MULTIVERSE MINING and EXPLORATION PLC

MINE WASTE MANAGEMENT (MWM) PROGRAMMES

INTRODUCTION

The main objective of our company Mine Waste Management (MWM) Program is to identify approaches that could maximize resource utilization and value generation from waste while mitigating its environmental impact. .

The MWM programs set an order of priority for our waste management practices. We believe that these well thought combinations of its elements that are not mutually exclusive, will give the greatest environmental and economic benefits. It is an integral part of a comprehensive framework that encompasses all sustainability dimensions.

It considers not only a particular mining project but also the entire life of the mine, from exploration to closure of a fully rehabilitated site. It also emphasizes the importance for maintaining continuity and coherence throughout the life of the mine as temporary closures, periods of care and maintenance, waste management and rehabilitation need to be better managed with the full consideration of long-term impacts and potential legacies.

A HOLISTIC APPROACH TO MINE WASTE MANGEMENT

Our mining waste management integrates and prioritizes waste minimization and mineral recovery. These priorities include the need to mitigate waste-related environmental impacts, as well as the loss of valuable and scarce minerals.

Our strategy therefore is based on modifying and adapting the generic waste management pyramid "reduce, reuse, recycle" (3Rs) to mining waste.

We believe that preserving the integrity and the function of a product is more desirable-and energy efficient-than tearing it apart to recycle its individual elements.

Re-use is defined as making use of the total mine waste without any prior reprocessing, whereas recycling involves a reprocessing stage which aims at either extracting 'new valuable resource ingredients', or making the entire mine waste usable for a new application. Re-use is then considered superior to recycling as the absence of reprocessing stage saves energy, water and other resources.

WASTE MANAGEMENT STRATEGIES/PROGRAMMES

A. "REDUCE" STRATEGY

First in the priority list, 'reduce' can be expressed in different terms, e.g. 'source reduction', waste prevention or again waste avoidance. Preventing waste prior to its generation is considered as most desirable option for mining waste. Preventing waste is about minimizing the loss of ore's valuable components, the target metals, and minimizing the dissemination of contaminants from waste to the surrounding environment.

B. PREVENTION STRATEGY

Waste prevention is about increasing the efficiency of mineral extraction from the ore body, i.e. the resource efficiency or more precisely 'mineral resource efficiency'.

At the mine site level, the goal is to optimize ore extraction in a way that minimizes mineral losses at every stage and over the life of mine. A consequence of this increased mineral recovery would be a reduced need to open new mines in green fields, which constitutes a significant environmental benefit.

C. PRE-CONCENTRATION STRATEGY

Pre-concentration aims at additional process of ore sorting, which aims at reducing the amount of barren material that enters beneficiation. This result in an increased mineral processing efficiency, potentially reduced energy and water requirements and possibly enhanced mineral extraction. Pre-concentration technologies offer a means to mine and process material more efficiently by a more precise characterization and selection of the material, which provides opportunities to optimize production.

D. REPROCESS STARTEGY

Waste reprocessing is a very important strategy in the MWM programs. The reprocessing stage creates new value by extracting metal and decontaminating waste at the same, which makes the remaining material benign and available for down cycling applications.

Indeed, waste reprocessing may provide the same advantages as waste prevention, i.e. enhanced mineral recovery and pollution mitigation. Reprocessing may be done to recover a previously overlooked companion metal whose market price increased significantly. Tailings can be reprocessed as a result of additional capacity of the process plant.

E. DOWNCYCLE STRATEGY

Waste properties may not allow for forecasting any future reprocessing, i.e. if metal and contaminants concentrations are too low to justify the extra resources needed for reprocessing. In this case opportunities for down cycling may be considered.

Downcycling refers to using the bulk of the waste material for a 'low' purpose, that it to say a purpose that generates low value compared to the value of the metals that could be produced by reprocessing the waste. Downcycling shows advantages as it reduces the amount of waste that needs to be disposed and its related environmental impacts.

Backfilling an underground mine is one of the most common examples of downcycling.. Backfilling is often necessary for safety reasons (notably by filling voids), and points out that it can also allow to access and mine more ore as it stabilizes the underground installations.

F. DISPOSE RESPONSIBLY STRATEGY

Once all possible uses for the waste material have been considered, then we adopt safe disposal strategy to complete the MWM program.

Permanent disposal suits only a material that is chemically inert, and for which no economic use could be found. On the contrary, stockpiling requires segregating the material in a way that anticipates for its future use. Depending on the intended use-reprocessing and/or downcycling – segregation can be done in various ways: by particle size, target metals concentrations, waste stream source, mineral types, time of generation, etc.

DETERMINANTS OF OUR WASTE MANAGEMENT STRATEGY

A. Technological Advancements:

As technology advances, it is possible to re-mine mineral waste material that was not economic in the past and therefore logically waste of today can become the ore of tomorrow.

B. Operating Costs:

The operating costs, the metal prices and the extractive strategy will in particular determine the cut-off grade that separates ore from waste rock. The processing plant design and technological choices are articulated around the specified concentrate grade and recovery rates, which determine the amount of mineral losses to processing waste streams.

C. Corporate Objectives

Not deviating from the company's core business can be a sufficient reason for not exploring the recovery of a particular by-product. Also, materials that were economic to mine may become waste as a result of an unplanned interruption in mining activities due to a drop in commodity prices.

D. Regulatory Issues

The Mineral and Mining act 2007 and regulations is of particular importance in guiding our mining operations

Approved by the Board of Directors this…….day of ….. 2018

Secretary *Director*