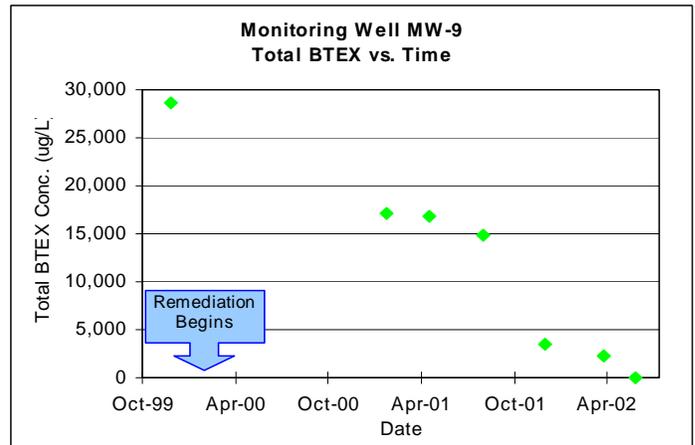


CASE HISTORY

Air Sparging and Soil Venting Provides Rapid Cleanup at Heavily Impacted Petroleum Site

Challenge:

A regional petroleum retailer closed a facility that had been in continuous operation since the late 1940's. A total of 13 underground fuel storage tanks were removed from the site, including several which were installed when the site was originally developed. Because of the presence of separate-phase hydrocarbons and petroleum hydrocarbons on-Site and the off-Site migration of impacted groundwater 1,000 feet downgradient, the Indiana Department of Environmental Management (IDEM) ranked the site as a 'high priority' requiring soil and groundwater remediation. MUNDELL was contracted by the site owner to evaluate the site, and provide cost-effective remedial alternatives.



Action:

MUNDELL personnel initially utilized a mobile dual-phase vacuum system to recover separate-phase hydrocarbons from selected monitoring wells. Once the separate-phase hydrocarbon levels had been reduced, MUNDELL personnel designed and installed an aggressive air-sparging/soil vapor extraction system to remediate the groundwater and soil beneath the site.

Results:

This sparge-vent remediation technology was used to successfully reduce on-Site soil and groundwater contamination. The remediation system was turned off once on-Site contaminant concentrations were below regulatory limits.

It was also demonstrated that the downgradient plume was shrinking (applying Plume stability modeling using Mann-Kendall equations and Concentration Trend Modeling). The Contaminant concentrations in one downgradient monitoring well adjacent to a former service station, however were not decreasing. It was suspected that a second source at the former service station was contributing to the downgradient plume. MUNDELL was able to locate multiple previously-unidentified underground storage tanks at the downgradient former service station by utilizing electromagnetic detection and ground penetrating radar. Based on the presence of tanks at the downgradient former service station, MUNDELL obtained a "No Further Action" status for the Site and the associated downgradient plume, successfully taking this gasoline impacted site from an investigation and delineation to a "No Further Action" status.

