



# Monitoring & Maintenance Engineering, Inc.

PHOSter Case History

Ron Moyer Service Center

PADER Site #589393

Camp Hill, Lower Allen Township, Cumberland County, Pennsylvania

## Site Description:

This site is located in the Great Valley Section of the Ridge and Valley Physiographic Province, near Harrisburg, Pennsylvania, just southwest of the Susquehanna River. Groundwater is at approximately twenty feet (20') below grade and gradient is towards the residential neighborhood to the south. The site was a former gas station and two-bay garage service center. After one UST failed tightness testing, all four tanks were removed in 2001, leaving soil and groundwater contamination detected on both the site and at two residential properties downgradient of the site.

## PHOSter System

Client required PHOSter remediation on the service center site and elected to install Regenesys' ORC socks in the off-site impacted wells. A four injector PHOSter trailer-mounted system was installed using a 25' design radius of influence (ROI).

## Start-up

Client provided for the installation of the four injection wells with two foot long screens set to a depth of 10' below the groundwater table. Client also provided for the installation of the below ground HDPE tubing and a single-phase, 60 amp, 240 Volt power service. The PHOSter system was mobilized to the site, connected to the electrical service and the site piping on November 8, 2002. SMME conducted the initial biological sampling, field training of Client's personnel on system operation and maintenance and started the system.

## Remediation Progress

Client elected to operate the system for one year. During this time SMME provided quarterly sampling and analysis of biologically important parameters and chemical nutrient supply. Over the course of the remediation, concentrations of benzene, naphthalene and MTBE reduced in the site wells (and off-site well MW-8) to drinking water standards except for MW-6, which tested at 7 ppb in February of 2004.

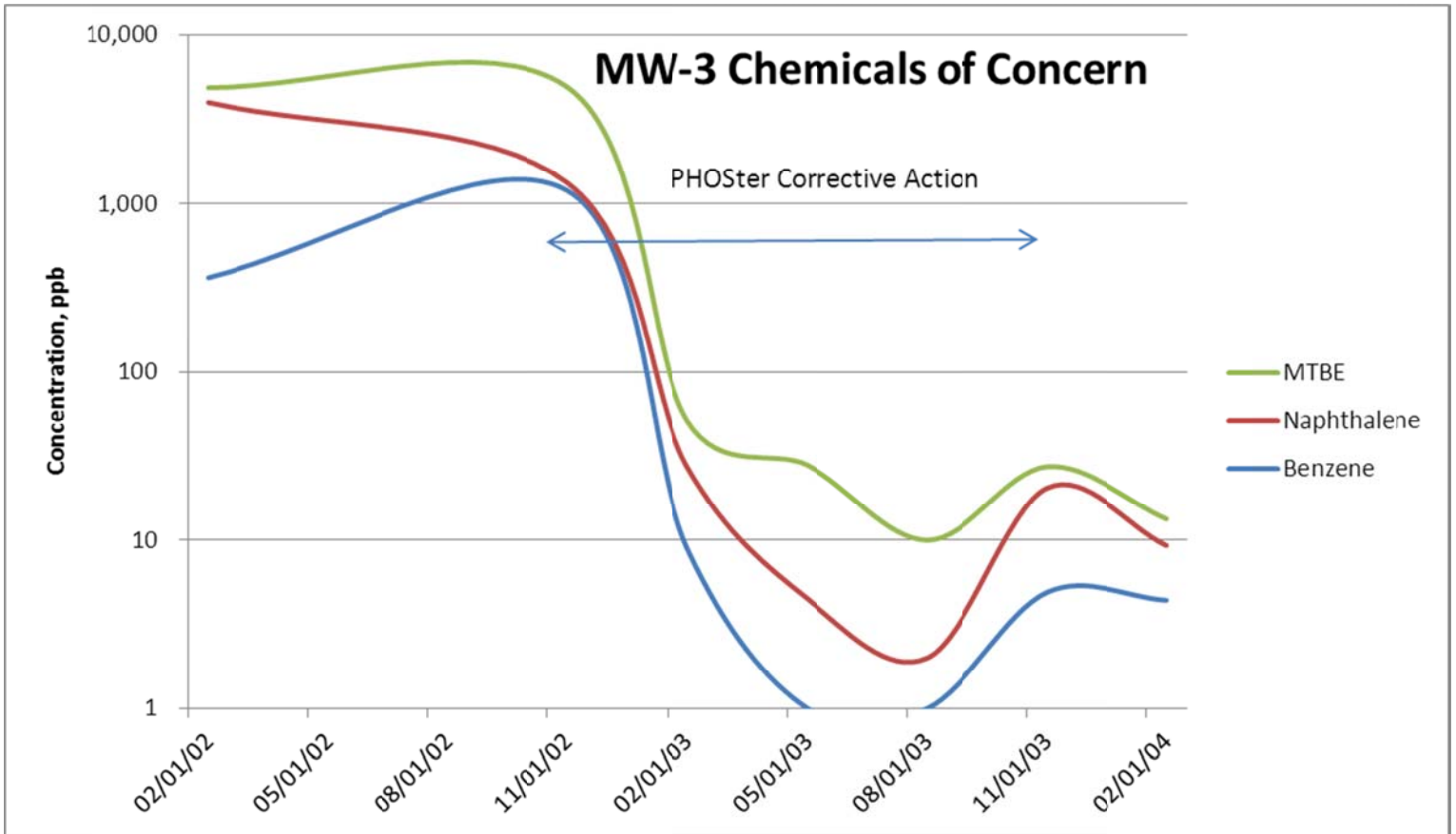
Impacts of treatment were detected at the off-site wells MW-7, -9 and -10.

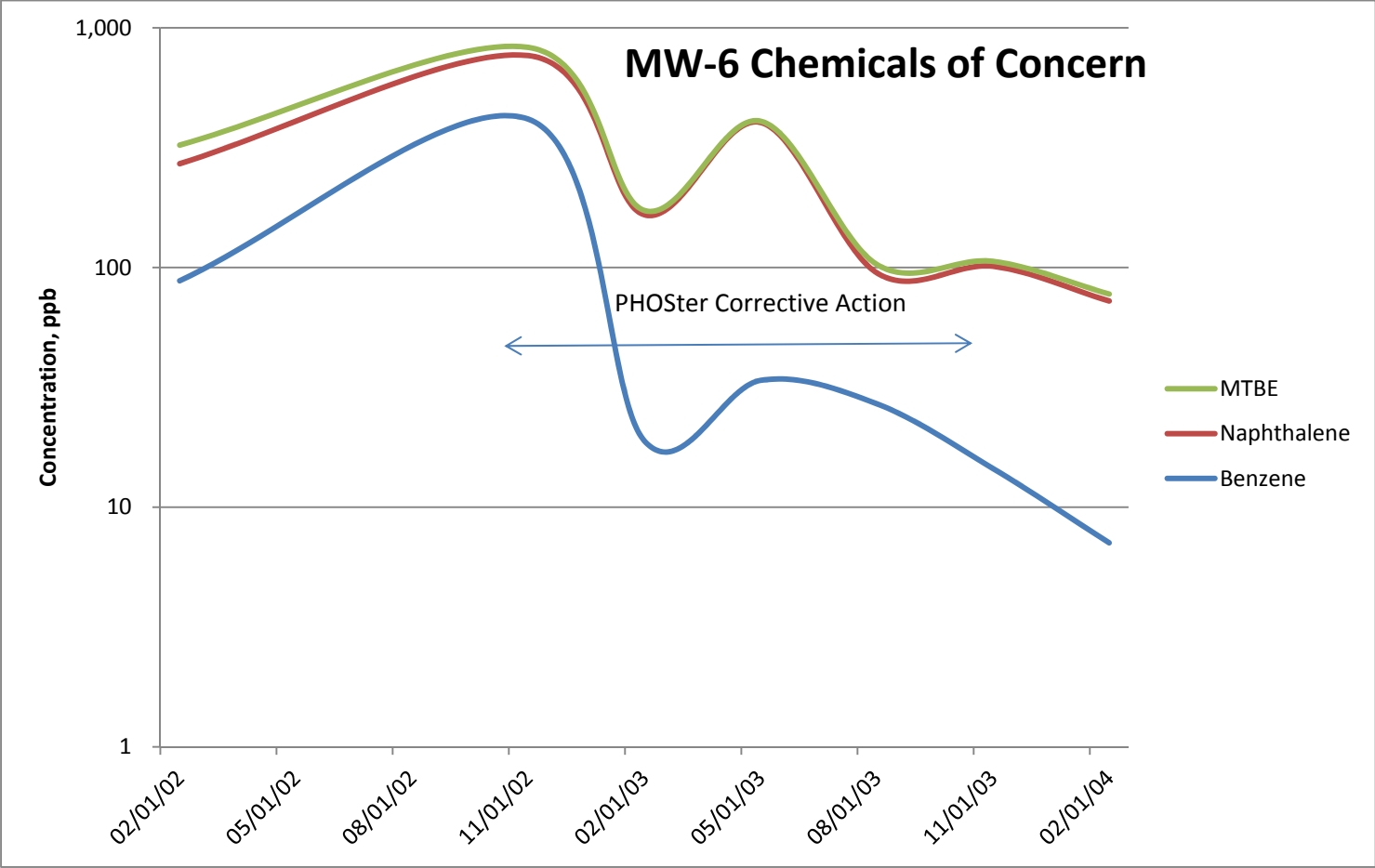
This site was our first test of PHOSter in treating MTBE, resulting in a two-log reduction in MW-3 over six months.

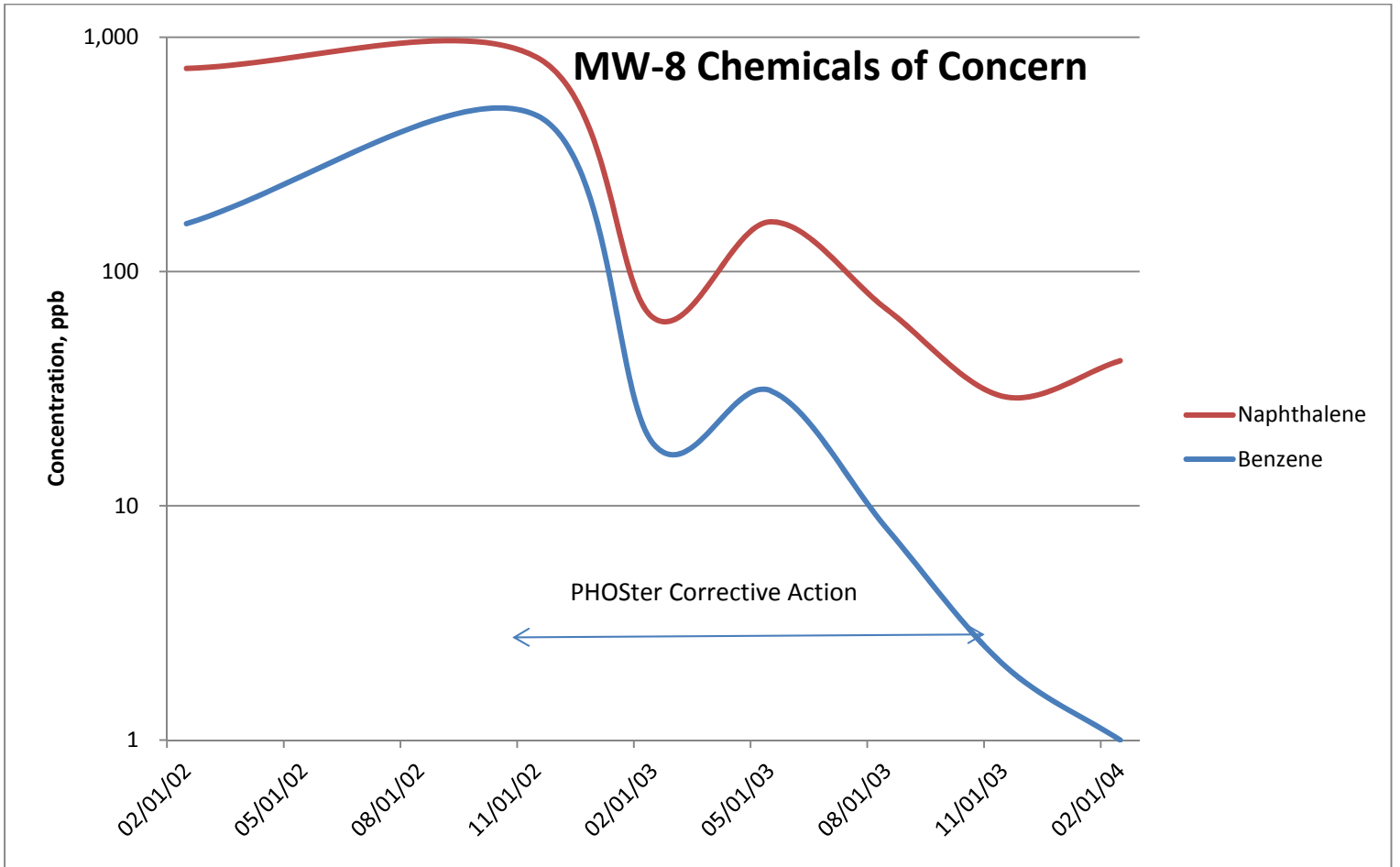
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PHOSter Case History Ron Moyer Lower Allen Township PA 100317

## FIGURES







Heterotrphic Plate Count  
Ron Moyer Service Center; Lower Allen Township, Penn.

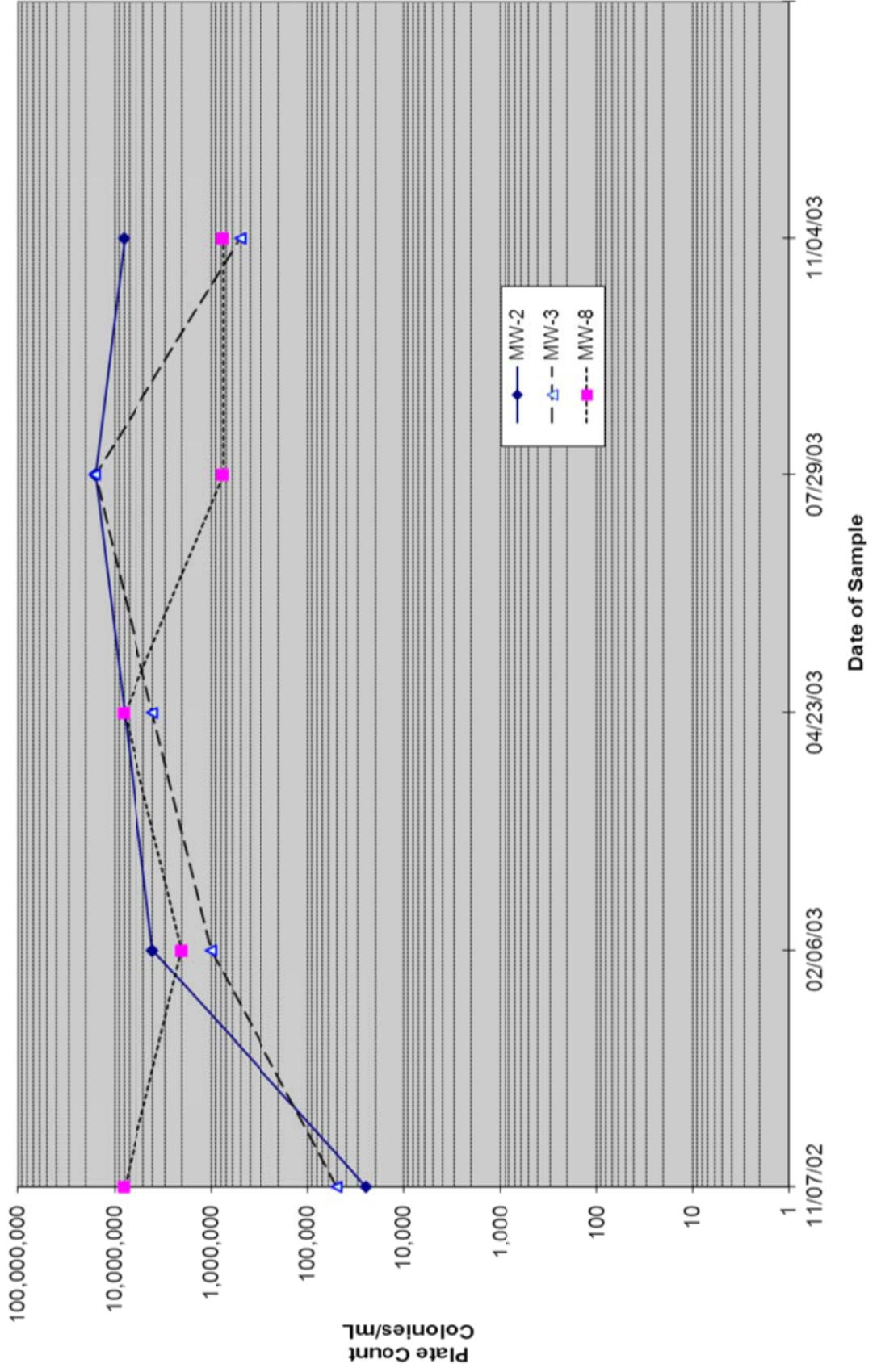


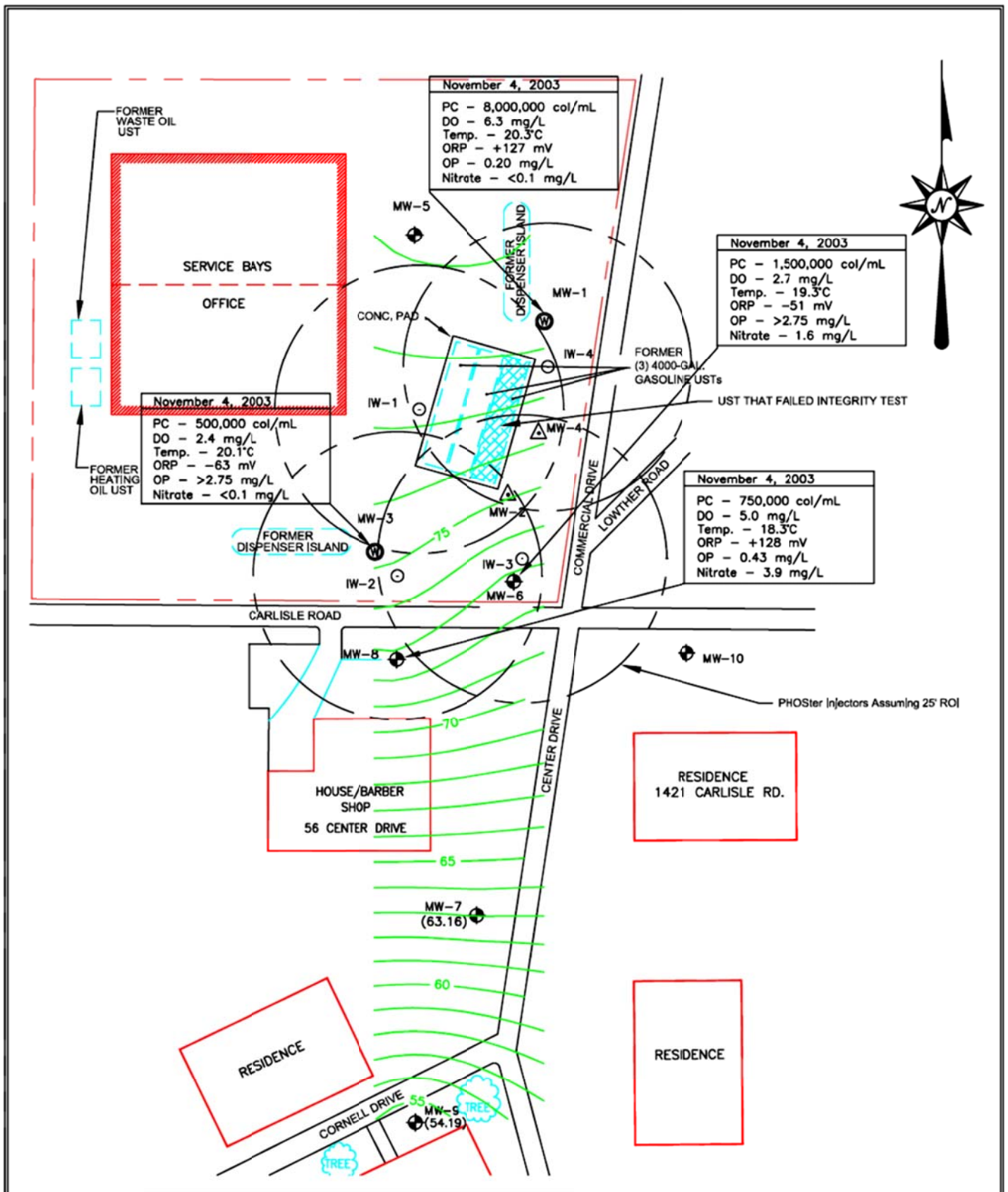


Photo 1: Interior of Four-Injector PHOSter System



**Photo 2: Small Trailer-Mounted System at Ron Moyer Service Center**





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|--|------------------------|--|-------------------------------|
| eGeo Services, Inc.<br>308 Commercial Drive<br>Savannah, Georgia |                        | <b>SMME</b> Smith Monitoring & Maintenance Engineering, Inc.<br><small>Engineering, Wastewater and Groundwater Remediation System Consultation, Operation and Maintenance</small><br>145 Merrill Avenue<br>Telephone: (404) 371-9332<br>Decatur, Georgia 30030 |                               |
| PROJECT #:   | DRAWN BY: RBS          | <b>Biological Sampling Results</b><br><b>Ron Moyer Service Center</b><br><b>November 4, 2003 Sampling</b><br><b>Lower Allen Township, Pennsylvania</b>   | <b>FIGURE</b><br><br><b>1</b> |
| SCALE: N.T.S.  | DATE: November 4, 2003 |  |                               |
|  |                        | moyer nov 2003.dwg   |                               |