NPL Site Narrative for MacKenzie Chemical Works, Inc.

MACKENZIE CHEMICAL WORKS, INC.
Central Islip, New York

Conditions at Proposal (June 14, 2001): The MacKenzie Chemical Works, Inc. (MacKenzie) site is located at One Cordello Avenue in Central Islip, Suffolk County, New York. The site is located within a residential/light commercial area of Central Islip and is bounded to the north by the Long Island Rail Road, to the east by private property, to the south by Railroad Avenue, and to the west by Cordello Avenue. The property encompasses approximately 1.4 acres and houses three 1-story block buildings and one 2-story block building.

MacKenzie used the property from 1948 to 1987 for the manufacture of various chemical products, including fuel additives and metal acetylacetonates. Historically, the Suffolk County Department of Health Services (SCDHS) and the Suffolk County Fire Department have documented poor housekeeping and operational procedures. Spills, explosions and fires have occurred at the facility, including a methyl ethyl ketone (MEK) spill in 1977, a nitrous oxide release in 1978, and an MEK spill/fire in 1979. Complaints filed over the years have resulted in inspections by the fire department, and violations were noted by the SCDHS. Violations included spills on open soil, leaking drums, overflowing acid tanks, and drains not noted on original facility plans.

On June 24, 1999, the U.S. Environmental Protection Agency (EPA) received a written request from the New York State Department of Environmental Conservation (NYSDEC), requesting that an emergency response action be conducted at the site. In April 2000, EPA conducted an Integrated Assessment that consisted of the collection of groundwater samples from off-site monitoring wells, two municipal supply wells, and one private well (5 Railroad Avenue). Analytical data from this sampling indicate that 1,2,3-trichloropropane (1,2,3-TCP) is present in the groundwater.

A Preliminary Assessment was conducted in 1983 by EPA, who recommended that ongoing cleanup of the site, with the oversight of the SCDHS, be completed and that the threat to groundwater be defined. In 1991, a Phase II investigation was conducted by the NYSDEC, which included a literature search and on-site soil and groundwater sampling. In 1993, SCDHS conducted groundwater sampling downgradient of the site. A Remedial Investigation/Feasibility Study (RI/FS) was conducted by NYSDEC in 1999. The RI/FS included groundwater sampling, surface soil sampling, and subsurface soil sampling.

The results of sampling conducted in connection with the site indicate the presence of volatile organic compounds, including 1,2,3-TCP, tetrachloroethene, and trichloroethene, in soil and groundwater. Metals and semi-volatile organic compounds, including polycyclic aromatic compounds, have also been detected in soil on site. 1,2,3-TCP concentrations in groundwater ranged up to 7,600 parts per billion at a distance of 600 feet downgradient of the MacKenzie property line. 1,2,3-TCP was detected in the on-site wells sampled by NYSDEC during the Phase II investigation, the off-site wells sampled by SCDHS, and the wells and other groundwater samples collected by NYSDEC during the RI/FS.

According to SCDHS, MacKenzie stored 1,2,3-TCP in three 10,000-gallon tanks on the property. Other historical waste sources include other aboveground storage tanks, leaking drums, waste lagoons, cesspools, and storm water drywells. The lagoons, cesspools, and drywells have been sampled and found to contain contaminants attributable to facility operations, including 1,2,3-TCP at concentrations up to 20,400 micrograms per kilogram.

An observed release of 1,2,3-TCP to groundwater is documented by the chemical analysis of groundwater samples collected from monitoring wells during the EPA April 2000 Integrated Assessment sampling event. The potential exists for hazardous substances from the site to impact drinking water wells within four miles of the site. Drinking water within a four-mile radius of the site is withdrawn by 53 municipal supply wells and one private supply well (5 Railroad Avenue) drawing from the Upper Glacial and Magothy aquifers, which are hydraulically connected. The nearest drinking water well is a municipal supply well located approximately 3,500 feet southeast of the property. Drinking water wells within four miles of the site serve approximately 141,351 people.

Status (September 2001): 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.