

LANDFILL MANAGEMENT PLAN JERICHO DIAMOND MINE, NUNAVUT

EXECUTIVE SUMMARY

Introduction

This document addresses the specific requirements at the present time with provision for future waste generated during resumed mining operations. In addition to being a management tool, the Landfill Management Plan (LMP) was developed to assist Shear Diamond's Ltd. (Shear) and the regulatory agencies with mine closure planning and the development of the Jericho Interim Closure and Reclamation Plan (EBA 2011).

A landfill was constructed under the previous ownership in Waste Rock Dump 2, as shown in Figure 1 in this plan. Shear is planning to decommission the existing landfill and construct a new landfill in Waste Dump 1. A detailed landfill design, including the new landfill location, will be completed as part of Shear's investigation work in 2011. At this time, the condition of the existing landfill will also be evaluated and a closure plan developed.

Facility Description

The landfill will be located within Waste Dump 1, in accordance with the Environmental Impact Statement (TDC, 2003); however, the precise location has not yet been determined. The landfill location will be finalized as part of the investigation work being undertaken by Shear in 2011. The existing landfill located in Waste Dump 2 will be decommissioned upon completion of the new landfill construction.

The landfill design concept is based on the approach used at the EKATI Diamond Mine, NT, whereby permafrost is used to provide an impermeable barrier to water leaching into the foundation material. Once landfilling is complete, sufficient cover is placed over the waste material to aggrade permafrost into the debris. This keeps the waste material in a permafrost condition, inhibiting flow through the waste material and the release of leachate.

During operation, waste material is placed in lifts and compacted under equipment traffic using the area method detailed in Kent et al. 2003. Intermediate fill soils are placed over debris creating waste cells.

Safety Procedures

All personnel working in the landfill must be trained in the procedures associated with landfill operation, including the use of safety equipment (first aid supplies, eyewash station, fire extinguisher, spill response materials, etc.), emergency response procedures, waste placement, incineration and open-pit burning, record-keeping, soil and water sampling, and groundwater monitoring.

Acceptance Criteria

The Jericho landfill will accept only non-hazardous waste. These materials will be landfilled in waste cells as detailed in Section 6.2 of this plan. Table 1 provides a summary of the anticipated types of waste to be generated at Jericho.

Landfill Management

The VP, Operations and/or designate will be responsible for managing the landfill, adhering to the Jericho Mine Health and Safety Plan, and following the Safety Procedures outlined in Section 4.0 of this plan.

A waste control program will be implemented to avoid the disposal of inappropriate materials.