



nvirorisk



onsultants, Inc.

FORMER GASOLINE STATION/RETAIL STORE

Atlanta, GA

Contaminants:
Benzene

Treatment:
ISCO injection
using alkaline
activated
sodium
persulfate

Site Status:
Active, NFA
Pending

- This site is a former gasoline station currently operating as an active Walgreens. Envirorisk was originally contracted to remove the USTs and assist with CAP-A preparation. Soils consisted of micaceous silty sands and sandy silt saprolite with the water table ranging from 20 to 31 feet. Contaminants included petroleum hydrocarbons, namely benzene, detected in shallow groundwater in and around the former tank pit. The highest dissolved benzene/total BTEX concentration was 9,000/40,200 µg/L in MW-4 located in the former tank pit.
- Limited soil over-excavation (88 tons) was performed to aid in source area clean-up. An 8-hour high vacuum recovery (HVE) event was performed resulting in an increase in dissolved phase concentrations. Envirorisk recommended an In-Situ Chemical Oxidation (ISCO) treatment to reduce dissolved phase benzene in the source area.
- The ISCO treatment involving the injection of a 7.7% slurry solution of alkaline activated sodium persulfate combined with calcium peroxide (11.5%). Injection was performed into 5 direct push points centered around MW-4.
- In this application, calcium peroxide was used to buffer the pH for persulfate activation and to provide a slow release of dissolved oxygen for aerobic bioremediation.
- Confirmatory sampling results collected approximately 24 and 80 days post injection indicated a significant reduction in benzene concentrations (see graph below). The site is presently under a monitoring only program with a NFA pending.

