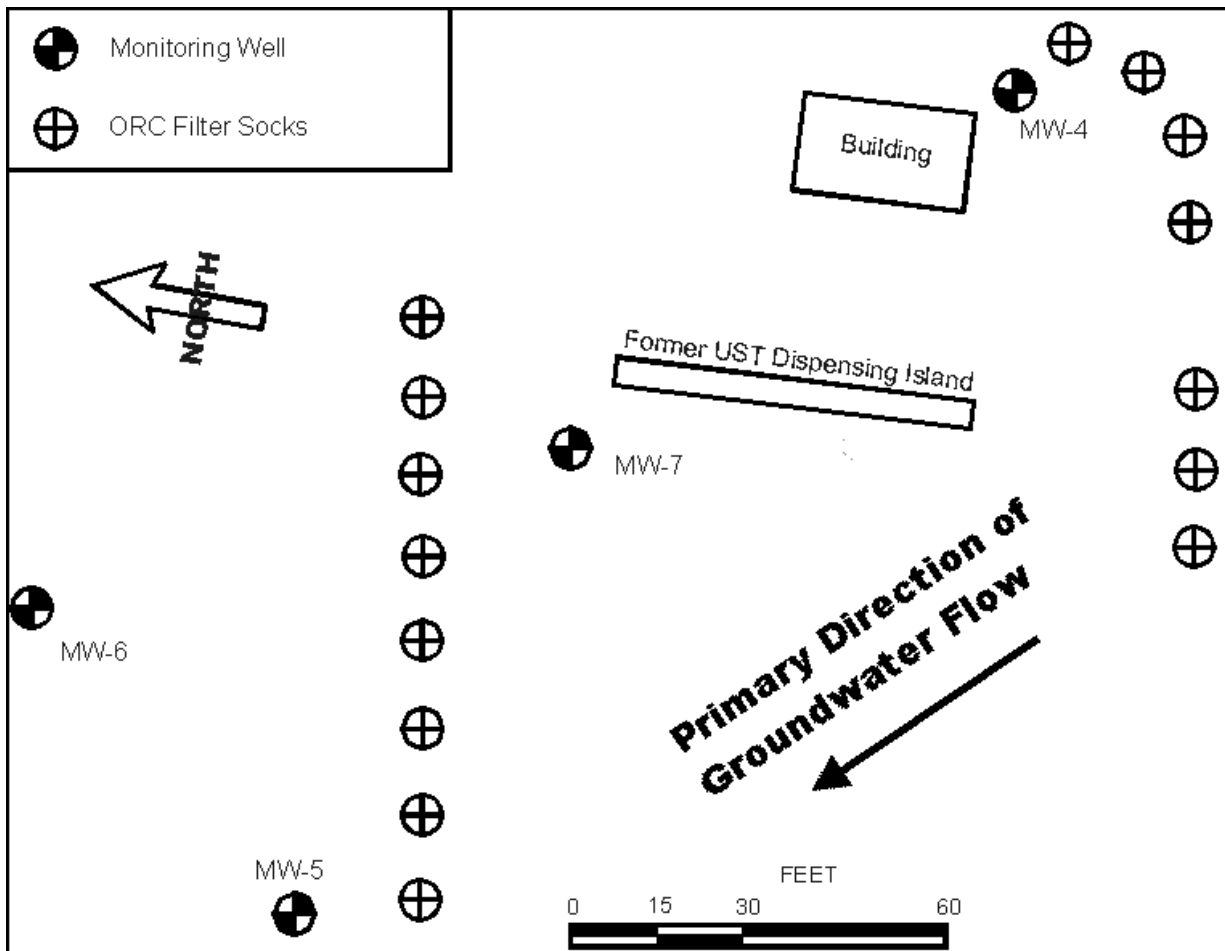


Oxygen Barrier BTEX Remediation in Alaska

Contaminants	Application Method	Soil Type	Groundwater Velocity
BTEX	Oxygen Barrier	sandy gravel	1.5 ft/day

An Oxygen Barrier was installed at a convenience store UST site in Alaska by Shannon and Wilson of Fairbanks. The ORC was applied in an area on the site not conducive to the extension of an air sparging system operating elsewhere on the property. The ORC cost in this application was approximately \$3,000 and the project manager indicated about \$20,000 were saved over the cost of extending the air sparging system to service the area.

Site Description and Remedial Design



Groundwater flow velocity is high; at a minimum it is moving 1.5 ft/day and probably faster based on a gradient of .0007 in a sandy gravel. MW-5 is 16 feet downgradient of the barrier and MW-6 is 64 feet downgradient of the barrier.

Results

Total BTEX and, more importantly, the benzene fraction were reduced significantly at the near downgradient monitoring point (MW-5). This result is consistent with other performance data that indicate a reduction in mass at the source pulls the control point back to the source.

At five months, total BTEX decreased to 89% where it was sustained for at least eight months. Residual oxygen, that was able to break through the primary remediation zone, traveled further downgradient (MW6) and caused a 31% decrease in BTEX at five months. The benzene reductions at 5 months, at MW-5 and MW-6, were 87% and 54% respectively. After this point, somewhere between Month 5 and Month 8, rebound was apparent. This site is typical as one which would require applications at six month intervals, i.e., two applications a year.

Figure 1

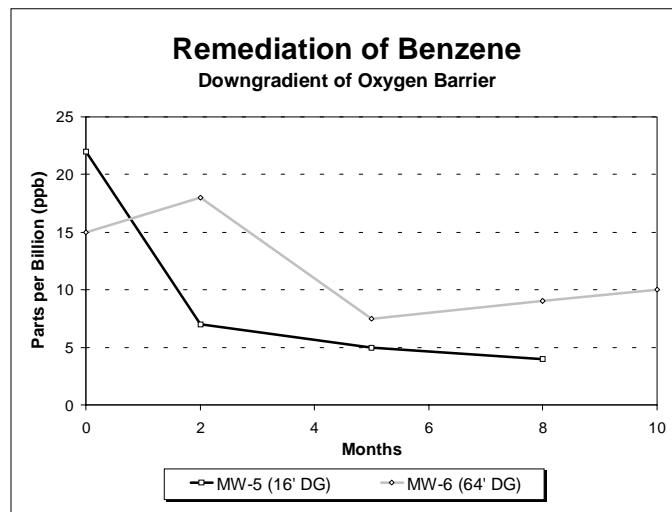


Figure 2

