

PRELIMINARY LANDFARM DESIGN PLAN

JERICOHO DIAMOND MINE, NUNAVUT

Executive Summary

Introduction

The Preliminary Landfarm Design Plan (LFDP) is based on existing records and the best available information at the time this plan was prepared. The design considers current regulatory requirements and Shear Diamonds Ltd.'s (Shear) commitment to the best practices in environmental stewardship. This plan replaces any previous landfarm design plans already submitted for the Jericho project.

Project Details

The landfarm is designed to accommodate both the existing and future hydrocarbon contamination on site at the Jericho diamond mine. Capacity is also provided in the design for short-term contamination of precipitation and runoff.

Only treatable soils will be admitted to the landfarm. Treatment options for contaminated soils that cannot be admitted are discussed in the Waste Management Plan (EBA 2011).

The location for the landfarm has not yet been determined. Field investigation in 2011 will determine options for location, and once finalized the design will be completed.

Design Inputs

The landfarm was designed to accommodate hydrocarbon-contaminated soils, meltwater from contaminated snow and direct precipitation into the facility. The size of the facility being proposed is based on the volume requirements.

Landfarm Design

The design comprises a bermed enclosure lined with an impermeable geomembrane liner. The down-gradient portion of the landfarm is designed as a recessed sump area to contain runoff from the landfarm area and limited quantities of hydrocarbon-contaminated snow.

In choosing the landfarm location, Shear will consider: distance from permanent water bodies; direction of surface flows; and, substrate material and foundation conditions.

The landfarm design has a surface area of 11,000 m² and has been sized to accommodate approximately half the existing contaminated soil volume on site. This will require a staged approach to treating the hydrocarbon-contaminated soils.

Operational Considerations

Containment within the facility is contingent on liner integrity. Care should be taken not to damage the liner, including the use of equipment within the landfarm.

Landfarm sumps should be pumped out regularly. The mobile remediation skid will be used to treat water contained in the landfarm prior to discharge to the processed kimberlite containment area.