

SPRING VALLEY USTS, Federal Way, WA

Brownfields Assessment Fact Sheet #3

December 2011

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| Project Name | Spring Valley Underground Storage Tank (UST) Removal and Assessment. |
| Location | 37000 Pacific Highway South, Federal Way, WA, 98003. |
| Site Description | The site is an undeveloped parcel located on the east side of Pacific Highway South within the upper drainage of Hylebos Creek. The City of Federal Way wishes to protect and preserve the property as open space. |
| Site History | <p>Historical tax records on file at the Puget Sound Regional Archives indicate that a small gas station was operating on this property from 1930 until it was torn down in the 1960s. Since that time the property has been vacant and undeveloped. In 2007, the City of Federal Way purchased the site as part of a larger 20 acre acquisition of wetland and stream habitat known as the Spring Valley Ranch and Restoration site. In 2008, highway workers clearing brush along Pacific Highway South uncovered a concrete pad, pump island, and fill pipes for two underground storage tanks (USTs) from the former gas station. Tax records show that the former gas station had two USTs of 550 gallons each. In 2009, the city contacted the King County Brownfields Program for advice and direction on how to remove the USTs. The Brownfields Program provided a work plan that outlined the steps to remove the USTs under Washington State’s Underground Storage Tank regulations. In 2010, King County was awarded an EPA community-wide assessment grant for petroleum sites and notified the City of Federal Way that it could now fund a site assessment, including most of the costs for UST removal.</p> <p>The Brownfields Program and the city removed the USTs and conducted a Phase II Environmental Site Assessment (ESA) of the site in June 2011. This assessment revealed that gasoline range petroleum hydrocarbon contamination (TPH-G) in excess of MTCA soil cleanup levels extended east and southeast of the UST site. Groundwater seeps between 4 and 12 feet deep were also impacted by petroleum sheen.</p> |
| King County Brownfields Program | The King County Solid Waste Division has received grant funds from the U.S. Environmental Protection Agency (EPA) to conduct environmental assessment on contaminated Brownfield properties. King County’s Brownfields Program uses the funds to hire consultants to conduct the assessment work on behalf of public and nonprofit entities. For more information on the Brownfields Program visit the website at your.kingcounty.gov/solidwaste/brownfields/index.asp . |

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| Assessment Description | <p>CDM, King County’s geotechnical consultants conducted a supplemental Phase II Site Assessment in late September 2011. Subsurface conditions were explored by advancing 12 borings at the site using a direct push technology (DPT) drill rig to collect soil and groundwater samples. Nine of the borings were advanced around the periphery of the estimated extent of contamination as indicated by the Phase II ESA report and three were advanced within the estimated extent of soil contamination. Up to three soil samples were collected from each of the borings located along the periphery and from one boring located within the estimated extent of soil contamination. One soil sample was collected from the upper 5 feet of the boring, the second from an intermediate depth, and the third from the lower part of the boring. The three samples were collected from each of these locations to verify the vertical extent of contamination. Two shallow borings were advanced adjacent to the former UST cavity to determine if the shallow subsurface (upper 5 feet of soil) had been impacted by the release from the USTs.</p> |
| Reason for Assessment | <p>The principal reasons for the assessment were 1) to determine the lateral and vertical extent of TPH-G contamination in soil as a result of the release from the former USTs, 2) to characterize groundwater conditions east of the former UST area to determine if groundwater is present, and if so, if it has been impacted by the petroleum release from the USTs, and 3) to determine the magnitude and extent of groundwater contamination if groundwater is found to have been impacted by the petroleum release.</p> |
| Results | <p>The lateral extent of soil contamination was fully delineated by the supplemental Phase II investigation. Neither gasoline-range TPH nor benzene were detected in the nine peripheral borings situated north, southeast, and south of the original Phase II test pits indicating that the lateral extent of soil contamination is likely smaller than originally thought. The soil analytical results from the supplemental Phase II investigation also verified the estimated vertical extent of contamination from between approximately 5 feet bgs to 14 feet bgs. A soil sample from Boring B7 contained 230 mg/kg TPH-G at 7 feet deep. Soil samples at 8 feet deep from test pits 5 and 7 on either side of B7 contained 140 mg/kg and 110 mg/kg TPH-G respectively.</p> <p>Groundwater samples were collected from nine locations for analysis. Petroleum hydrocarbons were not detected in any of the samples, including a sample collected from the soil contamination area. This indicates that groundwater has not been impacted by the petroleum release from the USTs.</p> <p>The results of the supplemental Phase II ESA indicate that an approximately 115-foot by 40-foot area of soil contaminated by gasoline-range TPH and benzene is present at the site from depths between 5 to 14 feet bgs (9-foot interval). The total volume of contaminated soil estimated to be present at the site is 1,350 in-place cubic yards.</p> |
| Conclusions/ Next Steps | <p>The supplemental ESA successfully characterized and determined the extent of contaminated soil resulting from the release of petroleum from two small underground storage tanks that were the legacy of a historical gas station. The City of Federal Way will make a decision on whether or not to clean up the site and when that might happen. Now that the source area (the USTs) has been removed, cleanup may be accomplished over time by “natural attenuation.” More active measures, such as excavation and removal of contaminated soil, may be done if economically justified.</p> |

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