

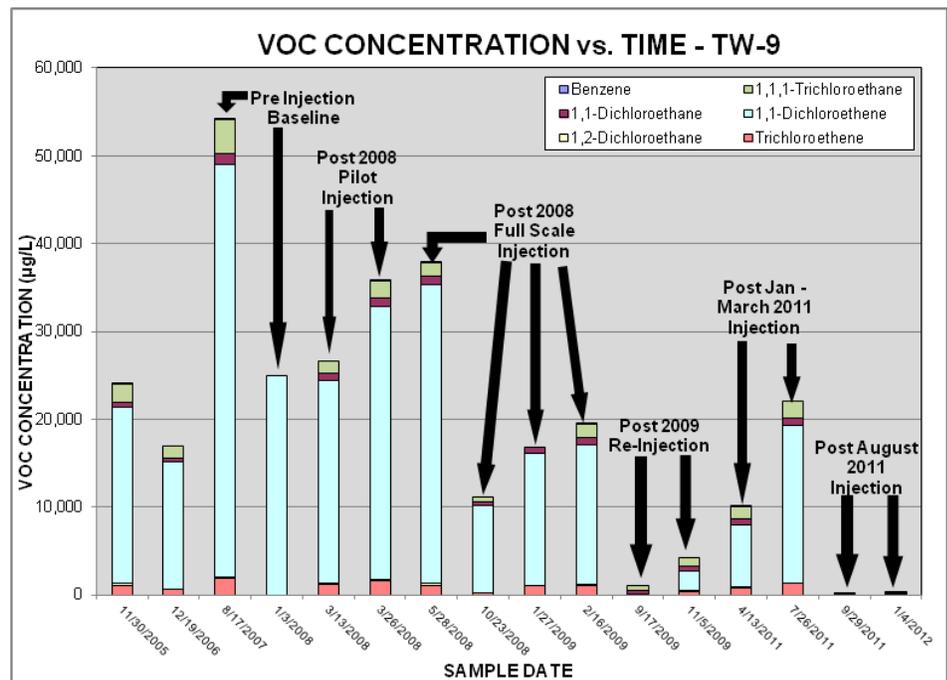
Exo Tech performed an injection at a 4.4 acre site containing an existing warehouse building constructed in 1958 and later expanded into a 950,000 square foot facility. A fitness equipment manufacturer occupied the warehouse from 1960-1997. A mixed volatile organic compound (VOC) plume was detected consisting primarily of 1,1-Dichloroethene, 1,1-Dichloroethane, Trichloroethylene, Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and other non-chlorinated VOCs. The aquifer consists of silty-sand/sandy-silt saprolite derived from granitic gneiss/mylonite. Depth to water was approximately 10 to 20 feet below ground surface (bgs). Vertical profiling using a membrane interface probe and follow-up screening using test kits indicated no DNAPL existed at site.

After conducting pilot injections of activated peroxide and potassium permanganate that proved unsuccessful, a treatability study was performed indicating that sodium persulfate (Klozur®) with a high pH activator would be the most effective oxidant choice for full In-Situ Chemical Oxidation (ISCO) treatment.

In spring 2008, Exo Tech personnel injected approximately 196,000 pounds of Klozur® into a total of 911 PVC injection wells.

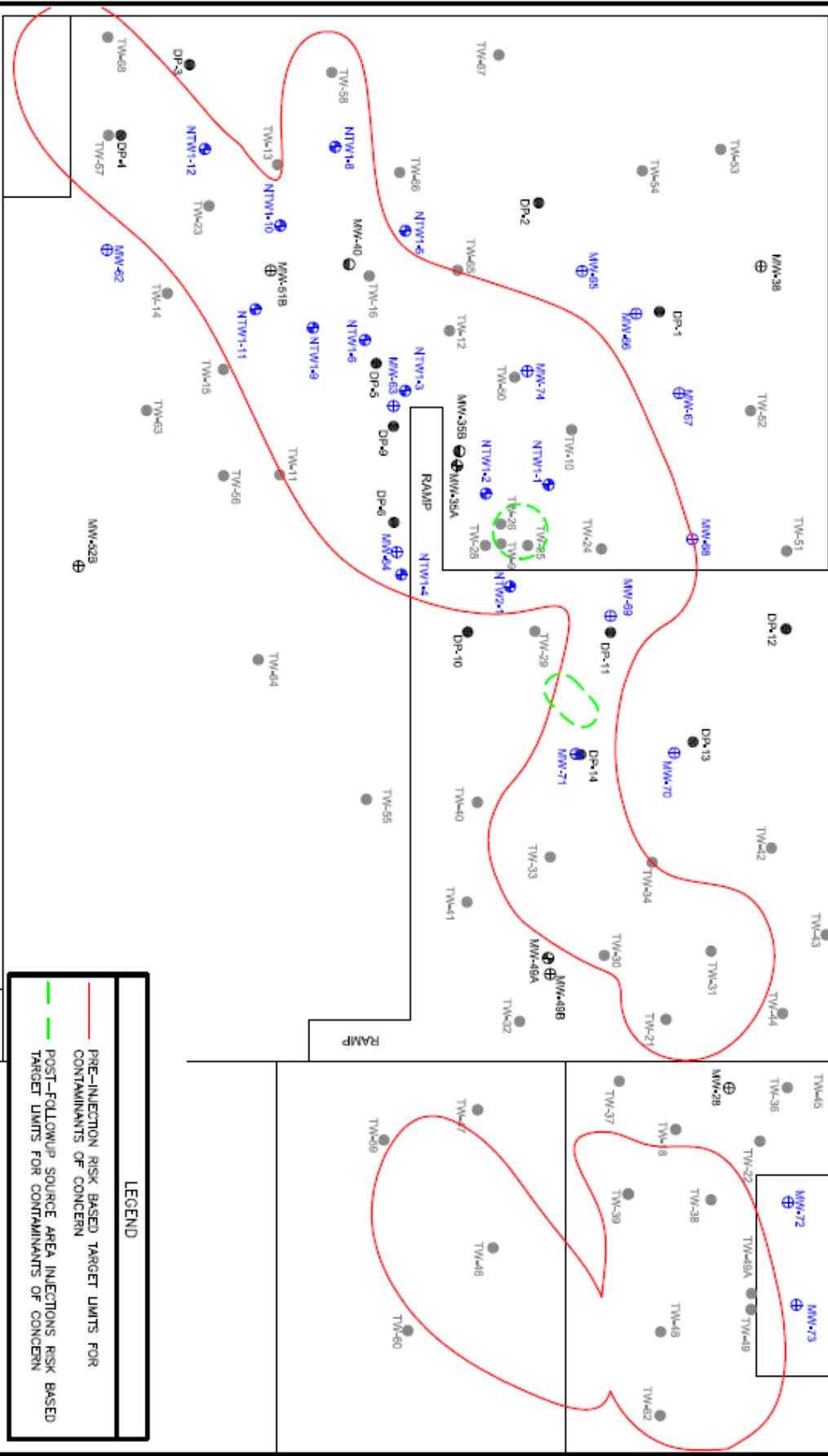
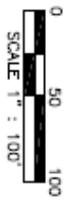
Confirmatory groundwater sampling analysis indicated a 70% overall reduction in the VOC

plume size and concentration magnitude. Based on the post-injection groundwater sampling results, a follow-up source area treatment was performed in July 2009. This ISCO treatment consisted of injecting of 8,265 pounds of Klozur® in a more diluted fluid base (300 gallons per point) into 25 wells.



Soil Blending

Confirmatory sampling data (November 2009) results showed that over 85% of the contaminants were reduced to state target levels. Two injection events were performed in February-March 2011 and August 2011 which included injection into approximately 230 injection wells. Due to minimal groundwater recharge under the building slab, continuous geochemical monitoring was performed during injection to ensure maximum oxidant contact. Final results are pending with groundwater monitoring expected to continue into early 2012.



**SITE INFORMATION**

A mixed plume of petroleum hydrocarbons and chlorinated solvents was present in the groundwater below a 960,000 square foot industrial building. Following one full scale injection, and three reduced area treatments, the 4.4 acre plume was reduced to less than 2,000 square feet.



LEGEND	
	PRE-INJECTION RISK BASED TARGET LIMITS FOR CONTAMINANTS OF CONCERN
	POST-FOLLOWUP SOURCE AREA INJECTIONS RISK BASED TARGET LIMITS FOR CONTAMINANTS OF CONCERN

CONTAMINANTS OF CONCERN	
BENZENE	METHYLENE CHLORIDE
1,1-DICHLOROETHANE	TETRACHLOROETHENE
1,2-DICHLOROETHANE	1,1,1-TRICHLOROETHANE
1,1-DICHLOROETHENE	1,1,2-TRICHLOROETHANE
4-METHYL-2-PENTANONE	TRICHLOROETHENE
cis-1,2-DICHLOROETHENE	VINYL CHLORIDE

Exo Tech performed a treatability study and soil blending at a VRP site in Opelika, Alabama. Due to the small quantity of impacted soils exceeding target treatment goals, soil excavation and off-site disposal at a Subtitle D landfill was originally recommended. ADEM later required hazardous waste disposal which made soil blending a cost effective alternative.

Treatability testing performed in Exo Tech's in-house laboratory indicated that a 15% solution of CHP combined with sodium persulfate provided an effective remedy. An iron chelate was also added to catalyze both oxidants facilitating more effective hydroxyl and sulfate radical generation.

In June 2011, soil blending was performed on approximately 350 tons of the "worst case" impacted soils from a depth of 2-10 feet after removal of shallow overburden. Confirmatory soil sampling verified LNAPL removal and indicated a minimum VOC reduction of one to two orders of magnitude well below risk based target levels (see graph below). The most effective treatment was observed in the most impacted area nearest to the property boundary. Pre and post blending results are shown in the graph below. No Further Action is pending final regulatory review.

