



Fisheries and Oceans  
Canada

Western Arctic Area  
Suite 301, 5204-50<sup>th</sup> Avenue  
Yellowknife, NT X1A 1E2

Pêches et Océans  
Canada

Secteur de l'Arctique  
Suite 301 5204, 50<sup>e</sup> Avenue  
Yellowknife (NT) X1A 1E2

**MVEIRB file**  
EA0809-001

**DFO file**  
07-HCAA-CA6-00126  
YK-05-0045

Mark Palmer  
Executive Director of Giant Mine  
Indian and Northern Affairs  
4914 - 50th Street  
PO Box 1500  
Yellowknife, NT X1A 2R3

May 31, 2011

**Subject: DFO Response to Giant Mine Remediation (EA0809-001), Information Requests – Round #1, Yellowknives Dene First Nation IR #26**

Dear Mr. Palmer:

Fisheries and Oceans Canada – Western Arctic Area (DFO) has considered the Yellowknives Dene First Nation Round 1 Information Request #26 directed to Indian and Northern Affairs Canada (INAC). We have prepared the attached response on behalf of our department. This response also addresses the Alternatives North Information Request # 1.4.

DFO has provided input to INAC on the development of the Giant Mine Remediation Plan through the Federal Contaminated Sites Action Plan (FCSAP) program. DFO participates as a science-based expert support department for the FCSAP program. As such, DFO provides project-specific advice to Custodians (in this case, INAC) to assist in assessing risks, developing sampling programs and selecting remedial options at federal contaminated sites, specifically when there may be potential impacts to fish and fish habitat on the site.

DFO's participation as an expert support department through FCSAP began in 2005 when the program was first established. We reviewed and provided comments on the draft "Giant Mine Remedial Action Plan" (RAP) in June 2005. A meeting was held between INAC and the FCSAP expert support departments in May 2006 to review and address comments provided on the draft RAP. In July 2007 INAC submitted the water licence and land use permit applications to the Mackenzie Valley Land and Water Board to undertake remediation of the Giant Mine site.

As part of our FCSAP expert support activities, DFO was requested to review the Human Health and Ecological Risk Assessment for Giant Mine in November 2009. Our review comments are posted on the Giant Mine EA Registry (November 5<sup>th</sup>, 2010). In our expert support role, we continue to work with INAC on the evaluation of sediment contamination and selection of remediation options for sediments in Baker Creek. DFO was also requested to review and provide comments on the draft DAR in January 2010. For your information, our review comments on the draft DAR are attached.

In addition to our expert support role under FCSAP, DFO continues to carry out our mandate and regulatory responsibilities related to the *Fisheries Act*. In doing so, we have participated in the Giant Mine EA Scoping, Terms of Reference and DAR review to date. DFO is committed to continue working with INAC and the MVEIRB to ensure potential impacts to fish and fish habitat are addressed during the environmental assessment of the Giant Mine Remediation Project.

Please find below a summary of DFO's technical issues related to the Giant Mine Remediation Project and activity to address these issues to date.

#### Historic Foreshore Tailings

In our review comments provided on the draft RAP (2005), DFO recommended that options to remediate the historic foreshore tailings be investigated to reduce continued migration of the tailings. Our involvement in this aspect of the remediation project has been described in more detail in our response to YKDFN IR # 19 directed to DFO.

The proposed plan to remediate the historic foreshore tailings may result in the harmful alteration, disruption or destruction of fish habitat, which is prohibited under Subsection 35(1) of the *Fisheries Act* unless authorized by the Minister of DFO. Detailed plans and engineering designs for the submerged cover will need to be reviewed pursuant to the *Fisheries Act* prior to implementation.

#### Baker Creek Remediation Options

In our 2005 review of the draft RAP, DFO indicated its support for the remediation concepts and recommendations presented in the RAP and Supporting Document entitled "Baker Creek Restoration Concepts (SRK Consulting, March 2005)", including cessation of the current discharge of treated effluent into the creek. DFO collaborated with INAC to develop "Baker Creek Restoration Concepts" (2005) that outlines key restoration elements for Baker Creek and identifies reach-specific restoration options including specific fish habitat structures.

In 2006, DFO provided a *Fisheries Act* Authorization (the Authorization) for re-alignment of a portion of Baker Creek on the Giant Mine site. This portion of the creek, known as the Mill Pond, was causing water seepage issues in the underground and the C1 pit. The creek was re-aligned (now known as Reach 4) and Arctic grayling spawning habitat was created in the new section of creek as fish habitat compensation under the Authorization. From 2007 to 2009, DFO worked with INAC to develop a Fish Monitoring Program for Reach 4 of Baker Creek to assess the success of the Arctic grayling habitat enhancements.

In September 2009, DFO attended a multi-departmental workshop on remedial options for Baker Creek and we have participated in the working group formed from this workshop that held meetings in September, October, November 2009 and July 2010. During these meetings remedial options, information gaps and outfall routes were discussed.

We have provided ongoing advice on active monitoring programs and studies in Baker Creek, including Environmental Effects Monitoring (EEM), fish use studies and fish habitat assessment. DFO has also been providing advice regarding remedial options (including sediments), data gaps and monitoring for Baker Creek. Some of this information will be used for the anticipated *Fisheries Act* Authorization and fish habitat compensation that will be required for the remediation and restoration of Baker Creek.

As indicated in the DAR, the final remediation options for Baker Creek have not been selected. DFO will continue to work with INAC and the MVEIRB to ensure potential impacts to fish and fish habitat in Baker Creek are addressed during the environmental assessment. We will continue to work with INAC on the evaluation and selection of final remedial options and restoration opportunities for Baker Creek, including consultation with the public.

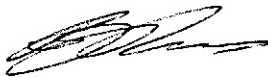
#### Proposed Outfall and Diffuser System

In the fall of 2009, DFO provided advice on fish habitat assessment methods for the proposed diffuser outfall locations. The proposed diffuser outfall may result in the harmful alteration, disruption or destruction of fish habitat, which is prohibited under Subsection 35(1) of the *Fisheries Act* unless authorized by the Minister of DFO. Detailed plans and engineering designs for the diffuser outfall will need to be reviewed pursuant to the *Fisheries Act* prior to implementation. We will continue to work with INAC and the MVEIRB to ensure that potential impacts to fish and fish habitat resulting from the proposed diffuser outfall are addressed during the environmental assessment.

Related to effluent discharge from the Giant Mine, DFO also participates in the multi-agency technical advisory panel that reviews study designs and interpretive reports for the Environmental Effects Monitoring (EEM) program for the Giant Mine, as required under the Metal Mining Effluent Regulations (MMER). DFO will continue to participate in the review of the EEM program for the Giant Mine.

Should you have any questions or would like further clarification on the issues raised in the information request response, please do not hesitate to contact Sarah Olivier by telephone at (867) 669-4919, by fax at (867) 669-4940, or by e-mail at [Sarah.Olivier@dfo-mpo.gc.ca](mailto:Sarah.Olivier@dfo-mpo.gc.ca).

Sincerely,



Beverley Ross  
Regional Manager, Environmental Assessment  
Central and Arctic Region, Fisheries and Oceans Canada

Attachment

Copy:

Morag McPherson – DFO  
Corrinne Gibson – DFO  
Amy Sparks, EC  
Adrian Paradis – INAC