

PRELIMINARY LANDFILL DESIGN PLAN JERICHO DIAMOND MINE, NUNAVUT

EXECUTIVE SUMMARY

The Preliminary Landfill Design Plan (LDP) provides preliminary design and operational details for construction of a landfill at the Jericho Diamond Mine (Jericho). Operational considerations are discussed briefly in this document while the Jericho Landfill Management Plan (LMP) (EBA 2011) provides more details on the management and operation plan for the landfill.

A landfill was constructed under the previous ownership in Waste Rock Dump 2, as shown in Figure 1 in this plan. This landfill will be decommissioned and a new landfill constructed in Waste Dump 1, as discussed in Section 3.0.

The landfill is operated as an industrial dry waste landfill and not a municipal solid waste landfill. The mine generates a variety of wastes, both hazardous and non-hazardous. A landfill is used to dispose of non-hazardous wastes that cannot be recycled. Food wastes are incinerated and hazardous materials are separated, stored and sent off site for disposal or for the recycling via the winter road. Sludge from the wastewater clarifier is disposed of in a pit area segregated from the main landfill facility.

The landfill design is based on the approach used at the EKATI Diamond Mine, NT, where permafrost is used to minimize water leaching into the subsoil. The design also allows for the landfill to be fully encased in the permafrost as the site develops and when the landfill is closed. A plan and cross-section of the landfill development is presented in Figure 2 of this report.

The landfill will be located within Waste Dump 1, in accordance with the Environmental Impact Statement; 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.