Auburn Road Landfill Site
Londonderry

Contact: Michael Summerlin (603) 271-3649

The Auburn Road Landfill Site (Site) comprises 200 acres of land located next to the northeast corner of the intersection of Auburn Road and Old Derry Road in the Town of Londonderry (Town).

Waste disposal historically took place at the Site in four areas referred to as the town dump, tire dump, septage lagoon, and solid waste. Landfilling operations on the property were terminated in January 1980. The four disposal areas were found to be the source of volatile organic compounds (VOCs) in surface waters and groundwater at the Site. Due to the presence of this contamination, the Site was added to the National Priorities List by the United States Environmental Protection Agency (EPA) in 1983.

Between 1986 and 1988, EPA excavated and removed a total of 2,314 drums from the town dump and tire dump locations. During the follow-up Remedial Investigation/Feasibility Study, it was determined that contaminated groundwater was flowing off-site toward some nearby drinking water supply wells. Because the majority of residents in the vicinity of the Site depended on bedrock wells for their water supply, EPA expedited the protection of public health by constructing a water line in 1987 to provide a new water supply to residents affected or potentially affected by Site contaminants. This effort was deemed Operable Unit 1 (OU1).

The United States Environmental Protection (EPA) Superfund Sites webpages includes information regarding the Auburn Road Landfill. In a 1989 Record of Decision, EPA selected a source control remedy to prevent contact with on-site waste materials and to minimize the additional release of contaminants into the environment by constructing multi-layered caps over each disposal area. The source control action remedy, OU2, was completed in the fall of 1994.

The 1989 remedy selection also called for a management-of-migration (MOM) action, OU3, to bring groundwater quality to within the State's drinking water standards through groundwater extraction and treatment. Subsequent environmental monitoring data indicated that concentrations of VOCs had decreased to acceptable levels and the groundwater extraction and treatment action was no longer deemed necessary. EPA therefore amended the 1989 MOM portion of the remedy in a 1996 Amended Record of Decision to provide for institutional controls and monitored natural attenuation (MNA) at the Site in lieu of groundwater extraction and treatment.

Site conditions continue to be monitored and the use of groundwater for drinking purposes within the defined Groundwater Management Zone is prohibited until the groundwater quality has reached acceptable levels. In 2000, EPA, the New Hampshire Department of Environmental Services (NHDES), and the potentially responsible parties signed a negotiated consent decree (CD) that included a scope of work for the long-term site management plan. The CD was entered on March 10, 2000, in the US District Court for the District of New Hampshire.

The responsible parties conducting the management-of-migration action continue to monitor groundwater, surface water, and sediment at the Site. Samples are collected every other spring and fall and analyzed for arsenic and VOCs.

Well installation, sampling, and data analysis activities were conducted at the Site as part of a supplemental hydrogeological investigation in the fall of 2006. The work was documented in the 2007 Annual Report (document name: GWP-198803007-L-001 2007 Revised Final Annual Report 30-May-2008) for the Site which can be found on the NHDES OneStop database using site #198803007. In addition, EPA and NHDES conducted the EPA Fourth Five-Year Review of the remedial actions implemented at the Site, which was completed in September 2007.

NHDES issued a Groundwater Management Permit (GMP) in the fall of 2007. The GMP establishes an area known as a Groundwater Management Zone within which it is acknowledged that groundwater is contaminated above drinking water standards and includes required restrictive actions that will remain in effect until groundwater achieves site cleanup and drinking water standards.

As a result of recommendations and follow-up actions noted in the Fourth Five-Year Review Report, EPA issued an Explanation of Significant Differences (ESD) in August 2009 to document a change in the arsenic cleanup standard from 50 ppb to 10 ppb, to ensure protectiveness consistent with then-current state standards.

A 2013 USGS study (document title: Hydrogeologic Framework, Arsenic Distribution, and Groundwater Geochemistry of the Glacial-Sediment Aquifer) characterized the hydrogeologic framework, identify potential preferential groundwater flow paths for landfill leachate, and assess arsenic transport processes and potential geochemical reactions controlling arsenic concentrations at the Site. The responsible party performing the MOM (OU3) completed a supplemental hydrogeological investigation report in June 2017 to follow up on recommended areas of further study and data gaps identified in the USGS study. As a result, the long-term monitoring program has been amended to better assess water levels and geochemical conditions in the aquifer.

EPA completed the Seventh Five-Year Review for the Site in September 2022. Within this review, EPA found that the remedy associated with the water supply line (OU1) is protective of human health and the environment because by providing a municipal water supply to impacted residents. The EPA also found that the OU2 (landfill capping) remedy also remains protective of human health and the environment in the short term because installation of the municipal water supply line currently provides drinking water to residences in the affected area and institutional controls provide notice of groundwater contamination at the Site. EPA found that the OU3 (groundwater MOM) remedy currently protects human health and the environment in the short term because the landfills are capped, the town conducts inspections and other O&M activities to protect the integrity of the caps, and implementation of the Deed of Negative Easements prohibits disturbances to the surface or subsurface of the Site. In order for OU2 and OU3 to be protective in the long-term, EPA identified additional actions that need to be taken.

During the thirty years since capping of the landfills was completed, there has been limited progress toward attaining cleanup levels for arsenic in groundwater. The 2009 ESD, which lowered the cleanup level for arsenic to coincide with the then-updated State standard, has also significantly lengthened the projected time to achieve Site closure. Overall, the extent of arsenic contamination in groundwater at the Site has decreased, but elevated concentrations continue to persist within the overburden and bedrock aquifers.