

Ferox Plus is a synergistic mixture of Ferox ZVI reactive iron powders and emulsified vegetable oil which:

- » Increases the reaction efficiency of both the direct beta-elimination and reductive dehalogenation pathways
- » Comes in a site-ready format that is easy to inject
- » Is an effective and efficient in-site chemical reduction amendment.

SITE BACKGROUND

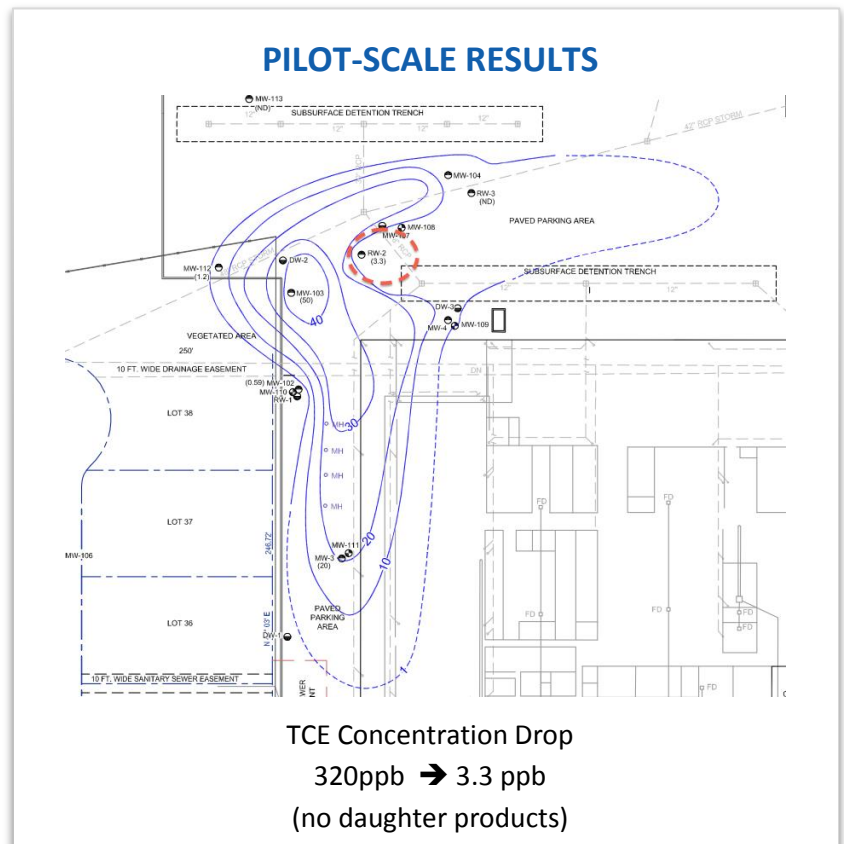
Former Dry Cleaner

Contamination source

- » Tetrachloroethylene (PCE) discharged over 10 year of operation of on-site dry cleaner machines

Site Geology/Conceptual Model

- » Silty sand with Clay Stringers
- » Low Effective Porosity
- » Treatment Depth = 12 – 22’ bgs
- » Baseline = 300 ppb



REMEDIATION DESIGN

Pilot-Scale Approach

- » 3,500 gallons of Ferox Plus
 - > Ferox Flow ZVI reactive iron powder = 900 lbs.
 - > SRS®-SD 60% EVO = 1,300 lbs.
- » 10 DPT injection points (Packer/Nozzles)
- » 0.2% w/w Soil/Amendment

CONCLUSIONS

The synergistic interaction between ZVI and carbon facilitates the more direct reduction pathway via beta elimination. Post injection sampling showed nearly complete degradation of the COCs:

- » 98% reduction in PCE
- » Greater than 99% reduction in VC and DCE
- » No accumulation of VC