



**MINTO EXPLORATIONS LTD.**

A Subsidiary of Capstone Mining Corp.

**MINTO MINE  
WASTE MANAGEMENT PLAN  
VERSION 2011-01**

Prepared for:  
Minto Mine

Prepared by:  
Minto Explorations Ltd

Vancouver, British Columbia  
February 23, 2011

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## 1. Introduction

Minto Explorations Ltd. (MintoEx), a subsidiary of Capstone Mining Corp., operates the Minto Mine in central Yukon. The Minto Mine is located approximately 240 km northwest of Whitehorse and 41 km southwest of Pelly Crossing (Figure 1). The Minto Mine area consists of 164 quartz claims on the west side of the Yukon River within Selkirk First Nation (SFN) Category A Settlement Land Parcel R-6A (Survey 2000-0112LTO Plan 83638 CSR), and is comprised of five land leases with SFN. The North Klondike Highway is located on the east side of the Yukon River and the mine-site is accessed by crossing the Yukon River at Minto Landing. After crossing the Yukon River, either by summer barge or winter ice bridge, access to the mine-site is via a 27 km access road along the Yukon River and up Minto Creek drainage (Figure 2). Crews and supplies are transported by air during the spring thaw and fall freeze-up.

The Minto Mine is an existing and fully operational copper/gold mine. The property has been explored since initial workings began on the claims in 1971. In 2005, Sherwood Copper (the predecessor of Capstone Mining Corp.) acquired the property and has been producing copper concentrate since 2007 through MintoEx under various licences and permits.

The Minto Mine operation currently includes: an open pit with associated waste dumps and ore stockpile areas; a mill plant and mill water pond; a concentrate storage shed; a tailings filter building and dry-stack tailings storage area; a water retention dam with associated water storage pond; and administrative offices, camp and airstrip plus designated areas for solid waste, Special Waste, incinerator, open burn pit, landfill, and Land Treatment Facility (LTF).

### 1.1 Scope and Objectives

The Minto Waste Management Plan (Version 2011-01) (WMP), an Environmental Protection Plan as will be required by an amended Quartz Mining License QML-0001 (QML) includes a description of the handling, collection, storage and disposal of waste for the various waste streams generated by Minto Mine, including non-hazardous solid wastes as well as Special Wastes. All wastes will be handled, stored and disposed of according to the appropriate regulations and permits issued under the Yukon Environment Act Permit #81-005 which replaces Air Emissions Permit # 4201-60-030, Special Waste Permit #43-040 and Commercial Dump Permit #81-005. Land Treatment Facility Permit #4202-24-024 regulates the handling of contaminated soils.

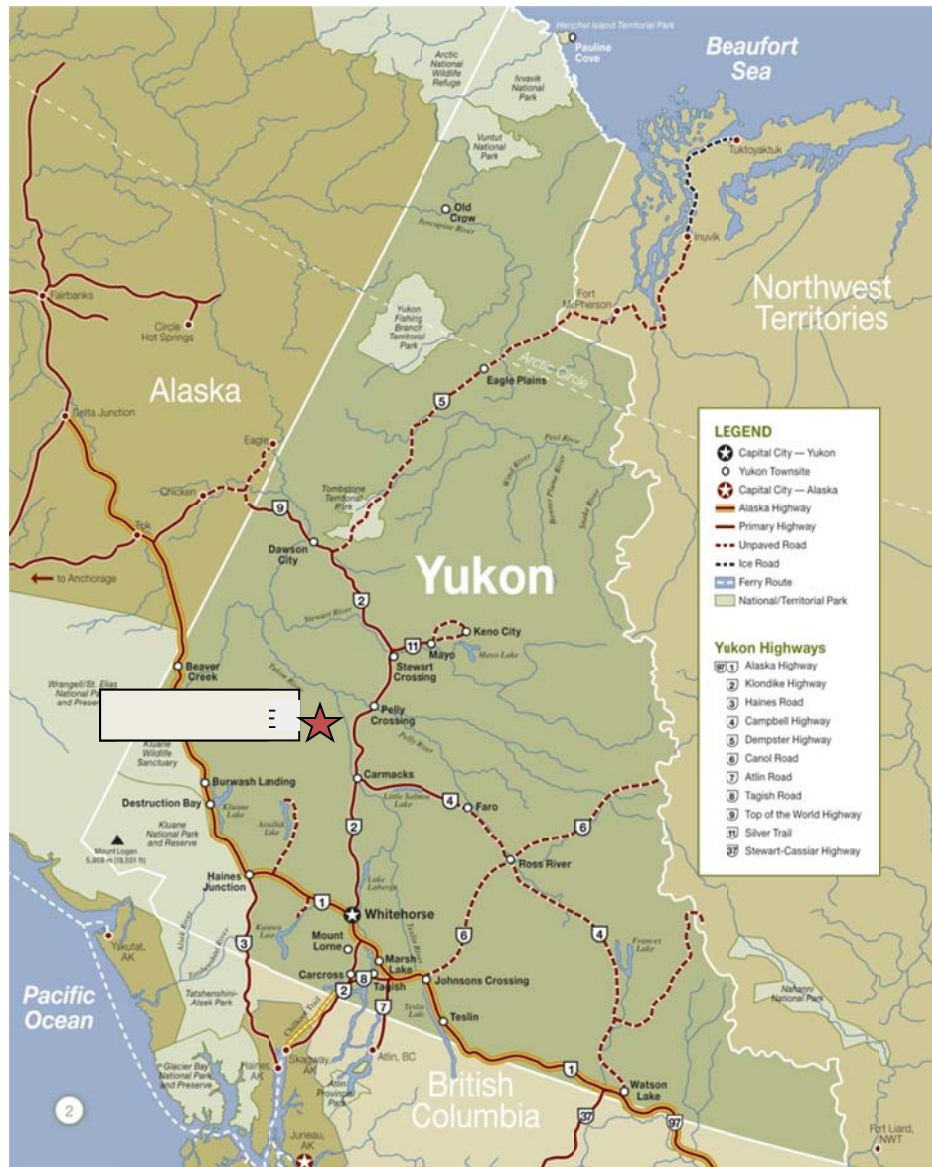


Figure 1: Minto Mine Location Map

All personnel associated with waste handling, storage and disposal will be knowledgeable of the contents of this report, including the conditions and requirements of the applicable permits (included in Appendix A).

## 1.2 Definitions

For consistency in interpretation with the contents contained herein, the following terms are defined:

- **Waste** includes Solid and Special Waste;
- **Solid waste** includes refuse, ashes, garbage, domestic waste, compost or any other waste prescribed by regulation whether or not the waste has any commercial value or is capable of being used for a useful purpose<sup>1</sup>

- **Special Waste** is a waste requiring special handling, storage, or destruction and prescribed as Special Waste by regulation whether or not the waste has any commercial value or is capable of being used for a useful purpose<sup>1</sup> (e.g., waste oil);
- **Putrescible Waste** contains organic matter that is capable of being decomposed and may be capable of attracting or providing food for wildlife (e.g., kitchen waste);
- **Non-Putrescible Waste** means any waste that contains no more than trivial amounts of putrescible materials; examples include construction waste, cardboard, demolition debris;
- **Class 9 Hazardous Wastes** are miscellaneous products, substances or organisms considered to be dangerous to life, health, property, or the natural environment<sup>2</sup>; ; and
- **Bear-proof container** is a container sealed to prevent the escape of attractant odours and strong enough to exclude a bear from the contents.

<sup>1</sup> Revised Statutes of the Yukon: Environment Act *Part 2: Definitions* (2002)

<sup>2</sup> Revised Statutes of the Yukon: Environment Act *Part 10 Section 118: Hazardous Substance and Pesticides* (2002)

## 2. Waste Infrastructure

This section outlines where wastes are handled, stored and disposed of. The locations of waste infrastructure are shown on Figure 3. Access to the waste management site is, at present, not restricted.

### 2.1 Landfill

The landfill is located on the south side of the airstrip and adjacent to the solid waste facility. It accommodates non-putrescible and non-recyclable waste generated by the mine and is being operated in a manner that will facilitate landfill closure at the cessation of mine operation. The landfill is in a natural depression which is presently half full. The landfill area contains a temporarily waste deposit area for waste generated by contractors until it is segregated by Site Services for disposal by: burial in the landfill, burning in the Open Burn Area (until Dec 31, 2011), incineration, or offsite disposal including recycling where possible.

### 2.2 Open Burn Area

A burn pit on flat ground surrounded on three sides by 3m berms is located on the north side of the airstrip and is half full. The open burn area is used to open burn up to 49 kg per day of burnable waste such as cardboard, scrap wood and plastic. As per Environment Act Permit #81- 005 there is an electric fence surrounding the burn pit which is operational from May 31 to October 31. The purpose of the fence is to prevent wildlife from entering the facility.

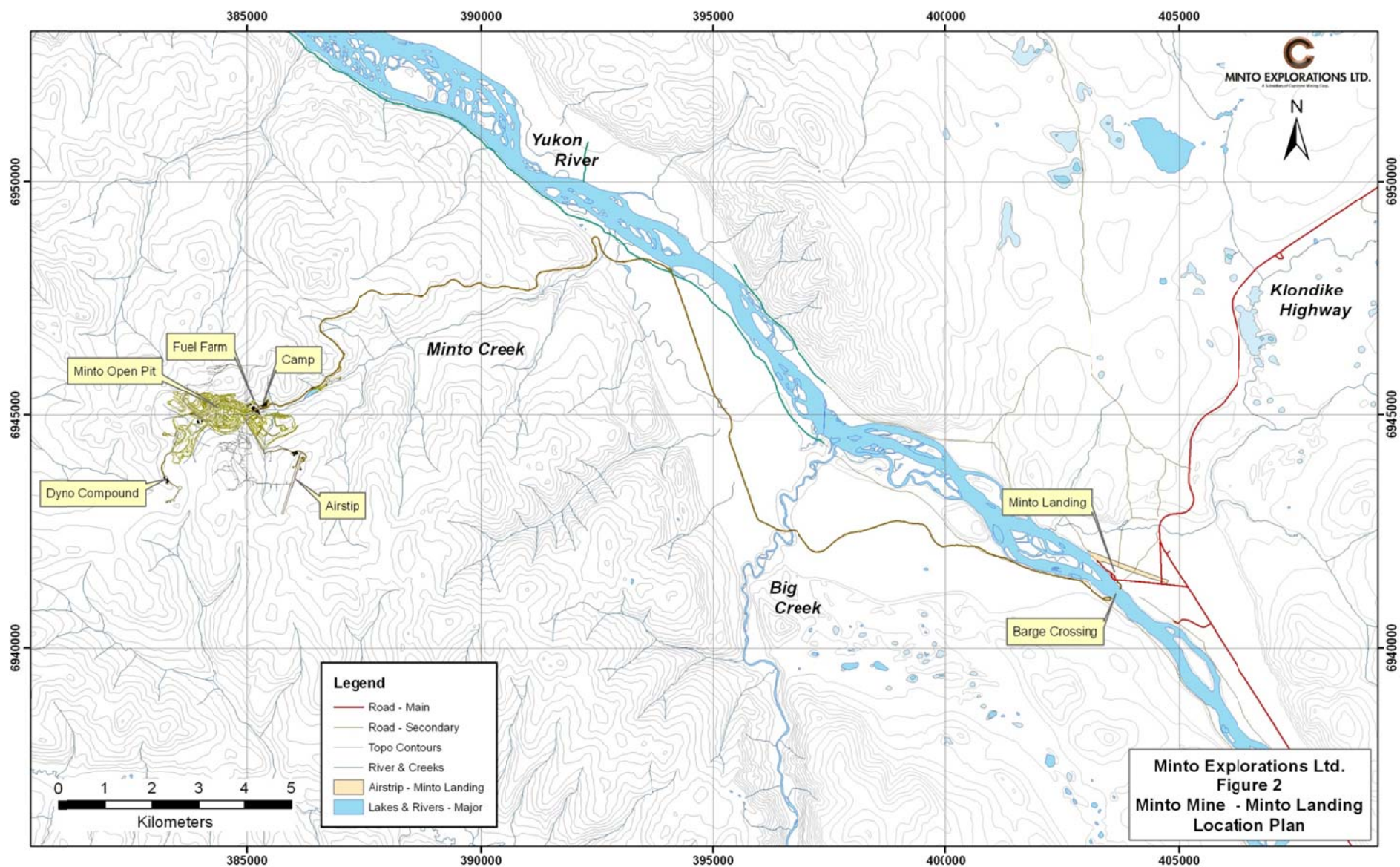


Figure 2: Minto Mine Access Location Plan

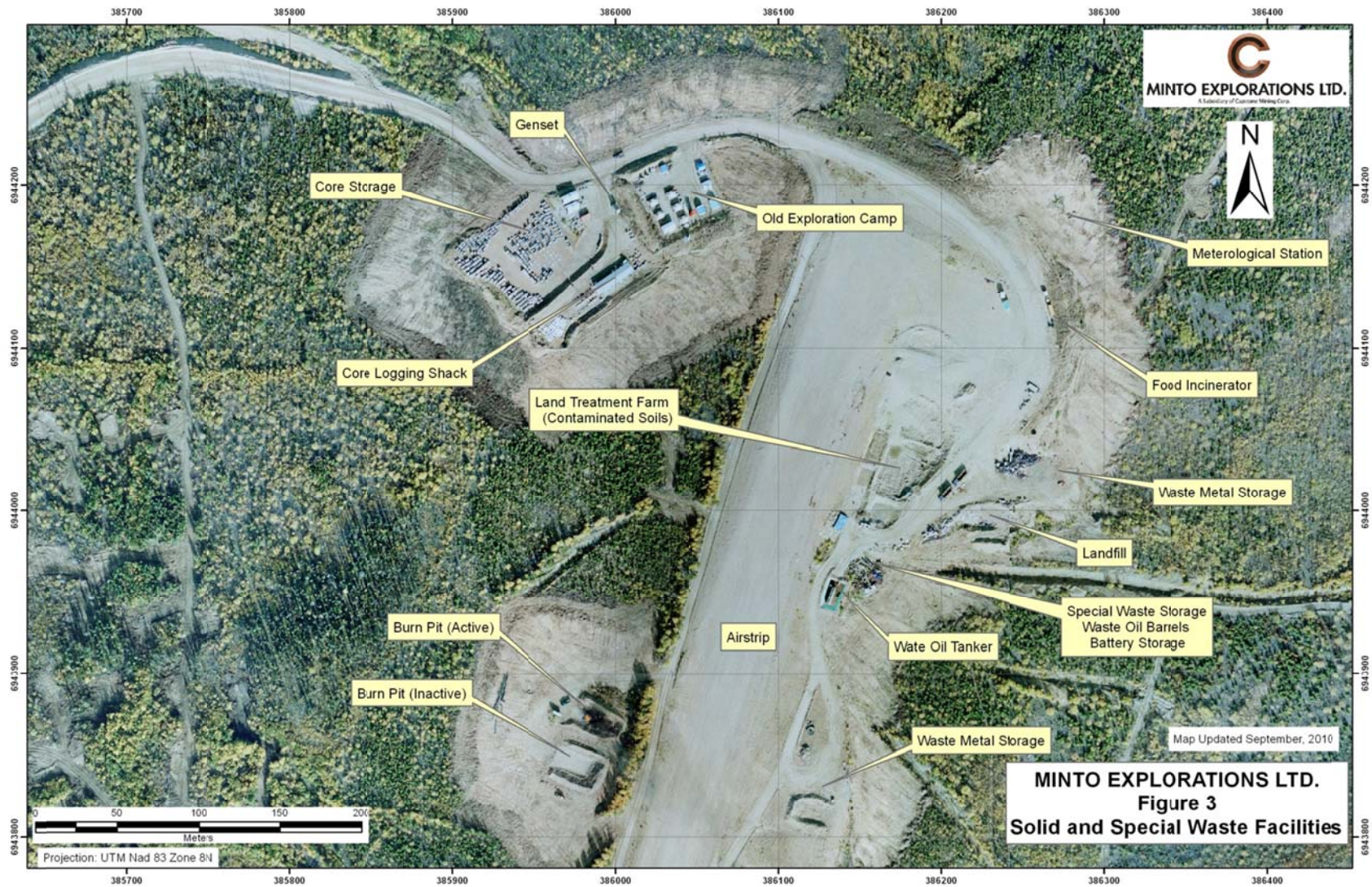


Figure 3: Solid and Special Waste Facilities Location Plan

Minto has been notified that open burning will no longer be allowed as of January 1, 2012 and plans are in place to complete further segregation of waste streams prior to that date. A second and unused burn pit cell adjacent to the active cell may become a new landfill site in 2012 (subject to permit approvals).

### **2.3 Incinerator**

A Westland Single Chamber Cyclonator Incineration System (Model #CY-1020-FA “D”) is located within an electric fenced area. The incinerator is operated by trained MintoEx employees who are responsible for ensuring the volume of waste incinerated daily is as per 81-005 Part 3 (provided in Appendix A). The ash bin is located adjacent to the incinerator and is used as a transfer station for ash obtained from the incineration of waste, prior to disposal in the landfill. A replacement incinerator capable of servicing the larger camp size expected with Phase IV mine expansion is being sourced for installation in 2011.

### **2.4 Waste Storage**

The waste storage area is located upslope and west of the landfill area. The waste storage area allows storage of all recyclable and potentially re-usable items that will ultimately be shipped off-site. Signs delineate the segregated piles which include steel, copper, rubber, wood and plastic wastes. The most recent recyclable waste shipment was in August 2010, at which time the storage area was expanded to facilitate better waste segregation.

### **2.5 Camp**

The camp waste infrastructure serves the kitchen, office complex, dormitories and site vehicle parking lot. Bear-proof containers are located behind the kitchen facilities and in front of the office complex. Recycling bins for refundable beverage containers and aerosol container bins are located in the recreation hall, kitchen and all offices and dormitories. Used alkaline battery bins are located in the kitchen facilities.

### **2.6 Special Waste Storage Pad**

The Special Waste Storage Pad is located within the Solid Waste Facility (Figure 3) and is used for the storage of waste oil and diesel in 45 gallon drums or tanker, used 45 gallon drums, and other items (such as aerosol containers and hydraulic hoses) as well as used batteries from light and heavy vehicles and equipment. Longer term storage of alkaline batteries and used electronics as well as florescent lights (compact and tubes) is at the old exploration camp.

## 2.7 Waste Oil Burner

At present, all used oil is shipped offsite by General Waste (a Whitehorse based contractor) who makes several trips to Minto yearly to empty the tanker. In future, Clean Burn Waste Oil Burners to be located in the light duty automotive maintenance shop and Water Treatment Plant (WTP) are planned in order to burn waste hydrocarbons for heat generation. Waste products consumed by the burners will include:

- Crankcase oil;
- Automatic Transmission Fluid;
- Hydraulic oil; and
- Fuel Oils #2 (truck diesel and heating oil), #4 (blend of diesel, distillate or residual fuel oil) and #5 (residual fuel oils (RFO) or heavy fuel oils).

## 2.8 Lead-Acid Battery Bins

Leak proof bins for lead-acid batteries are located at the Special Waste Storage Pad. General Waste is contracted periodically to remove the batteries for disposal.

## 2.9 Land Treatment Facility

A Land Treatment Facility (LTF) for the purposes of remediation for hydrocarbon contaminated soil is located south of the airstrip, and is permitted by Land Treatment Facility Permit #4202-24-024. Remediation areas for oil, gas and diesel hydrocarbon contaminated soil and snow are contained within the land treatment facility. As material is remediated (i.e., meets Yukon Contaminated Sites Regulations for Industrial Sites) and following approval from Yukon Environment the material is removed from the facility for use in industrial activities.

## 3 Solid Waste Management

This section outlines how solid wastes are handled, stored and disposed. Table 1 summarizes handling storage and disposal for several solid waste streams. Non-hazardous solid waste will be segregated into two streams: putrescible and non-putrescible wastes. Non-putrescible wastes will be further segregated into three categories: recyclable, burnable and non-burnable material.

**Table 1: Handling, Storage and Disposal of Solid Waste**

Type	On-site Storage Location	Disposal
Kitchen Waste	Bear-proof containers	Incinerator
Beverage Containers	Recycling Bins	Off-site disposal
Office and Dormitory Garbage	Garbage Bins/Bear-proof containers	Incinerator
Untreated Wood	Open Burn Area	Open burned <sup>1</sup>
Treated Wood	Waste Storage Area	Incinerator
Heavy Plastics	Waste Storage Area	Incinerator

Light Plastics/Cardboard	Waste Storage Area	Open burned <sup>2</sup> /Incinerator
Steel / Copper / Rubber	Waste Storage Area	Off-site Disposal facility
Ash from Incinerator/Open burn area	Ash Bin	Landfill <sup>3</sup>
Tires (rim size < 24" diameter)	Waste Storage Area	Barrier use or off-site disposal facility
Tires (rim size > 24" diameter)	Waste Storage Area	Barrier use or land filled

1. Untreated wood products may be open burned without restriction

2. Light plastics and cardboard may be open burned up to 49 kg/day; otherwise they must be incinerated

3. Ash in Open Burn Pit will be buried in-situ.

The following general procedures will be followed:

- Solid waste will be handled and disposed of in a manner that neither causes nor is likely to cause a threat to worker safety and health, or:
  - a) an adverse effect;
  - b) windblown litter to be deposited outside the boundary of the facility; or
  - c) an attraction to wildlife.
- Solid wastes will not be stored for a period of greater than seven days prior to disposal.
- Within the landfill, cells are constructed and filled with designated material until capacity is reached whereupon a new cell will be excavated. The waste material within the cell is covered weekly from April 15 to November 15 with approximately 10 cm of gravel or soil to prevent the dispersal of garbage through wind action.

MintoEx will incinerate hydrocarbon-contaminated adsorbent pads, domestic wastes, industrial wastes, antifreeze contaminated soil, and treated wood products. Construction wastes, including scrap wood, cardboard and plastic will be open burned. All waste to be incinerated or open burned will be disposed of following permit guidelines:

- Every reasonable effort will be made to ensure a quick, hot and complete burn;
- Burning of rain-soaked solid waste will be avoided except where to delay such burning may result in attraction of wildlife or a fire hazard;
- No waste oil, tires or aviation gasoline will be used to assist with the incineration or open burning or solid waste; and,
- No open burning will take place during Forest Fire Hazard Ratings of moderate or above.

### 3.1 Putrescible Waste

Putrescible waste from the kitchen facilities at Minto will be placed into the bear-proof containers by kitchen staff, and then collected and transported by Site Services twice daily for incineration to minimize wildlife attraction. Waste awaiting burning is placed into a seacan adjacent to the incinerator for protection against wildlife (Crows).

#### 3.1.1 Recyclable Material

Recyclables must be washed to minimize wildlife attractants before storing. Refundable recyclable materials include:

- Aluminum and tin pop/juice cans

- White or other plastic beverage containers
- Glass beverage containers
- Tetra packs
- Waxed cardboard juice containers

These items will be stored in designated recycling bins until they are transported off-site for donation to a local charity for refund.

### **3.1.2 Office and Dormitory Waste**

Garbage bins from offices and dormitories may contain food wastes and are emptied daily by cleaning staff and transferred to bearproof containers located adjacent to the mill and behind the kitchen. The containers are emptied daily by Site Services for burning or incineration.

## **3.2 Non-Putrescible (Construction & Shipping) Waste**

Burnable non-organic wastes such as cardboard and lumber will be open burned or incinerated. Metal will be segregated and stored at the waste storage area for periodic removal from site to a recycling facility. Non-hazardous solid wastes that cannot be recycled will be buried in the landfill. All contractors are responsible for dropping off all waste to the landfill disposal area for sorting by Site Services.

## **3.3 Ash from Incinerator or Open Burning**

Ash generated from both the incinerator and open burning will be landfilled. Incinerator ash will be placed in the ash storage bin and then landfilled. Open burn pit ash will be landfilled in place. Prior to landfilling, metal will be segregated from the ash for storage at the waste storage area.

## **3.4 Used Tires**

Used tires will be collected and stored at the waste storage area. Tires will be kept reasonably clean and not buried or burned, with the exception of tires with rim size greater than 24.5", which may be buried at the landfill. Tires not buried or used further for the purpose of protection barriers or other on-site uses will be hauled off-site and disposed of in accordance with the Yukon Used Tire Management Program (<http://www.environmentyukon.gov.yk.ca/pdf/dmrone.pdf>).

## **4 Special Waste Management**

This section outlines how Special Wastes are handled, stored and disposed of. Special wastes include waste oil, oil filters, diesel, anti-freeze, solvents and lubricants (and containers in which

they are contained), aerosol containers, hydraulic hoses, batteries and biomedical wastes.

Table 2 outlines the handling, storage and disposal of Special Waste.

**Table 2: Handling, Storage and Disposal of Special Waste**

Type	On-site Storage Location	Disposal
Waste oil	Special Waste storage pad	Off-site disposal facility
Waste oil	Pelly maintenance shop	Waste Oil Burner
Waste oil filters	Special Waste storage pad	Incinerated
Waste diesel	Special Waste storage pad	Off-site disposal facility
Waste diesel	Pelly maintenance shop	Waste Oil Burner
Waste antifreeze	Special Waste storage pad	Off-site disposal facility
Solvents/lubricants	Special Waste storage pad	Off-site disposal facility
Aerosols	Special Waste storage pad	Off-site disposal facility
Hydraulic hoses	Special Waste storage pad	Off-site disposal facility
Lead-acid batteries	Battery bins (Pelly or Minto maintenance shop)	Off-site disposal facility
Alkaline batteries	Battery bins (Camp kitchen)	Off-site disposal facility
Compact fluorescent and fluorescent lights	Old exploration camp	Off-site disposal through EY
Electronic waste	Old exploration camp	Off-site disposal

Minto will store Special Waste in the following manner to prevent endangering human and wildlife health and the environment:

- All drums, and any other portable containers containing Special Wastes, will be covered to prevent container degradation from the sun or contamination by water from snow or rain. They will also be stored off the ground to prevent container degradation by ground moisture.
- Incompatible substances will be stored separately to prevent contamination, fires, explosions, gaseous emissions, leaching or other discharges, or other dangerous conditions.
- The contents of all storage containers will be clearly marked.
- The residue at the bottom of any container used for the storage of dangerous goods or Special Wastes will not be drained to the environment. Such residue will be segregated and treated as a Special Waste until proven otherwise.
- During storage or transport of any Special Waste, the container will be closed at all times and will not be opened, handled or stored in a manner which may cause it to leak.

Stored Special Waste will be shipped off-site to an acceptable disposal or recycling facility and Minto will participate in Environment Yukon's annual commercial Special Waste collections occurring in late summer/early fall, as appropriate.

MintoEx will arrange for the transport of Special Waste in the following manner:

- No Special Wastes will be transported by MintoEx other than within the Project site.
- All Special Wastes transported off-site will be in accordance with applicable transport laws, to a facility permitted in the Yukon or other jurisdiction to receive them, by a carrier permitted in the Yukon or another jurisdiction to receive and transport Special Wastes. If the facility is in the Yukon, both the facility and the carrier must be permitted in the Yukon according to the Transportation of Dangerous Goods Regulations (SOR/2008-34).
- A movement control document (manifest) will be completed to document each shipment of Special Waste, as per Transportation of Dangerous Goods Regulations (SOR/2008-34).
- All Special Wastes will be transported and transferred in such a manner as to prevent their release into the environment.
- All vehicles carrying any Special Waste will be secured to prevent access to unauthorized personnel.

#### **4.1 Waste Oil and Filters**

The major sources of waste oil are from mobile equipment and power plant generators. The most common types of used oil are crank case oil, gear oil, transmission fluid, and hydraulic oil.

Waste oil will either be collected and disposed of via incineration in a Waste Oil Burner for the purpose of space heating, or stored at the Special Waste storage tanker which will periodically be emptied and the oil removed from site to a licenced oil recovery facility. The volume of waste oil transported from site will be documented according to Transportation of Dangerous Goods Regulations (SOR/2008-34).

Waste oil filters will be drained of oil and incinerated in the MintoEx incinerator. Before disposing of waste oil filters, as much oil as possible will be eliminated from them. Steps required for proper disposal include puncturing the top of the filter, setting the filter in a tray and allowing the oil to drain for approximately 24 hours, then crushing the filter to increase waste oil recovery.

#### **4.2 Waste Diesel**

Waste diesel will either be stored at the Special Waste storage pad then periodically removed from site, or temporarily stored at the Pelly or Minto Maintenance shops and burned in the Waste Oil Burner(s).

### 4.3 Waste Antifreeze

Used antifreeze will be stored in containers that are leak-free and have tight closures to prevent spills, stored at the Special Waste storage pad, then periodically shipped to a disposal facility.

### 4.4 Solvents and Lubricants

Small quantities of miscellaneous waste solvents and lubricants will be generated through routine site, equipment and vehicle maintenance and repairs. Solvents can be recycled (e.g., paint thinners and strippers, varsols, degreasing fluids, mineral spirits and petroleum distillates).

Since most of these liquids are flammable and toxic, solvents and lubricants will be collected and stored in appropriate drums for regular shipment to a licensed recycle or disposal facility. Containers will be covered to protect them from precipitation and will be kept separate from other waste products.

### 4.5 Used Batteries

Alkaline batteries will be placed in designated alkaline battery disposal bins, located at the MintoEx Camp, for collection by the Environmental Department. Lead-acid batteries from vehicles will be stored in designated leak proof bins or on lined wooden pallets, located at the Pelly or Minto maintenance shop and the Special Waste Storage Pad. These will be periodically shipped to a licensed recycle or disposal facility. The following steps must be adhered to in order to prevent acid leaks and spills, and to avoid contamination of the storage site:

- Batteries will be placed on wooden pallets in secondary containment (i.e., on a liner or berm) to prevent the escape of acid.
- Before putting waste batteries on the pallet, plastic sheeting will be placed on it to completely enclose all of the batteries in a continuous sheet of plastic. All sides will be wrapped to protect the batteries from the weather and to prevent any acid from being discharged into the environment.
- Batteries will not be stacked more than three layers thick and each layer will be separated with a sheet of plywood or other suitable material.

### 4.6 Class 9 Waste

Class 9 items such as used aerosol containers and hydraulic hoses will be stored in Class 9 bins located at the Special Waste storage pad and periodically be removed from site for incineration at a proper facility.

#### **4.7 Biomedical Waste**

A small amount of biomedical waste (such as bandages) will be generated at the first aid rooms at the MintoEx site. This waste will be collected in designated purpose-built containers, and then transported by Site Services to the landfill for incineration.

#### **4.8 Contaminated Soil and Snow from Spills**

Spills on-site may include hydrocarbons (i.e., diesel, waste oil, and hydraulic oil), antifreeze, and solvents and lubricants. These items each have specific disposal methods:

- Hydrocarbon contaminated soil and snow will be excavated and transported to the Land Treatment Facility – samples will be taken by the Environment Department to ensure compliance with Land Treatment Facility Permit #.
- Hydrocarbon-contaminated absorbent pads will be incinerated.
- Antifreeze contaminated soil and snow will be incinerated. However, prior to incineration, samples must be sampled by the Environmental Department as per the Environment Act<sup>4</sup>
- Antifreeze contaminated absorbent pads will be incinerated.
- Solvents and lubricants have specific disposal requirements as per the MSDS sheets provided in Appendix B.

For further information, please refer to MintoEx's Spill Contingency Plan.

## **Appendix A Environmental Act Permits**

- **Environment Act Permit #81-005 (encompassing)**
  - **old Commercial Dump Permit #81-005**
  - **old Air Emissions Permit # 4201-60-030**
  - **old Special Waste Permit #43-040**
- **Land Treatment Facility Permit #4202-24-024**



Environment

Box 2703, Whitehorse, Yukon Y1A 2C6

December 31, 2010

Colleen Roche  
Minto Explorations Ltd  
Suite 900-999 Hastings Street  
Vancouver, BC  
B6C 2W2

Dear Ms. Roche:

**Re: Environment Act Permit #81-005**

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Enclosed please find a certified copy of your renewed and amended permit, which has combined your previous permits for special waste, air emissions, and solid waste. Please read the attached permit carefully, as it contains many important legal requirements. Ensure that a copy of this permit is kept on site, and that all relevant staff are familiar with its conditions. Should your operation change so that the regulated activity doesn't correspond with your most recent application form, you will need to apply for an amendment.

Should you have any questions, please call me at (867) 667-8848.

Sincerely,

A handwritten signature in black ink that reads "B. Peters".

Bethany Peters  
environmental protection analyst  
Environmental Programs Branch

Encl.



Permit No: 81-005

## ENVIRONMENT ACT PERMIT

Issued Pursuant to  
the *Environment Act*, the *Solid Waste Regulations*, the  
*Air Emissions Regulations*, and the *Special Waste Regulations*

**Permittee:** Minto Explorations Ltd.

**Mailing Address:** Suite 900–999 Hastings Street, Vancouver, BC, V6C 2W2

**Site Location:** Minto Mine property (NTS 115/11; 62°37'N, 137°15'W)

**Phone/Fax:** (604) 684-8894/ (604) 688-2180

**Authorized Representative:** Colleen Roche

**Email:** [colleenr@mintomine.com](mailto:colleenr@mintomine.com)

**Effective Date:** January 1, 2011      **Expiry Date:** December 31, 2011

This permit replaces permit #81-005 issued 22 January 2009, permit #60-030 issued 16 September 2009, and permit #43-040 issued 24 December 2009.

**Scope of Authorization:** In accordance with your application, you are authorized to:

- a. operate a dump for the disposal of solid waste generated by commercial activities or enterprises;
- b. open burn solid waste in an amount greater than 5 kg/day;
- c. operate an incinerator capable of burning, according to the manufacturer's specifications, more than 5 kg of solid waste per day;
- d. generate, store or otherwise handle waste oil, waste batteries, waste aerosol cans, waste fluorescent tubes, waste solvents, and waste antifreeze; and
- e. operate equipment for the incineration of special waste (waste oil),

at the above site location (the "site"), as set out in the terms and conditions of this permit.

Dated this 31 day of December, 2010

  
A/ Director, Environmental Programs Branch  
Environment Yukon

DEPARTMENT OF ENVIRONMENT  
ENVIRONMENTAL PROGRAMS  
Whitehorse, Yukon  
Certified true copy of original

Date: 31 DEC 2010 Initials: BP

## 1. DEFINITIONS

1. In this permit,

"Act" means the *Environment Act*, R.S.Y. 2002, c. 76;

"approved plan" means a plan that is submitted by the permittee and approved by an environmental protection analyst under this permit and includes any terms and conditions specified by the environmental protection analyst in the approval;

"associated personnel" means all employees, contractors and volunteers involved in the permitted activities;

"Branch" means the Environmental Programs Branch, Environment Yukon;

"cell" means a discrete area of a solid waste facility or dump into which solid waste is deposited for permanent disposal and includes such areas that are no longer used for that purpose;

"contaminated material" means any soil, snow, sediment, or water that has one or more parameters in excess of applicable standards in the Contaminated Sites Regulation;

"dangerous wildlife" means wildlife so defined in the *Wildlife Act*, R.S.Y. 2002, c. 229;

"disposal areas" means the locations of the solid waste pit, the garbage incinerator, and the waste oil incinerator;

"listed special waste" means waste oil, waste batteries, waste antifreeze, waste solvents, waste aerosol cans, and waste fluorescent tubes;

"open burning" means the combustion of material without control of the combustion air and without a stack or chimney to vent the emitted products of combustion to the atmosphere;

"Regulations" means the *Air Emissions Regulations*, O.I.C. 1998/207, the *Solid Waste Regulations*, O.I.C. 2000/11, and the *Special Waste Regulations*, O.I.C. 1995/047;

"site office" means the office of the permittee located in Yukon;

"vehicle" has the same meaning as in the *Motor Vehicles Act*, R.S.Y. 2002, c. 153; and

"waste manifest" means the shipping document required to be completed by the permittee as set out in this permit in the form approved by an environmental protection analyst.

2. Any term not defined in this permit that is defined in the Act or the Regulations has the same meaning as in the Act or the Regulations.

## 2. GENERAL

1. The permittee shall ensure that all associated personnel:

- have access to a copy of this permit;
- are knowledgeable of the terms and conditions of this permit; and
- receive the appropriate training for the purposes of carrying out the requirements of this permit.

DEPARTMENT OF ENVIRONMENT  
ENVIRONMENTAL PROGRAMS  
Whitehorse, Yukon  
Certified true copy of original

Date: 31 DEC 2010 Initials: SP

2. The permittee shall provide notice in writing to an environmental protection analyst from the Branch prior to any significant change of circumstances at the site, including without limitation:
  - a) discontinuation of or any change to any regulated activity at the site;
  - b) change of ownership of the site; or
  - c) change to the mailing address or phone number of the permittee.
3. The permittee shall obtain approval from an environmental protection analyst from the Branch **prior** to:
  - a) incinerating any type of waste that is not identified in this permit;
  - b) any change to existing incineration equipment, including the addition, removal or replacement of equipment;
  - c) any change in location of the incineration equipment;
  - d) any change in waste disposal methods; or
  - e) an increase in the quantity of solid waste burned to greater than 49kg/day.
4. Where conflicts exist between this permit, the permit application or any plans, this permit shall prevail.
5. If an inspection reveals that the site is in any way not in compliance with this permit or approved plans, the permittee shall repair the damage or take other actions as required to bring the site into compliance.

### 3. PLANS

1. The permittee shall develop and maintain the following plans:
  - a) a fire safety/emergency plan which includes notification procedures and a list of emergency phone numbers relevant to the site; and
  - b) a spill response plan for the site.
2. All associated personnel involved with the handling or management of any wastes covered by the this permit shall be familiar with the plans listed in paragraph 3.1 above.
3. Prior to undertaking any work toward the partial or full closure of a cell, including progressive capping and reclamation of active cells, the permittee shall submit a cell closure plan.
4. No later than six months prior to the planned closure of the dump, the permittee shall submit a dump closure plan for approval.
5. The permittee shall submit to an environmental protection analyst from the Branch for approval, by June 1, 2011, a pollution prevention plan including, but not limited to, the following:
  - a) a detailed assessment of current waste disposal practices, including types of waste generated, the approximate mass of each waste type incinerated, and current waste handling procedures;

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Date: 31 Dec 2010 Initials: BP

- b) steps that will be taken to reduce toxic emissions from the incinerator (for example, development of a waste management strategy, installation of emissions controls, equipment upgrades, etc.).
6. When the permittee is required to submit a plan under this permit, the permittee shall:
- a) ensure the plan meets the requirements for that type of plan as directed by an environmental protection analyst from the Branch in writing;
  - b) submit the plan in writing to an environmental protection analyst from the Branch;
  - c) not undertake any of the activities described in the plan until the plan is approved in writing by an environmental protection analyst from the Branch; and
  - d) implement the plan as of the date it is approved in writing by an environmental protection analyst from the Branch, or as otherwise directed in this permit.
7. If the permittee wants to amend an approved plan, the permittee shall submit the proposed amendment to an environmental protection analyst from the Branch as if the amendment were a plan under paragraph 3.5 of this permit.
8. If an environmental protection analyst from the Branch directs in writing that an approved plan be amended, the permittee must prepare the required amendment by the date specified and submit it as if it were a plan referred to in paragraph 3.5 of this permit.
9. The permittee shall permanently retain at the site office an updated site plan showing the location of the waste oil incinerator, garbage incinerator, the open burn area, and the active and closed cells (if applicable), and shall produce this site plan upon request for inspection by an environmental protection officer.

#### **4. FENCING AND SECURITY**

1. The permittee shall install and maintain, in accordance with the manufacturer's operating and maintenance instructions and recommendations, an electric exclusion fence(s) and gates that encompass all putrescible waste storage and disposal areas at the dump and any other areas of the site that become or may become an attractant to animals. The fence and gates shall be adequate to prevent dangerous wildlife from entering the encompassed areas of the site.
2. The fences and gates referenced in paragraph 4.1 above must be:
- a) activated continuously from May 1 to October 31 of each year;
  - b) activated between November 1 and April 30 of each year if there are tracks or other signs of dangerous wildlife attempting to access the dump; and
  - c) activated upon the written request of an environmental protection officer.
3. The permittee shall obtain written approval from an environmental protection officer prior to deactivating or failing to activate the electric fence for any reason and for any length of time during the periods referenced in paragraph 4.2 above.
4. The permittee shall ensure that all gates are closed and secured every time personnel leave the area bounded by the electric fence.

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5. The permittee shall install and maintain fencing or other comparable measures to prevent the release of solid waste from the dump.

#### **5. S TORAGE OF SOLID WASTE**

1. The permittee shall ensure that putrescible solid wastes are stored in bear-proof containers and that they are not stored for a period of greater than seven days prior to being transferred off-site, buried in a cell, incinerated, or open burned in accordance with this permit.
2. The permittee shall ensure that tires with a rim size of 24.5" or less are kept reasonably clean and not buried or burned, and that they are taken periodically to a municipal or community dump or other permitted tire depot.

#### **6. B URIAL OF SOLID WASTE**

1. The permittee shall ensure that the base of each cell is no closer than three metres above the highest observed groundwater level.
2. The permittee shall ensure that any new cell is located at least 100m from the high-water mark of any water body.
3. The permittee shall cover any exposed solid waste in a cell with soil or other comparable material to a depth of 0.1 metres or any other depth that an environmental protection officer considers necessary to prevent windblown solid waste and attraction of birds after every 0.5 metres of solid waste is deposited.
4. Ash from incinerating or open-burning solid waste is considered to be solid waste and shall be disposed of by:
  - a) placing it in a cell on-site and immediately covering it with a layer of soil or other comparable material to a depth of 0.1 metres, or any other depth that an environmental protection officer considers necessary to prevent windblown ash or attraction of wildlife; or
  - b) placing it in a covered metal container suitable for transporting it to a permitted solid waste disposal facility.
5. Paragraphs 6.3 and 6.4(a) do not apply between November 15 and April 15 of each year if soil or other comparable cover material cannot reasonably be obtained.
6. The permittee shall submit to an environmental protection analyst from the Branch for approval all data analysis of any contaminated material before depositing it into a cell.
7. The permittee shall not allow special wastes or materials containing contaminants in excess of the industrial land use standards in the Contaminated Sites Regulation to be deposited into a cell.

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8. The permittee may dispose of tires with a rim size of greater than 24.5" by burial in a cell.
9. The permittee shall divert excess surface water run-off away from any area of the dump where waste is deposited into cells.

## **7. INCINERATION OF SOLID WASTE**

1. The permittee shall only incinerate solid waste in the following incinerator, and shall do so in accordance with the manufacturer's specifications and operating & maintenance manuals:
  - a) Westland Single Chamber Cyclonator Incinerator, Model #CY-1020-FA "D"
2. The permittee shall only use the incinerator(s) referenced in paragraph 7.1 for the incineration of solid waste generated by the camp, including kitchen garbage and domestic waste.
3. The maximum mass of solid waste that may be incinerated under this permit is 99 kg per day.
4. The permittee shall ensure that the integral physical components of the incinerator, including the burners, gauges, valves, lines, monitoring equipment (if applicable), walls, doors and exhaust components, are maintained in accordance with the manufacturer's specifications and in such a manner as to provide optimum control of air contaminant emissions during all operating periods.
5. The permittee shall ensure that the initial start-up of the incinerator does not take place during periods of thermal inversion, so that smoke from such burning will not accumulate in populated areas.
6. The permittee shall ensure that all material when incinerated, is completely reduced to ash.
7. The permittee shall implement the pollution prevention plan within three months of approval.
8. Within one year of the implementation date, the permittee shall conduct one of the following measure to demonstrate the effectiveness of the pollution prevention plan:
  - a) An audit of the waste diversion program that has been implemented to reduce the amount of waste being incinerated; or
  - b) Pollution control upgrading; or
  - c) One-time stack test to determine the level of particulate matter, dioxins/furans and mercury in the emissions from the source; or
  - d) Other measures as directed by an environmental officer from the Branch.

## **8. OPEN BURNING OF SOLID WASTE**

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1. The permittee is authorized to open burn solid waste (with the exception of putrescibles which are to be incinerated) generated by the camp only until **December 31<sup>st</sup>, 2011**.
2. The maximum mass of solid waste that may be open burned under this permit is 49 kg per day.
3. The permittee shall ensure that the initial start-up of the burning does not take place during periods of thermal inversion, so that smoke from such burning will not accumulate in populated areas.
4. The permittee shall ensure that all material when burned, is completely reduced to ash.
5. The permittee shall ensure that a natural or artificially-induced draft is present when solid waste is to be burned.
6. The permittee shall not allow combustibles to smoulder (burn and smoke without flame).
7. The permittee shall divert excess surface water run-off from the active burning area.
8. The permittee may be authorized to use specific waste petroleum products to assist with the burning of solid waste, as approved in advance in writing by an environmental protection analyst from the Branch.
9. The permittee shall only open burn non-putrescible solid waste generated on site.

**9. STORAGE AND HANDLING OF SPECIAL WASTE**

1. The permittee shall not handle special wastes other than listed special wastes.
2. The permittee shall not discard, destroy, treat, process, or recycle special wastes, except for mixing or dilution authorized by an environmental protection officer pursuant to paragraph 9.3(k) below.
3. The permittee shall:
  - a) cover or store out of inclement weather all drums and other portable containers containing special wastes;
  - b) store all drums and other portable containers containing special wastes off the ground;
  - c) immediately remove all special wastes stored in leaking containers or transfer them to intact containers;
  - d) to the extent practicable, handle and store special wastes separately from solid waste;
  - e) store special wastes in a manner that will prevent incompatible substances from reacting adversely with each other;
  - f) post signs identifying examples of common special wastes with information on appropriate disposal options for those materials or with phone number(s) or

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- website(s) to consult for information on appropriate disposal options, whether or not those materials are collected onsite;
- g) ensure that all containers used for the storage of special waste are clearly marked to identify what special waste the container is intended to hold;
  - h) ensure that containers used for the storage of special waste are made of materials that will not adversely react with the special waste;
  - i) not allow any residue at the bottom of a container used for the storage of special wastes to be released to the environment. Such residue shall be collected by the permittee, separated from other waste and treated as a special waste until proven by testing to not be special waste;
  - j) not mix waste oil from piston engine aircraft with other waste oil;
  - k) only mix or dilute a special waste with any other material where such mixing or dilution is authorized by an environmental protection officer from the Branch as an acceptable treatment/disposal option for the special waste;
  - l) keep all containers used to store special waste closed at all times during storage and not open, handle or store the container in a manner which may cause it to leak or rupture; and
  - m) have every closed container that
    - (i) has a capacity of more than 230 litres;
    - (ii) is designed to be installed in a fixed location; and
    - (iii) will contain special wastecertified by a testing agency recognized by the Standards Council of Canada prior to putting special waste in the container.

## **10. INCINERATION OF WASTE OIL**

1. Waste oil shall only be disposed of through incineration for the purpose of space heating.
2. Waste oil shall only be incinerated in an appliance which is approved or certified to burn waste oil by the Canadian Standards Association (CSA), Underwriters Laboratory Inc., USA (UL), or Underwriters Laboratory, Canada (ULC), or as otherwise approved by the Government of Yukon, Protective Services Branch.
3. The appliance for incinerating waste oil shall be installed and operated in accordance with **CSA Standard B.140.0-03**, as amended from time to time, and the manufacturer's instructions.
4. The permittee shall have a sample of their waste oil feedstock analyzed as directed by an environmental protection officer, and shall allow an environmental protection officer to obtain samples of their waste oil feedstock for the purpose of submitting them for analysis.
5. When submitting a sample of waste oil feedstock for laboratory analysis the permittee shall ensure that the laboratory uses the methods specified in Table 1 below, or equivalent, as amended from time to time, for each listed substance.

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**TABLE 1: ACCEPTABLE ANALYSIS METHODS AND CONTAMINANT LEVELS IN WASTE OIL**

SUBSTANCE	FOR USE AS FUEL IN WASTE OIL FURNACES	ACCEPTABLE EPA METHOD
	ppm	
Arsenic	5	3050/3051 & 7060
Cadmium	2	3050/3051 & 7000/7131
Chromium	10	3050/3051 & 7000/7191
Lead	100	3050/3051 & 7000/7421
Total Organic Halogens	1000	9020 or 9022
PCBs	2	3540/3541 & 8082

6. The permittee shall not incinerate any waste oil in which one or more contaminants exceeds the standards specified in Table 1.
7. All analyses performed in accordance with this permit must be acceptable to an environmental protection analyst from the Branch. In particular, the permittee shall ensure that the detection limit of the test method used is lower than the standards set forth in Table 1.
8. Results of all analyses performed in accordance with this permit must be submitted to an environmental protection officer from the Branch by the date specified in the direction to submit a sample for analysis.
9. Prior to blending contaminated waste oil with uncontaminated waste oil, the permittee shall submit analytical results for both the contaminated and uncontaminated oil, as well as a plan for handling and blending the oil in accordance with the Guidelines for Waste Oil Blending, to an environmental protection analyst from the Branch, and shall obtain written authorization to blend the oils.
10. Oil containing levels of PCBs above the limit specified in Table 1 shall not be incinerated or blended with other waste oil.
11. Oil from piston engine aircraft shall be assumed to contain lead contamination in excess of the maximum level specified in Table 1 unless proven otherwise.

#### **11. TRANSPORT AND TRANSFER OF SPECIAL WASTE**

1. The permittee shall not transport or transfer special wastes other than within the site.
2. The permittee shall ensure that all listed special wastes are transported and transferred in such a manner as to prevent their release into the environment.

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3. The permittee shall ensure that special wastes are transported to a permitted special waste management facility in the Yukon or another jurisdiction by a carrier permitted in the Yukon to receive and transport the special wastes.
4. The permittee shall complete a waste manifest documenting each shipment of special wastes from the site. The permittee shall distribute copies of the waste manifest in the manner described thereon.
5. The permit number **YG81-005** shall be used as the Provincial Identification Number on waste manifests used for the transport of the listed special wastes.
6. The permittee shall ensure that all vehicles operated by the permittee and carrying any special wastes are secured to prevent access by unauthorized persons.

## **12.SPILLS**

1. The permittee shall contact either an environmental protection officer, or the 24-hour Yukon Spill Report Centre (**867-667-7244**) as soon as possible under the circumstances in the event of a release, spill, unauthorized emission, discharge, or escape of any of the listed special wastes.
2. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is in a readily available location at all locations where the listed special wastes are handled or stored.
3. The permittee shall ensure that emergency spill procedures are posted at all locations where the listed special wastes are handled or stored, and that all personnel (employees, contractors or volunteers) are familiar with those procedures.

## **13.INSPECTIONS**

1. The permittee shall conduct weekly inspections of all electric fences and shall maintain them as necessary during periods of activation as specified in paragraph 4.2 to ensure that:
  - a) the fence is sufficiently charged to deter wildlife; and
  - b) there is no vegetation or windblown litter or other items along the perimeter of the fence, or contacting the fence, that may act as a ground.
2. The permittee shall conduct weekly visual site inspections to verify the correct segregation of wastes and shall transfer all identified improperly segregated wastes to their appropriate segregation areas.
3. The permittee shall conduct monthly visual inspections and maintenance on all incinerator components, and tanks and piping supplying fuel to the incinerator.
4. The permittee shall ensure that surface water run-off is inspected during spring melt and as required by an environmental protection officer. Such inspections shall include, but

not be limited to, qualitative observations regarding flow rate, general flow direction, and any noticeable effects the run-off is having on the dump.

#### **14.RECORDS**

1. The permittee shall keep all records required under this permit in a format acceptable to an environmental protection officer for a minimum of three years and make them available for inspection by an environmental protection officer upon request.
2. The permittee shall submit a report to an environmental protection analyst from the Branch describing the effectiveness of the implementation of the pollution prevention plan, including quantifiable data showing the reduction in the amounts and/or types of waste incinerated, pollution control equipment added and the associated reductions in emissions, and results from emissions test, as applicable. The report shall be submitted by December 31, 2012.
3. The permittee shall keep the following records at the site office:
  - a) a copy of each plan developed under this permit, and any amendments to and approvals (if applicable) of each plan;
  - b) summaries of all inspections carried out under this permit which include the name of the person conducting the inspection, the date of each inspection, any observations recorded during the inspection, actions taken as a result of those observations, and the date each action was taken;
  - c) results of any incinerator stack tests, if required;
  - d) notes concerning any spills or leaks occurring at the site, including substance involved, estimated quantity, date of observation of the spill or leak, and clean-up procedures implemented;
  - e) the types of special wastes segregated at the site, their estimated volumes, and their storage location(s) at the site;
  - f) any and all deficiencies remedied in accordance with paragraph 2.5, and how and when they were remedied; and
  - g) a copy of any waste manifests used to transport special wastes to or from the site;
  - h) the name of the incinerator operator monitoring each burn;
  - i) the dates, times and length of operation of the incinerator for each burn;
  - j) the types of solid waste incinerated in each batch (eg. Kitchen/putrescibles, cardboard, construction waste, etc.);
  - k) the volumes and location of ash disposed;
  - l) the dates, times and length of any emergency shutdown and/or malfunction of the incinerator(s), and any corrective actions taken;
  - m) the dates and results of visual inspections and monthly maintenance on all incinerator components and tanks and piping supplying fuel to the incinerator;
  - n) the volumes and location of ash disposed; and
  - o) the log entry date and name of the person entering the information.

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Environment

Box 2703, Whitehorse, Yukon Y1A 2C6

December 1, 2010

4202-24-024

Colleen Roche  
Minto Explorations  
9<sup>th</sup> floor- 999 West Hastings Street  
Vancouver, BC  
V6C 2W2

Dear Ms. Roche:

**Re: Land Treatment Facility Permit #24-024**

---

Enclosed, please find a certified copy of your Land Treatment Facility permit.

Please ensure that a copy of this permit is kept at the facility, and that all relevant staff are familiar with its conditions. Also, please note that if any operational details of your business change, respecting the handling of contaminated material, you are required to apply for an amendment to your permit.

Should you have any questions, please call me at (867) 667-8848.

Sincerely,

A handwritten signature in black ink that reads "B. Peters".

Bethany Peters  
environmental protection analyst  
Environmental Programs Branch

Encl.

**LAND TREATMENT FACILITY PERMIT**

Issued for the Operation of a Land Treatment Facility Pursuant to the *Environment Act*,  
the *Contaminated Sites Regulation*, and the *Special Waste Regulations*

**Permittee:** Minto Explorations Ltd.

**Mailing Address:** 9<sup>th</sup> Floor – 999 West Hastings Street, Vancouver, BC V6C 2W2

**Site Location:** Minto Mine, Yukon  
62°37'N 137°15'W

**Phone/Fax:** (604) 684-8894 / (604) 688-2180

**Authorized Representative:** Rob Wilson / Colleen Roche

**Email:** robw@mintomine.com / colleenr@mintomine.com

**Effective Date:** January 1, 2011

**Expiry Date:** December 31, 2013

**Scope of Authorization:**

In accordance with your application and supporting documents, Minto Explorations Ltd., represented by yourself, is hereby permitted to operate a Multi-Use Land Treatment Facility (a "facility") for the acceptance, storage and treatment of soil contaminated with petroleum hydrocarbons, including

- soil also containing copper in excess of the applicable standard for Industrial land Use as prescribed in the *Yukon Contaminated Sites Regulation*; and
- soil also containing contaminants other than petroleum hydrocarbons below the standards for those contaminants for industrial land use; and

hereinafter referred to as contaminated material, as set out in the terms and conditions of this permit.

Dated this 1<sup>st</sup> day of December, 2010

  
\_\_\_\_\_  
Director, Environmental Programs Branch  
Environment Yukon

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## **PART 1. DEFINITIONS**

1. In this permit,
  - a) "Act" means the *Environment Act*, R.S.Y. 2002, c.76;
  - b) "associated personnel" means all employees, contractors and volunteers involved in the permitted activities;
  - c) "Branch" means the Environmental Programs Branch of Environment Yukon;
  - d) "facility" means the entire area of the Land Treatment Facility, including the staging cells, treatment cells and all access roads;
  - e) "free-phase petroleum hydrocarbons" are petroleum hydrocarbons that exist in a distinct layer or phase (considered to be special waste) when present with water or other liquid;
  - f) "Regulations" means the *Contaminated Sites Regulations*, O.I.C. 2002/171 and the *Special Waste Regulations*, O.I.C. 1995/047;
  - g) "special waste treatment cell" means a bermed area in which contaminated material with levels of petroleum hydrocarbon contamination above the special waste criteria is placed;
  - h) "staging cell" means a bermed area into which contaminated material without analytical results is initially placed upon acceptance at the facility;
  - i) "supporting documents" means the following documents submitted in conjunction with the application:
    - i. "Minto Mine Land Treatment Facility Plan," dated September 2007 and prepared by Access Consulting Group;
    - ii. E-mail correspondence from Scott Keesey to Matthew Nefstead on October 1, 2007 and March 18, 2008; and
    - iii. Hydraulic conductivity test results dated September 26, 2007 and prepared by EBA Engineering Consultants Ltd.
    - iv. E-mail correspondence from Colleen Roche to Bethany Peters on
  - j) "treatment cell" means a bermed area into which contaminated material is placed for treatment;
  - k) "treatment" includes but is not limited to tilling/turning the material, mixing it with other materials, or adding moisture or nutrients;
  - l) "vehicle" has the same meaning as in the *Motor Vehicles Act*, R.S.Y. 2002, c. 153; and
  - m) "waste manifest" means the shipping document required to be completed by the permittee as set out in this permit in the form approved by an environmental protection officer.
2. Any term not defined in this permit that is defined in the Act or the Regulations has the same meaning as in the Act or the Regulations.

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## **PART 2. GENERAL CONDITIONS**

1. Only contaminated material generated by the permittee's own activities may be collected, stored or treated at the facility.
2. The permittee shall ensure that all associated personnel:
  - a) have access to a copy of this permit;
  - b) are knowledgeable of the terms and conditions of this permit; and
  - c) receive the appropriate training for the purposes of carrying out the requirements of this permit.
3. The permittee shall provide notice in writing to an environmental protection analyst from the Branch prior to any significant change of circumstances, including without limitation:
  - a) closure of the facility;
  - b) a change in the ownership of the facility; or
  - c) a change in the mailing address, site location or phone number of the permittee.
4. The permittee shall ensure that the facility is operated as described in the permit application, supporting documents, land treatment facility plans and closure plans, except where conflicts exist between such documents and this permit, in which case the permit shall prevail.
5. If an inspection reveals that the facility is in any way not in compliance with this permit or approved plans, or that surface water run-off is negatively affecting the structure or physical integrity of the facility, the permittee shall repair the damage or take other actions as required to bring the facility into compliance.
6. All sampling must be conducted in accordance with all applicable protocols pursuant to the *Contaminated Sites Regulation* that pertain to sampling and analysis. Sample collection must be carried out by trained personnel using appropriate equipment and procedures.
7. All analytical testing required by this permit must be performed by a laboratory accredited as described in *Protocol 2: Analysis of Samples Taken in Relation to the Contaminated Sites Regulation*.

## **PART 3. FACILITY CONSTRUCTION**

1. The permittee shall not construct or operate a facility on any portion of land where:
  - a) The slope is greater than 6%;
  - b) The seasonal high water table is less than 3 metres below the surface;
  - c) The facility would be within 100 metres of a surface water body;
  - d) The land is identified as being within a 25 year floodplain; or
  - e) Residential property lines or buildings are less than 60 metres away.

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2. The permittee shall ensure that the permeability of the native soil is less than  $10^{-5}$  cm/sec and that the layer of this native soil is greater than one metre thick throughout all staging cells and treatment cells.
3. In accordance with the permit application and supporting documents:
  - a) the facility shall consist of:
    - i. 1 staging cells, each with maximum interior dimensions of 20 metres by 20 metres and having an approximate capacity of  $560 \text{ m}^3$ ; and
    - ii. 1 treatment cells, each with maximum interior dimensions of 32 metres by 50 metres and having an approximate capacity of  $2240 \text{ m}^3$ ;
  - b) the maximum height of piles of contaminated material within the facility shall be 1.4 metres; and
  - c) the facility shall be contained within the boundaries of the site location.
4. Prior to altering the size or number of cells or the capacity of the facility, the permittee shall apply for and obtain an amendment to this permit from the Branch.
5. The permittee shall construct berms to prevent the escape of contaminated material, runoff or leachate from the cells. The height and permeability of such berms must be sufficient to contain all contaminated material, runoff, and leachate in the cells.
6. Berms surrounding staging or treatment cells shall not be removed or breached except as instructed or approved by the Branch.
7. The permittee shall construct ramps to allow equipment to access the cells without damaging or degrading the berms.
8. The permittee shall construct diversion berms and/or ditches, as required, to ensure that runoff cannot enter the cells.
9. The permittee shall secure the facility to prevent access by unauthorized persons.
10. The permittee shall post a sign at the entrance to the facility identifying that the facility contains contaminated material.

#### **PART 4. FACILITY MAINTENANCE**

1. The permittee shall ensure that:
  - a) the liner, berms, ditches, tanks, fencing, signage, and all other facility components are properly maintained and repaired;
  - b) the facility is inspected every two weeks from April 1 to October 31 of each year; and
  - c) the Branch is notified of any deficiencies at the facility.The permittee shall undertake appropriate remedial action as soon as practicable upon noting any deficiencies, or as directed by an environmental protection officer.

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2. The permittee shall take all reasonable measures to ensure that wildlife, including waterfowl, is not attracted to the site. These measures may include, but need not be limited to, fencing, the use of bird scare devices, removal of suitable habitat (e.g. standing water and vegetation), or the installation of netting over the cells.

#### **PART 5. INTAKE OF CONTAMINATED SOIL**

1. The permittee shall obtain a permit amendment before collecting, storing or treating materials other than those authorized by this permit.
2. The permittee shall ensure that samples of incoming contaminated material from each source are analyzed for petroleum hydrocarbons and any other contaminants of concern within 30 days of the acceptance of the material.
3. If the permittee has reasonable grounds to believe that incoming contaminated material may contain contaminants other than petroleum hydrocarbons, the permittee shall contact the Branch prior to accepting the contaminated material and shall follow the direction provided by the Branch.
4. Should analysis of incoming contaminated material show that it contains contaminants other than petroleum hydrocarbons above the standards for those contaminants for Industrial Land Use in the *Yukon Contaminated Sites Regulation*, the permittee shall contact the Branch for direction on the disposal of the material within 5 days of receipt of the analytical results, and shall remove the material from the facility within 30 days of receipt of the analytical results or as directed by the Branch.
5. The permittee shall ensure that analytical results establishing the type and level of contaminants in incoming contaminated material are received prior to initiating treatment of that material.
6. The permittee shall not accept contaminated material known or suspected to be special waste without first obtaining an amendment to this permit from the Branch which authorizes the handling and/or treatment of the special waste material.
7. Should analysis of incoming contaminated material show that it has a hydrocarbon content of 30,000 parts per million or more, or is otherwise considered a special waste, the permittee shall inform the Branch within 5 days of receipt of the analytical results. Within 30 days of the receipt of the results, the permittee shall remove the special waste material from the facility, or apply for and obtain an amendment to this permit from the Branch which authorizes the handling and/or treatment of the special waste material.

#### **PART 6. SOIL HANDLING AND STOCKPILING**

1. The permittee shall ensure that contaminated material from different sources or containing different types of contamination is handled, stored and treated separately

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except as authorized by this permit or as directed by an environmental protection officer.

2. The permittee shall ensure that no contaminated material is mixed with special waste material, treated material or non-contaminated material, except as authorized by this permit or as directed by an environmental protection officer.
3. If contaminated soil is to be treated in layers, the permittee shall ensure that the depth of each layer of contaminated material in the facility is no greater than 0.5 metres and that the total height of all layers within the facility is no greater than the maximum pile height of 1.4 metres, as specified in 3.3(b) above.
4. The permittee shall ensure that contaminated material is handled and stored in a manner that prevents its release into the environment.
5. The permittee shall ensure that deposits of contaminated material within a cell are placed a sufficient distance from all berms to prevent contaminated material, runoff or leachate from escaping the cell.
6. The permittee shall ensure that there is sufficient separation between piles or windrows of contaminated material to allow equipment to access each pile or windrow and to prevent inadvertent mixing of piles or windrows of contaminated material from different sources or containing different levels or types of contamination.
7. The permittee shall ensure that no contaminated material is placed on the ramp(s) into the cells, the berms surrounding the cells or on access road(s) into or within the facility.

#### **PART 7. MONITORING**

1. The permittee shall develop and implement a sampling and monitoring program for all contaminated material being treated at the facility, in accordance with all guidelines and protocols pursuant to the *Contaminated Sites Regulation* that pertain to the sampling, analysis and monitoring of contaminated material within a Land Treatment Facility.
2. The permittee shall ensure that samples of contaminated material from each source are taken and analyze at least once every three years in order to assess remediation progress.

#### **PART 8. REMOVAL OF REMEDIATED SOIL**

1. The permittee shall not remove any material from the facility without first:
  - a) submitting a written request to the Branch to remove the material;
  - b) providing information on the land use at the receiving site;
  - c) providing analytical results demonstrating that the material to be removed is suitable for use at the receiving site, based on the applicable land use CSR standards, for all contaminants of concern;

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- d) ensuring that if the material removed from the facility is contaminated above CSR standards for all land uses, that the material is transported, in accordance with applicable transport laws, to a facility permitted to receive the contaminated material;
  - e) providing the date on which the soil was last tilled;
  - f) receiving the written approval of the Branch for the removal; and
  - g) obtaining a relocation permit for the relocation of the remediated material, if the concentration of any contaminant in the material is above any of the standards in the *Contaminated Sites Regulation*.
2. Prior to taking confirmatory samples from a pile of contaminated soil in support of a request to remove the soil from the facility, the permittee shall till or turn the material at least once using appropriate equipment.
  3. Following the removal of material from a treatment cell, the permittee shall have the native soil tested to determine the level of all contaminants known to have been present in the removed material at any point during its course of treatment. That portion of the treatment cell shall not be used again to store or treat contaminated material until the level of each contaminant in the native soil is at or below the standards for that contaminant for Parkland or Residential Land Use as prescribed in the *Yukon Contaminated Sites Regulation*.
  4. When removing material from the facility, the permittee shall ensure that material containing copper in excess of the standard for industrial land use is not removed from the site and is only deposited in an area where the existing soil contains equal or higher concentrations of copper, as approved by the Branch.

## **PART 9. MANAGEMENT OF CONTAMINATED WATER**

1. Contaminated liquids, other than runoff from soil in the facility, may not be collected, stored, or treated at the facility.
2. The permittee shall ensure that all runoff within cells, including rain water and snow and ice melt, is either contained within the berms of each cell while still leaving a minimum of 30 cm freeboard or is removed from the cells and is contained within the facility in aboveground storage tanks of sufficient volume.
3. Prior to discharging any contaminated liquid to the environment, including runoff from soil in the facility and liquid that has been treated or filtered, the permittee shall:
  - a. collect a representative sample of the liquid proposed for discharge;
  - b. submit a written request to the Branch to discharge the water;
  - c. provide analytical results demonstrating that hydrocarbons, total metals, and any other contaminants of concern are below applicable *Contaminated Site Regulation* standards.

This condition does not apply to liquids applied to remediating soil from within the facility.

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4. Notwithstanding section 9.3 above, the permittee may remove snow from the facility and discharge it to the environment without sampling, provided that the snow is from an area of the facility where no contaminated soil is present and that the snow has not come into contact with contaminants or contaminated material.
5. The permittee shall ensure that a sample of the contaminated liquid referred to in 9.2 and 9.3 above is collected when no additional material is to be added to the storage tank or treatment cell, and shall ensure that no additional material is added to that storage tank or treatment cell between the collection of the sample and the use or disposal of the sampled liquid.
6. Free-phase petroleum hydrocarbons shall be disposed of in accordance with all applicable regulations and shall not be sprayed onto soil in the facility.
7. Any contaminated liquid at the facility found to exceed special waste criteria for any contaminant other than petroleum hydrocarbons shall not be sprayed onto soil in the facility. Such liquid shall be disposed of in accordance with all applicable regulations.

#### **PART 10. SPILLS**

1. The permittee shall ensure that substances are stored or handled so as not to cause spills, leakage, leaching or other discharges or releases of the substances from their storage containers, equipment, or other sources.
2. The permittee shall contact either an Environmental Protection Officer or the 24-hour Yukon Spill Report Centre (867-667-7244), as soon as possible under the circumstances, in the event of a release, spill, unauthorized emission, discharge or escape of any material as defined in s.132 of the *Environment Act* and/or as listed in the *Spills Regulations*.
3. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is in a readily available location on site.
4. The permittee shall ensure that emergency spill procedures are written down and available to all personnel when working on-site and that all personnel are familiar with those procedures.

#### **PART 11. REPORTING AND RECORD KEEPING**

1. The permittee shall maintain records detailing:
  - a) the origin of all contaminated material being treated;
  - b) the volume of contaminated material accepted from each source;
  - c) a figure(s) showing the entire facility including the location within the facility of contaminated material from each source;
  - d) the total volume of contaminated material in the facility;

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- e) soil analysis results for samples from any contaminated material accepted for treatment or removed from the facility;
  - f) soil analysis results for any interim samples taken in order to assess remediation progress;
  - g) results of any water analyses conducted on runoff from the facility;
  - h) details of any nutrients added (including type, dates, and quantity);
  - i) soil analysis results for any confirmatory samples taken for the purpose of determining if the soil was remediated;
  - j) details of any handling of special waste (including volumes accepted and/or removed from the facility);
  - k) the volume of material removed from the facility, the location and applicable land use(s) of the receiving site(s), and the written approval of the Branch for removal of the material; and
  - l) details of all inspections of the facility undertaken by the permittee pursuant to section 4.1 of this permit, including the dates of inspection and observations.
2. The permittee shall submit an annual report to the Branch on or before March 31 of each year which includes but need not be limited to:
- a) a description of all activities undertaken at the facility in the previous calendar year;
  - b) all records required to be maintained under section 11.1 as they pertain to the previous calendar year and reflective of conditions as of the end of that year, including original laboratory reports for all sample results reported;
  - c) a sampling and monitoring plan for the current calendar year, pursuant to section 7.1 of this permit; and
  - d) a workplan for the entire facility for the current calendar year.
3. Notwithstanding the reporting requirements listed in section 11.2, analysis results for samples from contaminated or remediated material accepted for treatment or removed from the facility need not be included in the annual report where these results have previously been submitted in support of a relocation permit or a request for authorization to remove material. Additionally, authorizations received from the Branch (such as for the removal of treated soil) need not be included in the annual report. All other applicable information pertaining to this material (e.g. volumes, sources, etc.) must still be included in the report.
4. The permittee shall ensure that the annual report described in section 11.2 notes and describes any case where a requirement of section 11.1 does not apply (for example, if no nutrients were added in the previous calendar year). The permittee shall submit the annual report described in section 11.2 even if no activity was undertaken in the previous calendar year.
5. The permittee shall keep all records required by section 11.1 for a minimum of three years, and shall make them available upon request for inspection by an environmental protection officer.

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## **PART 12. DECOMMISSIONING**

1. At least 30 days prior to the intended closure of the facility or of any individual cells, the permittee shall submit a detailed decommissioning plan to the Branch which includes:
  - a) a schedule for decommissioning the facility or cells;
  - b) the results of sampling demonstrating the levels of contaminants in all soil in the facility or in the individual cells to be decommissioned;
  - c) details of the intended or actual use and receiving location of all soil in the facility or in the individual cells to be decommissioned;
  - d) a description of intended future land uses for the site location;
  - e) a description of the methods to be used to restore the site or to prepare the site for its future uses; and
  - f) any other information required by the Branch.
2. The permittee shall obtain the Branch's written approval of the decommissioning plan prior to the commencement of any work to decommission the facility or any individual cells.
3. All work to decommission the facility or any individual cells shall be carried out in accordance with the decommissioning plan approved by the Branch.
4. If sampling indicates that all the contaminated material in the facility has been remediated and when no further contaminated material is to be accepted at the facility, the permittee shall:
  - a) conduct confirmatory sampling in accordance with *Protocol 11: Sampling Procedures for Land Treatment Facilities*, if the previous sampling was not confirmatory sampling;
  - b) submit the results of the confirmatory sampling to the Branch and request approval to remove the remediated contaminated material;
  - c) remove the remediated contaminated material in accordance with the approval granted by the Branch;
  - d) submit a decommissioning plan, as described in section 12.1 above, to the Branch within six months of removing the remediated contaminated material from the facility; and
  - e) decommission the facility in accordance with the approved decommissioning plan within six months of receiving approval from the Branch or as directed by the Branch.

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