



Environment Canada Environnement
Canada Canada

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Via Email

RE: NWB2BAR – Indicator Minerals Inc. – Barrow Project – New – Type ‘B’

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Indicator Minerals Inc. (Indicator Minerals) is applying for a Type 'B' water licence for water use and waste disposal associated with exploratory drilling activities in their Barrow Project. The purpose of the Barrow Project is to locate economic diamondiferous kimberlite deposits within Nunavut's Kitikmeot region. The Barrow Property occupies an area of 113,630 acres and has 44 contiguous mineral claims on both Inuit owned land (surface parcels) and Crown lands. The location of undertaking submitted by the proponent in its licence application has coordinates of 68° 19' 52", 89° 32' 16". The Barrow Project is in its initial phase of exploration and as a result, the proponent will conduct all field activities from the community of Kugaaruk, NU. Planned activities for the 2005 season include field mapping, prospecting, soil and till sampling, and diamond drilling. The proposed time schedule for the water licence is 15 July 2005 to 30 November 2009.

The proponent anticipates that a maximum of 30 m³ of fresh water will be consumed per day when operating its diamond drill. According to Indicator Minerals' licence application, approximately twenty-five drill days will occur between July and October of 2005. The gray water and the land-based drill cuttings produced from diamond drilling activities will be pumped to a sump that is above the high water mark and away from nearby water drainage systems. The drill cuttings will be re-habilitated with peat moss upon completion of the field season and contoured to match the surrounding landscape. Please note that the proponent requests a multi-year water licence and will likely perform ice-based drilling at some point in the future.



The various fuel types and quantities that will be temporarily stored at each drill site are as follows:

- DIESEL: 4 x 55 gallon drums
- GASOLINE: 1 x 55 gallon drum
- JET-B: 5 x 55 gallon drums
- PROPANE: 2 x 100 lb tanks

N.B. A maximum of 10 fuel drums will be brought to the project's drill sites and all empty drums will be flown to Kugaaruk for proper disposal.

Indicator Minerals has submitted a spill contingency plan which provides a chain of command to follow, procedures to be followed for fuel spills on land, water, snow, and ice, and chemical spill procedures. In addition, it is stated that employees will be trained in spill response protocol and MSDS sheets for applicable hazardous materials were provided along with the licence application. A spill kit will be kept at all drill sites.

Firstly, Environment Canada reminds the proponent that the spill contingency plan must be in operation throughout the water licence's entire duration. According to the spill contingency plan, spill response measures shall be in effect from April 2004 to February 2008. These dates do not match the water licence's proposed time schedule (July 2005 to November 2009). Secondly, a list outlining the contents of the proponent's spill kit should be provided as a component of the spill contingency plan. Environment Canada requests that Indicator Mineral's revise the spill contingency plan accordingly.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

GENERAL

- The proponent shall not deposit, nor permit the deposit of any fuel, drill cuttings, chemicals, wastes, or sediment into any water body. According to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water is prohibited.
- Environment Canada reminds the proponent that all permits and approvals are required prior to the commencement of any work.
- If winter activities do occur, materials should not be stored on the surface ice of lakes or streams, except that which is for immediate use.
- EC recommends the use of an approved incinerator for the disposal of combustible camp wastes.
- The proponent shall ensure that any non-combustible waste is disposed of appropriately at an approved facility.



DRILLING

- Environment Canada would like to inform the proponent that the *Canadian Environmental Protection Act* lists CaCl as a toxic substance. The proponent shall therefore ensure that if CaCl is used as a drill additive, all sumps containing CaCl are properly constructed and located in such a manner as to ensure that the contents will not enter any water body.
- Drilling additives or muds shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.
- For 'on-ice' drilling, return water released must be non-toxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e., 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
- Land based drilling should not occur within 30 m of the high water mark of any water body.
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

FUEL STORAGE / SPILL CONTINGENCY / HAZARDOUS MATERIALS

- All fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.
- The proponent shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal at an approved facility.
- ALL SPILLS are to be documented and reported to the 24 Hour Spill Line at (867) 920-8130.
- Drip pans, or other similar preventative measures, shall be used when refueling equipment on site.

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me if you have any questions or comments with regards to the foregoing at (867) 975-4631 or by email via david.abernethy@ec.gc.ca.

Regards,

David W. Abernethy
Environmental Assessment Technician