



Groundwater Treatment Success of a Long Island Chemical Plume

CUSTOMER: Confidential

LOCATION: Long Island, New York

CHALLENGE

The central Long Island underground chemical plume is one of the region's largest groundwater contamination sites stemming from a former manufacturing plant. It contains carcinogenic chemicals which have been contaminating the groundwater for years. Extraction wells were installed in the neighborhoods to begin the decade's long clean-up process, but effective treatment was also required.

SOLUTION

APT and its proprietary HiPOx® Advanced Oxidation Process (AOP) treatment technology was selected to address elevated 1,4-Dioxane and other volatile organic compounds (VOCs) such as Trichloroethylene (TCE) and cis-1,2-Dichloroethylene in the Site's groundwater. After early bench tests successfully achieved all treatment goals reducing each designated contaminant to below detection levels, the completed system was delivered and commissioned in 2023. It handled an influent rate of 2,400 GPM (with a turndown capability to run as low as 1,200 GPM) and specifically reduced 1,4-Dioxane levels to a discharge concentration less than 0.1 µg/L, and TCE to less than 1.0 µg/L.

WHY HiPOx?

With the Superfund Site impacting groundwater, a system to treat 1,4-Dioxane that eliminated the need for an air stripper and required no iron pre-treatment was needed. HiPOx was the only system that could deliver on all fronts as proven by the successful bench testing and the results to date of the commissioned system... and it did so with reduced energy usage and operations and maintenance costs compared to UV systems.

IMPACT

HiPOx is an important piece of the groundwater-related cleanup and protection of Long Island's drinking water. The system also acts as a model for other water districts and communities addressing the most challenging emerging contaminants in their own water.

"HiPOx proved to be the only treatment solution that could deliver on all fronts, and it did so with reduced energy usage and OM&M costs."