



Standard 9

9 TOPSOIL AND RECLAMATION MANAGEMENT STANDARD

9.1 STANDARD

The purpose of this Standard is to define the requirements for the removal, stockpiling, use and management of topsoil during the progressive and final reclamation stages of individual projects, and define the requirements for the Site Reclamation Plan and key considerations relevant to the reclamation of B2Gold sites.

9.2 CRITERIA AND REQUIREMENTS

9.2.1 Regulatory Compliance

Sites shall confine land and vegetation disturbance to within legally designated areas.

The management of topsoil and site reclamation processes adopted at all sites shall be conducted in compliance with all relevant in-country regulatory requirements, licences and any other applicable requirements.

9.2.2 Topsoil Management

Sites shall locate and design on-site facilities to minimise the disturbance footprint across the site.

All sites shall ensure that practices associated with the stripping and temporary stockpiling of topsoil and subsoil are conducted in a manner that optimises its availability and future use in reclamation.

The extent to which topsoil and subsoil will be recovered for use in future reclamation shall be defined. Once determined, the location and volume of topsoil and subsoil stockpiles shall be retained.

9.2.3 Vegetation and Weed Management

Prior to the commencement of vegetation disturbance and earthworks, weed control and/or removal is required to be assessed and conducted where necessary.

If appropriate, mature vegetation shall be removed in a manner that facilitates any required use during progressive or final reclamation activities.

9.2.4 Stripping of Topsoil

Sites shall determine the feasible depth that topsoil and any suitable subsoils can be recovered and stockpiled. Subsoil shall be recovered to depths specified within the Mine Closure Plan.

When possible and practical, topsoil and subsoil shall be directly replaced on disturbed areas and not stockpiled. Scheduling of topsoil stripping shall align with progressive reclamation schedules.



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9.2.5 Dust Management

The application of water for dust control shall not occur directly on topsoil. Water application for dust control may be used on subsoil.

Topsoil stripping, recovery and stockpiling activities during windy conditions shall be suspended when excessive dust is generated.

9.2.6 Stockpiling of Topsoil and Subsoils

As much as practical, topsoil shall be stockpiled to preserve its viability for subsequent reclamation activities. This is inclusive of its stockpiling in windrows to a maximum above-ground height of 2 metres and subsoils to a maximum height of 3 metres. Ripping of windrows may be necessary to alleviate compaction.

The location and methods of stockpiling topsoil shall occur as defined in the Site Reclamation Plan and the Mine Closure Plan.

All topsoil and subsoil stockpiles shall have signage and their location and volume recorded for the life of mine and future closure activities.

9.2.7 Water Management

All topsoil and subsoil stockpiles shall be constructed with consideration of surface water flows. Stockpiles shall not form a barrier to surface water movement.

9.2.8 Recovery and Use of Topsoil and Subsoils

Recovered topsoil and subsoil shall only be used with formal permission from the Site Environmental Manager.

9.2.9 Reclamation Plan

Sites shall develop, implement, comply with and maintain a Site Reclamation Plan that defines all relevant strategies, operational controls and management practices relating to the progressive and final reclamation of the site.

The Site Reclamation Plan shall define suitable post-mining land uses, and incorporate relevant values associated with conservation, forestry, water catchment and any requirements formally agreed with local communities.

9.2.10 Reclamation

Sites shall reclaim open pits, subsidence zones and waste rock dumps to the extent practicable, consistent with the planned final land use, the current and reasonably foreseeable future regulatory requirements and where applicable, established success criteria.

When available, sites shall:

- undertake reclamation as soon as practicable on land that is no longer needed for current or future operational requirements; and
- return disturbed land to beneficial post-operational use to meet established success criteria.

Reclamation trials shall be conducted as early as practical to facilitate understanding and knowledge of required progressive and final reclamation techniques. Once determined, these are to be applied to the reclamation of tailings dams, waste rock disposal facilities and other disturbed areas to:



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- achieve landform stability; and
- facilitate progressive and final closure revegetation processes.

Progressive reclamation of disturbed areas shall consider site closure and decommissioning objectives, inclusive of minimising long-term visual impact and the potential for erosion. Visual impacts shall be minimised by creating landforms which are compatible as much as practical with the adjacent landscape.

Progressive reclamation shall be scheduled, budgeted and conducted as much as practical and to the extent that disturbed land has been made available for reclamation. Waste rock disposal facilities shall be progressively constructed to create final slopes as soon as practical.

Reclamation of major disturbed areas requires these to be:

- compatible with the agreed land uses and values in the local region;
- integrated into the existing landscape;
- chemically, erosionally and geotechnically safe and stable;
- physically and biologically resilient and sustainable; and
- incorporate landforms that are physically stable and safe.

9.2.11 Monitoring

The condition of all soil stockpiles shall be periodically inspected and monitored for weed growth and erosion.

Reclaimed areas shall be monitored (e.g., for physical stability, weed colonisation) to ensure that these areas meet established success criteria and to identify any opportunities to improve reclamation practices. Any identified deficiencies shall be corrected.

9.3 TERMS AND DEFINITIONS

Relevant key terms and definitions that relate to B2Gold's Topsoil and Reclamation Management Standard are provided below:

Closure: The process followed when a site has reached the stage in its life cycle where the intended mining use has been permanently concluded. This generally includes issues such as decommissioning activities, reclamation and revegetation of disturbed areas for long-term physical and chemical stabilisation of the site. This also often includes stakeholder consultation regarding post-mining use.

Decommissioning: The process that begins near or at the cessation of mineral processing and ends with the removal of all unwanted infrastructure and services.

Monitoring: The gathering, analysis (especially for trends) and interpretation of information for the assessment of performance.

Examples of monitoring subjects are: occupational health and safety, air, soil and water quality, flora and fauna, reclamation, social aspects including complaints, operational dust, noise, vibration, property damage, community health, community investment, historical and cultural sites.

Monitoring may be continuous, short-term or long term and may be undertaken manually or automated.



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Reclamation: The return of disturbed land to a physically and chemically stable, self-sustaining condition compatible with future land use objectives.

9.4 REFERENCE MATERIAL

Nil

9.5 DOCUMENT CONTROL

| Revision | Approved | Date | Description |
|----------|-----------|------------------------------|--|
| Final | Ken Jones | 17 th August 2014 | Original 2014 issue of the B2Gold Environmental and Biodiversity Performance Standards |
| Final | Ken Jones | 24 th May 2018 | 2018 revision, update and issue of the original 2014 B2Gold Environmental and Biodiversity Performance Standards |