

ANNEX G



**PROVISIONAL LAND
REHABILITATION
PLAN**

PROVISIONAL LAND REHABILITATION PLAN

This annex describes the Company's reclamation objectives, principles and planning for areas that would be disturbed by the Project as well as the steps it intends to take to rehabilitate disturbed areas during the first 18-month period of construction. As indicated in **Section 8.0 (Decommissioning and Reclamation)**, the Company proposes to develop a more refined land rehabilitation plan within six months of commencement of operations (i.e., mining and producing gold) as a means to engage stakeholders in a process that could influence Project design and realize other benefits. During operation of the Project, the reclamation and closure/decommissioning plans would be periodically updated to reflect current changes in operational aspects that may affect reclamation of Project components. The more comprehensive Land Rehabilitation Plan would serve as an ongoing or day-to-day plan during active mine operations. The plan would address long-term aspects of reclamation and rehabilitation including determinations of land use(s) to obtain post-mining land use compatible with prevailing conditions in the area.

Reclamation requirements in Ghana are regulated by the following documents:

- Section 29 – Assets upon Termination or Expiration, of the mining lease issued to a company by the Minerals Commission,
- Ghana Mining and Environmental Guidelines issued by the Minerals Commission and Environmental Protection Council (May 1994) and
- Section 14 (4) of Environmental Assessment Regulations, L.I. 1652, (1999).

RECLAMATION OBJECTIVES

The Company has established general planning and development objectives that would meet or exceed international environmental guidelines and best management practices for reclamation and mine closure including:

- Adhere to all statutory requirements,
- Provide long-term stable site configuration to attain beneficial post-mining land use,
- Rehabilitate mine related disturbances to obtain post-mining land use compatible with prevailing conditions in the area,
- Eliminate public safety hazards,
- Perform reclamation activities concurrent with mining and
- Allocate sufficient funds to implement these objectives.

RECLAMATION PRINCIPLES

The Company would follow basic principles of reclamation including:

- Progressively rehabilitate sites where possible,

- Reshape areas disturbed by mining operations to the extent possible to attain:
 - Site stability,
 - Adequate drainage to minimize erosion,
 - Compatibility with desired long-term land use, and
 - Surface conducive to revegetation.
- Salvage and stockpile topsoil (growth medium) in accordance with suitability for reclamation,
- Identify alternate substrates for use as growth medium (e.g., overburden, oxidized waste material),
- Incorporate use of local or native species in revegetation plan,
- Remove all facilities and equipment not required for restoration in a timely manner,
- Properly dispose of residual hazardous materials,
- Identify overburden and exposed strata that may be deleterious to water quality or revegetation efforts and
- Monitor and manage rehabilitated areas until vegetation is self-sustaining and all reclamation objectives have been met.

GENERAL APPROACH

During the first 18 months following permit issuance, the Company would be in the Pre-Construction and Construction Phases of the Project; actual operations (i.e., mining and producing gold) will not commence until Year 3. In view of this, the Company intends to comply with the principles listed above to achieve the stated reclamation objectives for all activities completed during this start-up period.

Anticipated Pre-Construction and Construction Activities

It is expected, during the 18-month site preparation period, the following activities will be completed or initiated:

- Constructing sediment control structures,
- Clearing and grubbing of vegetation from the Proposed Mining Area,
- Constructing surface water diversion ditches,
- Salvaging and stockpiling soil for use in future reclamation of disturbance areas,
- Seeding of soil stockpiles,
- Constructing access roads,
- Site preparation for Plant Site and

- Constructing accommodations for construction workers.

Anticipated Land Rehabilitation Activities

In consideration of the planned activities listed above, the Company intends to complete the following land rehabilitation activities during the 18-month site preparation period:

Preparation and Conditioning of Soil Stockpiles

Top soil and subsoil will be removed using earth moving equipment from all surface areas to be disturbed and stored in stockpiles. Chipped wood product and biomass cleared from the site will be blended into the soil stockpiles to increase organic matter content of salvage soil. The stockpiles will be seeded with a diverse seed mixture to provide a temporary vegetative cap that will protect the piles from wind and water erosion. The stockpiles would be located in areas throughout the Proposed Mining Area that will not be disturbed during subsequent Project activities. The stockpiles will be maintained through active monitoring and reseeded (as necessary) to preserve the material for future reclamation uses.

Reclamation of Sediment Control Structures

Sediment controls structures will be installed during the initial stages of the Project to ensure any increased sedimentation resulting from site disturbance is captured and managed. These small dams and outlet structures will be scarified, covered with soil and revegetated to ensure erosion on the structures is controlled. The structures will be maintained, as necessary, to promote a healthy vegetative cover. When necessary, best management practices (e.g., straw bales, sediment traps), will be employed to promote soil stability until vegetation has matured and stabilized.

Reclamation of Isolated Disturbance Areas

Certain areas within the Proposed Mining Area disturbed during the initial 18 month construction period will be reclaimed by reshaping, blending, applying soil and revegetating. Candidate areas for reclamation during this time period include cut and fill slopes associated with road construction and stormwater diversion ditch faces. These features will not be re-disturbed during the operational phase of the Project but do require interim reclamation measures be implemented. Reclamation of these areas will provide for vegetation that conforms to the overall reclamation plan and results in stable slopes that are protected from wind and water erosion.

Reclamation of Accommodation and Plant Site Areas

It is expected that lodging quarters for construction crews and certain management staff will be installed during the initial 18 month construction period. Likewise, initial preparation of the ground that will accommodate the Processing Plant for the Project will occur. Surface areas around these facilities disturbed during construction will be covered with an interim vegetative cover or with a gravel cap to prevent erosion and sedimentation. If a vegetative

cover is installed over these areas, an appropriate soil cap will be applied to accommodate the seed mixture designed for the area. These areas will be maintained using fertilizer and applied water, as necessary, to ensure the vegetative cap is working as designed.

FUTURE LAND REHABILITATION PLAN

As required by statute, the Company will develop a more comprehensive Land Rehabilitation Plan for review and approval by the EPA no later than 18 months after the start of operations (mining and producing gold). The plan will expand on and formalize what is included in the Provisional Plan and will account for all activities and developments associated with the Project for the three-year period following the initial 18 months. The proposed components of the Land Rehabilitation Plan are provided in **Table G-I**.

TABLE G-I	
Land Rehabilitation Plan Proposed Contents	
<p>1.0 INTRODUCTION</p> <p>1.1 The Context of an LRP for the Akyem Gold Mining Project</p> <p>1.2 Determination of Post-mining Land Use(s)</p> <p>2.0 PRINCIPLES AND PREREQUISITES OF LAND RECLAMATION PLANNING</p> <p>2.1 Introduction</p> <p>2.2 Design Elements</p> <p>2.2.1 Conceptual Elements</p> <p>2.2.2 Sequential Elements</p> <p>2.2.3 Principal Areas of Concern</p> <p style="margin-left: 20px;">(i) Post-mining topography</p> <p style="margin-left: 20px;">(ii) Erosion and sediment control</p> <p style="margin-left: 20px;">(iii) Water quality</p> <p style="margin-left: 20px;">(iv) Air quality</p> <p style="margin-left: 20px;">(v) Plant establishment</p> <p style="margin-left: 20px;">(vi) Institutions and resources</p> <p>2.3 Plan Development</p> <p>2.3.1 Development of a Phased Reclamation Plan</p> <p style="margin-left: 20px;">(i) An evaluation of the pre-mining environment</p> <p style="margin-left: 20px;">(ii) Development of a conceptual phased plan</p> <p>2.3.2 Reconciliation of Reclamation with Legislative Requirements</p> <p>2.3.3 Reconciliation of Reclamation Plan with Mine Plans</p> <p>2.3.4 Monitoring and Auditing</p> <p>2.4 Information Requirements</p> <p>2.4.1 The Regulatory Framework</p> <p>2.4.2 The Physical Environment</p> <p>2.4.3 The Biological Environment</p> <p>2.4.4 The Socio-Economic Environment</p> <p>2.5 Organizational Requirements</p> <p>2.5.1 Institutional Responsibilities and Staffing</p> <p>2.5.2 Technical Facilities</p> <p>2.6 Equipment and Budgeting</p> <p>2.6.1 Equipment for Reclamation</p>	<p>4.0 COMPANY: LAND RECLAMATION ACTION PLAN</p> <p>4.1 Introduction</p> <p>4.2 Development of the LRP</p> <p style="margin-left: 20px;">4.2.1 Introduction</p> <p style="margin-left: 20px;">4.2.2 Objectives</p> <p style="margin-left: 20px;">4.2.3 Data Collection and Interpretation</p> <p style="margin-left: 20px;">4.2.4 Phased Mining Plans</p> <p>4.3 Post-Mining Topography</p> <p style="margin-left: 20px;">4.3.1 Introduction</p> <p style="margin-left: 20px;">4.3.2 Objectives</p> <p>4.4 Air Quality: Dust Control</p> <p style="margin-left: 20px;">4.4.1 Introduction</p> <p style="margin-left: 20px;">4.4.2 Objectives</p> <p style="margin-left: 20px;">4.4.3 Dust Control Plan</p> <p style="margin-left: 20px;">4.4.4 Spontaneous Combustion Control Plan</p> <p style="margin-left: 20px;">4.4.5 Monitoring</p> <p>4.5 Soil: Salvage and Re-Use</p> <p style="margin-left: 20px;">4.5.1 Introduction</p> <p style="margin-left: 20px;">4.5.2 Objectives</p> <p style="margin-left: 20px;">4.5.3 Soil Survey</p> <p style="margin-left: 20px;">4.5.4 Trials and Planning</p> <p>4.6 Waste Analysis and Characterization</p> <p style="margin-left: 20px;">4.6.1 Introduction</p> <p style="margin-left: 20px;">4.6.2 Objectives</p> <p style="margin-left: 20px;">4.6.3 Lithological and Chemical Analysis</p> <p style="margin-left: 20px;">4.6.4 Prediction of Potential Impacts and Design of Mitigation Procedures</p> <p>4.7 Waste Dump Construction and Phased Reclamation</p> <p style="margin-left: 20px;">4.7.1 Introduction</p> <p style="margin-left: 20px;">4.7.2 Objectives</p> <p style="margin-left: 20px;">4.7.3 Preparation of Phased Dump Construction and Reclamation Plans</p> <p style="margin-left: 20px;">4.7.4 Phased Construction of Dumps and Benches</p> <p style="margin-left: 20px;">4.7.5 Regrading of Dump Slopes and Tops</p> <p style="margin-left: 20px;">4.7.6 Sediment Control Procedures and Drainage</p>

TABLE G-1
Land Rehabilitation Plan Proposed Contents

<p>2.6.2 Budgeting for Reclamation</p> <p>3.0 COMPANY: The Plan of Operation</p> <p>3.1 Introduction</p> <p>3.2 Available Data</p> <p>3.2.1 Reports</p> <p>3.2.2 Aerial Photographs and Traditional Maps</p> <p>3.2.3 The Physical Environment</p> <p>(i) Climate</p> <p>(ii) Geology</p> <p>(iii) Surface soils</p> <p>(iv) Hydrology</p> <p>3.2.4 The Biological Context (Flora/ Fauna/ Soils)</p> <p>3.2.5 The Socio-Economic Context</p> <p>3.3 COMPANY Mine Plan</p> <p>3.3.1 Introduction</p> <p>3.3.2 Summary of the Mining Proposals</p> <p>3.3.3 Phased Mining Plans</p> <p>3.4 Current Reclamation Plans</p> <p>3.4.1 Stated Reclamation Objectives</p> <p>3.4.2 Current Status of the Reclamation Program</p> <p>3.5 Principal Areas of Concern</p> <p>3.5.1 Introduction</p> <p>3.5.2 Lack of Objectives</p> <p>3.5.3 Post-Mining Topography</p> <p>3.5.4 Air Quality</p> <p>3.5.5 Water Quality</p> <p>3.5.6 Erosion and Sedimentation</p> <p>3.5.7 Plant Establishment and Management</p> <p>3.5.8 Reclamation of Other Features and Facilities</p> <p>3.5.9 Company Resources</p>	<p>4.7.7 Surface Preparation for Revegetation</p> <p>4.7.8 Final Close-Out Procedures</p> <p>4.8 Pit Closure</p> <p>4.8.1 Introduction</p> <p>4.8.2 Objectives</p> <p>4.8.3 Backfilling</p> <p>4.8.4 Regrading of Dump Slopes</p> <p>4.8.4 Pit Filling</p> <p>4.8.5 Spillway and Decant System Construction</p> <p>4.8.6 Water Resource Distribution System</p> <p>4.8 Drainage Sediment Control</p> <p>4.8.1 Introduction</p> <p>4.8.2 Objectives</p> <p>4.8.3 Control Plan</p> <p>4.9 Water Quality Management</p> <p>4.9.1 Introduction</p> <p>4.9.2 Objectives</p> <p>4.9.3 Sediment Control Plan</p> <p>4.9.4 Control of Other Pollutants</p> <p>4.9.5 Monitoring</p> <p>4.10 Reclamation of Other Facilities and Features</p> <p>4.10.1 Introduction</p> <p>4.10.2 Objectives</p> <p>4.11 Feed and Planting-Stock</p> <p>4.11.1 Introduction</p> <p>4.11.2 Objectives</p> <p>4.11.3 Trials</p> <p>4.11.4 Species Selection</p> <p>4.11.5 Collection and/or Production of Planting-stock</p> <p>4.12 Company Requirements for Planning, Implementation and Monitoring</p> <p>4.12.1 Introduction</p> <p>4.12.2 Staffing</p> <p>4.12.3 Technical Facilities</p> <p>4.12.4 Training</p> <p>4.12.5 Monitoring</p>
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