NPL Site Narrative for LCP Chemicals Inc.

LCP CHEMICALS INC.
Linden, New Jersey

Conditions at Proposal (September 1997): The LCP Chemicals Inc (LCP) site is located in an industrial area on the Tremley Point Peninsula adjacent to Arthur Kill, in Linden, Union County, New Jersey. The site is bordered by South Branch Creek to the east, the General Aniline and Film Corporation (GAF) to the north, and Northville Industries, BP Corporation, and Mobil to the northeast, south and west, respectively.

LCP purchased the 26-acre chlorine production facility in 1972 from GAF, which had owned the facility since 1942. From 1972 to 1982, LCP utilized a mercury cell electrolysis process to produce chlorine, sodium hydroxide, hydrochloric acid (HCL), and anhydrous HCL. The production process involved the electrolysis of a sodium chloride (brine) solution in the presence of metallic mercury. The residual mercury-sodium solution was then used to hydrolyze water forming sodium hydroxide and hydrogen gas. The metallic mercury was partially recovered and recycled in a brine purification process. The remaining mercury-tainted sludge was placed into the brine sludge lagoon (BSL), which received up to 20 tons per day of both brine sludge and wastewater treatment sludge.

Supernatant overflows from the BSL to South Branch Creek were observed by the New Jersey Department of Environmental Protection (NJDEP) on October 30, 1972 and February 7, 1974. The overflow locations, quantities, and nature of LCP's response are unknown. In June 1975, a brine recycle pump failed and a breach in the BSL occurred. As a result, an undetermined quantity of brine entered South Branch Creek for an estimated period of nine hours. On August 15, 1979, a sodium chloride blockage occurred in the facilities' east saturator, causing sodium chloride brine contaminated with mercury to overflow the top of the saturator. Because the surge of flow exceeded the surge capacity of the wastewater system, an estimated 10,000 to 20,000 gallons of the brine flowed into South Branch Creek. Chemical analysis of a sample collected from the spill indicated mercury concentrations to be 8.6 parts per million in the wastestream.

The generation of brine ceased at the site in March 1982. Closure and post closure plans for the lagoon were submitted in July 1982 and were approved by the NJDEP in 1983. As part of its closure, the BSL was dewatered, compacted, and capped with a two-foot layer of clay overlain by six inches of drainage media and six inches of soil capable of supporting vegetative cover. The closure of the lagoon was completed in 1984.

On December 14, 1994, the U.S. Environmental Protection Agency (EPA) conducted an on-site reconnaissance at the LCP site. During this reconnaissance it was noted that all site storage/transfer activities had ceased and that all of the mercury cells and other production equipment had been removed from the site.

A subsequent EPA sampling event was conducted at the LCP site on January 11, 1995. As part of this sampling event, three surficial soil samples, 10 surface water and eight sediment samples were collected. Analysis of the soil samples indicated the presence of mercury in the attribution samples at greater than three times the level detected in the background sample. Analysis of the surface water/sediment samples documented an observed release of mercury from the site to South Branch Creek. In addition, the analytical results of the surface water/sediment samples identified a zone of actual contamination that

contains 0.45 mile of wetlands frontage and a state designated area for the maintenance and protection of aquatic life. All of the analytical data from this sampling event were analyzed and validated through the EPA Contract Laboratory Program.

Status (July 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) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.