

District I
P O Box 1000 Hobbs, NM

District II
P O Box 1000 Artesia, NM 88221

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Denny E. Tost
DEPUTY OIL & GAS INSPECTOR

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

FEB 28 1997

PIT REMEDIATION AND CLOSURE REPORT

RECEIVED
OCT 31 1996

OIL CON. DIV.
DIST. 3

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Abrams Gas Com L #1

Location: Unit: M Sec. 26 T. 29 N R. 10 W County San Juan

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

Land Type: BLM ☐ State ☐ Fee ☒ Other ☐

Pit Location: Pit dimensions: length 12 width 12 depth 4

(Attach diagram) Reference: wellhead ☒ other ☐

Footage from reference: 81'

Direction from reference: due 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	(20 points)	<u>20</u>
	50 feet to 99 feet	(10 points)	
	Greater than 100 feet	(0 points)	

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	(20 points)	<u>20</u>
	No	(0 points)	

Distance to Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	(20 points)	<u>10</u>
	200 feet to 1,000 feet	(10 points)	
	Greater than 1,000 feet	(0 points)	

RANKING SCORE (TOTAL POINTS) : 50

Date Remediation Started: 10/5/94 Date Completed: 12/15/94

Remediation Method: Excavation X Approx. Cubic Yard 608

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds) 608

Other _____

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

Backfill Material Location: _____

General Description of Remedial Action:

Soil Remediation: Excavated contaminated soil to pit size of 36'x24'x19' and transported soil to an offsite commercial landfarm.

Groundwater Remediation: See attached Groundwater Site Summary Report

Ground Water Encountered: No — Yes ✓ Depth 17 feet

Final Pit Closure Sampling:

Sample Location Bottom of Excavation

(if multiple samples, attach sample result and diagram of sample locations and depths.)

Sample depth 20'

Sample date 12/1/94 Sample time 11:00:00 AM

Sample Results

Benzene (ppm) _____

Total BTEX (ppm) _____

Field headspace (ppm) 45

TPH 15.00 Method 418.1

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

Ground Water Sample: Yes — No ✓ (If yes, attach sample results)

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

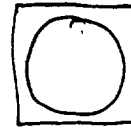
DATE October 25, 1996

SIGNATURE Maureen Gannon

PRINTED NAME Maureen Gannon

AND TITLE Environmental Engineer

44 x 3 = 132'
NORTH

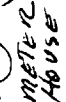


OPERATOR
TANK

monitoring
well



SEPARATOR
TANK
METER
HOUSE



excavated
pit

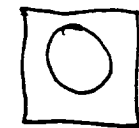
81'

From Reference
To Center of OLD
pit

wellhead
(REFERENCE)



19' DEEP - Excavation
monitoring
well

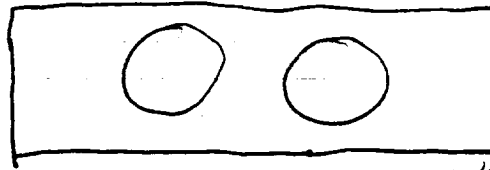


operator
tank



operator

operator
tanks



South 56° 3' 168'

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OFF: (505) 325-8786

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn: *Denver Bearden*
Company: *Gas Company of New Mexico*
Address: *P.O. Box 1899*
City, State: *Bloomfield, NM 87413*

Date: 12/1/94
Lab ID: 2536
Sample No. 4184
Job No. 2-1121

Project Name: *Abrams Gas Com L1*
Project Location: *AB-2-EX-B W-20'*
Sampled by: DB
Analyzed by: DC
Type of Sample: *Soil*

Date: 12/1/94 Time: 11:00
Date: 12/1/94

Laboratory Analysis

Laboratory Identification	Sample Identification	Total Petroleum Hydrocarbons
4184-2536	<i>Abrams Gas Com L1</i> <i>AB-2-EX-B W-20'</i>	15 mg/kg

Method - EPA Method 418.1 Total Petroleum Hydrocarbons

Approved by:

Date:

[Signature]
12/1/94

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Groundwater Site Summary Report

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

Quarter: 3 Year: 96

Operator: Amoco
Sec: 26 Twn: 29 Rng: 10 Unit: M
Canyon: Armenta

Vulnerable Class: Original
OCD Ranking: 50
Lead Agency: NMOCD

Topo Map: previously submitted
Groundwater Contour Map: Figure 1
Hydrograph Map: Figure 2
Site Map with Analysis: Figure 3
Well Completion Diagram: previously submitted
Analytical Results: attached

Activities for Quarter:

PNM performed quarterly groundwater sampling at the Abrams Gas/Com L1 site on August 21, 1996. 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) using EPA Method 8020. Sampling was performed in strict compliance with EPA protocol. PNM hand-delivered samples to OnSite Technologies, Farmington, New Mexico.

Conclusions and Recommendations:

Figure 1 is the groundwater contour map of the site for the third quarter of 1996. Groundwater flows in a northwesterly direction beneath the site. Figure 2 is a hydrograph (water level versus time) of each groundwater monitoring well. Water levels at the Abrams consistently rose by an average of 4 feet in each well between April and August. This is probably the result of irrigation during the summer months in this area.

BTEX concentrations were non-detect in each of the five monitoring wells. PNM has now monitored groundwater at the site for four consecutive quarters and BTEX concentrations have been consistently below WQCC standards. We conclude that source removal and natural attenuation have been successful in remediating the soil and groundwater contamination at this site. Figure 3 provides a historical picture of the groundwater analytical results of the site.

PNM is filing formal closure of our former pit at the Abrams Gas/Com L1 well site. The closure report is included in the recent submittal of PNM Gas Services' October 30, 1996 "OCD Closure Reports" to OCD.

Further Action:

PNM will plug and abandon all five groundwater monitoring wells at the site. Where possible, the PVC well casing will be pulled and disposed. PNM will remove all metal vaults and concrete pads and restore the ground surface to its natural state.

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. Abrams Gas/Com L1 Groundwater Contour Map (August 1996)

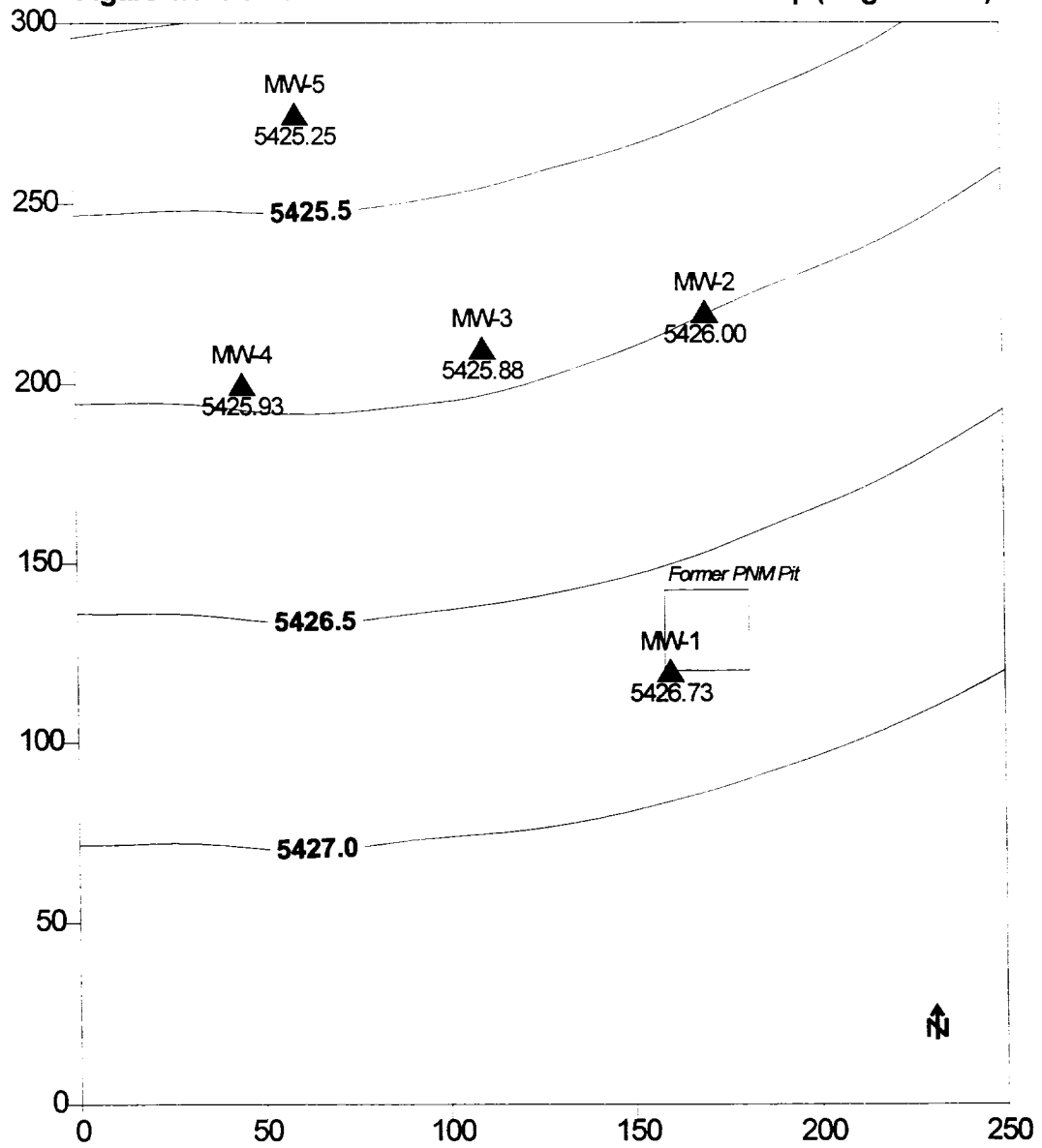


Figure 2. Abrams Gas/Com L1 Hydrograph
(water level vs. time)

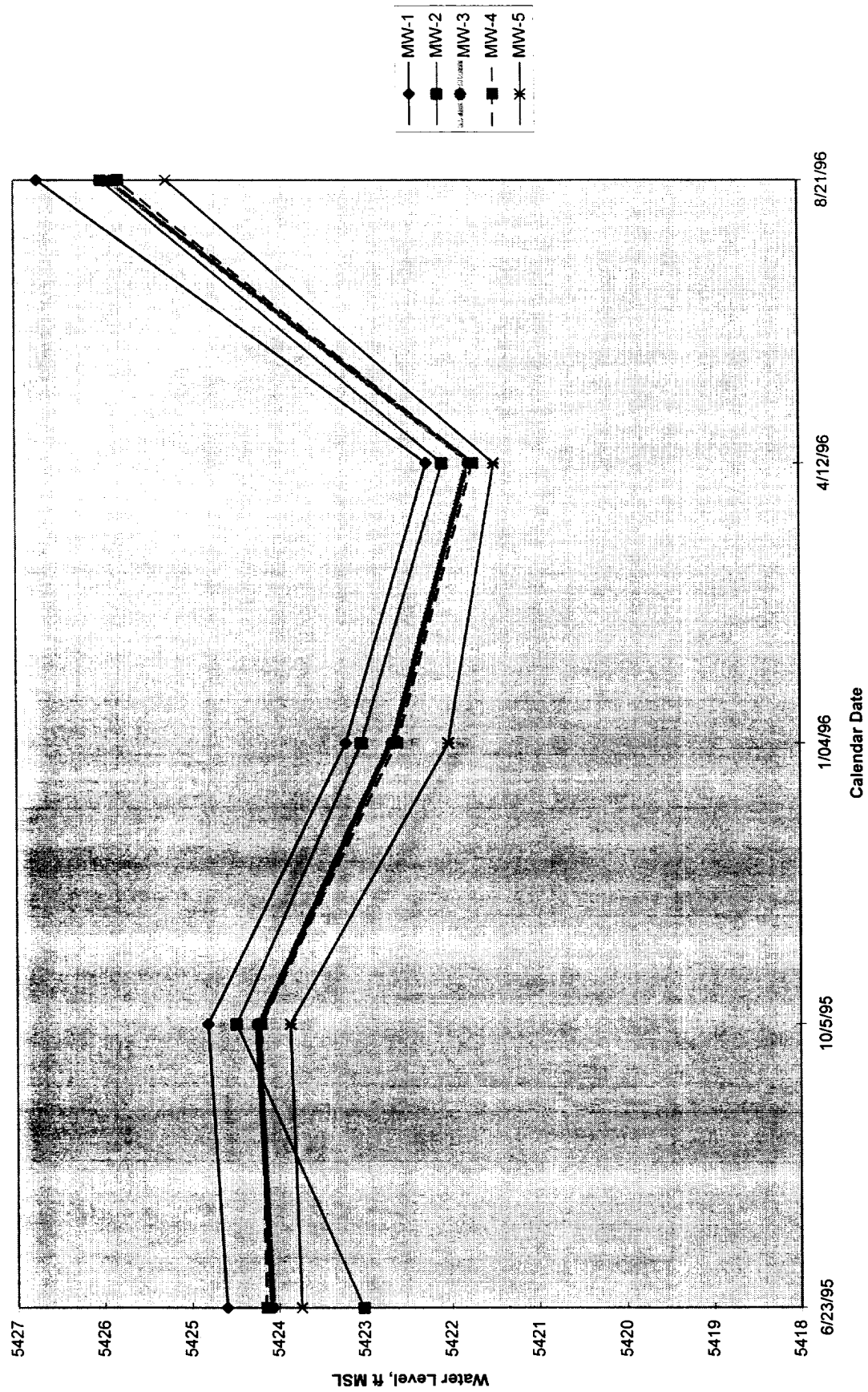
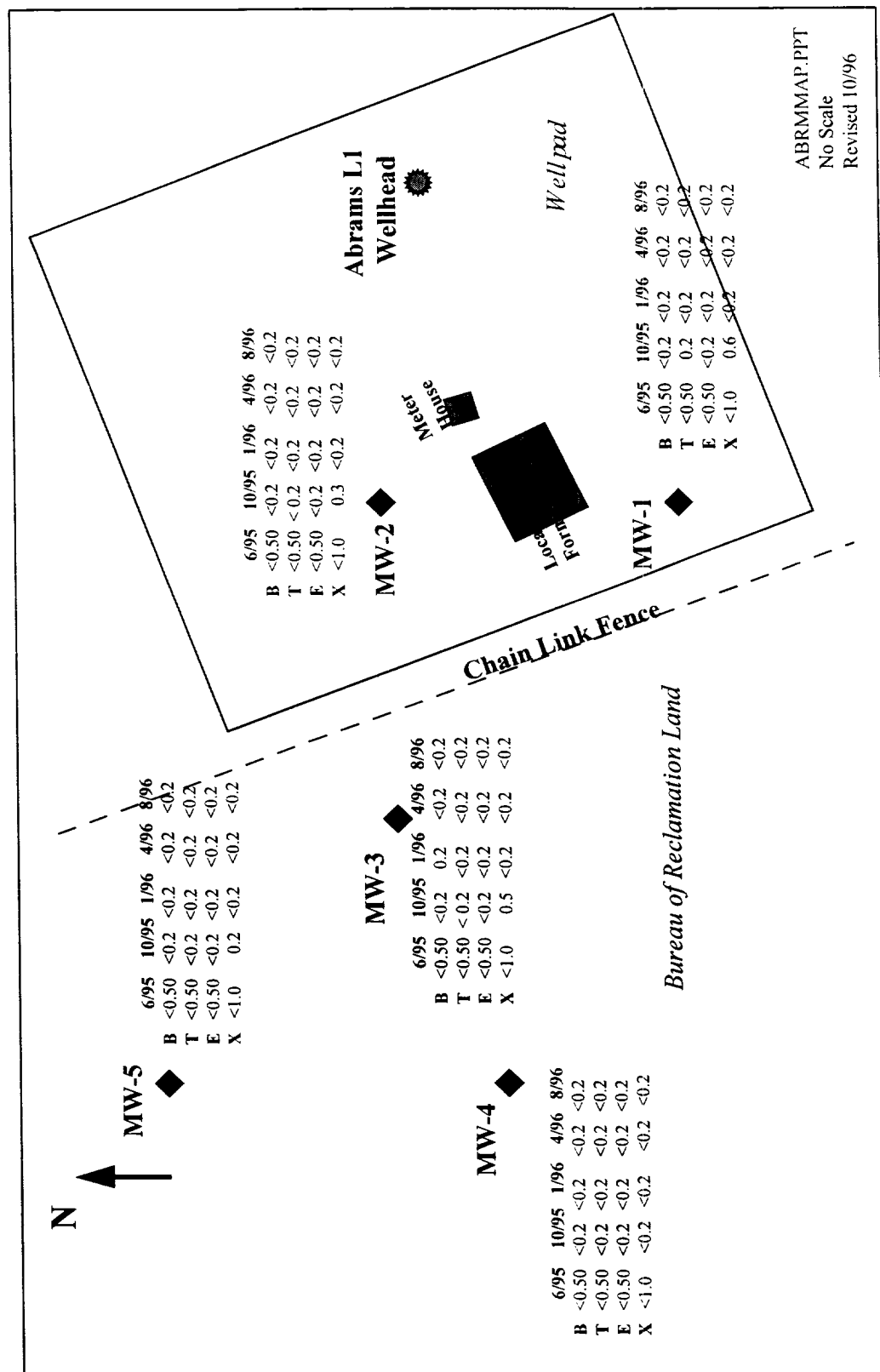


Figure 3. Abrams Gas/Com 1 Well Site

Well Locations & Analytical Results

(Concentrations in ppb)





ON SITE
TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Date: 22-Aug-96
COC No. 4979
Sample No. 11844
Job No. 2-1000

Sampled by: MG Date: 21-Aug-96 Time: 10:00
Analyzed by: DC Date: 21-Aug-96
Sample Matrix: *Water*

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		

Approved by: *JCL*
Date: *8/22/96*

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: 22-Aug-96
COC No.: 4979
Sample No. 11845
Job No. 2-1000

Project Name: ***PNM Gas Services - Abrams Gas/Com L1***

Project Location: ***9608211030; MW-2***

Sampled by: MG Date: 21-Aug-96 Time: 10:30

Analyzed by: DC Date: 21-Aug-96

Sample Matrix: *Water*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<0.2	ug/L	0.2	ug/L
<i>Toluene</i>	<0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	<0.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	<0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	<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: *De C*
Date: 8/22/96

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevardo Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: 22-Aug-96
COC No.: 4979
Sample No. 11846
Job No. 2-1000

Project Name: *PNM Gas Services - Abrams Gas/Com L1*

Project Location: *9608211100; MW-3*

Sampled by: *MG*

Date: 21-Aug-96 Time: 11:00

Analyzed by: *DC*

Date: 21-Aug-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: *JAG*
Date: *8/22/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: 22-Aug-96
COC No.: 4979
Sample No. 11847
Job No. 2-1000

Project Name: ***PNM Gas Services - Abrams Gas/Com L1***

Project Location: ***9608211130; MW-4***

Sampled by: MG Date: 21-Aug-96 Time: 11:30

Analyzed by: DC Date: 21-Aug-96

Sample Matrix: *Water*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<0.2	ug/L	0.2	ug/L
<i>Toluene</i>	<0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	<0.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	<0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	<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: *JaC*
Date: *8/22/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: 22-Aug-96
COC No.: 4979
Sample No. 11848
Job No. 2-1000

Project Name: *PNM Gas Services - Abrams Gas/Com L1*

Project Location: *9608211200; MW-5*

Sampled by: MG Date: 21-Aug-96 Time: 12:00

Analyzed by: DC Date: 21-Aug-96

Sample Matrix: *Water*

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<0.2	ug/L	0.2	ug/L
<i>Toluene</i>	<0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	<0.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	<0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	<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: *Ja C*
Date: *8/22/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
Company: *PNM Gas Services*
Address: *Alevarado Square, Mail Stop 0408*
City, State: *Albuquerque, NM 87158*

Date: *22-Aug-96*
COC No.: *4979*
Sample No. *11849*
Job No. *2-1000*

Project Name: *PNM Gas Services - Abrams Gas/Com L1*

Project Location: *9608211230; MW-6*

Sampled by: *MG* Date: *21-Aug-96* Time: *12:30*

Analyzed by: *DC* Date: *21-Aug-96*

Sample Matrix: *Water*

Laboratory Analysis

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

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

Approved by: *JaC*
Date: *8/22/96*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 21-Aug-96

Internal QC No.: 0486-QC

Surrogate QC No.: 0488-QC

Reference Standard QC No.: 0417-QC

Method Blank

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

Calibration Check

<i>Parameter</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
Benzene	ppb	20.0	20.0	0	15%
Toluene	ppb	20.0	22.4	12	15%
Ethylbenzene	ppb	20.0	21.5	7	15%
m,p-Xylene	ppb	40.0	42.3	6	15%
o-Xylene	ppb	20.0	21.5	7	15%

Matrix Spike

<i>Parameter</i>	<i>1 - Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
Benzene	115	91	(39-150)	16	20%
Toluene	119	94	(46-148)	17	20%
Ethylbenzene	122	96	(32-160)	17	20%
m,p-Xylene	117	92	(35-145)	17	20%
o-Xylene	115	91	(35-145)	16	20%

Surrogate Recoveries

<i>Laboratory Identification</i>	<i>S1 Percent Recovered</i>	<i>S2 Percent Recovered</i>
Limit Percent Recovered	(70-130)	
11844-4979	102	
11845-4979	100	
11846-4979	100	
11847-4979	100	
11848-4979	100	
11849-4979	100	

S1: Fluorobenzene



CHAIN OF CUSTODY RECORD

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

Date: 8/21/96

Page 1 of 1

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: ABRAMS GAS/LCL L1		Telephone No.: 505-848-2974	
Sampler: Maureen		Telefax No.:	
REPORT TO INVOICE		RESULTS TO	
SAMPLE IDENTIFICATION		Number of Containers	
DATE	TIME	MATRIX	PRES.
9608211000	MW-1	H ₂ O	H ₂ O
9608211030	MW-2	↓	↓
9608211100	MW-3	↓	↓
9608211130	MW-4	↓	↓
9608211200	MW-5	↓	↓
9608211230	MW-6	H ₂ O	H ₂ O
LAB ID		LAB ID	
11844-4979		11844-4979	
11845		11845	
11846		11846	
11847		11847	
11848		11848	
11849		11849	
Relinquished by: Maureen Gannon		Received by: Maureen Gannon	
Date/Time: 8/21/96 1432		Date/Time: 8/21/96 1432	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Method of Shipment:		Special Instructions:	
Authorized by: Maureen Gannon		Results to be sent to both parties.	
Date: 8/21/96		Date: 8/21/96	
(Client Signature Must Accompany Request)		(Client Signature Must Accompany Request)	
Distribution: White On Site Yellow LAB Pink Sampler Goldenrod Client		Distribution: White On Site Yellow LAB Pink Sampler Goldenrod Client	