Remediation challenges in northern remote climates are many. When work must happen in cold climates and during winter months, the key to overcoming these challenges is to be prepared.

SNC-Lavalin was tasked with delivering a multi-year program for the assessment, remediation and risk assessment of three active Highway Maintenance Yards along the Alaska Highway in remote Northern British Columbia with an overall objective of significant environmental liability reduction. The overall remediation approach for the sites included a combination of techniques including soil excavation, in-situ remediation and risk assessment. Due to circumstances, a significant portion of the work was undertaken in fall and winter months where temperatures dropped to extreme lows which presented significant challenges to the execution of the program.

While the timing of work programs in winter months does not present ideal circumstances, these cannot always be avoided. These circumstances can arise due to such things as lengthy programs, expedited assessment/remediation stages, site use operations, planning, and availability of funding. Other conditions may give rise to the need for winter scheduled work plans such as access, supplemental remediation or investigations activities. These tasks are often required to ensure timely completion of assigned programs.

For this presentation, Ms. Guest will highlight a situation arising at a remote location which involved the remedial soil excavation of more than 30,000 m3 from three remote maintenance yard sites as well as in-situ remedial testing and extensive drill programs that were completed during winter months. The focus will be on ensuring a project manager and her team are prepared for when certain circumstances of this nature are unavoidable.

Specific challenges included: health and safety risks of working in cold environments, communication in remote areas, significant frost in soils over one metre in depth, time and travel distances to site in winter conditions, backfilling limitations, equipment operation in extreme temperatures (-40°C) and soil treatment facility liner complications. Due to the remoteness of the project and sites, other challenges that complicated the program included maintaining sufficient communications and encounters with wildlife.

Meredith Guest, P.Eng

Ms. Meredith Guest, P.Eng. is a professional engineer with experience in environmental site assessment including Phase 1/2 ESAs; Stage 1/2 PSIs; Detailed Site Investigations; remedial action planning, implementation and risk management planning. She also has expertise in remediation construction planning, tendering, project and contract management, and remediation construction closure under federal (CSA, CCME) and provincial (BC CSR) regulatory frameworks. As a Project Manager, she is responsible for overall supervision of projects including management of multidisciplinary teams, supervision of intermediate technical staff, providing specialized advice on contaminated sites assessment and remediation planning and design as well as providing quality assurance components. In addition to project management, her involvement in projects has included coordination of field staff, contractors and subconsultants, data reduction and interpretation, and technical reporting and review. Ms. Guest’s project experience includes various industrial and commercial facilities including sawmills, electrical substations, airports, highway maintenance yards, lighthouses, hatchery sites, small craft harbours, military bases and retail service stations. Ms. Guest also has extensive assessment, remedial planning and remediation experience in remote site work.