
Drilling Waste Management Salts, Barite and Other Issues

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Overview

- Containment
- Disposal Methods
- Relevance of CSR Standards
- Salinity Management
- Perceived regulatory concerns
- Other issues
- Barite sites

Containment

- Provide adequate containment for required fluids.
- Consolidated undisturbed deposits – not fill
- Setback from wells, intakes, water courses
- > 40% fines > 28% clay
- minimum 1m above water table

Management

- Dilute applications of:
 - liquids – pump off
 - liquids and slurried solids – landspray
- Incorporation of solids/residual liquids into sub-soil matrix:
 - Mix/bury/cover
 - Landspread

Offsite disposal

- Controlled application rates
- Setbacks from water wells/intakes, watercourse, water body
- Seasonal restrictions
- Pre and post disposal sampling

Onsite disposal

- Incorporation into the soil
- Pre and post disposal sampling requirements
- Setbacks are inherent
- Limited increases in overall salinity based on depth of disposal
- Pre and post disposal sampling requirements

Parameters evaluated

- Salinity management
- Electrical Conductivity and sodium absorption ratio
- Section 4.11
 - Final concentrations must meet CSR standards
 - Warning about Na and Cl

Perceived concerns

- Protocol 3 prohibits on mixing blending dilution
 - Relates to remediation – does not relate to authorized waste discharges
 - Cannot use a standards based approach
- May exceed prescribed standards because the focus on EC/SAR
 - i.e. sodium, chloride

DWD is not standards based

- Standards are used but protection provided is more than the blanket application of standards
- Risk is managed by:
 - Adequate containment
 - controlled application/incorporation to ensure low levels of contaminants
 - toxicity testing
 - Distance/separation from receptors

TG 6 may necessitate changes to construction practices

Other Issues

- What is appropriate protection for wildlife/livestock?
 - fence to keep out
- Decommissioning issues – older sites
 - Salts near surface
 - lack of proper cap material?
 - upward salt mobility related to settling?
- Where this occurs, we will require investigation

Barium/Barite

- Follow protocol 14 for barite sites?
 - background assessment of barium in soils?
- For drilling waste disposal
 - Already collect that information from the actual soils used at the disposal area
 - Other supporting information during site investigation from onsite boreholes not in the DWDA that attest to background condition

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