Standard
9

PROGRESSIVE RECLAMATION

9.1 STANDARD

The purpose of this B2Gold Environmental and Biodiversity Standard - Progressive Reclamation is to define the requirements for progressive and final reclamation stages of individual projects including the removal, stockpiling, use and management of topsoil during project design, construction, operations and mine closure.

This Standard is related to but does not include other specific requirements associated with mine closure planning. These requirements are specified in Standard 8 – Mine Closure Planning.

9.2 CRITERIA AND REQUIREMENTS

9.2.1 Regulatory Compliance

Landform design, vegetation clearance and ground disturbance, topsoil removal, and revegetation strategies shall be conducted in compliance with all relevant in-country regulatory requirements, license/permit conditions and any other applicable requirements.

Sites shall confine vegetation clearance and ground disturbance to be within authorized and legally designated areas.

9.2.2 Management of Topsoil and Subsoils

Projects shall be designed to minimize the disturbance required across the footprint of the site including the location and placement of infrastructure.

Material planning processes shall identify topsoil quantity and quality required to meet progressive reclamation objectives, and define recovery methods and storage areas, including designated stockpile locations.

A materials balance for topsoil and subsoils shall be developed during project design and maintained throughout operations and the post-closure period. Stockpiles shall be surveyed to ensure progressive reclamation needs are met.

Topsoil and subsoils shall only be disturbed and/or utilized with formal approval from the Site Environmental Manager.

As much as possible, scheduling of topsoil stripping shall align with progressive reclamation schedules, and topsoil and subsoil shall be directly placed instead of stockpiling, where practicable.

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

Any material for future reclamation that is to be stockpiled shall be stored to ensure its long-term viability. This may include reducing stockpile heights, ripping to minimize compaction, erosion protection and revegetation of stockpiles.

All topsoil and subsoil stockpiles shall display clear signage in the field. The location and surveyed volume shall be recorded in a suitable database.

Processes shall be available to ensure that topsoil stripping, recovery and stockpiling activities during windy conditions are suspended when excessive dust from handling topsoil is generated.

9.2.3 Vegetation and Weed Management

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

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

9.2.4 Progressive Reclamation Plan

Sites shall develop, implement, and maintain a Reclamation Plan that defines all relevant strategies, schedules, locations, operational controls and practices relating to progressive reclamation of the site.

As a minimum, site Reclamation Plans shall define the following:

- Regulatory/Permit requirements
- Design criteria for structures requiring soil placement
- Soil recovery, placement and storage methods
- Soil quality assessments, particularly if sodic or acid sulphate soils are present
- Material balances aligned with LOM plans
- Surface stabilization methods
- Species suitability and selection assessment to meet reclamation objectives
- Alignment with surface water management and drainage plans to prevent erosion
- Defined reclamation success criteria
- Reclamation monitoring programs through operations and post closure

Site Reclamation Plans shall be revised and updated on an annual frequency. These shall align with the budget cycle to ensure that funds remain available for annual progressive reclamation of the site.

Knowledge obtained during progressive reclamation shall be used for updates of the Mine Closure Plan, annual Reclamation Plans and Closure Cost Estimates.

9.2.5 Reclamation Trials

Reclamation trials shall be conducted as early as practical to facilitate understanding and knowledge of required progressive and final reclamation techniques. The Mine Closure Plan, annual Reclamation Plan and site-specific closure criteria shall be refined based on reclamation trials.

Reclamation trials shall be applied to the reclamation of tailings dams, waste rock disposal facilities and other disturbed areas to achieve landform stability and facilitate progressive and final closure revegetation processes.

9.2.6 Progressive Reclamation

Sites shall progressively reclaim open pits, subsidence zones and waste rock dumps as soon as practicable on land that is no longer needed for current or future operational requirements, in conformance with the site Reclamation Plan.

Reclamation of major disturbed areas shall:

- meet established reclamation and closure success criteria
- be compatible with the agreed land uses and values in the local region
- be integrated into the existing landscape
- be chemically, physically and geotechnically safe and stable
- be physically and biologically resilient and sustainable

Progressive reclamation shall be budgeted, scheduled and conducted on an annual basis, and to the extent that disturbed land has been made available for reclamation. Waste rock dumps shall be constructed to create final slopes as soon as practical.

9.2.7 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 colonization) 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 REFERENCE MATERIAL

ISO 21795-1:2021 - Mine closure and reclamation planning - Part 1

World Gold Council - Responsible Gold Mining Principles – Principle 9 – Biodiversity, land use and mine closure (September 2019)