

In Situ Thermal Remediation under Active Railroad Tracks

Brandywine Superfund Site, MD

Remediation Goals

- Drinking water MCLs for TCE (5 µg/L) and 1,4-DCB (75µg/L)

Site Characteristics

- Treatment volume: 49,000 yd³
- Vadose & saturated zone: silt, sand and clay in a semi-confined aquifer
- Baseline conditions: residual DNAPL in clay back diffusing into aquifer
- Sheet pile electrodes

Operations

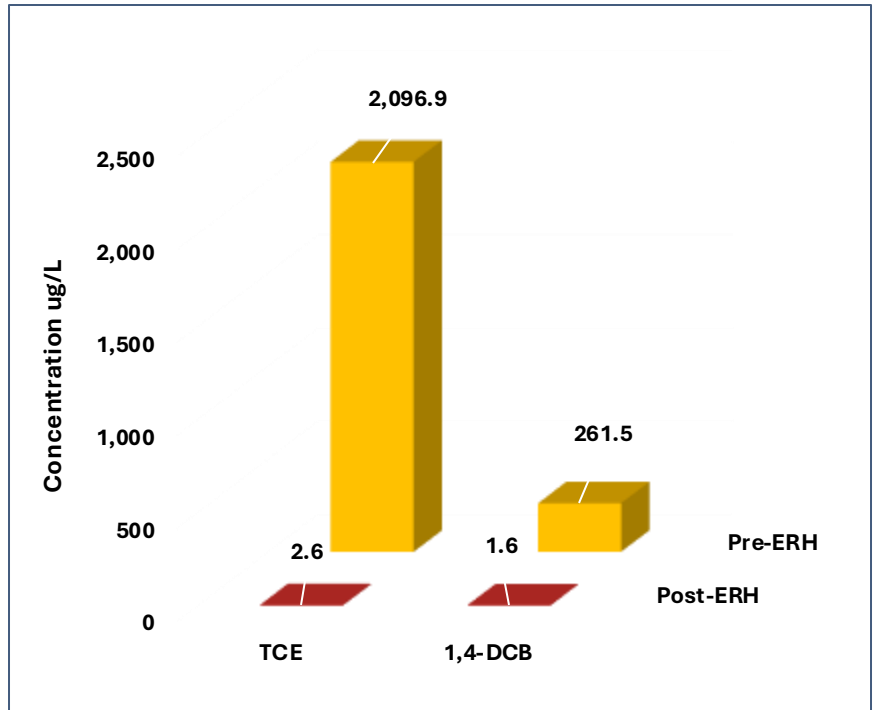
- Industry first: in situ thermal remediation under active railroad tracks
- Total run time: 206 days
- 277 kWh/yd³ applied

Results

- 99.9% reduction for TCE
- 99.5% reduction for 1,4-DCB
- 1,700 pounds of contaminant mass removed



ERH Electrode Field Construction



Average Pre and Post ERH Sample Results