



# Giant Mine Environmental Assessment

## IR Response Template

Round One: Information Request - North Slave Métis Alliance #14

June 17, 2011

### INFORMATION REQUEST RESPONSE TEMPLATE

**EA No: 0809-001**

**Information Request No: NSMA #14**

**Date Received**

February 28, 2011

**Linkage to Other IRs**

**Date of this Response**

June 17, 2011

**Request**

GNWT (and INAC?) have adopted Ontario's air quality criterion for airborne arsenic. Ontario is perceived by many Northerners to be a very industrialized and polluted place. Please explain whether the criterion are (sic) more or less protective for sensitive northern species in comparison to other industrialized and non-industrialized regions (ie: Poland and Iceland).

**Reference to DAR (relevant DAR Sections)**

s.7.3.3.1 Air Quality Indicators and Standards

**Reference to the EA Terms of Reference**

s.3.6 Monitoring, Evaluation and Management

**Summary**

The NWT does not have established ambient air quality standards for arsenic, so in accordance with the Guidelines for Ambient Air Quality Standards in the NWT, the most applicable standard from another jurisdiction may be adopted. The Ontario Ministry of the Environment ambient air quality criterion for arsenic is based on protection of human health and is therefore considered to be appropriate for use at the Giant Mine site.

**Response**

The NWT does not have established ambient air quality standards for arsenic, so in accordance with the Guidelines for Ambient Air Quality Standards in the NWT, the most applicable standard from another jurisdiction may be adopted. The Ontario Ministry of the Environment (MOE) has an ambient air quality



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criterion for arsenic of  $0.3 \mu\text{g}/\text{m}^3$ , based on a 24 hr average. This is a human health-based criterion, established as a level below which adverse health effects are not expected. For comparison, Alberta Environment's Ambient Air Quality Objectives (under their EPA) for arsenic are  $0.1 \mu\text{g}/\text{m}^3$  for a 1-hr averaging period and  $0.01 \mu\text{g}/\text{m}^3$  for an annual averaging period. The Alberta objectives were adopted from Texas. Additionally, the monitoring equipment to be used at the Giant Mine (hi-vol units) will be collecting arsenic data over a 24 hour sampling period (for emissions that will occur seasonally) thus the Ontario MOE criterion of  $0.3 \mu\text{g}/\text{m}^3$  for a 24 hr average is more applicable in this case than are the Alberta objectives.

Since the Ontario MOE criterion is based on protection of human health, it is considered to be appropriate for use at the Giant Mine site. Furthermore, modeling results for the project predict that arsenic in ambient air will reach maximums of  $0.01$  or  $0.02 \mu\text{g}/\text{m}^3$  (24 hour average) at the closest receptors to site.

A network of 17 dustfall collectors was established across the site in July 2010 as a means to validate the model results and to verify the effectiveness of the dust suppression measures. These are currently serving to collect baseline data on fugitive dust settling from the air and will provide measurements throughout the life of the remediation project. As an additional verification of the model predictions and complementary to the dustfall network, dust in the ambient air will be measured through a series of hi-vol units which will be speciated for arsenic levels.

