

Black Mountain Mining

BMM-HSE-ENV-SOP-0057 Managing wastewater and waste containing water dams

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❖ **Change History**

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❖ Definitions and Abbreviations

Word / Phrase / Abbreviation	Definition
PEME	PEME is an acronym used in Black Mountain Mining and has the following meaning: - People, - Equipment, - Materials, - Environment, The use of this in written documentation helps to comply with Resources Clause 7 – ISO 9001, ISO 14001 and ISO 45001. It is advisable to include in all written documentation.
Flow meter:	Measures inflow volumes
HDPE:	High Density Polyethylene
DWS:	Department Water and Sanitation
PCD:	Pollution control Dam

1. POLICY STATEMENT

Black Mountain's Standard Procedures (SOP's) shall be written in a clear concise manner, communicated to all employees and applied accordingly.

2. OBJECTIVES

The objective of this procedure is to give guidelines for the proper management of Managing wastewater and waste containing water dams.

3. SCOPE

Wastewater facilities listed in the water use license

- Plaatjiesvlei Evaporation Dam
- Evaporation Dam
- Aging / Return water dam
- Pollution Control Dams

4. PROCEDURE

4.1. New site construction

- The as-built plans and specifications of the dam(s) must be submitted to the Provincial Head for his/her records.
- Construction of the dam(s) may not commence before authorisation in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) is issued.
- The Government reserves the right to construct storage works at any time in any stream and to store all surplus water reaching the dam(s) and control the allocation of such water.
- Construction of the dam(s) may not commence unless the required authorisation to build has been issued by the Dam Safety Office of this Department.
- All the waste storage facilities should be designed with an HDPE liner that is impermeable and seepage detection methods must be installed.
- New infrastructure and associated facilities must be designed to have a minimum freeboard of 0.8 metres above full supply level.
- Design of new facilities and associated infrastructure shall calculate and contain 1:50 year rainfall volumes.
- Design dams with monitoring equipment to record dam levels.

4.2. Dam safety Requirements

- The Licensee is not exempted from compliance with the provisions of the Regulations published under Government Notice R. 139 of 24 February 2012 read with Chapter 12 of the Act.

- The construction, enlargement, alteration or repair of a dam with a safety risk, must be carried out under a licence issued in terms of the above regulations.
- The Licensee shall supply any information, drawings, specifications, design assumptions, calculations, documents and test results when requested by the Regional Head.
- Dam safety evaluations must be performed in line with the requirements and intervals specified in the regulations.

4.3. Operations

- Settling infrastructure and/or attenuation areas shall be cleaned regularly to prevent siltation in ponds.
- The capacity of a pond or dam shall be indicated near the pond or dam.
- Access to dams or ponds shall be controlled at all times and notices highlighting the danger of entering the area shall be displayed on the gate and fence surrounding the water body.
- No wastewater or waste containing water shall be pumped, diverted, or allowed to drain into the natural environment or unlicensed structure.
- Wastewater dams and associated facilities on the Licensee's premises must be operated and maintained in such a manner that it is not likely to spill into any clean water system more than once in 50 years.
- Wastewater dams and associated facilities must be maintained and operated to have a minimum freeboard of 0.8 meters above the full supply level.
- The operator of the facilities should advise the professional person on any circumstances or aspect of the facilities that, according to his / her operating experience, might either endanger the integrity of the disposal facility or present a risk to the public or the environment.
- Level of wastewater dam shall be monitored and recorded weekly.
- The polluted stormwater system shall provide suitable routing and pumping capacity for contaminated stormwater from the individual facilities to the respective stormwater dams in accordance with the design specifications as contained.
- Hydrocarbon-free PCD content will be utilised in the Metallurgical process to maintain capacity in the dam.

4.4. Reporting of problems/defects

- The following steps are to be taken when a problem or defect affecting the performance or efficiency of the dam or any other environmentally related incident or a failure and subsequent spillage or discharge is identified:
 - Identify the source if possible;
 - Notify your supervisor and control room;
 - Take immediate steps to stop/reduce any spread of the problem;

- Demarcate the area such that no person can slip and fall on the spillage point or enter the area immediately surrounding the spillage point;
- Once the problem/damage has been solved and it is safe to re-use the dam, remove the demarcation and return to normal operation.
- Corrective actions should be taken to ensure the required performance and efficiency of the dam and associated facilities is maintained;
- Submit an Environmental Incident / Non-Conformance Report to the Environmental unit. See Procedure BMM-HSE-ENV-SOP-0041: Environmental Incidents and Non-Conformances.

The Checklists detailing inspections of the sewage pond need to be completed by the plant operator or operation supervision.

4.5. Emergency procedure

4.5.1. Records

- Accurate and up-to-date records shall be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records shall be available for inspection by the Regional Head upon request. Such malfunctions shall be tabulated under the following headings with a full explanation of all the contributory circumstances:
 - 1) operating errors
 - 2) mechanical failures (including design, installation or maintenance)
 - 3) environmental factors (e.g. flood)
 - 4) loss of supply services (e.g. power failure) and
 - 5) other causes.

5. REVISION HISTORY

Revision 1 of SSD-ENV-SOP-057 Managing wastewater and waste containing water dams dated 14 April 2022

- New procedure

Revision 2 of SSD-ENV-SOP-057 Managing wastewater and waste containing water dams dated 14 December 2023.

- Include requirements for Gamsberg PCDs at Mining and Waste rock facilities

Revision 3 of SSD-ENV-SOP-057 Managing wastewater and waste containing water dams dated 23 May 2024.

- Updated procedure numbering in line with BMM-SSD-ENV-SOP-057
- Update 5.3 Operations

Revision 4 of BMM-HSE-ENV-SOP-0057 Managing wastewater and waste containing water dams dated 23 May 2024.

- Updated procedure to align with BMM document numbering

Please Note: Hard copies of old Procedures available in Environmental Procedures
Archive file in Environmental Department.

6. RESPONSIBILITIES

- The Environmental Manager shall implement and maintain this document.
- Department Heads shall ensure that this SOP is applied with due diligence.
- Deviations from this SOP shall be effected via approved "Deviations from Standard" documentation.
- Should additional precautions, due to special circumstances unique to that Department/Section, over-and-above the requirements of the Procedure be necessary, then the Department Head shall ensure that, in consultation with the relevant specialists, such requirements are specified in writing, conveyed over to the end users and recorded as such.

7. VALIDITY AND DOCUMENT MANAGEMENT

7.1 Document Validity

This SOP is effective from 2022/07/04 and was last reviewed on 09-01-2025. This SOP will be reviewed every 2 Years.

7.2 Document Management

- 7.2.1 This SOP replaces any other SOP issued earlier by BMM to the extent specifically covered here. This SOP should be followed in letter and spirit.
- 7.2.2 BMM is committed to continuously reviewing and updating policies and procedures, based on the Entity's risk assessment and shall incorporate for any regulatory requirement which is required to do so.
- 7.2.3 Any amendment to this SOP or issue of any guidance or circular etc. under this procedure must be approved in writing by the approving authority as listed in this document.
- 7.2.4 BMM reserves the right to withdraw, modify or revise the SOP as a whole / partial without providing any justification for the same. On revision, it should be duly communicated to the personnel involved.
- 7.2.5 If compliance with this SOP ever conflicts with the applicable law, regulation, directives issued by the statutory and or regulatory authority, then compliance must be ensured with the law.
- 7.2.6 In order to ensure compliance or to address any known conflicts with the law or to address any specific local requirements, BMM may adopt local sub-procedures which shall be by way of addendum to this SOP and which shall be approved by the approver of this SOP. Proposing of such addendum shall be the responsibility of the respective Entity's competent authority who is at an equivalent level with the SOP owner as set out in this document.

7.3 Violation of Sop

- 7.3.1 BMM follow a “Zero Tolerance Policy” with respect to non-compliance with this SOP and/or any other SOP / guidance issued by BMM and its constituent Entities.
- 7.3.2 Violation of this SOP is subject to appropriate disciplinary actions which may include but not limited to termination of employment. This determination will be based on the facts and circumstances of each situation. Any accused of violation of this SOP will be given an opportunity to present their case prior to any determination of appropriate disciplinary actions. Violation of this SOP may also be subject to substantial civil damages, criminal fines and prison terms.
- 7.3.3 Each employee is responsible for ensuring that their conduct and the conduct of anyone reporting to them shall fully comply with this SOP. Compliances, both personal and by subordinates, will be a factor in periodic performance appraisals.

7.4 Disclaimer

- 7.4.1 This SOP issued by BMM is for internal compliance and does not create, nor shall it be construed to create, directly or implicitly, any rights, duties or obligations of BMM to any person, body or legal Entity.
- 7.4.2 This document and its contents are the copyright property of BMM. The release of this document to any third party outside BMM is strictly prohibited without prior consent.

8. REVIEW AND APPROVAL

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**This document was approved (in sequence) by the individuals above using
electronic approval in our Document Control System.**

Final approval status: **Approved**

Approvals were done electronically.

❖ **Annexures / Appendix**