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Hazardous Waste Cleanup: Frontier Chemical Waste Process Incorporated – Royal Avenue Site in Niagara Falls, New York

Site Facts

EPA ID: NYD043815703

Location: Royal Avenue and 47th Street, Niagara Falls, New York 14303

Property Area: 9 acres

Other Names: None

Cleanup Status: Corrective Action Complete

Human Exposure under Control:

Yes, Controlled

Groundwater under Control:

No, not controlled

Last Updated: October 2009

On this page:

- Cleanup Status
- Site Description
- Contaminants at this Facility
- Site Responsibility

Cleanup Status

Corrective Action is complete at this site with the exception of a long term pump and treat system to treat leachate from an on-site containment area. This is evaluated annually with groundwater monitoring.

A locked gate and fencing limit public access to the site. Private well water and basement sump water sampling by New York State Department of Health (NYSDOH) in 1992 and 1993 did not find contamination from the site. Human exposures via drinking water are not expected because all local residences are now connected to public water there is no evidence of off-site groundwater contamination. The levels of chemicals found in off-site surface soil samples collected by NYSDOH in 1992, 1993, and 1994 represent no health concern. Bull Creek water and sediment analyses are not contaminated with site-related chemicals.

NYSDOH completed an exposure survey in July 1994 which concluded that no significant exposure pathways exist. The November 1996 NYSDOH cancer incidence study concluded that overall cancer incidence was similar to expected for males and females. Dermal contact by trespassers to contaminated surface soils in the former process area and air exposures have been eliminated with the newly installed cap.

Groundwater is contained on site as evidenced by groundwater monitoring reports.

Additional Site Information

- [Contacts for this cleanup](#)
- [Reports and Documents](#)
- More Information from the [Envirofacts database](#)

Site Description

Frontier Chemical Waste Process facility is located in a heavy industrial/commercial area. Several large industrial facilities surround the facility. The closest residential area is located about ½ mile west and the closest off-site building is located 300 feet away. The Niagara River lies within one mile south of Frontier.

The site dates back to 1906 when it was owned and operated by the International Minerals and Chemical Company as a caustic chlorine (mercury cell) production plant. Sludge ponds associated with this operation were utilized for liquid sludge disposal from caustic soda production. Although these ponds have been removed, they may have contributed to the contamination of the site.

Frontier Chemical Waste Process, Inc. moved its operations from its Pendleton location (EPA #NYD991292053) to Royal Avenue in Niagara Falls. Between 1974 and 1992, Frontier Chemical operated a Resource Conservation and Recovery Act (RCRA) facility at the site at which a wide variety of listed and characteristic hazardous wastes were stored and treated.

Contaminants at this Facility

The site contaminants are mainly volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs) to the lesser degree. The most concentrated contamination is located well below the ground surface where public contact with wastes is unlikely. The site is fenced and secured which minimizes the potential for public exposures to on-site contamination.

The surrounding area of the site is mostly industrial. The majority of the buildings on the Site have been demolished, although some smaller buildings and structures remain. The Site is completely fenced and the majority of the surface of the site is covered by either concrete or blacktop. Several large areas of demolition debris also occupy areas on the surface of the site.

The nearest residence is approximately about ½ mile west of the site and is supplied with public water. There are no private wells in the immediate area, so exposures via drinking water, are not expected. Vapor intrusion should not be an issue because where the plume has spread off site, it is intercepted by the adjacent Falls Street and New Road tunnels, and thus there is no off-site contaminant plume. High concentrations of organic contaminants exist in soil and groundwater.

Non-aqueous phase liquids (NAPL) have been found in both the overburden and bedrock groundwater. NAPL has also been detected immediately adjacent to the unlined Falls Street Tunnel. NAPL will continue to act as a source of groundwater contamination. Since many of the VOCs are denser than water, it is likely that the NAPL is a dense NAPL (i.e., DNAPL). Samples of DNAPL were obtained in 1988 from two wells in the B-Zone (see page 6 for zone description).

The site was divided into two Operable Units (OUs): OU1 (overburden soils, overburden groundwater, and upper bedrock groundwater: A-Zone and B-Zone), and OU2 (deep bedrock groundwater: C-Zone, and deeper).

Overburden and upper bedrock groundwater contamination is effectively intercepted by the adjacent Falls Street and New Road tunnels. As such, there is no off-site contaminant "plume" associated with overburden and shallow bedrock groundwater contamination. The deeper bedrock groundwater characterization plan is addressed in the November 2007 Supplemental Soil Characterization and Pilot Test Work Plan.

Site Responsibility at this Facility

Record of Decision for Operable Unit #1 (OU1) was issued in March 2006, and a Consent Order for the Supplemental work, including an additional contaminated soils delineation for OU1 and Remedial Investigation / Feasibility Study for Operable Unit #2 (OU2), was executed in August 2008, by the New York State Department of Environmental Conservation (NYSDEC) with the potentially responsible parties (PRPs) group.

LAST UPDATED ON SEPTEMBER 14, 2017