

ICS 73.020

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SOUTH AFRICAN STANDARD

Code of practice

Mine residue

SABS 0286:1998

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SOUTH AFRICAN BUREAU OF STANDARDS

CODE OF PRACTICE

MINE RESIDUE

Obtainable from the

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Notice

This standard was approved according to SABS procedures on 18 September 1998.

NOTES

1 In terms of the Standards Act, 1993 (Act 29 of 1993), no person shall claim or declare that he or any other person complied with an SABS standard unless

- a) such claim or declaration is true and accurate in all material respects, and
- b) the identity of the person on whose authority such claim or declaration is made, is clear.

2 It is recommended that authorities who wish to incorporate any part of this standard into any legislation in the manner intended by section 31 of the Act consult the SABS regarding the implications.

This standard will be revised when necessary in order to keep abreast of progress. Comment will be welcome and will be considered when the standard is revised.

Foreword

This standard deals with the management of mine residue in residue deposits, commonly known as slimes dams or tailings dams. The initiative to develop this standard arose after the disaster at Virginia in the Free State in February 1994. A slimes dam collapsed, killing and injuring people in the nearby suburb of Merriespruit. General environmental issues have been addressed to a lesser degree. Mine residue disposal has a considerable environmental impact, and consequently these considerations have also been addressed. Occupational health and safety have not been dealt with.

The main aim of this standard is to provide South African companies that are involved in mine residue disposal with objective principles and, where appropriate, minimum requirements for good practice in the various stages of the management of the life cycle of such residues. The development of the standard was initiated primarily in order to address safety concerns related to structural failure (collapse of dams).

A further aim of this standard is to present its information in such a way that the scope, underlying principles and further resources referred to are readily accessible to non-specialists, in order to facilitate public comment and ongoing use of this standard.

The principles on which this standard is based, are discussed in more detail in clause 4. These include:

- a) continual management – stressing the importance of ongoing management attention;
- b) the minimization of waste and the impacts of waste – all possible steps should be taken to reduce the amount of waste produced and the impact of its disposal;
- c) precautionary principle – a conservative approach should always be taken where there is risk to human health, property or the environment;
- d) internalization of costs – the full cost of satisfying the requirements of this standard shall be borne by the owner, and shall not be avoided by neglecting safety, health or the environment; and
- e) assessment of the full life cycle implications – waste disposal should be seen in the context of the entire process, and the need to rehabilitate for sustainable land-use after it has ceased.

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The disposal of mine residue commonly involves the stacking of material in a wet or dry form above natural ground. These stacks have the potential to slide or flatten or to be eroded. In any of these instances there is a potential risk to life, property and the environment. The constituents of mine residues frequently include elements that upset the natural environmental balance that existed before residue disposal. Mine residue disposal therefore presents a potential hazard to society and to the environment.

Mine residue disposal is an integral part of mineral and natural resource exploitation, but there is a moral obligation to ensure that the benefits of the exploitation of finite assets are optimized for everyone and that no avoidable problems or legacies are left to future generations to resolve.

The standard is not a design manual, or a step-by-step recipe. It is to be used and applied with discretion, with the assistance of appropriately experienced and qualified people, thereby encouraging innovation and continual improvement.

It is intended that clause 1, Scope, should serve as a "roadmap" to the standard, especially to non-technical readers who have an interest in the management of mine residue deposits.

Annexes A, B and C form an integral part of this standard.

Annexes D, E, F and G are for information only.