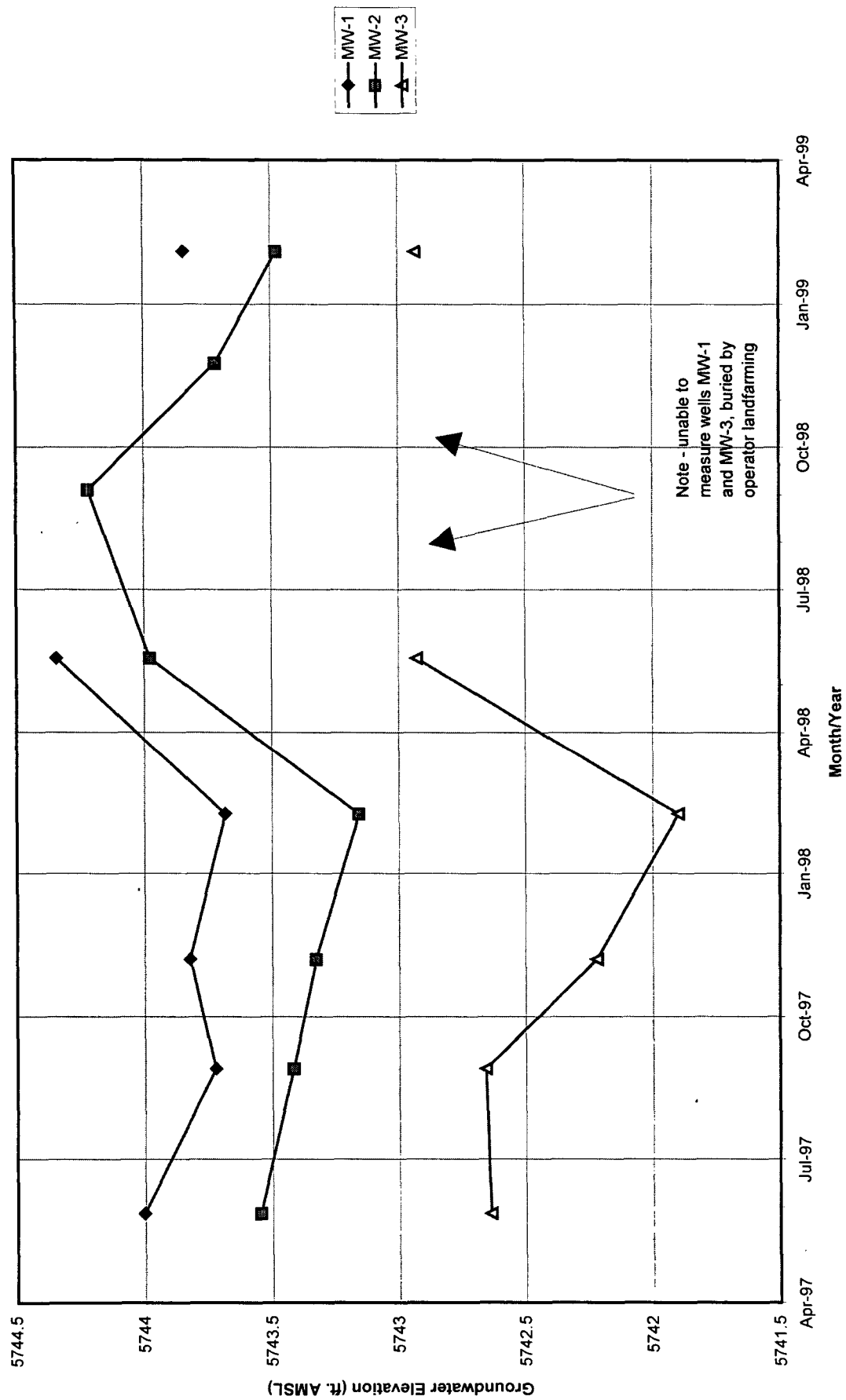
SCALE IN FEET
(X-axis = Easting,
Y-axis = Northing)

**Figure 2b. Randleman 1 Groundwater Contour Map
(February 22, 1999)**



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

Figure 3. Randleman 1 Hydrograph
(Water Level vs. Time)



OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

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 98

RE: Randleman 1

Order No.: 9806043

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 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: Randleman 1

Lab Order: 9806043

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:	Randleman 1
Work Order:	9806043	Client Sample ID:	9806111030; MW-1
Lab ID:	9806043-01A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	6/11/98 10:30:00 AM
		COC Record:	7258

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	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

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1 of 1

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ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9806043	Client Sample ID:	9806111045; MW-2
Lab ID:	9806043-02A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	6/11/98 10:45:00 AM
		COC Record:	7258

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	7.3	0.5		µg/L	1	6/15/98
Toluene	1	0.5		µg/L	1	6/15/98
Ethylbenzene	2.3	0.5		µg/L	1	6/15/98
m,p-Xylene	8.7	1		µg/L	1	6/15/98
o-Xylene	ND	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

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1 of 1

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9806043	Client Sample ID:	9806111100; MW-3
Lab ID:	9806043-03A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	6/11/98 11:00:00 AM
		COC Record:	7258

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	2.1	0.5		µg/L	1	6/16/98
Toluene	1.4	0.5		µg/L	1	6/16/98
Ethylbenzene	3.6	0.5		µg/L	1	6/16/98
m,p-Xylene	13	1		µg/L	1	6/16/98
o-Xylene	6.6	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

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
Work Order: 9806043
Lab ID: 9806043-04A
Project: Randleman 1

Client Sample Info: Randleman 1
Client Sample ID: 9806111115; MW-4
Collection Date: 6/11/98 11:15:00 AM
COC Record: 7258

MW-3
Duplicate

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	2.3	0.5		µg/L	1	6/16/98
Toluene	1.6	0.5		µg/L	1	6/16/98
Ethylbenzene	4.3	0.5		µg/L	1	6/16/98
m,p-Xylene	14	1		µg/L	1	6/16/98
o-Xylene	7.5	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.

Date: 18-Jun-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9806043
Project: Randleman 1

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:	9806043	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:	9806043	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: 9806043
 Project: Randleman 1

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: 9806043		Run ID: GC-1_980615A									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	8159	50	4000	4153	100.1%	56	128				
Ethylbenzene	4411	50	4000	421	99.7%	78	107				
m,p-Xylene	14170	100	8000	6527	95.5%	67	118				
o-Xylene	5239	50	4000	1346	97.3%	78	107				
Toluene	7282	50	4000	3434	96.2%	74	116				

Sample ID: 9806015-02AMSD		Batch ID: GC-1_980615	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/15/98		Prep Date:				
Client ID: 9806043		Run ID: GC-1_980615A			SeqNo: 3108						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7966	50	4000	4153	95.3%	56	128	8159	2.4%	12	
Ethylbenzene	4305	50	4000	421	97.1%	78	107	4411	2.4%	11	
m,p-Xylene	13820	100	8000	6527	91.2%	67	118	14170	2.5%	10	
o-Xylene	5137	50	4000	1346	94.8%	78	107	5239	2.0%	14	
Toluene	7100	50	4000	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: 9806043		Run ID: GC-1_980616A						SeqNo: 3137			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1823	10	800	1021	100.3%	56	128				
Ethylbenzene	1178	10	800	404.6	96.7%	78	107				
m,p-Xylene	2263	20	1600	739.2	95.2%	67	118				
Methyl tert-Butyl Ether	776.8	20	800	22.28	94.3%	70	130				
o-Xylene	1042	10	800	243.9	99.8%	78	107				
Toluene	1298	10	800	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: 9806043

Project: Randleman 1

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: 9806043		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	1264	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: 9806043
 Project: Randleman 1

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: 9806043		Run ID: GC-1_980615A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
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: 9806043		Run ID: GC-1_980616A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
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: 9806043
Project: Randleman 1

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:		9806043		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:		9806043		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: 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: 9806043
 Project: Randleman 1

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:		9806043		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: 9806043	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				
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: 9806043
 Project: Randleman 1

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:		9806043		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:		9806043		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

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9806043

Project: Randleman 1

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: 9806043
Project: Randleman 1
Test No: SW8020A

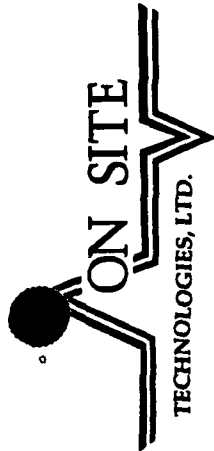
QC SUMMARY REPORT SURROGATE RECOVERIES

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
MB1	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



CHAIN OF CUSTODY RECORD

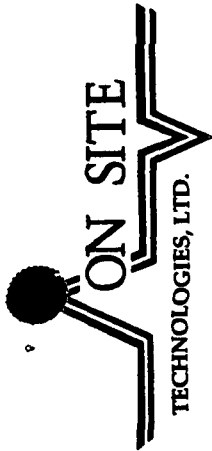
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Page: 1 of 1

Date: 6/11/98

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

Purchase Order No.:		Job No.	
Name: Denver Bearden		Name: 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	
Sampling Location: Randleman 1		Telephone No.: 505-848-2974	
Telefax No.:		Telefax No.:	
Sampler: R.D. M.S.		ANALYSIS REQUESTED	
REPORT TO RESULTS TO		Number of Containers	
SAMPLE IDENTIFICATION		LAB ID	
DATE		DATE	
TIME		TIME	
MATRIX		PRES.	
9806111030 MW-1		H2O Hd 2	
9806111045 MW-2		↓ 2	
9806111100 MW-3		↓ 2	
9806111115 MW-4		↓ 2	
Date/Time: 6/11/98 1630		Received by: [Signature]	
Date/Time:		Received by:	
Date/Time:		Received by:	
Method of Shipment: HAND DELIVERED		10 Working Days	
Authorized by: [Signature]		Special Instructions:	
(Client Signature Must Accompany Request)		Results to be sent to both parties.	



CHAIN OF CUSTODY RECORD

Date: 1/11/95 Page: 1 of 1

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

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: <u>condemned</u>			
Sampler: <u>R.D. MC</u>			
SEND INVOICE TO			
REPORT RESULTS TO			
Name: Maureen Gannon Title:			
Company: PNM Gas Services			
Mailing Address: Alverado Square, Mail Stop 0408			
City, State, Zip: Albuquerque, NM 87158			
Telephone No.: 505-848-2974 Telefax No.:			
ANALYSIS REQUESTED			
Number of Containers			
LAB ID			
SAMPLE IDENTIFICATION			
DATE			
TIME			
MATRIX			
PRES.			
930611033 PNM-1			
930611042 PNM-2			
930611000 PNM-3			
930611115 PNM-4			
Relinquished by:			
Date/Time			
Relinquished by:			
Date/Time			
Relinquished by:			
Date/Time			
Method of Shipment: <u>Express Delivery</u>			
Authorized by: <u>[Signature]</u> Date: <u>1/11/95</u>			
(Client Signature Must Accompany Request)			
Rush			
24-48 Hours			
10 Working Days			
Special Instructions:			
Results to be sent to both parties.			

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

OFF: (505) 325-5667



LAB: (505) 325-1556

October 13, 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 Qtr 1998

RE: Randleman 1

Order No.: 9809073

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 9/25/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- Alkalinity, Total (M2320 B)
- BTEX (SW8020A)
- Calcium by AA (SW7140)
- Chloride (M4500-Cl C.)
- Conductivity (E120.1)
- Hardness, Total (E130.1)
- Magnesium by AA (SW7450)
- pH (E150.1)
- Potassium by AA (SW7610)
- Sodium by AA (SW7770)
- Sulfate (M4500-SO4 D)
- Total Dissolved Solids (M2540 C.)

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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM

Project: Randleman 1

Lab Order: 9809073

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.

Standard Methods for The Examination of Water and Wastewater, 18th Edition.

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

Cation-Anion Balance 9809073-01A: Randleman 1, MW-2

Total Cation-Anion = 160.17 me/L

Difference Cation-Anion = 6.06 me/L

% Difference = 3.8%

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9809073	Client Sample ID:	9809251030; MW-2
Lab ID:	9809073-01A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	9/25/98 10:30:00 AM
		COC Record:	7297

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	10	1		µg/L	1	10/5/98
Toluene	ND	1		µg/L	1	10/5/98
Ethylbenzene	2.6	1		µg/L	1	10/5/98
m,p-Xylene	10	2		µg/L	1	10/5/98
o-Xylene	ND	1		µg/L	1	10/5/98

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

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9809073	Client Sample ID:	9809251030; MW-2
Lab ID:	9809073-01B	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	9/25/98 10:30:00 AM
		COC Record:	7297

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
CALCIUM BY AA		SW7140				Analyst: HR
Calcium	500	100		mg/L	400	10/2/98
POTASSIUM BY AA		SW7610				Analyst: HR
Potassium	7.4	1.2		mg/L	5	10/2/98
MAGNESIUM BY AA		SW7450				Analyst: HR
Magnesium	33	5		mg/L	20	10/2/98
SODIUM BY AA		SW7770				Analyst: HR
Sodium	1300	120		mg/L	500	10/2/98
ALKALINITY, TOTAL		M2320 B				Analyst: HR
Alkalinity, Bicarbonate (As CaCO ₃)	240	5		mg/L CaCO ₃	1	9/29/98
Alkalinity, Carbonate (As CaCO ₃)	ND	5		mg/L CaCO ₃	1	9/29/98
Alkalinity, Total (As CaCO ₃)	240	5		mg/L CaCO ₃	1	9/29/98
CHLORIDE		M4500-CL C.				Analyst: HR
Chloride	620	10		mg/L	1	9/29/98
CONDUCTIVITY		E120.1				Analyst: HR
Specific Conductance	5730	2		uS/cm	1	9/28/98
HARDNESS, TOTAL		E130.1				Analyst: HR
Hardness (As CaCO ₃)	1400	1		mg/L	1	10/2/98
PH		E150.1				Analyst: HR
pH	7.07	2		pH units	1	9/28/98
SULFATE		M4500-SO4 D				Analyst: HR
Sulfate	2690	50		mg/L	1	10/2/98
TOTAL DISSOLVED SOLIDS		M2540 C.				Analyst: HR
Total Dissolved Solids (Residue, Filterable)	5300	40		mg/L	1	10/2/98

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

Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 14-Oct-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809073

Project: Randleman 1

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID: 9809073	Run ID: GC-1_981005A			SeqNo: 7318	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.045	1			
Ethylbenzene	ND	1			
m,p-Xylene	ND	2			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	1			
Toluene	.0848	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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9809073
 Project: Randleman 1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809063-06AMS		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID:		9809073		Run ID:		GC-1_981005A		SeqNo: 7319			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1445	10	400	1007	109.5%	56	128				S
Ethylbenzene	1268	10	400	812.1	114.0%	78	107				
m,p-Xylene	983.7	20	800	150.6	104.1%	67	118				
Methyl tert-Butyl Ether	415.3	10	400	86.91	82.1%	70	130				
o-Xylene	490.4	10	400	97.51	98.2%	78	107				
Toluene	509	10	400	90.15	104.7%	74	116				

Sample ID: 9809063-06AMSD		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809073		Run ID: GC-1_981005A		SeqNo: 7320							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1360	10	400	1007	88.1%	56	128	1445	6.1%	12	
Ethylbenzene	1168	10	400	812.1	88.9%	78	107	1268	8.2%	11	
m,p-Xylene	898	20	800	150.6	93.4%	67	118	983.7	9.1%	10	
Methyl tert-Butyl Ether	403.8	10	400	86.91	79.2%	70	130	415.3	2.8%	15	
o-Xylene	463.9	10	400	97.51	91.6%	78	107	490.4	5.6%	14	
Toluene	473.3	10	400	90.15	95.8%	74	116	509	7.3%	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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809073

Project: Randleman 1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L		Analysis Date: 10/5/98			Prep Date:		
Client ID:		9809073	Run ID:	GC-1_981005A							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.27	1	40	0.045	100.6%	56	128				
Ethylbenzene	41.28	1	40	0	103.2%	78	107				
m,p-Xylene	81.47	2	80	0	101.8%	67	118				
Methyl tert-Butyl Ether	36.37	1	40	0	90.9%	70	130				
o-Xylene	40.64	1	40	0	101.6%	78	107				
Toluene	40.08	1	40	0.0848	100.0%	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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9809073
 Project: Randleman I

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID:		9809073		Run ID:		GC-1_981005A		SeqNo: 7310			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.59	1	20	0	103.0%	85	115				
Ethylbenzene	21.17	1	20	0	105.9%	85	115				
m,p-Xylene	41.4	2	40	0	103.5%	85	115				
Methyl tert-Butyl Ether	19.69	1	20	0	98.4%	85	115				
o-Xylene	20.9	1	20	0	104.5%	85	115				
Toluene	20.68	1	20	0	103.4%	85	115				
1,4-Difluorobenzene	91.25	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.67	0	100	0	98.7%	70	130				
Fluorobenzene	89.98	0	100	0	90.0%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:						
Client ID:	9809073	Run ID:	GC-1_981005A	SeqNo: 7311							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.37	1	20	0	101.9%	85	115				
Ethylbenzene	20.95	1	20	0	104.8%	85	115				
m,p-Xylene	41.04	2	40	0	102.6%	85	115				
Methyl tert-Butyl Ether	19.97	1	20	0	99.9%	85	115				
o-Xylene	20.79	1	20	0	104.0%	85	115				
Toluene	20.49	1	20	0	102.4%	85	115				
1,4-Difluorobenzene	91.26	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	99.5	0	100	0	99.5%	70	130				
Fluorobenzene	89.66	0	100	0	89.7%	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: 9809073

Project: Randleman 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809073		Run ID: GC-1_981005A		SeqNo: 7312		HighLimit		RPDLimit		RPDLimit	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.52	1	20	0	102.6%	85	115				
Ethylbenzene	21.07	1	20	0	105.4%	85	115				
m,p-Xylene	41.62	2	40	0	104.0%	85	115				
Methyl tert-Butyl Ether	16.94	1	20	0	84.7%	85	115				S
o-Xylene	21.32	1	20	0	106.6%	85	115				
Toluene	21.15	1	20	0	105.7%	85	115				
1,4-Difluorobenzene	90.25	0	100	0	90.3%	70	130				
4-Bromochlorobenzene	87.72	0	100	0	87.7%	70	130				
Fluorobenzene	88.84	0	100	0	88.8%	70	130				

Sample ID: CCV4 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809073		Run ID: GC-1_981005A		SeqNo: 7313		HighLimit		RPDLimit		RPDLimit	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.02	1	20	0	100.1%	85	115				
Ethylbenzene	20.55	1	20	0	102.8%	85	115				
m,p-Xylene	40.87	2	40	0	102.2%	85	115				
Methyl tert-Butyl Ether	17.77	1	20	0	88.9%	85	115				
o-Xylene	21.11	1	20	0	105.5%	85	115				
Toluene	20.74	1	20	0	103.7%	85	115				
1,4-Difluorobenzene	90.75	0	100	0	90.7%	70	130				
4-Bromochlorobenzene	85.14	0	100	0	85.1%	70	130				
Fluorobenzene	88.9	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: 9809073
Project: Randleman 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809073		Run ID: GC-1_981005A		SeqNo: 7321							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.79	1	20	0	99.0%	85	115				
Ethylbenzene	20.81	1	20	0	104.1%	85	115				
m,p-Xylene	40.81	2	40	0	102.0%	85	115				
o-Xylene	20.56	1	20	0	102.8%	85	115				
Toluene	20.34	1	20	0	101.7%	85	115				
1,4-Difluorobenzene	90.49	0	100	0	90.5%	70	130				
4-Bromochlorobenzene	87.07	0	100	0	87.1%	70	130				
Fluorobenzene	88.88	0	100	0	88.9%	70	130				

Sample ID: CCV6 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809073		Run ID: GC-1_981005A		SeqNo: 7314							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.42	1	20	0	102.1%	85	115				
Ethylbenzene	22.58	1	20	0	112.9%	85	115				
m,p-Xylene	44.24	2	40	0	110.6%	85	115				
o-Xylene	21.04	1	20	0	105.2%	85	115				
Toluene	21.69	1	20	0	108.5%	85	115				
1,4-Difluorobenzene	88.39	0	100	0	88.4%	70	130				
4-Bromochlorobenzene	62.52	0	100	0	62.5%	70	130				
Fluorobenzene	86.17	0	100	0	86.2%	70	130				S

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: 9809073

Project: Randleman I

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV7 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID:		9809073		Run ID:		GC-1_981005A		SeqNo: 7315			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.27	1	20	0	101.4%	85	115				
Ethylbenzene	21.91	1	20	0	109.5%	85	115				
m,p-Xylene	42.63	2	40	0	106.6%	85	115				
o-Xylene	21.01	1	20	0	105.1%	85	115				
Toluene	21.37	1	20	0	106.9%	85	115				
1,4-Difluorobenzene	89.71	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	65.83	0	100	0	65.8%	70	130				S
Fluorobenzene	88.41	0	100	0	88.4%	70	130				

Sample ID: CCV8 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID:		9809073		Run ID:		GC-1_981005A		SeqNo: 7316			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.98	1	20	0	99.9%	85	115				
Ethylbenzene	21.29	1	20	0	106.4%	85	115				
m,p-Xylene	41.58	2	40	0	104.0%	85	115				
o-Xylene	21.11	1	20	0	105.5%	85	115				
Toluene	20.86	1	20	0	104.3%	85	115				
1,4-Difluorobenzene	90.22	0	100	0	90.2%	70	130				
4-Bromochlorobenzene	83.45	0	100	0	83.4%	70	130				
Fluorobenzene	89.08	0	100	0	89.1%	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: 9809073

Project: Randleman 1

Test No: SW8020A

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

Sample ID	14FBZ	4BCBZ	FLBZ
9809060-05A	91.4	99.2	89.9
9809060-06A	91.2	89.8	90
9809060-07A	91.2	89.3	88.2
9809060-08A	89	87.1	87.2
9809060-09A	87	84.5	85.7
9809063-03A	90.9	92.5	90
9809063-04A	86.4	84.1	86
9809063-05A	84.4	87.3	85.6
9809063-06A	98.9	91.6	96.3
9809063-06AMS	101	91	97.4
9809063-06AMSD	99.7	93.7	96.8
9809073-01A	90.4	63 *	87.9
9809074-02A	82.9	62.5 *	81.3
9809074-03A	83.4	61.8 *	82.2
9809074-04A	90.7	88.5	88.8
9809074-05A	90.5	74.3	88.4
9809075-01A	90.6	86.3	88.8
9809075-02A	89.2	71.2	86.6
9809075-03A	89.3	62.6 *	86.1
9809075-04A	88.5	56.7 *	86.1
9809075-05A	87.5	53.5 *	84.2
CCV1 QC0606/07	91.2	98.7	90
CCV2 QC0606/07	91.3	99.5	89.7
CCV3 QC0606/07	90.2	87.7	88.8
CCV4 QC0606/07	90.7	85.1	88.9
CCV5 QC0606/07	90.5	87.1	88.9
CCV6 QC0606/07	88.4	62.5 *	86.2

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

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9809073
Project: Randleman 1
Test No: SW8020A

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
CCV7 QC0606/07	89.7	65.8 *	88.4
CCV8 QC0606/07	90.2	83.4	89.1
LCS WATER	90.7	98.4	89.6
MB1	91.3	98.6	90.1

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.

Date: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9809073
Project: Randleman 1

QC SUMMARY REPORT

Method Blank

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: SW7140	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7167	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Calcium	.02	0.25			

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: SW7450	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7176	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium	ND	0.25			

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: SW7610	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7194	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium	ND	0.25			

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: SW7770	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7203	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	ND	0.25			

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7212	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Bicarbonate (As CaCO3)	2.3	5			
Alkalinity, Carbonate (As CaCO3)	ND	5			
Alkalinity, Total (As CaCO3)	2.3	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

CLIENT: PNM - Public Service Company of NM

Work Order: 9809073

Project: Randleman 1

QC SUMMARY REPORT

Method Blank

Sample ID: MBlank	Batch ID: API H2O_981	Test Code: M4500-Cl C.	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7220	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val
Chloride	1.4	10			%RPD RPDLimit Qual
J					
Sample ID: MBlank	Batch ID: API H2O_981	Test Code: M4500-Cl C.	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7225	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val
Chloride	2.4	10			%RPD RPDLimit Qual
J					
Sample ID: MBlank	Batch ID: API H2O_981	Test Code: E120.1	Units: uS/cm	Analysis Date: 9/28/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7231	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val
Specific Conductance	ND	2			%RPD RPDLimit Qual
Sample ID: MBlank	Batch ID: API H2O_981	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7249	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val
Sulfate	ND	5			%RPD RPDLimit Qual

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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9809073

Project: Randleman 1

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9809073-01BD	Batch ID: API H2O_981	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 9/29/98	Prep Date:
Client ID: 9809251030; MW-	Run ID: 9809073	PQL	SPK value	SeqNo: 7215	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Alkalinity, Bicarbonate (As CaCO3)	236	5	0	0	0
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0
Alkalinity, Total (As CaCO3)	236	5	0	0	0
			%REC	RPD Ref Val	RPDLimit
			0.0%	236	0.0%
			0.0%	0	0.0%
			0.0%	236	0.0%
Sample ID: 9809073-01BD	Batch ID: API H2O_981	Test Code: M4500-CLC	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID: 9809251030; MW-	Run ID: 9809073	PQL	SPK value	SeqNo: 7228	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Chloride	607	10	0	0	0
			%REC	RPD Ref Val	RPDLimit
			0.0%	616	1.5%
Sample ID: 9809074-01BD	Batch ID: API H2O_981	Test Code: M4500-CLC	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID:	Run ID: 9809073	PQL	SPK value	SeqNo: 7223	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Chloride	9.93	10	0	0	0
			%REC	RPD Ref Val	RPDLimit
			0.0%	11.05	0.0%
Sample ID: 9809074-01BD	Batch ID: API H2O_981	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID:	Run ID: 9809073	PQL	SPK value	SeqNo: 7253	
Analyte	Result	PQL	SPK value	LowLimit	HighLimit
Sulfate	1910	25	0	0	0
			%REC	RPD Ref Val	RPDLimit
			0.0%	1904	0.3%

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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9809073
 Project: Randleman 1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809073-01AMS	Batch ID: API H2O_981	Test Code: SW7610	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809251030; MW-	Run ID: 9809073	PQL	SPK value	SeqNo: 7201	
Analyte	Result			LowLimit	HighLimit
Potassium	12.6	0.25	5	67	157
				%REC	RPDLimit
				104.0%	Qual
Sample ID: 9809074-02BMS	Batch ID: API H2O_981	Test Code: SW7140	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A	PQL	SPK value	SeqNo: 7174	
Analyte	Result			LowLimit	HighLimit
Calcium	298	0.25	100	69	159
				%REC	RPDLimit
				116.0%	Qual
Sample ID: 9809074-02BMS	Batch ID: API H2O_981	Test Code: SW7450	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A	PQL	SPK value	SeqNo: 7183	
Analyte	Result			LowLimit	HighLimit
Magnesium	66.4	0.25	20	78	126
				%REC	RPDLimit
				112.0%	Qual
Sample ID: 9809075-02BMS	Batch ID: API H2O_981	Test Code: SW7770	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A	PQL	SPK value	SeqNo: 7210	
Analyte	Result			LowLimit	HighLimit
Sodium	1360	0.25	400	81	135
				%REC	RPDLimit
				92.5%	Qual

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: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9809073
Project: Randleman 1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: API H2O_981	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7213	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	207	5	201	2	102.0% 91 116
Sample ID: LCS	Batch ID: API H2O_981	Test Code: M4500-Cl C.	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7221	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chloride	112	10	108	1	102.8% 90 114
Sample ID: LCS	Batch ID: API H2O_981	Test Code: M4500-Cl C.	Units: mg/L	Analysis Date: 9/29/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7226	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chloride	110	10	108	2	100.0% 90 114
Sample ID: LCS	Batch ID: API H2O_981	Test Code: E120.1	Units: uS/cm	Analysis Date: 9/28/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7232	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Specific Conductance	1121	2	1100	0	101.9% 97 103
Sample ID: LCS	Batch ID: API H2O_981	Test Code: E150.1	Units: pH units	Analysis Date: 9/28/98	Prep Date:
Client ID:	9809073	Run ID: API H2O_981002A		SeqNo: 7243	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
pH	8.982	2	9.11	0	98.6% 98 102

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: 9809073
Project: Randleman 1

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: API H2O_981	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7250	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Sulfate	123	5	139	0	88.5%
				LowLimit	HighLimit
				83	113
				%RPD	RPDLimit
					Qual

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

2 of 2

On Site Technologies, LTD.

Date: 14-Oct-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9809073
Project: Randleman 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0573	Batch ID: API H2O_981	Test Code: SW7450	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7177	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium	1.61	0.25	1.58	0	101.9% 96 114
Sample ID: CCV1 QC0610	Batch ID: API H2O_981	Test Code: SW7610	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7195	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium	2.65	0.25	2.68	0	98.9% 84 114
Sample ID: CCV1 QC0610	Batch ID: API H2O_981	Test Code: SW7770	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7204	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	2.84	0.25	2.64	0	107.6% 87 111
Sample ID: CCV1 QC0611	Batch ID: API H2O_981	Test Code: SW7140	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7168	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Calcium	1.98	0.25	1.95	0	101.5% 89 107
Sample ID: CCV2 QC0573	Batch ID: API H2O_981	Test Code: SW7450	Units: mg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809073	Run ID: API H2O_981002A			SeqNo: 7184	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium	1.62	0.25	1.58	0	102.5% 96 114

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: 9809073
Project: Randleman 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0610		Batch ID: API H2O_981		Test Code: SW7610		Units: mg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809073		Run ID: API H2O_981002A				SeqNo: 7202			
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC	
Potassium		2.66		0.25		2.68		0		99.3%	
								84		114	
Sample ID: CCV2 QC0610		Batch ID: API H2O_981		Test Code: SW7770		Units: mg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809073		Run ID: API H2O_981002A				SeqNo: 7211			
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC	
Sodium		2.8		0.25		2.64		0		106.1%	
								87		111	
Sample ID: CCV2 QC0611		Batch ID: API H2O_981		Test Code: SW7140		Units: mg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809073		Run ID: API H2O_981002A				SeqNo: 7175			
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC	
Calcium		1.98		0.25		1.95		0		101.5%	
								89		107	
										%RPD	
										RPDLimit	
										Qual	

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



Page: _____ of _____

TECHNOLOGIES, LTD.

9/25/98

(Client Signature Must Accompany Request)

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

OFF: (505) 325-5667



LAB: (505) 325-1556

December 23, 1998

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

4th Quarter 1998

RE: Randleman 1

Order No.: 9812036

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample 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



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 23-Dec-98

CLIENT: PNM - Public Service Company of NM
Project: Randleman 1
Lab Order: 9812036

CASE NARRATIVE

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

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

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Dec-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9812036	Client Sample ID:	9812141715 MW-2
Lab ID:	9812036-01A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	12/14/98 5:15:00 PM
		COC Record:	7527

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	5.5	1		µg/L	1	12/22/98
Toluene	ND	1		µg/L	1	12/22/98
Ethylbenzene	1.1	1		µg/L	1	12/22/98
m,p-Xylene	3.9	2		µg/L	1	12/22/98
o-Xylene	ND	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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 23-Dec-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9812036

Project: Randleman 1

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:	9812036	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			
o-Xylene	.244	1			J
Toluene	.2765	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: 23-Dec-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9812036
Project: Randleman 1

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: 9812036		Run ID: GC-1_981222A	PQL	SPK value	SPK Ref Val	SeqNo: 9741	
Analyte	Result					LowLimit	HighLimit
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
						%REC	%RPD
							RPDLimit
							Qual

Sample ID: 9812035-01AMSD		Batch ID: GC-1_981222	Test Code: SW8021B	Units: µg/L	Analysis Date 12/22/98		Prep Date:
Client ID: 9812036		Run ID: GC-1_981222A	PQL	SPK value	SPK Ref Val	SeqNo: 9742	
Analyte	Result					LowLimit	HighLimit
Benzene	190.9	5	200	0.6055		56	128
Ethylbenzene	198.8	5	200	2.26		78	107
m,p-Xylene	386.4	10	400	4.374		67	118
Methyl tert-Butyl Ether	181.1	5	200	0		70	130
o-Xylene	195.6	5	200	1.841		78	107
Toluene	197.2	5	200	2.739		74	116
						%REC	%RPD
							RPDLimit
							Qual

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

Date: 23-Dec-98

On Site Technologies, LTD.

CLIENT: PNM - Public Service Company of NM
Work Order: 9812036
Project: Randleman 1

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:		9812036		Run ID: GC-1_981222A				SeqNo: 9739			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.57	1	40	0.1373	93.6%	56	128				
Ethylbenzene	39.37	1	40	0.211	97.9%	78	107				
m,p-Xylene	76.89	2	80	0.5428	95.4%	67	118				
Methyl tert-Butyl Ether	37.32	1	40	0	93.3%	70	130				
o-Xylene	39.78	1	40	0.244	98.9%	78	107				
Toluene	38.65	1	40	0.2765	95.9%	74	116				

Qualifiers:

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

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

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Dec-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9812036

Project: Randleman 1

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:		9812036		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:		9812036		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: 9812036

Project: Randleman 1

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: 9812036		Run ID: GC-1_981222A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	39.02		1	40	0	97.6%	85	115
Ethylbenzene	40.7		1	40	0	101.8%	85	115
m,p-Xylene	79.27		2	80	0	99.1%	85	115
Methyl tert-Butyl Ether	38.29		1	40	0	95.7%	85	115
o-Xylene	41.02		1	40	0	102.6%	85	115
Toluene	40.08		1	40	0	100.2%	85	115
1,4-Difluorobenzene	88.08		0	100	0	88.1%	70	130
4-Bromochlorobenzene	100.8		0	100	0	100.9%	70	130
Fluorobenzene	85.21		0	100	0	85.2%	70	130
						%RPD	RPDLimit	Qual

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Dec-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9812036
Project: Randleman 1
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
9812035-01AMS	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
9812037-24A	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	88.4	102	85.1
CCV1 QC0606/07	88.2	102	85.3
CCV2 QC0606/07	88.4	102	85
CCV3 QC0606/07	88.1	101	85.2
LCS WATER	88.1	101	85.1
MBI	88.7	98.5	85.4

Acronym

Surrogate

QC Limits

14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CHAIN OF CUSTODY RECORD

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

Date: 12/14/13

[illegible]

OFF: (505) 325-5667



LAB: (505) 325-1556

March 22, 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

1st Qtr. 1999

RE: Randleman 1

Order No.: 9902084

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 samples on 2/23/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- Alkalinity, Total (M2320 B)
- Aromatic Volatiles by GC/PID (SW8021B)
- Arsenic, Dissolved (SW6010A)
- Barium, Dissolved (SW6010A)
- Cadmium, Dissolved (SW6010A)
- Calcium, Dissolved (E215.1)
- Chloride (E325.3)
- Chromium, Dissolved (SW6010A)
- Conductivity @ 25C (E120.1)
- Hardness, Total (M2340 B)
- Iron, Dissolved (SW6010A)
- Lead, Dissolved (SW6010A)
- Magnesium, Dissolved (E242.1)
- Manganese, Dissolved (SW6010A)
- Mercury, Dissolved (SW7470)
- pH (E150.1)
- Potassium, Dissolved (E258.1)
- Selenium, Dissolved (SW7742)
- Silver, Dissolved (SW6010A)
- Sodium, Dissolved (E273.1)
- Sulfate (M4500-SO4 D)
- Total Dissolved Solids (E160.1)

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.

OFF: (505) 325-5667



LAB: (505) 325-1556

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

Sincerely,

David Cox
Laboratory Manager

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 22-Mar-99

CLIENT: PNM - Public Service Company of NM
Project: Randleman 1
Lab Order: 9902084

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.
Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.
Standard Methods for The Examination of Water and Wastewater, 18th Edition.

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

Cation-Anion Balance 9902084-01B; Randleman 1 MW-1

Total Cation-Anion = 103.92 meq/L
Difference Cation-Anion = 4.19 meq/L
% Difference = 4.0%

Cation-Anion Balance 9902084-02B; Randleman 1 MW-2

Total Cation-Anion = 151.04 meq/L
Difference Cation-Anion = 4.77 meq/L
% Difference = 3.2%

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9902084	Client Sample ID:	9902221630; MW-1
Lab ID:	9902084-01A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	2/22/99 4:30:00 PM
		COC Record:	7380

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/2/99
Toluene	ND	0.5		µg/L	1	3/2/99
Ethylbenzene	ND	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	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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9902084	Client Sample ID:	9902221630; MW-1
Lab ID:	9902084-01B	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	2/22/99 4:30:00 PM
		COC Record:	7380

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
CALCIUM, DISSOLVED	E215.1					Analyst: DM
Calcium	410	50		mg/L	200	3/11/99
POTASSIUM, DISSOLVED	E258.1					Analyst: DM
Potassium	6.9	1.2		mg/L	5	3/10/99
MAGNESIUM, DISSOLVED	E242.1					Analyst: DM
Magnesium	23	5		mg/L	20	3/11/99
SODIUM, DISSOLVED	E273.1					Analyst: DM
Sodium	630	120		mg/L	500	3/10/99
ALKALINITY, TOTAL	M2320 B					Analyst: DM
Alkalinity, Bicarbonate (As CaCO ₃)	250	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Carbonate (As CaCO ₃)	ND	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Hydroxide	ND	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Total (As CaCO ₃)	250	5		mg/L CaCO ₃	1	2/25/99
CHLORIDE	E325.3					Analyst: DM
Chloride	160	1		mg/L	1	2/25/99
CONDUCTIVITY @ 25C	E120.1					Analyst: DM
Specific Conductance	4000	2		uS/cm	1	2/24/99
HARDNESS, TOTAL	M2340 B					Analyst: DM
Hardness (As CaCO ₃)	1100	1		mg/L	1	3/12/99
PH	E150.1					Analyst: DM
pH	6.97	2		pH units	1	2/24/99
SULFATE	M4500-SO4 D					Analyst: DM
Sulfate	2200	5		mg/L	1	3/8/99
TOTAL DISSOLVED SOLIDS	E160.1					Analyst: DM
Total Dissolved Solids (Residue, Filterable)	3900	40		mg/L	1	3/12/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9902084	Client Sample ID:	9902221650; MW-2
Lab ID:	9902084-02A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	2/22/99 4:50:00 PM
		COC Record:	7380

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	4.9	0.5		µg/L	1	2/28/99
Toluene	ND	0.5		µg/L	1	2/28/99
Ethylbenzene	0.6	0.5		µg/L	1	2/28/99
m,p-Xylene	1.2	1		µg/L	1	2/28/99
o-Xylene	ND	0.5		µg/L	1	2/28/99

Qualifiers:

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

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9902084	Client Sample ID:	9902221650; MW-2
Lab ID:	9902084-02B	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	2/22/99 4:50:00 PM
		COC Record:	7380

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
CALCIUM, DISSOLVED	E215.1					Analyst: DM
Calcium	390	50		mg/L	200	3/11/99
POTASSIUM, DISSOLVED	E258.1					Analyst: DM
Potassium	7.4	1.2		mg/L	5	3/10/99
MAGNESIUM, DISSOLVED	E242.1					Analyst: DM
Magnesium	26	5		mg/L	20	3/11/99
SODIUM, DISSOLVED	E273.1					Analyst: DM
Sodium	1200	120		mg/L	500	3/10/99
ALKALINITY, TOTAL	M2320 B					Analyst: DM
Alkalinity, Bicarbonate (As CaCO ₃)	240	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Carbonate (As CaCO ₃)	ND	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Hydroxide	ND	5		mg/L CaCO ₃	1	2/25/99
Alkalinity, Total (As CaCO ₃)	240	5		mg/L CaCO ₃	1	2/25/99
CHLORIDE	E325.3					Analyst: DM
Chloride	610	1		mg/L	1	2/25/99
CONDUCTIVITY @ 25C	E120.1					Analyst: DM
Specific Conductance	5000	2		uS/cm	1	2/24/99
HARDNESS, TOTAL	M2340 B					Analyst: DM
Hardness (As CaCO ₃)	1100	1		mg/L	1	3/12/99
PH	E150.1					Analyst: DM
pH	7.22	2		pH units	1	2/24/99
SULFATE	M4500-SO4 D					Analyst: DM
Sulfate	2700	5		mg/L	1	3/8/99
TOTAL DISSOLVED SOLIDS	E160.1					Analyst: DM
Total Dissolved Solids (Residue, Filterable)	5500	40		mg/L	1	3/12/99

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: 22-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Randleman 1
Work Order:	9902084	Client Sample ID:	9902221710; MW-3
Lab ID:	9902084-03A	Matrix:	AQUEOUS
Project:	Randleman 1	Collection Date:	2/22/99 5:10:00 PM
		COC Record:	7380

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	2/28/99
Toluene	ND	0.5		µg/L	1	2/28/99
Ethylbenzene	ND	0.5		µg/L	1	2/28/99
m,p-Xylene	ND	1		µg/L	1	2/28/99
o-Xylene	ND	0.5		µg/L	1	2/28/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Mar-99

Client: PNM - Public Service Company of NM
Work Order: 9902084
Lab ID: 9902084-04A **Matrix:** AQUEOUS
Project: Randleman 1

Client Sample Info: Randleman 1
Client Sample ID: 9902221730; MW-4
Collection Date: 2/22/99 5:30:00 PM
COC Record: 7380

*Duplicate
of
MW-3*

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	2/28/99
Toluene	ND	0.5		µg/L	1	2/28/99
Ethylbenzene	ND	0.5		µg/L	1	2/28/99
m,p-Xylene	ND	1		µg/L	1	2/28/99
o-Xylene	0.6	0.5		µg/L	1	2/28/99

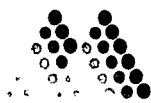
Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

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 -



Mountain States Analytical, Inc.

The Quality Solution

RECEIVED MAR 22 1999

March 11, 1999

Mr. David Cox
On-Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: WQCC Metals
Project No.: 9902084
MSAI Group: 25967

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

9902084-01C

9902084-02C

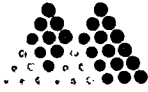
All holding times were met for the tests performed on these samples.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager



Mountain States Analytical, Inc.

The Quality Solution

On-Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

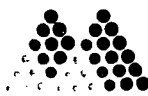
Attn: Mr. David Cox
Project: WQCC Metals

Sample ID: 9902084-01C
Matrix: Water

Randleman 1 9902221630; MW-1

MSAI Sample: 93497
MSAI Group: 25967
Date Reported: 03/11/99
Discard Date: 04/10/99
Date Submitted: 02/26/99
Date Sampled: 02/22/99
Collected by:
Purchase Order:
Project No.: 9902084

Test Analysis	Results as Received	Units	Method Detection Limit
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.00010
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. w369		
0393G Flame/hrICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w026	mg/l	
13007 Metals by hrICP, 6010A, w/ww Method: SW-846 6010A			
Arsenic	ND	mg/l	0.02
Barium	0.008	mg/l	0.004
Cadmium	ND	mg/l	0.004
Chromium	ND	mg/l	0.01
Iron	0.2	mg/l	0.2
Lead	ND	mg/l	0.02
Manganese	0.103	mg/l	0.004
Selenium	ND	mg/l	0.02
Silver	ND	mg/l	0.004
0939 Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		



Mountain States Analytical, Inc.

The Quality Solution

Page 2

On-Site Technologies, Ltd.

MSAI Sample: 93497

MSAI Group: 25967

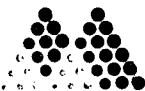
Sample ID: 9902084-01C

ND - Not detected at the Method Detection Limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical, Inc.

The Quality Solution

On-Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

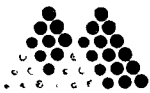
Attn: Mr. David Cox
Project: WQCC Metals

Sample ID: 9902084-02C
Matrix: Water

MSAI Sample: 93498
MSAI Group: 25967
Date Reported: 03/11/99
Discard Date: 04/10/99
Date Submitted: 02/26/99
Date Sampled: 02/22/99
Collected by:
Purchase Order:
Project No.: 9902084

Randleman 1 9902221650; MW-2

Test Analysis	Results as Received	Units	Method Detection Limit
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.00010
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. w369		
0393G Flame/hrICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w026	mg/l	
13007 Metals by hrICP, 6010A, w/ww Method: SW-846 6010A			
Arsenic	ND	mg/l	0.02
Barium	0.010	mg/l	0.004
Cadmium	ND	mg/l	0.004
Chromium	ND	mg/l	0.01
Iron	0.2	mg/l	0.2
Lead	ND	mg/l	0.02
Manganese	2.07	mg/l	0.004
Selenium	ND	mg/l	0.02
Silver	ND	mg/l	0.004
0939 Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

**Mountain States Analytical, Inc.***The Quality Solution*

Page 2

On-Site Technologies, Ltd.

MSAI Sample: 93498

Sample ID: 9902084-02C

MSAI Group: 25967

ND - Not detected at the Method Detection Limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Corporate Office: 1645 West 2200 South • Salt Lake City, Utah 84119

801-973-0050 • 1-800-973-6724 (MSAI) • FAX 801-972-6278

e-mail: service@msailabs.com



Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

03/11/99
14:55:52
Group: 25967

Analysis Batch Number: 1521 -03/04/99-147 -1

Identification : 1521 -Mercury by CVAA, w/ww, 7470A

Sequence : 0259B-1

Number of Samples : 7

Batch Data-Date/Time : 03/04/99 / 14:07:42

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-369	Mercury	-0.0040	0.1000

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
25956-93461	Mercury	2.5000	0.0810	2.4040	92.9	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
25956-93462	Mercury	2.5000	0.0810	2.3910	92.4	80.0	120.0	0.5	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
25956-93460	Mercury	0.0810	0.0620	26.6(11)	20.0	1.00

					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-369	Mercury	2.5060	2.5000	100.2	80.0	115.0

QC LIMITS						
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
	Mercury	3.0000	3.1150	103.8	90.0	110.0
CCV--2	Mercury	5.0000	5.0350	100.7	80.0	120.0
CCV--3	Mercury	5.0000	5.0510	101.0	80.0	120.0
CCV--4	Mercury	5.0000	5.0500	101.0	80.0	120.0
CCV--5	Mercury	5.0000	4.9900	99.8	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	-0.0350	0.1000
CCB-	Mercury	0.0020	0.1000
CCB-	Mercury	0.0050	0.1000
CCB-	Mercury	-0.0010	0.1000
CCB-	Mercury	-0.0240	0.1000

----- Result Footnotes -----

(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

25931-93378	25956-93455	25956-93458	25956-93459	25956-93460	25956-93461	25956-93462	25967-93497
25967-93498							

Analysis Batch Number: ICPHR-03/09/99-114 -1

Identification : ICPHR-*IRIS QC parameters

Sequence : DATQ068

Number of Samples : 17

Batch Data-Date/Time : 03/10/99 / 08:51:12

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-026	Silver	0.0006	0.0060
	Aluminum	0.0443	0.1000
	Arsenic	ND	0.0200
	Barium	0.0010	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0005	0.0100
	Iron	0.0052	0.1000
	Manganese	0.0009	0.0040
	Sodium	0.2119	1.0000
	Lead	0.0015	0.0200
	Zinc	0.0121	0.0500
	Beryllium	ND	0.0002

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
25991-93582	Silver	0.0500	0.0006	0.0515	101.8	80.0	120.0
	Aluminum	4.0000	0.0253	4.2152	104.7	80.0	120.0
	Arsenic	2.0000	-0.0012	2.0638	103.3	80.0	120.0
	Barium	2.0000	0.1598	2.1561	99.8	80.0	120.0
	Cadmium	0.0500	-0.0003	0.0504	101.2	80.0	120.0
	Chromium	0.2000	0.0013	0.2070	102.8	80.0	120.0
	Iron	1.0000	0.0748	1.1230	104.8	80.0	120.0
	Manganese	0.5000	0.0017	0.5051	100.7	80.0	120.0
	Sodium	10.0000	44.8973	54.3394	94.4	80.0	120.0
	Lead	0.5000	-0.0005	0.5103	102.1	80.0	120.0
	Zinc	0.5000	0.0327	0.5372	100.9	80.0	120.0
	Beryllium	0.0500	0.0001	0.0510	101.9	80.0	120.0

MSD						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
25991-93582	Silver	0.0500	0.0006	0.0522	103.2	80.0	120.0	1.4	20.0
	Aluminum	4.0000	0.0253	4.2456	105.5	80.0	120.0	0.7	20.0
	Arsenic	2.0000	-0.0012	2.0790	104.0	80.0	120.0	0.7	20.0
	Barium	2.0000	0.1598	2.1777	100.9	80.0	120.0	1.0	20.0
	Cadmium	0.0500	-0.0003	0.0508	102.2	80.0	120.0	0.9	20.0
	Chromium	0.2000	0.0013	0.2070	102.8	80.0	120.0	0.0	20.0
	Iron	1.0000	0.0748	1.1113	103.7	80.0	120.0	1.0	20.0
	Manganese	0.5000	0.0017	0.5115	101.9	80.0	120.0	1.3	20.0
	Sodium	10.0000	44.8973	54.3654	94.7	80.0	120.0	0.0	20.0
	Lead	0.5000	-0.0005	0.5112	102.3	80.0	120.0	0.2	20.0
	Zinc	0.5000	0.0327	0.5324	99.9	80.0	120.0	0.9	20.0
	Beryllium	0.0500	0.0001	0.0512	102.2	80.0	120.0	0.3	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
25991-93582	Silver	0.0006	0.0024	121.9(11)	20.0	1.00
	Aluminum	0.0253	0.0461	58.2(11)	20.0	1.00
	Arsenic	-0.0012	0.0000	200.0(11)	20.0	1.00
	Barium	0.1598	0.1618	1.3	20.0	1.00
	Cadmium	-0.0003	0.0000	200.0(11)	20.0	1.00

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

03/11/99
14:55:55
Group: 25967

Analysis Batch Number: ICPHR-03/09/99-114 -1
Identification : ICPHR-*IRIS QC parameters
Number of Samples : 17
Batch Data-Date/Time : 03/10/99 / 08:51:12

Sequence : DATQ068

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
25991-93582	Chromium	0.0013	0.0015	12.7	20.0	1.00
	Iron	0.0748	0.0819	9.1	20.0	1.00
	Manganese	0.0017	0.0020	14.0	20.0	1.00
	Sodium	44.8973	44.1939	1.6	20.0	1.00
	Lead	-0.0005	0.0002	432.3(11)	20.0	1.00
	Zinc	0.0327	0.0870	90.6(5a)	20.0	1.00
	Beryllium	0.0001	0.0001	33.3(11)	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
LCSW-026	Silver	0.0514	0.0500	102.8	80.0	120.0
	Aluminum	4.1929	4.0000	104.8	80.0	120.0
	Arsenic	2.0437	2.0000	102.2	80.0	120.0
	Barium	2.0349	2.0000	101.7	80.0	120.0
	Cadmium	0.0525	0.0500	105.0	80.0	120.0
	Chromium	0.2079	0.2000	104.0	80.0	120.0
	Iron	1.0735	1.0000	107.4	80.0	120.0
	Manganese	0.5167	0.5000	103.3	80.0	120.0
	Sodium	10.8104	10.0000	108.1	80.0	120.0
	Lead	0.5248	0.5000	105.0	80.0	120.0
	Zinc	0.5560	0.5000	111.2	80.0	120.0
	Beryllium	0.0510	0.0500	102.0	80.0	120.0

QC LIMITS

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Silver	0.1000	0.1008	100.8	90.0	110.0
	Aluminum	5.0000	5.0735	101.5	90.0	110.0
	Arsenic	0.4000	0.3806	95.1	90.0	110.0
	Barium	1.0000	1.0196	102.0	90.0	110.0
	Cadmium	1.0000	1.0115	101.2	90.0	110.0
	Chromium	1.0000	1.0047	100.5	90.0	110.0
	Iron	1.0000	1.0339	103.4	90.0	110.0
	Manganese	1.0000	1.0145	101.5	90.0	110.0
	Sodium	10.0000	9.9528	99.5	90.0	110.0
	Lead	5.0000	5.0727	101.5	90.0	110.0
	Zinc	1.0000	1.0128	101.3	90.0	110.0
	Beryllium	0.1000	0.1004	100.4	90.0	110.0
CCV1--2	Silver	0.1000	0.1021	102.1	90.0	110.0
	Aluminum	5.0000	5.1530	103.1	90.0	110.0
	Arsenic	0.4000	0.3935	98.4	90.0	110.0
	Barium	1.0000	1.0309	103.1	90.0	110.0
	Cadmium	1.0000	1.0179	101.8	90.0	110.0
	Chromium	1.0000	1.0133	101.3	90.0	110.0
	Iron	1.0000	1.0440	104.4	90.0	110.0
	Manganese	1.0000	1.0269	102.7	90.0	110.0
	Sodium	10.0000	9.9403	99.4	90.0	110.0
	Lead	5.0000	5.0765	101.5	90.0	110.0
	Zinc	1.0000	1.0174	101.7	90.0	110.0
	Beryllium	0.1000	0.1010	101.0	90.0	110.0

Analysis Batch Number: ICPHR-03/09/99-114 -1

Test Identification : ICPHR-*IRIS QC parameters

Sequence : DATQ068

Number of Samples : 17

Batch Data-Date/Time : 03/10/99 / 08:51:12

QC LIMITS

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
CCV2--3	Silver	0.1000	0.1026	102.6	90.0	110.0
	Aluminum	5.0000	5.1233	102.5	90.0	110.0
	Arsenic	0.4000	0.3886	97.1	90.0	110.0
	Barium	1.0000	1.0395	104.0	90.0	110.0
	Cadmium	1.0000	1.0285	102.9	90.0	110.0
	Chromium	1.0000	1.0196	102.0	90.0	110.0
	Iron	1.0000	1.0511	105.1	90.0	110.0
	Manganese	1.0000	1.0298	103.0	90.0	110.0
	Sodium	10.0000	9.9867	99.9	90.0	110.0
	Lead	5.0000	5.1832	103.7	90.0	110.0
	Zinc	1.0000	1.0219	102.2	90.0	110.0
	Beryllium	0.1000	0.1005	100.5	90.0	110.0
CCV3--4	Silver	0.1000	0.1028	102.8	90.0	110.0
	Aluminum	5.0000	5.0858	101.7	90.0	110.0
	Arsenic	0.4000	0.3845	96.1	90.0	110.0
	Barium	1.0000	1.0257	102.6	90.0	110.0
	Cadmium	1.0000	0.9952	99.5	90.0	110.0
	Chromium	1.0000	1.0314	103.1	90.0	110.0
	Iron	1.0000	1.0530	105.3	90.0	110.0
	Manganese	1.0000	1.0111	101.1	90.0	110.0
	Sodium	10.0000	10.5014	105.0	90.0	110.0
	Lead	5.0000	5.1357	102.7	90.0	110.0
	Zinc	1.0000	1.0253	102.5	90.0	110.0
	Beryllium	0.1000	0.1005	100.4	90.0	110.0
CCV4--5	Silver	0.1000	0.1033	103.3	90.0	110.0
	Aluminum	5.0000	4.9993	100.0	90.0	110.0
	Arsenic	0.4000	0.3835	95.9	90.0	110.0
	Barium	1.0000	1.0033	100.3	90.0	110.0
	Cadmium	1.0000	0.9636	96.4	90.0	110.0
	Chromium	1.0000	1.0416	104.2	90.0	110.0
	Iron	1.0000	1.0635	106.3	90.0	110.0
	Manganese	1.0000	0.9695	97.0	90.0	110.0
	Sodium	10.0000	10.7177	107.2	90.0	110.0
	Lead	5.0000	5.1967	103.9	90.0	110.0
	Zinc	1.0000	1.0451	104.5	90.0	110.0
	Beryllium	0.1000	0.0963	96.3	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0007	0.0060
	Aluminum	ND	0.1000
	Arsenic	ND	0.0200
	Barium	0.0002	0.0040
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Iron	0.0118	0.1000
	Manganese	ND	0.0040
	Sodium	ND	1.0000
	Lead	ND	0.0200
	Zinc	ND	0.0500

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting03/11/99
14:55:56
Group: 25967Analysis Batch Number: ICPHR-03/09/99-114 -1
Identification : ICPHR-*IRIS QC parameters
Number of Samples : 17
Batch Data-Date/Time : 03/10/99 / 08:51:12

Sequence : DATQ068

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Beryllium	ND	0.0002
CCB1-	Silver	0.0002	0.0060
	Aluminum	0.0083	0.1000
	Arsenic	ND	0.0200
	Barium	0.0001	0.0040
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Iron	0.0083	0.1000
	Manganese	0.0001	0.0040
	Sodium	ND	1.0000
	Lead	ND	0.0200
	Zinc	ND	0.0500
	Beryllium	ND	0.0002
CCB2-	Silver	0.0008	0.0060
	Aluminum	ND	0.1000
	Arsenic	ND	0.0200
	Barium	0.0003	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0002	0.0100
	Iron	ND	0.1000
	Manganese	0.0002	0.0040
	Sodium	ND	1.0000
	Lead	ND	0.0200
	Zinc	ND	0.0500
	Beryllium	0.0000	0.0002
CCB3-	Silver	0.0007	0.0060
	Aluminum	0.0039	0.1000
	Arsenic	ND	0.0200
	Barium	ND	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0001	0.0100
	Iron	0.0023	0.1000
	Manganese	ND	0.0040
	Sodium	0.0031	1.0000
	Lead	ND	0.0200
	Zinc	ND	0.0500
	Beryllium	0.0000	0.0002
CCB4-	Silver	0.0005	0.0060
	Aluminum	ND	0.1000
	Arsenic	ND	0.0200
	Barium	0.0006	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0001	0.0100
	Iron	ND	0.1000
	Manganese	ND	0.0040
	Sodium	ND	1.0000
	Lead	0.0021	0.0200
	Zinc	ND	0.0500
	Beryllium	ND	0.0002

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting03/11/99
14:55:56
Group: 25967

Analysis Batch Number: ICPHR-03/09/99-114 -1
Identification : ICPHR-*IRIS QC parameters
Number of Samples : 17
Batch Data-Date/Time : 03/10/99 / 08:51:12

Sequence : DATQ068

----- Result Footnotes -----

- (11) - The duplicate results cannot be evaluated because both results are <MDL.
(5a) - Duplicates not evaluated: Results are <10x detection limit

Groups & Samples

25944-93411 25967-93497 25967-93498 25991-93580 25991-93581 25991-93582 26000-93614 26000-93615
26000-93616 26000-93617 26000-93618 26000-93619 26000-93620 26000-93621 26030-93737 26031-93738
26033-93740

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

03/11/99
14:55:57
Group: 25967

Analysis Batch Number: ICPHR-03/10/99-114 -1
Test Identification : ICPHR-*IRIS QC parameters
Number of Samples : 3
Batch Data-Date/Time : 03/11/99 / 09:43:38

Sequence : DATP069

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-026	Selenium	0.0092	0.0200

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
25991-93582	Selenium	2.0000	0.0033	2.0658	103.1	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
25991-93582	Selenium	2.0000	0.0033	2.0911	104.4	80.0	120.0	1.2	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
25991-93582	Selenium	0.0033	0.0005	151.1(11)	20.0	1.00

						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER	
LCSW-026	Selenium	2.0412	2.0000	102.1	80.0	120.0	

						QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER	
-	Selenium	0.4000	0.3606	90.1	90.0	110.0	
CCV1--2	Selenium	0.4000	0.3658	91.5	90.0	110.0	
CCV2--3	Selenium	0.4000	0.3828	95.7	90.0	110.0	
CCV3--4	Selenium	0.4000	0.3945	98.6	90.0	110.0	

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Selenium	0.0069	0.0240
CCB1-	Selenium	0.0107	0.0240
CCB2-	Selenium	ND	0.0240
CCB3-	Selenium	0.0218	0.0240

----- Result Footnotes -----
(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

25967-93497 25967-93498 25991-93582

Subcontractor:

Mountain States Analytical, Inc.
1645 West 2200 South

TEL: (800) 973-6724
FAX: (801) 972-6278

Salt Lake City, UT 84119

Acct #:

23-Feb-99

Sample ID	Matrix	Collection Date	Bottle Type	SW6010A	SW7470	SW7742	Requested Tests	
9902084-01C	Aqueous	2/22/99 4:30:00 PM	250HDPE	8	1	1		
9902084-02C	Aqueous	2/22/99 4:50:00 PM	250HDPE	8	1	1		

Comments: Please analyze two (2) unfiltered water samples for dissolved metals per WQCC format.

Relinquished by:

Ja S

Date/Time

2/25/99 1:00

Received by:

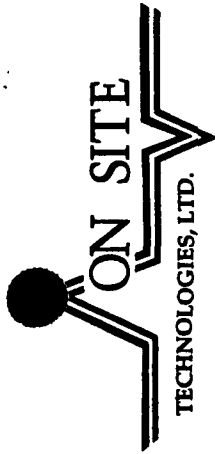
Keith A. Anderson

Date/Time

02/26/99 1030

Relinquished by:

Received by:



CHAIN OF CUSTODY RECORD

730

Page: 1 of 1

Date: 2/22/99

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

Purchase Order No.:		Job No.	
Name: Denver Bearden		Title: Maureen Gannon	
Company: PNM Gas Services	Dept. 324-3763	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: Randleman 1		ANALYSIS REQUESTED	
Sampler: Mark Sikelianos			
SAMPLE IDENTIFICATION		LAB ID	
MW-1 990222 1630	DATE: 2/22/99	MATRIX: H2O	PRES.: 1020 (4-11)
MW-2 990222 1650	DATE: 2/22/99	MATRIX: 1	PRES.: 1020 (4-11)
MW-3 990222 1710	DATE: 2/22/99	MATRIX: 1	PRES.: 1020 (4-11)
MW-4 990222 1730	DATE: 2/22/99	MATRIX: 1	PRES.: 1020 (4-11)
REPORT RESULTS TO		Number of Containers	
Received by: [Signature]		Date/Time: 2/22/99	
Received by: [Signature]		Date/Time: 2/22/99	
Received by: [Signature]		Date/Time: 2/22/99	
Rush		10 Working Days	
24-48 Hours		Special Instructions:	
Results to be sent to both parties.			
Authorized by: [Signature]		Date: 2/22/99	
(Client Signature Must Accompany Request)			

On Site Technologies, LTD.

Date: 22-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman 1

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:	9902084	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				J
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:	9902084	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					
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: 22-Mar-99

CLIENT: PNM - Public Service Company of NM
 Work Order: 9902084
 Project: Randleman 1

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: 9902084		Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	SeqNo: 11598	
Analyte	Result					LowLimit	HighLimit
Benzene	210.5	2.5	200	0.4105		73	115
Ethylbenzene	210.5	2.5	200	0.7455		74	117
m,p-Xylene	402.3	5	400	1.028		76	112
Methyl tert-Butyl Ether	213.8	5	200	0		62	122
o-Xylene	208	2.5	200	0.2425		83	112
Toluene	209.3	2.5	200	0.73		71	120
						%REC	
						105.1%	
						104.9%	
						100.3%	
						106.9%	
						103.9%	
						104.3%	
						%RPD	RPDLimit
							Qual

Sample ID: 9902083-02AMS		Batch ID: GC-1_990228	Test Code: SW8021B	Units: µg/L	Analysis Date 2/28/99		Prep Date:
Client ID: 9902084		Run ID: GC-1_990228A	PQL	SPK value	SPK Ref Val	SeqNo: 11599	
Analyte	Result					LowLimit	HighLimit
Benzene	199.7	2.5	200	0.4105		73	115
Ethylbenzene	199.9	2.5	200	0.7455		74	117
m,p-Xylene	381.9	5	400	1.028		76	112
Methyl tert-Butyl Ether	205.3	5	200	0		62	122
o-Xylene	197.8	2.5	200	0.2425		83	112
Toluene	198.9	2.5	200	0.73		71	120
						%REC	
						99.7%	
						99.6%	
						95.2%	
						102.7%	
						98.8%	
						99.1%	
						%RPD	RPDLimit
							Qual
							8
							9
							9
							7
							9
							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: 9902084
Project: Randleman 1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902083-01AMS		Batch ID: GC-1_990302		Test Code: SW8021B		Units: µg/L		Analysis Date 3/2/99		Prep Date:	
Client ID:		9902084		Run ID: GC-1_990302B				SeqNo: 11631			
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
Ethylbenzene	99.69	2.5	200	0	49.8%	74	117				
m,p-Xylene	780.1	5	400	423.4	89.2%	76	112				
Methyl tert-Butyl Ether	206.4	5	200	4.614	100.9%	62	122				
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				

Sample ID: 9902083-01AMS		Batch ID: GC-1_990302		Test Code: SW8021B		Units: µg/L		Analysis Date 3/2/99		Prep Date:	
Client ID:		9902084		Run ID:		GC-1_990302B		SeqNo: 11632			
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	
Ethylbenzene	92.86	2.5	200	0	46.4%	74	117	99.69	7.1%	9	S
m,p-Xylene	783.2	5	400	423.4	89.9%	76	112	780.1	0.4%	9	
Methyl tert-Butyl Ether	212.8	5	200	4.614	104.1%	62	122	206.4	3.1%	7	
o-Xylene	259.8	2.5	200	60.42	99.7%	83	112	253.6	2.4%	9	
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 S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 22-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902084

Project: Randleman I

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:	9902084	Run ID: GC-1_990228A		SeqNo: 11596							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.3	0.5	40	0.0645	103.1%	84	110				
Ethylbenzene	41.59	0.5	40	0	104.0%	86	113				
m,p-Xylene	79.78	1	80	0	99.7%	81	114				
Methyl tert-Butyl Ether	41.82	1	40	0	104.5%	69	129				
o-Xylene	41.2	0.5	40	0.0443	102.9%	86	112				
Toluene	41.19	0.5	40	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:		9902084	Run ID:	GC-1_990302B	SeqNo:	11629					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.48	0.5	40	0.0388	101.1%	84	110				
Ethylbenzene	41.09	0.5	40	0.3876	101.7%	86	113				
m,p-Xylene	78.92	1	80	0.2018	98.4%	81	114				
Methyl tert-Butyl Ether	40.91	1	40	0	102.3%	69	129				
o-Xylene	40.89	0.5	40	0.1155	101.9%	86	112				
Toluene	40.62	0.5	40	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: 22-Mar-99

CLIENT: PNM - Public Service Company of NM
 Work Order: 9902084
 Project: Randleman 1

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:	Run ID:	GC-1_990228A		SeqNo:	11593						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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:	9902084	Run ID:	GC-1_990228A	SeqNo:	11594						
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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: 9902084
 Project: Randleman I

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: 9902084		Run ID: GC-1_990228A		SeqNo: 11595							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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: 9902084		Run ID: GC-1_990302B		SeqNo: 11627							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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: 9902084
 Project: Randleman 1

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:		9902084		Run ID: GC-1_990302B				SeqNo: 11628			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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: ND - Not Detected at the Reporting Limit
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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: 9902084

Project: Randleman 1

Test No: SW8021B

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

Aromatic Volatiles by GC/PID

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

Acronym**Surrogate****QC 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: 9902084
Project: Randleman 1
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

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

On Site Technologies, LTD.

Date: 23-Mar-99

CLIENT: PNM - Public Service Company of NM
 Work Order: 9902084
 Project: Randleman I

QC SUMMARY REPORT

Method Blank

Sample ID: MBLank	Batch ID: API H2O_990	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 2/25/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12026	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Bicarbonate (As CaCO3)	1.8	5			J
Alkalinity, Carbonate (As CaCO3)	ND	5			
Alkalinity, Hydroxide	ND	5			
Alkalinity, Total (As CaCO3)	1.8	5			J
Sample ID: MBLank	Batch ID: API H2O_990	Test Code: E325.3	Units: mg/L	Analysis Date: 2/25/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12031	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chloride	ND	1			
Sample ID: MBLank	Batch ID: API H2O_990	Test Code: E120.1	Units: uS/cm	Analysis Date: 2/24/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12036	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Specific Conductance	ND	2			
Sample ID: MBLank	Batch ID: API H2O_990	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 3/8/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12057	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfate	ND	5			

Qualifiers: NID - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
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 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman 1

QC SUMMARY REPORT

Method Blank

Sample ID: **MBLank** Batch ID: **API H2O_990** Test Code: **E215.1** Units: **mg/L** Analysis Date: **3/11/99** Prep Date:
Client ID: **9902084** Run ID: **API H2O_990312A** SeqNo: **12150**
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Calcium .01 0.25

Sample ID: **MBLank** Batch ID: **API H2O_990** Test Code: **E242.1** Units: **mg/L** Analysis Date: **3/11/99** Prep Date:
Client ID: **9902084** Run ID: **API H2O_990312A** SeqNo: **12198**
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium ND 0.25

Sample ID: **MBLank** Batch ID: **API H2O_990** Test Code: **E258.1** Units: **mg/L** Analysis Date: **3/10/99** Prep Date:
Client ID: **9902084** Run ID: **API H2O_990312A** SeqNo: **12221**
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium ND 0.25

Sample ID: **MBLank** Batch ID: **API H2O_990** Test Code: **E273.1** Units: **mg/L** Analysis Date: **3/10/99** Prep Date:
Client ID: **9902084** Run ID: **API H2O_990312A** SeqNo: **12256**
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium ND 0.25

Sample ID: **MBLank** Batch ID: **API H2O_990** Test Code: **E160.1** Units: **mg/L** Analysis Date: **3/12/99** Prep Date:
Client ID: **9902084** Run ID: **API H2O_990312A** SeqNo: **12272**
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filtera ND 40

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Mar-99

CLIENT: PNM - Public Service Company of NM
 Work Order: 9902084
 Project: Randleman 1

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9902084-01BD	Batch ID: API H2O_990	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 3/8/99	Prep Date:
Client ID: 9902221630; MW-	Run ID: 9902084	API H2O_990312A		SeqNo: 12061	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfate	2188	5	0	0	0.0% 0 2172 0.7% 4

Sample ID: 9902084-02BD	Batch ID: API H2O_990	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 2/25/99	Prep Date:
Client ID: 9902221650; MW-	Run ID: 9902084	API H2O_990312A		SeqNo: 12030	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Bicarbonate (As CaCO3)	240	5	0	0	0.0% 0 239 0.4% 5
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0% 0 0 0.0% 5
Alkalinity, Hydroxide	ND	5	0	0	0.0% 0 0 0.0% 5
Alkalinity, Total (As CaCO3)	240	5	0	0	0.0% 0 239 0.4% 5

Sample ID: 9902084-02BD	Batch ID: API H2O_990	Test Code: E325.3	Units: mg/L	Analysis Date: 2/25/99	Prep Date:
Client ID: 9902221650; MW-	Run ID: 9902084	API H2O_990312A		SeqNo: 12035	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chloride	620	1	0	0	0.0% 0 608 2.0% 15

Qualifiers: NID - Not Detected at the Reporting Limit
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 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman 1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902084-01BMS	Batch ID: API H2O_990	Test Code: E215.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID: 9902221630; MW-	Run ID: 9902084	PQL	SPK value	SeqNo: 12160	
Analyte	Result			LowLimit	HighLimit
Calcium	608	0.25	200	69	147
				%REC	RPDLimit
				99.0%	Qual
Sample ID: 9902084-01BMS	Batch ID: API H2O_990	Test Code: E242.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID: 9902221630; MW-	Run ID: 9902084	PQL	SPK value	SeqNo: 12208	
Analyte	Result			LowLimit	HighLimit
Magnesium	41.2	5	20	68	144
				%REC	RPDLimit
				91.0%	Qual
Sample ID: 9902084-01BMS	Batch ID: API H2O_990	Test Code: E258.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:
Client ID: 9902221630; MW-	Run ID: 9902084	PQL	SPK value	SeqNo: 12230	
Analyte	Result			LowLimit	HighLimit
Potassium	13	1.2	1	52	163
				%REC	RPDLimit
				100.0%	Qual
Sample ID: 9902084-01BMS	Batch ID: API H2O_990	Test Code: E273.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:
Client ID: 9902221630; MW-	Run ID: 9902084	PQL	SPK value	SeqNo: 12265	
Analyte	Result			LowLimit	HighLimit
Sodium	1130	120	500	80	126
				%REC	RPDLimit
				100.0%	Qual

Qualifiers:

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R - RPD outside accepted recovery limits

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On Site Technologies, LTD.

Date: 23-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman 1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: CCV1	Batch ID: API H2O_990	Test Code: E215.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12151	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Calcium	1.71	0.25	1.95	0.01	87.2% 85 115

Sample ID: LCS	Batch ID: API H2O_990	Test Code: M2320 B	Units: mg/L CaCO3	Analysis Date: 2/25/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12027	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	110	5	116	2	93.1% 93 116

Sample ID: LCS	Batch ID: API H2O_990	Test Code: E325.3	Units: mg/L	Analysis Date: 2/25/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12032	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chloride	116	1	122	91	113

Sample ID: LCS	Batch ID: API H2O_990	Test Code: E120.1	Units: uS/cm	Analysis Date: 2/24/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12037	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Specific Conductance	1047	2	1040	0	100.7% 97 103

Sample ID: LCS	Batch ID: API H2O_990	Test Code: E120.1	Units: uS/cm	Analysis Date: 2/24/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12040	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Specific Conductance	1048	2	1040	0	100.8% 97 103

Qualifiers: ND - Not Detected at the Reporting Limit
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CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman I

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: API H2O_990	Test Code: E150.1	Units: pH units	Analysis Date: 2/24/99	Prep Date:						
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12041							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.904	2	9.07	0	98.2%	98	102				

Sample ID: LCS	Batch ID: API H2O_990	Test Code: M4500-SO4 D	Units: mg/L	Analysis Date: 3/8/99	Prep Date:						
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12058							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	120	5	122	0	98.4%	82	113				

Sample ID: LCS	Batch ID: API H2O_990	Test Code: E160.1	Units: mg/L	Analysis Date: 3/12/99	Prep Date:						
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12273							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	746	40	750	40	94.1%	91	110				

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 23-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1	Batch ID: API H2O_990	Test Code: E242.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12199	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium	1.22	0.25	1.11	0	109.9% 85 115
Sample ID: CCV1	Batch ID: API H2O_990	Test Code: E258.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12222	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium	2.65	0.25	2.68	0	98.9% 85 115
Sample ID: CCV1	Batch ID: API H2O_990	Test Code: E273.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12257	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	2.54	0.25	2.64	0	96.2% 85 115
Sample ID: CCV2	Batch ID: API H2O_990	Test Code: E215.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12161	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Calcium	1.75	0.25	1.95	0	89.7% 85 115
Sample ID: CCV2	Batch ID: API H2O_990	Test Code: E242.1	Units: mg/L	Analysis Date: 3/11/99	Prep Date:
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12209	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Magnesium	1.22	0.25	1.11	0	109.9% 85 115

Qualifiers: NID - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM
Work Order: 9902084
Project: Randleman I

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2	Batch ID: API H2O_990	Test Code: E258.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:						
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12231							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.74	0.25	2.68	0	102.2%	85	115				

Sample ID: CCV2	Batch ID: API H2O_990	Test Code: E273.1	Units: mg/L	Analysis Date: 3/10/99	Prep Date:						
Client ID:	9902084	Run ID: API H2O_990312A		SeqNo: 12267							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2.43	0.25	2.64	0	92.0%	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

2 of 2