The practice for the assessment, remediation and subsequent reclamation of contaminated sites in Alberta has been driven by the regulatory requirement that these sites meet guidelines that are protective of all applicable receptors and exposure pathways which are linked, by definition, to a given land use. Unless receptors and exposure pathways can be excluded on a site-specific basis, where permitted under the AEP Tier 2 process, the guidance requires that all receptors associated with the respective land use be considered as being present. However, some of these receptors have a very low probability of actually occurring in certain areas of the province (i.e., Low Probability Receptors, LPRs). Thus, for a number of sites in Alberta, remediation objectives are driven by receptors that currently do not exist and are unlikely to occur in the future. Examples of LPRs could include dugouts, residences, drinking water wells or non-present ecological species.

Incorporation of the LPR concept into contaminated site closure has a number of benefits in terms of environmental impact and sustainability, while maintaining levels of environmental and health protection that are consistent with Alberta policy. The presentation will review the LPR approach, application of receptor analysis on a site specific basis, and consistency of site specific considerations with Alberta’s contaminated site framework. With reference to case study examples, the presentation will demonstrate potential application across various land uses in Alberta.

David Williams, PEng

Dr. David Williams has over 40 years of consulting and research experience, including more than 30 years in environmental and human health risk assessment and risk management. He has been involved in environmental quality guideline development in Alberta and federally since the early 1990’s, including leading the development of the Alberta Tier 1 guidelines and the current CCME soil guideline protocol. He has provided risk assessment support to provincial and federal regulatory agencies, including training, peer review and guidance development, as well as conducting external reviews of regulatory submissions on behalf of various jurisdictions.