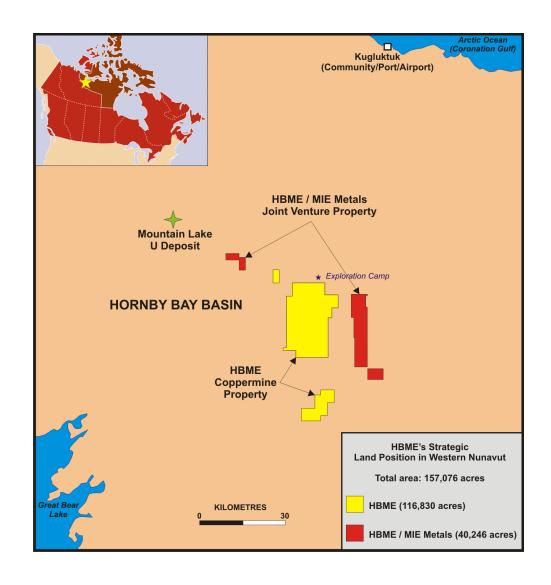


Suite 400, 365 Bay Street, Toronto, Ontario, M5H 2V1

# **Abandonment and Restoration Plan**

Attached to the Application for Renewal of NWB Water Licence 2BE-MOU0914



Hornby Bay Mineral Exploration Ltd. (HBME) Nunavut Property Map, January 2014

### **Table of Contents**

- 1. Preamble
- 2. Introduction
- 3. Schedule
- 4. Infrastructure
- 5. Fuel Cache
- 6. Waste Management

### Section 1: Final Abandonment and Restoration Plan

**Buildings and Contents** 

Water System

**Electrical System** 

Fuel and Chemical Storage Facilities

Waste Facility and Incinerator

**Grey-Water Sump** 

Black-Water Sump

Helicopter Pad

Camp Site

Core Storage

**Drill Site Restoration** 

Documentation and Inspection

#### Section 2: Seasonal Shutdown and Restoration Plan

**Buildings and Contents** 

Water System

Electrical System

Fuel and Chemical Storage Facilities

Waste Facility and Incinerator

**Grey-Water Sump** 

Black-Water Sump

Helicopter Pad

Camp Site

Core Storage

**Drill Site Restoration** 

Documentation and Inspection

### 1. Preamble

This Abandonment and Restoration Plan is an updated version of the Plan submitted in 2008 to the Nunavut Water Board (NWB) as part of the documentation for a new water use permit for the Mouse Lake Project. NWB Licence 2BE-MOU0914 was issued on May 4th, 2009 to UNOR Inc.

Subsequent to the issuance of the Licence, the Company changed its name from UNOR Inc. to Hornby Bay Mineral Exploration Ltd. by Articles of Amendment dated April 06, 2010.

Hornby Bay Mineral Exploration Ltd. conducts uranium exploration activities in the Kitikmeot District of Nunavut on a land package that comprises 17 mineral claims and 40 mining leases and covers portions of NTS sheets 86J, K, N and O. The camp serving these exploration activities is located at latitude 67°05'58" N and longitude 115° 44'12" W on the southern shore of Mouse Lake and is approximately 80 kilometers south of Kugluktuk.

Hornby Bay Mineral Exploration Ltd. operates under the guidelines established in Land Use Permit #N2011C0007 (expiry on April 11, 2014) issued by the AAND (formerly INAC).

### 2. Introduction

The effective date of the plan is April 30, 2014. The plan is effective to September 30, 2023.

This Abandonment and Restoration Plan has been prepared for the Mouse Lake camp and the proposed drilling campaigns on the Company's exploration properties in the area. The drilling is focused on testing uranium targets within the Upper Proterozoic sandstones of the Hornby Bay basin. The drill targets are the result of on-going field work including airborne geophysical surveying, follow-up ground geophysics, prospecting, geological mapping and geochemical sampling. The currently planned drilling will test uranium targets on the large Coppermine block of claims and leases.

Section 1 details the scenario of a possible shut down of the project before September 30, 2023 and final restoration of the camp site. Section 2 addresses the on-going periodic seasonal shutdowns during the winter months. An outline of the temporary shutdown procedure is included.

In the case of the seasonal shut downs, the Company will insure that it has acquired all of the relevant permits to continue its planned exploration activities for the following season.

### 3. Schedule

The abandonment and restoration of the camp site will take approximately 7 days, once the decision is made to discontinue the project, and will have to be completed by the end of September while Mouse Lake is still serviceable by float planes. The plan will be implemented under the supervision of the Camp Manager and will require assistance by the field crew.

### 4. Infrastructure

The camp is designed to accommodate a maximum of 40 people but normally operates with a smaller contingent of up to 25 people. The principal infrastructure includes the following:

1 wood frame kitchen – 14' x 60', hot and cold running water, gas grill & oven, 3 refrigerators, 3 freezers

1 wood frame dry, 14' x 32', hot and cold running water, 3 showers, washing machine & dryer, 3 x 500 gallon plastic water tanks & 2 Bradford water heaters

1 wood frame women's dry, 14' x 20' with hot and cold running water, 1 shower, 1 propanefired toilet, 500 gal water tank, 35 gal hot water tank

- 4 Weatherhaven tents, 14' x 16' with wooden floors
- 5 Insulated tents, 14' x 16' with wooden floors
- 3 Insulated tents, 14' x 20' with wooden floors
- 2 Summer-weight Canwest tents, 14' x 16' with wooden floors

1 core logging structure using 2 co-joined Canwest 14' x 16' insulated tents with wooden floors

2-story plywood generator shack (16' x 32') housing a 20 kva Deutz diesel powered generator and a spare 12kva Lombardini generator, 2<sup>nd</sup> floor used for storage

1 plywood shack, 8' x 8' for storage of helicopter spare parts and diamond drill additive

1 16' x 16' drill shack used for drill storage

3 wood frame outhouses

1 14' x 16' tent for new Pacto toilets

1 Burn – Easy model 36 Incinerator with Afterburner

1 10' x 12' plywood boat house/ storage at the beach

1 8' x 10' plywood pump house

An additional 2 Norseman prospector tents are stored at the camp for temporary accommodation. All tents are individually heated by Hurricane oil fired stoves. The helicopter pad and main fuel cache are located approximately 150 meters to the east of the camp. A removable dock (hauled up in winter months) is located on the shore of the lake in front of the camp. A 16' square-nosed boat is kept on the beach during the field season to provide safety for the supply planes.

### 5. Fuel Cache

The fuel storage area is located approximately 100 meters east of the camp in the central part of the isthmus of till moraine that separates the main Mouse Lake water body from the southern branch of the lake. Aviation fuel is purchased from Bassett Petroleum in Yellowknife and diesel fuel is purchased from the Co-op in Kugluktuk. The aviation fuel is transported to Kugluktuk either by barge in the summer or by large aircraft in the spring. The fuel is then transported to Mouse Lake by Twin Otter or Caravan aircraft. Normally, the main fuel haul is completed in

early May using an ice strip constructed by snow-blower on Mouse Lake. The drums are hauled by snowmobile to the cache.

Both JetB for the helicopter and P-50 for the diamond drill/ camp heating are stored in 205 liter drums within large plastic berms. The empties are removed regularly to Yellowknife either directly or by transshipment through Kugluktuk.

# **6.** Waste Management

Hornby Bay Mineral Exploration Ltd. has a Service Contract with Braden Burry Expediting Services Ltd. for the support of the exploration activities that covers the ingress and egress of materials and personnel. Local expediting is sub-contracted to Kikiak Contracting Ltd. based in Kugluktuk. Incombustible domestic waste generated at the Mouse Lake camp is bagged and removed from the camp via aircraft chartered by Braden Burry for disposal at approved discharge sites. Braden Burry sub-contracts the disposal of hazardous waste to a specialist waste management company named Newalta based in Leduc, AB (Tel 780-980-6699) and Hornby Bay Mineral Exploration Ltd. has been assigned Waste Generator number NUG 1000019 to document the disposal of hazardous waste removed from the Mouse Lake project. All shipments of hazardous waste will be accompanied by a completed hazardous waste manifest form that provides:

- Detailed information on the types and amounts of hazardous waste shipped;
- A record of the firms or individuals involved in the shipment; and
- Information on the storage, treatment or disposal of the waste and confirmation that they reached their intended final destination.

#### Contacts:

Yellowknife
Braden Burry Expediting Services Limited
#18 Yellowknife Airport
100 McMillan Street
Yellowknife, NT X1A 3T2
Tel 867-766-8666

Kugluktuk

Kikiak Contracting Ltd.

Box 190,

Kugluktuk, NU X0B 0E0

Attention: Grant Newman – VP/ Operations Manager (Tel 867-982-4713)

### Section 1: Final Abandonment and Restoration Plan

#### **Buildings and Contents**

All rented and reusable equipment including tents, metal tent frames, stoves, mattresses, appliances, water tank, boat, berms, etc will be dismantled and flown out to

Kugluktuk/Yellowknife for return to their owners or storage at the Braden Burry warehouse in the case of Company owned equipment.

Wood structures including the kitchen, dry, tent floors, bunk beds, tables, and outhouses will be dismantled and burned. Nails, screws and other non- combustible parts will be recovered, packaged and flown out to the municipal discharge at Kugluktuk.

### **Water System**

Pumps, tanks and hoses will be drained, dismantled, packaged and flown out to Yellowknife for storage.

### **Electrical System**

The two generators will be cleaned and drained prior to being shipped to Yellowknife. All waste fuel and oil will be collected and removed from the site. The generator shack will be dismantled and burned. The soil will be inspected for possible contamination.

Wiring and electrical fixtures will be dismantled and flown to Kugluktuk for the use of the local inhabitants or disposal at the Municipal discharge.

### **Fuel and Chemical Storage Facilities**

Upon abandonment of the camp, all full drums as well as remaining empty drums will be flown back to Bassett Petroleum in Yellowknife. All full and empty propane cylinders will also be flown back to the supplier in Kugluktuk. Any waste fuel that has accumulated during the exploration activities will be flown to Yellowknife in properly labeled containers for disposal by an authorized agent.

Chemicals stored on site consist of drill additives, oil, grease and household cleaners. Drill additives are stored in a plywood shack which will be dismantled and burnt. The site will be checked for any possible contamination. Unopened additives, oil and grease containers will be returned to the drill contractor's storage in Winnipeg. Partially used containers will be removed from the site and disposed in an approved discharge. Empty containers will be disposed with the other incombustible garbage in the Municipal discharge in Kugluktuk.

#### **Waste Facility and Incinerator**

Upon final closure of the camp, all combustible material will be burnt. The Burn-Easy incinerator will be dismantled and stored at the Braden Burry warehouse in Yellowknife.

### **Grey-Water Sump**

The grey water sump servicing the kitchen and dry will be back filled and leveled.

#### **Black-Water Sump**

The existing sewage pits will be back filled and leveled after the outhouse buildings are removed. The new ecological toilets (Pacto) will be dismantled and stored at the Braden Burry warehouse in Yellowknife. The waste collected in the toilet's bags will be incinerated.

### **Helicopter Pad**

The helicopter utilizes a plywood platform that will be incinerated upon closure. The immediate area of the pad will be inspected for possible contamination.

## **Camp Site**

Once the equipment has been removed and all garbage has been incinerated or removed to an approved Municipal discharge, the site will be inspected for visible damage. Any areas showing too much evidence of wear will be covered with a layer of peat moss to promote regrowth of the natural vegetation.

### **Core Storage**

The core will be cross piled and stored at the camp site at a distance in excess of 31 meters from the highest water mark of Mouse Lake. It is anticipated that all radioactive core above minimal levels will be removed from the property for testing and permanent storage at an approved site (Saskatchewan Research Council Laboratory in Saskatoon).

The permanent storage of core will comply with the guideline of reducing the radiation to less than 1.0  $\mu$ Sv measured at 1 meter from the surface and at no instance be allowed to exceed 2.5  $\mu$ Sv. Permanent storage of radioactive core will be discussed with the appropriate departments of the Nunavut and Federal governments prior to closure of the exploration activities.

#### **Drill Site Restoration**

The drill will be dismantled and removed from the property along with all ancillary drilling equipment under the terms of the drill contract.

Drill sites are restored systematically as they are completed. A final inspection of all drill sites will be undertaken at the time of closure of the exploration activities. Any grey water and sludge sumps that remain visible will be backfilled and covered with a layer of peat moss to promote natural growth.

## **Documentation and Inspection**

Photos will be taken of all restored sites as a record of their condition upon closure of the exploration activities. Any areas of soil contamination by hydrocarbons that is noted during the final inspection will be treated under the terms outlined in the Spill Contingency Plan.

A final site inspection will be offered to representatives of the local community and government inspectors to verify compliance.

### Section 2: Seasonal Shutdown and Restoration Plan

#### **Buildings and Contents**

The camp will be winterized with only the removal of delicate equipment and personal effects. The kitchen will be inspected for the removal of all food stocks to decrease the potential for attracting animals. The kitchen, dry and insulated tents will be closed and

battened down. All garbage will be incinerated or removed to an approved Municipal discharge. A summary of the shutdown procedure has been prepared and submitted to the INAC Water Resources inspector in Kugluktuk.

### **Water System**

Pumps, tanks and hoses will be drained and stored in the dry.

### **Electrical System**

The two generators will be cleaned and drained and their respective shacks will be winterized after all fuel products have been removed.

### **Fuel and Chemical Storage Facilities**

Any remaining full drums of fuel will be inspected for leaks and consolidated in a confined area. All empty drums and waste hydrocarbons will be removed from the site and returned to the supplier in Yellowknife. All drill additives will be removed from the site by the drill contractor except for the full plastic bags of calcium chloride that will be piled and covered with durable canvas.

### **Waste Facility and Incinerator**

Once the combustible garbage has been burnt, the incinerator will be dismantled and stored in the dry. The ground in the area of the incinerator will be inspected for contamination.

### **Grey-Water Sump**

The wooden cover will be secured over the grey water sump.

### Black-Water sump.

The waste collected in the new ecological toilets' bags will be incinerated.

#### **Helicopter Pad**

The helicopter utilizes a plywood platform that will be inspected for possible contamination. Any contamination will be treated in accordance with the Spill Contingency Plan.

### **Camp Site**

Any areas showing too much evidence of wear will be covered with a layer of peat moss to promote re-growth of the natural vegetation. A thorough inspection for areas of possible hydrocarbon contamination will be conducted before the Seasonal closure. Contaminated areas will be promptly cleaned in accordance with the procedures outlined in the Spill Contingency Plan.

#### **Core Storage**

The core will be cross piled and stored at the camp site at a distance greater than 31 meters from the high water mark of Mouse Lake. The storage of core will comply with the guideline of reducing the radiation to less than 1.0 µSv measured at 1 meter from the surface and at no instance be allowed to exceed 2.5 µSv. It is the company policy that core above minimal levels will be removed from the property for testing and permanent storage at an approved site.

#### **Drill site Restoration**

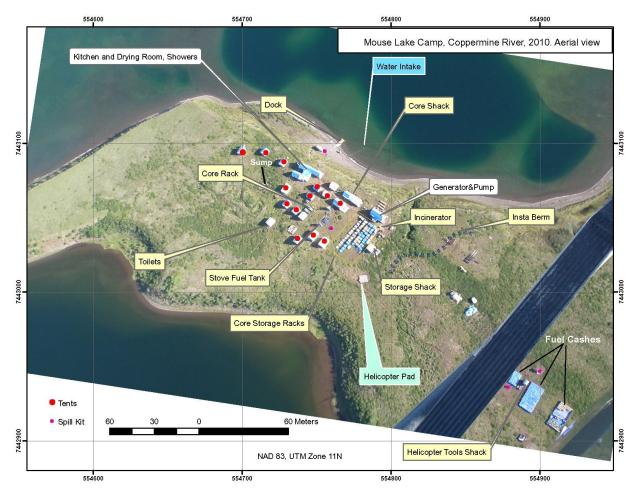
The drill will be dismantled and removed from the property along with all ancillary drilling equipment by the drill contractor.

Drill sites are restored systematically as they are completed. A final inspection of all drill sites will be undertaken at the time of the seasonal closure. Any grey water and sludge sumps that remain visible will be backfilled and covered with a layer of peat moss to promote natural growth.

### **Documentation and Inspection**

Photos will be taken of all restored sites as a record of their condition upon closure for the Season. Any areas of soil contamination by hydrocarbons that is noted during the final inspection will be treated under the terms outlined in the Spill Contingency Plan.

A complete inventory of all buildings and materials left on site will be recorded.



Geo-referenced Aerial Image of the Mouse Lake Camp