

ELIMINATION OF HEAVY END TPH AND FUEL OILS USING SODIUM PERSULFATE

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In-situ chemical oxidation was performed to eliminate #6 fuel oil contaminated soils beneath the basement floor of an active historic building. TPH in the form of NAPL was the primary contaminant of concern, with NAPL up to 30 inches thick. Baseline volume of NAPL in treatment area was approximately 2,000 gallons prior to remediation.

The process used was sodium persulfate activated by catalyzed hydrogen peroxide applied through six temporary application wells. Effects of the reagent application were monitored using water quality parameters collected from adjacent monitoring wells to evaluate the performance of the ISCO technology. Continuous thermocouple readings from each application well helped to maintain control of the exothermic ISCO reactions.

Due to treatment area's close proximity to several occupied buildings, a subsurface vapor recovery system was installed and operated during the entire ISCO application. Purpose of this system was to provide redundant pressure control to ensure that vapor migration or intrusion into the sublevels of the adjacent buildings did not occur during the ISCO application. Project resulted in successful achievement of the goal of NAPL reduction to less than ½ inch.

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