3R - 321

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: **Honolulu Loop Line Drip**

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

Groundwater Site Summary Report

Quarter: 3 **Year:** 96

Operator: WFS
Sec: 25 **Twn:** 26 **Rng:** 4 **Unit:** B
Canyon: Tapecito Creek

Vulnerable Class: Environmentally Sensitive
OCD Ranking: 50
Lead Agency: NMOCD/JAEPO

Topo Map: previously submitted
Well Completion Diagram: Figure 1
Groundwater Contour Map: Figure 2
Groundwater Elevation Graph: Figure 3
Full Suite- Groundwater Sampling: Table 1
Site Map with Analysis: Figure 4
Analytical Results: attached

Activities for Quarter:

PNM installed four groundwater monitoring wells during the second quarter 1996. A fifth well was installed downgradient in the Tapecito Wash on July 25, 1996. After the well installation, PNM sampled all five monitoring wells on July 25. Water levels were taken in each of the five monitoring wells. PNM conducted groundwater sampling of each well for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) and major cations/anions. In addition, MW-2, located in the source area, was sampled for WQCC metals. 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:

- benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020.
- major cations/anions using various EPA methods
- WQCC metals- filtered (As, Ba, Cd, Cr, Pb, Se, Ag, and Hg using inductively coupled plasma (ICP) for heavy metals and atomic absorption spectroscopy (AAS) for Hg and Se).

On September 17, 1996, PNM conducted additional source excavation at the site. Contaminated soil was removed along the western edge of the well site in the area of three buried pipelines. To allow for the additional excavation, PNM also relocated monitor well, MW-2.

Conclusions and Recommendations:

Figure 1 is a diagram of a typical well at Honolulu Loop Line Drip. Figure 2 provides a groundwater contour map of the site for the third quarter of this year. Groundwater flows in a southwest direction beneath the site. Figure 3 shows the water level elevation in each well for this first quarter of monitoring.

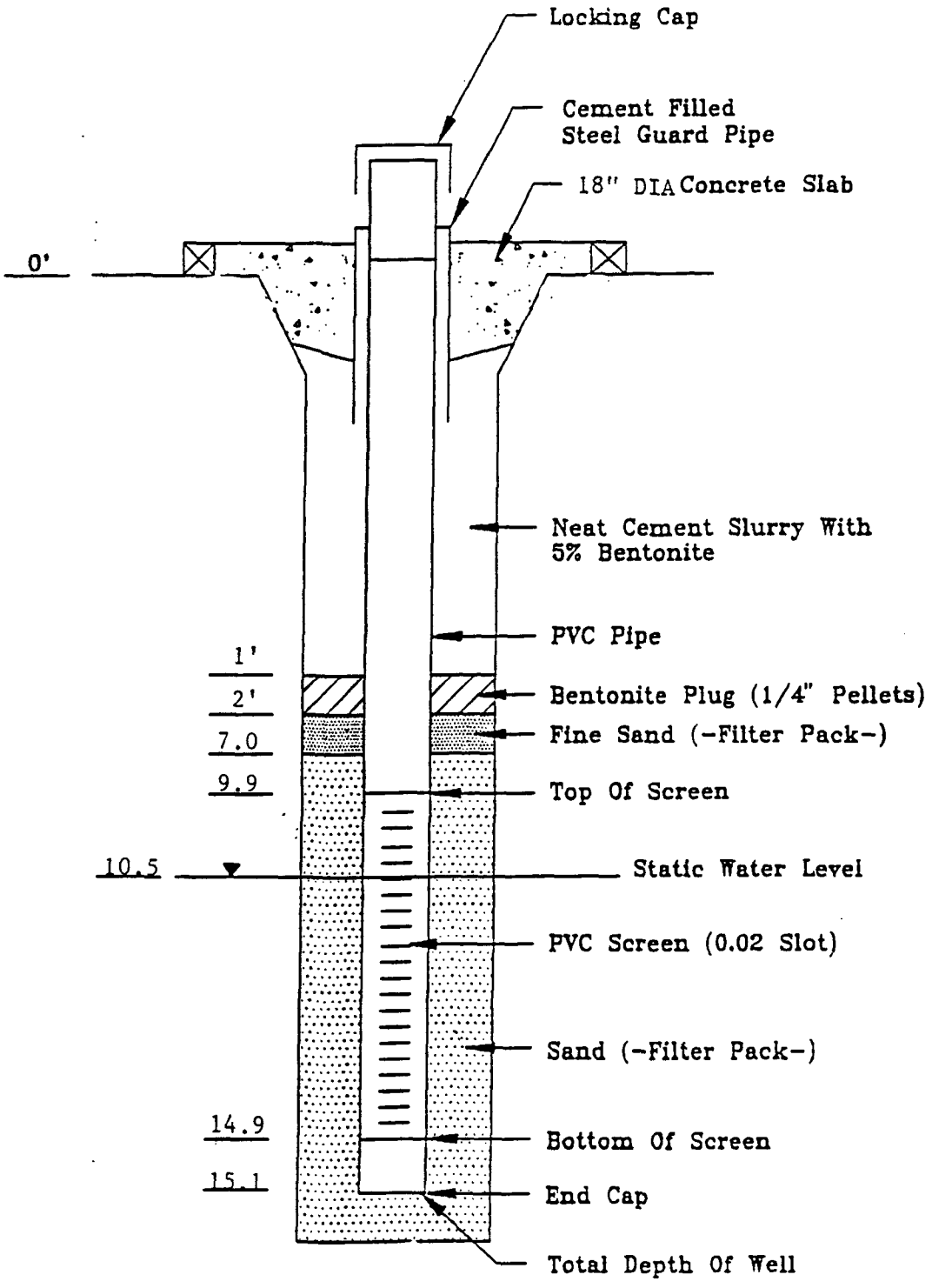
Table 1 provides a summary of all groundwater sampling results conducted on July 25. Figure 4 presents a site map showing well locations and the BTEX concentrations at each well. BTEX concentrations are above WQCC standards in wells, MW-2, MW-4 and MW-5. MW-2 is located in the source area. MW-4 and MW-5 located downgradient of the former source area. PAHs concentrations in MW-2 were below WQCC standards. Metal analyses in this same well indicated barium and lead concentrations above standard. PNM has noted that these particular metals have been present at other PNM sites currently undergoing groundwater remediation in the region (e.g.. Abrams Gas/Com L1 and Templeton 1E).

Further Action:

PNM will continue to monitor the site on a quarterly basis. All wells, including the new MW-2, will be sampled for BTEX before the end of 1996. PNM will resample barium and lead in MW-2.

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**



PNM Gas Services	CLIENT: PNM	
	DATE:	REV. NO.: 0
	AUTHOR: M.D.G.	DRAWN BY: M.P.
	CK'D BY: M.D.G.	FILE: .DWG

FIGURE 1
MONITOR WELL DESIGN
Honolulu Loop Line Drip

Figure 2. Honolulu Loop-Line Drip Contour Map (July 1996)

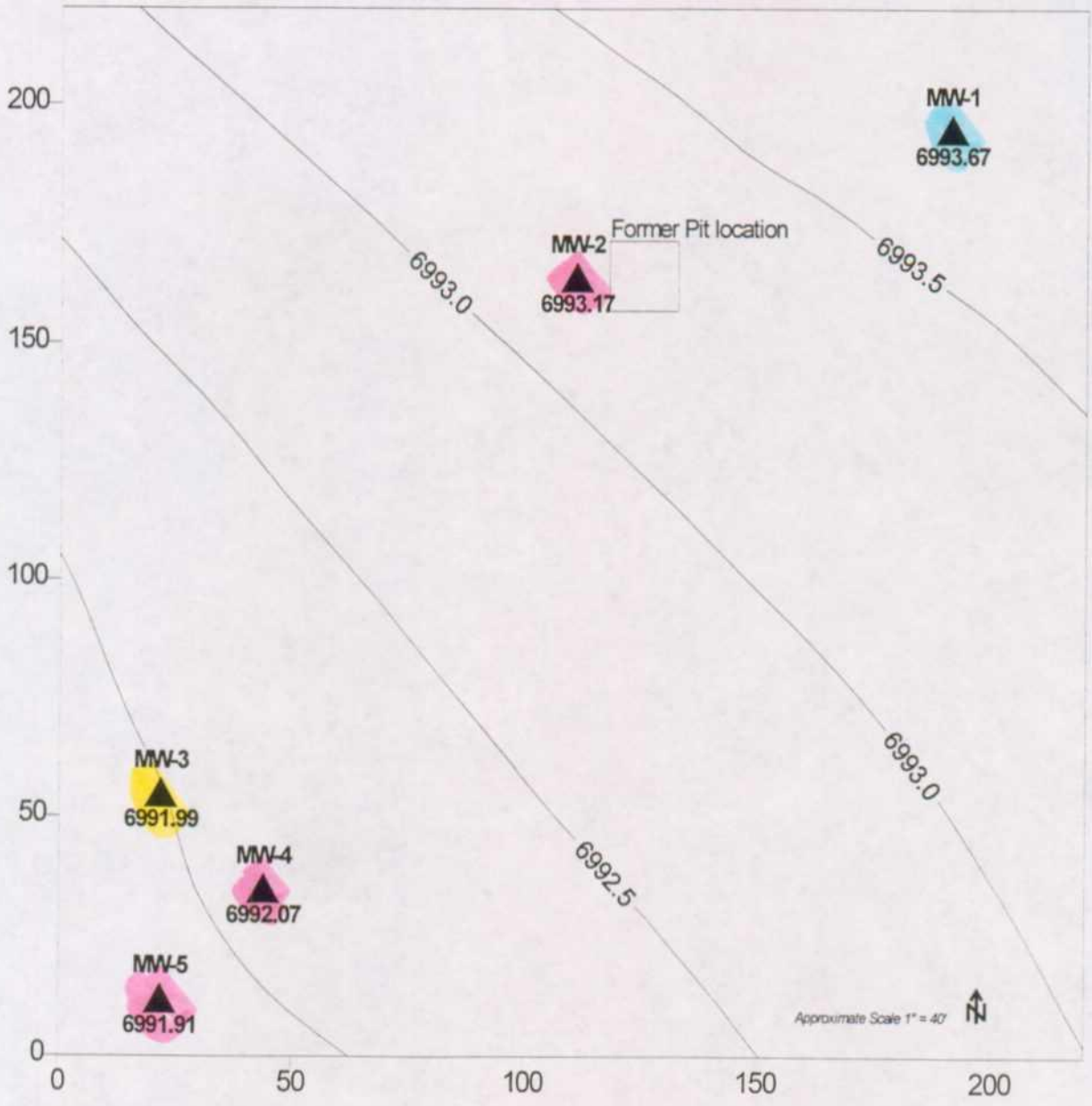


Figure 3. Third Quarter Water Level Elevations
Honolulu Loop Line Drip

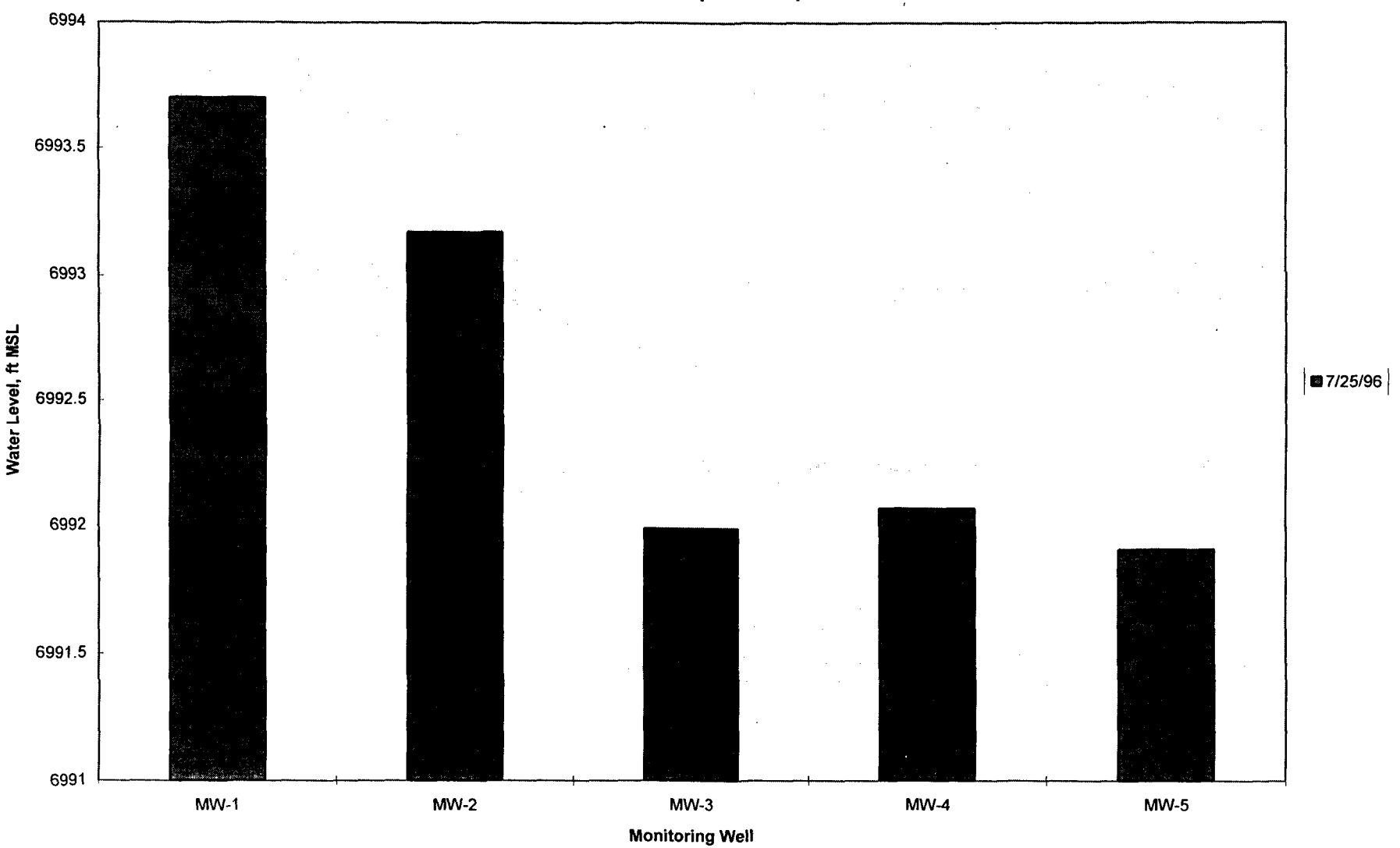


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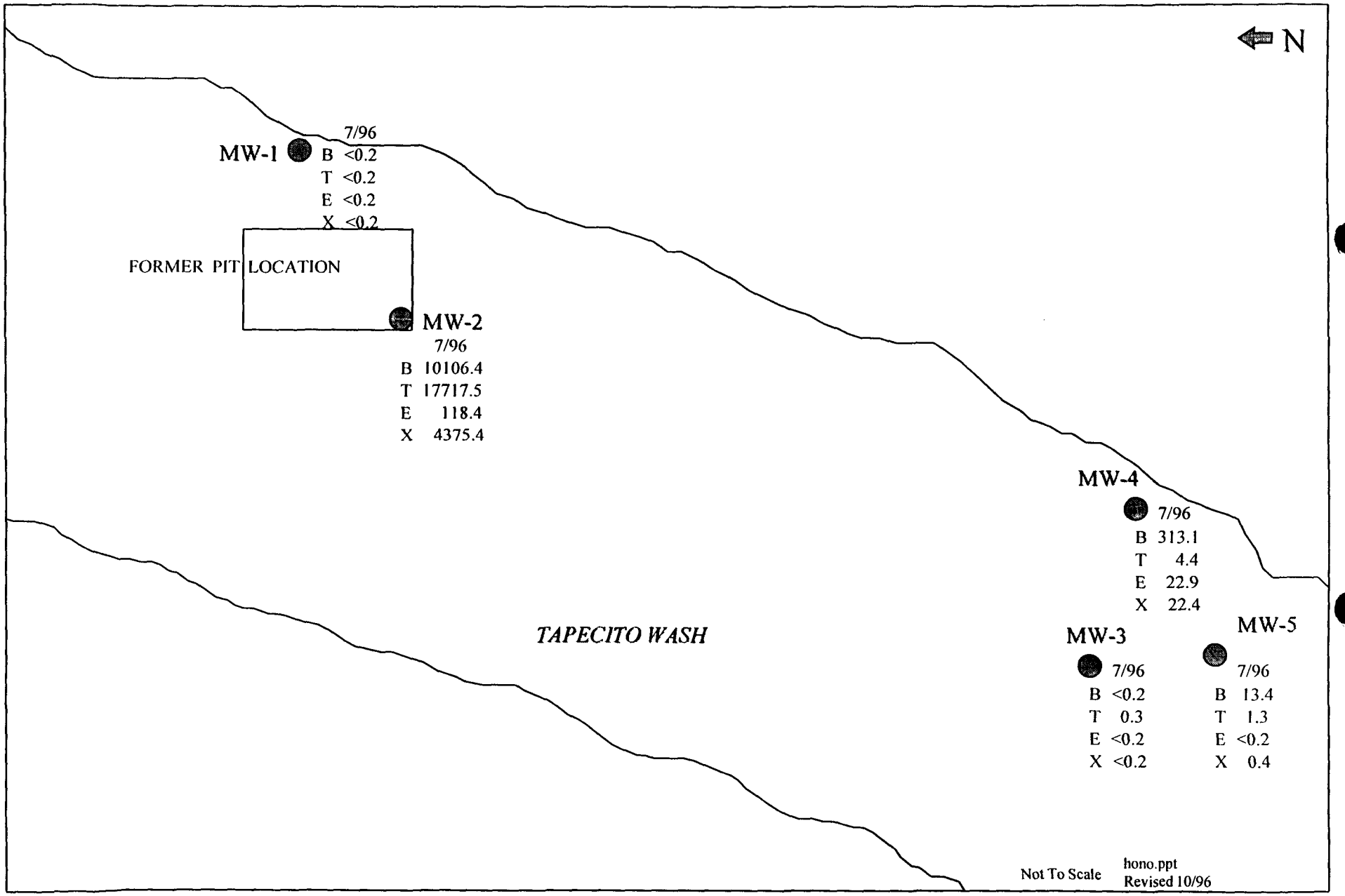
Table 1. HONOLULU LOOP LINE DRIP
GROUNDWATER SAMPLING RESULTS, mg/l

	WQCC Stds.	MW-1	MW-2	MW-3	MW-4	MW-5
B	0.01	<0.0002	**10.11**	<0.0002	**0.31**	**0.0134**
T	0.75	<0.0002	**17.72**	0.0003	0.0044	0.0013
E	0.75	<0.0002	0.12	<0.0002	0.0229	<0.0002
X	0.62	<0.0002	**4.38**	<0.0002	0.0224	0.0004
PAHs	0.3	NS	0.0004	NS	NS	NS
As	0.1	NS	<0.02	NS	NS	NS
Ba	1	NS	**1.12**	NS	NS	NS
Cd	0.01	NS	<0.002	NS	NS	NS
Cr	0.05	NS	0.03	NS	NS	NS
Pb	0.05	NS	**0.17**	NS	NS	NS
Se	0.05	NS	<0.02	NS	NS	NS
Ag	0.05	NS	<0.01	NS	NS	NS
Hg	0.002	NS	<0.0004	NS	NS	NS
Cu	NA	<0.05	<0.05	<0.05	<0.05	NS
Fe	NA	23.30	13.50	8.79	41.00	NS
Mn	NA	0.54	3.96	1.71	4.32	NS
Zn	NA	0.09	<0.05	<0.05	0.15	NS
Cl	NA	13.7	41.8	11.1	9.9	NS
F	NA	0.34	0.51	0.46	0.53	NS
NO3	NA	<0.05	<0.05	<0.05	<0.05	NS
SO4	NA	477	143	154	17	NS
CN	NA	<0.10	<0.10	<0.10	<0.02	NS
TDS	NA	1032	775	724	708	NS

NA: Not Applicable
BDL: Below Detection Limit
NS: Not Sampled
Bold: Concentration Above WQCC Standard

FIGURE 4. HONOLULU LOOP-LINE DRIP SITE
Well locations & Analytical Results (Concentrations in ppb)



OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	31-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4760*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11621*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9607251400; MW-1***				
Sampled by:	MJS/MDG	Date:	25-Jul-96	Time:	14:00
Analyzed by:	DC	Date:	30-Jul-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: 7/31/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	31-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4760*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11622*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9607251430; MW-2***				
Sampled by:	MJS/MDG	Date:	25-Jul-96	Time:	14:30
Analyzed by:	DC	Date:	31-Jul-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	10106.4	ug/L	0.2	ug/L
Toluene	17717.5	ug/L	0.2	ug/L
Ethylbenzene	118.4	ug/L	0.2	ug/L
m,p-Xylene	3464.0	ug/L	0.2	ug/L
o-Xylene	911.4	ug/L	0.2	ug/L
TOTAL	32317.6	ug/L		

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

Approved by: JLG

Date: 7/31/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	31-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4760*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11623*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9607251500; MW-3***				
Sampled by:	MJS/MDG	Date:	25-Jul-96	Time:	15:00
Analyzed by:	DC	Date:	31-Jul-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	0.3	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	0.3	ug/L		

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

Approved by: DaG
Date: 7/31/96

OFF: (505) 325-5667

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TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	31-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4760*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11624*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9607251530; MW-4***				
Sampled by:	MJS/MDG	Date:	25-Jul-96	Time:	15:30
Analyzed by:	DC	Date:	30-Jul-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	313.1	ug/L	0.2	ug/L
Toluene	4.4	ug/L	0.2	ug/L
Ethylbenzene	22.9	ug/L	0.2	ug/L
m,p-Xylene	15.3	ug/L	0.2	ug/L
o-Xylene	7.1	ug/L	0.2	ug/L
TOTAL	362.8	ug/L		

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

Approved by: DG
Date: 7/31/96

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn:	*Maureen Gannon*	Date:	31-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4760*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11625*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9607251600; MW-5***				
Sampled by:	MJS/MDG	Date:	25-Jul-96	Time:	16:00
Analyzed by:	DC	Date:	30-Jul-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	13.4	ug/L	0.2	ug/L
Toluene	1.3	ug/L	0.2	ug/L
Ethylbenzene	<0.2	ug/L	0.2	ug/L
m,p-Xylene	0.4	ug/L	0.2	ug/L
o-Xylene	<0.2	ug/L	0.2	ug/L
TOTAL	15.1	ug/L		

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

Approved by: JAG
Date: 7/31/96

OFF: (505) 325-5667

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TECHNOLOGIES, LTD.

LAB: (505) 325-1556

POLYNUCLEAR AROMATIC HYDROCARBONS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11271*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Drip Line***				
Project Location:	***9606200900; MW-2***				
Sampled by:	MG	Date:	20-Jun-96	Time:	9:00
Analyzed by:	ILFC	Date:	9-Jul-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Component	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Acenaphthene	<1	ug/L	1	ug/L
Acenaphthylene	<1	ug/L	1	ug/L
Benzo (a) anthracene	<1	ug/L	1	ug/L
Benzo (a) pyrene	<1	ug/L	1	ug/L
Pyrene	<1	ug/L	1	ug/L
Benzo (b) fluoranthene	<1	ug/L	1	ug/L
Benzo (ghi) perylene	<1	ug/L	1	ug/L
Benzo (k) flouranthene	<1	ug/L	1	ug/L
Chrysene	<1	ug/L	1	ug/L
Dibenzo (a,h) anthracene	<1	ug/L	1	ug/L
Flouranthene	<1	ug/L	1	ug/L
Fluorene	<1	ug/L	1	ug/L
Indeno (1,2,3-cd) pyrene	<1	ug/L	1	ug/L
Naphthalene	4	ug/L	1	ug/L
Phenanthrene	<1	ug/L	1	ug/L

Method - *SW-846 EPA Method 8100 - Polynuclear Aromatic Hydrocarbons*

Approved by: JaC
Date: 7/10/96

OFF: (505) 325-5667

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LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

EPA Method 8100

Date: 9-Jul-96

Method Blank ***Calibration Check***

Component	*Result*	*Unit of Measure*		*% Diff*	*Limit*
Acenaphthene	<1	ug/L		13%	25%
Acenaphthylene	<1	ug/L		4%	25%
Benzo (a) anthracene	<1	ug/L		5%	25%
Benzo (a) pyrene	<1	ug/L		19%	25%
Pyrene	<1	ug/L		10%	25%
Benzo (b) fluoranthene	<1	ug/L		0%	25%
Benzo (ghi) perylene	<1	ug/L		7%	25%
Benzo (k) flouranthene	<1	ug/L		6%	25%
Chrysene	<1	ug/L		10%	25%
Dibenzo (a,h) anthrace	<1	ug/L		12%	25%
Flouranthene	<1	ug/L		7%	25%
Fluorene	<1	ug/L		4%	25%
Indeno (1,2,3-cd) pyre	<1	ug/L		8%	25%
Naphthalene	<1	ug/L		1%	25%
Phenanthrene	<1	ug/L		2%	25%

Matrix Spike

Component	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RPD*
Acenaphthene	91%	85%	(46-118)	7%
Pyrene	110%	95%	(26-127)	15%

Surrogate Recoveries

Batch Number	*S1* Nitrobenzene-d5	*S2* 2-Fluorobiphenyl	*S3* Terphenyl-d14
96104	99%	107%	110%

OFF: (505) 325-5667

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TECHNOLOGIES, LTD.

LAB: (505) 325-1556

METALS ANALYSIS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample No.*	*11271*
City, State:	*Albuquerque, NM 87158*	*Job No.*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Drip Line***				
Project Location:	***9606200900; MW-2***				
Sampled by:	MG	Date:	20-Jun-96	Time:	9:00
Analyzed by:	MWL	Date:	5-Jul-96		
Sample Matrix:	*Water*				

Laboratory Analysis

Parameter	*Result*	*Detection Limit*	*Unit of Measure*	*Method*
Arsenic (As), Dissolved	<0.02	0.02	mg/L	EPA Method 206.2
Barium (Ba), Dissolved	1.12	0.005	mg/L	EPA Method 200.7
Cadmium (Cd), Dissolved	<0.002	0.002	mg/L	EPA Method 200.7
Chromium (Cr), Dissolved	0.03	0.01	mg/L	EPA Method 200.7
Lead (Pb), Dissolved	0.17	0.01	mg/L	EPA Method 239.2
Selenium (Se), Dissolved	<0.02	0.02	mg/L	EPA Method 270.2
Silver (Ag), Dissolved	<0.01	0.01	mg/L	EPA Method 200.7
Mercury (Hg), Dissolved	<0.0004	0.0004	mg/L	EPA Method 245.1

Approved by: JaC
Date: 7/12/96

OFF: (505) 325-5667

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LAB: (505) 325-1556

WATER ANALYSIS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample ID:*	*11270*
City, State:	*Albuquerque, NM 87158*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9606200830; MW-1***				
Sampled by:	MG	Date:	20-Jun-96	Time:	8:30
Analyzed by:	OSL/IML/MWL	Date:	5-Jul-96		
Sample Matrix:	Water				

Laboratory Analysis

Parameter	*Result*	*Detection Limit*	*Unit of Measure*	*Method*
Copper (Cu), Total	<0.05	0.05	mg/L	EPA Method 220.1
Iron (Fe), Total	23.30	0.05	mg/L	EPA Method 236.1
Manganese (Mn), Total	0.54	0.05	mg/L	EPA Method 243.1
Zinc (Zn), Total	0.09	0.05	mg/L	EPA Method 289.1
Chloride (Cl)	13.7	0.5	mg/L	EPA Method 325.3
Fluoride (F)	0.34	0.01	mg/L	EPA Method 340.2
Nitrate (NO3 as N)	<0.05	0.05	mg/L	EPA Method 352.1
Sulfate (SO4)	477	1	mg/L	EPA Method 375.3
Cyanide (CN), Total	<0.10	0.10	mg/L	EPA Method 335.2
Total Dissolved Solids	1032	1	mg/L	EPA Method 160.1
pH	7.73			EPA Method 150.1

Approved by:
Date: 7/12/96

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

WATER ANALYSIS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample ID:*	*11271*
City, State:	*Albuquerque, NM 87158*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9606200900; MW-2***				
Sampled by:	MG	Date:	20-Jun-96	Time:	9:00
Analyzed by:	OSL/IML/MWL	Date:	5-Jul-96		
Sample Matrix:	Water				

Laboratory Analysis

Parameter	*Result*	*Detection Limit*	*Unit of Measure*	*Method*
Copper (Cu), Total	<0.05	0.05	mg/L	EPA Method 220.1
Iron (Fe), Total	13.50	0.05	mg/L	EPA Method 236.1
Manganese (Mn), Total	3.96	0.05	mg/L	EPA Method 243.1
Zinc (Zn), Total	<0.05	0.05	mg/L	EPA Method 289.1
Chloride (Cl)	41.8	0.5	mg/L	EPA Method 325.3
Fluoride (F)	0.51	0.01	mg/L	EPA Method 340.2
Nitrate (NO3 as N)	<0.05	0.05	mg/L	EPA Method 352.1
Sulfate (SO4)	143	1	mg/L	EPA Method 375.3
Cyanide (CN), Total	<0.10	0.10	mg/L	EPA Method 335.2
Total Dissolved Solids	775	1	mg/L	EPA Method 160.1
pH	7.00			EPA Method 150.1

Approved by:
Date:

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

WATER ANALYSIS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample ID:*	*11272*
City, State:	*Albuquerque, NM 87158*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9606200930; MW-3***				
Sampled by:	MG	Date:	20-Jun-96	Time:	9:30
Analyzed by:	OSL/IML/MWL	Date:	5-Jul-96		
Sample Matrix:	Water				

Laboratory Analysis

Parameter	*Result*	*Detection Limit*	*Unit of Measure*	*Method*
Copper (Cu), Total	<0.05	0.05	mg/L	EPA Method 220.1
Iron (Fe), Total	8.79	0.05	mg/L	EPA Method 236.1
Manganese (Mn), Total	1.71	0.05	mg/L	EPA Method 243.1
Zinc (Zn), Total	<0.05	0.05	mg/L	EPA Method 289.1
Chloride (Cl)	11.1	0.5	mg/L	EPA Method 325.3
Fluoride (F)	0.46	0.01	mg/L	EPA Method 340.2
Nitrate (NO3 as N)	<0.05	0.05	mg/L	EPA Method 352.1
Sulfate (SO4)	154	1	mg/L	EPA Method 375.3
Cyanide (CN), Total	<0.10	0.10	mg/L	EPA Method 335.2
Total Dissolved Solids	724	1	mg/L	EPA Method 160.1
pH	7.56			EPA Method 150.1

Approved by: DaC
Date: 7/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

WATER ANALYSIS

Attn:	*Maureen Gannon*	Date:	12-Jul-96
Company:	*PNM Gas Services*	*COC No.:*	*4761*
Address:	*Alevardo Square, Mail Stop 0408*	*Sample ID:*	*11273*
City, State:	*Albuquerque, NM 87158*	*Job No.:*	*2-1000*

Project Name:	***PNM Gas Services - Honolulu Loop Line Drip***				
Project Location:	***9606201000; MW-4***				
Sampled by:	MG	Date:	20-Jun-96	Time:	10:00
Analyzed by:	OSL/IML/MWL	Date:	5-Jul-96		
Sample Matrix:	Water				

Laboratory Analysis

Parameter	*Result*	*Detection Limit*	*Unit of Measure*	*Method*
Copper (Cu), Total	<0.05	0.05	mg/L	EPA Method 220.1
Iron (Fe), Total	41.00	0.05	mg/L	EPA Method 236.1
Manganese (Mn), Total	4.32	0.05	mg/L	EPA Method 243.1
Zinc (Zn), Total	0.15	0.05	mg/L	EPA Method 289.1
Chloride (Cl)	9.9	0.5	mg/L	EPA Method 325.3
Fluoride (F)	0.53	0.01	mg/L	EPA Method 340.2
Nitrate (NO3 as N)	<0.05	0.05	mg/L	EPA Method 352.1
Sulfate (SO4)	17	1	mg/L	EPA Method 375.3
Cyanide (CN), Total	<0.02	0.02	mg/L	EPA Method 335.2
Total Dissolved Solids	708	1	mg/L	EPA Method 160.1
pH	7.42			EPA Method 150.1

Approved by: JaG

Date: 7/12/96

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 30-Jul-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	20.9	4	15%
Toluene	ppb	20.0	22.7	13	15%
Ethylbenzene	ppb	20.0	21.7	9	15%
m,p-Xylene	ppb	40.0	42.3	6	15%
o-Xylene	ppb	20.0	21.4	7	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Benzene	118	102	(39-150)	11	20%
Toluene	121	103	(46-148)	11	20%
Ethylbenzene	124	105	(32-160)	11	20%
m,p-Xylene	119	100	(35-145)	12	20%
o-Xylene	116	98	(35-145)	12	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)	
11620-4760	101	
11621-4760	100	
11624-4760	98	
11625-4760	100	

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 31-Jul-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	20.6	3	15%
Toluene	ppb	20.0	21.4	7	15%
Ethylbenzene	ppb	20.0	21.4	7	15%
m,p-Xylene	ppb	40.0	42.1	5	15%
o-Xylene	ppb	20.0	20.9	4	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	108	109	(39-150)	0	20%
Toluene	115	114	(46-148)	1	20%
Ethylbenzene	115	114	(32-160)	1	20%
m,p-Xylene	112	111	(35-145)	0	20%
o-Xylene	108	109	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)	
11622-4760	101	
11623-4760	100	

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

Metals Analysis

Date: *5-Jul-96*

Quality Control Sample

Parameter	*Initial Check Sample*	*Final Check Sample*	*Percent Recovery*
Arsenic, As	104	111	%
Barium, Ba	101	100	%
Cadmium, Cd	100	101	%
Chromium, Cr	100	99	%
Lead, Pb	99	100	%
Selenium, Se	96	102	%
Silver, Ag	100	100	%
Mercury, Hg	110	106	%

Matrix Spike

Parameter	*Spike % Recovery*	*Duplication % RSD*
Arsenic, As	N/A	13.6
Barium, Ba	94	0
Cadmium, Cd	80	<2 X D.L.
Chromium, Cr	85	0
Lead, Pb	86	<2 X D.L.
Selenium, Se	N/A	<2 X D.L.
Silver, Ag	86	<2 X D.L.
Mercury, Hg	106	<2 X D.L.

Method Blank

Parameter	*Analyzed Value*	*Unit of Measure*
Arsenic, As	<0.02	mg/L
Barium, Ba	<0.005	mg/L
Cadmium, Cd	<0.002	mg/L
Chromium, Cr	<0.01	mg/L
Lead, Pb	<0.01	mg/L
Selenium, Se	<0.02	mg/L
Silver, Ag	<0.01	mg/L
Mercury, Hg	<0.0004	mg/L

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

Water Analysis

Date: 5-Jul-96

Quality Control Sample

Parameter	Laboratory Identification	True Value	Analyzed Value	Unit of Measure	% Diff	Limit % Diff
Copper, Cu	0422-QC	2.00	2.06	mg/L	3	10
Iron, Fe	0422-QC	2.00	1.90	mg/L	-5	10
Manganese, Mn	0422-QC	1.00	1.03	mg/L	2	10
Zinc, Zn	0422-QC	0.40	0.40	mg/L	1	10
Chloride, Cl	0483-QC	138.0	140.0	mg/L	1	10
Fluoride, F	IML-705	0.40	0.40	mg/L	0	30
Nitrate, NO3 as N	IML-705	10.30	9.48	mg/L	-8	10
Sulfate, SO4	0483-QC	124	130	mg/L	5	10
Cyanide, CN	MWL-722	1.00	0.82	mg/L	-18	15
Total Dissolved Solids	0483-QC	913	880	mg/L	-4	10
pH	0483-QC	9.09	9.20		1	5

Matrix Spike

Parameter	Laboratory Identification	Analyzed Value	Matrix Spike	Spike Value	Unit of Measure	Spike Recovery
Copper (Cu), Total	11268-4758	0.09	1.00	1.04	mg/L	95%
Iron (Fe), Total	11268-4758	35.90	1.00	39.50	mg/L	107%
Manganese (Mn), Total	11268-4758	8.04	1.00	9.13	mg/L	101%
Zinc (Zn), Total	11268-4758	0.33	1.00	1.25	mg/L	94%

Method Blank

Parameter	Laboratory Identification	Analyzed Value	Unit of Measure
Copper (Cu), Total	LF-Blank	<0.05	mg/L
Iron (Fe), Total	LF-Blank	<0.05	mg/L
Manganese (Mn), Total	LF-Blank	<0.05	mg/L
Zinc (Zn), Total	LF-Blank	<0.05	mg/L
Chloride, Cl	LF-Blank	<2 X DL	mg/L
Fluoride, F	LF-Blank	<0.01	mg/L
Nitrate, NO3 as N	LF-Blank	<0.05	mg/L
Sulfate, SO4	LF-Blank	<1	mg/L
Cyanide (CN), Total	LF-Blank	<0.02	mg/L
Total Dissolved Solids	LF-Blank	<1	mg/L

CHAIN OF CUSTODY RECORD

DATA 14161

ON SITE TECHNOLOGIES, LTD.

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

Date: 6-20-96

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: Honolulu Loop Line Drip

Sampler: M. Gannon

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX/ 8020	CATIONS/ANIONS	PAHs	RCRA Metals						LAB ID
MW 1 9606200830			H_2O	$HgCl_2$ for BTEX	3	2	1								11270-11161
MW 2 9606200900			H_2O	$HgCl_2$ for BTEX	~~3~~ 4	2	1	1	2						11271
MW 3 9606200930			H_2O	$HgCl_2$ for BTEX	~~3~~ 4	2	1 X MG	X MG	X MG						11272
MW 4 960620 1000			H_2O	$HgCl_2$ BTEX	3	2	1								11273
MW 5 9606200945			H_2O	$HgCl_2$ BTEX	2	2									11274

Relinquished by: M Gannon	Date/Time 6/20/96 14:21	Received by: Ray Bunker	Date/Time 6-20-96 1415
Relinquished by: Ray Bunker	Date/Time 6-20-96 1620	Received by:	Date/Time 6/20/96 1620
Relinquished by:	Date/Time	Received by:	Date/Time

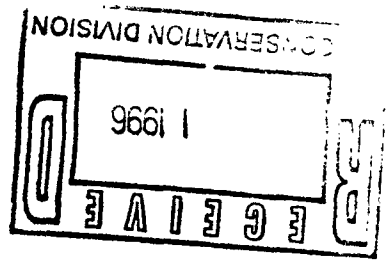
Method of Shipment:

Authorized by: Ray Bunker (Client Signature Must Accompany Request) Date 6-20-96

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

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



August 1, 1996

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

RE: SAN JUAN BASIN 2ND QUARTER 1996 GROUNDWATER REPORT

Dear Bill:

PNM Gas Services, PNMGS, (formerly Gas Company of New Mexico) is pleased to submit the 2nd 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 44
Honolulu Loop-Line Drip
Kaufmann 1
McCoy A1A
Templeton 1E

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

Sincerely,
PNM Environmental Services Department

Maureen Gannon
Project Manager

MDG/GASPITS/OLSON01.LTR

Attachment

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

Public Service Company of New Mexico
2nd Quarter 1996 Groundwater Report
August 1, 1996

Prepared for:

New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Prepared by:

Public Service Company of New Mexico
Environmental Services Department
Alvarado Square - MS 0408
Albuquerque, New Mexico 87158

PNMGS Well Site: Honolulu Loop Line Drip

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

Site Summary Report

Quarter: 2 **Year:** 96

Operator: WFS
Sec: 25 **Twn:** 26 **Rng:** 4 **Unit:** B
Canyon: Tapicito Creek

Vulnerable Class: Environmentally Sensitive
Jicarilla Apache Ranking: 50
Lead Agency: JAEPO/NMOCD

Topo Map: previously submitted
Groundwater Contour Map: N/A
Site Map with Analysis: N/A
Well Completion Diagram: N/A
Hydrograph: N/A

Activities for Quarter:

PNM is in the process of completing the well installation and sampling at the Honolulu Loop Line Drip. PNM installed four groundwater monitoring wells during the second quarter of 1996. A fifth well was recently installed downgradient in the Tapicito Wash on July 25, 1996. PNM sampled all monitoring wells and a windmill located approximately 3/4 of a mile down the wash during the July event. PNM is currently awaiting the laboratory results.

Conclusions and Recommendations:

N/A

Further Action:

PNM is delaying further action at the site until a review of the analytical results is conducted.

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**