

# **MacKenzie Chemical Works**

## **New York**

EPA ID#: NYD980753420

### **EPA REGION 2**

**Congressional District(s): 02**

Suffolk  
Central Islip

#### **NPL LISTING HISTORY**

Proposed Date: 6/14/2001

Final Date: 9/13/2001

## **Site Description**

The MacKenzie Chemical Works, Inc. (MacKenzie) site, located within a residential/light commercial area of Central Islip, 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. A two-story block building, which included a former manufacturing building, storage warehouse, and a warehouse/laboratory, was demolished in 2004. Three one-story block buildings were demolished in 2006. The property is abandoned.

MacKenzie used the property from 1948 to 1987 for the manufacture of various chemical products, including fuel additives and metal acetylacetonates. The Suffolk County Department of Health Services (SCDHS) and the Suffolk County Fire Department documented poor housekeeping and operational procedures. According to SCDHS, MacKenzie stored 1,2,3-trichloropropane (1,2,3-TCP) in three 10,000-gallon tanks on the property. Other historical waste sources include other storage tanks, leaking drums, waste lagoons, cesspools, and storm-water drywells. 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.

Drinking water wells within four miles of the site serve approximately 141,000 people (three municipal supply wells and one private supply). The nearest municipal supply well is located approximately 3,500 feet southeast of the property.

Site Responsibility: This site is being addressed through federal actions.

## **Threat and Contaminants**

The results of sampling indicate the presence of volatile organic compounds, including 1,2,3-TCP, tetrachloroethylene (PCE), and trichloroethylene (TCE) in site soil and ground water. Metals and semi-volatile organic compounds, including polycyclic aromatic compounds, have also been detected in soil on-site. Direct contact with or ingestion of contaminated ground water or soils may pose a health threat.

## **Cleanup Approach**

The site is being addressed in one stage—a long-term remedial phase focusing on the cleanup of the entire site.

### **Response Action Status**

Entire Site: In 1993, the New York State Department of Environmental Conservation (NYSDEC) completed a preliminary investigation of the site. The results indicated the presence of elevated levels of 1,2,3-TCP, PCE, and TCE in on-site soils and in on- and off-site ground water. In 2000, NYSDEC completed a remedial investigation/feasibility study (RI/FS) to determine the nature and extent of contamination at and emanating from the site and to identify and evaluate remedial alternatives. Subsequently, NYSDEC requested that EPA assume the lead for the site. In April 2000, EPA collected ground water samples from off-site monitoring wells, two municipal supply wells, and one private well in order to assess the need for a removal action. The conclusion of that assessment was that conditions did not warrant immediate action but that further evaluation was necessary in order to address potential long-term threats. In July 2002, EPA undertook sampling in order to assess current conditions related to on-property surface soil.

Following the evaluation of various soil and ground water alternatives and considering public comments on these alternatives, in March 2003 EPA selected a remedy for the site. The selected soil remedy includes thermally-enhanced in-situ soil vapor extraction (SVE) for the soils contaminated with volatile organic compounds and some limited

excavation and off-site disposal for soils contaminated with semi-volatile organic compounds. The selected ground water remedy involved in-situ treatment using a light oxidant (ozone).

The construction of the remedy commenced in Summer 2004. The soil SVE remedy has run effectively since that time. It is anticipated that the SVE system will need to be run through 2011. An enhancement to the groundwater remedy (using a stronger oxidant, sodium persulfate) was evaluated in laboratory studies and confirmed effective in Spring 2006 pilot-scale studies. Based upon successful laboratory results, full-scale deployment of the stronger oxidant followed. To date, three injections of sodium persulfate have been completed; data from these efforts is presently being evaluated for potential future injection events.

On October 3, 2006, EPA approved a Preliminary Close-Out Report, documenting the completion of construction activities at the site.

Five-year reviews are undertaken at sites to ensure that implemented remedies protect public health and the environment and that they function as intended by site decision documents. EPA will conduct the first five-year review on or before October 2011.

Site Facts: A search for Potentially Responsible Parties is presently underway.

## **Cleanup Progress**

After listing the site on the NPL, EPA conducted a preliminary evaluation of the conditions at the site and determined that no immediate actions were required to make the site safer while investigations leading to the implementation of a remedy were taking place.

## **Site Repositories**

Central Islip Public Library, 33 Hawthorne Street, Central Islip, NY 11722

NYSDEC Region 1 Office, State University of New York, Campus Building 40, Stony Brook, NY 11794

EPA Region 2 Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007-1866.