Ciba-Geigy Corp.

New Jersey

EPA ID#: NJD001502517

EPA REGION 2

Congressional District(s): 03

Ocean

Route 37 in Dover Township

NPL LISTING HISTORY
Proposed Date: 12/1/1982
Final Date: 9/1/1983

Site Description

The Ciba-Geigy Chemical Corporation site in Toms River, Dover Township, New Jersey, is presently owned and operated by the Ciba Specialty Chemicals Corporation (Ciba) which was formerly the Ciba-Geigy Chemical Corporation (Ciba-Geigy). The site encompasses approximately 1,400 acres, 320 of which are developed, with the remainder consisting of cleared areas, pine barrens and wetlands. From 1952 to 1990, Ciba-Geigy manufactured dyes, pigments, resins and epoxy additives. In 1988, pigments and dyestuffs manufacturing operations ceased and in December 1990, resins and epoxy manufacturing ceased. All commercial operations at the site ceased in December 1996. Most of the manufacturing buildings were subsequently demolished. Sludge and process wastes were disposed of in several locations on the site, including a stacked drum disposal area originally believed to contain approximately 35,000 drums and a 12-acre filtercake disposal area containing wastewater treatment plant sludge and process wastes. Wastewater treatment operations at the site also resulted in the contamination of several areas including backfilled lagoons near the Toms River and two equalization basins. Contamination from these areas and several others on site (referred to as source areas) is leaching into groundwater.

Site groundwater flows east towards the Toms River and adjacent wetlands. Groundwater in the local area is tapped by municipal, industrial, and private wells. To the north, south and west, the site is bordered by light industrial, commercial, residential, and recreational areas. The Township of Dover has an estimated population of 90,000 persons. There are 180 residential units less than 1/2 mile to the north of the site and more than 250 residential units less than 1/2 mile from the site's southern boundary. An elementary school is adjacent to the site along the southwestern fence line.

In 1978, the State of New Jersey issued permits to close two disposal areas on site. The New Jersey Department of Environmental Protection (NJDEP) issued an Administrative Order in 1980 that required Ciba-Geigy to remove 15,000 drums from an on-site solid waste landfill and to initiate groundwater monitoring at the site. In 1985, Ciba-Geigy began pumping contaminated groundwater and discharging it with treated wastewater to the Atlantic Ocean via a ten mile pipeline. In December 1991, as an interim measure, the NJDEP granted Ciba-Geigy a permit that allowed the company to discharge treated groundwater on site to the ground surface. NJDEP also required closure of the Ocean pipeline. Wastewater and sanitary flows were directed to the Ocean County Utilities Authority (OCUA) plant in Berkeley Township. The discharge to OCUA was stopped after commercial operations ceased in 1996.

Site Responsibility: This site is being addressed through a combination of Federal, State and potentially responsible parties' actions.

Threat and Contaminants

Groundwater and soils are contaminated with volatile organic compounds (VOCs) including chlorobenzene, 1,2,4-trichlorobenzene, 1,2-dicholorobenzene, 2-chlorotoluene and trichloroethene (TCE). The groundwater plume is migrating to the Toms River and wetlands along the eastern boundary of the site. EPA determined that the greatest potential threat to human health and the environment was through ingestion of contaminated groundwater. No private drinking wells were located within the area of contaminated groundwater, however, EPA required the closure of all affected residential irrigation wells.

Cleanup Approach

EPA determined that the greatest potential threat to human health and the environment was through contaminated groundwater. Based on the above, EPA decided to address cleanup of the site in two phases or operable units (OUs). OU1 focused on cleanup of the contaminated groundwater and OU2 addresses the source areas. A Record of Decision

(ROD) for OU1 was signed on April 24, 1989. The ROD specified that contaminated groundwater would be pumped, treated on site, and discharged to the Toms River; the uncontaminated lower aquifer would be evaluated; the Toms River would be monitored; contaminated residential irrigation wells would be closed; and, an investigation would be conducted to acquire enough data to characterize source areas and determine appropriate cleanup actions. In late 1991, representatives of citizens and environmental groups and Ciba-Geigy requested that EPA reconsider on-site recharge of treated groundwater instead of river discharge. EPA re-evaluated on-site recharge and determined that it was technically feasible, could be implemented in the same time frame as the original ROD remedy, and was protective of human health and the environment. The public showed overwhelming support and EPA issued an Explanation of Significant Differences (ESD) in September 1993 that changed the discharge point for treated groundwater from the Toms River to recharge on site.

The second phase of the investigation at the site, which began in September 1989 and was completed in 1994, was undertaken to evaluate the extent and nature of contamination in the source areas. A ROD addressing the source areas was signed in September 2000. The ROD called for excavation and on-site bioremediation of approximately 150,000 cubic yards of contaminated soil and backfill of the treated soil on site. The ROD also called for the excavation of buried drums from the stacked drum disposal area. Drum contents would be shipped off site for disposal. The remedy included caps and slurry walls in several source areas.

Response Action Status

Groundwater: All contaminated residential irrigation wells were sealed by mid-1991. Full-scale operation of the on-site groundwater treatment plant began in March 1996. The plant currently treats approximately 2.0 million gallons per day of contaminated groundwater. All sample results for the treated groundwater have been below the criteria established in the ROD and ESD.

Source Areas: The design of the source area remedy was completed in summer 2003 and on-site construction began in October 2003. The excavation of drums from the stacked drum disposal area began in December 2003 and was completed in November 2004, approximately 6 months ahead of schedule. A total of 47,055 drums were removed from the stacked drum disposal area. Soil treatment began in July 2004. As of May 2007, over 100,000 cubic yards of contaminated soil have been treated and backfilled on Site. Sampling performed during the cleanup has identified additional soil that requires remediation. The volume of soil to be treated is now estimated to be between 240,000-260,000 cubic yards.

Site Facts: In 1984, EPA informed the parties potentially responsible for contaminating the site of their responsibility for the remediation. Ciba-Geigy agreed to cooperate in the varied investigations to determine the nature and the extent of the contamination. In September 1993, Ciba-Geigy entered into a Consent Decree with EPA covering implementation of the revised groundwater cleanup remedy and reimbursement of past costs, together estimated at $54 million. In October 1995, EPA and Ciba-Geigy entered into an Administrative Order on Consent (AOC) that allowed Ciba to perform the feasibility study to evaluate cleanup alternatives for the source areas. In March 2001, Ciba entered into a Consent Decree with EPA to implement the source area cleanup that was estimated at $90 million.

Cleanup Progress

Groundwater (Construction Complete)

The groundwater extraction, treatment and recharge systems are operational. Contaminated irrigation wells have been sealed. The local community is not affected by the contaminant plume, and the site does not pose an immediate threat to the surrounding community. Over 9.5 billion gallons of contaminated groundwater have been treated to meet EPA criteria, to date.

Source Areas

The site is fenced and guarded and access to the site is limited. The local community is not impacted by the source areas. Cleanup of the source areas began in October 2003. Drum removal operations from the stacked drum disposal area was completed in November 2004. Soil removal at the source areas and ex-situ treatment of the soil will be completed in 2010. Construction of the caps and slurry walls at certain of the source areas also will be completed by 2010. In-Situ bioremediation of soil at the equalization basins will continue for approximately four years or until 2013.

Site Repositories

Ocean County Public Library, 101 Washington Street, Tom River, NJ 08753.

Additional Links: