

3R - 331

REPORTS

DATE:

1998

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

April 2, 1998

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

RECEIVED
APR 03 1998
Regional Office
Oil Conservation Division



RE: 1998 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1998 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Cozzens B1
Dogie Compressor Station East Pit
Dogie Compressor Station North Pit
Florance 32A
Florance Z 40 M
Florance 44
Florance 47X
Florance 124
Hampton 4M
Honolulu Loop Line Drip
Ice Canyon Drip
Jacques 2A
Mangum 1E
McClanahan 22
McClanahan A2E
McCoy Gas Com A1
Miles Federal 1E
Miles Federal 1E Drip
Randleman 1
Reid 16 Drip
Sammons 2
Turner 1A
Turner 3
Zachry 18E

PNM plans to request closure of two of the above sites, the Cozzens B1 and the Sammons 2, in our April 30, 1998 filing of the San Juan Pit Closure Reports to the OCD Santa Fe office. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

Attachment

cc: Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Bill VonDrehle, WFS

PNM 1998 Groundwater Report

bcc: Colin Adams (w/o analytical results)
Kathy Juckes
Ron Johnson (w/o analytical results)
Mark Sikelianos

Groundwater Site Summary Report

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

Quarter/Year: 2nd/97, 3rd/97, 4th/97 & 1st/98

Operator: Burlington Resources
Sec: 14 Twn: 28N Rng: 10W Unit: G
Canyon: Armenta

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

Topo Map: previously submitted
Well Completion Diagram: previously submitted
Site Map with Analytical Results: Figure 1
Groundwater Contour Map: Figure 2 (June 1997), Figure 3 (September 1997), Figure 4 (December 1997) & Figure 5 (March 1998)
Hydrograph: Figure 6
Analytical Results: attached

Activities for Previous Year:

PNM performed groundwater monitoring at the McClanahan 22 well site on June 19, September 5, December 12, 1997 and again on March 10, 1998. Water level measurements were taken in each of the four monitoring wells. PNM conducted groundwater sampling in each well for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). All sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico, for analyses of BTEX using EPA Method 8020.

Results:

Figure 1 provides a site map with BTEX results collected to date at the site. With the exception of MW-3, all wells contain BTEX concentrations below detection or WQCC standards. MW-3 exhibits elevated levels of xylenes.

Figure(s) 2, 3, 4 and 5 provide groundwater contour maps for June, September and December 1997 and January 1998, respectively. Groundwater beneath the site travels in a southwesterly direction. Figure 6 is a hydrograph of groundwater levels at the site. In general, water levels in the wells have risen over the 6 quarters of monitoring and all wells exhibit similar trends.

Further Action:

PNM will continue to monitor groundwater gradient and perform quarterly groundwater sampling at the McClanahan 22 well site. We are also considering additional source removal at this site.

Public Service Company of New Mexico - Gas Services

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

Contact: Maureen Gannon

Telephone: 505-241-2974

Figure 1. McClanahan 22 Site Map With Analytical Results
(Concentrations in ppb)

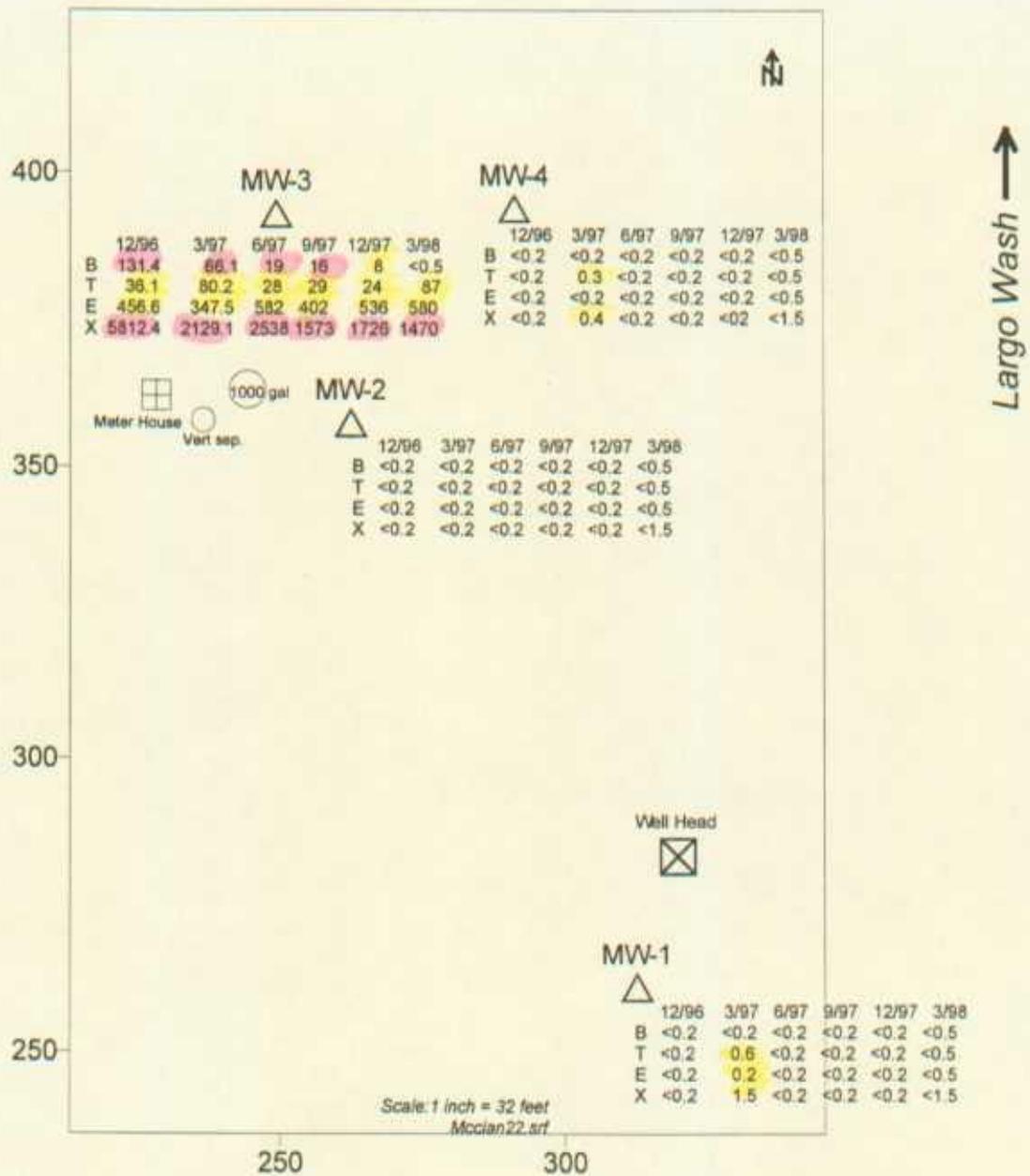


Figure 2. Mclanahan 22 Groundwater Contour Map (June 19, 1997)

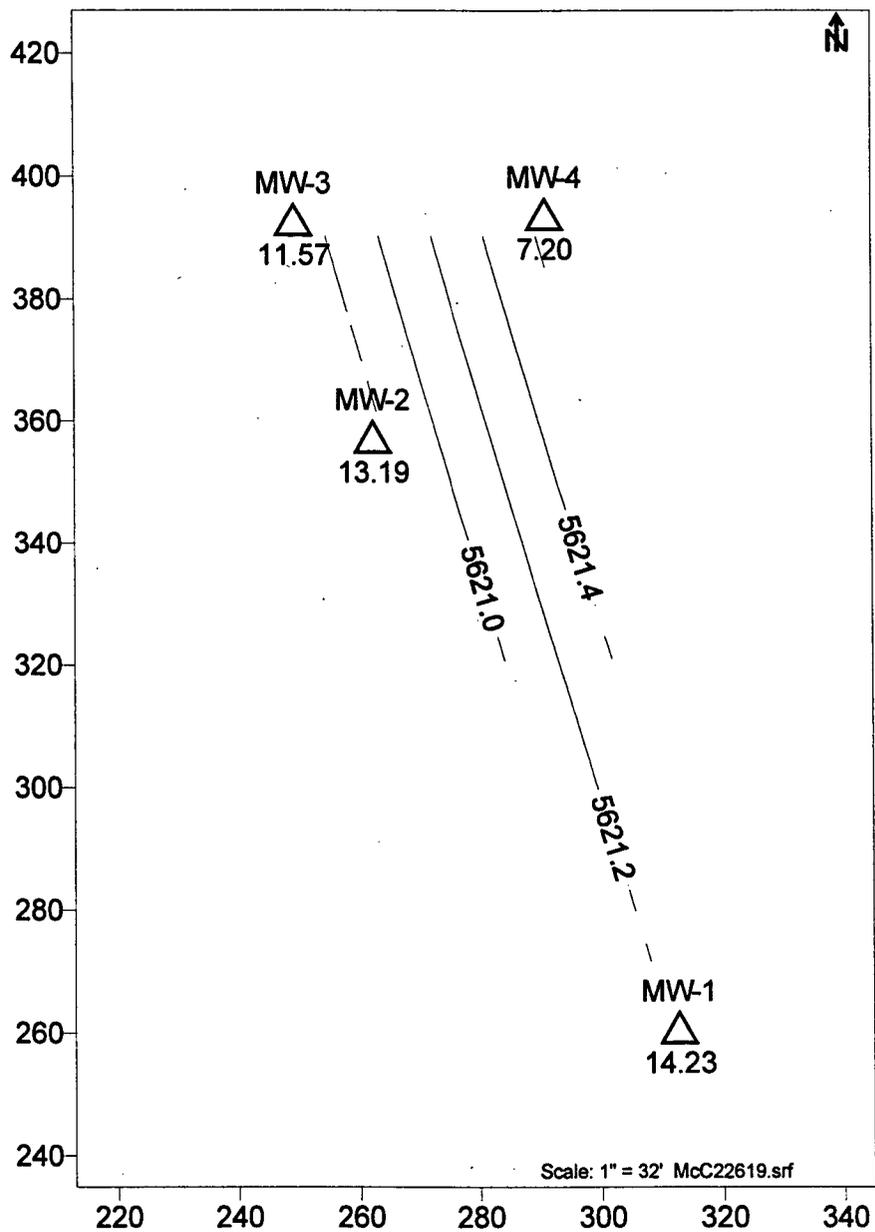


Figure 3. McClanahan 22 Groundwater Contour Map (September 5, 1997)

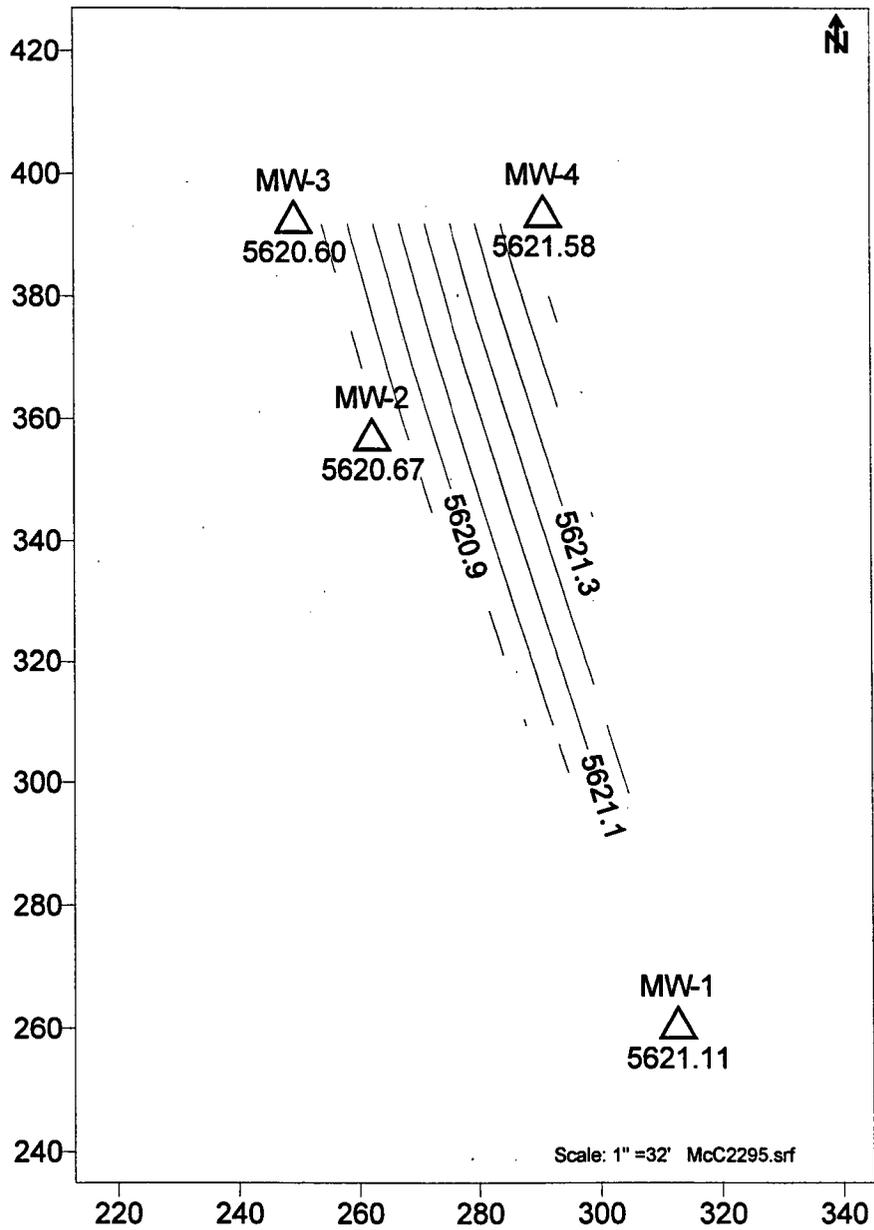


Figure 4. McClanahan 22 Groundwater Contour Map (December 17, 1997)

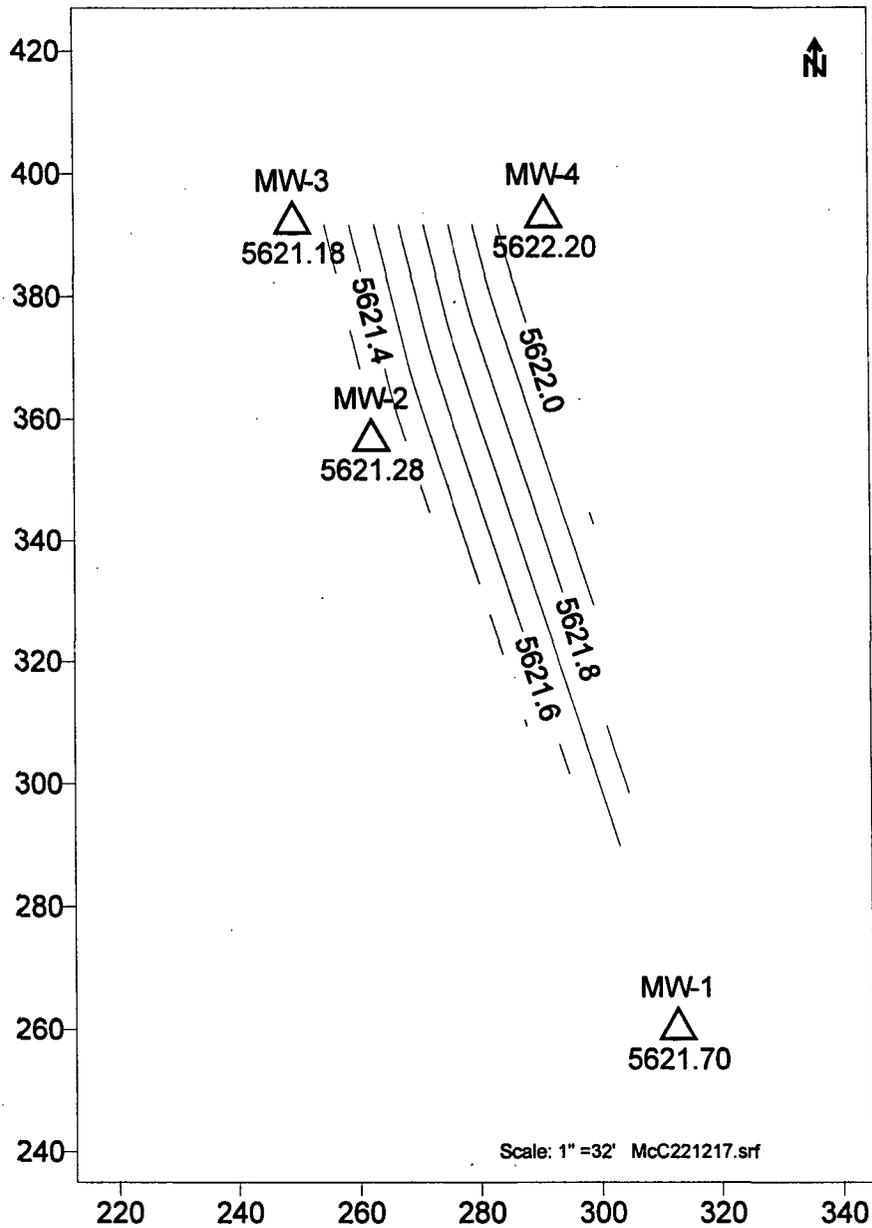


Figure 5. McClanahan 22 Groundwater Contour Map (March 10, 1998)

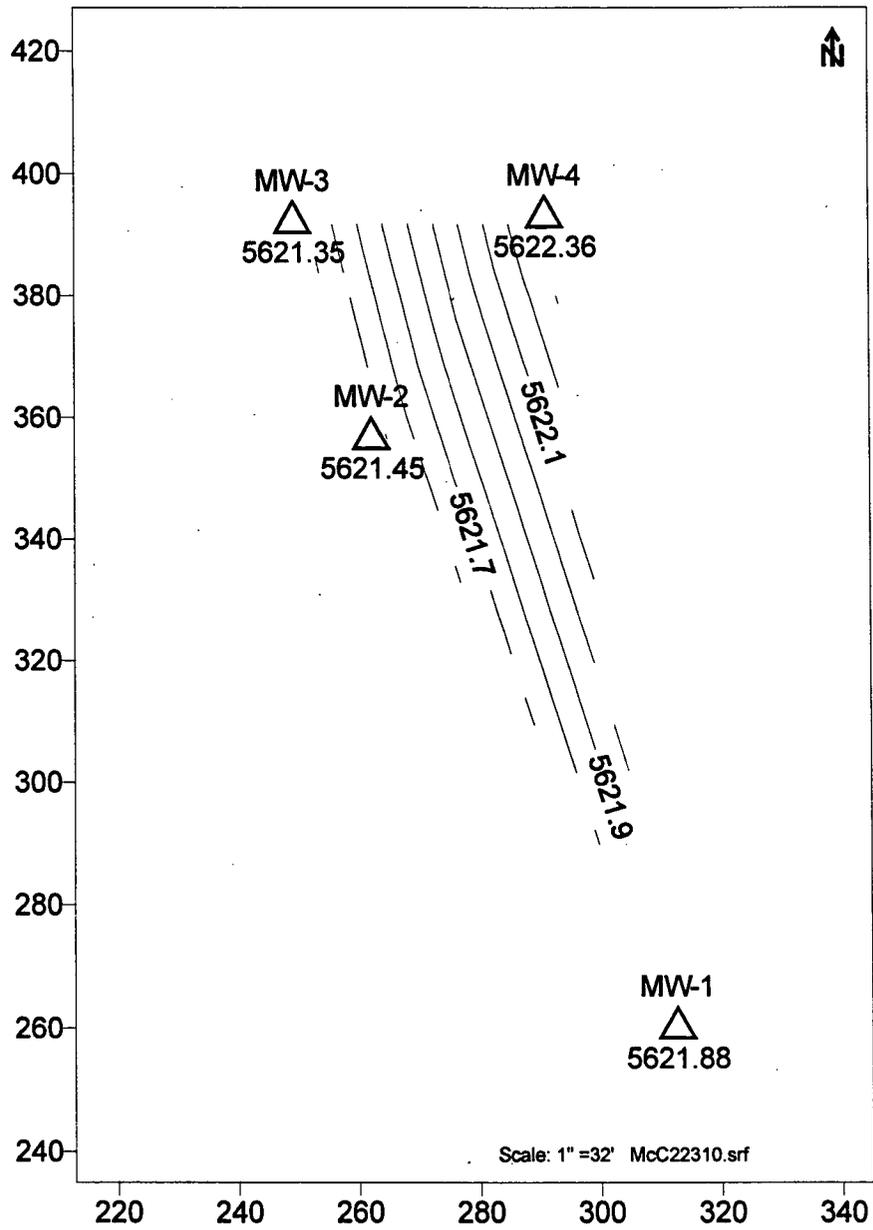
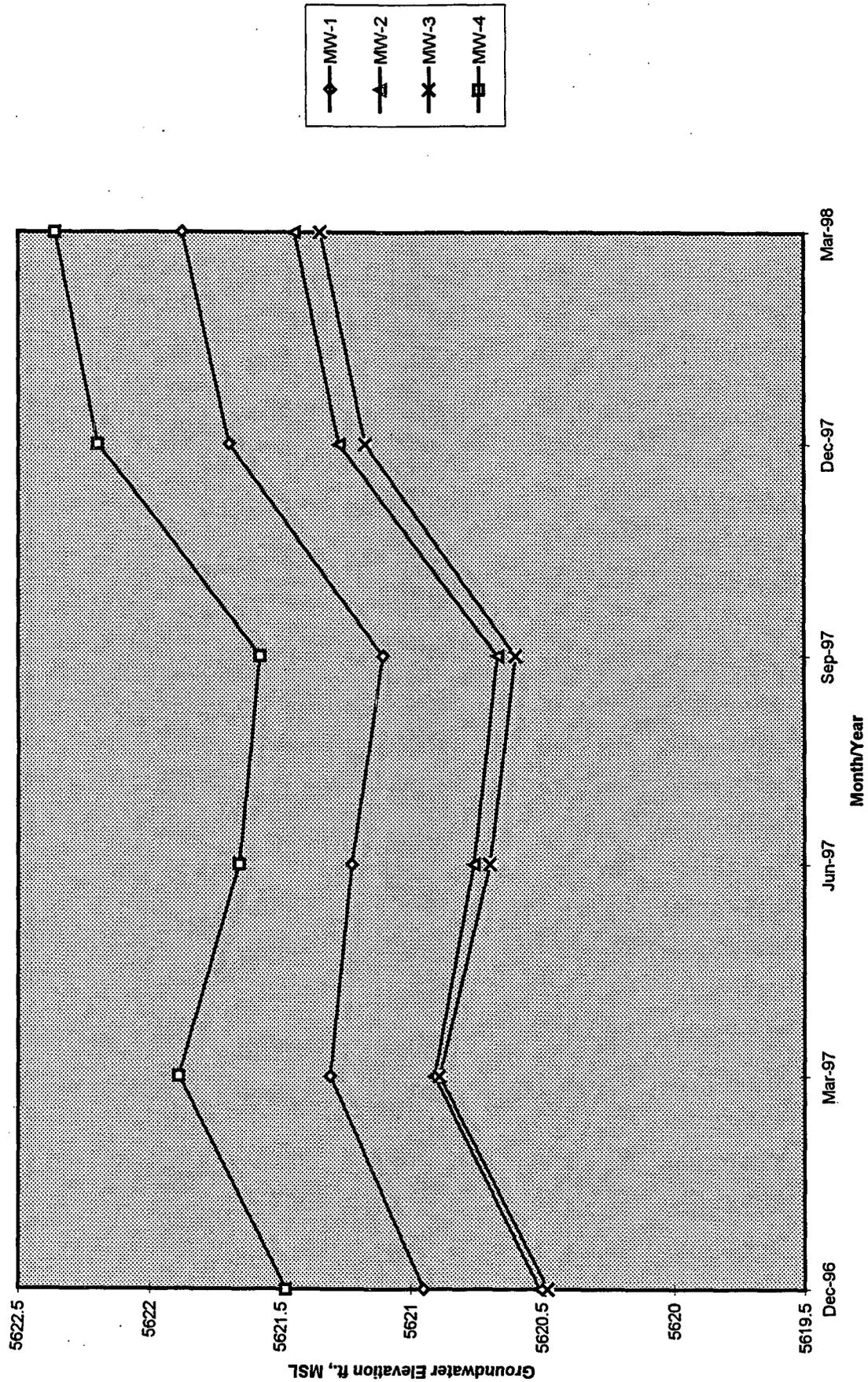


Figure 6. McClanahan 22 Hydrograph
(Water Level vs. Time)



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jun-97*
 COC No.: *5562*
 Sample No.: *14999*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*

Project Location: *9706191330; MW-1*

Sampled by: *MG/MS* Date: *19-Jun-97* Time: *13:30*

Analyzed by: *DC* Date: *24-Jun-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/26/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGIES, LTD. BEARING NO RESPONSIBILITY FOR THE RESULTS OF THIS ANALYSIS -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jun-97*
 COC No.: *5562*
 Sample No.: *15000*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9706191400; MW-2*
 Sampled by: *MG/MS* Date: *19-Jun-97* Time: *14:00*
 Analyzed by: *DC* Date: *24-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/26/97*

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- TECHNICAL SERVICES TO INDUSTRY WITH THE ENVIRONMENT IN MIND -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: 26-Jun-97
 COC No.: 5562
 Sample No.: 15001
 Job No.: 2-1000

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9706191430; MW-3*
 Sampled by: *MG/MS* Date: *19-Jun-97* Time: *14:30*
 Analyzed by: *DC* Date: *24-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	19	ug/L	4	ug/L
<i>Toluene</i>	28	ug/L	4	ug/L
<i>Ethylbenzene</i>	582	ug/L	4	ug/L
<i>m,p-Xylene</i>	2226	ug/L	4	ug/L
<i>o-Xylene</i>	312	ug/L	4	ug/L
<i>TOTAL</i>	3168	ug/L		

3-12-97

66.1
 80.2
 347.5
 1892.4
 236.7

ND - Not Detected at Limit of Quantitation

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

Approved By: *DAE*
 Date: *6/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jun-97*
 COC No.: *5562*
 Sample No.: *15002*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9706191500; MW-4*
 Sampled by: *MG/MS* Date: *19-Jun-97* Time: *15:00*
 Analyzed by: *DC* Date: *24-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/26/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY: BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jun-97*
 COC No.: *5562*
 Sample No.: *15003*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9706191530; MW-5*
 Sampled by: *MG/MS* Date: *19-Jun-97* Time: *15:30*
 Analyzed by: *DC* Date: *24-Jun-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *6/26/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 24-Jun-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-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	19.4	3	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	38.4	4	15%
o-Xylene	ppb	20.0	21.9	10	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	85	84	(39-150)	1	20%
Toluene	85	91	(46-148)	5	20%
Ethylbenzene	74	83	(32-160)	4	20%
m,p-Xylene	61	74	(35-145)	4	20%
o-Xylene	78	86	(35-145)	5	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14999-5562	96				
15000-5562	95				
15002-5562	95				
15003-5562	97				
15001-5562	96			dlr 6/27/97	oc 6/26/97

S1: Fluorobenzene

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



July 9, 1997

Mr. David Cox
ON SITE TECHNOLOGIES
612 East Murray
Farmington, NM 87401

RECEIVED JUL 14 1997

The following report contains analytical results for samples received at Southern Petroleum Laboratories (SPL) on June 20, 1997. The samples were assigned to Certificate of Analysis No(s).9706A10 and analyzed for the parameters specified on the chain of custody.

There were no analytical problems encountered with this group of samples and all quality control data was within acceptance limits.

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis Number during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories



Ed Fry
Project Manager



Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 97-06-A10

Approved for Release by:



Ed Fry, Project Manager

7/9/97

Date:

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

QUALITY CONTROL
DOCUMENTATION



Matrix Spike: 1000000

Batch Id: 1970703051551

Units: ug/L

B L A N K S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(**) (Advisory)	
			Result	Recovery	Result	Recovery		RPD Max.	Recovery Range
			<1>	<4>	<1>	<5>			
NAPHTHALENE	ND	0.5	0.35	70.0	0.32	64.0	8.96	30	33 - 122
ACENAPHTHYLENE	ND	0.5	0.0	0 *	0.07	14.0 *	200 *	30	42 - 138
ACENAPHTHENE	ND	0.5	0.32	64.0	0.29	58.0	9.84	30	25 - 123
FLUORENE	ND	0.5	0.35	70.0	0.31	62.0	12.1	30	19 - 142
PHENANTHRENE	ND	0.5	0.38	76.0	0.33	66.0	14.1	30	40 - 121
ANTHRACENE	ND	0.5	0.18	36.0	0.20	40.0	10.5	30	32 - 121
FLUORANTHENE	ND	0.5	0.39	78.0	0.34	68.0	13.7	30	51 - 115
PYRENE	ND	0.5	0.39	78.0	0.35	70.0	10.8	30	45 - 117
CHRYSENE	ND	0.5	0.51	102	0.45	90.0	12.5	30	44 - 122
BENZO (A) ANTHRACENE	ND	0.5	0.34	68.0	0.31	62.0	9.23	30	57 - 118
BENZO (B) FLUORANTHENE	ND	0.5	0.41	82.0	0.36	72.0	13.0	30	62 - 121
BENZO (K) FLUORANTHENE	ND	0.5	0.40	80.0	0.35	70.0	13.3	30	63 - 117
BENZO (A) PYRENE	ND	0.5	0.0	0 *	0.0	0 *	0	30	42 - 120
DIBENZO (A,H) ANTHRACENE	ND	0.5	0.38	76.0	0.33	66.0	14.1	30	53 - 118
BENZO (G,H,I) PERYLENE	ND	0.5	0.40	30.0	0.35	70.0	13.3	30	51 - 116
INDENO (1,2,3-CD) PYRENE	ND	0.5	0.42	84.0	0.36	72.0	15.4	30	60 - 116

Analyst: KA

Sequence Date: 07/03/97

Method Blank File ID:

Sample File ID:

Blank Spike File ID: 970702B\006-0601

Matrix Spike File ID:

Matrix Spike Duplicate File ID:

* = Values Outside QC Range. < = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL Temporary Limits

SAMPLES IN BATCH(SPL ID):

9706958-04B 9706A10-01A

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 6/20/97	Time: 1100
--	---

SPL Sample ID: 9706A10

		Yes	No
1	Chain-of-Custody (COC) form is present.	<input checked="" type="checkbox"/>	
2	COC is properly completed.	<input checked="" type="checkbox"/>	
3	If no, Non-Conformance Worksheet has been completed.		
4	Custody seals are present on the shipping container.	<input checked="" type="checkbox"/>	
5	If yes, custody seals are intact.	<input checked="" type="checkbox"/>	
6	All samples are tagged or labeled.	<input checked="" type="checkbox"/>	
7	If no, Non-Conformance Worksheet has been completed.		
8	Sample containers arrived intact	<input checked="" type="checkbox"/>	
9	Temperature of samples upon arrival:	4° C	
10	Method of sample delivery to SPL:	SPL Delivery	
		Client Delivery	
		FedEx Delivery (airbill #)	
		Other: UPS	
		1Z 06E58501100284	
11	Method of sample disposal:	SPL Disposal	
		HOLD	
		Return to Client	

Name: Alvina Sales	Date: 6/20/97
--	---



CHAIN OF CUSTODY RECORD

562

Date: 6-19-97 Page 1 of 1

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

Purchase Order No.:		Job No.	
Name	Denver Bearden	Name	Maureen Gannon
Company	PNM Gas Services	Company	PNM Gas Services
Address	603 W. Elm Street	Mailing Address	Alverado Square, Mail Stop 0408
City, State, Zip	Farmington, NM 87401	City, State, Zip	Albuquerque, NM 87158
Sampling Location:		Telephone No.	505-848-2974
McElanahan 22 Sampler: <i>Maureen Gannon</i>		Telefax No.	

SAMPLE IDENTIFICATION	SAMPLE DATE		MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED		LAB ID
	DATE	TIME				BTEX	PAHS	
9706191300 MW1	6/19/97		H ₂ O	PSY PRES NO/NOW 2	2	X		14999-5562
9706191400 MW2			↓	↓	3	X	M-S.	15000
- 9706191430 MW3			↓	↓	2	X	X	15001
9706191500 MW4			↓	↓	3	X	M-S.	15002
9706191530 MW5	6/19/97		H ₂ O	PSY PRES NO/NOW 2	2	X		15003
Relinquished by: <i>Maureen</i> Date/Time <u>6/19/97 1502</u> Received by: <i>DS</i> Date/Time <u>6/19/97 1502</u> Relinquished by: _____ Date/Time _____ Received by: _____ Date/Time _____ Relinquished by: _____ Date/Time _____ Received by: _____ Date/Time _____ Method of Shipment: _____ Rush _____ 24-48 Hours _____ 10 Working Days _____ Special Instructions: Results to be sent to both parties. Authorized by: _____ Date _____ (Client Signature Must Accompany Request)								

PIT ISSUES
Groundwater Sites

1. **Florance 1:** G. Cooke dug to 18' at the site. Reading in the bottom of the pit using a PID was 523 ppm. Subsequent lab results based upon a 5-point composite sample (4 sidewalls and bottom) showed BTEX at 0.519 ppm (well below OCD guideline of 10 ppm for a site ranked a 40). Technician informed Analytical results (5 point composite with highest sidewall at 1105) showed BTEX at 0.519 ppm. G. Cooke informed M. Gannon that excavation depth was within 6 inches of groundwater. M. Gannon expressed concern to D. Bearden over not digging to groundwater and taking a sample to confirm that groundwater was not impacted. D. Bearden indicated that it was not necessary to do so since the pit was clean according to laboratory results. OCD has closed this site.
2. **Lester 1:** G. Cooke had contractor dig to 22' and stop; the bottom was still hot at 392 ppm BTEX and 3571 ppm TPH. He indicated that groundwater was approx. 187' bgs. However, there is an irrigation ditch that borders the location. It is believed that this ditch serves as a water source to the site. Vertical extent was conducted while M. Sikelianos was on site. A hollow stem auger was used; auger met refusal due to large cobbles at approx. 23' bgs. M. Sikelianos asked that the rig be moved to another location to attempt another borehole. D. Bearden said "no" and shut down operation. M. Gannon called B. Olson, OCD, to discuss site. He suggested we get a cable tool rig out there since cobbles are not considered impermeable. M. Gannon discussed this with D. Bearden. He stated that he was going to close the site based upon the fact that the rig encountered "bedrock." OCD has since closed the site.
3. **McClanahan A2E:** G. Cooke dug to 21' bgs and encountered saturated, moist soil. According to backhoe operator, D. Holden (conversation between M. Gannon and D. Holden), G. Cooke instructed D. Holden to "back off." G. Cooke then had D. Holden grab a sample at 20' in the bottom of the excavation. A soil sample was taken - 379 ppm BTEX and 101 ppm TPH. G. Cooke then continued to 21' again and collected a "soil" sample off the bottom. Sample was in fact half soil/half water and laboratory analysis indicated that results were below guidelines for soil. M. Gannon called D. Cox at On Site Technologies to discuss the accuracy of the sample results. D. Cox indicated that sample was too saturated with groundwater to give an accurate measurement of BTEX in soil. M. Gannon confronted both G. Cooke and D. Bearden concerning the sampling methodology and the appearance of avoiding groundwater. Both G. Cooke and D. Bearden agreed that the approach at this site was incorrect and that it would not happen again. Site is now a listed groundwater site undergoing remediation.
4. **Ruple 1X:** This site was originally assessed by M. Sikelianos. M. Sikelianos gave the site a ranking of 50 due to its proximity to a residential area, depth to groundwater within 100', and a siphon (ditch) within 1000 horizontal feet. A soil boring was not taken initially due to the fact that the pit was backfilled with gravel. An aboveground tank was set and cease discharge had occurred at the site. According to R. Burnham, he and D. Bearden were on site during excavation of the pit. R. Burnham was taking PID readings which indicated that the pit was hot. D. Bearden asked R. Burnham to make a phone call. While R. Burnham was gone, D. Bearden had contractor backfill pit. When R. Burnham returned, D. Bearden indicated that pit was clean and did not require remediation. Analytical results indicate that pit is clean (TPH <25.00 and BTEX 0.0046 ppm).
5. **Lawson 3, Compass 1, Sategna 2E, Julendar 1:** These sites have been removed from list of highly probable groundwater sites. According to new field lists, these sites do not require remediation. Tanks have been set in pits but pits have not yet been remediated.
6. **Howell 1:** Ranking reported on closure report does not fit actual site location and depth to groundwater. Landfarm results above guidelines if ranking had not been adjusted.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-Sep-97*
 COC No.: *5653*
 Sample No.: *16076*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - McClanahan 22***
 Project Location: ***9709051100; MW-1***
 Sampled by: *MG/MS* Date: *5-Sep-97* Time: *11:00*
 Analyzed by: *DC* Date: *10-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/16/97*

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-Sep-97*
 COC No.: *5653*
 Sample No.: *16077*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9709051130; MW-2*
 Sampled by: *MG/MS* Date: *5-Sep-97* Time: *11:30*
 Analyzed by: *DC* Date: *10-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *JAC*
 Date: *9/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-Sep-97*
 COC No.: *5653*
 Sample No.: *16078*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9709051200; MW-3*
 Sampled by: *MG/MS* Date: *5-Sep-97* Time: *12:00*
 Analyzed by: *DC* Date: *10-Sep-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>16</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>29</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>402</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1371</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>202</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2020</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/16/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-Sep-97*
 COC No.: *5653*
 Sample No.: *16079*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*

Project Location: *9709051230; MW-4*

Sampled by: *MG/MS* Date: *5-Sep-97* Time: *12:30*

Analyzed by: *DC* Date: *10-Sep-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/16/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-Sep-97*
 COC No.: *5653*
 Sample No.: *16080*
 Job No.: *2-1000*

Project Name: ***PNM Gas Services - McClanahan 22***

Project Location: ***9709051300; MW-5***

Sampled by: *MG/MS* Date: *5-Sep-97* Time: *13:00*

Analyzed by: *DC* Date: *10-Sep-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	12	ug/L	2	ug/L
<i>Toluene</i>	28	ug/L	2	ug/L
<i>Ethylbenzene</i>	414	ug/L	2	ug/L
<i>m,p-Xylene</i>	1402	ug/L	2	ug/L
<i>o-Xylene</i>	207	ug/L	2	ug/L
<i>TOTAL</i>	2063	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *9/16/97*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *30-Dec-97*
 COC No.: *7147*
 Sample No.: *17165*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9712171300; MW-1*
 Sampled by: *RD* Date: *17-Dec-97* Time: *13:00*
 Analyzed by: *DC* Date: *25-Dec-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *12/30/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *30-Dec-97*
 COC No.: *7147*
 Sample No.: *17166*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*

Project Location: *9712171320; MW-2*

Sampled by: *RD* Date: *17-Dec-97* Time: *13:20*

Analyzed by: *DC* Date: *25-Dec-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *12/30/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *30-Dec-97*
 COC No.: *7147*
 Sample No.: *17167*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9712171342; MW-3*
 Sampled by: *RD* Date: *17-Dec-97* Time: *13:42*
 Analyzed by: *DC* Date: *25-Dec-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>8</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>24</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>536</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1442</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>284</i>	<i>ug/L</i>	<i>2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>2293</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *12/30/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *30-Dec-97*
 COC No.: *7147*
 Sample No.: *17168*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9712171401; MW-4*
 Sampled by: *RD* Date: *17-Dec-97* Time: *14:01*
 Analyzed by: *DC* Date: *25-Dec-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *12/30/97*

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ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *30-Dec-97*
 COC No.: *7147*
 Sample No.: *17169*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - McClanahan 22*
 Project Location: *9712171421; MW-5*
 Sampled by: *RD* Date: *17-Dec-97* Time: *14:21*
 Analyzed by: *DC* Date: *25-Dec-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *[Signature]*
 Date: *12/30/97*

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QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 25-Dec-97

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-STD

Reference Standard QC No.: 0529/30-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	RPD	Limit
Benzene	ppb	20.0	19.3	4	15%
Toluene	ppb	20.0	19.7	1	15%
Ethylbenzene	ppb	20.0	19.9	1	15%
m,p-Xylene	ppb	40.0	38.2	5	15%
o-Xylene	ppb	20.0	19.6	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	77	91	(39-150)	3	20%
Toluene	94	97	(46-148)	3	20%
Ethylbenzene	87	93	(32-160)	3	20%
m,p-Xylene	91	94	(35-145)	3	20%
o-Xylene	92	95	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
17165-7147	94				
17166-7147	94				
17167-7147	93				
17168-7147	94				
17169-7147	94				
				JML 12/31/97	(JML) 12/30/97

S1: Fluorobenzene

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TECHNOLOGIES, LTD.

March 25, 1998

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

RE: McClanahan 22

Order No.: 9803034

Dear Maureen Gannon,

On Site Technologies, LTD. received 5 samples on 3/10/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

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

Sincerely,


David Cox

ON SITE

OFF: (505) 325-5667

LAB: (505) 325-1556

TECHNOLOGIES, LTD.

Date: 25-Mar-98

CLIENT: PNM - Public Service Company of NM
Project: McClanahan 22
Lab Order: 9803034

CASE NARRATIVE

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

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

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

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TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: 25-Mar-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McClanahan 22
Work Order:	9803034	Client Sample ID:	9803101315; MW-1
Lab ID:	9803034-01A	Matrix:	AQUEOUS
Project:	McClanahan 22	Collection Date:	3/10/98 1:15:00 PM
		COC#:	7186

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX						Analyst: DC
		SW8020A				
Benzene	ND	0.5		µg/L	1	3/18/98
Toluene	ND	0.5		µg/L	1	3/18/98
Ethylbenzene	ND	0.5		µg/L	1	3/18/98
m,p-Xylene	ND	1		µg/L	1	3/18/98
o-Xylene	ND	0.5		µg/L	1	3/18/98
Surr: Fluorobenzene	92.9	70-130		%REC	1	3/18/98
Surr: 1,4-Difluorobenzene	93.2	70-130		%REC	1	3/18/98
Surr: 4-Bromochlorobenzene	90.6	70-130		%REC	1	3/18/98

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

ON SITE

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TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: 25-Mar-98

Client: PNM - Public Service Company of NM **Client Sample Info:** McClanahan 22
Work Order: 9803034 **Client Sample ID:** 9803101330; MW-2
Lab ID: 9803034-02A **Matrix:** AQUEOUS **Collection Date:** 3/10/98 1:30:00 PM
Project: McClanahan 22 **COC#:** 7186

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	3/18/98
Toluene	ND	0.5		µg/L	1	3/18/98
Ethylbenzene	ND	0.5		µg/L	1	3/18/98
m,p-Xylene	ND	1		µg/L	1	3/18/98
o-Xylene	ND	0.5		µg/L	1	3/18/98
Surr: Fluorobenzene	92.6	70-130		%REC	1	3/18/98
Surr: 1,4-Difluorobenzene	93.7	70-130		%REC	1	3/18/98
Surr: 4-Bromochlorobenzene	89.5	70-130		%REC	1	3/18/98

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank E - Value above quantitation range
* - Value exceeds Maximum Contaminant Level

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TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: 25-Mar-98

Client: PNM - Public Service Company of NM	Client Sample Info: McClanahan 22
Work Order: 9803034	Client Sample ID: 9803101345; MW-3
Lab ID: 9803034-03A Matrix: AQUEOUS	Collection Date: 3/10/98 1:45:00 PM
Project: McClanahan 22	COC#: 7186

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	2.5		µg/L	5	3/18/98
Toluene	87	2.5		µg/L	5	3/18/98
Ethylbenzene	580	2.5		µg/L	5	3/18/98
m,p-Xylene	1200	5		µg/L	5	3/18/98
o-Xylene	270	2.5		µg/L	5	3/18/98
Surr: Fluorobenzene	95.6	70-130		%REC	5	3/18/98
Surr: 1,4-Difluorobenzene	90.6	70-130		%REC	5	3/18/98
Surr: 4-Bromochlorobenzene	86.3	70-130		%REC	5	3/18/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range



ANALYTICAL REPORT

Date: 25-Mar-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McClanahan 22
Work Order:	9803034	Client Sample ID:	9803101400; MW-4
Lab ID:	9803034-04A	Matrix:	AQUEOUS
Project:	McClanahan 22	Collection Date:	3/10/98 2:00:00 PM
		COC#:	7186

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	3/18/98
Toluene	ND	0.5		µg/L	1	3/18/98
Ethylbenzene	ND	0.5		µg/L	1	3/18/98
m,p-Xylene	ND	1		µg/L	1	3/18/98
o-Xylene	ND	0.5		µg/L	1	3/18/98
Surr: Fluorobenzene	92.9	70-130		%REC	1	3/18/98
Surr: 1,4-Difluorobenzene	93.6	70-130		%REC	1	3/18/98
Surr: 4-Bromochlorobenzene	90.5	70-130		%REC	1	3/18/98

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
* - Value exceeds Maximum Contaminant Level	



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TECHNOLOGIES, LTD.

ANALYTICAL REPORT

Date: 25-Mar-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McClanahan 22
Work Order:	9803034	Client Sample ID:	9803101415; MW-5
Lab ID:	9803034-05A	Matrix:	AQUEOUS
Project:	McClanahan 22	Collection Date:	3/10/98 2:15:00 PM
		COC#:	7186

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	3/18/98
Toluene	ND	0.5		µg/L	1	3/18/98
Ethylbenzene	ND	0.5		µg/L	1	3/18/98
m,p-Xylene	ND	1		µg/L	1	3/18/98
o-Xylene	ND	0.5		µg/L	1	3/18/98
Surr: Fluorobenzene	93.1	70-130		%REC	1	3/18/98
Surr: 1,4-Difluorobenzene	93.9	70-130		%REC	1	3/18/98
Surr: 4-Bromochlorobenzene	90.1	70-130		%REC	1	3/18/98

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
* - Value exceeds Maximum Contaminant Level	

On Site Technologies, LTD.

Date: 25-Mar-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9803034
 Project: McClanahan 22

QC SUMMARY REPORT

Method Blank

Sample ID:	Batch ID:	GC-1_980318	Test Code:	SW8020A	Units:	µg/L	Analysis Date:	3/18/98	Prep Date:			
Client ID:	9803034	Run ID:	GC-1_980318A	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	.0822	0.5									J	
Ethylbenzene	.1129	0.5									J	
m,p-Xylene	.3057	1									J	
o-Xylene	.1097	0.5									J	
Toluene	.1684	0.5									J	

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

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

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 25-Mar-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9803034
Project: McClanahan 22

QC SUMMARY REPORT
 Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	Prep Date:	
												Analysis Date: 3/18/98	SeqNo: 68
Benzene	940.2	10	800	99.31	105.1%	56	128						
Ethylbenzene	923	10	800	97.04	103.2%	78	107						
m,p-Xylene	2384	20	1600	756.9	101.7%	67	118						
o-Xylene	956.3	10	800	127.2	103.6%	78	107						
Toluene	935.7	10	800	109	103.3%	74	116						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	Prep Date:	
												Analysis Date: 3/18/98	SeqNo: 69
Benzene	904.3	10	800	99.31	100.6%	56	128	940.2	3.9%	15			
Ethylbenzene	890.2	10	800	97.04	99.1%	78	107	923	3.6%	15			
m,p-Xylene	2301	20	1600	756.9	96.5%	67	118	2384	3.6%	15			
o-Xylene	925.2	10	800	127.2	99.7%	78	107	956.3	3.3%	15			
Toluene	903.1	10	800	109	99.3%	74	116	935.7	3.6%	15			

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

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

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 25-Mar-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9803034
Project: McClanahan 22

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_980318** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/18/98** Prep Date:

Client ID: **9803034** Run ID: **GC-1_980318A** SeqNo: **66**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.86	0.5	40	0.0822	107.0%	39	150				
Ethylbenzene	43.87	0.5	40	0.1129	109.4%	32	160				
m,p-Xylene	83.96	1	80	0.3057	104.6%	35	145				
o-Xylene	42.89	0.5	40	0.1097	107.0%	35	145				
Toluene	42.54	0.5	40	0.1684	105.9%	46	148				

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

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

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 25-Mar-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9803034
Project: McClanahan 22

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID:	CCV1 QC0529/30	Batch ID:	GC-1_980318	Test Code:	SW8020A	Units:	µg/L	Analysis Date:	3/18/98	SeqNo:	63	Prep Date:	
Client ID:	9803034	Run ID:	GC-1_980318A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result	21.39	0.5	20	0	106.9%	85	115					
Benzene	21.39	0.5	20	0	106.9%	85	115						
Ethylbenzene	22.04	0.5	20	0	110.2%	85	115						
m,p-Xylene	41.93	1	40	0	104.8%	85	115						
o-Xylene	21.58	0.5	20	0	107.9%	85	115						
Toluene	21.22	0.5	20	0	106.1%	85	115						
1,4-Difluorobenzene	93.58	0	100	0	93.6%	70	130						
4-Bromochlorobenzene	90.62	0	100	0	90.6%	70	130						
Fluorobenzene	92.53	0	100	0	92.5%	70	130						

Sample ID:	CCV2 QC0529/30	Batch ID:	GC-1_980318	Test Code:	SW8020A	Units:	µg/L	Analysis Date:	3/18/98	SeqNo:	64	Prep Date:	
Client ID:	9803034	Run ID:	GC-1_980318A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result	21.34	0.5	20	0	106.7%	85	115					
Benzene	21.34	0.5	20	0	106.7%	85	115						
Ethylbenzene	21.91	0.5	20	0	109.6%	85	115						
m,p-Xylene	41.5	1	40	0	103.8%	85	115						
o-Xylene	21.36	0.5	20	0	106.8%	85	115						
Toluene	21.11	0.5	20	0	105.6%	85	115						
1,4-Difluorobenzene	93.14	0	100	0	93.1%	70	130						
4-Bromochlorobenzene	90.04	0	100	0	90.0%	70	130						
Fluorobenzene	92.38	0	100	0	92.4%	70	130						

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

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

B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM

Work Order: 9803034

Project: McClanahan 22

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30 Batch ID: GC-1_980318 Test Code: SW8020A Units: µg/L Analysis Date: 3/18/98 Prep Date:

Client ID: 9803034 Run ID: GC-1_980318A SeqNo: 65

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.7	0.5	20	0	103.5%	85	115				
Ethylbenzene	21.21	0.5	20	0	106.1%	85	115				
m,p-Xylene	40.18	1	40	0	100.4%	85	115				
o-Xylene	20.82	0.5	20	0	104.1%	85	115				
Toluene	20.52	0.5	20	0	102.6%	85	115				
1,4-Difluorobenzene	93.39	0	100	0	93.4%	70	130				
4-Bromochlorobenzene	88.96	0	100	0	89.0%	70	130				
Fluorobenzene	92.26	0	100	0	92.3%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CHAIN OF CUSTODY RECORD

Date: 7/10/98

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

Purchase Order No.:		Job No.					
Name: Denver Bearden		Company: PNM Gas Services					
Company: PNM Gas Services		Dept: 324-3763					
Address: 603 W. Elm Street		City, State, Zip: Farmington, NM 87401					
Sampling Location:							
Mesa Llanos 22							
Sampler: R. Dedrick							
SEND INVOICE TO	Name	SAMPLE IDENTIFICATION		SAMPLE		MATRIX	PRES.
		DATE	TIME	DATE	TIME		
		780310 1315	1100-1	7/10	1315	1315	1315
		780310 1330	1100-2	7/10	1330	1330	1330
		780310 1345	1100-3	7/10	1345	1345	1345
		780310 1400	1100-4	7/10	1400	1400	1400
		780310 1415	1100-5	7/10	1415	1415	1415
RESULTS TO REPORT							
Name: Maureen Gannon				Title:			
Company: PNM Gas Services				Mailing Address: Alverado Square, Mail Stop 0408			
City, State, Zip: Albuquerque, NM 87158				Telephone No.: 505-848-2974			
Telefax No.:				ANALYSIS REQUESTED			
Number of Containers				LAB ID			
Received by:				Date/Time		Date/Time	
Received by:				Date/Time		Date/Time	
Received by:				Date/Time		Date/Time	
Rush		24-48 Hours		10 Working Days		Special Instructions:	
Authorized by: <u>Maureen Gannon</u> Date: <u>7/10/98</u>							
(Client Signature Must Accompany Request)							
Results to be sent to both parties.							