

# 2015 Regulatory Follow-up for Subsoil SAR SST

Anthony Knafla & Gregory Huber, Equilibrium  
Environmental Inc.

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Salinity impacts have the largest total foot-print and potential environmental liability of all oil and gas-related impacts to soil and groundwater. Salt-impacted sites typically exhibit both elevated chloride and sodium/SAR concentrations. Currently SAR guidelines exist only for impacts in the root zone. There is an urgent need for the development of risk-based subsurface (below the root zone) SAR guidelines for the remediation of salt impacted sites. Uncertainty with application of root zone SAR guidelines for deeper soils is a roadblock for site remediation and reclamation. As a result, remediation may be delayed due to such uncertainty, or remediation of subsoil using generic rooting zone SAR guidelines may result in an over or under protection. For instance, unnecessary volumes of soil may be removed, leading to an inefficient use of energy and resources.

Previous related projects have developed a subsoil SAR software module for the SST (including a draft SAR manual) based on several stakeholder/regulatory meetings conducted throughout 2012 and 2013 through

the PTAC Salinity Working Group. This was also followed-up with a preliminary software demonstration including case studies to various industry/regulatory representatives in early 2014. The current version of this subsoil SAR module for the SST (both the software and the manual) will be further reviewed by AESRD as well as the PTAC Salinity Working Group and/or other third parties selected by PTAC for external peer review. The combined feedback from all sources will be evaluated, compiled, and discussed within the PTAC Salinity Working Group to obtain consensus. Any agreed changes/updates can then be implemented into both the software tool and the SST manual. The final technical and regulatory policy outcomes from this process will be communicated to the public/industry through forums such as the PTAC Soil and Groundwater Forum where the final version of the subsoil SAR module can be demonstrated along with the key guideline methodologies/assumptions agreed upon during this review process.

This last step in the regulatory/technical review process for subsoil SAR SST implementation will ensure the guideline methodologies used are consistent with desired regulatory policy. In general, the final goal of this project (the ability to generate subsoil SAR guidelines in the SST) offers numerous benefits to industry and the environment.

2016 EQM Q1 Status Update