

The New Jersey Private Well Testing Program: An Evaluation of Domestic Well Water Quality in New Jersey

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Abstract: The New Jersey Private Well Testing Act (PWTA) was implemented in September 2002. The law required the testing of private wells when a residential property is sold. Wells associated with leased residential properties must be tested every 5 years.

Statewide, the PWTA program requires that private wells must be tested for fecal indicator bacteria (total coliform and, if positive, either fecal coliform or E. coli bacteria), nitrates, lead, and 26 volatile organic chemicals (VOCs) for which there is either a federal or state maximum contaminant level (MCL). Testing for three secondary (aesthetic or corrosion-related) parameters, pH, iron, and manganese, is also required. Wells in the northern bedrock region must be tested for arsenic, while wells in the southern Coastal Plain region must be tested for mercury. Testing for gross alpha particle activity is required in the 9 Coastal Plain counties as well as three counties in the Piedmont (central) region.

From September 2002 to April 2009 almost 70,000 samples collected from private wells, were analyzed and the data was electronically submitted to the NJDEP by state-certified analytical laboratories. The major issues involved with the PWTA program including data collection, lab analysis, electronic data submission, data analysis, and follow-up notification of local health officers will be discussed. The program's primary goal is to inform potential buyers of the quality of the well water.

An invaluable additional benefit of the PWTA is the new window the data provides water managers and scientists on New Jersey's groundwater quality. Comprehensive evaluation of the 70,000 analyses shows that in general, naturally occurring contaminants (gross alpha particle activity and arsenic) most frequently exceeded their MCLs, followed by nitrate and fecal coliform/E. coli which are linked to non-point pollution sources. Contaminants associated with point sources, such as VOCs and mercury, least frequently exceeded their MCLs.