

Shallow Groundwater Characterization and Contamination Management in a Rural Setting: What to do

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Summary

The first instance of groundwater is often the primary target for investigating potential contaminant pathways for sources of contamination at or near the ground surface, when hydrocarbon impacts are suspected at upstream oil and gas sites. Shallow groundwater within the unconsolidated zone can be encountered centimetres below the ground surface to several metres deep within unconsolidated materials, and even within the interface to the underlying bedrock. The characterization of this shallow groundwater system is key to the development of appropriate and effective remedial and risk management strategies associated with these groundwater impacts. The characteristics of the unconsolidated geology plays a significant role in the transport, migration and distribution of contaminants that enter this saturated zone.

This talk will use examples to explore how hydrogeological data can be used to develop site conceptual models and characterize the shallow groundwater systems that drive the outcome of the contaminant transport understanding and the development of effective remedial and risk management strategies. Are there cases where things really are better left alone, and can we make things worse by trying to make things better? When is remedial action necessary?