

## Ex-Situ Soil Mixing – Chlorinated Solvents

Former Manufacturing Facility – Wisconsin

### One Round of Ex-Situ Soil Mixing

**Project Summary:** ORIN successfully treated contaminated unsaturated soils using BAM treatment material in conjunction with chemical oxidation while simultaneously mixing soils with an excavator. Contaminant odor was detected throughout the project. A grab soil sample was measured with a PID at 2,900ppm. Free product was also observed during the project. Approximately 1,400 cubic yards of soil were treated with Fenton's Reagent. Following the completion of the Fenton's reaction, approximately 8-10 cubic yards of BAM were applied to each batch of soil and thoroughly mixed with an excavator.

Exceeds 99.9% Reduction

### Site Conditions:

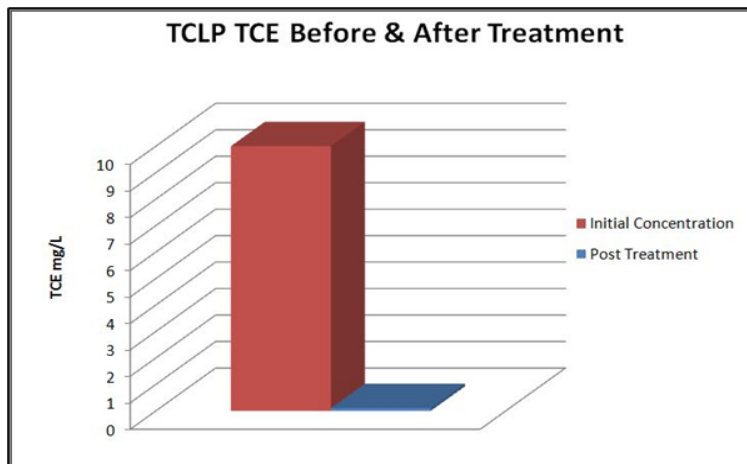
**Groundwater Contaminants –**  
TCE: TCLP 10 mg/L

### Impacted Matrix –

**Sand, Silt, Crushed Gravel,  
Foundry Sand, Clay**

### Treatment Chemistry –

**Fenton's Reagent  
BAM**



**Project Results:** Samples were collected 3 days after the mixing processes were completed and sent to an analytical lab. Initial TCLP TCE concentrations averaged 10mg/L. Following treatment, the average TCE concentration was 0.1mg/L. This translates to a 99.99% reduction in TCE contamination. With this reduction, the soils passed the site specific clean up goals and will be sent to a landfill as non-hazardous waste.