3R - 343

REPORTS

DATE:

Nov. 1, 1996

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

November 1, 1996

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

RE: SAN JUAN BASIN 3RD QUARTER 1996 GROUNDWATER REPORT

Dear Bill:

PNM Gas Services, PNMGS, (formerly Gas Company of New Mexico) is pleased to submit the 3rd Quarter 1996 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 is provided below.

Abrams Gas/Com L1
Cozzens B1
Cozzens B1E
Florance 32A
Florance 44
Florance 124
Honolulu Loop-Line Drip
Kaufmann 1
McCoy A1A
Templeton 1E
Zachry 18E

PNM hereby requests two modifications of our Groundwater Management Program Unlined Surface Impoundment Closures submitted to OCD in March of 1996:

- PNM wishes to file annual groundwater progress reports to the OCD instead of quarterly reporting. Concerning sites with problematic or unusual activities, we will prepare individual reports to the OCD between annual reports as necessary. We will also file closure reports on groundwater sites as remediation is completed.
- PNM also asks for an exemption from notifying the OCD 48 hours in advance of any major sampling event or related activity at a groundwater site. We invite OCD to participate in our sampling events at any time. Please feel free to call Denver Bearden or me to schedule a time in the field with us.

If you have any questions regarding the contents of this report or the proposed modifications, please contact me at (505) 241-2974.

Sincerely,
PNM Environmental Services Department

Maureen Gannon
Project Manager

Attachment

cc: Denver Bearden, PNMGS
Denny Foust, OCD-Aztec Office
Leigh Gooding, WFS

bcc: Colin Adams (w/o analytical results)
Ron Johnson (w/o analytical results)
Toni Ristau (w/o analytical results)
Mark Sikelianos (w/o analytical results)

PNMGS Well Site: **Templeton 1E**

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

Groundwater Site Summary Report

Quarter: 3 **Year:** 96

Operator: Snyder
Sec: 27 **Twn:** 31 **Rng:** 13 **Unit:** B
Canyon: La Plata

Vulnerable Class: Original
OCD Ranking: 30
Lead Agency: NMOCD

Topo Map: previously submitted
Groundwater Contour Map: Figure 1
Hydrograph: Figure 2
Site Map with Analysis: Figure3
Well Completion Diagram: previously submitted
Analytical Results: attached

Activities for Quarter:

PNM sampled the Templeton 1E well site on September 4, 1996. PNM first conducted a round of water level measurements in the groundwater monitoring wells. The five wells were then sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, monitor well, MW-3, was resampled for lead (Pb) and barium (Ba) since these two metals were slightly above WQCC standards the previous quarter.[1]

PNM conducted sampling in strict compliance with EPA protocol. The samples were hand -delivered to OnSite Technologies, Farmington, New Mexico, where they were analyzed for BTEX using EPA Method 8020. The groundwater sample from MW-3 was also analyzed for filtered Pb and Ba using EPA method 6010A.

Conclusions and Recommendations:

Figure 1 is a groundwater contour map of the site for the third quarter of 1996. Groundwater flows in a southerly direction beneath the site. Figure 2 is a hydrograph (water level versus time) of each groundwater monitoring well. Water levels have dropped consistently in each monitoring well by an average of 0.6 feet between the second and third quarter of this year.

BTEX concentrations were below laboratory detection levels in all wells but MW-3 and MW-4. MW-3, located in the area of the former PNM pit, contained groundwater with BTEX concentrations, but the values were below WQCC standards. This well is exhibiting a downward trend in contaminant levels. MW-4 is showing slight BTEX contamination. It is approximately 130 feet downgradient from MW-3 and appears to be on the leading edge of the contaminant. Concerning metals's sampling at MW-3, the Pb concentration was 0.023 mg/l and the Ba concentration, 0.0009 mg/l; both values are below the WQCC standards for these metals.

Further Action:

PNM anticipates that natural attenuation will continue to remediate this site and will verify this assumption with quarterly monitoring. During quarterly sampling we will also monitor the groundwater gradient. We will take no additional measures regarding metals at the site.

[1] See San Juan Basin 2nd Quarter 1996 Groundwater Report, PNM, 8/1/96

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. Templeton Groundwater Contour Map, Sept. 1996

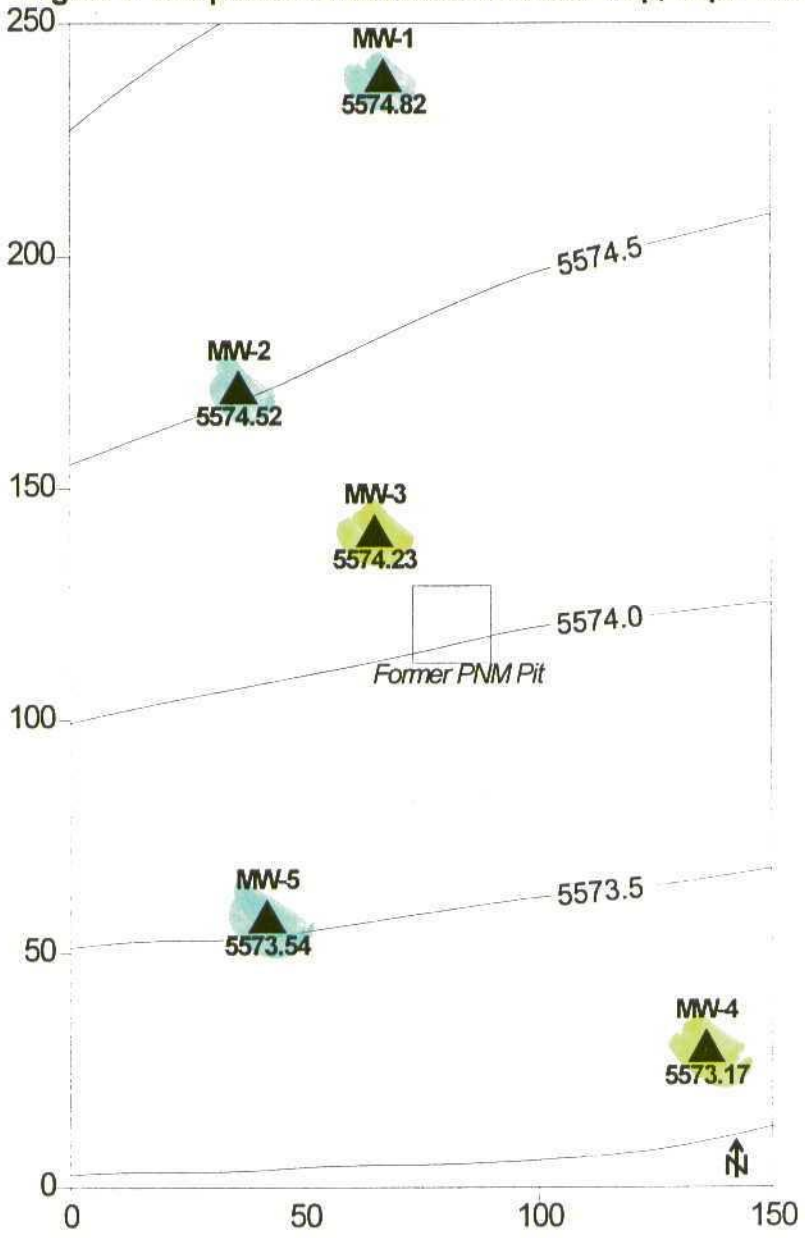
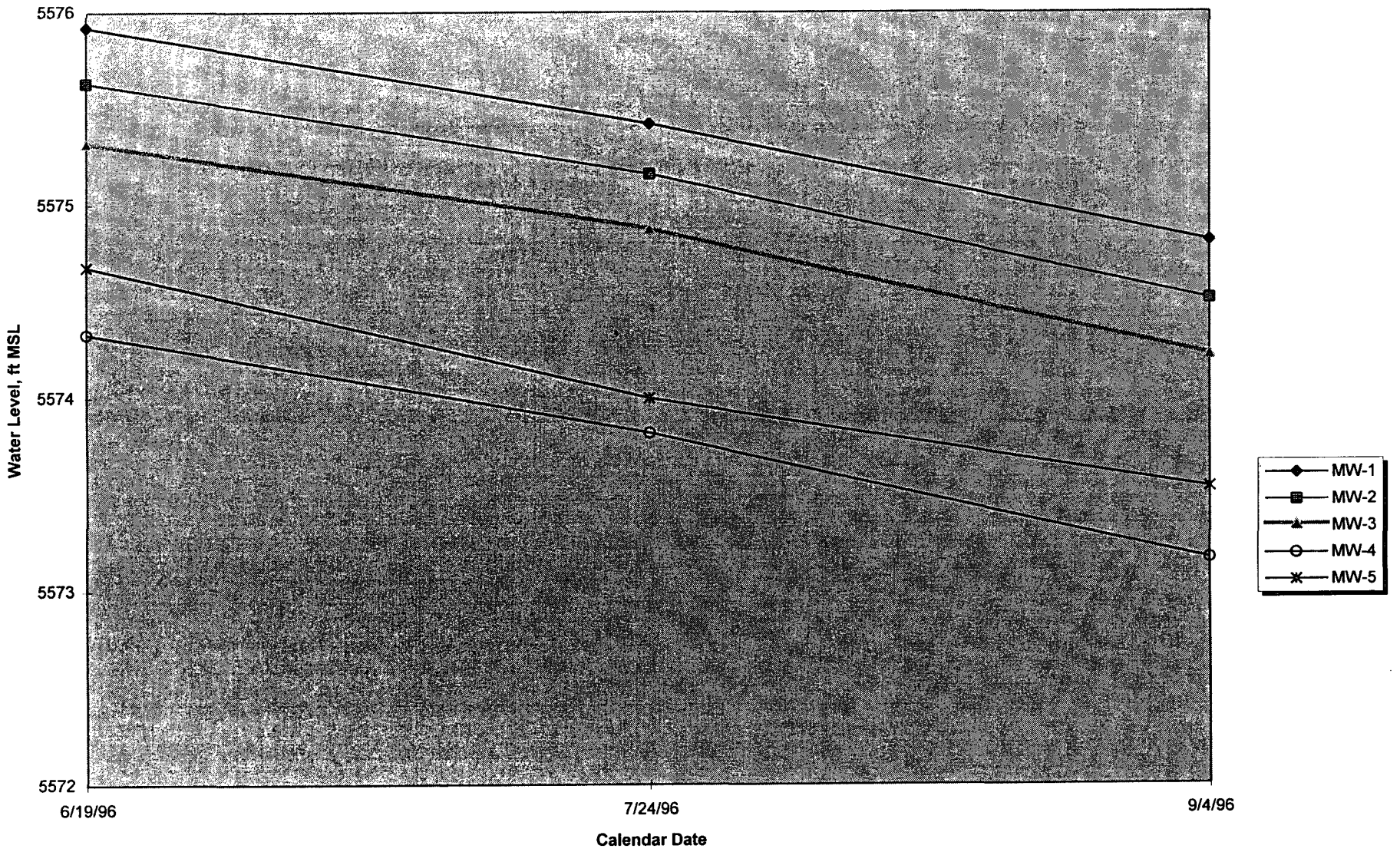


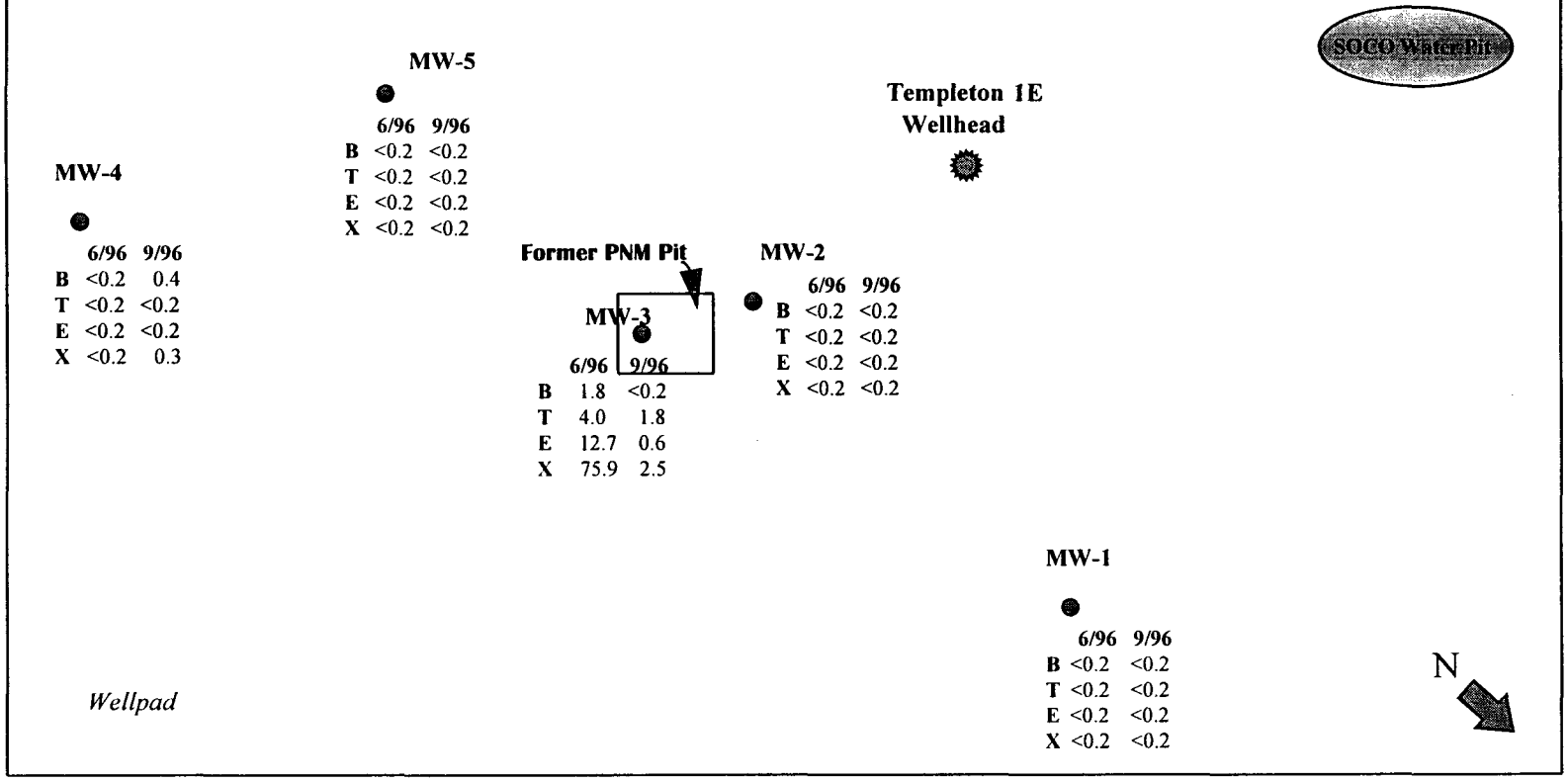
Figure 2
Templeton 1E Hydrograph
(water level vs. time)



revised 10/96

s:\gaspits\temp.hyd

Figure 3. Templeton 1E Well Site
Well Locations & Analytical Results
(Concentrations in ppb)



tempmap.ppt
revised 10/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	10-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12019*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041500; MW-1***				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	15:00
Analyzed by:	DC	Date:	10-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	<0.2	ug/L	0.2	ug/L
Toluene	<0.2	ug/L	0.2	ug/L
Ethylbenzene	<0.2	ug/L	0.2	ug/L
m,p-Xylene	<0.2	ug/L	0.2	ug/L
o-Xylene	<0.2	ug/L	0.2	ug/L
TOTAL	<0.2	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: JG
Date: 9/10/96

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	9-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12020*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041530; MW-2***				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	15:30
Analyzed by:	DC	Date:	8-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	<0.2	ug/L	0.2	ug/L
Toluene	<0.2	ug/L	0.2	ug/L
Ethylbenzene	<0.2	ug/L	0.2	ug/L
m,p-Xylene	<0.2	ug/L	0.2	ug/L
o-Xylene	<0.2	ug/L	0.2	ug/L
TOTAL	<0.2	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DaC
Date: 9/9/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	9-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12021*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041600; MW-3***				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	16:00
Analyzed by:	DC	Date:	8-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	<0.2	ug/L	0.2	ug/L
Toluene	1.8	ug/L	0.2	ug/L
Ethylbenzene	0.6	ug/L	0.2	ug/L
m,p-Xylene	1.9	ug/L	0.2	ug/L
o-Xylene	0.6	ug/L	0.2	ug/L
TOTAL	4.9	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DaC

Date: 9/9/96

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AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	9-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12022*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041630; MW-4***				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	16:30
Analyzed by:	DC	Date:	8-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	***Result***	***Unit of Measure***	***Detection Limit***	***Unit of Measure***
Benzene	0.4	ug/L	0.2	ug/L
Toluene	<0.2	ug/L	0.2	ug/L
Ethylbenzene	<0.2	ug/L	0.2	ug/L
m,p-Xylene	0.3	ug/L	0.2	ug/L
o-Xylene	<0.2	ug/L	0.2	ug/L
TOTAL	0.7	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: JaC

Date: 9/9/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	9-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12023*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041700; MW-5***				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	17:00
Analyzed by:	DC	Date:	8-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	<0.2	ug/L	0.2	ug/L
Toluene	<0.2	ug/L	0.2	ug/L
Ethylbenzene	<0.2	ug/L	0.2	ug/L
m,p-Xylene	<0.2	ug/L	0.2	ug/L
o-Xylene	<0.2	ug/L	0.2	ug/L
TOTAL	<0.2	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DaG

Date: 9/9/96

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TECHNOLOGIES, LTD.

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AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	9-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5252*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*12024*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Templeton 1E***				
Project Location:	***9609041615; MW-6*** (Dup MW-3)				
Sampled by:	MS/MG	Date:	4-Sep-96	Time:	16:15
Analyzed by:	DC	Date:	8-Sep-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	<0.2	ug/L	0.2	ug/L
Toluene	1.8	ug/L	0.2	ug/L
Ethylbenzene	0.5	ug/L	0.2	ug/L
m,p-Xylene	2.0	ug/L	0.2	ug/L
o-Xylene	0.7	ug/L	0.2	ug/L
TOTAL	4.9	ug/L		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: JLG
Date: 9/9/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 8-Sep-96

Internal QC No.: 0486-QC
Surrogate QC No.: 0488-QC
Reference Standard QC No.: 0417-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	21.1	5	15%
Toluene	ppb	20.0	20.7	3	15%
Ethylbenzene	ppb	20.0	22.5	12	15%
m,p-Xylene	ppb	40.0	42.4	6	15%
o-Xylene	ppb	20.0	20.6	3	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	102	99	(39-150)	2	20%
Toluene	102	99	(46-148)	2	20%
Ethylbenzene	103	102	(32-160)	1	20%
m,p-Xylene	99	97	(35-145)	1	20%
o-Xylene	99	95	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
12020-5252	102	
12021-5252	105	
12022-5252	103	
12023-5252	102	
12024-5252	105	

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 10-Sep-96

Internal QC No.: 0486-QC
Surrogate QC No.: 0488-QC
Reference Standard QC No.: 0417-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	21.3	6	15%
Toluene	ppb	20.0	20.9	5	15%
Ethylbenzene	ppb	20.0	21.4	7	15%
m,p-Xylene	ppb	40.0	41.3	3	15%
o-Xylene	ppb	20.0	20.4	2	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	99	112	(39-150)	8	20%
Toluene	97	109	(46-148)	8	20%
Ethylbenzene	98	109	(32-160)	8	20%
m,p-Xylene	93	103	(35-145)	7	20%
o-Xylene	91	103	(35-145)	8	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
12019-5252	103	

S1: Flourobenzene

Analytical Report

Mountain States Analytical
The Quality Solution

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

Attn: Mr. David Cox
Project: Templeton 1E, Florance 124

MSAI Group: 13562
Date Reported: 09/25/96
Date Received: 09/18/96

Purchase Order: 5251/52
Project No.: PNM1002

Test	Analysis	Results as Received	Units	Method Detection Limit
Sample:52998 - Templeton 1E MW3				
0255F	Lead by ICP, Dissolved	ND	mg/l	0.03
2541B	Barium by ICP, Dissolved	0.023	mg/l	0.003
0392I	Flame/ICP Prep for Metals, Waters	Complete		
0939	Sample Filtering	Complete		
Sample:52999 - Florance 124 MW-2				
0255F	Lead by ICP, Dissolved	ND	mg/l	0.03
2541B	Barium by ICP, Dissolved	0.009	mg/l	0.003
0392I	Flame/ICP Prep for Metals, Waters	Complete		
0939	Sample Filtering	Complete		

Test Method Summary:
0255F- SW-846 6010A
2541B- SW-846 6010A
0392I- SW-846 3005A
0939 - MSAI IN-HOUSE

Respectfully Submitted,
Reviewed and Approved by:

Rolf B. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Mountain States Analytical
The Quality Solution

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

Attn: Mr. David Cox
Project: Templeton 1E, Florance 124

Sample ID: Templeton 1E MW3
Matrix: Waste Water

MSAI Sample: 52998
MSAI Group: 13562
Date Reported: 09/25/96
Discard Date: 10/25/96
Date Submitted: 09/18/96
Date Sampled: 09/05/96
Collected by:
Purchase Order: 5251/52
Project No.: PNM1002

Test	Analysis	Results as Received	Units	Limit of Quantitation
0255F	Lead by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.15
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete		
2541B	Barium by ICP, Dissolved Method: SW-846 6010A	0.02	mg/l	0.02
0939	Sample Filtering Method: MSAI IN-HOUSE	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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

09/25/96
08:05:06
Group: 13562

nalysis Batch Number: ICPWA-09/24/96-010 -2
est Identification : ICPWA-Metals by ICP
umber of Samples : 14
atch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

SD

AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
3489-52767	Aluminum	1.0000	0.1290	1.1524	102.3	80.0	120.0	4.1	20.0
	Antimony	1.0000	0.0035	0.9082	90.5	80.0	120.0	7.0	20.0
	Arsenic	1.0000	0.0009	0.9442	94.3	80.0	120.0	3.5	20.0
	Barium	0.2000	0.0885	0.2743	92.9	80.0	120.0	6.3	20.0
	Beryllium	0.1000	0.0000	0.1012	101.2	80.0	120.0	0.6	20.0
	Cadmium	0.2000	0.0011	0.1916	95.3	80.0	120.0	1.7	20.0
	Calcium	2.0000	45.3217	45.7920	23.5(2a)	80.0	120.0	178.2(1a)	20.0
	Chromium	0.2000	0.0098	0.1896	89.9	80.0	120.0	4.2	20.0
	Copper	0.2000	-0.0012	0.1943	97.8	80.0	120.0	1.4	20.0
	Iron	0.7000	0.1438	0.8220	96.9	80.0	120.0	4.5	20.0
	Lead	1.0000	-0.0168	0.9190	93.6	80.0	120.0	2.2	20.0
	Magnesium	1.0000	54.7313	54.1200	-61.1(2a)	80.0	120.0	234.9(1a)	20.0
	Manganese	0.2000	0.0099	0.1994	94.8	80.0	120.0	0.4	20.0
	Nickel	0.4000	0.0113	0.3790	91.9	80.0	120.0	2.5	20.0
	Potassium	2.0000	5.8840	7.6316	87.4	80.0	120.0	27.9(4a)	20.0
	Selenium	1.0000	0.0052	0.9702	96.5	80.0	120.0	3.6	20.0
	Silver	0.1000	-0.0020	0.0943	96.3	80.0	120.0	3.8	20.0
	Sodium	3.0000	172.5171	171.0307	-49.5(2a)	80.0	120.0	240.5(1a)	20.0
	Thallium	2.0000	0.0154	1.7872	88.6	80.0	120.0	5.4	20.0
	Vanadium	0.5000	0.0065	0.4894	96.6	80.0	120.0	1.7	20.0
	Zinc	0.2000	0.0076	0.2012	96.8	80.0	120.0	2.9	20.0
	Molybdenum	1.0000	-0.0039	0.9489	95.3	80.0	120.0	1.5	20.0

JPLICATE

MPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
3489-52767	Aluminum	0.1290	0.1921	39.3(11)	20.0	1.00
	Antimony	0.0035	0.0344	163.1(11)	20.0	1.00
	Arsenic	0.0009	0.0250	186.1(11)	20.0	1.00
	Barium	0.0885	0.0905	2.2	20.0	1.00
	Beryllium	0.0000	0.0000	0.0	20.0	1.00
	Cadmium	0.0011	0.0015	30.8(11)	20.0	1.00
	Calcium	45.3217	45.9977	1.5	20.0	1.00
	Chromium	0.0098	0.0982	163.7(B)	20.0	1.00
	Copper	-0.0012	0.0008	1000.0(11)	20.0	1.00
	Iron	0.1438	0.6366	126.3(B)	20.0	1.00
	Lead	-0.0168	0.0000	200.0(11)	20.0	1.00
	Magnesium	54.7313	55.7875	1.9	20.0	1.00
	Manganese	0.0099	0.0111	11.4	20.0	1.00
	Nickel	0.0113	0.0681	143.1(3a)	20.0	1.00
	Potassium	5.8840	5.9577	1.2	20.0	1.00
	Selenium	0.0052	0.0398	153.8(11)	20.0	1.00
	Silver	-0.0020	0.0000	200.0(11)	20.0	1.00
	Sodium	172.5171	177.2939	2.7	20.0	1.00
	Thallium	0.0154	0.0322	70.6(11)	20.0	1.00
	Vanadium	0.0065	0.0063	3.1	20.0	1.00
	Zinc	0.0076	0.0085	11.2	20.0	1.00
	Molybdenum	-0.0039	0.0026	1000.0(11)	20.0	1.00

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

09/25/96
08:05:07
Group: 13562

nalysis Batch Number: ICPWA-09/24/96-010 -2
est Identification : ICPWA-Metals by ICP
umber of Samples : 14
atch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

ONTROL AMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	UPPER
CSW-625	Aluminum	0.9580	1.0000	95.8	80.0	120.0
	Antimony	0.9122	1.0000	91.2	80.0	120.0
	Arsenic	0.9717	1.0000	97.2	80.0	120.0
	Barium	0.1908	0.2000	95.4	80.0	120.0
	Beryllium	0.1019	0.1000	101.9	80.0	120.0
	Cadmium	0.1991	0.2000	99.6	80.0	120.0
	Calcium	2.0755	2.0000	103.8	80.0	120.0
	Chromium	0.2021	0.2000	101.1	80.0	120.0
	Copper	0.1929	0.2000	96.4	80.0	120.0
	Iron	0.7125	0.7000	101.8	80.0	120.0
	Lead	0.9701	1.0000	97.0	80.0	120.0
	Magnesium	0.9881	1.0000	98.8	80.0	120.0
	Manganese	0.2090	0.2000	104.5	80.0	120.0
	Nickel	0.4041	0.4000	101.0	80.0	120.0
	Potassium	1.9478	2.0000	97.4	80.0	120.0
	Selenium	1.0066	1.0000	100.7	80.0	120.0
	Silver	0.0999	0.1000	99.9	80.0	120.0
	Sodium	2.9307	3.0000	97.7	80.0	120.0
	Thallium	2.0302	2.0000	101.5	80.0	120.0
	Vanadium	0.4970	0.5000	99.4	80.0	120.0
	Zinc	0.2020	0.2000	101.0	80.0	120.0
	Molybdenum	0.9845	1.0000	98.5	80.0	120.0

V #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	UPPER
V-	Aluminum	20.0000	19.6839	98.4	90.0	110.0
	Antimony	4.0000	4.0653	101.6	90.0	110.0
	Arsenic	1.6000	1.6020	100.1	90.0	110.0
	Barium	4.0000	3.8350	95.9	90.0	110.0
	Beryllium	0.4000	0.3975	99.4	90.0	110.0
	Cadmium	4.0000	3.9220	98.1	90.0	110.0
	Calcium	40.0000	40.0239	100.1	90.0	110.0
	Chromium	4.0000	3.9406	98.5	90.0	110.0
	Copper	4.0000	3.8607	96.5	90.0	110.0
	Iron	4.0000	3.8929	97.3	90.0	110.0
	Lead	20.0000	19.1943	96.0	90.0	110.0
	Magnesium	20.0000	19.7946	99.0	90.0	110.0
	Manganese	4.0000	3.8447	96.1	90.0	110.0
	Nickel	8.0000	7.7917	97.4	90.0	110.0
	Potassium	40.0000	40.3892	101.0	90.0	110.0
	Selenium	1.6000	1.5879	99.2	90.0	110.0
	Silver	0.4000	0.4238	106.0	90.0	110.0
	Sodium	40.0000	40.3638	100.9	90.0	110.0
	Thallium	4.0000	3.7819	94.5	90.0	110.0
	Vanadium	1.6000	1.5947	99.7	90.0	110.0
	Zinc	4.0000	3.8934	97.3	90.0	110.0
	Molybdenum	20.0000	20.0832	100.4	90.0	110.0
-2	Aluminum	20.0000	19.5707	97.9	90.0	110.0
	Antimony	4.0000	4.0739	101.8	90.0	110.0

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

09/25/96
08:05:08
Group: 13562

nalysis Batch Number: ICPWA-09/24/96-010 -2
est Identification : ICPWA-Metals by ICP
umber of Samples : 14
atch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

CV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CV1--2	Arsenic	1.6000	1.6073	100.5	90.0	110.0
	Barium	4.0000	3.7946	94.9	90.0	110.0
	Beryllium	0.4000	0.3969	99.2	90.0	110.0
	Cadmium	4.0000	3.9350	98.4	90.0	110.0
	Calcium	40.0000	40.2729	100.7	90.0	110.0
	Chromium	4.0000	3.9480	98.7	90.0	110.0
	Copper	4.0000	3.8362	95.9	90.0	110.0
	Iron	4.0000	3.9315	98.3	90.0	110.0
	Lead	20.0000	19.3166	96.6	90.0	110.0
	Magnesium	20.0000	19.7681	98.8	90.0	110.0
	Manganese	4.0000	3.8522	96.3	90.0	110.0
	Nickel	8.0000	7.8338	97.9	90.0	110.0
	Potassium	40.0000	40.0508	100.1	90.0	110.0
	Selenium	1.6000	1.5851	99.1	90.0	110.0
	Silver	0.4000	0.4246	106.2	90.0	110.0
	Sodium	40.0000	39.4719	98.7	90.0	110.0
	Thallium	4.0000	3.7357	93.4	90.0	110.0
	Vanadium	1.6000	1.5956	99.7	90.0	110.0
	Zinc	4.0000	3.8997	97.5	90.0	110.0
	Molybdenum	20.0000	20.1201	100.6	90.0	110.0
CV2--3	Aluminum	20.0000	19.4752	97.4	90.0	110.0
	Antimony	4.0000	4.0086	100.2	90.0	110.0
	Arsenic	1.6000	1.5745	98.4	90.0	110.0
	Barium	4.0000	3.7769	94.4	90.0	110.0
	Beryllium	0.4000	0.3911	97.8	90.0	110.0
	Cadmium	4.0000	3.8623	96.6	90.0	110.0
	Calcium	40.0000	39.6900	99.2	90.0	110.0
	Chromium	4.0000	3.8833	97.1	90.0	110.0
	Copper	4.0000	3.8151	95.4	90.0	110.0
	Iron	4.0000	3.8138	95.3	90.0	110.0
	Lead	20.0000	19.0276	95.1	90.0	110.0
	Magnesium	20.0000	19.5952	98.0	90.0	110.0
	Manganese	4.0000	3.8052	95.1	90.0	110.0
	Nickel	8.0000	7.6535	95.7	90.0	110.0
	Potassium	40.0000	39.6865	99.2	90.0	110.0
	Selenium	1.6000	1.5181	94.9	90.0	110.0
	Silver	0.4000	0.4201	105.0	90.0	110.0
	Sodium	40.0000	39.0637	97.7	90.0	110.0
	Thallium	4.0000	3.7412	93.5	90.0	110.0
	Vanadium	1.6000	1.5753	98.5	90.0	110.0
	Zinc	4.0000	3.8588	96.5	90.0	110.0
	Molybdenum	20.0000	19.7775	98.9	90.0	110.0
V3--4	Aluminum	20.0000	19.9146	99.6	90.0	110.0
	Antimony	4.0000	4.0115	100.3	90.0	110.0
	Arsenic	1.6000	1.6313	102.0	90.0	110.0
	Barium	4.0000	3.8701	96.8	90.0	110.0
	Beryllium	0.4000	0.4078	101.9	90.0	110.0
	Cadmium	4.0000	3.9836	99.6	90.0	110.0
	Calcium	40.0000	40.7504	101.9	90.0	110.0

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

09/25/96
08:05:09
Group: 13562

alysis Batch Number: ICPWA-09/24/96-010 -2
st Identification : ICPWA-Metals by ICP
mber of Samples : 14
tch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

CV #	ANALYTE	TRUE VALUE	BATCH READ	% REC	#	QC LIMITS LOWER	QC LIMITS UPPER
V3--4	Chromium	4.0000	4.0028	100.1		90.0	110.0
	Copper	4.0000	3.9151	97.9		90.0	110.0
	Iron	4.0000	3.9753	99.4		90.0	110.0
	Lead	20.0000	19.4547	97.3		90.0	110.0
	Magnesium	20.0000	20.0755	100.4		90.0	110.0
	Manganese	4.0000	3.9120	97.8		90.0	110.0
	Nickel	8.0000	7.8815	98.5		90.0	110.0
	Potassium	40.0000	40.4407	101.1		90.0	110.0
	Selenium	1.6000	1.6507	103.2		90.0	110.0
	Silver	0.4000	0.4337	108.4		90.0	110.0
	Sodium	40.0000	39.2281	98.1		90.0	110.0
	Thallium	4.0000	3.8012	95.0		90.0	110.0
	Vanadium	1.6000	1.6194	101.2		90.0	110.0
	Zinc	4.0000	3.9553	98.9		90.0	110.0
	Molybdenum	20.0000	20.3911	102.0		90.0	110.0
V4--5	Aluminum	20.0000	20.0711	100.4		90.0	110.0
	Antimony	4.0000	4.0220	100.6		90.0	110.0
	Arsenic	1.6000	1.6035	100.2		90.0	110.0
	Barium	4.0000	3.9156	97.9		90.0	110.0
	Beryllium	0.4000	0.3993	99.8		90.0	110.0
	Cadmium	4.0000	3.9206	98.0		90.0	110.0
	Calcium	40.0000	39.8531	99.6		90.0	110.0
	Chromium	4.0000	3.9413	98.5		90.0	110.0
	Copper	4.0000	3.9379	98.4		90.0	110.0
	Iron	4.0000	3.8432	96.1		90.0	110.0
	Lead	20.0000	19.1778	95.9		90.0	110.0
	Magnesium	20.0000	19.9605	99.8		90.0	110.0
	Manganese	4.0000	3.8621	96.6		90.0	110.0
	Nickel	8.0000	7.7755	97.2		90.0	110.0
	Potassium	40.0000	40.8527	102.1		90.0	110.0
	Selenium	1.6000	1.5923	99.5		90.0	110.0
	Silver	0.4000	0.4307	107.7		90.0	110.0
	Sodium	40.0000	41.4451	103.6		90.0	110.0
	Thallium	4.0000	3.8285	95.7		90.0	110.0
	Vanadium	1.6000	1.6071	100.4		90.0	110.0
	Zinc	4.0000	3.8875	97.2		90.0	110.0
	Molybdenum	20.0000	20.2935	101.5		90.0	110.0

S#	ANALYTE	CONC FOUND	#	CONC LIMIT
S-	Aluminum	0.0224		0.2000
	Antimony	ND		0.1000
	Arsenic	0.0084		0.0500
	Barium	0.0010		0.2000
	Beryllium	0.0001		0.0050
	Cadmium	0.0036		0.0050
	Calcium	0.0089		1.0000
	Chromium	0.0047		0.0100
	Copper	0.0040		0.0250
	Iron	0.0127		0.1000

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

09/25/96
08:05:10
Group: 13562

nalysis Batch Number: ICPWA-09/24/96-010 -2
est Identification : ICPWA-Metals by ICP
umber of Samples : 14
atch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

CB#	ANALYTE	CONC FOUND #	CONC LIMIT
CB-	Lead	ND	0.0500
	Magnesium	0.0261	1.0000
	Manganese	0.0001	0.0150
	Nickel	0.0135	0.0400
	Potassium	0.0640	1.0000
	Selenium	0.0400	0.1000
	Silver	0.0044	0.0100
	Sodium	0.0328	1.0000
	Thallium	0.0010	0.1500
	Vanadium	0.0020	0.0500
	Zinc	ND	0.0600
	Molybdenum	ND	0.0500
CB1-	Aluminum	0.0078	0.2000
	Antimony	ND	0.1000
	Arsenic	ND	0.0500
	Barium	0.0004	0.2000
	Beryllium	ND	0.0050
	Cadmium	0.0005	0.0050
	Calcium	0.0067	1.0000
	Chromium	ND	0.0100
	Copper	0.0015	0.0250
	Iron	ND	0.1000
	Lead	ND	0.0500
	Magnesium	0.0088	1.0000
	Manganese	ND	0.0150
	Nickel	0.0122	0.0400
	Potassium	0.0308	1.0000
	Selenium	0.0464	0.1000
	Silver	0.0026	0.0100
	Sodium	0.0208	1.0000
	Thallium	0.0137	0.1500
	Vanadium	0.0004	0.0500
	Zinc	ND	0.0600
	Molybdenum	ND	0.0500
CB2-	Aluminum	0.0078	0.2000
	Antimony	ND	0.1000
	Arsenic	ND	0.0500
	Barium	0.0005	0.2000
	Beryllium	ND	0.0050
	Cadmium	0.0036	0.0050
	Calcium	0.0035	1.0000
	Chromium	ND	0.0100
	Copper	0.0005	0.0250
	Iron	ND	0.1000
	Lead	ND	0.0500
	Magnesium	ND	1.0000
	Manganese	ND	0.0150
	Nickel	ND	0.0400
	Potassium	ND	1.0000
	Selenium	ND	0.1000

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

09/25/96
08:05:11
Group: 13562

nalysis Batch Number: ICPWA-09/24/96-010 -2
est Identification : ICPWA-Metals by ICP
umber of Samples : 14
atch Data-Date/Time : 09/24/96 / 17:17:06

Sequence : DATC268

CB#	ANALYTE	CONC FOUND #	CONC LIMIT
CB2-	Silver	ND	0.0100
	Sodium	0.0081	1.0000
	Thallium	0.0124	0.1500
	Vanadium	ND	0.0500
	Zinc	ND	0.0600
	Molybdenum	ND	0.0500
CB3-	Aluminum	0.0204	0.2000
	Antimony	ND	0.1000
	Arsenic	ND	0.0500
	Barium	0.0005	0.2000
	Beryllium	ND	0.0050
	Cadmium	0.0033	0.0050
	Calcium	0.0053	1.0000
	Chromium	0.0017	0.0100
	Copper	0.0010	0.0250
	Iron	0.0141	0.1000
	Lead	ND	0.0500
	Magnesium	ND	1.0000
	Manganese	ND	0.0150
	Nickel	0.0087	0.0400
	Potassium	0.0125	1.0000
	Selenium	ND	0.1000
	Silver	0.0017	0.0100
	Sodium	0.0448	1.0000
	Thallium	0.0185	0.1500
	Vanadium	ND	0.0500
	Zinc	ND	0.0600
	Molybdenum	ND	0.0500
B4-	Aluminum	0.0057	0.2000
	Antimony	ND	0.1000
	Arsenic	ND	0.0500
	Barium	0.0013	0.2000
	Beryllium	ND	0.0050
	Cadmium	0.0030	0.0050
	Calcium	0.0085	1.0000
	Chromium	0.0023	0.0100
	Copper	0.0018	0.0250
	Iron	ND	0.1000
	Lead	ND	0.0500
	Magnesium	0.0076	1.0000
	Manganese	ND	0.0150
	Nickel	0.0142	0.0400
	Potassium	0.0529	1.0000
	Selenium	ND	0.1000
	Silver	0.0028	0.0100
	Sodium	0.0398	1.0000
	Thallium	0.0109	0.1500
	Vanadium	0.0015	0.0500
	Zinc	ND	0.0600
	Molybdenum	ND	0.0500

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

09/25/96
08:05:12
Group: 13562

alysis Batch Number: ICPWA-09/24/96-010 -2
st Identification : ICPWA-Metals by ICP Sequence : DATC268
mber of Samples : 14
tch Data-Date/Time : 09/24/96 / 17:17:06

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

a) - Recovery is valid because sample conc. is >4x spike conc.
a) - RPD has no significance due to insignificant spikes.
a) - RPD is valid because Spike and Spike Duplicate are within method requirements.
1) - Both Duplicate results are less than the LOQ.
) - Incomplete Homogenization
a) - Duplicate is valid because result is <5x the detection limit

Groups & Samples

13488-52765 13489-52767 13489-52768 13489-52769 13489-52770 13545-52930 13545-52931 13562-52998
13562-52999 13568-53016

4454

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 9/17/96

Page 1 of 1

Purchase Order No.: 5251/52 | Job No. PNM1002

SEND INVOICE TO
Name: ACCOUNTS PAYABLE
Company: ON SITE TECH | Dept.
Address: P.O. BOX 2606
City, State, Zip: FARMINGTON, NM 87499

REPORT RESULTS TO
Name: DAVID COX | Title
Company: ON SITE TECH
Mailing Address: 612 E MURRAY DRIVE
City, State, Zip: FARMINGTON, NM 87401
Telephone No.: 505 325 2432 | Telefax No.: 505 325 6256

Sampling Location: TEMPLETON 1E
FLORANCE 124

Sampler: MG/MS

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	DISSOLVED Pb	LAB ID
TEMPLETON 1E MW1-3 9609051600	9/5/96	1600	H_2O	cool	1	✓	12021-5252
FLORANCE 124 MW1-2 9609051130	9/5/96	1130	H_2O	cool	1	✓	12015-5251

Relinquished by: [signature]	Date/Time 9/17/96 1600	Received by: Pam Olsen MSAI	Date/Time 9/18/96 1600
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: [signature] Date 9/17/96
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

CHAIN OF CUSTODY RECORD

5252

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 9/5/96

Page 1 of 1

Purchase Order No.: | Job No.

SEND INVOICE TO

Name: Denver Bearden
Company: PNM Gas Services | Dept. 324-3763
Address: 603 W. Elm Street
City, State, Zip: Farmington, NM 87401

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.

Sampling Location: Templeton 1E

Sampler: MS: Kelianos
M Gannon

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8020	Water Metals	LAB ID
MW-1 9609041500			H2O	None	2	X		12019-5252
MW-2 9609041530			↓	↓	2	X		12020
MW-3 9609041600					2	X	X	12021
MW-4 9609041630					2	X		12022
MW-5 9609041700					2	X		12023
MW-6 9609041615			H2O	None	2	X		12024

Relinquished by: [signature] Date/Time 9/5/96 1445 Received by: [signature] Date/Time 9/5/96 1445

Relinquished by: Date/Time Received by: Date/Time

Relinquished by: Date/Time Received by: Date/Time

Method of Shipment:

Authorized by: [signature] Date 9/5/96
(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