

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

Scope of Services Demonstrated by this Project: Phase I; Tier Classification; IRA.

Project Description: A release of 60 to 90 gallons 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 perched groundwater that varied seasonally in elevation from less than a few inches to more than 7 feet beneath the basement floor. An initial investigation completed by representatives of the homeowner's insurance company indicated more than ½ inch of fuel on the groundwater table, which required Immediate Response Actions.

In response to the release, Vineyard removed a portion of the concrete floor and excavate the impacted soil in the area of the AST. During soil removal, a 10-inch diameter groundwater recovery well was installed to a depth of nine feet. The well was used to assess recovery of product on the groundwater and was later used to dewater the open groundwater as the excavation was expanded. In addition to the recovery well, Vineyard installed nine borings and/or monitoring wells at the site. These borings/wells were used with the six borings/wells initially installed to assess the extent of the release. The installation of the borings/wells was completed with hand-held Geoprobe equipment due the limited access to the site, which was located on a hill behind a retaining wall. Based on soil and groundwater conditions observed during the boring/well installation, 25 tons of soil was subsequently removed with a vactor from beneath the basement floor. However, due to site constraints, all of the impacted soil could not be removed, and the excavation was backfilled with stone and flowable fill to secure the foundation and columns supporting the house.

Seven additional borings/wells were installed after soil removal to further characterize soil and groundwater conditions. Indoor air sample were also collected to assess indoor air conditions on the first floor and basement of the residence. This information was used to complete a Phase I Initial Site Investigation and to Tier Classify the site. Based on the results of the Phase I investigation and subsequent monitoring of the groundwater, the recovery well was periodically pumped down to remove any residual sheens that accumulated in the stone backfill placed in the bottom of the excavation. Confirmatory groundwater sampling indicated that the pump downs were sufficient to reduce the petroleum levels in groundwater below the applicable Method 1 risk standards. Accordingly, site closure is anticipated after completion of groundwater monitoring over one hydrologic cycle.

