King County Brownfields Program

King County
Department of
Natural Resources and Parks
Solid Waste Division

RAINCHECK CLEANERS PLUME, Bothell, WA

Brownfields Assessment Fact Sheet #2 August 2011

Project Name	Former Raincheck Cleaners (aka Ultra Custom Care Cleaners) Solvent Plume
Location	Downtown Bothell, WA, between Bothell Way NE (formerly SR 527) & 101st Avenue NE and between NE 183rd Street & SR 522 (Woodinville Drive).
Site Description	Approximately 13 commercial tax parcels located hydraulically downgradient from the former Raincheck Cleaners located at 18304 Bothell Way NE.
Site History	The Raincheck Cleaners site was undeveloped until after World War II when a lunch counter restaurant was established at the northeast corner of Bothell Way NE and NE 183rd Street. This restaurant was converted into a dry cleaning business in the early 1950s, operating until 1967 when the building was torn down to allow for redevelopment of the parcel. The parcel was developed with a small strip mall on the east side and parking on the west side. An environmental site assessment (ESA) performed in 2004 indicated that groundwater under the area where the previous building had been located, now the southern portion of the parking lot, was contaminated by chlorinated solvents apparently derived from the former dry cleaning operation. In 2009, King County Brownfields Program contractor CDM performed an extensive Phase II ESA in support of the City of Bothell Crossroads Redevelopment Project. This ESA included boring twelve holes in the public right of way beneath Bothell Way NE, Main Street, and Woodinville Drive to collect soil and groundwater samples. Groundwater samples collected from six of these borings exceeded the state's Model Toxics Control Act (MTCA) cleanup level for the common dry cleaning chlorinated solvent tetrachloroethene (PCE). All of these borings were downgradient from the former Raincheck Cleaners.
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.

Assessment Description	The City of Bothell has announced plans to convert the block containing the former Raincheck Cleaners site into a mixed-use redevelopment called the City Hall + City Center Project that will include a new city hall, civic center and underground parking for 300 cars. The City asked the King County Brownfields program to expand the 2009 sampling program east of Bothell Way NE to determine if neighboring commercial properties are also impacted by solvent contaminated groundwater as a result of dry cleaning operations at the former Raincheck Cleaners site. Working with the City, CDM developed a plan to drill eight new borings south and southeast of the former Raincheck Cleaners site to collect groundwater samples. This plan was later modified by expanding the number of borings to eleven. Additional groundwater data was obtained by sampling two existing monitor wells located in the downtown area. Prior to field operations King County's consultants prepared a Quality Assurance Project Plan (QAPP), a Cultural Resources Assessment and an Endangered Species Act analysis. These documents were submitted to EPA in June 2011 for review and approval. Field operations were conducted between June 27 and 28, 2011. Groundwater samples were collected from each new boring and from the two existing monitoring wells. When field screening indicated the presence of contaminated soil in two of the new bore holes, samples of this material were collected as well. A third soil sample was collected from drummed waste generated by drilling. The groundwater samples were all analyzed for halogenated volatile organic compounds (VOCs) by EPA Method 8260B and the soil samples were analyzed for petroleum hydrocarbons, total lead and both halogenated VOCs and other priority pollutant VOCs.
Reason for Assessment	Acquisition of property with a history of dry cleaning operations opens the City to potential liability for cleanup under MTCA. In order to understand the scope of the potential cleanup and to design appropriate remedial action, additional data on the extent and degree of solvent contamination related to the Raincheck Cleaners site is required. This assessment of groundwater downgradient from the site will provide some of the data needed for planning and development of future remedial investigations.
Results	PCE was detected at four of the 13 groundwater sample locations. PCE concentrations in three of the samples (0.4 to 2.7 micrograms per liter [µg/l]) were below the MTCA Method A cleanup level of 5 µg/L. At monitoring well BB2, located on the north side of Main Street, the PCE concentration of 76 µg/L was well above the cleanup level. Breakdown products of PCE, namely cis-1,2-dichloroethene and vinyl chloride were detected only at one boring, B29. Soil samples collected from borings B20 and B29 contained petroleum hydrocarbons at levels below MTCA cleanup standards, however the concentration of heavy oil (1,900 milligrams per kilogram [mg/kg]) in the sample collected at a depth of 6 feet from B29 was close to the Method A cleanup level of 2,000 mg/kg.
Conclusions/ Next Steps	This investigation determined that PCE originating from the former Raincheck Cleaners property is predominantly migrating southward along utility corridors along Bothell Way NE – the sewer utility being the most likely conduit. While the source appears to be the former Raincheck Cleaners facility, past and present dry cleaners who have occupied the Ultra Custom Cleaners facility cannot be ruled out, given the apparent releases that occurred to catch basins leading from this facility. Impact to private properties in the inferred downgraident direction (south – southeast) of the former Raincheck Cleaners

	property is limited. Only one compound at one location exceeded its Method A cleanup level. This was vinyl chloride (the last toxic daughter product of PCE before it degrades to non-toxic ethene and chloride), detected at a location close to Bothell Way NE. No additional sources of PCE contamination were identified during this investigation; in particular, past speculation that a dry cleaner formerly located at 10029 Main Street (Bothell Cleaners) could be an additional contamination source can be ruled out as one would expect PCE to be present in the boring that was located in the inferred downgradient direction of this address. However, PCE was not detected in groundwater sampled from this boring. Soil impacted by hydrocarbons was identified at two locations and is consistent with the historical operation of gas stations at or near these locations. Further, it is consistent with hydrocarbon contamination previously identified in soil and/or groundwater located within/just south of the SR522/Bothell Way NE intersection. Next Steps: The City will use data and information collected from this assessment work to populate other ongoing area-wide groundwater contamination studies that are being conducted through the MTCA process with Ecology. Further, the City will continue to advance the City Hall + City Center design with the goal of beginning construction work on this block in early 2012.
Contact Information	City of Bothell Contact: Nduta Mbuthia, Project Engineer, City of Bothell Public Works Department, 425-806-6829, Nduta.Mbuthia@ci.bothell.wa.us. King County Contact: Lucy Auster, Senior Planner, King County Solid Waste Division, 206-296-8476, lucy.auster@kingcounty.gov.

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206-296-4466 Toll Free 1-800-325-6165, ext. 6-4466 TTY Relay: 711

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