

**Case Study:** Norcross, Gwinnett County, Georgia

**Updated:** November 1, 2007

**Description:** Industrial facility. Chlorinated solvents located in the soil and groundwater. Plume size is 65' x 35' to a depth of 15' – 25' bgs.

**Contaminant:** PCE with a maximum concentration of 260 µg/L.

**Treatment Goal:** To attain MCLs in the groundwater for PCE and daughter products for the known area of contamination.

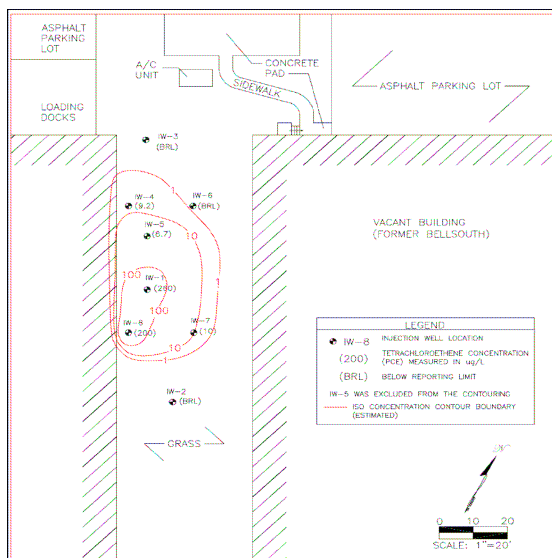
**Treatment Approach:** The treatment approach consisted of injecting 1,650 lbs of activated persulfate. Our oxidant was chosen based on the following advantages: fast reaction time, minimal likelihood of day-lighting, minimal heat generation in the sub-surface, minimal gas generation, long life in the sub-surface, and minimal oxidant migration. *In situ* iron in the soil was field screened at 38,880 ppm. This level of natural iron was field tested for adequacy in activating the persulfate by sampling the most contaminated well after fourteen days. Results indicated that no additional injection of activator was required.

**Injection Period:** 5/21/2007 – 5/23/2007

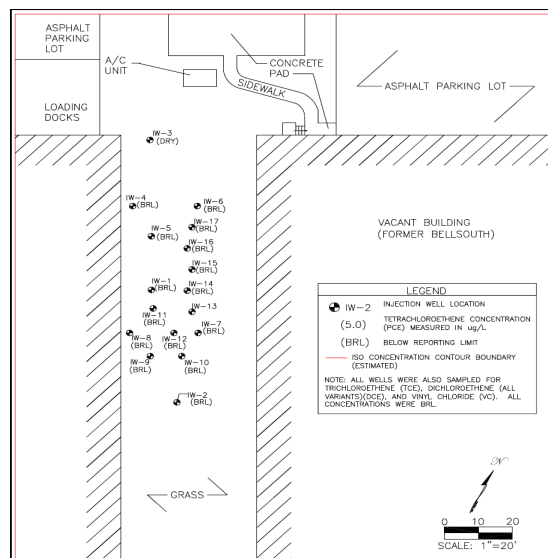
**Sampling Time Line:**

**Total Number of Wells Injected:** 15

- 4/12/07      Pre-injection sampling of all wells
- 6/6/07      Post-injection sampling of most contaminated well
- 7/6/07      Post-injection sampling of all wells
- 8/28/07     Post-injection sampling of all wells
- 9/28/07     Post-injection sampling of all wells



**Figure 1** Pre-injection groundwater PCE concentrations (4/19/07)



**Figure 2** Post-injection groundwater PCE concentrations (9/28/07)

**Results:** The soils were treated to below remedial goals throughout the treatment area. 100% reduction in soil and groundwater contaminant mass was achieved. All wells were reduced to MCLs after one application.

The first post-injection sampling event occurred 14 days after the injection and revealed that the well previously observed to be the most contaminated was now BRL. All wells were sampled 45, 90 and 120 days post-injection revealing all were BRL for all three sampling events. In summary, significant reductions were observed as early as 14 days post-injection and maintained beyond 120 days post-injection.

**Project Cost:** \$48,440