3R - 318

REPORTS

DATE:

April 28, 1997

Public Service Company
of New Mexico
603 W. Elm - P.O. Box 4750
Farmington, NM 87499
505 950-1997
505 325-7365

April 28, 1997

PNM Gas Services

Oil Conservation Division
Attention: Bill Olsen
2040 South Pacheco
Santa Fe, NM 87505

Subject: OCD Closure Reports
1st Reporting Quarter, 1997

Dear Mr. Olsen:

PNM Gas Services is submitting closure reports to the Oil Conservation Division for the sites listed below. These sites were remediated between January 1, 1995 and March 31, 1997. Our office is also submitting two groundwater sites, the Florance #124 and the Templeton #1E, for closure.

If you have any questions, please call Kathy Tyger at (505) 324-3764.

Calloway #1A
Crandell #2
Day Federal A #2
Federal A #1
Federal A #1E
Federal A #2
Federal A #3
Federal A #3E
Federal Gas Com #2
Florance #41A
Florance AA #14A
Florance H #37A
Florance P #39A
Giomi GC C #1 Drip
Hampton #4
Howell #1
Jacques #1
Jacquez #1A
JF Day C #2
JF Day D #1E
Kutz Deep Gas Com D #1
Kutz J Federal #1 Drip
Langendorf #1-34
Lester #1
Main Line Drip South of Marie #1
Marie #1
McClanahan #14 Drip
McClanahan #14E
McClanahan A #1
McClanahan A #3
McDaniel C #1E
Mexico Federal K #1
Miller Gas Com #1 Drip
Newman C #1E
Olmer A #2E Drip
Olmer A #6
Omler #2
Omler #5
Omler A #1E
Omler A #2E
Omler A #7E
Phillips #1
Pierce #1A
Pierce #2A
Scott Federal #3 Drip
State Com #1X

Sincerely,

Denver Bearden
Administrator III

cc: Denny Foust
BLM - Farmington
Williams Field Services

Public Service Company
of New Mexico
603 W. Elm - P.O. Box 4750
Farmington, NM 87499
505 950-1997
505 325-7365

June 30, 1997

PNM Gas Services

Oil Conservation Division
Attention: Bill Olson
2040 South Pacheco
Santa Fe, NM 87505

Subject: OCD Closure Reports
1st Reporting Quarter 1997

Dear Mr. Olson:

Per your telephone conversation with Maureen Gannon, attached are copies of documents requested for the following sites:

Calloway #1A - copy of landfarm map showing BTEX.
Jacquez #1A - copy of landfarm analysis showing TPH.
Lester #1 - copy of landfarm map showing BTEX.

Thank you for informing us of the missing information. We apologize for any inconvenience this may have caused. If you have any questions, please feel free to contact us.

Sincerely,

Kathy Juckes
Staff Assistant

cc: Maureen Gannon

District I
P O. Box 1980, Hobbs, NM

District II
P O. Drawer DD, Artesia, NM 88221

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: PNM Gas Services (Amoco) **Telephone:** 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Florance #124

Location: Unit: C Sec. 27 T. 29 N R. 9 W County San Juan

Pit Type: Separator ___ Dehydrator ✓ Other No

Land Type: BLM ✓ State ___ Fee ___ Other No

Pit Location: Pit dimensions: length 15 ' width 15 ' depth 3 '

(Attach diagram) Reference: wellhead ✓ other ___

Footage from reference: 100'

Direction from reference: 90 Degrees ✓ East North ___ of ___ West South ✓

Depth to Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1,000 feet from all other water sources)	Yes No	(20 points) (0 points)	0
Distance to Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet 200 feet to 1,000 feet Greater than 1,000 feet	(20 points) (10 points) (0 points)	10
RANKING SCORE (TOTAL POINTS) :			30

Florance #124

Date Remediation Started: 8/1/96 **Date Completed:** 8/6/96

Remediation Method: (Check all appropriate sections)
Excavation X Approx. Cubic Yard 420
Landfarmed X Amount Landfarmed (cubic yds) 420
Other

Remediation Location: (i.e., landfarmed onsite, name and location of offsite facility)
Onsite X Offsite

Backfill Material Location:

General Description of Remedial Action:

Excavated contaminated soil to a pit size of 28'X27'X15' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by disking/plowing until soil met regulatory levels.

Ground Water Encountered: No — Yes ☑ Depth 14'

Final Pit Closure Sampling: (if multiple samples, attach sample result and diagram of sample locations and depths.)

Sample Location 5 pt. composite - 4 side walls and center of pit bottom
Sample depth 15'
Sample date 8/2/96 Sample time 10:00:00 AM

Sample Results

Benzene (ppm) 3.1225
Total BTEX (ppm) 175.7646
Field headspace (ppm)
TPH 11.90 Method 8015A

Vertical Extent (ft) Risk Assessment form attached Yes — No ☑

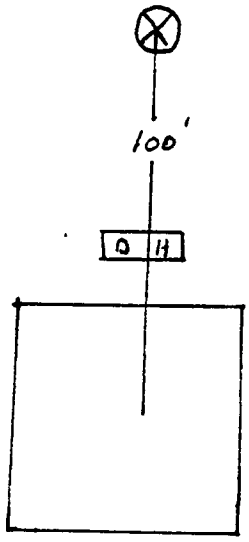
Ground Water Sample: Yes ☑ No — (If yes, see attached Groundwater Site Summary Report)

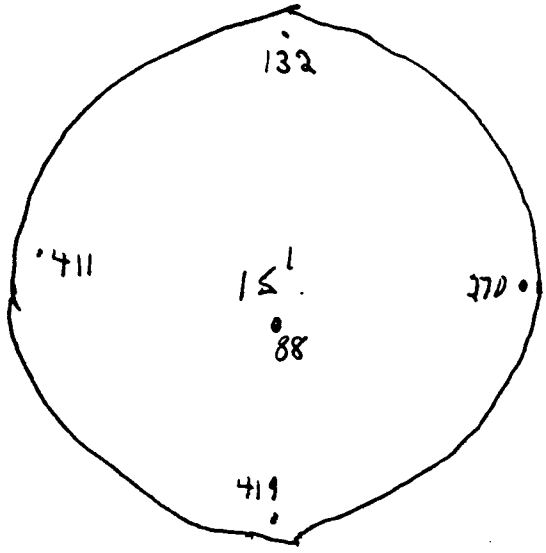
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF

DATE April 28, 1997
SIGNATURE Denver Bearden
PRINTED NAME AND TITLE Denver Bearden Administrator III

Florance #124
Sec. 27,29N,09W,C
Amoco

Date: August 2, 1996





water at 14'
#9608020930

OFF: (505) 325-5667

ON-SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

Diesel Range Organics

Attn:	*Denver Bearden*	Date:	5-Aug-96
Company:	*PNM Gas Services*	*COC No.:*	*4935*
Address:	*603 W. Elm*	*Sample No.*	*11680*
City, State:	*Farmington, NM 87401*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9608021000; 5pt. Composite***				
Sampled by:	GC	Date:	2-Aug-96	Time:	10:00
Analyzed by:	HR	Date:	5-Aug-96		
Sample Matrix:	*Soil*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Diesel Range Organics (C10 - C28)	11.9	mg/kg	5.0	mg/kg

Quality Assurance Report

DRO QC No.: *0479-QC*

Calibration Check

Parameter	*Method Blank*	*Unit of Measure*	*True Value*	*Analyzed Value*	*% Diff*	*Limit*
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,883	5.8	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Diesel Range (C10-C28)	93	99	(70-130)	5	20%

Method *- SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by:

Date: 8/5/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Denver Bearden*	Date:	5-Aug-96
Company:	*PNM Gas Services*	*COC No.:*	*4935*
Address:	*603 W. Elm*	*Sample No.*	*11680*
City, State:	*Farmington, NM 87401*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9608021000; 5pt. Composite***				
Sampled by:	GC	Date:	2-Aug-96	Time:	10:00
Analyzed by:	HR	Date:	5-Aug-96		
Sample Matrix:	*Soil*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	3122.5	ug/kg	0.2	ug/kg
Toluene	67771.4	ug/kg	0.2	ug/kg
Ethylbenzene	8791.0	ug/kg	0.2	ug/kg
m,p-Xylene	77503.2	ug/kg	0.2	ug/kg
o-Xylene	18576.4	ug/kg	0.2	ug/kg
TOTAL	175764.6	ug/kg		

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

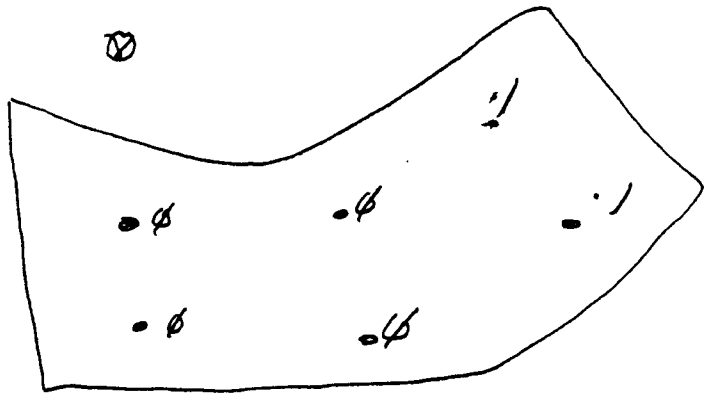
Approved by: DLC

Date: 8/5/96

Florance # 124 9-10-96
Amoco
Sec. 27, 29N, 9W

Land farm: On-location
Composite sample # 960910 1310 6pt comp.
soil vapor head space PID reading: 3.8 ppm

2"-12" depth
sand



OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

Diesel Range Organics

Attn:	*Denver Bearden*	Date:	12-Sep-96
Company:	*PNM Gas Services*	*COC No.:*	*5018*
Address:	*603 W. Elm*	*Sample No.*	*12099*
City, State:	*Farmington, NM 87401*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Florance #124 Landfarm***				
Project Location:	***9609101310; 6pt. Composite, 2"-12" depth***				
Sampled by:	GC	Date:	10-Sep-96	Time:	13:10
Analyzed by:	DC/HR	Date:	12-Sep-96		
Sample Matrix:	*Soil*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Diesel Range Organics (C10 - C28)	<5.0	mg/kg	5.0	mg/kg

Quality Assurance Report

DRO QC No.: *0489-QC*

Calibration Check

Parameter	*Method Blank*	*Unit of Measure*	*True Value*	*Analyzed Value*	*% Diff*	*Limit*
Diesel Range (C10 - C28)	<5.0	ppm	100	104	3.6	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Diesel Range (C10-C28)	96	95	(70-130)	1	20%

Method *- SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by:

Date: 9/12/96

PNMGS Well Site: **Florance 124**

Groundwater Site Summary Report

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

Quarter/Year: 4/96 & 1/97

Operator: Amoco
Sec: 27 **Twn:** 29N **Rng:** 9 W **Unit:** M
Canyon: Largo

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

Topo Map: previously submitted
Well Completion Diagram: previously submitted
Full Suite- Groundwater Sampling: previously submitted
Site Map with Groundwater Analysis: Figure 1
Groundwater Contour Map: Figure 2
Groundwater Elevation Graph: Figure.3
Analytical Results: attached

Activities for Previous Two Quarters (Oct. - Dec. 1996 & Jan. - Mar. 1997):

On December 6, 1996, PNM performed quarterly sampling of groundwater monitoring wells at the site. No additional sampling was conducted at the site in the first quarter of 1997 due to the ongoing elevated levels of total dissolved solids (TDS). Water levels were measured at each well. PNM conducted groundwater sampling in each well for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, monitoring wells, MW-1 and MW-2, were sampled for dissolved mercury (Hg) due to a previous laboratory error. Sampling was performed in strict compliance with EPA protocol.

PNM delivered the samples to OnSite Technologies, Farmington, New Mexico. The samples were analyzed using the following methods: BTEX using EPA Method 8020, major cations/anions using various EPA methods, and atomic absorption spectroscopy (AAS) for Hg.

Results:

Figure 1 provides a site map showing benzene, toluene, ethylbenzene and xylenes (BTEX) and total dissolved solids (TDS) analytical data for each monitoring well since groundwater contamination was discovered. All wells at the site continue to show extremely high concentrations of total dissolved solids (TDS), between 18938 mg/l and 28856 mg/l. BTEX concentrations are decreasing in MW-2, the only contaminated well on location. Mercury (Hg) was non-detect in MW-1 and MW-2 (see attached analytical results).

Figure 2 provides a groundwater contour map of the site for the fourth quarter of 1996. The groundwater flow direction is southwesterly beneath the site as was previously determined in September of 1996. Figure 3 presents a groundwater hydrograph of the site since monitoring began. In each well, the groundwater level decreased between September and December of 1996.

Further Action:

PNM requests closure of the Florance 124. This request is based upon the high concentrations of TDS in the groundwater at the Florance 124. We believe the elevated TDS levels are indicative of the groundwater in this local area and have chosen not to drill a new up-gradient well. MW-1 lies 75 feet up-gradient of the former pit area and serves as a good background well for the site. After two quarters of monitoring, TDS levels remain above 10,000 mg/l; therefore, PNM believes the groundwater has no beneficial use in the future. Upon completion of monitoring and remedial actions, PNM will plug and abandon the four groundwater monitoring wells at the Florance 124. The concrete pad and the metal vault surrounding each well will be removed. The well casing will be cut to ground surface and each well will be plugged to the surface with cement containing 5% betonite.

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. Florance 124: Site Map with Analytical Results (concentrations in ppb)

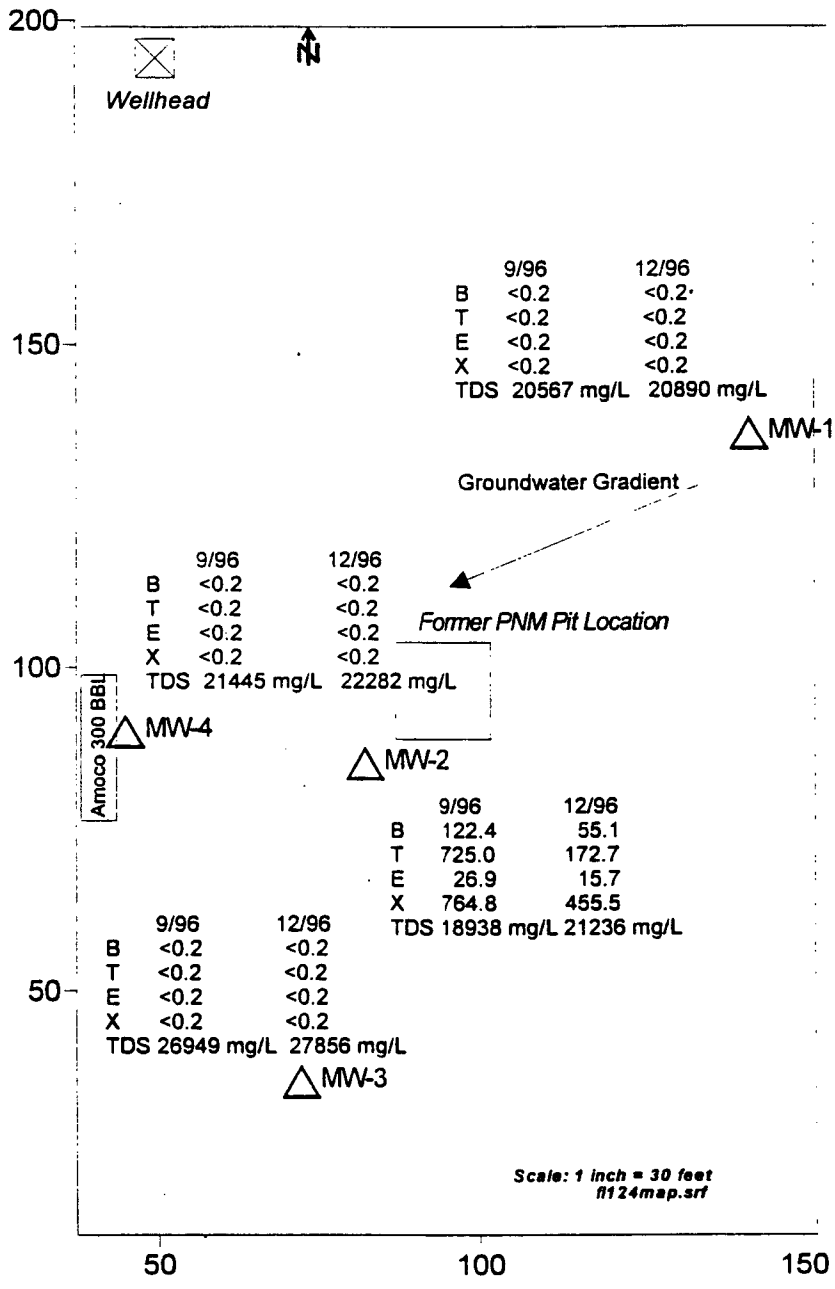


Figure 2. Florance 124 Groundwater Contour Map (December 1996)

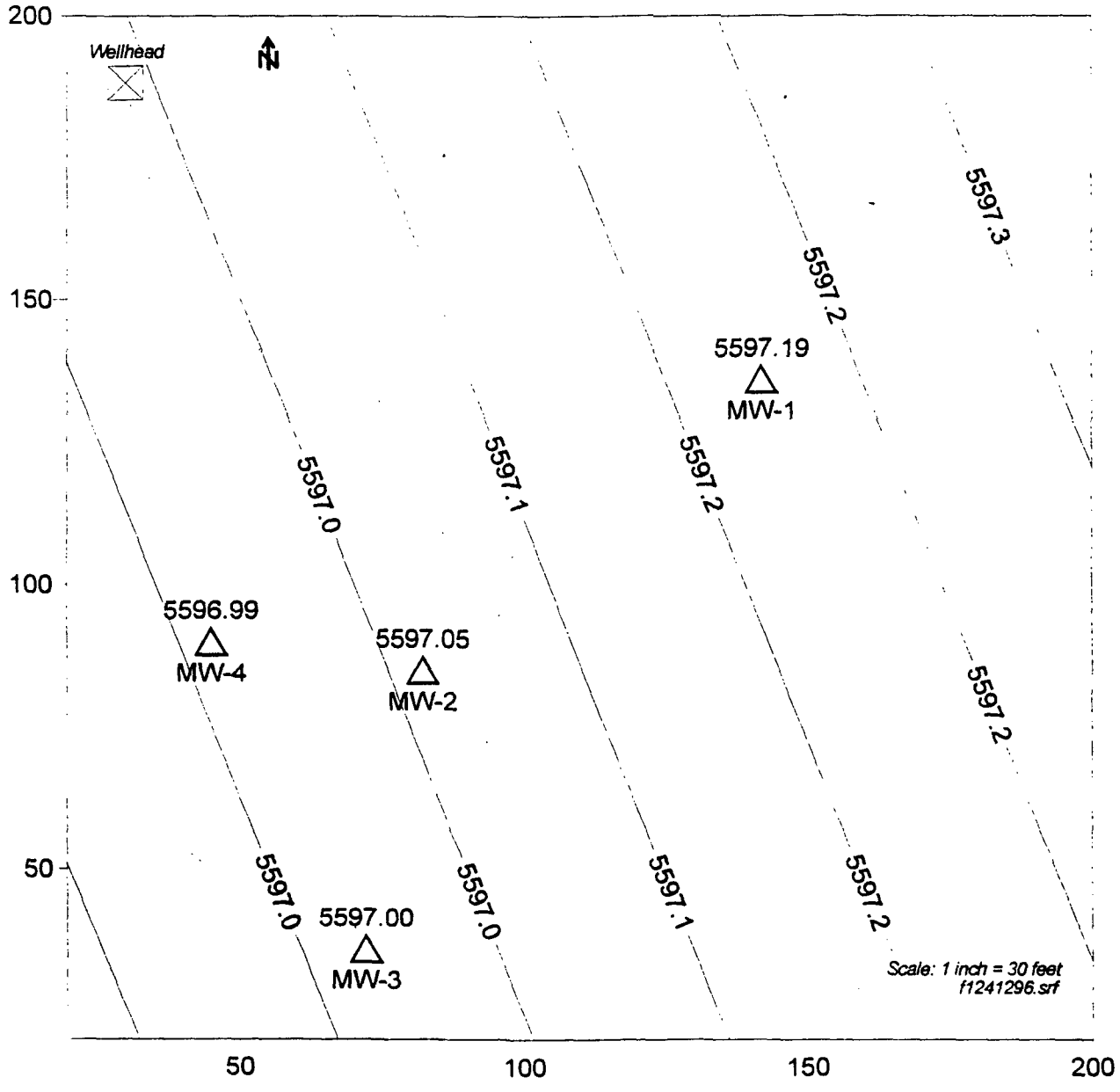
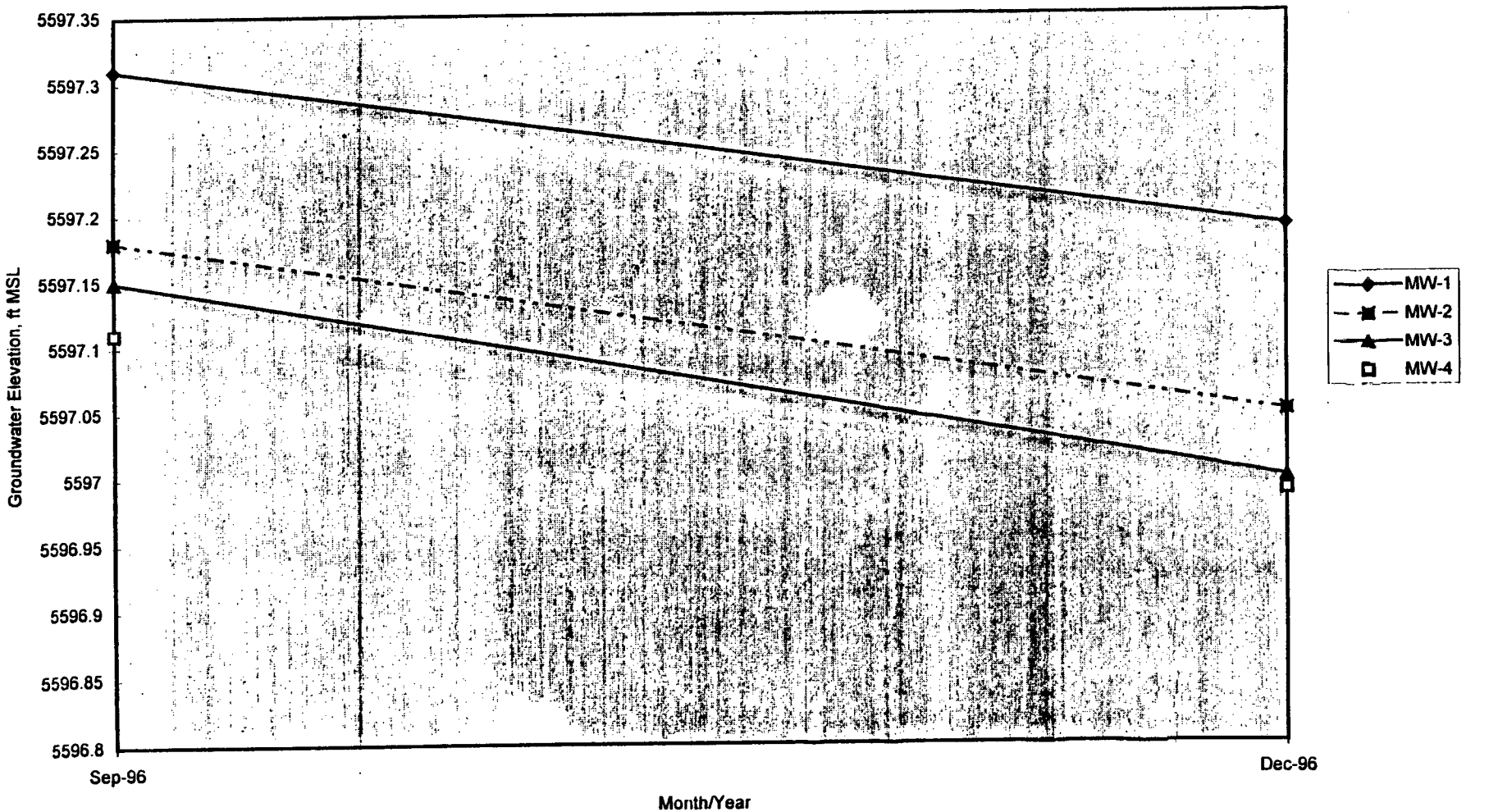


Figure 3. Florance 124 Hydrograph
(Time vs. Water Level)



flo124.xls

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	Denver Bearden	Date:	12-Dec-96
Company:	PNM Gas Services	COC No.:	5706
Address:	603 W. Elm	Sample No.:	13122
City, State:	Farmington, NM 87401	Job No.:	2-1000

Project Name:	PNM Gas Services - Florance 124				
Project Location:	9612061300; MW-1				
Sampled by:	MS	Date:	6-Dec-96	Time:	13:00
Analyzed by:	DC	Date:	11-Dec-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:
Date: 12/12/96

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	Denver Bearden	Date:	12-Dec-96
Company:	PNM Gas Services	COC No.:	5706
Address:	603 W. Elm	Sample ID:	13122
City, State:	Farmington, NM 87401	Job No.:	2-1000

Project Name:	PNM Gas Services - Florance 124				
Project Location:	9612061300; MW1				
Sampled by:	MS	Date:	6-Dec-96	Time:	13:00
Analyzed by:	HR	Date:	12-Dec-96		

Laboratory Analysis

Parameter		Result	Unit of Measure		Result	Unit of Measure	
Cations							
Sodium	Na	5860	mg/L		254.90	me/L	
Calcium	Ca	366	mg/L		18.26	me/L	
Magnesium	Mg	123.0	mg/L		10.12	me/L	
Potassium	K	20.8	mg/L		0.53	me/L	
Anions							
Chloride	Cl	138	mg/L		3.89	me/L	
Sulfate	SO4	13423	mg/L		279.46	me/L	
Carbonate	CO3 as CaCO3	<1	mg/L		<0.01	me/L	
Bicarbonate	HCO3 as CaCO3	435	mg/L		7.13	me/L	
Hydroxide	OH as CaCO3	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		20366	mg/L				
Total Dissolved Solids Dried @ 180 C		20890	mg/L				
pH		7.51					
Conductivity @ 25 C		22100	uS/cm				
Total Hardness as CaCO3		1420	mg/L				

Cation-Anion Balance	
6.67	Difference Cation-Anion, me/L
574.30	Total Cation-Anion, me/L
1.2	% Difference Cation-Anion

Comments

Approved by:
Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	Denver Bearden	Date:	12-Dec-96
Company:	PNM Gas Services	COC No.:	5706
Address:	603 W. Elm	Sample No.:	13123
City, State:	Farmington, NM 87401	Job No.:	2-1000

Project Name:	PNM Gas Services - Florance 124				
Project Location:	9612061330; MW-2				
Sampled by:	MS	Date:	6-Dec-96	Time:	13:30
Analyzed by:	DC	Date:	10-Dec-96		
Sample Matrix:	Water				

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene	55.1	ug/L	0.2	ug/L
Toluene	172.7	ug/L	0.2	ug/L
Ethylbenzene	15.7	ug/L	0.2	ug/L
m,p-Xylene	360.4	ug/L	0.2	ug/L
o-Xylene	95.1	ug/L	0.2	ug/L
TOTAL	698.9	ug/L		

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

Approved by:

Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample ID:*	*13123*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061330; MW2***				
Sampled by:	MS	Date:	6-Dec-96	Time:	13:30
Analyzed by:	HR	Date:	12-Dec-96		

Laboratory Analysis

Parameter		*Result*	*Unit of Measure*		*Result*	*Unit of Measure*	
Cations							
Sodium	*Na*	5840	mg/L		254.03	me/L	
Calcium	*Ca*	397	mg/L		19.81	me/L	
Magnesium	*Mg*	119.0	mg/L		9.79	me/L	
Potassium	*K*	23.6	mg/L		0.60	me/L	
Anions							
Chloride	*Cl*	123	mg/L		3.47	me/L	
Sulfate	*SO4*	13357	mg/L		278.09	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	559	mg/L		9.16	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		20419	mg/L				
Total Dissolved Solids Dried @ 180 C		21236	mg/L				
pH		7.56					
Conductivity @ 25 C		22000	uS/cm				
Total Hardness as CaCO3		1481	mg/L				

Cation-Anion Balance

6.48 *Difference Cation-Anion, me/L*

574.95 *Total Cation-Anion, me/L*

1.1 *% Difference Cation-Anion*

Comments

Approved by:

Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Denver Bearden*	*Date:*	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample No.:*	*13124*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061400; MW-3***				
Sampled by:	MS	Date:	6-Dec-96	Time:	14:00
Analyzed by:	DC	Date:	11-Dec-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:
Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample ID:*	*13124*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061400; MW3***				
Sampled by:	MS	Date:	6-Dec-96	Time:	14:00
Analyzed by:	HR	Date:	12-Dec-96		

Laboratory Analysis

Parameter		*Result*	*Unit of Measure*		*Result*	*Unit of Measure*	
Cations							
Sodium	*Na*	7480	mg/L		325.36	me/L	
Calcium	*Ca*	379	mg/L		18.91	me/L	
Magnesium	*Mg*	183.0	mg/L		15.06	me/L	
Potassium	*K*	26.9	mg/L		0.69	me/L	
Anions							
Chloride	*Cl*	134	mg/L		3.78	me/L	
Sulfate	*SO4*	17625	mg/L		366.94	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	486	mg/L		7.96	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		26314	mg/L				
Total Dissolved Solids Dried @ 180 C		27856	mg/L				
pH		7.44					
Conductivity @ 25 C		27200	uS/cm				
Total Hardness as CaCO3		1700	mg/L				

Cation-Anion Balance

18.67 *Difference Cation-Anion, me/L*

738.71 *Total Cation-Anion, me/L*

2.5 *% Difference Cation-Anion*

Comments

Approved by:

Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Denver Bearden*	*Date:*	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample No.:*	*13125*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061430; MW-4***				
Sampled by:	MS	Date:	6-Dec-96	Time:	14:30
Analyzed by:	DC	Date:	10-Dec-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:
Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample ID:*	*13125*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061430; MW4***				
Sampled by:	MS	Date:	6-Dec-96	Time:	14:30
Analyzed by:	HR	Date:	12-Dec-96		

Laboratory Analysis

Parameter		*Result*	*Unit of Measure*		*Result*	*Unit of Measure*	
Cations							
Sodium	*Na*	6120	mg/L		266.21	me/L	
Calcium	*Ca*	395	mg/L		19.71	me/L	
Magnesium	*Mg*	126.0	mg/L		10.37	me/L	
Potassium	*K*	22.2	mg/L		0.57	me/L	
Anions							
Chloride	*Cl*	127	mg/L		3.58	me/L	
Sulfate	*SO4*	14180	mg/L		295.22	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	490	mg/L		8.03	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	

Total Dissolved Solids *Calculated, Sum of Cation/Anion*	21460	mg/L	
Total Dissolved Solids *Dried @ 180 C*	22282	mg/L	
pH	7.66		
Conductivity @ 25 C	22900	uS/cm	
Total Hardness as CaCO3	1505	mg/L	

Cation-Anion Balance

9.98 *Difference Cation-Anion, me/L*

603.69 *Total Cation-Anion, me/L*

1.7 *% Difference Cation-Anion*

Comments

Approved by: Dave

Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Denver Bearden*	*Date:*	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample No.:*	*13126*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061500; MW-5***				
Sampled by:	MS	Date:	6-Dec-96	Time:	15:00
Analyzed by:	DC	Date:	10-Dec-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	49.7	ug/L	0.2	ug/L
Toluene	152.8	ug/L	0.2	ug/L
Ethylbenzene	14.2	ug/L	0.2	ug/L
m,p-Xylene	246.3	ug/L	0.2	ug/L
o-Xylene	88.8	ug/L	0.2	ug/L
TOTAL	35.1 551.8	ug/L		

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

Approved by:
Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	12-Dec-96
Company:	*PNM Gas Services*	*COC No.:*	*5706*
Address:	*603 W. Elm*	*Sample ID:*	*13126*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Florance 124***				
Project Location:	***9612061500; MW5***				
Sampled by:	MS	Date:	6-Dec-96	Time:	15:00
Analyzed by:	HR	Date:	12-Dec-96		

Laboratory Analysis

Parameter		*Result*	*Unit of Measure*		*Result*	*Unit of Measure*	
Cations							
Sodium	*Na*	5740	mg/L		249.68	me/L	
Calcium	*Ca*	400	mg/L		19.96	me/L	
Magnesium	*Mg*	117.0	mg/L		9.63	me/L	
Potassium	*K*	23.4	mg/L		0.60	me/L	
Anions							
Chloride	*Cl*	118	mg/L		3.33	me/L	
Sulfate	*SO4*	13440	mg/L		279.81	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	550	mg/L		9.01	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	

Total Dissolved Solids Calculated, Sum of Cation/Anion	20388	mg/L	
Total Dissolved Solids Dried @ 180 C	21618	mg/L	
pH	7.62		
Conductivity @ 25 C	22000	uS/cm	
Total Hardness as CaCO3	1481	mg/L	

Cation-Anion Balance

12.29 *Difference Cation-Anion, me/L*

572.02 *Total Cation-Anion, me/L*

2.1 *% Difference Cation-Anion*

Comments

Approved by:

Date: 12/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 11-Dec-96

Internal QC No.: 0515-QC
Surrogate QC No.: 0516-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	18.8	6	15%
Toluene	ppb	20.0	19.7	2	15%
Ethylbenzene	ppb	20.0	20.4	2	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	20.3	2	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Benzene	93	89	(39-150)	3	20%
Toluene	98	94	(46-148)	3	20%
Ethylbenzene	100	96	(32-160)	3	20%
m,p-Xylene	97	93	(35-145)	3	20%
o-Xylene	99	96	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)	
13122-5706	95	
13124-5706	95	

S1: Flourobenzene

(RL)

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 10-Dec-96

Internal QC No.: 0515-QC
Surrogate QC No.: 0516-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	20.0	0	15%
Toluene	ppb	20.0	22.9	15	15%
Ethylbenzene	ppb	20.0	22.2	11	15%
m,p-Xylene	ppb	40.0	43.2	8	15%
o-Xylene	ppb	20.0	22.8	14	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	93	89	(39-150)	3	20%
Toluene	98	94	(46-148)	3	20%
Ethylbenzene	100	96	(32-160)	3	20%
m,p-Xylene	97	93	(35-145)	3	20%
o-Xylene	99	96	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
13123-5706	104	
13125-5706	94	
13126-5706	103	

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

Cation/Anion Balance

Date: 12-Dec-96

Quality Control Sample

Parameter	Laboratory Identification	True Value	Analyzed Value	Unit of Measure	% Diff	Limit % Diff
Sodium, Na	0509-QC	3.60	3.80	mg/L	6	10
Calcium, Ca	0462-QC	2.18	2.17	mg/L	0	10
Magnesium, Mg	0462-QC	1.14	1.20	mg/L	5	10*
Potassium, K	0509-QC	2.24	2.16	mg/L	-4	10
Chloride, Cl	0509-QC	155	164	mg/L	6	10
Sulfate, SO4	0509-QC	116	110	mg/L	-5	10
Alkalinity	0509-QC	174	186	mg/L	7	10
pH	0509-QC	9.05	9.23		2	10
Conductivity	0509-QC	1210	1194	uS/cm	-1	15
Total Dissolved Solids, 180C	0509-QC	905	886	uS/cm	-2	15

Matrix Spike

Parameter	Laboratory Identification	Analyzed Value	Matrix Spike	Spike Value	Unit of Measure	Spike Recovery
Sodium, Na	13126-5706	1.56	0.50	2.06	mg/L	100%
Calcium, Ca	13126-5706	2.00	0.50	2.62	mg/L	105%
Magnesium, Mg	13126-5706	0.58	0.50	1.02	mg/L	94%
Potassium, K	13126-5706	1.17	0.50	1.78	mg/L	107%

Method Blank

Parameter	Laboratory Identification	Analyzed Value	Unit of Measure
Sodium, Na	LF-Blank	<0.2	mg/L
Calcium, Ca	LF-Blank	<0.05	mg/L
Magnesium, Mg	LF-Blank	<0.05	mg/L
Potassium, K	LF-Blank	<0.05	mg/L
Chloride, Cl	LF-Blank	<3 X DL	mg/L
Sulfate, SO4	LF-Blank	<1	mg/L
Conductivity	LF-Blank	<2	uS/cm

CHAIN OF CUSTODY RECORD

5706

ON SITE TECHNOLOGIES, LTD.

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

Date: 12/6/96

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: Florance 124

Sampler: Mark Sikelianos

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8020	Major Cations Anions	LAB ID
961206 1300 MW-1	12/6/96		H2O	Ice	3	X	X	13122-5706
961206 1330 MW-2	"		"	"	3	X	X	13123
961206 1400 MW-3	"		"	"	3	X	X	13124
961206 1430 MW-4	"		"	"	3	X	X	13125
961206 1500 MW-5	"		"	"	3	X	X	13126

Relinquished by: [signature] Date/Time 12/6/96 1525
Relinquished by: Date/Time
Relinquished by: Date/Time

Received by: [signature] Date/Time 12/6/96 1525
Received by: Date/Time
Received by: Date/Time

Method of Shipment:

Authorized by: [signature] Date 12/6/96
(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

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

2 January 1997

Maureen Gannon
PNM Gas Services
Alverado Square, Mail Stop 0408
Albuquerque, NM 87158

re: Florance 124 MW-1 and MW-2 (9612061300 and 9612061330).

Dear Maureen,

Enclosed please find the analytical results for dissolved mercury (Hg) on the Florance 124 MW-1 and MW-2. As previously discussed On Site Technologies has paid for these analyses. Any questions please feel free to call me at your convenience.

Thank you once again.

Sincerely,

David Cox
Laboratory Manager

P.O. BOX 2606 • FARMINGTON, NM 87499

Mountain States Analytical

December 30, 1996

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

Reference:
Project: Florance 124 Samples
Project No.: PNM 1002
MSAI Group: 14736

Dear Mr. Cox:

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

13122-5706 (Dissolved) MW-1 (W)
13123-5706 (Dissolved) MW-2 (W)

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

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

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

Rolf E. Larsen
Project Manager

Mountain States Analytical
The Quality Solution

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

Attn: Mr. David Cox
Project: Florance 124 Samples

MSAI Group: 14736
Date Reported: 12/30/96
Date Received: 12/20/96

Purchase Order: 5706
Project No.: PNM 1002

Test	Analysis	Results as Received	Units	Limit of Quantitation
Sample:57031 - 13122-5706 (Dissolved) MW-1				
0259F	Mercury by CVAA, w/ww Diss, 245.1	ND	mg/l	0.0005
0392M	Mercury Prep CVAA, Waters	Complete		
Sample:57032 - 13123-5706 (Dissolved) MW-2				
0259F	Mercury by CVAA, w/ww Diss, 245.1	ND	mg/l	0.0005
0392M	Mercury Prep CVAA, Waters	Complete		

Test Method Summary:
0259F- SW-846 245.1 0392M- SW-846 7470

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

16-Dec

CHAIN OF CUSTODY RECORD

6237

ON SITE TECHNOLOGIES, LTD.

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

Date: 12/18/96

Page 1 of 1

Purchase Order No.: 5706 | Job No. PNM1002

SEND INVOICE TO
Name: ACCOUNTS PAYABLE
Company: ON SITE | 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
City, State, Zip: FARMINGTON, NM 87401
Telephone No.: 505 325 2432 | Telefax No.: 505-325-6258

Sampling Location:

Sampler:

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	Hg DISSOLVED	LAB ID
FLORANCE 12A 961206 1300 MW1-1	12/6/96	1300	H_2O	COOL	1	✓	13122-5706
FLORANCE 12A 961206 1330 MW1-2	12/6/96	1330	"	"	1	✓	13123-5706

Relinquished by:	Date/Time 12/18/96 1500	Received by: Michael Mayden	Date/Time 12/20/96 0915
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 12/18/96
(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

5706

ON SITE TECHNOLOGIES, LTD.

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

Date: 12/16/96

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: Florance 124

Sampler: Mark Sikelianos

ANALYSIS REQUESTED

(DC 12/16/96)

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX	8020	Major cation Anion	H2S Dissolved	LAB ID
961206 1300 MW-1	12/6/96		H2O	Ice	3	X	X	✓	✓ 12-17-96	13122-5706
961206 1330 MW-2					3	X	X	✓	✓ 12-18-96	13123
961206 1400 MW-3					3	X	X			13124
961206 1430 MW-4					3	X	X			13125
961206 1500 MW-5					3	X	X			13126

Relinquished by:	Date/Time 12/6/96 1520	Received by:	Date/Time 12/6/96 15:
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 12/6/96
(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