

Black Mountain Mining

BMM-HSE-ENV-SOP-0045 Management of Oxidation ponds 2024 V9

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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 the Village and Plant oxidation ponds:

- Manage the Sewage Pond effectively and responsibly.
- Identify, eliminate and/or reduce the environmental risks associated with oxidation pond operation and improper sewage handling and to ensure that the required controls are in place;
- Clarify the monitoring and reporting procedure and ensure that all incidents are immediately and correctly reported with the full details of the incident and measures taken to ameliorate the situation.

3. SCOPE

- The Managing the Sewage Oxidation Plants procedure for the management and maintenance describes the requirements for monitoring, operation, maintenance and clean-up of the sewage maturation plants at Black Mountain Complex and Aggeneys town.
- The need for implementation of this procedure is in order to control, maintain and where possible improve the sewage management and operation systems currently in use at Black Mountain Complex and Aggeneys town.

4. DEFINITIONS

The following definitions and abbreviations are relevant to this procedure:

Flow meter:	Measures inflow volumes
Fat trap:	All fats/oils that floats on the water surface are trapped and removed.
DWS:	Department Water and Sanitation

5. PROCEDURE CONTENT

5.1 INSPECTIONS AND MONITORING

The following points describe the activity guidelines, which apply to the monitoring, operation, maintenance and clean-up of the sewage maturation ponds:

- Inspections on sewage ponds are to be carried out on a minimum of a weekly basis during the week or at any interval within two days over weekends.
- The gates to the sewage ponds are to be kept locked at all times (padlock). No additional locks shall be placed on the gates.
- The fence to the sewage ponds is to be secure and maintained in good condition to ensure no inadvertent access by unauthorised persons or domestic animals.
- Boards clearly warning "No Unauthorized Access", "No Swimming" and the contact details of the maintenance personnel to be prominently displayed.
- Life jackets to be worn by persons inspecting/working in and about the sewage ponds. Life jackets and rescue ropes to be safely stored on-site, readily available for use.
- The inspection checklists are to be completed on a weekly basis and copies distributed to the responsible supervisor as well as to the Environmental Unit. All checklists will be filled on the Environmental drive.

- Water samples will be taken on a monthly basis to determine the water qualities (including bacteria). Samples are to be taken at 2 points at each system – one at the inflow to the pond and the second at the final dam draw point.
- The results of these monthly sample analyses shall be logged in the applicable database for statistical analysis. The sample and relevant statistical analysis shall be submitted to the Department of Water and Sanitation in Uppington.
- Quantity readings at the inflow meters are to be recorded for inclusion in the water report. The inflow should be checked against the WUL. Annually the inflow and golf course borehole shall be submitted to DWS
- Levels of each pond are to be monitored on a weekly basis by the environmental unit

5.2 REPORTING OF PROBLEMS/DEFECTS

The following steps are to be taken when a problem or defect affecting the performance or efficiency of the sewage maturation pond or any other environmentally related incident or a failure and subsequent spillage or discharge is identified:

- Identify the source if possible;
- Notify the supervisor;
- 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 sewage pond, remove the demarcation and return to normal operation.
- Corrective actions should be taken to ensure the required performance and efficiency of the sewage maturation pond is maintained;
- Submit an Environmental Incident / Non-Conformance Report to the Environmental unit. See Procedure BMC-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.

5.3 CLEAN-UP OF BLOCKAGE

If a blockage is discovered the following steps need to be taken to unblock the drain/trench

- Remove blockage with either a spade or flush the pipe if inside a pipe drain;
- The blockage needs to be disposed of as waste according to Procedure BMC-HSE-EVN-SOP-0040: Handling, Storage and Disposal of Waste; and
- All solid waste is cleaned and removed daily from the effluent water inlet screens.
- The solids are buried and covered with soil in an area demarcated for this purpose.

5.4 MAINTENANCE OF HOSTEL AND RECREATION CLUB FAT TRAPS

Oil and grease content of the water in the sewage ponds can negatively affect the efficient operation of these ponds. It is crucially important that as little oily material as possible is allowed to enter the system. For this reason, the following precautions are to be taken by the operators of the hostels and recreation clubs.

- All fat / grease traps are to be cleaned out on a daily basis;
- All solid fat is to be placed into the food leftovers drum;
- All used liquid oils (e.g. from kitchen frying activities) are to be placed in an empty drum and returned to supplier or sold.

6. REVISION HISTORY

Revision 6 of SSD-ENV-STD-045 – Managing the Sewage Oxidation ponds dated 12 July 2019

- Changes approval SSD Manager to HSE manager
- Update revision section and dates
- Update section 8 – approval and sanction.

Revision 7 of SSD-ENV-SOP-045 – Managing the Sewage Oxidation ponds dated February 2021.

- Change STD abbreviation to SOP
- Update BMC logo
- Update signature field
- Include section Associated Documents

Revision 8 of SSD-ENV-SOP-045 – Managing the Sewage Oxidation ponds dated August 2022.

- Update section Associated Documents
- Level recording of ponds in section 5.1 have been included

Revision 9 of BMM-HSE-ENV-SOP-0045 – Managing the Sewage Oxidation ponds dated December 2024.

- Updated reference to documentation to conform to the new document management system.

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

7. ASSOCIATED DOCUMENTS

- BMC-HSE-ENV-SOP-0041: Environmental Incidents and Non-Conformances.
- BMC-HSE-ENV-SOP-0040: Handling, Storage and Disposal of Waste

8. RESPONSIBILITIES

The designated Custodian 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.

9. REVIEW AND APPROVAL

Content Owner(s)

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Content Approver(s)

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.