

NPL Site Narrative for Puchack Well Field

PUCHACK WELL FIELD

Pennsauken Township, New Jersey

Conditions at Proposal (September 1997): The Puchack Wellfield site consists of six public supply wells, identified as Puchack well Nos. 1, 2, 3A, 5A, 6, and 7, owned and operated by the City of Camden, and located northeast of the city in Pennsauken Township, Camden County, New Jersey. There were once seven public supply wells, identified as Puchack well Nos. 1 through 7, in the Puchack Wellfield; however, Puchack well No. 4 was reportedly destroyed during construction of the nearby Betsy Ross Bridge connecting New Jersey and Pennsylvania over the Delaware River. Well construction logs indicate that the wells range in depth from 141 feet, 3 inches to 220 feet. All wells are screened in and withdraw ground water from the lower aquifer of the Potomac-Raritan-Magothy aquifer system.

Contamination was reportedly first detected in the Puchack wellfield in the early 1970s with the presence of trichloroethene (TCE), 1,2-dichloroethane (1,2-DCA), tetrachloroethene (PCE), and chromium compounds in Puchack well No. 6; it is further reported that Puchack well No. 6 was removed from service in 1975 because raw water samples collected from that well continued to indicate the presence of total and hexavalent chromium at concentrations above the U.S. Public Health Standards Maximum Contaminant Level of 0.05 parts per million. Contamination subsequently spread to Puchack well Nos. 5, 7, 3, 2, and 1, and has resulted in the closure of all of the Puchack wells except well No. 1. Despite the presence of contaminants, the City of Camden continues to use Puchack well No. 1 to help prevent the migration of the hazardous substances to other public supply wells. The water obtained from Puchack well No. 1 is treated before it is released into the distribution system and blended with water from 13 other wells in the City of Camden's water supply system. The area encompassed by the Puchack wells that has been removed from service is approximately 450,000 square feet, or 10.33 acres.

In October 1991, the New Jersey Department of Environmental Protection (NJDEP) issued a Directive and Notice to Insurers to a number of facilities or companies in the site vicinity that it "believes ... to be responsible for the discharge of ... hazardous substances" that have contaminated the ground water "based upon a review of the hydrogeologic conditions which exist at the well field" and existing documentation of facility operations and/or discharges. However, the specific source or sources of the contaminants that have been detected in the Puchack wells has not been pinpointed.

On March 6 and 7, 1996, representatives of the NJDEP collected ground water samples from Puchack well Nos. 1, 2, 3, 5, 6, and 7. The samples were analyzed for volatile organic chemicals and for inorganic chemicals, including cyanide. Analytical results indicated the presence of chromium, mercury, and TCE in all of the Puchack well samples. Chromium concentrations ranged from 46.6 micrograms per liter ($\mu\text{g/L}$) to 1,410 $\mu\text{g/L}$; mercury concentrations ranged from 0.15 $\mu\text{g/L}$ to 0.77 $\mu\text{g/L}$; and TCE concentrations ranged from 0.3 $\mu\text{g/L}$ to 20 $\mu\text{g/L}$.

Status (March 1998): EPA is considering various alternatives for the site.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be

found on the Internet at [ATSDR - ToxFAQs](http://www.atsdr.cdc.gov/toxfaqs/index.asp) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.