

# **Indicator Minerals Inc.**

## **ABANDONMENT AND RESTORATION PLAN**

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**For: Grail Project, Boothia Peninsula, Kitikmeot Region, Nunavut**

**NWB Licence No. 2BE-GRA----; IN PROGRESS  
INAC Land Use Permit No. N2009C0016; IN PROGRESS  
NIRB File No. APPLICATION IN PROGRESS**

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Created by: Indicator Minerals Inc.**

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## **Grail Project Exploration Program/Remote Camp Abandonment and Restoration Plan**

### **1. Preface**

This Abandonment and Restoration (A&R) Plan is in effect as of December 1, 2009, and applies specifically to the Grail Project. A property map and proposed camp layout are included in Appendix I. Indicator Minerals Inc. endeavours to take every reasonable precaution toward ensuring the protection and conservation of the natural environment and the safety and health of all employees and contractors from any potential harmful effects of stored materials and operations. All plans, licences and permits will be reviewed with employees and contractors when hired. Copies of the plans will be available in a common area for all personnel on site for reference. This A&R Plan assumes that a camp will be constructed to conduct future exploration on the Grail property.

### **2. Introduction**

The work proposed for this project consists of prospecting, staking, geological mapping, rock and soil/till sampling, airborne geophysics, ground geophysics, drilling, fuel transport (via fixed wing aircraft and helicopter, overland), establishment of fuel caches and the establishment of a camp.

Although the camp is temporary, it is the company's desire to have the camp remain in position for the duration of the land use permits and water licence. No buildings, equipment or waste will remain once the project is complete.

### **3. Schedule**

The final restoration of the future camp site will begin once the program is complete. All work under the Abandonment and Restoration Plan will be completed prior to the date of expiry of the land use permits and water licence unless a renewal is applied for. Empty fuel drums brought on site by Indicator Minerals Inc. will be removed from site regularly. Once a fuel cache is retired, a thorough inspection will be conducted. Any contamination will be cleaned up according to the Spill Contingency Plan and debris brought to site by Indicator Minerals Inc. will be removed from the site.

### **4. Infrastructure**

A camp location has been selected and is being proposed at 450550E, 7772000N, UTM Zone 15W. A fuel cache will be established at the camp. The maximum number of drums to be stored at the camp will be no more than:

- 50 drums of diesel
- 100 drums of Jet fuel
- 5 drums of gasoline
- 25 propane tanks

The fuel will be stored in neat, orderly rows with enough space between rows to allow for inspections. Bungs will face 3 and 9 o'clock. The fuel cache will be inspected daily and a spill kit will be located at the fuel cache.

A possible camp will consist of:

- 5 . 14qx 16qinsulated tents on wood frames. These tents function as sleep tents, an office, core tent and first aid station
- 2 . 14qx 32qinsulated tent on wood frames. These tents function as the kitchen mess and the dry
- An outhouse facility using %Racto+ toilets. The %Racto+ toilets do not require electricity or water. Instead a flush foil is used to encapsulate the waste.
- A generator building to house a 20 kW diesel generator as well as a backup generator
- A helicopter landing area, and
- A garbage incineration area.

## **5. Seasonal Shutdowns**

### *Buildings and Contents*

All tents will be dismantled and the canvas tents removed from site for drying and storage. Wood structures (generator and pacto toilet shacks) and wood floors will be kept secured. Wooden bed frames will be turned upside down and secured to the wooden floors for over-winter storage. The generator will be removed from site for servicing and storage.

### *Water System*

Pumps and hoses will be drained and dismantled. Pumps and hoses will be removed from site for servicing and storage.

### *Fuel caches and Chemical Storage*

An inventory will be conducted prior to leaving at the end of the field season. A thorough inspection of all fuel caches will be completed and empty fuel drums will be removed from site. Partially full fuel drums will be placed on an angle to ensure that snow and water do not enter the drum and no leakage from the drum occurs. Full fuel drums will be stored on their sides with the bungs in the 3 and 9 o'clock position.

Chemicals will not be stored on site or over winter. All chemicals, including cleaning products, will be removed from site for storage and/or disposal.

### *Waste*

Combustible Waste: All combustible waste will be incinerated

Grey Water Sump: the grey water sump will be inspected and covered securely for the winter. Stakes will be placed around the sump so that it is easily identifiable when the camp is opened up again each year.

Black water: the camp uses Pacto toilets. Bags containing waste are removed from site.

#### *Drill Sites*

The drill will be dismantled into its main components as per the drilling contractor procedure, packaged and secured along with its ancillary equipment and rods. The drill will be flown out by the drilling contractor or as the contract describes.

All drill sites will be inspected for soil contamination. Any remaining waste will be taken to camp to be burned if possible or to be flown out to an approved disposal location. Grey water and sludge sumps will be filled and leveled.

Indicator Minerals Inc. plans to employ progressive reclamation of drill sites; as much as possible, drill sites will be restored immediately after the drill has been moved to the next site.

#### *Contamination Clean Up*

Any soil around camp that has become contaminated and gone unnoticed will be treated as per the Spill Contingency Plan (specifically, Section 6.3: Fuel Spills on Land). Before and after photos will be taken to document the contamination and the clean up. These photos will make up part of the final report to be submitted to the Water Resource Inspector following any spill and will also be attached as part of the Annual Report submitted to the Nunavut Water Board and the Kitikmeot Inuit Association.

#### *Inspection and Documentation*

A complete inspection will be conducted of all areas prior to seasonal closure. Photos will be taken to document the conditions prior to leaving the site for the winter. A full inventory will be conducted.

## **6. Final Abandonment and Restoration**

#### *Buildings and Contents*

All buildings will be dismantled and removed. All wooden structures including floors will either be burned or removed.

#### *Equipment*

All equipment, including pumps, will be dismantled and removed from the project area.

#### *Fuel caches and Chemical Storage*

All fuel drums brought to site by Indicator Minerals Inc. will be removed. All areas where there have been fuel caches will be thoroughly inspected. Any contamination will be cleaned up as well as any debris removed. Contaminated soil will be handled as per the Spill Contingency Plan. Final photos will be taken of all fuel caches for inclusion in the final report.

### *Sumps*

All sumps will be inspected to ensure that there is no leaching or run-off. Sumps will be back-filled and leveled as required. Final photos will be taken.

### *Drill Sites*

The drill will be dismantled into its main components as per the drilling contractor procedure, packaged and secured along with its ancillary equipment and rods. The drill will be flown out by the drilling contractor or as the contract describes.

All drill sites will be inspected for soil contamination. Any remaining waste will be taken to camp to be burned if possible or to be flown out to an approved disposal location. Grey water and sludge sumps will be filled and leveled.

An inspection will be conducted to ensure that all drill sites are/have been restored and sumps have been covered and leveled.

### *Contamination Clean Up*

Any contamination will be treated as per the Spill Contingency Plan. Before and after photos will be taken to document the contamination and the clean up. These photos will make up part of the final report to be submitted to the Water Resource Inspector following any spill and will also be attached as part of the Annual Report submitted to the Nunavut Water Board and the Kitikmeot Inuit Association.

### *Inspection and Documentation*

A complete inspection will be conducted of all areas prior to closure. Photos will be taken to document the conditions prior to leaving the site for use in the final plan. All appropriate agencies will be contacted and notified once the final clean up has been conducted. The photos will make up part of the final closure reports to be submitted to DIAND, the Nunavut Water Board, and the Kitikmeot Inuit Association.

## 7. Emergency Contact Information

Contact	Telephone Number
Indicator Minerals Inc. Project Geologist (Andrea Maynes)	604-331-4605
Indicator Minerals Inc. V.P. Exploration (24-hr contact)	403-949-4417 403-830-4711
DIAND Water Resource Officer, Iqaluit	867-975-4295
Environment Canada	867-975-4644 24-hr pager: 867-766-3737
Nunavut Department of Environment	867-975-7700
Kitikmeot Inuit Association . Stanley Anablak	867-982-3310
Department of Fisheries and Oceans	867-979-8007
Indicator Minerals Inc. President	604-331-4605
Unaalik Aviation (Rankin Inlet, NU office)	867-645-2535
Ookpik Aviation (Baker Lake, NU office)	867-793-4720
Yellowknife Fire Department	867-873-2222
Taloyoak RCMP	867-561-1111
Stanton Regional Hospital, Yellowknife, NT	867-920-4111
Taloyoak Health Centre	867-561-0123
Discovery Mining Servcies	867-920-4600

## **Appendix I**