

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

March 1, 1999

Certified Mail  
Return Receipt Requested

Mr. Benito Garcia  
Executive Director  
Chief, Hazardous and Radioactive  
Materials Bureau  
New Mexico Environment Department  
P.O. Box 26110  
Santa Fe, NM 87502

RE: Person Generating Station Annual Data  
Report for 1998, NMT 360010342

Dear Mr. Garcia:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



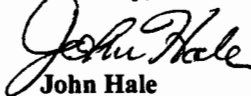
Toni Ristau  
Director, Environmental Services

Pursuant to requirements contained in the Person Generating Station Post Closure Care Permit (NMT360010342), Public Service Company of New Mexico hereby submits the following items:

- Two copies, Groundwater Monitoring Data Annual Report - 1998, Volumes I - III, Person Generating Station, NMT360010342.
- One copy of the analytical data on PC-compatible 3.5 inch diskettes, dBase III format files. Included with one copy of above report.

If you have any questions, please contact me at (505) 241-2014.

Sincerely,



John Hale  
Environmental Engineer

enclosure

cc: Carl Will (NMED, w/o enclosures)



**GROUNDWATER MONITORING DATA  
ANNUAL REPORT - 1998**

**Volume I**

**Person Generating Station  
(NMT 360010342)**

**Prepared by  
Public Service Company of New Mexico**

**March 1999**



# **GROUNDWATER MONITORING DATA ANNUAL REPORT - 1998**

**Person Generating Station  
(NMT 360010342)**

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## Table of Contents

	Page
1.0 INTRODUCTION	1
1.1 Original Groundwater Monitoring Requirements (Detection Monitoring)	1
1.2 Compliance Monitoring	1
1.3 Corrective Action Directive	2
1.4 Corrective Action Program	6
1.5 Deeper Groundwater Investigation	6
2.0 WATER LEVEL MEASUREMENTS	8
3.0 GROUNDWATER CHEMISTRY	19
3.1 Groundwater Monitor Wells	19
3.2 Sampling Results	19
3.3 CAD Plume Monitoring	20
3.4 NMED Data Forms	20
Appendix A. Water Table Contour Maps - 1998	
Appendix B. Water Chemistry Graphs PCE, DCE, TCA, Chromium, Lead Variation with Time	
Appendix C. Field Duplicate Results	
Appendix D. NMED Monitor Well Sampling and Data Sheets	
Appendix E. Analytical Laboratory Reports Subdivided Into Separate Exhibits	

## List of Tables and Figures

	Page
Table 1. Shallow Groundwater Monitoring Requirements	4
Table 2. Deeper Groundwater Monitoring Activities	7
Table 3. Monitor Well Data Table	9
Table 4. Shallow Groundwater Elevations	14
Table 5. Deeper Groundwater Elevations	16
Table 6. Calculated Groundwater Flow Rates	18
Table 7. Detected Compounds - 1998	21
Table 8. Shallow Groundwater Field Measurements for pH, Conductivity, and Temperature	36
Table 9. Deeper Groundwater Field Measurements for pH, Conductivity, and Temperature	38
Figure 1. Site Layout	5
Figure 2. Concentration of PCE in Groundwater	40
Figure 3. Concentration of DCE in Groundwater	41
Figure 4. Concentration of TCA in Groundwater	42

## **1.0 INTRODUCTION**

This report summarizes routine groundwater monitoring data collected at the Public Service Company of New Mexico (PNM) Person Generating Station facility during 1998. The RCRA permit for this facility became effective on August 31, 1988 (NMT360010342).

This report contains a summary description of the location and installation parameters of the Person Generating Station monitor wells, New Mexico Environment Department sampling and data sheets for all sampled monitor wells, groundwater level measurement data, laboratory analytical reports, and groundwater chemistry data graphs for selected monitor wells.

### **1.1 Original Groundwater Monitoring Requirements (Detection Monitoring)**

The RCRA permit, as originally issued, required PNM to sample designated monitor wells semi-annually for Tetrachloroethene (PCE), 1,1-Dichloroethene (DCE), and 1,1,1-Trichloroethane (TCA). Designated monitor wells were PSMW-1, PSMW-3B, PSMW-6, PSMW-8A, and PSMW-8B. Additionally, once each year during the regularly scheduled semi-annual sampling, monitor wells PSMW-3B, PSMW-5, PSMW-6, PSMW-8A, and PSMW-8B were sampled for volatile and semi-volatile organic compounds.

The RCRA permit established Maximum Concentration Limits (MCLs) for each parameter by monitor well. Under the permit, as long as groundwater monitoring continued to yield analytical results below MCLs, no corrective action would be required for the existing groundwater contamination.

### **1.2 Compliance Monitoring**

Routine groundwater sampling conducted in October 1989 showed levels of PCE and DCE at monitor well PSMW-8A above the established RCRA permit MCLs. Confirmation sampling was conducted in February 1990. The repeat sampling confirmed the October 1989 results and also showed levels of TCA above its respective MCL at PSMW-8A.

Pursuant to permit requirements at Module II.J.4, PNM and the NMED established monitoring guidelines for a quarterly compliance monitoring period which began in April 1990. PNM was required to sample the following wells on a quarterly basis: PSMW-1, PSMW-3B, PSMW-5, PSMW-6, PSMW-7, PSMW-8A, and PSMW-8B. During the first two quarterly sampling events (April 1990 and July 1990), each well was sampled for the complete 40 CFR 264 Appendix IX list of parameters.

After two Appendix IX scans were conducted, the NMED and PNM agreed to a subset sampling scheme to be conducted in subsequent sampling events. The subset sampling scheme consisted of a EPA Method 601/8010 chlorinated volatile organic screen at all wells with the additional requirement to measure total chromium and total lead at PSMW-8A. In addition,

Appendix IX scans were conducted once each year for each well noted above during the compliance monitoring period. The Appendix IX scan was conducted during each first quarter sampling event.

In 1998, EPA Method 8021 replaced EPA Method 8010. A subset of the EPA Method 8021 analytes is reported in the 1998 analytical reports. This subset is denoted by the "Halo" suffix, and lists the same chlorinated volatile organic compounds that were previously reported with EPA Method 8010.

### **1.3 Corrective Action Directive**

Groundwater sampling during the compliance monitoring phase continued to show values in excess of MCLs at PSMW-8A. Pursuant to Module III.F.6 of the Person Generating Station Permit, the NMED issued a Corrective Action Directive (CAD) on September 18, 1991. The CAD required PNM to submit a groundwater assessment plan to investigate the extent of the off-site contamination plume, and to propose and implement a Corrective Action Program (CAP) for the off-site contamination.

In late 1991, PNM submitted a groundwater assessment plan which was subsequently approved by the NMED. PNM began implementation of the groundwater assessment plan on January 29, 1992.

During 1992 and 1993, PNM installed 32 additional monitor wells pursuant to the CAD. These new wells have delineated the shallow groundwater contamination plume off-site from Person Generating Station. CAD monitor wells were sampled approximately semi-annually during the assessment phase of the CAD. At completion of the assessment, PNM proposed the implementation of corrective measures for the shallow groundwater plume. The proposal included the continued sampling of CAD monitor wells to assess progress of remedial activities.

A permit modification was required to facilitate implementation of corrective action at the RCRA unit. This was submitted to the NMED in October 1993. The modification included a request to change the designated monitor wells used to determine permit compliance and a request to again establish semi-annual sampling for these monitor wells. The permit modification was subsequently approved and the following monitor wells became the designated monitor wells under the permit: PSMW-1R, PSMW-3B, PSMW-6R, PSMW-7, PSMW-8A, PSMW-8B, and PSMW-11. PSMW-1R and PSMW-6R were replacement wells because PSMW-1 and PSMW-6 had become hydrologically stranded above the water table. PSMW-11 was installed during the CAD and was offered as a substitution for PSMW-5 which had also become hydrologically stranded. PSMW-1, PSMW-5, and PSMW-6 were abandoned in June 1996. Abandonment consisted of removal of the dedicated bladder pump, plugging of the well with a 5% bentonite cement, and removal of the wellhead, pad, and guard posts. Similarly, monitor wells PSMW-12A, PSMW-12B, and PSMW-15B were also abandoned in 1996 in order to minimize interference with future site construction activities.

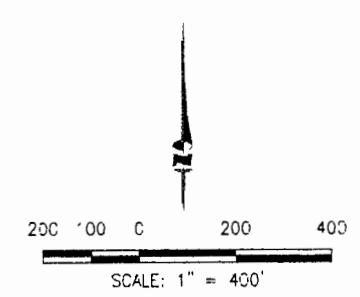
In August 1998, PNM received approval for a Class I permit modification. The permit modification was necessary in order to replace one of the permit monitor wells. Due to declining groundwater elevations in the Person Generating Station vicinity, PSMW-7 was expected to become hydrologically stranded within a year. In October 1998, the replacement well PSMW-7R was completed and PSMW-7 was abandoned.

Under combined requirements of the permit and the CAD, PNM is required to conduct the following groundwater monitoring schedule. All permit designated monitor wells and selected CAD monitor wells are to be sampled semi-annually and analyzed using EPA Method 8021 Halo. Additionally, monitor wells PSMW-1R and PSMW-7R are to be analyzed once each year for 40 CFR 264 Appendix IX constituents. Also, PSMW-8A will continue to be analyzed for total chromium and total lead. Table 1 summarizes shallow groundwater monitor well information and current monitoring requirements. Figure 1 is a map showing the Person Generating Station vicinity, prominent landmarks, and monitor well locations.



**Table 1**  
**Shallow Groundwater Monitoring Requirements**

<b>Well ID</b>	<b>Type</b>	<b>Function</b>	<b>Sampling Requirement</b>
PSMW-1	Permit	Source	NA, Abandoned and Replaced with PSMW-1R
PSMW-1R	Permit	Source	8021 Halo Semi-Annually, Appendix IX 1/yr
PSMW-1B	CAD	Vertical Boundary	8021 Halo Semi-Annually
PSMW-3	Other	Source	Water Levels Only
PSMW-3B	Permit	Vertical Boundary	8021 Halo Semi-Annually
PSMW-4	Other	Horizontal Boundary	Water Levels Only
PSMW-5	Permit	Horizontal Boundary	NA, Abandoned and Substituted with PSMW-11
PSMW-6	Permit	Horizontal Boundary	NA, Abandoned and Replaced with PSMW-6R
PSMW-6R	Permit	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-7	Permit	Background	NA, Abandoned and Substituted with PSMW-7R
PSMW-7R	Permit	Background	8021 Halo Semi-Annually, Appendix IX 1/yr
PSMW-8A	Permit	Horizontal Boundary	8021 Halo, Total Cr, Total Pb Semi-Annually
PSMW-8B	Permit	Vertical Boundary	8021 Halo Semi-Annually
PSMW-9	CAD	Horizontal Boundary	Water Levels Only
PSMW-10	CAD	Plume centerline	8021 Halo Semi-Annually
PSMW-11	Permit	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-12A	CAD	Horizontal Boundary	NA, Abandoned
PSMW-12B	CAD	Horizontal Boundary	NA, Abandoned
PSMW-13A	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-13B	CAD	Vertical Boundary	8021 Halo Semi-Annually
PSMW-14	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-15B	CAD	Vertical Boundary	NA, Abandoned
PSMW-16	CAD	Plume centerline	8021 Halo Semi-Annually
PSMW-17	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-18	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-19	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-19X	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-20	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-21	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-22	CAD	Plume centerline	8021 Halo Semi-Annually
PSMW-23	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-24	CAD	Plume centerline	8021 Halo Semi-Annually
PSMW-25	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-26	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-27	CAD	Plume centerline	8021 Halo Semi-Annually
PSMW-28	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-29	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-30	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-31	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-32	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-33	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-34	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-35	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-36	CAD	Horizontal Boundary	8021 Halo Semi-Annually
PSMW-37	CAD	Background	8021 Halo Semi-Annually



LEGEND	
	GROUNDWATER PUMPING WELL
	MONITORING WELL
	PRODUCTION WELL (SEALED)
	ROADS
	PROPERTY LINES

SITE MAP

Public Service Company of New Mexico  
Person Generating Station  
Albuquerque, New Mexico

**PARSONS ENGINEERING SCIENCE, INC.**  
Denver, Colorado