



Monitoring & Maintenance Engineering, Inc.

PHOSter Performance Update

Former Circle C #8

UST020505

Tuscaloosa, Alabama

Site Description:

This site is located on the southeast corner of the intersection of 10th Avenue and Hargrove Road in Tuscaloosa, Alabama. Dispenser, piping, tanks and impacted soil had been previously removed and disposed. Hydraulic gradient is to the south. Approximately 150' of the down-gradient benzene plume extended onto property with no access agreement for active corrective action. The sanitary sewer service may have exacerbated the contaminant plume migration. There was the potential for an additional release in the area of MW-11 on the down-gradient property based on repeated measurements of LNAPL.

PHOSter System

Seven PHOSter injection wells were installed as shown in Figure 1. Four injection wells surrounded the former tank pit and three wells were installed along the southern property boundary. The trailer mounted system consisted of a 5 hp compressor, four sparge outlets with phosphate dosing. Sparge valves and phosphate dosing valves were controlled via a PLC.

Start-up

The PHOSter system was mobilized to the site, connected to the electrical service and the site piping in May of 2006. The four up-gradient injection wells were connected and treated first. Sparge rates were an average of 3 cfm per injection well.

Remediation Progress

After the October 2006 sampling one of the sparge wells in the source area was shut-off and one sparge well at the property boundary was activated. Continued low benzene and BTEX concentrations at MW-3 allowed transfer of three sparge outlets to serve the property boundary injection wells.

As shown in the following figures, treatment using a progressive approach and an undersized system was successful in achieving SSTLs for benzene over a thirty-one month active treatment period. The effects of phosphate and air injection at the property boundary impacted the most down-gradient (125' from the treatment zone) monitoring well over a period of nineteen months.

145 Merrill Avenue; Decatur, Georgia 30030
Phone: 404 371-9332 Cell: 404 229-3096
e-mail: ricksme@gmail.com
Website: www.bioremediationsmme.com

FIGURES

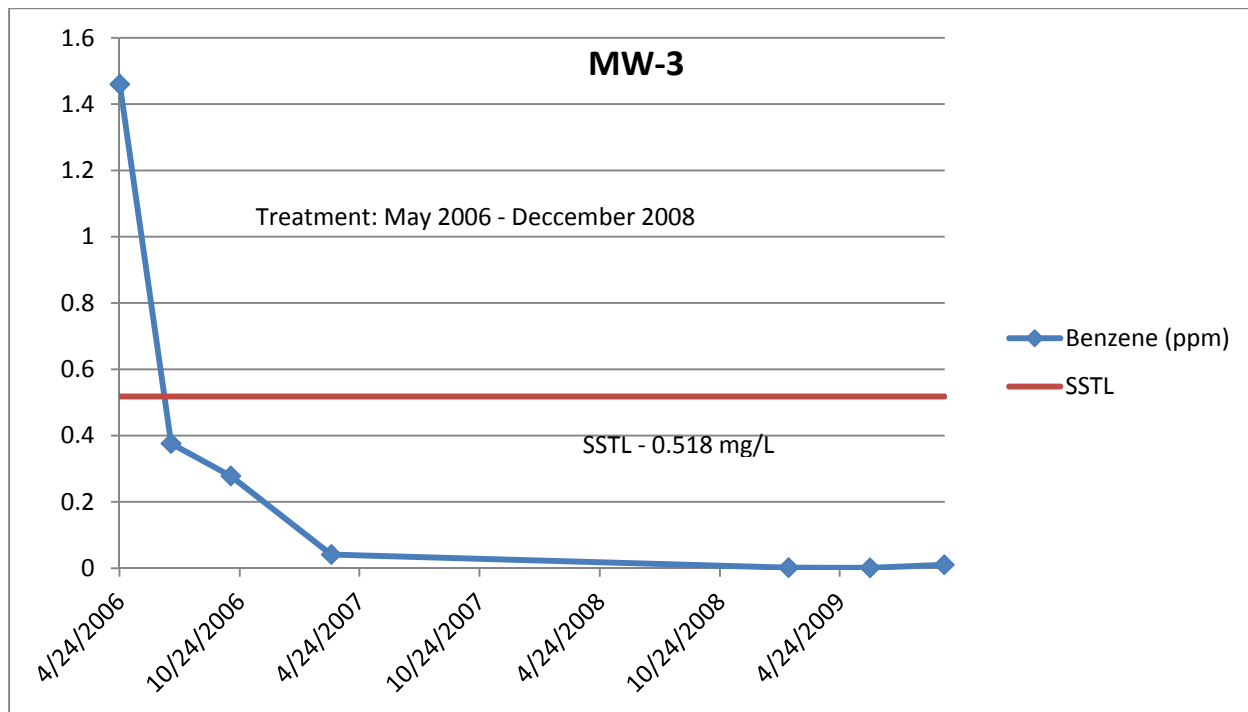


Chart 1: Source Area Well

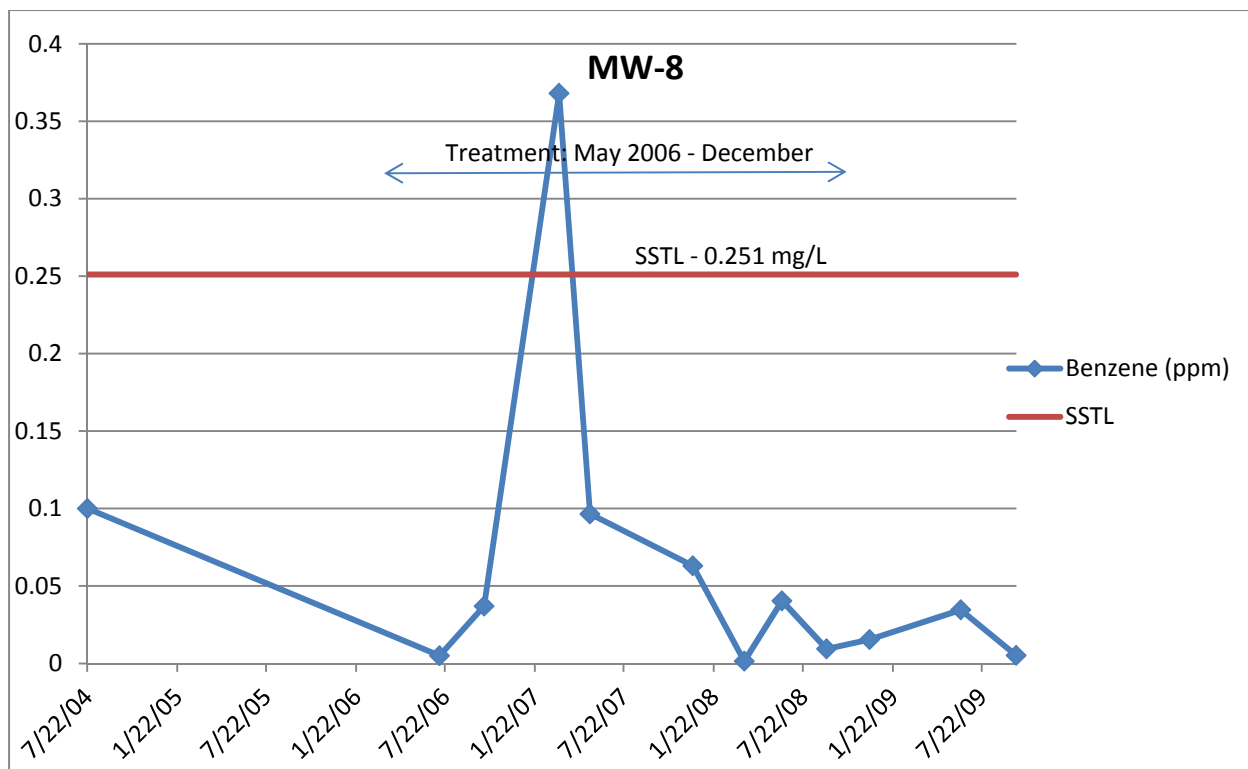


Chart 2: Directly Downgradient of Source

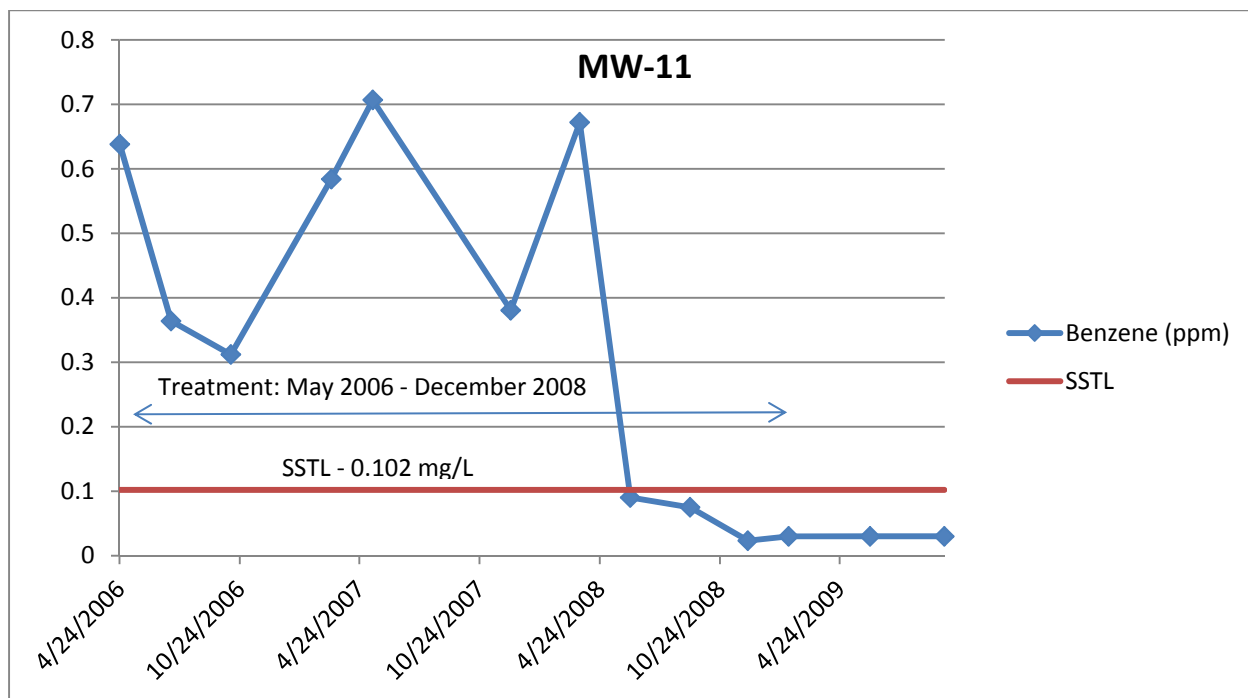


Chart 3: 27' Downgradient of Treatment

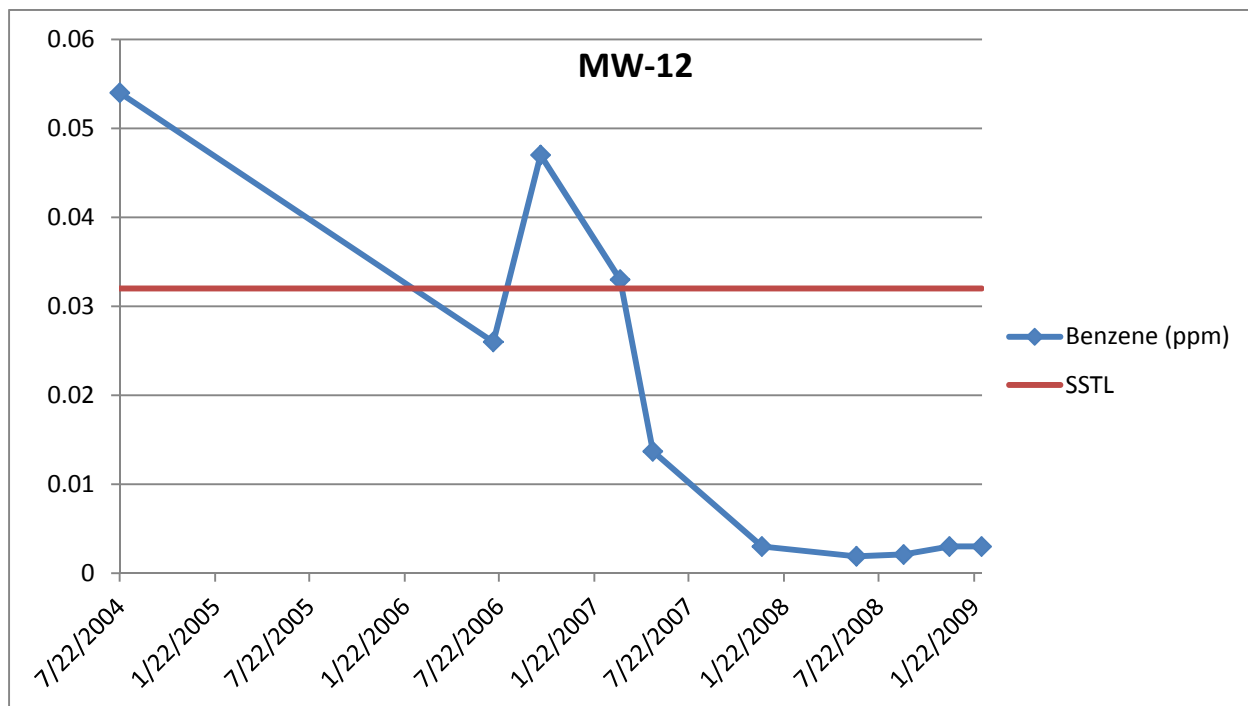


Chart 4: 125' Downgradient of Treatment

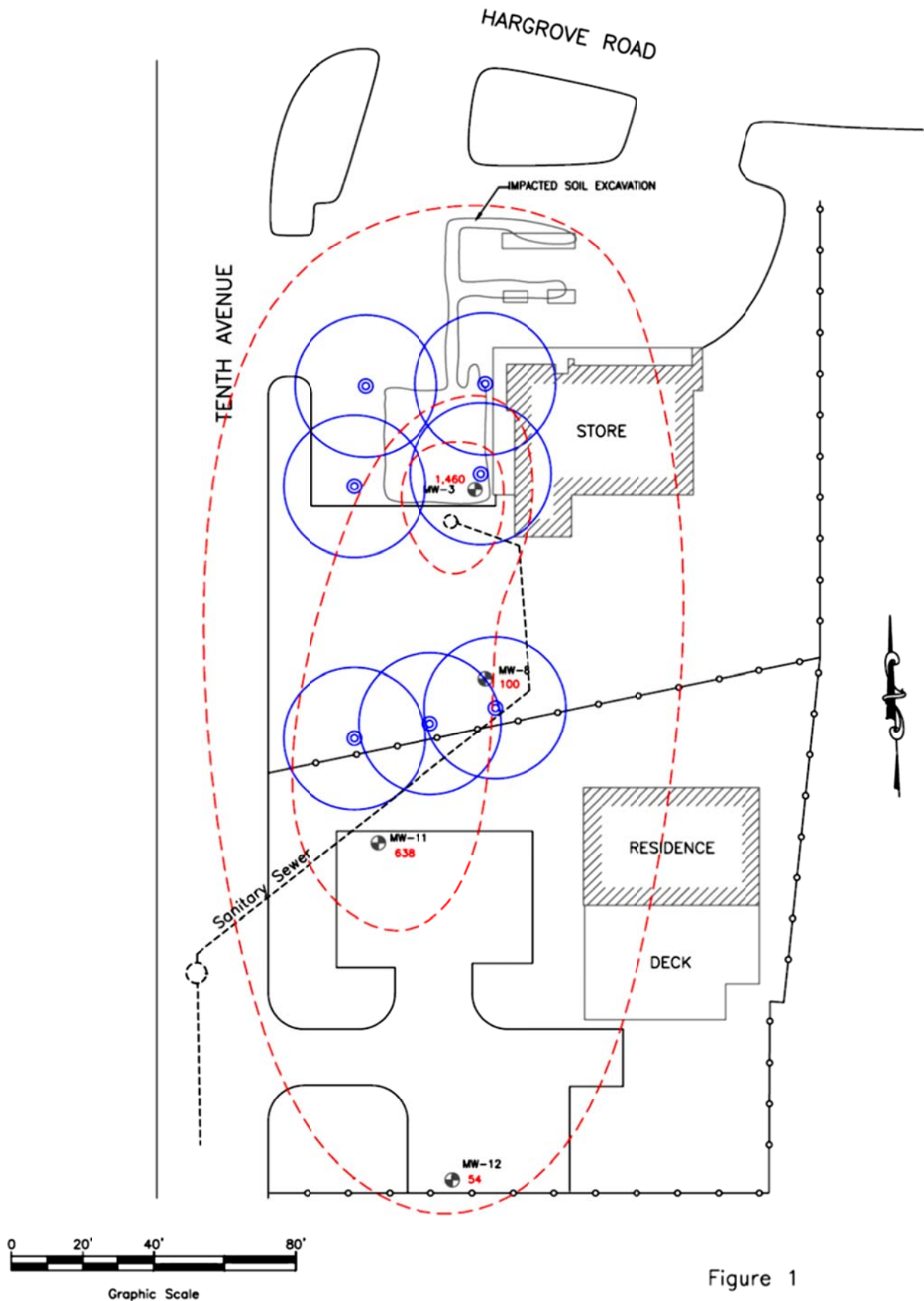


Figure 1

PHOSter Injection Well Layout

925 Hargrove Road
 Tuscaloosa, Alabama
 UST Incident No. 020505
 Tom Joiner & Associates, Inc.

Smith Monitoring & Maintenance Engineering, Inc.
 145 Merrill Avenue
 Decatur, Georgia
 (404) 229-3096