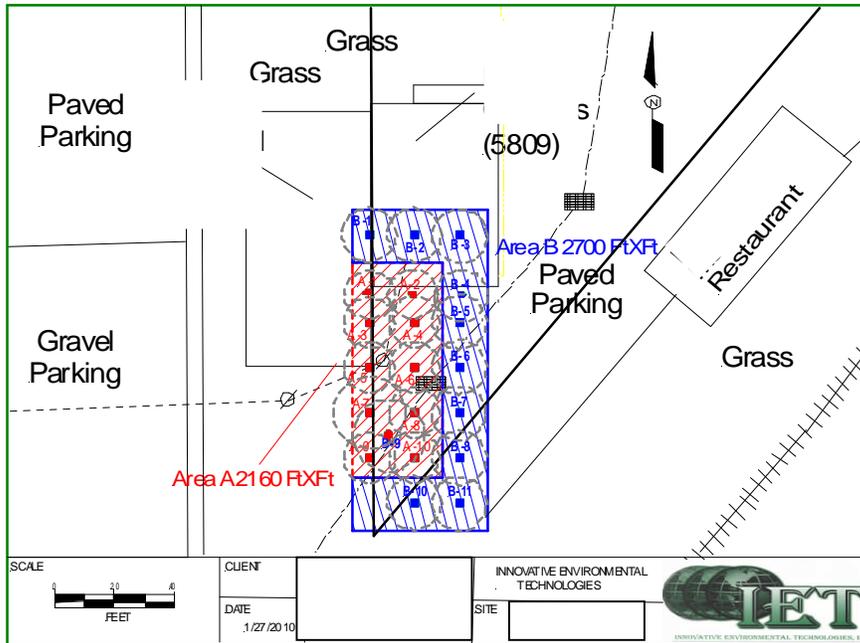


The subject site is located in a suburb of Memphis, Tennessee. The site has historically had soil and groundwater impacted by the use of drycleaning agents, tetrachloroethene (PCE) and trichloroethene (TCE). The in-situ injection program targeted these compounds and their anaerobic daughter products. A total of 21 injections were made in March 2010 over 3 days utilizing direct push points advanced utilizing a Geoprobe 6620. The injections were made at 10-25 feet below ground surface (bgs).

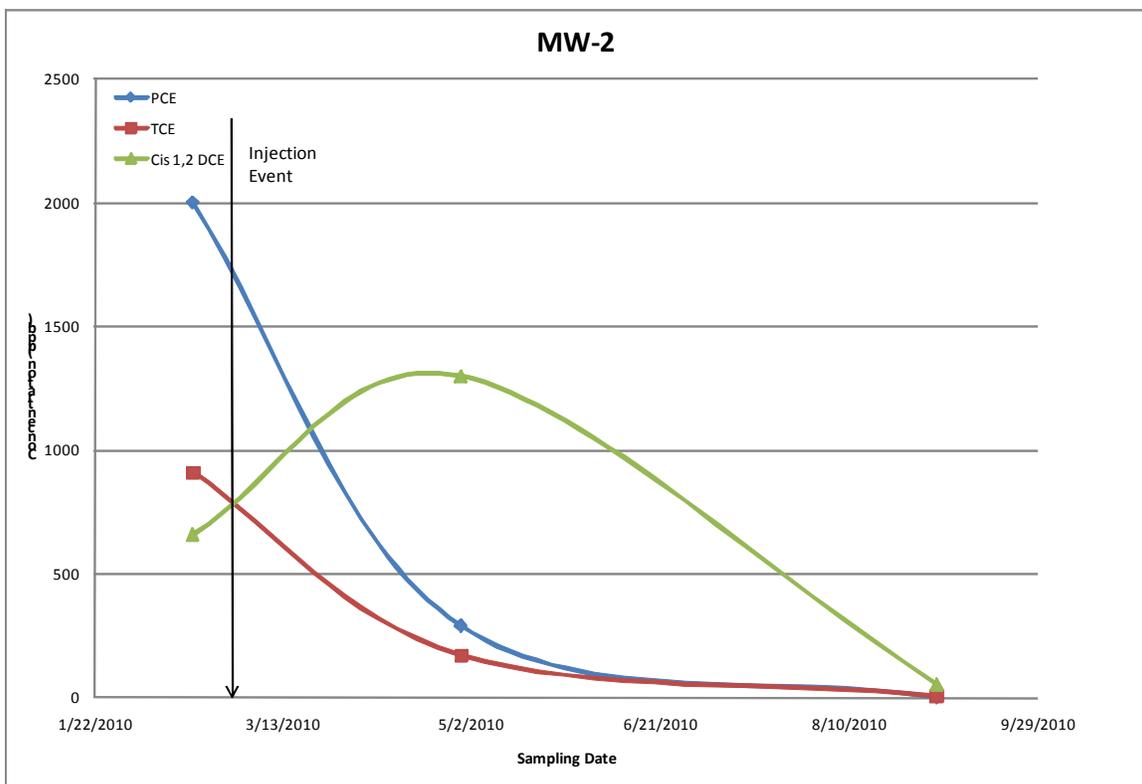


Remediation Plan

The injection program utilized direct-push technology to apply a mixture of vitamins, nutrients, sodium sulfite (an oxygen scavenger), calcium propionate, zero valent iron, HRC[®], and EHC[®]. The remedial mixture also contained patent pending hydrolyzed kelp and soluble Blue Green Algae which will provide essential vitamins and nutrients to anaerobic bacteria populations. The overall design was an interim action plan to reduce source area concentrations and limit plume migration, as well as promote anaerobic conditions in the groundwater favorable to anaerobic bacteria that degrade CVOCs while minimizing the impact to the day-to-day operations of the facility (U.S. Patent 7,129,388). The stimulus of these indigenous bacteria in the subsurface, in conjunction with the ZVI component, is utilized to effect the rapid and measurable removal of the targeted compounds in the groundwater and saturated soils.

Results

The four monitoring wells sampled indicate that the injection event was successful in affecting the subsurface geochemistry and reducing concentrations of CVOCs. Six months after the injection event, the plume appears to be contracting on all sides indicating that the interim remedial action was successful in reducing source area concentrations. The analytical and field parameter data indicate that reductive dechlorination is occurring at a fast rate and source area concentrations are decreasing causing plume contraction. IET expects the concentrations of CVOCs to continue to decrease and further plume contraction to occur. Monitoring wells inside the perimeter of the injection area have recorded reductions in PCE concentrations greater than 75% less than six months following the injection event. The most contaminated monitoring well recorded a PCE decrease of 99.9% from 2 ppm prior to the remedial event to 3.4 ppb six months later, as seen below, and all measured CVOCs are below the TN MCL. Not only has the concentration of CVOCs decreased substantially across the site, but vinyl chloride was not produced as a result of the injection event.



Perimeter monitoring wells located down- and side-gradient of the injection event are also experiencing decreases in residual CVOC concentrations between 15% and 65%. The decreases in monitoring wells not within the injection radii indicate that the plume is contracted based on the remedial events. Continued reductive dechlorination is expected across the site.