NPL Site Narrative for Ravenswood PCE Ground Water Plume

RAVENSWOOD PCE GROUND WATER PLUME
Ravenswood, West Virginia

Conditions at Proposal (March 8, 2004): The Ravenswood PCE Ground Water Plume site is located in Ravenswood, Jackson County, West Virginia. In the immediate vicinity of the plume are urbanized, residential, and commercial areas. Three of the town's five municipal drinking water wells have shown tetrachloroethylene (PCE) contamination ranging up to 91.4 parts per billion (ppb). There are three former dry cleaning facilities, a former trash dump, metal scrap heap, a municipal building (site of a former electrical power plant), a former waste dump and a former hospital in the vicinity of the plume.

The Ravenswood PCE Ground Water Plume site consists of a ground water plume within the unconfined Quaternary Alluvium aquifer. Two of the municipal wells (Wells 2 and 3) are located in the Ravenswood City maintenance garage and the others (Wells 1, 4 and 5) are located in the surrounding area on city property. All of the municipal wells are located within an approximately three- to four-acre area to the north of the downtown area. The city maintenance building is bound on the north by an open grassy area, with the adjacent Ravenswood High School and Plaza Drive located beyond; on the south by an asphalt parking area with the Jackson County Public Library located beyond; on the east by the Ravenswood High School baseball field; and on the west by Virginia Street.

The City Maintenance Building that houses Municipal Wells 2 and 3 was formerly an electrical power plant owned and operated by the City of Ravenswood. Following closure of the power plant, the building was converted into the city maintenance garage. PCE may have been used as a cleaning solvent when the electrical power plant was in use. Municipal Wells 1 through 4 were constructed between 1939 and 1964. Municipal Well 5 was constructed in 1977.

The Ravenswood blended water supply system supplies drinking water to a population of approximately 5,453 persons in the City of Ravenswood, which includes three schools. In addition, the system also supplies water to approximately 2,479 persons, including two elementary schools, in the Silverton Public School District. In September of 1998, the City of Ravenswood shut down Municipal Well 3 due to contamination by PCE. Records indicate PCE contamination has been increasing in the well field since 1989. Well 3 has consistently shown the highest level of contamination. In August 1998, PCE was observed at 73.3 ppb in Well 3 and 8.3 ppb in Well 2. The maximum contaminant level (MCL) for PCE is 5 ppb. In December 1998, the City began pumping Well 3 to the Ravenswood wastewater treatment plant in an effort to protect the remaining wells from contamination. The City faces a potential for a water shortage as three of its five wells have historically shown PCE contamination. PCE concentrations in Well 5 fluctuated between 5.9 and 21.7 ppb in city sampling events in 1999. In October 1999, PCE was detected at 24 ppb in Well 5 and 6.3 ppb in the finished water. After Well 3 began pumping continuously to the wastewater plant, contamination in Well 2 diminished and PCE has not been detected in the well since August 1998. Since June 2000, the water from Wells 3 and 5 has been pumped into a chamber using an air stripper to remove PCE and this treated water is blended with water from Wells 1, 2, and 4. The finished water meets the MCL for PCE concentration and is pumped into the distribution system.

Status (September 2004): EPA is considering various alternatives for this 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) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.