

Acknowledgement of Reclamation of Sodium Chloride Impacted Soils Directive Development and Case Study

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The presentation will discuss a draft directive intended is to provide guidance for an environmentally responsible path to obtain Acknowledgement of Reclamation (AOR) for sites that have Sodium Chloride (NaCl) concentrations exceeding the criteria established in the *Directive PNG033: Phase II Environmental Site Assessment* (PNG033) and the *Saskatchewan Environmental Quality Standards* (SEQS). A tiered system utilizing pathway modification/elimination or risk-based approach that manages sodium chloride (NaCl), often referred to as "salinity impacts" or "produced water impacts", using site specific criteria or Risk Assessment/ Ecological Risk Assessment (ERA) will be used.

A goal of this directive is a departure from ongoing future criteria updates to elaborate on the Codes-Risk-Based-Approach for NaCl and allow more flexibility for the oil and gas industry for site management of salinity and sodicity issues. This shift in impacted site management philosophy is intended to challenge ER and industry to develop environmental standards that remain protective of human health and ecological receptors, while simultaneously achieving the secondary objectives of soil conservation and recognized need for fiscal responsibility. An important objective of this directive is to provide licensees with the necessary tools to support sound site management and improve provincial consistency in addressing salinity impacted sites.

This presentation will highlight a site being completed by the Saskatchewan Oil and Gas Orphan Fund (SOGOF) where a Tier 3 risk assessment combined with Administrative Controls in the form of engineering controls and restrictions on title is allowing for site closure and removal of deemed liability. This has allowed for more arable farm land for the landowner, a onetime monetary payment to the landowner, significant cost savings for SOGOF and regulatory closure of the site in approximately five years without any monitoring requirements.

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Prior to Jonas becoming a public servant he worked in the private sector. Jonas career was mainly within the energy sector throughout Saskatchewan, Manitoba and Alberta. Jonas concentrated on energy sector related contamination in the form of initial spill response and remediation of historically contaminated sites, specializing on sites that did not have obvious remediation goals and required additional analysis and thought process. Given Jonas unorthodox approach to contaminant remediation and general dislike of generic guidelines and criteria he adds an interesting point of view for contaminant remediation which focuses on Saskatchewan made solutions through a solid scientific approach.