



June 11, 2021

CIAR File No.: [80015](#)

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**RE: Request for Conformity Review – Joyce Lake Direct Shipping Iron Ore Project  
Environmental Impact Statement and EIS Summary**

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On May 20<sup>th</sup>, the Impact Assessment Agency of Canada (the Agency) requested that Natural Resources Canada (NRCan) conduct a conformity review of Joyce Direct Iron Inc.'s (the Proponent) Environmental Impact Statement (EIS) for the proposed Joyce Lake Direct Shipping Iron Ore Project (the Project) near Schefferville, Quebec.

NRCan is participating in the environmental assessment process pursuant to Section 20 of the *Canadian Environmental Assessment Act, 2012* as a Federal Authority in possession of specialist or expert information or knowledge related to the Project. NRCan has conducted a conformity review of the EIS and supporting documents based on the Department's expertise in hydrogeology, geochemistry, acid rock drainage and metal leaching, and based on the Department's regulatory role under the *Explosives Act*.

Based on the Department's mandate and areas of expertise, NRCan recommends to the Agency that the Proponent's EIS and supporting documents have conformed to the requirements listed in the *Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012 – Joyce Lake Direct Shipping Iron Ore Project (CIAR #9)*.

Details of NRCan's review can be found in the Appendix below. If you have any questions, please contact me via e-mail at [walker.smith@canada.ca](mailto:walker.smith@canada.ca) or by phone at (613) 447-2892.

Thank you,

<Original signed by>

Walker Smith  
Environmental Assessment Officer  
Office of the Chief Scientist

cc: John Clarke – Director, Environmental Assessment

## Appendix – Natural Resources Canada’s Conformity Review of the Joyce Lake Direct Shipping Iron Ore Project

### Hydrogeology:

#### Documents Reviewed/Consulted:

- Guidelines for the Preparation of an Environmental Impact Statement pursuant to the *Canadian Environmental Assessment Act, 2012* – Joyce Lake Direct Shipping Iron Ore Project
- Appendix O – Hydrogeological Study
- Appendix S – Baseline Hydrogeology Scoping Study
- EIS Documentation related to hydrogeology

#### Reviewed By:

- Geological Survey of Canada (GSC)

#### Comments:

- In general, the Proponent has provided information on components related to groundwater as per the EIS Guidelines.
- The Proponent has provided reasonable information related to proposed monitoring efforts. However, more specific and concrete information such as number of monitoring wells, location, and data collection frequency will need to be provided at subsequent stages of the process.
- The GSC is in agreement with the Proponent’s assessment of the importance of drilling larger diameter wells and carrying out pumping tests to gather information that is more representative of the dewatering process.

#### Summary of issues to be addressed during technical review:

- The Proponent only provided two cross-sections using MODFLOW outputs, of which the results are difficult to visualize because references such as distance to features, representative topography and water table have not been provided.
- Rationale for the estimated recharge rate used in the numerical groundwater flow model.
- Boundary conditions used for the numerical model.

Note: The issues presented above do not constitute an exhaustive list as NRCan has not undertaken a technical review of the information.

## **Geochemistry, acid rock drainage and metal leaching (ARD/ML):**

### Documents Reviewed/Consulted:

- Guidelines for the Preparation of an Environmental Impact Statement pursuant to the *Canadian Environmental Assessment Act, 2012* – Joyce Lake Direct Shipping Iron Ore Project
- Appendix J – Water Quality Monitoring Results
- Appendix L – Membrane Bioreactor Wastewater Treatment System
- Appendix Q – Phase 1 ARD/ML Assessment
- Appendix Q2 – ARD Follow-Up Testing
- Appendix R – Characterization and Testing of Tailings Effluent
- EIS Documentation related to water quality, geochemistry and ARD/ML

### Reviewed by:

- CanmetMINING

### Comments:

- In general, the Proponent has provided information on components related to geochemistry and ARD/ML as per the EIS Guidelines.

### Summary of issues to be addressed during technical review:

- Details on how the pyritic shale unit will be avoided.
- Lack of modelling related to site facility leachate quality and pit water quality, and use of surrogate sites.
- Lack of detail related to water quality predictions and waste management.
- Lack of integration between waste characterization and effluent predictions to inform waste management decisions.

Note: The issues presented above do not constitute an exhaustive list as NRCan has not undertaken a technical review of the information.