

2009 Remediation Technologies Symposium

Management of Significant PHC Impacts in an Urban/Community Setting – Case Study

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Subsurface petroleum hydrocarbon (PHC) impacts in urban settings can be difficult to address due to existing residential and commercial development. Remediation of contaminated sites in residential areas can be especially challenging when managing concerns raised by neighbouring homeowners/occupants. The presentation will focus on the implementation of a successful site management plan at a residential community in Calgary. The plan was intended to manage risks to public health and the environment associated with subsurface PHC contamination (including free product). Management of the issue involved extensive monitoring at the site, completion of a detailed risk assessment, and implementation of an effective remediation plan.

Community “buy-in” to the management plan was accomplished through an active public and government consultation program. Consultation with the area residents involved “face-to-face” meetings and the regular distribution of up-to-date newsletters that notified residents of current investigation activities, progress, and planned testing and remediation activities. Immediate health concerns were addressed and alleviated through a multi-year volunteer soil vapour monitoring program. Results were provided to individual property owners as data became available. In conjunction to the empirical data that was collected at the site, a Tier 3 human health risk assessment was conducted on an individual residence basis to develop soil and groundwater criteria for the protection of indoor vapour inhalation. The criteria were used to dramatically reduce the area of concern and the number of potentially affected properties. A site-specific remediation strategy based on a multi-phase vapour extraction system was developed and successfully implemented in the community.