

Project Title and Location: #2 Fuel Oil Release, Franklin, Massachusetts.

Scope of Services Demonstrated by this Project: IRA, Phase I Site Investigation.

Project Description: A release of an unknown amount of #2 heating oil occurred from an aboveground storage tank within the basement of a residence. The released oil impacted the soil beneath the concrete floor of the basement and the perched groundwater that varied seasonally in elevation from 4 feet beneath the basement floor to more than 14 feet below grade.



In response to the release, the homeowner contracted Vineyard to provide Licensed Site Professional (LSP) Services to assess the extent of the release. Based on the results of the initial assessment, Vineyard removed a portion of the concrete floor and excavated impacted soil to a depth of four feet. During soil removal, a 8-inch diameter groundwater recovery well was installed to a depth of eight feet. The excavation was limited because of structural concerns associated with the east foundation wall of the home and the chimney in the center of the basement. After removing approximately 10 cubic yards of soil, Vineyard conducted a subsurface investigation to determine if the release had impacted soils outside the residence or groundwater. Monitoring wells installed during the investigation did not indicate any impact to groundwater. However, the recovery well inside of the basement contained more than one half foot of separate phase product.



In order to advance the interior basement excavation, shoring was used to support the weight of the foundation, chimney and interior crossbeams. Piers were installed to depths ranging from 18 feet to 22 feet. The excavation was subsequently advanced to a depth of 8 feet using timber sheeting to secure the side walls. All impacted soil to the groundwater table was removed from the basement and beneath the exterior foundation wall. The excavation was then backfilled with crushed stone and capped with poly sheeting and concrete.

A Phase I Initial Site Investigation was performed to Tier Classify the site. Based on the results of the Phase I and post excavation samples, groundwater conditions were monitored over a hydrologic cycle to verify that groundwater conditions meet GW-1 (drinking water) standards. Results of the monitoring have indicated significant decreases in the levels of petroleum in groundwater, and no recurring separate phase product or discernable odors of petroleum remained in groundwater samples from the recovery well. Residual petroleum levels are expected to attenuate with no additional remedial measures, and site closure is anticipated within two years of the release.