



Beyond Generic Standards: Leveraging Screening-Level Risk Assessments (SLRAs) for Smarter Environmental Due Diligence

Environmental investigations often default to regulator-published guidelines as comparison criteria. Relying solely on these non-mandatory standards as a baseline may lead to unnecessary remediation costs and interventions without delivering proportional risk reduction.

This presentation highlights the growing acceptance of screening-level risk assessment (SLRA) approaches within environmental due diligence, emphasizing how they enable more site-specific, defensible, and cost-effective decisions.

An SLRA approach typically consists of identifying complete exposure pathways and relevant receptors for the site, and comparing maximum-measured concentrations of potential contaminants of concern (PCOCs) against the regulator-published values only applicable to those complete exposure pathways. Using an SLRA approach enables practitioners to focus their assessment and apply only those criteria that reflect actual risks to a site. The SLRA approach allows identification of risk management measures (RMMs) (e.g., capping or health and safety plans), and triggers for RMM implementation when necessary.

Beyond the SLRA approach described above, modification of certain assumptions within provincial regulatory guidance (e.g., Ontario Ministry of the Environment, Conservation and Parks [MECP]-published Soil, Ground Water and Sediment Standard for use under Part XV.1 of the Environmental Protection Act [EPA] or Alberta Tier 2 Soil and Groundwater Remediation Guidelines) has been utilized as part of the SLRA approach. By adjusting select input values (i.e., minimum depth to groundwater, distance to nearest downgradient surface waterbody), criteria for affected exposure pathways can be updated to more accurate site-specific criteria. The updated criteria better reflect actual risk given site-specific conditions, while providing the same level of human and ecological health protection.

SLRAs can be delivered as a stand-alone report or integrated into the discussion within investigation reports (i.e., Phase II environmental site assessments). The SLRA approach is applicable at various stages within an environmental program, from determining if full-scale remediation is warranted to address residual impacts post-remediation activities.

Generalized case studies from multiple jurisdictions (i.e., Ontario, Saskatchewan, and Federal) will illustrate successful applications, including scenarios where residual impacts remain post-remediation and where application of the SLRA approach and implementation of RMMs are more appropriate than full-scale remediation.

Trace has successfully implemented SLRA approaches in multiple provinces within the due diligence framework. These approaches are increasingly accepted by financial lenders, real estate brokers, insurers, and corporate risk managers. These stakeholders value SLRA for providing accurate, defensible, and site-specific assessments that inform investment decisions, support liability management, and optimize remediation budgets.

Andrea McNaughton Trace Associates Inc.

Andrea McNaughton, B.A.Sc., P.Eng., is registered as a Professional Engineer (P.Eng.) in Ontario and works out of the Trace Ontario office. She specializes in site assessment and risk assessment activities, including Phase I/One and Phase II/Two Environmental Site Assessments (ESAs), and has additional experience in soil vapour and indoor air monitoring, remediation, and soil and groundwater sampling for various environmental parameters.

Andrea has been actively involved in the management, execution, and reporting of site assessment and remediation activities at various residential, commercial, and industrial properties. She has experience managing a variety of field activities, such as borehole drilling, monitoring well installation, soil vapour and indoor air sampling, test pitting, soil sampling, groundwater sampling, geophysical surveying, and contaminated soil excavation. Andrea has also assisted in the completion of various risk assessments, including due diligence screening level risk assessments, as well as risk assessments prepared in support of Records of Site Condition.

Sylvain Bordenave Trace Associates Inc.

Dr. Sylvain Bordenave is a Partner, Principal Risk Assessor, and Practice Area Lead for Remediation and Risk at Trace Associates Inc. (Trace). Sylvain currently serves as a Board Member for the Environmental Services Association of Alberta. At Trace, Sylvain provides senior technical guidance for complex projects, develops and manages technical standards, and mentors and trains staff.

Sylvain's core competencies include contaminated site management, environmental site assessments (ESAs), soil vapour assessments, and human health and ecological risk assessments (HHERAs). Sylvain's experience has included projects for a variety of contaminated sites within Western Canada, including urban development sites, commercial/industrial sites, and upstream oil and gas facilities.