

DOMINION DIAMOND HOLDINGS LTD

GLOWWORM LAKE PROJECT

SOUTH MACKENZIE DISTRICT, NWT

(NTS SHEETS 76C & 76D)

**64°30'00"N to 65°00'00"N
-108°45'00"W to -110°25'00"W**

Waste Management Plan

May 2017

Table of Contents

Table of Contents	2
Introduction	3
Site Characteristics.....	3
Potential Camp Site.....	3
Waste	4
Waste Types.....	4
Food, Burnables & Recyclables	4
Hazardous & Machinery Waste, Tires & Scrap	5
Human Waste & Grey Water	5
Summary of Waste Types	6
Review and Update.....	7

Introduction

Dominion Diamond Holdings Ltd (DDHL) is committed to minimizing the impact of its activities on the environment and to protecting the safety of communities, personnel & contractors, wildlife and the land from unacceptable risk. Preventative maintenance reduces the likelihood of environmental concerns. Grassroots exploration activities generally are low-impact, and with diligence and good management practices it is possible to minimize any potential environmental impact.

This Waste Management Plan (the Plan) allows for the identification of the different waste streams produced during the Glowworm Lake Project and outlines the procedures for managing same. Proper execution of the Plan will mitigate and minimize the effects of waste on the local environment. The Plan is designed to employ best practices that are also in compliance with relevant Acts, Regulations and Permits.

Site Characteristics

The exploration property is located in the Central Tundra Natural Region, approximately 380 km east-northeast of Yellowknife, Northwest Territories. Exploration activities will consist of sampling for kimberlite Indicator Minerals in glacial sediments which will include various aerial surveys, and the use of heli-portable Reverse Circulation (RC) drills and diamond drills. Identified areas of interest may also be bulk sampled with Large Diameter (24") RC drilling.

Exploration activity will largely be staged out of the nearby Ekati mine site with temporary fuel caches established on the Glowworm property as needed. A temporary fly camp may be established occasionally to enter areas difficult to access from the Ekati mine. A potential site for this camp would be adjacent to Glowworm Lake on an extensive glaciofluvial esker complex located at coordinates of approximately 64°42' N and 109°18' W.

Potential Camp Site

If a temporary camp is required it will consist of plywood and canvas structures (shacks/tents), comprising 5 sleeping tents, one First-Aid/Refuge tent, kitchen, dry, core shack, and office. Additionally there would be structures erected for the power generator, waterless (pacto) toilets and general storage. A dock, a laydown area for drill equipment, fuel storage and waste storage and disposal area may also be established. The footprint of the camp will be approximately one hectare and it would be used on a seasonal basis.

Waste

Daily exploration activity will generate several types of waste materials. To effectively manage waste in a manner protective of wildlife and the environment, the following basic rules will apply:

- a) No garbage will be left in the field at any time. All refuse and cigarette butts will be collected and properly disposed of upon return to camp.
- a) Garbage will be separated into burnable and non-burnable materials. Non-burnables will be returned to the Ekati mine or Yellowknife for further sorting into waste and recyclables. Burnables may be open burnt on site within a burn barrel.
- b) Garbage receptacles will be placed at work locations and around camp for convenience of personnel. Cigarette butts will be extinguished and placed in an appropriate receptacle and will not be thrown on the ground.

Waste Types

The types of waste that might be generated include the following:

- a) Food
- b) Burnable waste (paper, cardboard, untreated wood)
- c) Recyclable items (tins, glass, plastic containers & wrapping)
- d) Hazardous waste (batteries, solvents, paint)
- e) Machinery waste (oils & lubricants)
- f) Tires
- g) Scrap (metal, tarps, Styrofoam)
- h) Human waste
- i) Grey water

Care will be taken to minimize waste reduction at source, and to reuse and recycle where possible and practical. Remaining waste will be promptly disposed of as appropriate and is described below.

Food, Burnables & Recyclables

Used or old food items will be burnt on a daily basis unless the program is of short duration, or there are regularly available back-haul flights to the Ekati mine or Yellowknife. Any food waste which is not burnt or backhauled will be securely stored in the interim time to prevent the attraction, access, and potential habituation of wildlife. Food items will be consumed only in the kitchen area, not in the sleeping, office or core shack tents.

For activities staged out of the Ekati mine site, all waste will be backhauled to the Ekati mine daily for segregation and disposal as appropriate under the approved Ekati Diamond Mine Waste Management Plan.

For activities staged out of a temporary Glowworm camp, waste will be segregated into burnable and non-burnable categories. Non-burnable waste, such as plastics, metals, and hazardous materials, will be transported to either the Ekati mine or Yellowknife for appropriate segregation and disposal as described in the approved Ekati Diamond Mine Waste Management Plan. Burnable waste, including general kitchen waste, paper, cardboard and untreated wood, will be incinerated within a burn barrel located at the temporary camp site. Residual waste ash will be transported off site and disposed of in the same manner as other non-burnable waste. At full capacity, the temporary camp would host 20 people. The estimate is that waste generation would total approximately 250 g/person/day. With a full crew of 20 for an exploration season of approximately 100 field days, the total waste generated would be about 500 kg.

Hazardous & Machinery Waste, Tires & Scrap

Hazardous wastes that may be generated include batteries, cleaning solutions, light bulbs, treated wood, paint and solvents. Solids will be packaged appropriately and shipped to the Ekati Diamond Mine or Yellowknife for disposal according to regulations. Liquid wastes will be stored in sealed containers, labeled and packed in a plastic grease pail for shipment to the Ekati Diamond Mine or Yellowknife.

Old tires will be returned to the Ekati Diamond Mine or Yellowknife for proper disposal. Scrap items include stove pipe segments, general scrap metal (nails, screws & pipe fittings), used tarps, Styrofoam insulation sections, electrical wire and hoses. These items will be packaged and stored for backhaul to the Ekati Diamond Mine or Yellowknife for proper disposal if they cannot be reused or recycled on site.

The hazardous waste and scrap materials generated during the project are expected to be minimal.

Human Waste & Grey Water

The camp, should it be established, would not use flush toilets or a traditional privy-type outhouse. Instead, waterless toilets of the Pacto type will be used. Pactos collect waste in a heat sealed durable sleeve that can be burned. Human waste from these self-contained toilets (e.g. Pactos) will be transported (slung in sealed drums) to the Ekati mine and burnt in Ekati incinerator.

The kitchen and dry would generate grey water waste during normal camp operations. The kitchen will have a sink for dishes and the dry will have a sink as well as a shower stall and clothes washer. At maximum capacity, the camp will house 20 people. Water will be supplied using an offshore pump intake at the adjacent lake.

Greywater will be discharged to a sump, with the volume discharged dependant on the camp staffing level. At a maximum of 20 people, the planned 1,500 litre water storage tank would supply the camp for about 1.5 to 2 days. The total consumption of water would amount to about 0.9 m³/day, with slightly less grey water production. A typical 100 day field season would see the camp consume approximately 90 m³ of water.

Greywater can potentially contaminate surface waters with personal care products, dish soap, laundry detergent and organic matter. The increased levels of phosphates and nitrate can potentially promote

algae growth and lead to anaerobic conditions. Poorly monitored and maintained systems can accumulate organic food waste which may attract wildlife.

The greywater from the kitchen and dry will be collected in a sump. The kitchen will use strainer baskets to prevent food material from entering the greywater waste stream. The greywater sump would be located a minimum of 50m from the lake shoreline, preferably in an area of coarse-grained, gravelly sand. The water will first enter a box that will act as the initial catchment from which water will be released into the sump. The sump will be of sufficient size so as to allow greywater to percolate through the surrounding sand. It is expected a sump with a total volume of 60m³ will be sufficient to handle greywater production from camp.

Greywater outflow lines will be checked for leaks on a daily basis, as will the sump. Drains will be flushed to keep them odour-free and clear during operation and seasonal closures.

Summary of Waste Types

Waste Type	Disposal Method
Food Waste	Burn via burn bin or back haul if daily flights for proper disposal at the Ekati mine or in Yellowknife.
Burnables	Burn using burn bin on site or backhaul to the Ekati mine for incineration.
Ash Residue	Raked for non-combustibles, sealed in pails for back haul to the Ekati mine or Yellowknife.
Recyclables	Sorted and packaged for back haul to the Ekati mine or Yellowknife and appropriate reuse, recycle or disposal.
Hazardous Waste	Packaged appropriately and TDG shipped to the Ekati mine or Yellowknife for appropriate disposal.
Machinery Waste	Packaged appropriately and TDG shipped to the Ekati mine or Yellowknife for appropriate disposal.
Tires & Scrap	Package and back haul to the Ekati mine or Yellowknife for appropriate recycle, reuse or disposal.
Human Waste	Waterless (Pacto) toilets. Incinerated at Ekati mine.
Greywater	Sump located on site that drains from kitchen and dry.
Other Waste	Sort, package and back haul to the Ekati mine or Yellowknife for reuse, recycle or disposal.
Contaminated Soils	As per Spill Contingency Plan

Review and Update

The Waste Management Plan will be subject to review every three years and updated to ensure compliance with regulations, permits and relevant legislation. The plan will also be reviewed periodically prior to, during, and after any on-site activity to determine if adjustments are required.