

Ex-Situ Soil Mix Treating Creosote

Former Wood Frame Manufacturing Facility

Central Minnesota

Two Part Soil Treatment

Project Summary: ORIN successfully treated DRO and PCP contaminated soil utilizing ex-situ soil mixing. An excavator was present to displace a volume of soil down to depth. A portion of that soil was placed back into the excavation while treatment chemistry was applied to the soil. The excavator continually mixed the soil and chemicals together until the desired amount of treatment chemistry was applied. More soil was added from the displaced volume while additional chemical was applied and mixed thoroughly. This process was repeated until the desired consistency and chemical volume was applied to the entire targeted soil volume. Two areas were targeted during remediation activities. Area 1 was treated with 5,200 gallons of 17% hydrogen peroxide Fenton's Reagent to treat approximately 316 tons of contaminated soils. Area 4 was treated with 6,000 lbs of lime catalyzed sodium persulfate treatment chemistry to treat approximately 340 tons of contaminated soils.

Project Results: ORIN successfully lowered PCP concentrations in contaminated soils at both treatment locations using two different treatment chemistries. Post treatment laboratory confirmation sampling showed that PCP concentrations at Areas 1 & 4 were below the treatment standards of 120 mg/kg and the soils were disposed of at a nearby Minnesota Subtitle D landfill.

Subtitle D Landfill Disposal

Site Conditions:

Soil Contaminants –

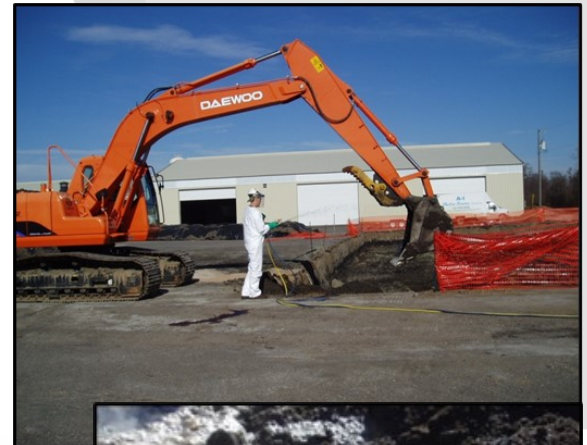
Diesel Range Organics (DRO)
Pentachlorophenol (PCP)

Impacted Matrix –

Silty Sand and
Organic Rich Silt

Treatment Chemistry –

Fenton's Reagent and
Alkaline Activated
Sodium Persulfate



Pentachlorophenol Concentrations in Soil at Location #4

