

NPL Site Narrative for Cayuga County Ground Water Contamination

CAYUGA COUNTY GROUND WATER CONTAMINATION Aurelius, Fleming, Springport, New York

Conditions at Proposal (September 13, 2001): The Cayuga County Ground Water Contamination site consists of a plume of contaminated ground water from an unknown source(s). The site is located west of Syracuse in a rural area of Cayuga County, between the Village of Union Springs to the west and the City of Auburn to the northeast. The site is in an area consisting of residential properties intermingled with extensive farmland and patches of woodlands. The homes in the area use private wells for potable water supply and septic systems for sanitary waste water disposal. The affected area is not serviced by a public water supply.

Routine testing of the Village of Union Springs' municipal drinking water supply revealed low levels of cis-1,2, DCE, and prompted referral to the U.S. Environmental Protection Agency (EPA) for a CERCLA/SARA response action on December 4, 2000. Through investigations conducted by the New York Departments of Health and Environmental Conservation and by the EPA, over 300 drinking water supplies have been sampled as of April 2001. As a result of these sampling events, EPA determined that 51 residential wells are contaminated with volatile organic compounds (VOCs), primarily vinyl chloride, trichloroethylene (TCE) and cis-1,2,dichloroethylene (cis-1,2,DCE), in concentrations above the Federal maximum contaminant levels (MCLs). Twenty-four of these drinking water supply wells are contaminated above EPA's Removal Action Levels (RALs) for vinyl chloride and/or cis-1,1,DCE of two parts per billion (ppb) and 400 ppb, respectively.

As of July 2001, EPA has installed 55 treatment systems to treat contaminated water from 52 wells as part of a time critical Removal Action. Two large dairy farms in the impacted area have had air-stripper treatment systems installed; at these farms water is used for both residential drinking water and for livestock (approximately 1,500 dairy cows). A treatment system installed on a well at a child day care facility exhibited partial breakthrough of contaminants in May 2001; however, contamination was contained due to built-in redundancy in the treatment system.

The suspected extent of the plume covers an area of approximately 3,050 acres or 4.8 square miles and falls within three townships, Aurelius, Fleming and Springport. The plume extends from the Village of Union Springs to the Auburn City limits, a distance of seven miles, and has approximately 120 homes within its boundaries.

The ground water flow system consists of three hydrological units: the overburden, shallow bedrock (Onondaga, Oriskany, and Manlius Formations) and the deep bedrock (Rondout, Cobleskill and Bertie Formations). Downward hydraulic gradients exist throughout, but are particularly strong between the shallow and deep bedrock units, with water-level differences in excess of 40 feet observed during dry periods of the year.

An observed release of vinyl chloride, TCE and cis-1,2 DCE has been documented by chemical analysis of ground water samples collected from private wells during an April 2001, sampling event. Actual

contamination was documented for 49 wells during an April 2001 EPA sampling event. According to information provided by NYSDEC and preliminary information gathered by EPA, the source of the ground water contamination at the site has not been determined. Due to these conditions, the State of New York requested on June 7, 2001 that EPA place the site on the NPL.

Status (September 2002): 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) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.