

Exo Tech, Inc. completed an In-Situ Chemical Oxidation (ISCO) treatment with surfactant enhancement at a facility located along a railroad line. The site experienced a gasoline release from prior operation of an above-ground storage tank. The facility is located in the Coastal Plain Physiographic Province in the Sea Island District of South Carolina. The lithology consists of clayey fine sands mixed with silty fine sands 2-10 feet below the surface followed by clayey to silty fine to coarse-grained sands mixed with low permeability clays.

The project was designed to remove Light Non-Aqueous Phase Liquids (LNAPLs) in the surficial water bearing zone, with LNAPL thicknesses up to 2.25 feet. Exo Tech installed 17 injection wells and performed a two-step injection treatment. Step 1 involved injecting a hydrogen peroxide solution and a small quantity of Verusol (proprietary) surfactant. After allowing approximately 1 day for NAPL desorption, Exo Tech extracted the groundwater/NAPL emulsion. Step 2 involved injection of a hydrogen peroxide solution combined with Verusol surfactant and FeTAML, a proprietary activator.

The treatment was designed to emulsify the LNAPL to allow more efficient chemical oxidation. The results indicated a significant reduction in LNAPL from 2.25 feet to 1.10 feet. In select wells Exo Tech observed full LNAPL removal. Additional treatments were performed resulting in further LNAPL reduction.

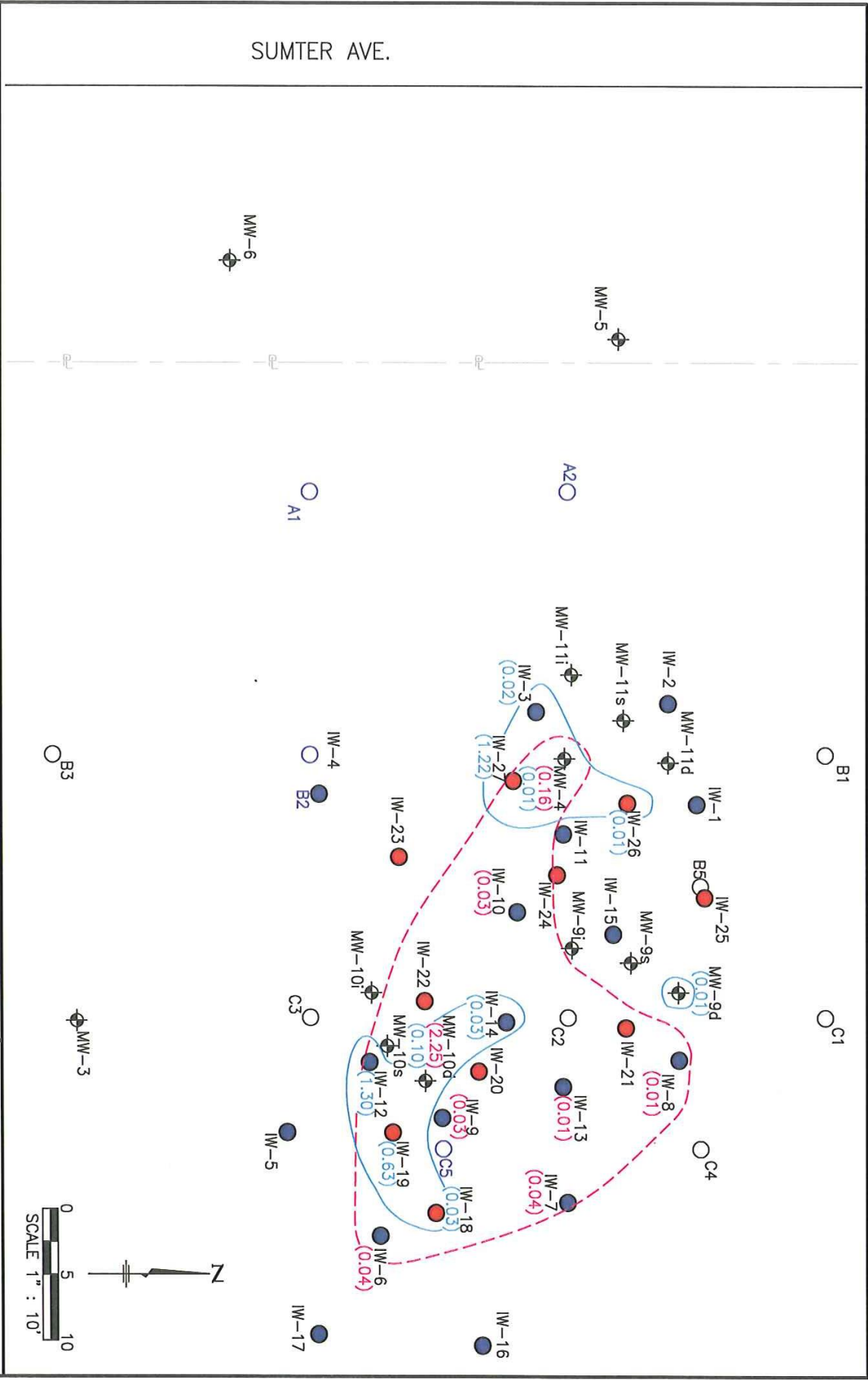


Multi – Phase Injection Manifold



Exo Tech Injection Truck

SUMTER AVE.



SITE INFORMATION

The site is located along a railroad line and experienced a release due to an above-ground gasoline fuel AST. The project was designed to remove Light Non-Aqueous Phase Liquids (LNAPLs). LNAPL thickness was up to 2.25 feet. After treatment, a reduction in LNAPL was observed. LNAPL desorption was also observed in surrounding injection wells which contained traces of surfactant.



CONTAMINANTS OF CONCERN

- (##) LNAPL (FREE PHASE PRODUCT) THICKNESS IN FEET MEASURED ON 4/09
- (##) LNAPL (FREE PHASE PRODUCT) THICKNESS IN FEET MEASURED ON 2/10
- EXTENT OF LNAPL ON 4/09
- EXTENT OF LNAPL ON 2/10