

Hooker - Hyde Park

New York

EPA ID#: NYD000831644

EPA REGION 2

Congressional District(s): 29

Niagara

Northwest of the City of Niagara Falls

NPL LISTING HISTORY

Proposed Date: 12/1/1982

Final Date: 9/1/1983

Site Description

Hooker-Hyde Park is a 15-acre site that was used to dispose of approximately 80,000 tons of waste, some of it hazardous material, from 1953 to 1975. The landfill is immediately surrounded by several industrial facilities and property owned by the New York Power Authority. The Niagara River, which flows into Lake Ontario, is located 2,000 feet northwest of the site. Bloody Run Creek, the drainage basin for the landfill area, flows from the northwestern corner of the landfill. The creek eventually flows into storm sewers and down the Niagara Gorge Face into the Niagara River. The site is located a few blocks east of a 500-home residential community. Approximately 3,000 people are employed by the industries near the site. All of the industries and most of the residences are connected to a municipal water supply system.

Site Responsibility This site has been addressed through Federal and potentially responsible parties' actions.

Threat and Contaminants

The ground water is contaminated with volatile organic compounds (VOCs) and dioxin from former disposal activities. Bloody Run Creek sediments were contaminated with VOCs until their removal in 1993 and surface water of the Niagara Gorge Face was contaminated with VOCs. Potential health threats include the consumption of contaminated fish from Lake Ontario. Although groundwater is contaminated, there are no known uses of groundwater within the area, so it is unlikely that people would be exposed to groundwater contaminants. Access to the landfill is restricted by a fence and a 24-hour guard.

Cleanup Approach

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

Response Action Status

Entire Site: Remedial Construction has been completed at this site.

In 1985, EPA selected cleanup remedies which include the following: (1) a source control extraction well system to remove non-aqueous phase liquids (NAPL) from the overburden in the landfill; (2) an overburden drain system surrounding the landfill; (3) a bedrock remedial system to prevent the migration of leachates comprised of (a) a NAPL plume containment system and (b) an aqueous phase liquid (APL or contaminated leachate) plume containment system; (4) a shallow and deep groundwater study; (5) a Niagara Gorge seep program; and, (6) the treatment of leachates. The potentially responsible party, Occidental Chemical Corporation (OCC), has implemented these remedies since 1985. To date, OCC has completed the following remedies. Two source control wells were pump tested in 1993 and are operating. Four additional source control wells were installed in 1994 and are also operating. The Overburden Barrier Collection System, a drain surrounding the landfill to collect and contain leachate, was completed in 1990. This drain system prevents leachate from migrating outwardly through the overburden from the landfill. The bedrock NAPL containment system is a system of extraction wells that recover NAPL and APL from the bedrock. These wells are placed in three discrete bedrock zones. Pumping these wells creates an inward hydraulic gradient (ground-water flow) towards the landfill which prevents the outward migration of leachate in the bedrock, while collecting the leachate for treatment. The bedrock NAPL containment system was installed in phases since not enough was known of the hydrogeology in fractured bedrock to design a final system. Phase I wells were completed in 1993 and are operating. Phase II wells were completed in late 1993 and are operating. Three additional extraction wells (Phase III) were installed in 1997. Two wells were installed in 1998 and connected via a force main to the on-site treatment facility. OCC installed two new extraction

wells and the associated monitoring wells during 1999. Currently, the bedrock NAPL containment system consists of a total of twelve extraction wells operating around the site. The APL plume containment system consists of two extraction wells placed near the Niagara Gorge that recover APL and prevent it from reaching the Niagara River. These wells were completed in 1994. The construction of the on-site leachate storage, handling, and treatment facility was completed in 1989. APL is treated on-site with activated carbon. NAPL is collected at this facility and transferred to a RCRA-permitted facility in Laidlaw Texas for incineration. The Niagara Gorge Face seeps have been remediated. Contaminated sediment was removed and some water diverted into a culvert so that people no longer have access to these seeps. In addition to these remedial measures, an Industrial Protection Program to protect nearby workers from contaminants has been completed. The draft Lake Ontario Dioxin Bioaccumulation Study was completed in 1989, distributed for scientific review and was available to the public in September 1992. Fish and sediment samples from Lake Ontario were collected and analyzed, and laboratory studies were conducted. The community monitoring program, consisting of monitoring wells placed within the community and sampled quarterly to provide early warning of contamination from Hyde Park indicator chemicals, is ongoing. An assessment was completed in March 1992 to determine the risk of excavating Bloody Run sediments. The risks from excavation, EPA's preferred alternative, were found acceptable and the decision made to excavate the Bloody Run. Excavation was completed in February 1993. The perimeter of the landfill was capped in 1992. The landfill itself was capped in late 1994.

OCC installed 5 additional extraction wells in 2001 because the monitoring system indicated that there was not 100% capture of the contaminated groundwater. OCC upgraded its onsite treatment facility to process 400 gallons per minute in 2002. Even though OCC was effectively dewatering the aquifer, they could not demonstrate complete capture. OCC proposed a new site conceptual model in which there are 11 flow zones at the site and not just 3 aquifers. OCC conducted an extensive geophysical sampling program at the site in 2001 in order to better characterize the ground-water flow zones.

OCC, using an extensive monitoring system which was installed at the site during 2001 and 2002, concluded in the Remedial Characterization Report: Hydrologic Characterization (June 2003) that the contaminated groundwater surrounding the site was being captured by the extraction well system and that the requirements of the RRT were being achieved. OCC conducted a study to determine the relative age of the water near the site and determined that the relative age of the groundwater between the extraction wells and the Niagara Gorge is younger than the groundwater underlying the site. This indicates that the extraction wells are effectively preventing migration of groundwater from the landfill to the Niagara River. The seeps along the gorge were determined not to be groundwater discharge, but surface runoff, indicating that the APL wells have been effective at controlling the groundwater near the gorge.

Site Facts: In 1981, the EPA, the Department of Justice, the State, and a potentially responsible party, Occidental Chemical Corporation, signed a Consent Decree specifying OCC's responsibilities for cleanup of contamination at the site and maintenance of these remedies. In 1985, the EPA selected the final method to clean up the site. There is intense public scrutiny of activities related to this site. Two citizens' groups have intervened in the lawsuit against the potentially responsible party. The Canadian government also reviewed all of the program activities.

Cleanup Progress

The cleanup actions at the Hooker-Hyde Park site were completed in September 2003. The removal of contaminated soils and sediments and the leachate control and treatment operations have substantially reduced potential health risks and further environmental degradation.

Remedial construction included the installation of a system of extraction wells, both in the bedrock and overburden, to contain and collect NAPL & APL. A Leachate Treatment Facility was built on-site. Contaminated sediments were removed from Bloody Run.

Approximately 30 million gallons of ground water have been treated on-site; approximately 350,000 gallons of NAPL have been extracted from the site and incinerated; 46,720 tons of contaminated sediments were removed from Bloody Run.

Future Activities:

- Operation and maintenance of the ground-water extraction and treatment systems. Approximately 250 million gallons of groundwater will need to be treated over the next 30 years;
- NAPL is currently incinerated offsite at a facility in Texas.

Site Repositories

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