



# Giant Mine Environmental Assessment

## IR Response Template

Round One: Information Request – Yellowknives Dene First Nation IR #14

May 31, 2011

### INFORMATION REQUEST RESPONSE

**EA No: 0809-001**

**Information Request No: YKDFN #14**

**Date Received**

February 28, 2011

**Linkage to Other IRs:**

**Date of this Draft:**

May 31, 2011

**Request**

**Preamble:**

It was stated that sediment quality guidelines developed by the CCME have been used to evaluate the quality of sediment samples collected from the Giant Mine site. *In Section 8.4.4.1* The document does not mention any evaluation criteria for sediments – namely guidelines developed by the Government of the Northwest Territories. It feels as though the remediation of Baker Creek is used as a surrogate for the whole area, but it represents only one part of the impacted environment (See also table 8.5.1, 8.6.1)

In section *14.2.3.2 Benthic Invertebrates and Sediments* twelve (12) sediment sample sites are proposed to be established throughout Baker Creek stretching in area from the Creek mouth to Baker Pond. For Yellowknife Bay benthic sampling is being proposed for a point near the treated effluent discharge location, in Back Bay within the vicinity of the Baker Creek mouth, and also for a reference area in the south end of Yellowknife Bay. It is unclear if the sediment quality data will be compared to any applicable guidelines. With the exception of the monitoring point located near the proposed effluent discharge, it is uncertain whether the sampling locations are able to analyse the performance of any remediation activities.

**Question:**

It is requested that surface sediment quality guidelines are adopted to assess the performance of any remediation activities at the Giant Mine site. Sediment guidelines developed by the Government of the Northwest Territories or the CCME could be adopted. It is further requested that the sampling locations for sediment within Baker Creek and at Yellowknife Bay are provided and outlined relative to any planned sediment remediation activities.

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

DAR s.7.1.4 Sediment Quality





# Giant Mine Environmental Assessment

## IR Response Template

Round One: Information Request – Yellowknives Dene First Nation IR #14

May 31, 2011

DAR s.8.9 Assessment of Ecological and Human Health Risks

### Reference to the EA Terms of Reference

ToR s 3.5.2 Fish and Aquatic Habitat

### Summary

Consideration of sediment quality guidelines for Great Slave Lake is beyond the scope of the Remediation Project. Although some effects to benthic communities of Back Bay and Yellowknife Bay have been observed, data gathered on fish species has not shown an adverse effect on fish health or arsenic levels in fish tissue. A comprehensive monitoring framework will be put in place to verify the long-term health of the environment, including sediments near areas that could be affected by the Giant Mine Remediation Project. The detailed design of the monitoring framework (e.g., selection of sediment monitoring stations) will be guided by community input received through a consultation program.

### Response

The request to propose sediment quality guidelines for Back Bay and Yellowknife Bay is beyond the scope of the Remediation Project. While field studies in these water bodies have shown that the diversity and abundance of benthic communities has been impaired in some areas, data gathered on fish species has not shown an adverse effect on fish health or arsenic levels in fish tissue.

Notwithstanding the above, assessment of impacts to sediments from planned remediation activities are addressed in the Developer's Assessment Report (DAR). Likewise, monitoring of benthic communities and sediment quality at any locations where the Remediation Project is likely to interact with the downstream receiving environment of Yellowknife Bay is necessary. Specifically, monitoring has been proposed for any locations where point sources of arsenic loadings to Yellowknife Bay will continue into the future. As described in Section 14.2.3.2 of the DAR, these include monitoring areas in the vicinity of the new diffuser in Yellowknife Bay and at the mouth of Baker Creek. In addition, it has been proposed that a reference area be established in the south end of Yellowknife Bay in an embayment located offshore from the community of Dettah.

Ultimately, selection of key components for environmental monitoring (including sediment sampling stations, etc.) will be developed through ongoing public consultation, as outlined in Chapter 13 of the DAR. It is also recognized that the elements and details of monitoring and reporting will be substantially governed by water license requirements established by the Mackenzie Valley Land and Water Board (MVLWB). In this regard, the Long-Term Environmental Monitoring Program discussed in Chapter 14 of the DAR is presented as a starting point from which to build through dialogue with Aboriginal communities, the public and regulators.

