REGULATIONS REGARDING THE PLANNING AND MANAGEMENT OF RESIDUE STOCKPILES AND RESIDUE DEPOSITS

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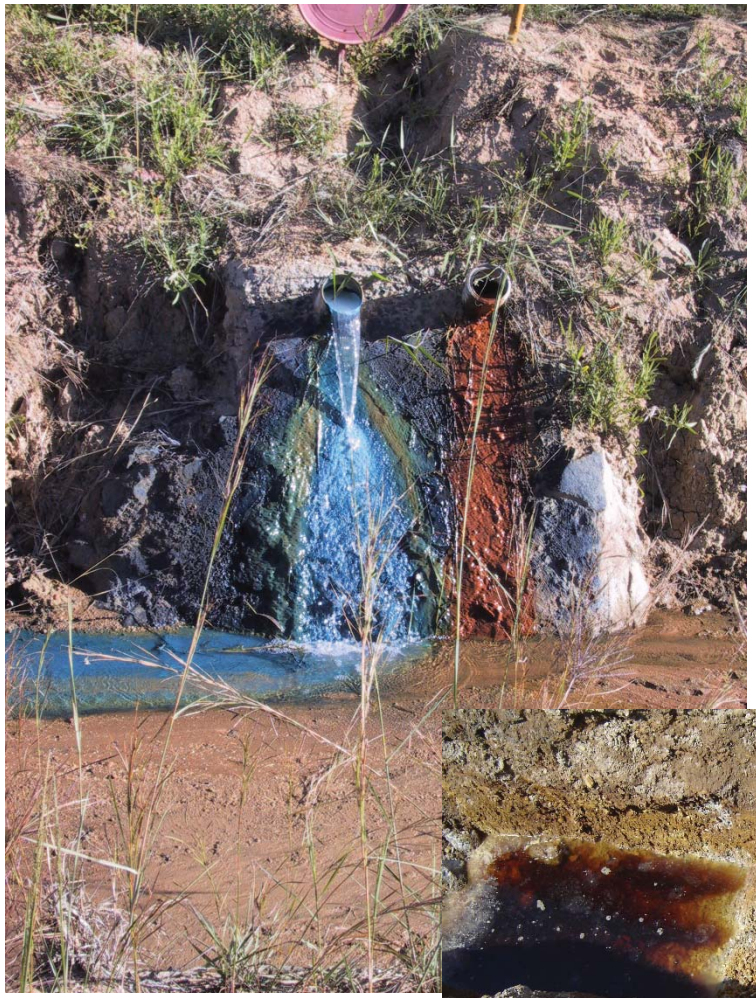
Objective

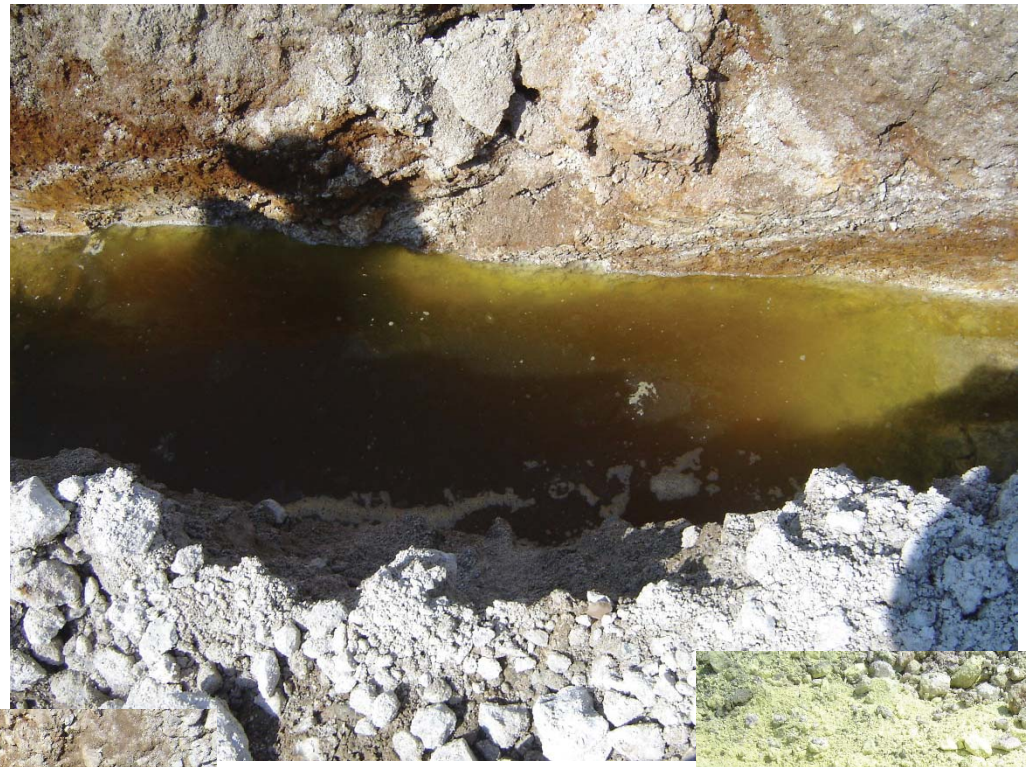
- Present the legal framework for MRDS management
- Provide overview of the Regulations regarding the planning and management of residue stockpiles and residue deposits
- Discuss implications for a risk based approach

Legislative overview

The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.

Legislative overview





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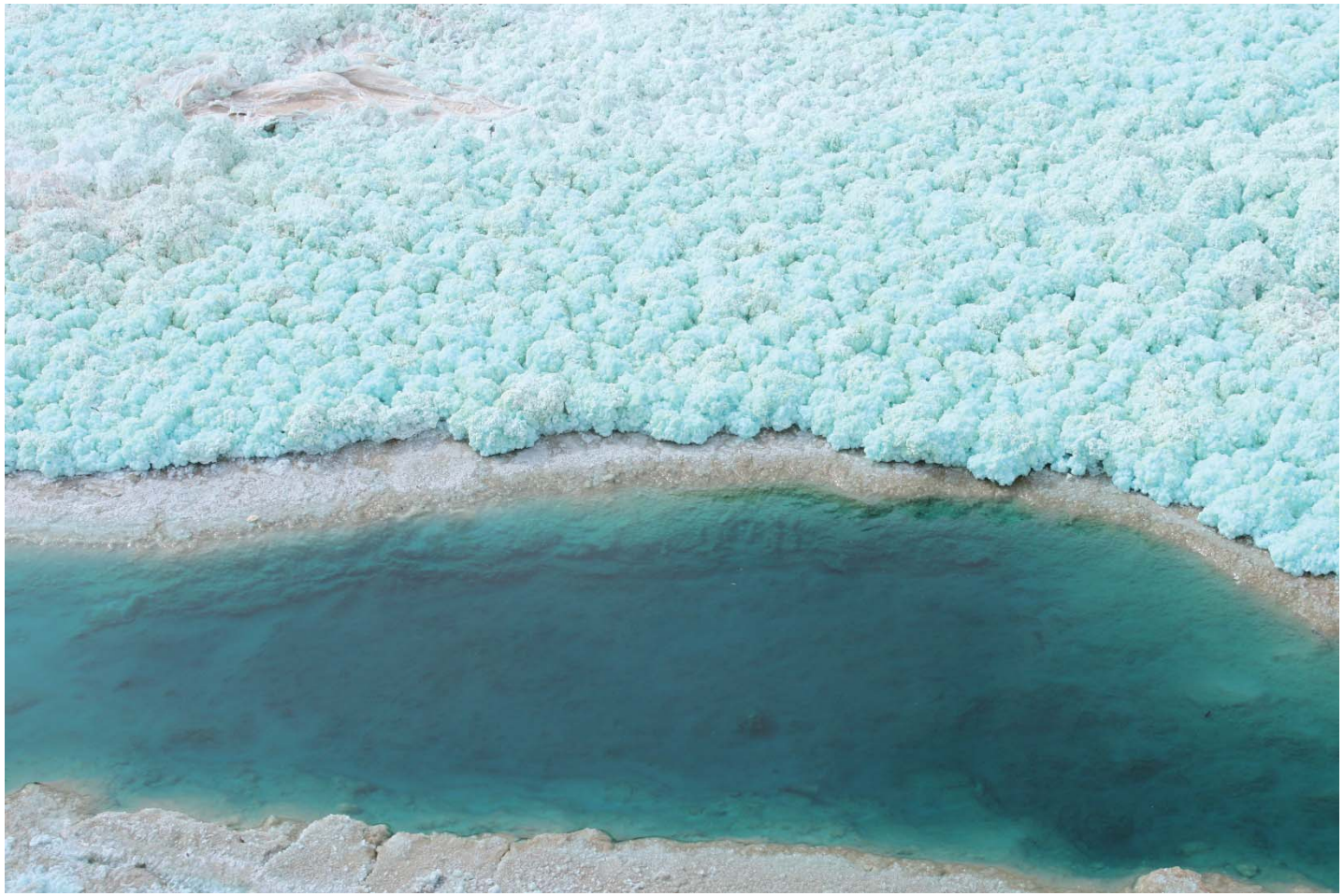

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Legislative overview

The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.

Share many similarities with Reg 73 of MPRDA Regulations

What gives them effect

National Environmental Management: Waste Amendment Act (Act 26 of 2014)

- Schedule 3 : Defined Waste
  - **CATEGORY A: Hazardous Waste**

"hazardous waste" means any waste that contains organic or inorganic elements or compounds that may, owing to the *inherent physical, chemical or toxicological characteristics of that waste*, **have a detrimental impact on health and the environment** and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles as outlined below:

Legislative overview

“residue deposits” means any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right or production right

“residue stockpile” means any *debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, mineral processing plant waste, ash* or any other product derived from or incidental to a mining operation and which is **stockpiled, stored or accumulated within the mining area for potential re-use, or which is disposed of**, by the holder of a mining right, mining permit or, production right or an old order right, including historic mines and dumps created before the implementation of this Act.

Legislative overview

August 2013

- R. 634 Waste classification and management regulations
- R. 635 National norms & standards for the assessment of waste for landfill disposal
- R. 636 National norms & standards for disposal of waste to landfill

Regulations

OVERVIEW

- R1: Definitions
- R2: Purpose
- R3: Assessment of impact and analyses of risk
- R4: Characterisation
- R5: Classification
- R6: Site selection
- R7: Design
- R8: Impact management
- R9: Duties of holder
- R10: Monitoring and reporting
- R11: Dust control and management
- R12: Decommissioning and closure
- R13: Transitional arrangements
- R14: Offences and penalties

Regulations

Reg 2 and Reg 3

The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation

- ID and assessment of impacts must be undertaken in terms of NEMA
- Management in accordance with NEMA authorisation, EMP and Waste Management Licence
- Risk analyses used to determine mitigation and management measures
- Pollution control barrier system shall be defined by the – Norms and Standards.

Regulations

Reg 4

Characterisation

- Requires characterisation to identify any potential risks to health or safety or environmental impacts based on chemical and physical characteristics

Regulations

Reg 5

Classification

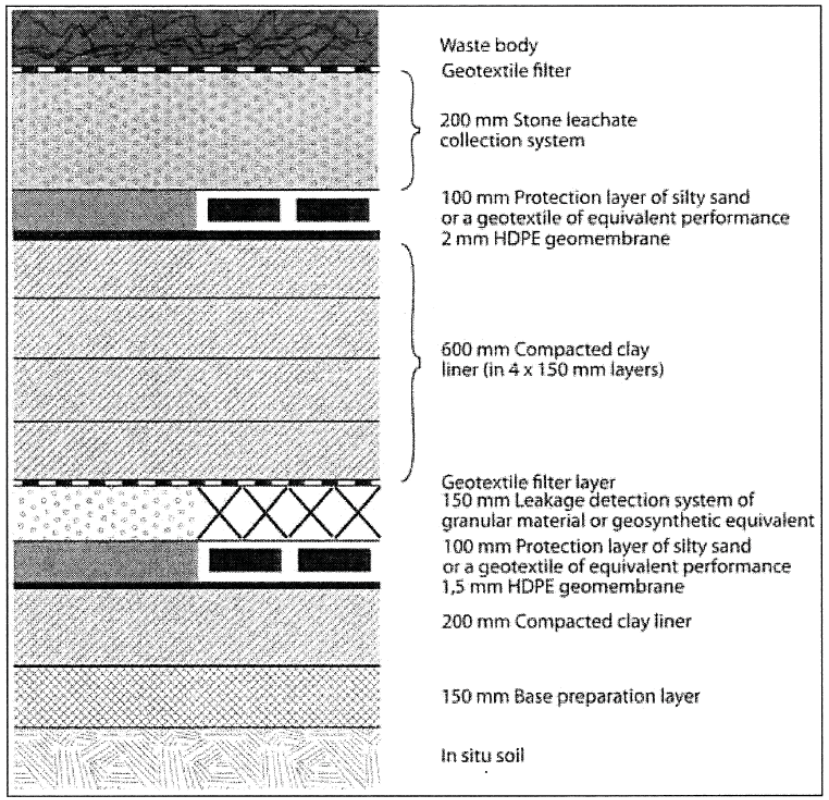
- Risk analyses by competent person to classify the facility based on :
  - Physical and chemical characteristics
  - Morphology of the facility
  - Importance & vulnerability of the environment
  - Spatial extent, duration and intensity of potential impacts
  - Pollution control barrier system compliant with N&S for disposal to landfill

Norms and Standards

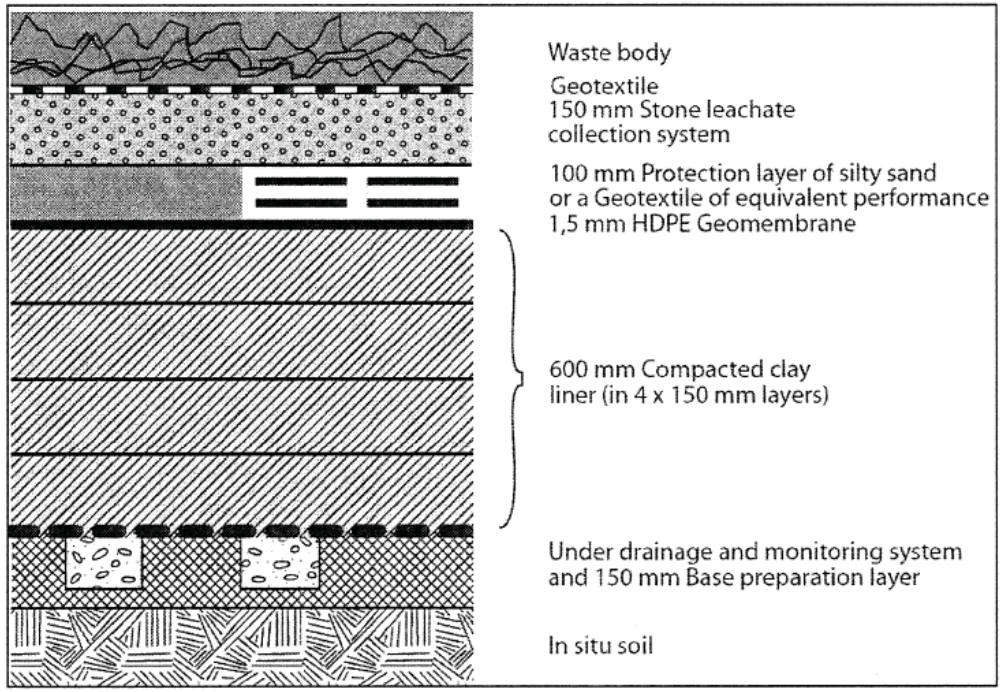
- Requirement to assess waste to determine Type which informs Class of barrier system
- Type dependent on Total and Leachable concentrations
- Thresholds based on protection of water – drinking water

- Barrier system increases in complexity based on static chemical characteristics of the waste

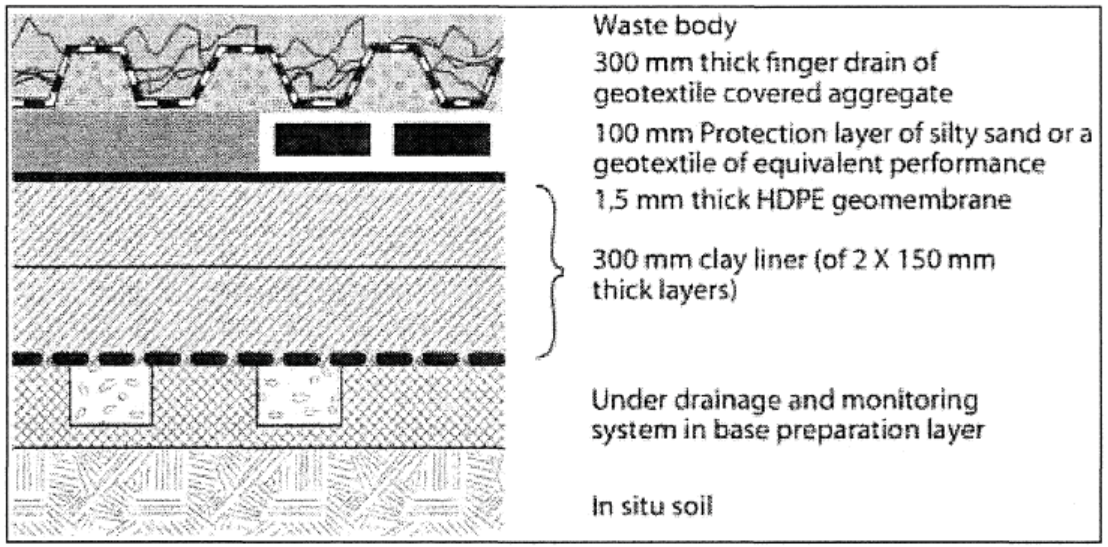
(a) Class A Landfill:



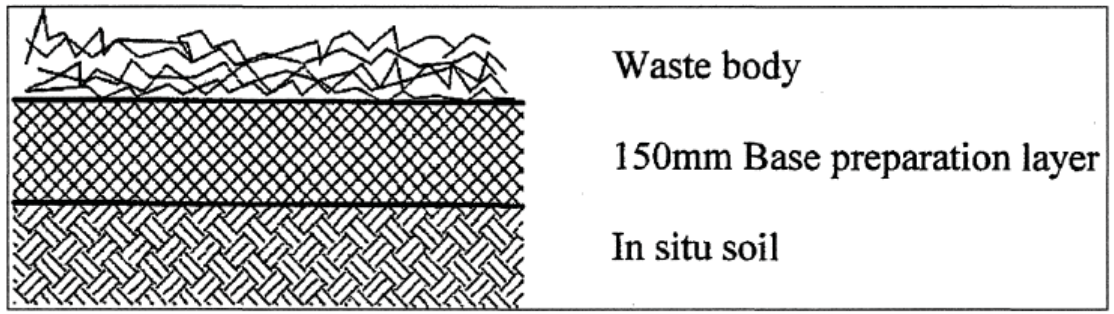
(b) Class B Landfill:



(c) Class C Landfill:



(d) Class D Landfill:



Regulations

Reg 6

Site selection criteria

- Qualitative assessment required
- Feasibility on highest ranking site –
    - Health and safety classification
    - Environmental classification
    - Geotechnical investigation
    - Hydrological investigation

- Specifies requirements for geotechnical and hydrological investigation

Regulations

Reg 7

Design

- Undertaken by a Pr.Eng
- Must take full life cycle into account and consider
    - Characteristics of residue (Reg 4)
    - Characteristics of environment (Reg 5)
    - Physical constraints of facility
- Consider water management and seepage controls

Reg 8

Impact management

- Focus on managing impact on water through the life cycle

Regulations

Reg 9

Duties

- Operate appropriately
- Design followed implicitly
- Implement measures to
    - Monitor
    - Secure
    - Preventative/remedial measures for pollution
    - Control dust
    - Develop rehabilitation measures
- Undertake routine maintenance and repair

Regulations

Reg 10

Monitoring and reporting

- Implement measures to identify whether impacts are arising
- Program needs to be site specific and consider geotechnical and environmental risks

Reg 11

Dust management and control

- Dust management in terms of Mine Health and Safety Act and NEM:Air Quality Act

Reg 12

Decommissioning and closure

- In terms of
    - Environmental authorisation
    - Environmental management plan

Regulations

Reg 14

Offences and penalties

- Imprisonment < 15 years
- An appropriate fine
- Both fine and imprisonment

So what does this mean

Large overlap with requirements of Reg 73 of MPRDA Regulations

- Mine residues are now considered hazardous – reputational risks
- Registered engineers must now design facilities
- Now require a Waste Management Licence for MRDS through EIA process
- Require barrier system based on N&S assessment and N&S disposal to landfill

Likely way forward

Proposed amendments to Regulations

"allow for the pollution control barrier system, required for residue stockpiles and residue deposits, to be determined on a case by case basis, based on a risk analysis conducted by a competent person" – Risk assessment based on Reg 4 & Reg 5

"pollution control barrier system compliant with the commensurate norms and standards for disposal of waste to landfill determined as a result of the risk analysis…"

WML only required if Activity listed under Section 19 of NEMWA – otherwise authorisation under NEMA will be valid

But what about Department of Water and Sanitation

- Section 19 of National Water Act
- Regulation 704

Both require pollution prevention – N&S utilised by DWS during Water Use Licence Application process

June 2016 DWS letter to Chamber of Mines

- Acknowledges the need for a risk based approach
  - Alternative barrier system meets objective of preventing pollution or
  - is the equivalent of the prescribed barrier system

Conclusion

- Similarity and yet differences from Reg 73 of MPRDA
- Onerous barrier system requirements
- Opportunity to use Risk Based Approach to demonstrate alternate barrier but performance of barrier should be the same as N&S

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THANK YOU

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