

**Auburn Road Landfill Site
Londonderry
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The Auburn Road Landfill 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.

Waste disposal historically took place at the site in four areas referred to as the town dump, tire dump, septage lagoon, and solid waste areas. 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).

In 1989, 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 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 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 CD was approved by the District Court on March 15, 2000.

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 as part of a supplemental hydrogeological investigation in the fall of 2006 at the site. The work was documented in the 2007 Annual Report for the site. In addition to the 2007 Annual Report, EPA and NHDES conducted a Five-Year Review of the remedial actions implemented at the site. This was the fourth Five-Year Review Report and was completed in September 2007.

NHDES issued a Groundwater Management Permit 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 actions required while groundwater returns to drinking water standards.

As a result of recommendations and follow-up actions noted in the fourth Five-Year Review Report, EPA issued an ESD in August 2009 to document change in the arsenic cleanup standard from 50 ppb to 10 ppb, ensuring the protectiveness of the MNA remedy at the site.

In February 2017, the Source Control Operations and Maintenance Report was issued to EPA and NHDES for the 2016 landfill inspections and soil gas monitoring. The report represents the completion of 22 years of O&M post-closure activities at the site by the responsible party maintaining OU2.

A USGS study to characterize 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 was completed in 2013. The responsible party performing the MOM (OU3) has begun, with their June 2017 supplemental hydrogeological investigation report, 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 is being reviewed to better assess water levels and geochemical conditions in the aquifer, the potential vapor intrusion pathway is being evaluated, previous modeling efforts are expected to be updated to determine a more accurate estimate of cleanup times, and alternatives to natural attenuation may be evaluated.

EPA completed the sixth Five-Year Review for the site in September 2017. Within this Five-Year Review, the EPA found that the remedy associated with the

water supply line (OU1) is protective of human health and the environment because the line provides a municipal water supply to impacted residents. The EPA also found that the OU2 (landfill capping) and OU3 (groundwater MOM) remedies currently protect 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 the institutional controls of a Groundwater Management Zone and a Deed of Negative Easement currently provide notice of groundwater use restrictions at the site.

However, during the twenty-five 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 updated MCL, 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.