

Soil Mixing – Treating Hazardous Soil

Former Dry Cleaners – Chicago, IL

One Round of Ex-Situ Excavation

Project Summary: ORIN successfully treated highly contaminated unsaturated soils using BAM treatment material in combination with chemical oxidation. The treatment chemistries were applied while simultaneously mixing the soils with an excavator. Approximately 720 yd³ of soil were treated and removed from the site during treatment efforts. An initial 3 feet of clean overburden was removed. The underlying contaminated soils were mixed in-situ within the excavation. Treatment extended from 3 feet below ground surface (ft-bgs) to approximately 12 ft-bgs. Baseline samples were first taken prior to treatment to characterize the contaminant level. Treated soil samples were then sent to a commercial laboratory for analytical testing.

Hauled Away as Treated Non-hazardous Waste

Site Conditions:

Soil Contaminants –

Tetrachloroethene (PCE):

Totals were in the range of > 310 ppm to above saturation limits

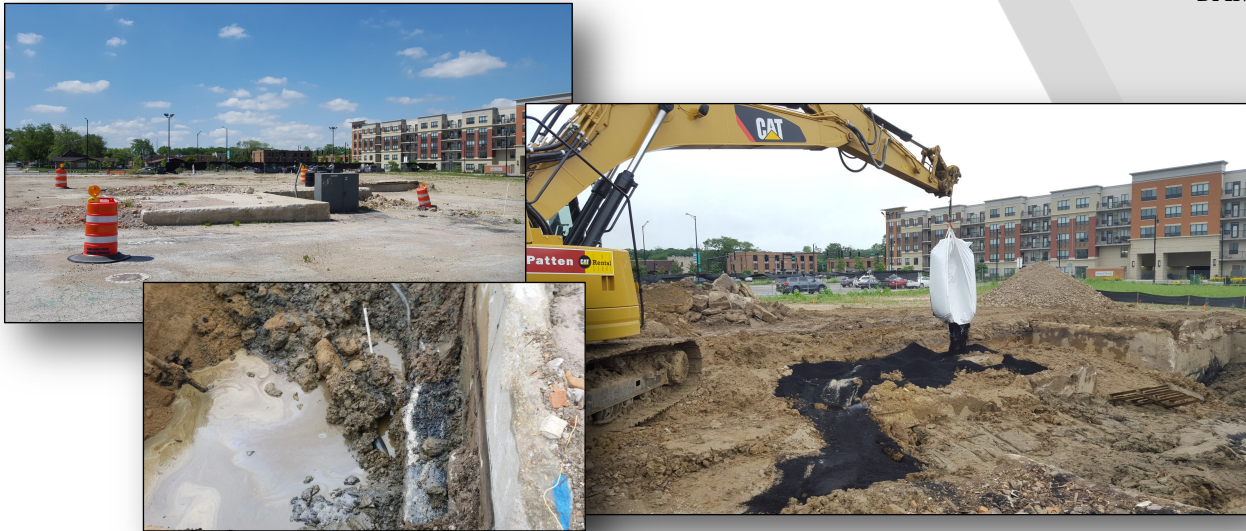
Impacted Matrix –

Clay w/Silty Clay and Sand Lenses

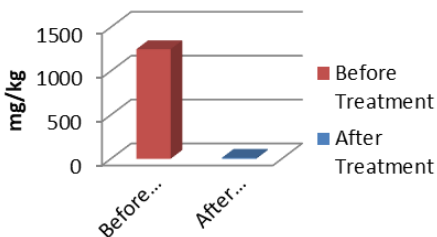
3 to 12 ft-bgs

Treatment Chemistry –

Fenton's Reagent
BAM



Average Total PCE



Project Results: Seven sets of samples were taken during treatment for both total PCE and TCLP PCE (one sample for every 100 cubic yards treated). Two samples in the free product area came back with total PCE of 20 ppm and 13 ppm, with the remaining 5 treatment areas all having total PCE below 10 ppm. **Every treatment area had TCLP concentrations reduced to less than the detection limit.** The soils were then hauled to a local landfill for disposal as non hazardous waste.