

PROJECT HIGHLIGHT

SONIC FOR EFFICIENT ISCO REMEDIATION AT A LIMITED ACCESS SITE

Challenging geology and limited access restrictions required an innovative approach for in situ remediation of petroleum-based contamination on the property of an active school. The glacial till common in this region is difficult for the conventional drilling technologies typically used for direct injection. Overhead infrastructure on the property restricted vertical clearance for the drill rigs. This project utilized innovative tooling and methods for in situ chemical oxidization (ISCO) remediation with sonic drilling.

PROJECT: Limited access remediation
LOCATION: Active school facility
TECHNOLOGY: Direct ISCO injections via angled sonic rig
SERVICE: Environmental remediation



PROJECT OVERVIEW

The client required remediation of contaminated soil and groundwater in order to proceed with a school expansion project. Due to on-going construction activities, efficiency was the driving factor in the remediation approach. The timeframe for project from mobilization to completion, including the customization of tooling for the injection, was no more than three weeks. Additional safety precautions were implemented to address potential hazards associated with limited access restrictions from the overhead infrastructure as well as the construction equipment and operations occurring concurrently with the remediation project.

The target chemicals of concern consisted primarily of diesel from underground storage tanks (USTs). The source area and USTs were removed just prior to injection so this event primarily treated the plume.



RESULTS

Direct injection activities were successfully completed using a sonic rig with custom-made tooling at 35 degree angles to target contaminants. Nineteen injection points were targeted over an 8-day period, with all injection points backfilled with sodium bentonite chips, a sand buffer, and capped with a seal, which matched current site conditions.