

**ABSTRACT**  
**Hydrogeological Assessment Tools**  
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The Science Advisory Board for Contaminated Sites in British Columbia (SABCS) was funded by the BC Ministry of Environment to develop scientific tools that could be used in the identification, assessment and management of contaminated sites in BC. A set of screening-level risk assessment tools was initially proposed by SABCS in October 2004 to address sites where exposure pathways to potential receptors are limited or absent. However, these tools were designed for general use by contaminated sites practitioners and as such, the hydrogeological analyses in the screening-level tools are inherently simple and conservative.

To address a more detailed phase of risk assessment work, the SABCS subsequently developed a set of technical guidance documents for a more sophisticated level of hydrogeological analyses (HAT tools). The HAT tools are intended for use by specialists in hydrogeology and address five key topics including the evaluation of: (i) vertical transport in groundwater; (ii) contaminant transport in the unsaturated zone; (iii) light non-aqueous phase liquid mobility; (iv) biodegradation rate for organic contaminants in groundwater; and (v) transport modelling of metals in groundwater. This presentation will provide an overview of the tools developed for these five key topics.

**BIO:**

**Mr. Mitchell** is a senior hydrogeologist with over twenty years experience in environmental consulting and the mining industry. His expertise includes modelling of groundwater flow and contaminant transport in both saturated and unsaturated systems and he provides support for remediation works, risk assessment, forensic evaluations and natural attenuation studies. He is a member of the Expert Roster for Contaminated Sites in BC and an invited expert to the hydrogeology task force for the BC Science Advisory Board. He has participated in public hearings, provided expert witness reports and participated in legal mediation proceedings and has worked throughout Canada including permafrost environments, in Europe, Australia and the United States. Mr. Mitchell is SLR's Technical Director for Hydrogeology.