Petroleum Technology Alliance Canada (PTAC) initiated a review of Phase II Environmental Site Assessment (ESA) data from past drilling waste disposal locations to better understand the effectiveness of the Alberta Energy Regulator (AER) document “Assessing Drilling Waste Disposal Areas: Compliance Options for Reclamation Certification” (Compliance Options, AER 2014).

A review of the aspects of the conservatism in the Compliance Options is believed to have multiple benefits while giving the same environmental protection including: more accurate and reproducible compound calculations and DST assumptions; reduced number of unnecessary Phase II ESA conducted on well sites; and accelerated progression of sites to reclamation certification. It is also recognized that in certain cases there may be a need for a particular trigger/criteria to be more stringent, this will also be investigated as part of the project.

North Shore Environmental Consultants and Waterline Resources Inc. are collaborating to determine if the Compliance Options: are appropriate as currently written; require adjustment to reduce false positive or negative triggers for Phase II ESAs; or are in need of other changes.

By critically evaluating thousands of Phase 1 ESAs and their correlation to Phase 2 ESA analytical results, we’ll examine the conservative assumptions and whether these triggers translate into drilling waste disposal areas (DWDAs) that require remediation. Checklist triggers include the use of an advanced gel-chem mud systems, unknown mud products, kicks, flows or salt zones encountered. Calculations can trigger for sodium hydroxide equivalency, barite, zinc, chrome-based thinners or post-disposal oil concentrations. But how well do these specific Compliance Option triggers correlate to Phase 2 ESA analytical results? How do they relate to an actual confirmed endpoint exceedance of Directive 050 and/or Tier 1? Where correlation has not been established, is there opportunity to utilize the statistics to justify low risk sites? The intent of this presentation is to provide an overview of the process being used to collect the necessary data and evaluate the compliance options; as well as provide insight and guidance on the assumptions associated with the Compliance Option Checklists and associated calculations.

Jim Purves, BSc, PAg

Mr. Purves is a Professional Agrologist with over 20 years of experience in the environmental and agricultural industries. As a Technical Advisor, Mr. Purves provides technical support, senior report review as well as mentorship and staff training to his team members. His focus is on complex projects; mainly contaminated sites in the form of guideline modification, risk assessment and Subsoil Salinity Tool (SST). Mr. Purves’ remediation and reclamation experience includes all aspects of the ‘life cycle’ approach from Phase 1, 2, and 3 ESAs, spill clean-up and restoration, reclamation, DSAs, and the implementation of various remediation techniques.