

# **AMARUQ Exploration Project**

Waste Management Plan

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# **DOCUMENT CONTROL**

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2014/10/29			Document revision, "Amaruq" project replace "IVR"
2015/11/09			Revision to include Regional Exploration
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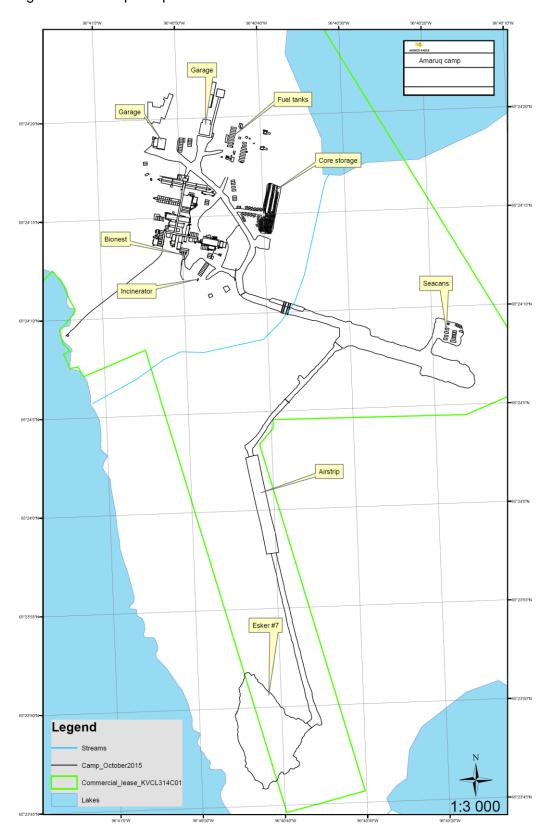
#### 1.0 Introduction

Agnico Eagle Mines Limited (AEM) signed an exploration agreement with the Nunavut Tunngavik Inc. in January 2013 for the Amaruq property. This property is located approximately 50 km northwest of the Meadowbank mine and 125 km north of the Baker Lake community. The mineral exploration aims gold mineralization. Drilling on this property began during the summer 2013 with helicopter support. To facilitate and improve the exploration in this area, AEM started the installation of an exploration camp directly on the Amaruq property.

This Waste Management plan is designed to reduce adverse impacts on the environment and especially on the water and is designed to comply with the terms and conditions for water use and waste management outlined in the Nunavut Water Board License 2BE-MEA1318.

A site plan showing the general layout of the Amaruq exploration camp and associated infrastructures is given in Figure 1.

Figure 1: Amaruq Camp



#### 2.0 Management of Wastes

#### 2.1 General Waste

The incinerator will dispose of solid waste from the accommodation camp, kitchen, shops, and offices that cannot be recycled. The incineration of waste will divert waste which could create odors and potentially attract wildlife. The materials to be incinerated will be limited to putrescible waste such as paper, food packaging, food waste and wood. Waste management requires that materials be segregated at the source to minimize the potential for inadvertent loading of the incinerator with problematic materials. Appendix A shows the waste segregation operated at the camp site.

All the waste generated in the field, during drilling on land, water or barge or any other exploration activities, is transported to the camp site, segregated and disposed of according to this waste management.

## The main thrusts of the plan are;

- The minimization of the creation of dioxin and furan compounds that are byproducts of the incineration of some wastes. This is principally accomplished through the segregation from the incinerated wastes;
- The elimination of potential mercury sources from the incinerated wastes;
- The segregation and elimination of waste oils and oil stained materials from the incinerated waste; and
- The segregation and elimination of industrial and household hazardous wastes from the incinerated waste.

Wastes that are deemed not combustible in camp will be treated in the following manner;

- Scrap metal and used tires will be stocked in containers and transported to facilities in the south to be recycled.
- Non-hazardous, solid "inert" waste (wood, plastics, glass) will be disposed of in an approved landfill or segregated and sent to a facility in the south for disposal.
- All hazardous wastes and waste items that cannot be incinerated or landfilled will be securely packaged and sent to a proper treatment facility.
- Prior to disposal, the hazardous waste will be properly packaged, labeled, and stored and manifested in a Transportation of Dangerous Goods (TDG) approved shipping container;
  - o The container will have the appropriate hazardous waste labels; and
  - All Federal, Provincial and Territorial regulations will be adhered to.

# 2.2 Used Container Disposal

It is important to ensure the proper disposal of used containers that have contacted, collected or contained a hazardous or regulated substance (e.g. paint cans, oil cans, acid containers, aerosol cans). Generally, residual liquids will be collected in 205 liter metal drums, manifested as hazardous waste and shipped to a licensed hazardous waste treatment facility. The original containers could be cleaned and reused or packaged as a hazardous waste and treated in a facility.

## 2.3 Hazardous Waste Generation and Disposal

AEM's hazardous waste generator number<sup>1</sup> NUG 100031. These waste containers and their labeling will be inspected by an accredited TDG person and appropriate paperwork will be kept on file by AEM. Details of the types, amounts, documentation and destination of hazardous wastes will be documented in the annual report delivered to the NWB.

#### 2.4 Used Drum Disposal

The majority of used fuel drums for jet fuel, gas and diesel (205 liter drums) can be reused on the site. Generally, AEM uses bulk fuels and only keeps a limited number of used drums on site. However, during operations, drums may be used for storage of other "used" products. Unusable drums will be crushed and sent to a facility in the south for recycling.

#### 2.5 Used Tire Recycling and Disposal

Used tires must be recycled or disposed of if recycling is not possible. In general, all tires smaller than 24.5 inches (wheel rim size) must be recycled by an approved tire recycler.

No commercial recycling options exist for tires larger than 24.5 inches in diameter, so these tires may be disposed of in the approved landfill or used for the construction of safety barriers along roads and thus these spent tires will be kept for such purposes.

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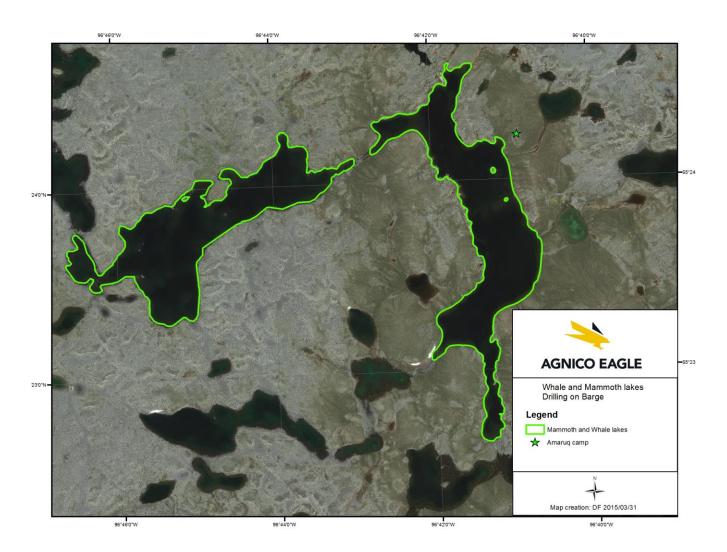
<sup>&</sup>lt;sup>1</sup> Agnico Eagle Mines Ltd has a single hazardous waste generator number for Nunavut. This covers the Meadowbank Mine, the Meliadine Gold Project and the exploration projects.

# 3. Drilling on barge

## Location

Barge drilling will be carried out only on the two lakes where promising deposits were identified, the Mammoth and the Whale lakes. Drilling is already being conducted on these lakes during the winter when the ice is thick enough to support the drill and equipment. The location of these lakes is shown in Figure 2.

Figure 2, Whale and Mammoth Lakes



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# 3.1 Management of Wastes

#### 3.1.2 General Waste

The waste generated on the barge during the drilling will be sorted daily using the helicopter. This waste will consist of domestic waste and waste related to the drilling operation such as used pails, matting, scrapped rods, etc. All the waste will be treated on land at the Amaruq exploration camp by the Site Services department along with the other waste generated by the project activities.

#### 3.1.3 Hazardous Waste Generation and Disposal

The hazardous wastes produced on the barge will be reduced to the lowest possible minimum. These wastes will be managed in secondary containments to reduce the risk of spill. These wastes will be sorted daily, transported by the helicopter and managed on land at the Amaruq exploration camp by the Site Services department. Details about the types, amounts and disposition destinations of the hazardous wastes will be documented in the annual report delivered to the NWB and NIRB.

# 3.1.4 Waste Water

To control the used water during the barge drilling, specialized techniques will be used. For each hole, three (3) casings will be installed. The first casing is the PW type and is descended in the sediment only with hydraulic head pressure (no rotation). The second casing is the HW type; it is placed inside the PW and is descended with the hydraulic head with rotation until it gets to the rock. The suspended solids created by this operation are inside the PW casing and are recuperated. The third casing is the NW type and is placed inside the HW and is descended with the hydraulic head with rotation until it gets 3 metres into the rock. The suspended solids are recuperated inside the HW casing.

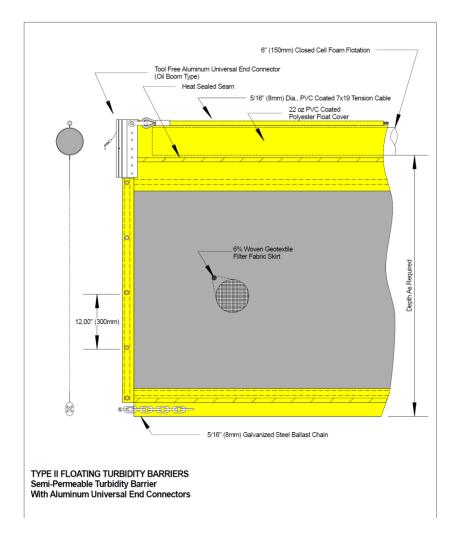
The used water produced by the drill contains water and grounded rock (cutting) and is recuperated inside the installed casings. The water is thereafter treated in 3 settling

tanks to recuperate the solids suspended in this water. The cuttings settle in the tanks and create sludge that will be recuperated and transported to land using helicopters. This sludge will be disposed of in an appropriate area located at least 31 metres from the water where runoff to water is not possible. The treated water will be reused for the drilling. Using this recirculation system, the quantity of water used is largely reduced and the management related to the suspended solids in the water is improved.

#### 3.1.5 Sedimentation Prevention

Agnico Eagle has been drilling in Nunavut on frozen lakes for many years, using techniques to reduce adverse impacts on the environment. During the summer, the drilling techniques can be improved to minimize the suspended solids created by the drilling and the related adverse impacts. For barge drilling, Agnico Eagle will install turbidity curtains around the barge. These curtains will be deployed down and will allow the suspended solids to settle inside a small and defined area around the hole.

Figure 3, Turbidity curtains specs



#### **APPENDIX A, AMARUQ WASTE MANAGEMENT**

