



Karén Kharatyan  
Director of Technical Services  
Nunavut Water Board

March 8, 2022

**Re: Application for Amendment to Water Licence No. 2AM-MRY1325 associated with the “Phase 2 Development” Project Proposal submitted by Baffinland Iron Mines Corporation**

Dear Karén,

Please find enclosed a copy of Baffinland Iron Mines Corporation’s (Baffinland) updated responses to technical comments received in relation to the Application to Amend Type A Water License 2AM-MRY1325, August 2018, updated September 2021 (the Application) for Phase 2 of the Mary River Project, as well as a request from Baffinland to set a date for the second Technical Meeting and Pre-Hearing Conference.

#### **1. Updated Technical Comment Resolution Status**

An updated summary table of the resolution status of technical comments is enclosed as Attachment 2. This updated table represents Baffinland’s continued work with parties to advance resolution on outstanding issues. We are pleased to report progress and/or resolution on the following items identified as outstanding at the end of the November technical meeting:

| Status                   | #          |
|--------------------------|------------|
| Ongoing                  | 5          |
| Partially Resolved       | 1          |
| Path Forward Identified  | 47         |
| Resolved                 | 128        |
| Resolved with Commitment | 38         |
| Unresolved               | 21         |
| <b>Total</b>             | <b>240</b> |

At this time, 219 of the total 240 technical comments identified as of November 2021 have been fully or partially resolved with a path to resolution. This is significant progress. We are continuing to work collaboratively with all parties to fully resolve outstanding issues, which will be reported to the NWB as they are achieved, and we thank the parties for their on-going efforts. For the information of the Board, Baffinland has also included an updated Deliverable Schedule as Attachment 1. Baffinland holds that it is now appropriate to consider scheduling a Pre-Hearing Conference.

## **2. Request for NWB to Schedule a Second Technical Meeting and Pre-Hearing Conference in May 2022**

In January 2022, the Nunavut Impact Review Board (NIRB) announced that they were closing the Phase 2 record and that their recommendation to the Minister of Northern Affairs on the Phase 2 Development Proposal will be released on or before May 13, 2022. In light of the modified timeline for the NIRB's Recommendation Report, Baffinland suggests it is reasonable for the NWB to schedule a Pre-Hearing Conference within 45 days of the release of the Report. Baffinland also suggests an additional day be added in the event a second Technical Meeting is required.

Regardless of the nature of the NIRB's recommendation, it is Baffinland's view that the outstanding NWB meetings should proceed as scheduled. Maintaining these timelines in the coordinated NIRB NWB process is consistent with the *Nunavut Waters and Surface Rights Tribunal Act*:

37 (1) In order to avoid unnecessary duplication and to ensure that projects are dealt with in a timely manner, the Board shall cooperate and coordinate its consideration of applications with the Nunavut Impact Review Board or any federal environmental assessment panel or joint panel established under subsection 115(1) of paragraph 160(1)(a) or (b) of the Nunavut Planning and Project Assessment Act in relation to the screening of projects by that Board and the review of projects by that Board or panel.

For the clarity of the NWB and all parties, we have enclosed in Attachment 1 a proposed schedule for the remainder of the regulatory steps required for the NWB's consideration of the Phase 2 Amendment application.

For any questions or clarifications please do not hesitate to contact the undersigned for further information.

Best Regards,



Lou Kamermans  
Senior Director – Sustainable Development  
Baffinland Iron Mines

Attachment 1 – Phase 2 Proposal Water Licensing – Proposed Schedule

Attachment 2 – Technical Comment Disposition Table – Status as of March 8, 2022

cc: Karen Costello, Cory Barker, Tara Arko (NIRB)  
Karén Kharatyan, Assol Kubeisinova (NWB)  
Jared Ottenhof, Chris Spencer (Qikiqtani Inuit Association)  
Bridget Campbell, Lauren Perrin (CIRNAC)  
Alasdair Beattie, Daniel Coombs (DFO)  
Abigayle Blackmore, Melissa Pinto (ECCC)  
Megan Lord-Hoyle, Steve Borcsok (BIM)

**ATTACHMENT 1**

Phase 2 Proposal Water Licensing – Proposed Schedule

**BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT  
PHASE 2 PROPOSAL WATER LICENSING  
PROPOSED SCHEDULE**

| Task                                                                         |  | Start | End | Duration<br>(days) | 2022      |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------------------------------------------------------|--|-------|-----|--------------------|-----------|-----------|-----|----|----|---|----|-----|----|---|----|----|----|---|-----|----|----|---|---|----|----|-----|---|----|----|----|---|----|-----|--|--|--|--|--|--|------|--|--|--|--|--|--|
|                                                                              |  |       |     |                    | Jan       |           |     |    |    |   |    | Feb |    |   |    |    |    |   | Mar |    |    |   |   |    |    | Apr |   |    |    |    |   |    | May |  |  |  |  |  |  | June |  |  |  |  |  |  |
|                                                                              |  |       |     |                    | 3         | 10        | 17  | 24 | 31 | 7 | 14 | 21  | 28 | 7 | 14 | 21 | 28 | 4 | 11  | 18 | 25 | 2 | 9 | 16 | 23 | 30  | 6 | 13 | 20 | 27 | 4 | 11 |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>NIRB Review Process</b>                                                   |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Closing of the public record                                                 |  |       |     |                    | 4-Jan-22  | 28-Jan-22 | 24  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NIRB issues its Final Hearing Report and NIRB Recommendation                 |  |       |     |                    | 28-Jan-22 | 13-May-22 | 105 |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Minister's Decision                                                          |  |       |     |                    | 14-May-22 | 12-Aug-22 | 90  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NIRB issues the Amended Project Certificate                                  |  |       |     |                    | 13-Aug-22 | 11-Sep-22 | 30  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Water Licence Amendment Process</b>                                       |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NWB holds 2nd technical meeting and pre-hearing conference                   |  |       |     |                    | 20-Jun-22 | 20-Jun-22 | 1   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NWB pre-hearing conference report                                            |  |       |     |                    | 11-Jul-22 | 11-Jul-22 | 1   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NWB issues 60-day notice of public hearing                                   |  |       |     |                    | 18-Jul-22 | 16-Sep-22 | 60  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NWB holds public hearing                                                     |  |       |     |                    | 4-Oct-22  | 6-Oct-22  | 3   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| NWB issues the amended water licence                                         |  |       |     |                    | 7-Oct-22  | 7-Nov-22  | 30  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Minister approves the amended water licence                                  |  |       |     |                    | 8-Nov-22  | 8-Dec-22  | 30  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Ph2 Interim Closure and Reclamation Plan</b>                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland prepares 1st revision of the ICRP                                 |  |       |     |                    | 4-Jan-22  | 25-Mar-22 | 80  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| QIA/CIRNAC review 1st draft revision of the ICRP                             |  |       |     |                    | 26-Mar-22 | 10-May-22 | 45  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Workshop to discuss draft revisions to the ICRP                              |  |       |     |                    | 10-May-22 | 12-May-22 | 2   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland prepares 2nd revision of the ICRP                                 |  |       |     |                    | 13-May-22 | 27-May-22 | 14  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| QIA/CIRNAC reviews 2nd draft revision of the ICRP                            |  |       |     |                    | 28-May-22 | 27-Jun-22 | 30  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland revises and submits 3rd Ph2 draft ICRP to the NWB                 |  |       |     |                    | 28-Jun-22 | 19-Jul-22 | 21  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Ph2 Reclamation Security Estimate</b>                                     |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland prepares 1st Ph2 reclamation security estimate                    |  |       |     |                    | 3-Feb-22  | 8-Apr-22  | 64  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland presents overview of changes to the QIA/CIRNAC                    |  |       |     |                    | 9-Apr-22  | 16-Apr-22 | 7   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| QIA/CIRNAC reviews 1st draft update to reclamation security estimate         |  |       |     |                    | 9-Apr-22  | 24-May-22 | 45  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Workshop on 1st update to reclamation security estimate                      |  |       |     |                    | 25-May-22 | 30-May-22 | 5   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland prepares 2nd Ph2 draft security estimate                          |  |       |     |                    | 31-May-22 | 21-Jun-22 | 21  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| QIA/CIRNAC reviews 2nd Ph2 draft security estimate                           |  |       |     |                    | 22-Jun-22 | 13-Jul-22 | 21  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland revises and submits 3rd draft security estimate to the NWB        |  |       |     |                    | 14-Jul-22 | 4-Aug-22  | 21  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Aquatic Effects Monitoring Plan (Phase 2 version but for current ops)</b> |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland incorp technical comments into 1st revision of the AEMP           |  |       |     |                    | 4-Jan-22  | 9-Feb-22  | 36  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Agency review of 1st AEMP revision ahead of workshop                         |  |       |     |                    | 10-Feb-22 | 14-Feb-22 | 4   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| AEMP workshop                                                                |  |       |     |                    | 15-Feb-22 | 14-Feb-22 | 1   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland revise and submit AEMP with NWB/QIA annual report                 |  |       |     |                    | 16-Feb-22 | 31-Mar-22 | 43  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Ph1 Waste Rock Management Plan</b>                                        |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| Baffinland revise and submit Ph1 WRMP                                        |  |       |     |                    | 8-Apr-22  | 8-Apr-22  | 1   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
|                                                                              |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| <b>Water Compensation Agreement</b>                                          |  |       |     |                    |           |           |     |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| QIA reviews Baffinland's previously submitted draft agreement                |  |       |     |                    | 16-May-22 | 30-May-22 | 14  |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |
| WCA drafting workshop                                                        |  |       |     |                    | 13-Jun-22 | 14-Jun-22 | 1   |    |    |   |    |     |    |   |    |    |    |   |     |    |    |   |   |    |    |     |   |    |    |    |   |    |     |  |  |  |  |  |  |      |  |  |  |  |  |  |

**ATTACHMENT 2**

Technical Comment Disposition Table – Status as of March 8, 2022

**ATTACHMENT 2**  
**TECHNICAL COMMENT DISPOSITION TABLE - STATUS AS OF MARCH 8, 2022**

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                       | Subject Area       | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Intervenor's October 2021 Status Update       | Intervenor's October 25, 2021 Updated Recommendation /Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                  | Baffinland Response |
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| 1        | CIRNAC | CIRNAC TR#1           | Mary River Phase 2 Proposal Update (Knight Piséold, May 2, 2019); Section 4.3 and Attachment 29 Interim Waste Rock Management Plan (Golder 2019); Section 2                                                                                                                                                                                                                                                              | Ph1 WRMP           | 1) CIRNAC maintains our request that the updated Phase 1 Waste Rock Management Plan that BIMC committed to developing by the end of December 2019 be provided to CIRNAC for review.<br><br>2) CIRNAC recommends that the Phase 1 Waste Rock Management Plan be finalized and approved prior to initiating the increased ore production rate associated with Phase 2.<br><br>3) In addition, CIRNAC requests that BIMC continue to provide CIRNAC frequent updates on other research plans and activities that directly or indirectly relate to predictions of waste rock geochemistry, seepage and water quality as they become available.<br><br>4) CIRNAC recommends that prior to commencing work on the advancement of the open pit, BIMC demonstrate a thorough understanding of the future pit conditions including methods and timelines for pit flooding, geochemistry and ARD/ML potential of waste rock and pit walls based on information/data obtained through the numerous research commitments stated in the ICRP. Periodic updates to the ICRP will need to be completed to include the results of research programs and their implications with respect to pit development and closure planning. | Baffinland will submit the updated Phase 1 Waste Rock Management Plan in December 2019. Baffinland maintains that this is an operational document, and that approval of this plan is independent of the Phase 2 process and will be required regardless of the permitting timeline for Phase 2.<br><br>Updates on the investigation and strategy to address the Waste Rock Facility have been regularly provided to all stakeholders, and Baffinland will continue to engage all interested parties to provide updates.                                                                       | R-01 Resolved<br>R-02 Ongoing<br>R-03 Ongoing |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Response to R-02<br>While Baffinland maintains that the Ph1 WRMP is independent of the Phase 2 Proposal, we agree to have this plan reviewed and approved before initiating the increased ore production rate associated with Phase 2.<br><br>Note the Rev B version of this plan included with the Updated Water Licence Application is consistent in content with the Rev 3 but with additional adaptive management including a trigger action response plan.<br><br>Response to R-03<br>Yes, Baffinland has been and will continue to provide updates to CIRNAC on research plans and activities that directly or indirectly relate to predictions of waste rock geochemistry, seepage and water quality. | Resolved: (R-01) Submit updated Phase 1 Waste Rock Management Plan.<br>Resolved by Commitment: (R-02) Finalize and approve Phase 1 Waste Rock Management Plan prior to initiating Phase 2.<br>Resolved: (R-03) Provide updates on other research plans and activities related to waste rock.                                                                                                           |                     |
| 2        | CIRNAC | CIRNAC TR#2           | Mary River Phase 2 Proposal Update (Knight Piséold, May 2, 2019); Section 4.3 and Attachment 29 Interim Closure and Reclamation Plan (BIMC 2018e); Sections 5.2.1.1 to 5.2.1.9 and Appendix D1 and D2 Research Plans<br><br>CIRNAC Information Requests to BIMC for the Phase 2 Amendment of the Mary River Project under Type "A" Water Licence No. 24n-MR1325 Amendment No. 1 (tr 43);<br><br>CIRNAC November 23, 2018 | ICRP               | 4) CIRNAC recommends that prior to commencing work on the advancement of the open pit, BIMC demonstrate a thorough understanding of the future pit conditions including methods and timelines for pit flooding, geochemistry and ARD/ML potential of waste rock and pit walls based on information/data obtained through the numerous research commitments stated in the ICRP. Periodic updates to the ICRP will need to be completed to include the results of research programs and their implications with respect to pit development and closure planning.<br><br>Results of the reclamation research programs will be incorporated into future versions of the ICRP, as intended.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Deposit 1 remains a hilltop outcrop, and development of the pit was projected to occur after 10 years of full scale production for the Approved Project. Baffinland has committed to reclamation research through the most recent revision of the ICRP so that prior models on pit flooding, geochemistry and ARD/ML potential presented in the FEIS can be validated with observations from active mining of the deposit and further assessment of local hydrology.                                                                                                                          | Commitment                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Baffinland will continue operational monitoring and advance studies to refine closure predictions related to future pit conditions. The requirement to further refine modelling for pit flooding and water chemistry is built into the ICRP, which states in Section 5.2.1.4 that "The mining plan and the ongoing waste rock characterization plan will inform the prediction modeling of the mine pit water quality at the end of mine life." A specific condition is not required in the Water Licence for this work, given the ICRP forms part of the Licence.                                                                                                                                           | Resolved by Commitment: (R-04):<br>• Demonstrate future pit conditions through research prior to flooding, and update ICRP with new information.<br>• Baffinland plans to conduct research to validate models for pit flooding, and to incorporate findings into closure plans.<br>• CIRNAC is satisfied with this response and recommends Baffinland's commitments be captured in an amended licence. |                     |
| 3        | CIRNAC | CIRNAC TR#3           | Mary River Phase 2 Proposal Update (Knight Piséold, May 2, 2019); Attachment 29 - Interim Closure and Reclamation Plan (BIMC 2018e)                                                                                                                                                                                                                                                                                      | ICRP               | 5) CIRNAC requests that BIMC update the ICRP to appropriately address the issue of information gaps by including missing information, or updating contradictory or outdated information, in the sections identified in TR#3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Baffinland appreciates the review and feedback provided by CIRNAC on the ICRP, and will incorporate these comments into the updated draft of the ICRP to be provided in advance of the Technical Meeting.                                                                                                                                                                                                                                                                                                                                                                                     | Ongoing                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Baffinland commits to incorporating CIRNAC's comments in the updated ICRP and reclamation security estimate, aiming for prior to the NWB public hearing. The timing is contingent on advancing work on the ICRP with the Qikqitani Inuit Association.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Resolved by Commitment: (R-05) Update the ICRP to include missing information, or correcting contradictory or outdated information.                                                                                                                                                                                                                                                                    |                     |
| 4        | CIRNAC | CIRNAC TR#4           | Mary River Phase 2 Proposal Update (Knight Piséold, May 2, 2019)                                                                                                                                                                                                                                                                                                                                                         | Blasting Mgmt Plan | 6) CIRNAC requests that the Blasting Management Plan and the Quarry Management Plan QMR2 be submitted for review in advance of the Technical Review meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The QMR2 Quarry Management Plan will be updated if the quarry limits require expansion. Updates to Quarry Management Plans for Quarries on Inuit-Owned Land are managed under Baffinland's #395 Commercial Lease.<br><br>The Blasting Management Plan will be reviewed to determine its adequacy for rail construction, and if updated, will be provided for review in advance of the technical meeting.                                                                                                                                                                                      | Resolved                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Resolved: (R-06) Submit the Blasting Management Plan and the Quarry Management Plan QMR2 for review in advance of the Technical Meeting.<br>• These plans have been submitted, as requested.                                                                                                                                                                                                           |                     |
| 5        | CIRNAC | CIRNAC TR#5           | Mary River Phase 2 Proposal Update (Knight Piséold, May 2, 2019)<br><br>Railway Emergency Response Plan (Baffinland, May 13, 2019)<br><br>Railway Operation and Maintenance Management Plan (Baffinland, May 13, 2019); Section 9.2<br><br>Attachment 28 - Environmental Protection Plan (Baffinland, May 1, 2019); Section 2.26                                                                                         | Railway ERP        | 7) CIRNAC recommends that the Railway Emergency Response Plan be further updated to include the following information:<br>a. Procedures identifying the medical services that should be contacted in the event of injuries, the first aid responses that should be executed at the site of the accident, and the modes of transportation that should be used for injured persons depending upon the location of the accident and ambient conditions;<br>b. Company personnel and government departments that require advisories of an accident/incident;<br>c. Type and location of emergency equipment and the procedures to be followed in the event of a derailment, including check lists and accident reports; and<br>d. Information on health and safety emergencies.                                                                                                                                                                                                                                                                                                                                                                                                                                      | A revised version of the Railway Emergency Response Plan is provided in Attachment D1. This draft Plan will be updated further prior to the commencement of railway operations.                                                                                                                                                                                                                                                                                                                                                                                                               | Resolved                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Resolved: (R-07) The Railway Emergency Response Plan be further updated.<br>• This plan has been updated to include the information CIRNAC requested.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                        |                     |
| 6        | CIRNAC | CIRNAC TR#6           | Modification Request No. 12 – Milne Port Stockpile #1 and Water Management Expansion (Baffinland, May 3, 2019); Attachments 3, 4 and 5<br><br>Modification No.12 Attachment 5 – Civil Design Philosophy (Hatch 2018); Section 6.6                                                                                                                                                                                        | Design criteria    | 8) CIRNAC recommends that BIMC revise its design storm criteria from the 1:10yr 24 hour to a minimum of 1:25 year storm for the design of the new sedimentation ponds at the Milne Port associated with the expansion of the stockpile facilities.<br><br>9) CIRNAC recommends that BIMC revise its Civil Design Philosophy design storm criteria from the 1:10yr 24 hour to a minimum of 1:25 year storm for the design of any future permanent Life of Mine sedimentation ponds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sedimentation ponds designed for the Approved Project have utilized the 1:10 24 hr storm presented in the Civil Design Philosophy. Application of this design criteria for new infrastructure is consistent with its previous application.<br><br>CIRNAC reiterates recommendation numbers R-08 and R-09 that BIMC revise its storm design criteria for sedimentation ponds, and suggests that BIMC also assess the feasibility of expanding existing sedimentation ponds to meet the MSWMP design criteria. CIRNAC supports the initiative to address the past and ongoing erosion issues at | R-08 Ongoing<br>R-09 Ongoing                  | Appropriate planning, design, and construction of facilities is needed for the effective management of site water erosion and sedimentation to ensure potential impacts are minimized during all times of the year over the life of the project. CIRNAC reiterates recommendation numbers R-08 and R-09 that BIMC revise its storm design criteria for sedimentation ponds, and suggests that BIMC also assess the feasibility of expanding existing sedimentation ponds to meet the MSWMP design criteria. CIRNAC supports the initiative to address the past and ongoing erosion issues at | With respect to CIRNAC's request to expand the existing sedimentation ponds to the design criteria adopted in Modification Request No. 13, the existing crusher pad pond will be replaced by a future SOLT-1 pond designed to the Modification Request No. 13 criteria. The design criteria for the WRP pond will remain unchanged for now, as the current design criteria (1 in 10-year, 15-day storm; 310 mm) reflect both the expected lifespan of that facility as well as the holding time required for water treatment. As part of ongoing water management planning at Milne Port, Baffinland is currently evaluating the                                                                             | Resolved: (R-08) Revise the design storm criteria for new sedimentation ponds at the Milne Port associated with the expansion of the stockpile facilities.<br>• Resolved by commitment: (R-09) Revise the Civil Design Philosophy design storm criteria for the design of any future permanent Life of Mine sedimentation ponds.                                                                       |                     |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                        | Subject Area                    | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request                                                                                                                                                                                                                                                                                                                                                      | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Baffinland Response Presentation |
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| 7        | CIRNAC | CIRNAC TR#7           | Mary River Phase 2 Proposal Update (Knight Piesold 2019, May 2, 2019)<br><br>Railway Operation and Maintenance Management Plan (Baffinland, May 13, 2019); Section 3.3    | SVAEMP                          | 10) CIRNAC requests that dust monitoring data and any other relevant information, if available, are provided to assess potential environmental impacts to surface water/snow from dust generation along the northern transportation corridor from the railway and truck traffic.                                                                                                                                                                                                        | Information on the low potential for ore dusting from rail cars is provided in an email to the GN following a Terrestrial Environment Working Group meeting on Phase 2 management plans, dated Feb 14, 2019, and provided as Attachment 02. Baffinland's ore dusting exposure assessment (TSD 11) reviewed the chemistry of dustfall from stations along the Tote Road and at the Mine and Port, and this demonstrated that while the ore dust at the Project sites have the chemistry resembling the ore, the dust generated by the Tote Road does not have chemistry resembling the ore. Dust monitoring data is reported annually to the NRB through the Terrestrial Environment Annual Monitoring Report, which can be found in the NRB public registry or on Baffinland's document portal ( <a href="http://www.baffinland.com/document-portal-new/?cat=3&amp;amp;archive=1">http://www.baffinland.com/document-portal-new/?cat=3&amp;amp;archive=1</a> )                                                                                                                                                                                                                                                                                                                                                     | Ongoing                                 | To confirm predictions, CIRNAC maintains recommendation R-10 that BIMC continue to monitor dust deposition impacts from ore blow-off on the freshwater receiving environment throughout the lifetime of the project, to provide updates as they become available, and implement approved mitigations if significant effects are observed. CIRNAC would consider this comment resolved with a commitment from BIMC. | The lakes and streams within the Mine Site receive comparatively high levels of deposited ore dust, compared to the transportation corridor, as acknowledged by CIRNAC. For this reason, the Aquatic Effects Monitoring Program at the mine includes a lake sedimentation monitoring program in Shardown Lake NW. If ore dust generated by the Project had the potential to adversely affect fish populations, it would be detected first by this monitoring program. In response to the QIA's Final Written Submission QIA-41, in the NRB review, Baffinland committed to lower the lake sedimentation threshold in this monitoring program (Commitments 148 and 200). The latest draft Surface Water and Aquatic Ecosystem Management Plan presented as Attachment 22 adopts the lower sedimentation threshold. | <ul style="list-style-type: none"><li>Resolved: (R-10) Monitor to assess potential environmental impacts to surface water and snow from dust generation along the northern transportation corridor from the railway and truck traffic.</li><li>CIRNAC recommends that Baffinland implement approved mitigations if significant effects are observed.</li></ul>                                                                                                                                        |                                  |
| 8        | CIRNAC | CIRNAC TR#8           | Mary River Phase 2 Proposal Update (Knight Piesold, May 2, 2019); Attachment 29 - Interim Closure and Reclamation Plan (BIMC 2018a)                                       | ICRP                            | 11) CIRNAC requests that BIMC update the ICRP to appropriately address the concerns raised in TR#8 surrounding insufficient financial security by updating the ICRP to increase Interim Care and Maintenance and Post Closure Monitoring time as suggested by CIRNAC.<br><br>12) Given current measured acidity in waste rock seepage, CIRNAC recommends that a cost for open pit water treatment be included in the security until such time that treatment is shown to not be needed. | Baffinland appreciates the review and feedback provided by CIRNAC on the ICRP, and will incorporate these comments into the updated draft of the ICRP to be provided in advance of the Technical Meeting.<br><br>Baffinland does not believe an adjustment to security is required for the open pit, as the deposit remains a hilltop outcrop and not an open pit. As security for the project is currently revised on an annual basis, there is no need to assess and hold security for a scenario that has not yet occurred and will not in the coming year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | R-11 Ongoing<br>R-12 Ongoing            |                                                                                                                                                                                                                                                                                                                                                                                                                    | R-11: Future iterations of the ICRP will evaluate the need for increased Closure and Post Closure Monitoring. Baffinland maintains that the duration of closure activities (3 years) is adequate given the total person-hours required to execute the closure and assumed crew sizes, and that the post closure monitoring phase is sufficient given that there are no significant adverse residual effects identified in the FES for VECs or VSECs associated with the Project.<br>R-12: Baffinland maintains that no adjustment to security is required for the open pit, as the deposit remains a hilltop outcrop and not an open pit. There is no need to assess and hold security for a scenario that has not yet occurred and will not for a number of years.                                               | <ul style="list-style-type: none"><li>Ongoing: (R-11) Update the ICRP to increase Interim Care and Maintenance and Post Closure Monitoring time.</li><li>Resolved: (R-12) Include a cost for open pit water treatment in the security until such time that treatment is shown to not be needed.</li><li>CIRNAC does not expect that the Route 3 realignment of the North Railway will effectively change the amount of security estimated for this mine development.</li></ul>                        |                                  |
| 9        | CIRNAC | CIRNAC TR#9           | Nunavut Water Board Water Licence No. 2AM-MRY1335 – Amendment No. 1, Baffinland Iron Mines Corporation, Mary River Iron Mine, Signed by Thomas Kabloona on July 21, 2015. | ICRP                            | 13) CIRNAC proposes that all parties use the opportunity for any future amendments to Water Licence 2AM-MRY1325 – Amendment No. 1 to change the procedure for the Annual Security Review to one of the following options:<br>a. A phased approach with security applied in tranches, as is used on other mining projects;<br>b. Decreasing the frequency of the security review to occur every 5 years rather than every year; or<br>c. Other suggestions made by interested parties.   | Baffinland agrees with CIRNAC that the current amendment to the Type A Water Licence provides an opportunity to review current practice for setting and updating security for the project and is open to considering changes, subject to further review and discussion with all parties.<br><br>Baffinland recognizes that QIA as the landowner will ultimately need to approve any changes to the security review process. Baffinland will engage QIA on this matter and any agreed upon path forward will be presented to the Board.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ongoing                                 |                                                                                                                                                                                                                                                                                                                                                                                                                    | Baffinland continues to agree with CIRNAC that the current amendment to the Type A Water Licence provides an opportunity to review current practice for setting and updating security for the project and is open to considering changes, subject to further review and discussion with all parties. Baffinland is open to discussing options during the technical meeting, but recognizes that QIA as the landowner will ultimately need to approve any changes to the security review process.                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>Resolved by Commitment: (R-13) CIRNAC encourages parties to use this licence amendment opportunity to review the procedure for the Annual Security Review. Alternative options include:<br/>– A phased approach with security applied in tranches, as is used on other mining projects;<br/>– Decreasing the frequency of the security review to occur every 3-5 years rather than every year, or<br/>– Other suggestions made by interested parties.</li></ul> |                                  |
| 10       | CIRNAC | CIRNAC TR#10          | Borrow Pit and Quarry Management Plan, Section 3.0, Implementation, Section 5.0, Monitoring: WL 2AM-MRY1325 - Amendment No. 1, Part D Item 9                              | Borrow Pit and Quarry Mgmt Plan | 14) CIRNAC recommends that BIMC provide additional text in the plan to discuss the development of the borrow sources and their impact on the permafrost regime on a borrow-by-borrow source/quarry-by-quarry evaluation. Furthermore, CIRNAC recommends details also be provided on how borrow area development will be done on a case-by-case basis to minimize the potential long-term damage to the permafrost regime.                                                               | Most of the material for rail construction will be from rock quarries and not borrow pits. Nonetheless, overburden (some of which may be ice-rich) will be encountered during quarry development.<br><br>Geotechnical investigations to date provides some delineation of ice-rich and ice-poor areas as a starting point for understanding which quarries pose a potential concern from a permafrost perspective. Baffinland plans to complete exploratory drilling to verify material characteristics and overburden thicknesses that require stripping, and to identify the presence of ice or thaw-sensitive soils that can either be avoided or planned for in quarry design. Identified permafrost issues will be managed by applying measures identified in each quarry-specific management plan. Generic measures for dealing with permafrost during borrow pit development are described in Appendix D of the Borrow Pit and Quarry Management Plan. Designs established for excavations and cuts in ice rich and ice-poor soils along the railway will be applied to excavations in overburden encountered in the rock quarries. Slopes will be monitored against any destabilising of the cut surfaces. If necessary, cover materials will be placed or cut slopes altered to reduce potential thawing. |                                         | Resolved: (R-14) Include information in the Borrow Pit and Quarry Management Plan regarding:<br>– the expected impact of each quarry and borrow pit on permafrost; and<br>– how potential long-term damage to the permafrost will be minimized.                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |
| 11       | CIRNAC | CIRNAC TR#11          | Geotechnical Studies - Geotechnical Recommendations for North Railway, Hatch, Rev. 0, Apr. 26, 2019                                                                       | Rail O&M Mgmt Plan              | 15) CIRNAC recommends that BIMC undertake supplementary investigation work within the Route 3 realignment to complete the geotechnical assessment of the Northern Railway, and                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                    | The above additional text will be added to the A geotechnical field program was recently completed in summer 2021. Laboratory testing work is currently underway and the results and an updated report will be made available when the into a management strategy to minimize the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"><li>Resolved by Commitment: (R-15) Complete a geotechnical assessment of the new Route 3 of the Northern Railway, and integrate the findings into a management strategy to minimize the</li></ul>                                                                                                                                                                                                                                                                   |                                  |



| Item No. | Agency | Technical Comment ID# | Document Reference | Subject Area               | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Baffinland Response Presentation |
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| 12       | CIRNAC | CIRNAC TR#12          | AEMP; BMP; FWSSWMP | Waste Mgt Plan and FWSSWMP | 16) CIRNAC recommends that the following updates, which have not been addressed in other TRCs, be made to the Management Plans listed:<br>a) Aquatic Effects Monitoring Plan: provide for review prior to the Technical Meeting.<br>b) Blasting Management Plan: Update to include procedures and blasting of frozen ground and for spoils management.<br>c) Fresh Water Supply, Sewage, and Wastewater Management Plan: Update to include the new Mine Site stations added to the SNP based on Modification No. 13, and the water withdrawal volumes to indicate the proposed volumes under the Updated Amendment Application.<br><br>Note - recommendations R-16d and R-16e are minor suggestions for editorial purposes and would not impede approval of the amendment;<br>d) Draft Emergency Response Plan and Draft Spill Contingency Plan: For consistency with other plans that have been updated, BIMC might consider reorganizing in the next update to conform with ISO 14001:2015, and to include sections on IQ consideration and adaptive management.<br>e) Waste Management Plan: for clarity, BIMC might consider updating to remove references to the Roads Management Plan. |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AEMP - The AEMP is currently available on the public registry.<br>Blasting Management Plan - Procedures for blasting of frozen ground will be added to the next update. Baffinland suggests that the management of spoils is best handled in the Borrow Pit and Quarry Management Plan.<br>Fresh Water Supply, Sewage and Wastewater Management Plan - this plan will be updated incorporating changes to the SNP program and proposed water withdrawal volumes.<br>Draft Emergency Response Plan and Draft Spill Contingency Plan - Baffinland suggests that as response plans, they do not lend themselves to adopting CIRNAC's recommended changes.<br>Waste Management Plan - the editorial issues are noted and will be addressed in the next revision. Plan updates will be filed with sufficient review time ahead of the NWB public hearing. | <ul style="list-style-type: none"> <li>Resolved: (R-16) Update the following Management Plans: <ul style="list-style-type: none"> <li>– Aquatic Effects Monitoring Plan</li> <li>– Blasting Management Plan</li> <li>– Fresh Water Supply, Sewage, and Wastewater Management Plan</li> </ul> </li> <li>Suggestions for editorial purposes: <ul style="list-style-type: none"> <li>– Draft Emergency Response Plan and Draft Spill Contingency Plan</li> <li>– Waste Management Plan</li> </ul> </li> </ul> |                                  |
| 13       | CIRNAC | WRMP R-01             |                    | Ph1 WRMP                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | Ongoing                                 | CIRNAC recommends that BIMC revise Section 9.2 to reflect the actual site water management issues with regard to the WRF (Waste Rock Facility) and how BIMC now plans to address and manage them, as outlined below:<br>I. clearly state that water treatment as needed will be through the use of the HDS (High Density Sludge) Plant;<br>II. provide information on the design, operation, control and monitoring of the pumping systems to the water treatment plant;<br>III. provide a detailed discussion with specific, relevant information with respect water treatment plant design, operations and monitoring, as appropriate;<br>IV. expand the discussion of sludge management to provide more specific information on practices to be followed; and<br>V. add the commitment that in the event of in-pond water treatment, BIMC will complete the evaluation and record keeping required to ensure there is no long-term impact on pond capacity, as outlined in CIRNAC comment 1<br>I. an estimate of volume of sediment to be produced;<br>II. an assessment of the need for standby pond capacity;<br>III. details regarding the procedures for sediment handling, transport, and disposal; and<br>IV. monitoring and sediment disposal record | Baffinland provided a response to this technical comment on July 30, 2020. Baffinland will continue to work with CIRNAC to address this ongoing concern through the collection of additional data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |
| 14       | CIRNAC | WRMP R-02             |                    | Ph1 WRMP                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | Ongoing                                 | CIRNAC recommends that BIMC update and calibrate the water balance model for the Waste Rock Facility, as per the recommendations provided by Golder (2019), with reliable measurements of pond water elevation, surface water flows, and site climate data. Predictions of pond water quality should also be updated using the improved surface water flows.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Baffinland provided a response to this technical comment on July 30, 2020. Baffinland will continue to work with CIRNAC to address this ongoing concern through the collection of additional data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |
| 15       | CIRNAC | WRMP R-03             |                    | Ph1 WRMP                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | Ongoing                                 | CIRNAC recommends that BIMC provide CIRNAC with an update of progress made to date and a specific timeline for when the earliest update to the water balance model could be expected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Baffinland provided a response to this technical comment on July 30, 2020. Baffinland will continue to work with CIRNAC to address this ongoing concern through the collection of additional data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |
| 16       | CIRNAC | ICRP R-01             |                    | ICRP                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | Commitment                              | Waste Rock Pile and Open Pit closure costs be calculated directly by BIMC and be included in the next updated ICRP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | As provided in Baffinland's Jan 10, 2021 response to CIRNAC's recommendations / requests as part of the 2021 ASX process:<br>Baffinland agrees that opportunities for reduction in contingency may be possible in future iterations of the reclamation estimate. Due to the outcome of the 2019 Work Plan arbitration, Baffinland has carried 20% contingency in order to align with the final award. Baffinland notes that the estimate currently accounts for the uncertainty at the waste rock facility through the addition of water treatment in closure. Additionally, while uncertainty may exist                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |

| Item No. | Agency | Technical Comment ID# | Document Reference | Subject Area    | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                     | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                          | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request                                                                                                                                                                   | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Intervenor Nov 12, 2021 Presentations | Baffinland Response Pres |
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| 18       | CIRNAC | ICRP R-03             |                    | ICRP            |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                         | Ongoing                                 | Increase interim care and maintenance to 5 years, and post-closure cost to 25 years.                                                                                                                                             | As provided in Baffinland's Jan 10, 2021 response to CIRNAC's recommendations /requests as part of the 2021 ASR process:<br>Future iterations of the ICRP will evaluate the need for increased Closure and Post Closure Monitoring. Baffinland maintains that the duration of closure activities (3 years) is adequate given the total person-hours required to execute the closure and assumed crew sizes, and that the post closure monitoring phase is sufficient given that there are no significant adverse residual effects identified in the FES for VECs or VSECs associated with the Project.                                                                                                                                                                   |                                       |                          |
| 19       | CIRNAC | ICRP R-04             |                    | ICRP            |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                         | Commitment                              | Update a WRF cover layer in the ICRP and include Prevention of Fugitive dust in the cost estimate.                                                                                                                               | As provided in Baffinland's Jan 10, 2021 response to CIRNAC's recommendations /requests as part of the 2021 ASR process:<br>Dust impacts were considered in the FES for the life of mine, including closure, and no significant adverse residual effects were identified for dust. It is noted that the primary sources of dust (ore crushing, ore stockpiling, and ore transport) will no longer be in operation at closure, and therefore negligible contribution to air quality. Air quality monitoring is included as a Post Closure Monitoring activity in the ICRP and is included in the reclamation security estimate. Baffinland will gain better understanding of revegetation success relative to cover material through future reclamation research studies. | Commitment                            |                          |
| 20       | CIRNAC | ICRP R-05             |                    | ICRP            |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                         | Commitment                              | Update Long term criteria for permafrost conditions in the ICRP and include in the cost estimate.                                                                                                                                | As provided in Baffinland's Jan 10, 2021 response to CIRNAC's recommendations /requests as part of the 2021 ASR process:<br>The ICRP is an iterative document that will evolve throughout the life of mine, based on reclamation research studies, results of on-going monitoring, development of new/ovel mitigation measures and feedback from Inuit and intervenors. No additional adjustments to reclamation security are required at this time based on the currently understanding of the project effects and desired reclamation objectives.                                                                                                                                                                                                                      | Commitment                            |                          |
| 21       | CIRNAC | ICRP R-06             |                    | ICRP            |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                         | Commitment                              | Include cost for studies and instrumentation at the end of mine operations. The currently approved ICRP is dated 2018, and should be updated with additional equipment needed for geotechnical / thermal engineering monitoring. | As provided in Baffinland's Jan 10, 2021 response to CIRNAC's recommendations /requests as part of the 2021 ASR process:<br>Costs for monitoring, including any required instrumentation, are included in the Closure & Post Closure Monitoring costs. Details of the monitoring programs included in this allocation are outlined in Section 9 of the ICRP (Rev. 5, Oct 2018). Geotechnical engineering monitoring is outlined in Section 9.4 of the ICRP, which includes stability, erosion and permafrost analyses and monitoring.                                                                                                                                                                                                                                    | Commitment                            |                          |
| 22       | DFO    | DFO 3.1.1             | Various            | FAA Application | Recommendation 3.1.1: DFO-FHPP recommends Baffinland provide rationale for the selection of crossing infrastructure for fish bearing watercourses. DFO-FHPP notes this can be provided to DFO as part of the Proponent's 'DFO Request for Review' submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase. | As follow-up to the June 2019 NRB technical meetings, Baffinland issued a July 2, 2019 memo by Knight Pisold (Additional Information on Fish Habitat Interactions), provided as Attachment 03 to this response. This memo is not listed in the referenced DFO documents. The document provides supplemental fisheries information, including a discussion regarding the basis of selecting crossing types in Section 5. | Resolved                                | n/a                                                                                                                                                                                                                              | Update: A final deliverable documenting the crossing design selection process will be included in the Application for Fisheries Act Authorization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Resolved                              |                          |
| 23       | DFO    | DFO 3.1.2             | Various            | FAA Application | Recommendation 3.1.2: DFO-FHPP reiterates the recommendation that Baffinland provide the full scope and visual of catchment areas associated with fish-bearing water crossings.                                                                                                                                                                 | Catchments of fish-bearing crossings along the Tote Road and proposed North Railway are shown on Figures 1 and 2 of Attachment 03 (Additional Information on Fish Habitat Interactions).                                                                                                                                                                                                                                | Resolved                                | n/a                                                                                                                                                                                                                              | Update: Fish-bearing status is shown on the detailed railway figures presented as Attachment 10. These figures have been updated to reflect to change to Route 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Resolved                              |                          |
| 24       | DFO    | DFO 3.1.3             | Various            | FAA Application | Recommendation 3.1.3: DFO-FHPP recommends the Proponent provides maps for the entirety of the road and label all crossings, which includes the locations of proposed changes to existing 'Tote Road' crossings (as currently provided) and the locations for crossings that are expected to remain as they are.                                 | An updated version of the detailed railway figures that appeared as Attachment 10 of the May 2019 Water licence amendment application appear as Figures 4 to 36 of the July 2, 2019 memo provided as Attachment 03 to this response (Additional Information on Fish Habitat Interactions). This updated version shows the entirety of the Tote Road including water crossing labels and proposed changes.               | Not provided by DFO.                    | n/a                                                                                                                                                                                                                              | Update: Relevant updates have been made to the detailed railway figures included as Attachment 10, including Route 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Resolved                              |                          |
| 25       | DFO    | DFO 3.2.1             | Various            | FAA Application | Recommendation 3.2.1: DFO-FHPP recommends that Baffinland clarify when they will provide updated hydrological modelling.                                                                                                                                                                                                                        | Updated hydrological modelling is presented in a June 18, 2019 memo by Knight Písold provided as Attachment 04 (Fish Passage Risk Assessment of Water Crossings and Stream Diversions). Baffinland is undertaking an engineering review of crossings assessed by KP to be high risk of being a                                                                                                                          | Not provided by DFO.                    | n/a                                                                                                                                                                                                                              | Update: A final fish passage risk assessment will be provided with the FAA Application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Resolved                              |                          |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Subject Area    | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                           | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request | Baffinland's November 4, 2021 Response                                                                                                                                                                             | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                    | Baffinland Response Presentation                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                            |
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| 27       | DFO    | DFO 3.2.3             | Various                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FAA Application | Recommendation 3.2.3: DFO-FHPP recommends Baffinland clarify which flood return period is intended for use for the hydrologic analysis.                                                                                                                                                                                                                               | The design return period is the 1,200-year flood, and the reference to the 1,100-year flood in Section 7.2.3 is incorrect.                                                                                                                                                                                                                                                                                                                                                                                                                    | Not provided by DFO.                    | n/a                                                           | No update required.                                                                                                                                                                                                | Resolved                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                            |
| 28       | DFO    | DFO 3.2.4             | Various                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FAA Application | Recommendation 3.2.4: DFO-FHPP recommends Baffinland provide further information in regard to the potential cumulative impacts of all crossings on flow and fish passage (short-term and permanent; Tote Road, North Rail and Temporary Access Roads), including clear identification of crossings that occur on the same waterbody.                                  | North/South Consultants Inc. conservatively assumed in Attachment 13.1 of the Application that rail crossings that are located <20 m from an existing Tote Road culvert are locations where two culverts in proximity could be a potential barrier to fish passage. Within Attachment 04 of this response (Additional Information on Fish Habitat Interactions), these locations are identified in Table 1 and are shown on the detailed railway figures (Figures 4 to 36).                                                                   | Outstanding issues                      | n/a                                                           | Update: A final fish passage risk assessment will be provided with the FAA Application.                                                                                                                            | DFO recommends Baffinland provide further information in regard to the potential cumulative impacts of all crossings on flow and fish passage (short-term and permanent; Tote Road, North Rail and Temporary Access Roads), including clear identification of crossings that occur on the same waterbody.                                                                | This information will be provided with the Application.                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                            |
| 29       | DFO    | DFO 3.2.4.1           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends Baffinland submit an application to DFO for any new crossings or modifications to existing crossings for the Tote Road to ensure there are no residual impacts to fish passage.                                                                                                                                                                           | BIM proposed to include new crossings on the same FAA application for the Tote Road.                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                            |
| 30       | DFO    | DFO 3.2.4.2           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SWAEMP          |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends remediation of Tote Road crossings be completed prior to completion of the proposed Northern Railway.                                                                                                                                                                                                                                                     | The current Tote Road crossings will be remediated as required for the proposed operation, subject to the proposed Northern Railway.                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                            |
| 31       | DFO    | DFO 3.2.4.3           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends that culverts proposed for the Northern Railway within 20 m of Tote Road culvert crossings be modified to bridges or open-bottom structures, or that additional mitigation and contingency measures be provided to ensure cumulative impacts are avoided, mitigated, and offset, where required.                                                          | BIM will consider the proposed modifications on a specific basis, with cumulative impacts, final approach will be provided to ensure crossing selection process is followed, and accompany the FAA application.                                                                                                                                            | BIM will consider the proposed modifications on a specific basis, with cumulative impacts, final approach will be provided to ensure crossing selection process is followed, and accompany the FAA application.                                                                                                                                            |
| 32       | DFO    | DFO 3.2.4.4           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends the AEMP be reviewed and ensure cumulative effects monitoring is included in the AEMP.                                                                                                                                                                                                                                                                    | Fish passage monitoring will be implemented to ensure cumulative effects monitoring is included in the AEMP.                                                                                                                                                                                                                                               | Fish passage monitoring will be implemented to ensure cumulative effects monitoring is included in the AEMP.                                                                                                                                                                                                                                               |
| 33       | DFO    | DFO 3.2.4.5           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends that Baffinland analyze monitoring reports related to the Tote Road existing watercourses crossings and provide a comprehensive report on "lessons learned" for the Tote Road that would include strategic analysis of what will be done differently to ensure the fish passage issues will be avoided, mitigated and addressed for the Northern Railway. | BIM previously completed monitoring reports related to the Tote Road existing watercourses crossings and provide a comprehensive report on "lessons learned" for the Tote Road that would include strategic analysis of what will be done differently to ensure the fish passage issues will be avoided, mitigated and addressed for the Northern Railway. | BIM previously completed monitoring reports related to the Tote Road existing watercourses crossings and provide a comprehensive report on "lessons learned" for the Tote Road that would include strategic analysis of what will be done differently to ensure the fish passage issues will be avoided, mitigated and addressed for the Northern Railway. |
| 34       | DFO    | DFO 3.2.5             | Various                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FAA Application | Recommendation 3.2.5: DFO-FHPP recommends the Proponent clarify the intent of the statement: "mitigation measures, specific to bridges along the rail corridor, will be applied if flow velocities are found to restrict fish passage", and respond with clarification why the proposed bridges will not incorporate appropriate fish passages in the initial design. | The aquatic considerations cited in Section 8.6 of Attachment 13.7 of the Application are adopted from a generic list of mitigation measures for water crossings. Preliminary bridge drawings are presented in Attachment 13.8 of the Application. The final bridge designs included with the application for a Fisheries Act authorization will maintain fish passage.                                                                                                                                                                       | Not provided by DFO.                    | n/a                                                           | Update: The Bridge Hydraulics Report (Attachment 13.7) and Rail Bridge Drawings (Attachment 13.8) have been updated to reflect the change in the location of Bridge #3 on the Raven River associated with Route 3. |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                            |
| 35       | DFO    | DFO 3.2.6             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO remains concerned about fish passage for the Northern Railway. DFO recommends Baffinland annually monitor crossings identified as high-risk for fish passage issues to proactively identify and remediate fish passage issues.                                                                                                                                       | BIM will commit to annual monitoring of crossings identified as high-risk for fish passage issues to proactively identify and remediate fish passage issues.                                                                                                                                                                                               | BIM will commit to annual monitoring of crossings identified as high-risk for fish passage issues to proactively identify and remediate fish passage issues.                                                                                                                                                                                               |
| 36       | DFO    | DFO 3.3.1             | FES addendum, Surface Water Assessment (TSD 13); Sections 2.1.1, 2.4, 2.5 & 4.0 of Appendix C<br>FES addendum, Surface Water Assessment (TSD 13); Appendix D, Figure 1, p. D-7<br>DFO Technical Review Comments to the Nunavut Impact Review Board (NIRB), March 7, 2019. Technical comment 3.12.2<br>Baffinland Iron Mines Technical Comment Responses, March 25, 2019. DFO 3.12.2, page 43<br>Fresh Water Supply, Sewage, and Wastewater Management Plan, attachment 23 of the Updated Application for Water Licence, Document # BAF-PH1-830-P16-0010. Section 4.2. | FWSSWMP         | Recommendation 3.3.1: DFO-FHPP recommends Baffinland provide a detailed water withdrawal plan, which can be provided to DFO as part of the Proponent's "DFO Request for Review" submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase.                                                                                         | At the second NIRB technical meeting in June 2019, Baffinland committed to providing more details on fish habitat features and potential effects to littoral areas at proposed water withdrawal locations (DFO technical review comment 3.12.2 in NIRB review process). A detailed water withdrawal plan will be provided that includes fish habitat information and that considers the DFO's 2013 Environmental Flow Requirements guideline as part of Baffinland's Request for Review and/or Application for a Fisheries Act authorization. | Not provided by DFO.                    | n/a                                                           | Update: the Detailed Water Withdrawal Plan has been provided as Attachment 16 of the updated Application.                                                                                                          | DFO recommends Baffinland provide a detailed water withdrawal plan, which can be provided to DFO as part of the Proponent's 'DFO Request for Review' submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase. DFO remains concerned about water withdrawal activities for the Phase 2 Development Proposal.                         | This plan was provided to the Proponent on the Sept 17, 2021. Updated Application.                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                            |
| 37       | DFO    | DFO 3.3.1.1           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FWSSWMP         |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                                               |                                                                                                                                                                                                                    | DFO recommends Baffinland provide additional information in regard to the potential cumulative impacts of all crossings on flow and fish passage (short-term and permanent; Tote Road, North Rail and Temporary Access Roads), including clear identification of crossings that occur on the same waterbody.                                                             | BIM presented sites of concern for fish passage.                                                                                                                                                                                                                                                                                                           | BIM presented sites of concern for fish passage.                                                                                                                                                                                                                                                                                                           |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Baffinland Response Presentation                                                                                                                                     |
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| 39       | DFO    | DFO 3.3.2             | FEIS addendum, Surface Water Assessment (TSD 13); Sections 2.1.1, 2.4, 2.5 & 4.0 of Appendix C<br><br>FEIS addendum, Surface Water Assessment (TSD 13); Appendix D, Figure 1, p. D-7<br><br>DFO Technical Review Comments to the Nunavut Impact Review Board (NIRB), March 7, 2019. Technical comment 3.12.2<br><br>Baffinland Iron Mines Technical Comment Responses, March 25, 2019. DFO 3.12.2, page 43<br><br>Fresh Water Supply, Sewage, and Wastewater Management Plan, attachment 23 of the Updated Application for Amendment No. 2 of Type A Water Licence, Document #: BAF-PH1-830-P16-0010. Section 4.2, pg. 18. | FWSSWMP      | Recommendation 3.3.2: DFO-FHPP recommends Baffinland clarify what site specific conditions would indicate, that a greater water withdrawal than 10% in proposed withdrawal lake sites, would not be significant in the context of fish bearing habitat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The referenced text from page 18 of the FWSSWMP stated as follows, "Monthly cumulative withdrawals from lakes represent less than 10% of the monthly outflow, unless site-specific conditions indicate that a greater water withdrawal will not be significant in the context of fish bearing habitat (i.e. Camp Lake).". This is in reference to circumstances such as described in the 2014 water take assessment, (July 16, 2014 letter report by Knight Piésold, Hydrology Assessment of Water Sources for Dust Suppression along the Tote Road - Mary River Project - Early Revenue Phase; Ref. No. NEL19-00376).<br><br>Each of the identified lakes will meet the threshold of 1.0% reduction of outflow under all flow conditions including 10-year return period flow conditions that can be experienced during the month of September. The only exception to this is Camp Lake, which meets the 10% reduction of outflow threshold under mean flow conditions but not under low flow conditions. Under the 10-year low flow condition, however, a reduction of up to 27% of lake outflows could occur (Table 4), warranting further evaluation and consideration of potential effects to fish and fish habitat.<br><br>While the proposed water withdrawal in Camp Lake will exceed the 10% lake outflow reduction threshold under the 10-year low flow condition. | Not provided by DFO.                    | n/a                                                            | The Detailed Water Withdrawal Plan (Attachment 16) applied a withdrawal threshold of 10% of the monthly flow. The previous estimate that withdrawals from Camp Lake would represent 27% of the 10-year low flow. This previous estimate was based on the 10-year low flow of the lowest flow month (September), which is unnecessarily constraining. In the Detailed Water Withdrawal Plan, the 10-year annual low flow threshold was applied as a more appropriate threshold that is sufficiently conservative. The proposed water withdrawal volumes will be less than the revised threshold of 10% of the 10-year annual low flow volume in Camp Lake. | DFO recommends Baffinland support and clarify their statement that site-specific conditions would indicate that water withdrawal in fish bearing waters in excess of the 10% guidelines would not have significant impacts to fish habitat.                                                                                                                                                                                                                                                                               | The Updated Water Withdrawal Plan presents revised water pumping rates (stream flow) on the assessment of Water Withdrawal Plan. The Updated Water                   |
| 40       | DFO    | DFO 3.3.2.1           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFO recommends that Baffinland provide an analysis on the proposed threshold of 10% of the 10-year annual low flow volume would not impact fish habitat in Camp Lake.                                                                                                                                                                                                                                                                                                                                                     | This analysis was provided in the Detailed Water Withdrawal Plan (Attachment 16 of the Licence Application)                                                          |
| 41       | DFO    | DFO 3.3.2.2           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFO additionally recommends that Baffinland follow the 'DFO Protocol for Winter-Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut' for any winter water withdrawals in fish-bearing waterbodies.                                                                                                                                                                                                                                                                                     | BIM has committed to develop a protocol for winter water withdrawals. This appears in the Updated Water Withdrawal Plan (Attachment 16 of the Licence Application)   |
| 42       | DFO    | DFO 3.3.3             | FEIS addendum, Surface Water Assessment (TSD 13); Sections 2.1.1, 2.4, 2.5 & 4.0 of Appendix C<br><br>FEIS addendum, Surface Water Assessment (TSD 13); Appendix D, Figure 1, p. D-7<br><br>DFO Technical Review Comments to the Nunavut Impact Review Board (NIRB), March 7, 2019. Technical comment 3.12.2<br><br>Baffinland Iron Mines Technical Comment Responses, March 25, 2019. DFO 3.12.2, page 43<br><br>Fresh Water Supply, Sewage, and Wastewater Management Plan, attachment 23 of the Updated Application for Amendment No. 2 of Type A Water Licence, Document #: BAF-PH1-830-P16-0010. Section 4.2,         | FWSSWMP      | Recommendation 3.3.3: DFO-FHPP recommends Baffinland conduct a thorough localized assessments on the waterbodies selected for water withdrawal in order to adequately assess the potential impacts on the fish habitat resulting from 20% of the 10-year dry unit runoff water withdrawal on fish-bearing watercourses and connecting waterbodies. The assessment should include, but not be limited to, an assessment of the effects to littoral/shore/riparian areas from the proposed water withdrawal, the specific withdrawal locations proposed for each waterbody including fish habitat in the area and updated rationale on how this level of withdrawal will be environmentally protective threshold. DFO-FHPP notes this information can be provided as part of the Proponent's 'DFO Request for Review' submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase. | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Not provided by DFO.                    | n/a                                                            | Update: As per Baffinland's August 2019 commitment, a Detailed Water Withdrawal Plan was included in the updated Water Licence Amendment Application (Attachment 16).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | DFO recommends Baffinland conduct a thorough localized assessments on the waterbodies selected for water withdrawal in order to adequately assess the potential impacts on the fish habitat resulting from 20% of the 10-year dry unit runoff water withdrawal on fish-bearing watercourses and connecting waterbodies. (..) DFO notes this information can be provided as part of the Proponent's 'DFO Request for Review' submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase. | The Detailed Water Withdrawal Plan (Attachment 16) was included in the updated Water Licence Amendment Application (Attachment 16)                                   |
| 43       | DFO    | DFO 3.3.3.1           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFO recommends Baffinland provide a comprehensive list of all water-withdrawal sites for all activities in summer and winter.                                                                                                                                                                                                                                                                                                                                                                                             | This is provided in the Updated Water Withdrawal Plan (Attachment 16)                                                                                                |
| 44       | DFO    | DFO 3.3.3.2           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | FWSSWMP      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFO requests clarification on how Qualified Professionals will determine safe water withdrawal rates for fish, and when these activities will be conducted relative to biologically significant periods for fish.                                                                                                                                                                                                                                                                                                         | The Detailed Water Withdrawal Plan (Attachment 16) applies a site-specific threshold and a site-specific biologically significant periods for fish.                  |
| 45       | DFO    | DFO 3.3.3.3           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | FWSSWMP      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFO recommends Baffinland develop a management plan to respond to potential impacts from water withdrawals during low water periods, including the management of stranding fish such as occurring at Site BG32.                                                                                                                                                                                                                                                                                                           | A 10% threshold was applied to the Water Withdrawal Plan. Water withdrawals in excess of this threshold, and hence the management plan for use as a water withdrawal |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                    | Subject Area       | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                            | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                 | Intervenor Nov 12, 2021 Presentations                                                                                                                                                        | Baffinland Response                                              |
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| 47       | DFO    | DFO 3.3.3.5           |                                                                                                                                                                                                                                                                                                                                                       | FWSSWMP            | Recommendation 3.3.4: DFO-FHPP further recommends Baffinland provide additional rational/ assessment to support the assertion that 40% of the 10-year dry unit runoff water withdrawal from non-fish-bearing streams will not negatively affect downstream fish-bearing waterbodies. DFO-FHPP notes this information can be provided as part of the Proponent's 'DFO Request for Review' submission and/or Application for Fisheries Act authorization, during DFO's regulatory phase. | As per Baffinland's response to DFO 3.3.1, an detailed water withdrawal plan will be provided in advance of the NWB technical meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | New                                     |                                                               |                                                                                                                                                                                                                                                                        | DFO recommends that Baffinland submit Requests for Review and fish and fish habitat information for any waterbodies and watercourses where DFO's guidelines on water withdrawal are not met. | Fish and fish habitat withdrawal sites are of the Detailed Water |
| 48       | DFO    | DFO 3.3.4             |                                                                                                                                                                                                                                                                                                                                                       | FWSSWMP            | Recommendation 3.4.1: DFO-FHPP recommends that Baffinland revise their instantaneous pressure threshold limit of 100 kPa to 50 kPa when calculating setback distances and update their conclusions as necessary.                                                                                                                                                                                                                                                                       | Baffinland will adopt the lower threshold of 50 kPa as a precautionary measure. Applicable draft management plans for Phase 2 will be revised accordingly when next updated in advance of the NWB technical meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Outstanding Issues                      | n/a                                                           | Update: Revised thresholds have been applied in the Detailed Water Withdrawal Plan (Attachment 16). The revised thresholds are based on DFO's published guidance.                                                                                                      |                                                                                                                                                                                              |                                                                  |
| 49       | DFO    | DFO 3.4.1             | Updated Application for Amendment No. 2 of Type A Water Licence, attachment 27: Aquatic Effects Monitoring Plan, Document #: BAF-PH1-830-P16-0039, Section 2.4.4, pg. 37.                                                                                                                                                                             | Blasting Mgmt Plan | Recommendation 3.4.1: DFO-FHPP recommends that Baffinland revise their instantaneous pressure threshold limit of 100 kPa to 50 kPa when calculating setback distances and update their conclusions as necessary.                                                                                                                                                                                                                                                                       | Baffinland will adopt the lower threshold of 50 kPa as a precautionary measure. Applicable draft management plans for Phase 2 will be revised accordingly when next updated in advance of the NWB technical meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Not provided by DFO.                    | n/a                                                           | Update: the 50 kPa threshold has been reflected in the applicable management plans, including the Surface Water and Aquatic Ecosystem Management Plan (Attachment 22), Blasting Management Plan (Attachment 27) and the Environmental Protection Plan (Attachment 29). |                                                                                                                                                                                              |                                                                  |
| 50       | ECCC   | ECCC 3.1              | Baffinland Iron Mines Corporation, May 2019, Mary River Project – Phase 2 Proposal Updated Application for Amendment No. 2 of Type A Water Licence 2AM-MRV1325, Attachment 23 (Part 1): Fresh Water Supply, Sewage, and Wastewater Management Plan, Section 5.4.1 and Appendix F: Polishing Waste Stabilization Ponds (PWSP) Effluent Discharge Plan. | FWSSWMP            | ECCC's Recommendation(s): Clarify whether there would also be a treatment system for the Polishing Waste Stabilization Ponds (PWSP) at Mine Port (similar to what is at the Mine Site), and, if so, provide details on the system.<br><br>Update the PWSP Effluent Discharge Plan (Appendix F).                                                                                                                                                                                        | The Port Site PWSP has a treatment system that is used to treat the contents of the PWSP to meet the applicable discharge requirements, before being discharged to Mine Inlet. As at the Mine Site PWSPs, a portion of the treatment occurs naturally, through the growth of algae through the summer season. The treatment system consists of a dissolved air flotation unit (DAF), housed inside an insulated and heated searcan, with an air injection system, sludge removal system, coagulant dosing, and flocculant dosing. There is also provision in the system for acid or caustic dosing, if required for pH adjustment. During the summer season, algae grows in the PWSP, consuming any remaining nutrients in the off-spec water, leaving behind TSS in the form of algae solids. The DAF system uses a saturated air-water mixture, injected into the influent stream, to remove solids through flotation. The influent stream is first dosed with a coagulant and flocculant, to promote the formation of large floc solids. These solids nucleate around the microscopic air bubbles formed by the saturated air-water mixture, and rise to the surface of the main tank. The "float" sludge is then skimmed from the surface of the tank, and pumped to totes for disposal. Clarified effluent overflows from the system into a break tank, which is then pumped to Mine Inlet if it meets the discharge criteria. | Resolved                                |                                                               |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                              |                                                                  |
| 51       | ECCC   | ECCC 3.2              | May 2019, Updated Application Attachment 22: Surface Water, Aquatic Ecosystem Management Plan, Sections 10.2.3.1 and 10.2.3.2.                                                                                                                                                                                                                        |                    | ECCC recommends that the Proponent provide a detailed description of proposed construction monitoring for the Phase 2 activities.                                                                                                                                                                                                                                                                                                                                                      | A detailed outline of construction monitoring is provided as Attachment 05 (Proposed North Railway Aquatic Monitoring Programs).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Resolved                                |                                                               |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                              |                                                                  |
| 52       | ECCC   | ECCC 3.3              | Baffinland Iron Mines Corporation, May 2019, Mary River Project – Phase 2 Proposal Updated Application for Amendment No. 2 of Type A Water Licence 2AM-MRV1325, Attachment 23 (Part 1): Fresh Water Supply, Sewage, and Wastewater Management Plan, Section 7.1, Table 7-2, and Appendix J: Waste Pond Water Treatment Plant Operations – Appendix A. |                    | ECCC recommends that the Proponent: Update references from the MMER to MDMER. Provide clarification on the discharge criteria that will be applicable.                                                                                                                                                                                                                                                                                                                                 | The need to update discharge criteria and references to the MDMER is acknowledged (Sections 7.1 and 7.2 including Table 7-2; Appendix A of Appendix I; Appendix H). These changes will be completed in the next update to the Fresh Water Supply, Sewage, and Wastewater Management Plan, to be submitted in advance of the NWB technical meetings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Resolved                                |                                                               |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                              |                                                                  |
| 53       | ECCC   | ECCC 3.4              | Baffinland Iron Mines Corporation, May 2019, Mary River Project – Phase 2 Proposal Updated Application for Amendment No. 2 of Type A Water Licence 2AM-MRV1325, Attachment 23 (Part 5): Fresh Water Supply, Sewage, and Wastewater Management Plan.                                                                                                   | FWSSWMP            | ECCC's Recommendation(s): ECCC recommends that the Proponent clarify pdf pages 52 to 57.                                                                                                                                                                                                                                                                                                                                                                                               | Baffinland appreciates ECCC's thorough review of the Fresh Water Supply, Sewage, and Wastewater Management Plan. Pages 52-58 of Attachment 23 (FWSWMP (Part 5)) have been reviewed and the following clarifications are provided: Page 52: This figure is the final page of Appendix F. It is noted that this figure is upside down in the PDF.<br>Page 53: This is the flysheet for Appendix G - Mobile Oily Water Separator (OWS) Manual. Appendix G has been added to the FWSSWMP -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Resolved                                |                                                               |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                              |                                                                  |





| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                              | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                               | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request                                                                                                                   | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                          | Baffinland Response Pres                                                                                                                              |
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| 60       | ECCC   | ECCC 3.2.7            | Aquatic Effects Monitoring Program; Table 3.1 & 3.2; Section 3.1.1.1 - Water Quality Benchmarks                                                                                                                                                                 | AEMP         | ECCC recommends that the Proponent: <ul style="list-style-type: none"> <li>- Review recent research and guidelines, including for those parameters listed above, and determine the applicability of more recent guidelines to the Project. The benchmarks for the AEMP analysis should be updated accordingly.</li> </ul>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | New                                     |                                                                                                                                                                                  | Baffinland has reviewed the recent guidelines indicated by ECCC and will adopt those for cobalt, (dissolved) lead, strontium, and zinc as AEMP benchmarks. The AEMP benchmarks for these parameters will be derived using baseline data (when available) to conform to the same methods used to derive AEMP benchmarks for other parameters.<br><br>During the development of the AEMP benchmark for copper, the use of 97.5th percentile of copper concentration at the time of baseline for the waterbody of interest was selected as the benchmark because concentrations of copper were naturally elevated above applicable Water Quality Guidelines WQG at these waterbodies. Hence, Baffinland could not be expected to achieve the WQG for copper at these waterbodies. Therefore, the rationale for the AEMP benchmark was that if the 97.5th percentile of baseline concentration was exceeded following commencement of commercial mine production, this may be an indication of mine-related influence on the waterbody of interest. Accordingly, Baffinland does not feel that a change to the existing AEMP benchmark for copper is warranted based on the same rationale. | ECCC recommends that the Proponent: <ul style="list-style-type: none"> <li>• Review recent research and guidelines, including Cobalt, Copper, Lead, Strontium and Zinc, and determine the applicability of more recent guidelines to the Project. The benchmarks for the Aquatic Effects Monitoring Program analysis should be updated accordingly.</li> </ul> | Baffinland will adopt the existing AEMP benchmarks for cobalt, lead, strontium and zinc, and will continue to monitor and report on these parameters. |
| 61       | ECCC   | ECCC 3.2.8            | Aquatic Effects Monitoring Plan - Section 5.1 & Table 5.1                                                                                                                                                                                                       | AEMP         | ECCC recommends the Proponent: <ul style="list-style-type: none"> <li>- Provide additional details on the specific requirements to trigger the action levels.</li> <li>- Identify triggers that increase the protectiveness of the proposed moderate action level.</li> </ul>                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | New                                     |                                                                                                                                                                                  | Baffinland is in the process of considering additional details for triggers related to action levels proposed in the existing Data Assessment and Response Framework Section 5.1, Table 5.1 for the water quality study component.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ECCC recommends in Section 5 of the Aquatic Effects Monitoring Plan the Proponent: <ul style="list-style-type: none"> <li>• Provide additional details on the specific requirements to trigger the action levels.</li> <li>• Identify triggers that increase the protectiveness of the proposed moderate action level.</li> </ul>                              | BIM will consider additional details on the specific requirements to trigger the action levels and thresholds in the AEMP.                            |
| 62       | ECCC   | ECCC 3.2.9            | Attachment 32 - Phase 1 Waste Rock Management Plan - BAF-PH1-830-P16-0029/ Phase 2 Proposal Revisions. For Review Purposes Only Rev B. Golder Report - Waste Rock Management Plan - For 2020 through 2021; Section - 10.3 Waste Rock Facility (WRF) Closure     | PH1 WRMP     | Statement: ECCC notes that once a mine is subject to MDMER, it remains subject to MDMER until it acquires the recognized closed mine (RCM) status, and as such, all effluent discharges will have to be discharged through a designated final discharge point (FDP) monitored and reported through Mine Effluent Reporting System (MERS). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | New                                     |                                                                                                                                                                                  | ECCC's comment is acknowledged, and Baffinland will adhere to the regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                       |
| 63       | QIA    | QIA 1.1               | 190502-2AM-MRY1325-Amend2/ Applic-Att-29-CRP                                                                                                                                                                                                                    | ICRP         | Baffinland's May 2019 submission of the Interim Reclamation and Closure Plan (ICRP) has not yet been approved by QIA through the Commercial Lease. QIA can provide an update on this approval process as requested by the NWB; however, QIA will manage the ICRP through the Commercial Lease and not the Water Licence Process.          | Baffinland will continue to engage QIA on the updates to the ICRP, to meet the conditions of both the Commercial Lease and the Type 'A' Water Licence.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unresolved                              | QIA and Baffinland have exchanged feedback on the Phase 2 ICRP. At this time, QIA has not approved the current version of the ICRP submitted as part of the Amendment 2 package. | Baffinland is committed to working with QIA to reach agreement on the ICRP prior to the Public Hearing on the Phase 2 Proposal Water Licence Amendment, as described in the Inuit Certainty Agreement. Changes to the ICRP made through the NWB process will be subject to QIA review and approval.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | ICRP - continue work                                                                                                                                  |
| 64       | QIA    | QIA 2.1               | 190502-2AM-MRY1325-Amend2/ Applic-Att-29-CRP                                                                                                                                                                                                                    | ICRP         | QIA will work with Baffinland through the Commercial Lease on all matters related to security for Inuit Owned Land. QIA can provide an update on this approval process as requested by the NWB.                                                                                                                                           | Baffinland will continue to engage QIA on the updates to security held for the Project, to meet the conditions of both the Commercial Lease and the Type #439-A#439; Water Licence.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Resolved                                | QIA is satisfied with Baffinland's August 23, 2019 response.                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                       |
| 65       | QIA    | QIA 3.1               | 190502-2AM-MRY1325-Amend2/ Applic-Att-2/ Applic                                                                                                                                                                                                                 | WCA          | Baffinland should be required to come to a new agreement with QIA prior to the amendment being issued as per Article 20.3.1 of the Nunavut Agreement.                                                                                                                                                                                     | Baffinland believes that an amended Water Compensation Agreement is required, and has provided QIA with draft revisions to the Water Compensation Agreement to reflect the Phase 2 Project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unresolved                              | QIA and Baffinland have agreed to work together to develop a revised Water Compensation Agreement for the Phase 2 Project. An agreement has not been established at this time.   | Baffinland is committed to working with QIA to draft a new Water Compensation Agreement, with the goal of having a signed Water Compensation Agreement prior to the Public Hearing on the Phase 2 Proposal Water Licence Amendment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                       |
| 66       | QIA    | QIA 4.1               | 08MN053_BAF-PH1-830-P16-0022_railway-ops-main-DRAFT-PHASE-2<br><br>08MN053_BAF-PH1-830-P16-0008_Environment-Protection-Plan-DRAFT-PHASE-2<br><br>190506 2AM-MRY1325 Amend2/ Applic-Att-22-SWAEMP-LIAE<br><br>190502 2AM-MRY1325 Amend2/ Applic-Att-27-AEMP-LIAE | IQ           | 4.1 - Provide the specifics of how Inuit Qaujimaqtaungit was and will be used and considered in the development of the North Railway, its location, the crossings, and the relevant management and monitoring plans.                                                                                                                      | The proposed alignment of the North Railway/ follows the existing Milne Inlet Tote Road for the majority of the distance between the Mine Site and Milne Port, which limits the footprint of the Project and the need for additional access road construction. The section of the North Railway alignment that deviates from the Milne Inlet Tote Road was subject to an exhaustive technical feasibility study, which determined the preferred alignment was the most technically and economically feasible, as well as the safest in terms of operations (grade and distance from water) and Inuit and wildlife crossings (least steep cuts). Based on these considerations Baffinland advanced the preferred alignment for public reviews to be administered by the Nunavut Planning Commission (NPC), Nunavut Impact Review Board (NIRB), and the Nunavut Water Board (NWB).<br><br>The proposed alignment of the North Railway, as with the Tote Road, does overlap with a primary travel route. The proposed railway deviation does additionally overlap with the travel route to | Deferred                                | This Technical Comment is now addressed by TC 26-33.                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                       |

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| 67       | QIA    | QIA 4.2               | 08MIN053_BAF-PH1-830-P16-0002_railway-ops-maint-DRAFT-PHASE-2<br><br>08MIN053_BAF-PH1-830-P16-0008_Environment-Protection-Plan-DRAFT-PHASE-2<br><br>190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE<br><br>190502 2AM-MRY1325 Amend2<br>Applic Att-27-AEMP-ILAE | IQ                 | 4.2 - Provide monitoring locations along the proposed North Railway that align with Inuit use.                                                                                                          | Road and rail dust is not expected to affect the quality of water in nearby streams and lakes in Baffinland's IQ study did not identify waters important to Inuit in the vicinity of the Tote Road and Railway (KP Letter dated November 30, 2018; Ref. No. NB18-00785; Appendix A of Attachment 2 of Baffinland's January 2019 response to NIRB advanced technical review comment HC 02 in January 2019). It was acknowledged in that report that it is reasonable to assume that watercourses close to areas used by Inuit may be used as sources of drinking water, including Phillips Creek and the lakes within the Phillips Creek catchment. On June 14, 2019, Baffinland received a copy of the QIA's Tusqtauvut Study for Pond Inlet, which identified approximately 14 values within the Project areas that are used for subsistence (either fishing and/or fresh water) within the Project footprint including a 250 m buffer. Baffinland requests the coordinates and interviewer-assigned description of each value, so that the nature of these subsistence values can be understood. Baffinland is willing to consider modifications to its Tote Road Monitoring Program to monitor water quality at Inuit water use areas, if the appropriate IQ information can be made available. | Deferred<br><br>This Technical Comment is now addressed by IC 26-33. |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |
| 68       | QIA    | QIA 5.1               | Fish Passage Risk Assessment Update (KP Ref VA19-00838)                                                                                                                                                                                                                | FAA Application    | When will the monitoring and adaptive management plan related to flow diversion be shared for review and comment?                                                                                       | Monitoring and adaptive management at stream diversions are outlined in Attachment 05 (Proposed North Rail Monitoring Programs).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unresolved                                                           | This Technical Comment will remain unresolved until QIA has approved the relevant water quality thresholds and actions.                                            | The nature of this issue is such that adaptive management will be subject to review by a trained professional, and concrete thresholds and pre-defined responses cannot be developed. Section 5.9 of the SWAEMP states:<br><br>The triggers for taking action such as flooding and/or changes to stream morphology, are subjective and will require an exercise of professional judgement regarding action response, as there are no definitive action level triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                          |
| 69       | QIA    | QIA 6.1               | 08MIN053_BAF-PH1-830-P16-0002_railway-ops-maint-DRAFT-PHASE-2                                                                                                                                                                                                          | Rail O&M Mgmt Plan | This plan or another should be resubmitted with the monitoring and mitigation measures to be taken for the construction and operations of the North Railway. This should include adaptive management.   | Section 5.2 of the Railway Operation and Maintenance Plan (under the heading Component Inspections) describes the inspections and maintenance work to be undertaken at bridges and culverts. Section 1.3 identifies the relevant management plans for issues related to water quality and fish habitat, notably the EPP and the SWAEMP. These plans will be relied upon for addressing water quality and fish habitat issues that are identified as part of the Component Inspections of bridges and culverts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unresolved                                                           | This Technical Comment will remain unresolved until QIA has approved the relevant water quality thresholds and actions.                                            | The Railway Operation and Maintenance Plan was created in the environmental assessment led by the Nunavut Impact Review Board, and is not part of the Water Licence Application. As noted in Baffinland's original response, water quality issues during construction will be managed by applying the Environmental Guidelines for Water Crossing Repairs, Modifications and/or Installations (Appendix F of the Surface Water and Aquatic Ecosystems Management Plan [SWAEMP]), with monitoring and adaptive management described in the trigger action response plan (TARP) presented in the Surface Water and Aquatic Ecosystems Management Plan. Similarly, ongoing water quality monitoring during rail operations is covered by the Northern Corridor Monitoring Program (SWAEMP Appendix H), adapted from the Tote Road Monitoring Program to account for rail monitoring. Both these monitoring programs were developed jointly with the QIA. |                                       |                          |
| 70       | QIA    | QIA 7.1               | Multiple, for example:<br>08MIN053_BAF-PH1-830-P16-0002_railway-ops-maint-DRAFT-PHASE-2<br><br>190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                  | Adaptive Mgmt      | Baffinland should be required to update all DRAFT management plans so that all references are clear and easy to access. At a minimum, references should include the section headers or section numbers. | Baffinland proposes to update the Water Licence related management plans in advance of the NWB Technical Meetings. Attachment 07 presents a table that identifies where each management plan references another plan. The references to other plans will be checked and updated the next update to these management plans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unresolved                                                           | QIA and Baffinland are continuing to jointly review and edit several management plans and Water Licence amendment documents through a separate regulatory process. | The management plans presented in the updated Water Licence Application have had varying levels of review by the QIA. Baffinland continues to implement its work plan to update the management plans as agreed to with the QIA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |
| 71       | QIA    | QIA 8.1               | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                                                                                                                 | FAA Application    | Resubmit the SWAEMP and include the frequency of the assessment of monitoring activities listed in Section 10 and how this will inform and prioritize maintenance activities.                           | A detailed outline of rail monitoring is provided as Attachment 05 (Proposed North Rail Monitoring Programs).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unresolved                                                           | This concern remains outstanding until thresholds are developed for Fish Passage.                                                                                  | Fish passage will be relevant to the Fisheries Act Authorization (FAA) Application that will follow the water licensing process. Baffinland has initiated discussions with DFO regarding fish passage through the FAA process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                          |
| 72       | QIA    | QIA 9.1               | Multiple, including:<br>190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                                                                                         | Adaptive Mgmt      | Resubmit DRAFT plans and use language for what Baffinland will do should the Project be approved rather than delaying detail or recommending actions be taken.                                          | Baffinland proposes to update the Water Licence related management plans in advance of the NWB Technical Meetings. Attachment 08 presents a table that identifies where each management plan forward-references an action and provides more detail or clarification on each of these commitments. These forward-referenced commitments will be addressed according to the proposed actions in the next update to these                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unresolved                                                           | QIA and Baffinland are continuing to jointly review and edit several management plans and Water Licence amendment documents through a separate regulatory process. | The management plans presented in the updated Water Licence Application have had varying levels of review by the QIA. Baffinland continues to implement its work plan to update the management plans as agreed to with the QIA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |



| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                         | Subject Area       | Intervenor July 2019 Recommendation/Request                                                                                                                               | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request                                                                                                                                                                                                                                   | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Intervenor Nov 12, 2021 Presentations | Baffinland Response Pres |
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| 73       | QIA    | QIA 10.1              | 190506-2AM-MRY1325 Amend2<br>Applic-Att-22-SWAEMP-LAE<br>08MIN053_BAF-PH1-830-P16-0023_Roads_Management_Plan-DRAFT-PHASE-2 | SWAEMP             | Present the how, where and to what frequency is calcium chloride monitored to remain in accordance with applicable guidelines to minimize runoff into local watercourses. | As noted in the Roads Management Plan, calcium chloride is mixed with water for application to roads for dust suppression in accordance with its Dust Management Protocol, which is Attachment 6 of the Air Quality and Noise Abatement Management Plan, presented as Attachment 09 of this response. The Dust Management Protocol is consistent with Section 2.3 of the Nunavut Environmental Guideline for Dust Suppression (Government of Nunavut, 2002). This includes using dust suppressants approved by the GN (CaCl <sub>2</sub> is an approved dust suppressant), following manufacturer application instructions, applying the dust suppressant to the roadway, monitoring the application rate to ensure adequate coverage without pooling or runoff of product; not using more dust suppressant than needed to effectively suppress dust; and ensuring the material does not migrate or run off the traveled portion of the roadway.<br><br>Monitoring to determine if calcium chloride can be detected in local watercourses is not identified in the GN dust suppression guideline.<br><br>Baffinland notes that in 2018 an alternate dust suppressant called Dust Stop was used on a trial basis, and an expanded trial application is being implemented in 2019. Dust Stop is non-toxic to aquatic life, and is being considered to partially or fully replace the use of CaCl <sub>2</sub> as a dust suppressant at site. | Resolved                                | Monitoring of calcium outlined in Appendix G and H of the SWAEMP is sufficient assuming no evidence of unexpected effects associated with calcium are identified. If unexpected effects are identified, monitoring will need to be adequately modified through the adaptive management process. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                          |
| 74       | QIA    | QIA 10.2              |                                                                                                                            | SWAEMP             | Provide the applicable guideline used to minimize runoff into local watercourses.                                                                                         | The Dust Management Protocol presented as Attachment 6 of the Air Quality and Noise Abatement Management Plan provides the guidance Baffinland staff use to minimize runoff into watercourses. The Dust Management Protocol has been provided as Attachment 09 to Part D, Item 18 of the existing Water Licence Schedule B, Item 1.e.ii of the existing Water Licence requires reporting of results of thermal modelling and/or research carried out in relation to permafrost integrity along the railway alignment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Resolved                                | QIA is satisfied by the response provided by Baffinland on August 23, 2019.                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                          |
| 75       | QIA    | QIA 11.1              | 190502-2AM-MRY1325-Amend2<br>Applic-Att-8.5-Rail-Geotech-Recomm                                                            | Rail O&M Mgmt Plan | The Water Licence should require Baffinland to monitor the construction, operations and closure of the North Railway.                                                     | Part D, Item 18 of the existing Water Licence requires geotechnical inspections of earthworks. Schedule B, Item 1.e.ii of the existing Water Licence requires reporting of results of thermal modelling and/or research carried out in relation to permafrost integrity along the railway alignment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unresolved                              | This concern remains outstanding until TARP's are provided for geotechnical criteria of the railway.                                                                                                                                                                                            | As noted in Baffinland's original response, the Water Licence contemplates the construction and operation of a railway (the South Railway) already, and further conditions are not required.<br><br>Attachment 8.15 of the Updated Application is the North Railway Instrumentation Monitoring Program. Section 5.3 identifies alert levels (thresholds) for changes in ground temperature and settlement in the embankment, as well as response procedures and actions. Baffinland will develop a TARP based on this monitoring plan, to be presented in the appropriate management plan. As previously stated, this will be completed during the first year of rail operation.<br><br>The commitment to develop a TARP applying the geotechnical criteria in the railway monitoring program should be sufficient to resolve this recommendation. |                                       |                          |
| 76       | QIA    | QIA 11.2              | 190502-2AM-MRY1325-Amend2<br>Applic-Att-8.5-Rail-Geotech-Recomm                                                            | Rail O&M Mgmt Plan | The Water Licence should require Baffinland to provide the monitoring program prior to any construction approvals for the North Railway is provided.                      | Baffinland will provide details on the construction geotechnical monitoring program as part of the Water Licence review process in advance of the technical meeting. The outcome of the construction geotechnical monitoring program will inform the operations phase geotechnical monitoring, to be incorporated into the updated Railway Operation and Maintenance Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unresolved                              | This concern remains outstanding until appropriate geotechnical monitoring data is included as reporting criteria within the amended Water Licence.                                                                                                                                             | The previously forward-referenced construction geotechnical monitoring program was presented as Attachment 8.15 of the Updated Application. Part D, Item 18 of the Water Licence requires annual geotechnical inspections. As per the response to QIA-11.1, the geotechnical monitoring program including thresholds will be presented in a management plan that will be approved under the Water Licence.                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                          |
| 77       | QIA    | QIA 12.1              | 08MIN053_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2                                                              | Rail O&M Mgmt Plan | These records should be provided to reviewers as part of Baffinland's reporting requirements under the Water Licence.                                                     | Part D, Item 18 of the existing Water Licence requires geotechnical inspections of earthworks. Schedule B, Item 1.e.ii of the existing Water Licence requires reporting of results of thermal modelling and/or research carried out in relation to permafrost integrity along the railway alignment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unresolved                              | This concern remains outstanding until appropriate geotechnical monitoring data is included as reporting criteria within the amended Water Licence.                                                                                                                                             | The QIA's recommendation was in relation to the following:<br>"Records of inspections and corrective actions will be kept by the Railroad Infrastructure Department."<br>This statement refers to standard internal record-keeping. Baffinland's initial response governs how external reporting will be conducted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                          |
| 78       | QIA    | QIA 12.2              | 08MIN053_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2                                                              | Rail O&M Mgmt Plan | Baffinland should be required to disclose the triggers that result in corrective actions being taken.                                                                     | Thresholds and triggers will be established as appropriate in the future operations geotechnical monitoring program that will form part of the Railway Operation and Maintenance Plan. Triggers that will result in corrective actions will be defined after the completion of the construction monitoring phase, as no detailed site specific information is currently available to make an accurate assessment of the potential triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Unresolved                              | This concern remains outstanding until TARP's are provided for geotechnical criteria of the railway.                                                                                                                                                                                            | See Baffinland's response to QIA-11.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                          |

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| 80       | QIA    | QIA 13.1              | 190506-2AM-MRY1325 Amend2<br>Applic ATT-22-SWAEMP-LAE            | SWAEMP             | Provide figures that detail the field monitoring proposed to be completed as part of the construction, operation and closure of the North Railway.                                                                                                       | Sections 10.2.3.1 and 10.2.3.2 describe the proposed monitoring along the North Railway during the construction and post-construction phases, respectively. For example, Section 10.2.3.1 states, "Monitoring will occur at active work areas along the North Railway during construction, as prescribed in a future Fisheries Authorization for crossings. This is expected to include turbidity monitoring downstream of active work areas, including crossing locations as well as downstream of quarries and soil spoils disposal areas (mainly former borrow pits and quarries)." The location of the embankment and water crossings are presented on the detailed railway figures presented as Attachment 10 of the Water Licence amendment Application. A map of proposed monitoring locations for operations will be provided prior to the technical meeting. Monitoring locations associated with quarries will be identified within each quarry management plan. | Unresolved                              | QIA believes that Table 5.1 should include monitoring activities during closure of the north railway.                                               | The operation phase monitoring locations are presented in the updated Northern Corridor Monitoring Program presented as Appendix H of the SWAEMP (Attachment 22 of the Updated Application).<br><br>Some monitoring programs listed in Table 5.1 and depicted in the figure will need to continue during the active closure phase (and possibly for a period post-closure). However, this is articulated in the Interim Closure and Reclamation Plan.<br><br>Section 2.3.1.4 of the ICRP states that a Final Closure and Reclamation Plan will be developed and submitted no later than one year or earlier if possible before scheduled permanent closure, or immediately after notification of an unplanned closure. At this time, figures would be updated to reflect closure phase monitoring of the North Railway.                                                                                                                                                                                                                                                                                                |                                       |                          |
| 81       | QIA    | QIA 13.2              | 190506-2AM-MRY1325 Amend2<br>Applic ATT-22-SWAEMP-LAE            | SWAEMP             | Provide additional details based on Baffinland's current experience from developing a mine with a linear transportation corridor (over 5 years) that would inform the selection of effective sedimentation and erosion controls along the North Railway. | Section 6.4.3 of the SWAEMP presents generic sediment and erosion control measures, with Baffinland's evaluation of performance based on its experience implementing each control measure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Resolved                                | Erosion control measures are detailed with installation locations noted, which may be applied to either road or rail water crossings.               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                          |
| 82       | QIA    | QIA 14.1              | 08RM053_BAF-PH1-830-P16-0023_Roads_Management_Plan-DRAFT-PHASE-2 | SWAEMP             | Provide the severity of the concern that requires immediate action be taken by Baffinland.                                                                                                                                                               | The response action framework for post-construction monitoring is outlined in Appendix C of the Roads Management Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unresolved                              | Appendix C was not provided by Baffinland to verify if any changes were made to address this comment.                                               | The referenced text is from the Roads Management Plan, which is not a plan regulated by the NWB under the Water Licence.<br><br>The referenced response action framework for post-construction monitoring is now presented in Appendix F of the Surface Water and Aquatic Ecosystem Management Plan.<br><br>Response times cannot be provided on a scale as being requested by the QIA, as they are site-specific and depend upon the available resources and urgency relative to other issues at the time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |                          |
| 83       | QIA    | QIA 14.2              | 08RM053_BAF-PH1-830-P16-0023_Roads_Management_Plan-DRAFT-PHASE-2 | SWAEMP             | Provide the frequency at which Baffinland would determine and prioritize any corrective actions to the Project road network.                                                                                                                             | Water quality monitoring is conducted per the schedule outlined in Appendix C of the Roads Management Plan, including a response action framework to address issues of sedimentation. Geotechnical inspections of the project are completed bi-annually as required by the Type A Water Licence, and recommendations are provided in the resulting report and are actioned on Site. Fish passage is assessed annually, and generally any identified issues are addressed in the calendar year. The exception is fisheries crossings where QIA has not granted approval for Baffinland to conduct adjustments to the Tote Road under the Commercial Lease.                                                                                                                                                                                                                                                                                                                  | Unresolved                              | Appendix C was not provided by Baffinland to verify if any changes were made to address this comment.                                               | As noted in the response to QIA-14.1, Appendix C of the Roads Management Plan now appears as Appendix F of the SWAEMP.<br><br>The QIA Environmental Monitors are integrated into Baffinland's environmental department, in terms of understanding how issues are prioritized day to day.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                          |
| 84       | QIA    | QIA 14.3              | 08RM053_BAF-PH1-830-P16-0023_Roads_Management_Plan-DRAFT-PHASE-2 | Roads Mgmt Plan    | Provide what would trigger Baffinland to construct the approved Tote Road to the 2014 Hatch design.                                                                                                                                                      | Baffinland continues to upgrade the Tote Road through ongoing operation and maintenance, implementation of the Tote Road Earthworks Execution Program (TREP) and implementing or restoring sections of the road to the Hatch design.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unresolved                              | Baffinland has indicated that a response to this concern is contingent on the NIRB's review of TRC 22 as part of the "Phase 2 Proposal" assessment. | Baffinland reviewed TRC 22 from the NIRB process and it is not related to this topic. Baffinland maintains that effective monitoring and mitigation that utilizes adaptive management, such as the framework outlined in the Roads Management Plan, is key to quantifying and minimizing any project related effects on the Tote Road. The Hatch 2013 design of the Tote Road, in combination with subsequent design work such as the Tote Road Earthworks Execution Plan (TREP), continue to inform upgrades to problematic areas of the Tote Road in consideration of safety, traffic management and environmental impacts. The design of the Tote Road will continue to adapt to meet the demands of the Project, and will be informed by ongoing monitoring of the water crossings (Tote Road Monitoring Program), geotechnical stability (geotechnical inspections), and permafrost degradation (Mine Inlet Tote Road and Associated Borrow Source investigations). Additionally, design of the Tote Road will take into account feedback received from land users, such as the location of snowmobile crossings. |                                       |                          |
| 85       | QIA    | QIA 15.1              | 08RM053_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2     | Rail O&M Mgmt Plan | Provide the target areas identified as higher risk and validation for this assessment.                                                                                                                                                                   | The complete list of target areas have not been identified. A study is currently underway to develop a geotechnical monitoring plan for use during the construction phase. The outcome of the construction geotechnical monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Resolved                                | Baffinland has provided the requisite information in the Northern Railway Instrumentation Monitoring Plan.                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                          |

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| 87       | QIA    | QIA 15.3              | 08MNO53_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2                                                   | Rail O&M Mgmt Plan | Provide how the information gathered during the construction of the North Railway will be used to finalize the operational condition monitoring plan.                                                                                                                                                                                                                                                                  | Data collected during the construction phase will be used to validate the design assumptions used for design analysis and modelling of thermal behaviour and changes to the permafrost regime. This will assist in identifying operations phase monitoring at representative and high risk locations, for example at deep excavations, high embankments, or plate arch culverts. The operations phase monitoring program will evolve over time should results show a specific need for additional monitoring.                                                                                                                                                                                              | Unresolved                              | Triggers, Actions and Thresholds have yet to be established for geotechnical monitoring criteria.                                            | See Baffinland's response to QIA-11.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |
| 88       | QIA    | QIA 15.4              | 08MNO53_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2                                                   | Rail O&M Mgmt Plan | Provide the inventory of rail condition monitoring equipment and locations.                                                                                                                                                                                                                                                                                                                                            | The construction geotechnical monitoring program for the North Railway is currently being prepared and will be submitted for review in advance of the technical meeting. A draft list of monitoring equipment and locations are provided in a table presented as Attachment 10 of this response, however this list is subject to change as the monitoring program is finalized. The final monitoring plan for the operations phase of the railway will be finalized following completion of the construction monitoring phase, when data collected has been analyzed and final recommendations can be provided.                                                                                            | Resolved                                | Baffinland has provided the requisite information in the Northern Railway Instrumentation Monitoring Plan.                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |                          |
| 89       | QIA    | QIA 16.1              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-LAE                                                          | SWAEMP             | Present the triggers based on monitoring data listed in Attachment 1, that will be implemented to mitigate against an exceedance of a water quality criteria, relevant thresholds, and potential impacts to the receiving environment. As committed to by Baffinland in the NIRB process, QIA is willing to work with Baffinland through updating its adaptive management included in monitoring and management plans. | A detailed outline of construction monitoring is provided as Attachment 05 ( Proposed North Rail Monitoring Program). This includes a description of proposed monitoring of watercourses downstream of active construction areas in accordance with the Environmental Guidelines for Project Water Crossing Repairs, Modifications and/or Insulations presented in Appendix C of the Roads Management Plan, which will be adapted for implementation during rail construction. The final monitoring program will be presented in an updated SWAEMP, to be made available in advance of the NWB technical meetings.                                                                                         | Unresolved                              | This concern remains outstanding until thresholds and responses are developed to include all analytical water quality monitoring parameters. | Baffinland has received from the QIA more than one round of comments on the SWAEMP including the indicators and thresholds in the Trigger Action Response Plan (TARP). The QIA's comments have been addressed in the latest version. Baffinland will continue to work cooperatively with the QIA to finalize these plans under the Water Licence, and will continue to report progress where we can. It is not clear what remains outstanding in regard to incorporating all analytical water quality monitoring parameters. |                                       |                          |
| 90       | QIA    | QIA 16.2              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-LAE                                                          | SWAEMP             | Update all applicable water quality monitoring plans to include triggers, based on monitoring data, and to implement the mitigation measures to avoid exceedance of water quality criteria, relevant thresholds, and potential impacts to the receiving environment.                                                                                                                                                   | The reference to Attachment 1 is not clear as there is no Attachment 1 in the referenced SWAEMP. Baffinland will update the applicable water quality monitoring plans to be consistent with the Adaptive Management Plan currently under development in consultation with the QIA. This includes incorporating the concepts of triggers, thresholds and actions presented in the Environmental Guidelines for Project Water Crossing Repairs, Modifications and/or Insulations presented in Appendix C of the Roads Management Plan. This is articulated further in the detailed outline of construction monitoring presented in Attachment 05 ( Proposed North Rail Monitoring Programs).                 | Unresolved                              | This information has not yet been incorporated into the relevant management plans.                                                           | It is not clear what remains outstanding in regard to incorporating all analytical water quality monitoring parameters. Baffinland included a recent draft update of the SWAEMP in the Updated Water Licence Application (Attachment 22) which identifies agreed upon water quality thresholds related to surface runoff.                                                                                                                                                                                                    |                                       |                          |
| 91       | QIA    | QIA 16.3              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-LAE                                                          | SWAEMP             | Describe how the proposed measures will mitigate the occurrence of an exceedance to water quality criteria.                                                                                                                                                                                                                                                                                                            | See the detailed outline of construction monitoring provided as Attachment 05 ( Proposed North Rail Monitoring Programs).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unresolved                              | This information has not yet been incorporated into the relevant management plans.                                                           | Since this original comment was received, Baffinland incorporated the referenced construction monitoring details previously presented as Attachment 05 of the 2019 Water Licence Application into Section 5 of the SWAEMP ( Attachment 23).                                                                                                                                                                                                                                                                                  |                                       |                          |
| 92       | QIA    | QIA 17.1              | Fish Passage Risk Assessment Update (KP Ref VA19-00838)                                                        | FAA Application    | Is Baffinland committed to completing these recommendations? If yes, when will the assessment and detailed design be shared for review and comment?                                                                                                                                                                                                                                                                    | Yes, Baffinland is committed to completing these recommendations. An assessment of the single high risk diversion will be undertaken in late August 2019, and site-specific modifications to the culvert design will be undertaken if appropriate following this assessment (i.e., through the fall of 2019). The resultant information will be presented in the application for an authorization under the Fisheries Act, to be prepared in late 2019 through early 2020. Baffinland can provide the QIA with this information once it has been developed. This is articulated in more detail on the construction monitoring outline provided as Attachment 05 ( Proposed North Rail Monitoring Program). | Deferred                                | Refer to TC 24 1.4.                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |                          |
| 93       | QIA    | QIA 18.1              | Fish Passage Risk Assessment Update (KP Ref VA19-00838)<br>190502 2AM-MRY1325 Amend2<br>Applic Att-27-AEMP-LAE | FAA Application    | Is Baffinland committed to completing these recommendations? If yes, when will the monitoring program be shared for review and comment?                                                                                                                                                                                                                                                                                | Yes, Baffinland is committed to completing these recommendations. An outline of the proposed fish passage monitoring program is presented in Attachment 05 ( Proposed North Rail Monitoring Programs). The resultant information will be presented in the application for an authorization under the Fisheries Act, to be prepared in late 2019 through early 2020. Baffinland can provide the QIA with this information once it has been                                                                                                                                                                                                                                                                  | Deferred                                | Refer to TC 24 1.4                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |                          |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                        | Subject Area       | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                       | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request                                                                                                     | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Intervenor Nov 12, 2021 Presentations | Baffinland Response Presentation |
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| 94       | QIA    | QIA 18.2              | Fish Passage Risk Assessment Update (KP Ref VA19-00838) 190502-2AM-MRY1325 Amend2 Applic-Att-27-AEMP-ILAE                                                                                 | FAA Application    | Given this statement can Baffinland explain why the North Railway did not cause greater changes to the AEMP? Please also consider the North Railway involved almost 400 stream crossing and 30 new quarries.                                                                                                      | The AEMP focuses on the assessment of long-term aquatic effects from multiple stressors within the Potential Development Area of the Mary River Mine. The Mary River Mine site is considered to be the worst case scenario for impacts to the aquatic environment, including fish passage and habitat quality, due to multiple sources including surface runoff, discharges and dust. Baffinland suggests the SWAEMP is more appropriate as the project effects in the Northern Transportation Corridor are associated with construction and the monitoring program will be short-term focusing on validating that fish passage has been maintained.                                                                                                                                        | Unresolved                              | This concern remains outstanding until triggers from the SWAEMP regarding the North Railway are captured in the AEMP.                                             | Baffinland stands by its original response. The Northern Corridor Monitoring Program (now forming part of the SWAEMP) was developed jointly with the QIA. Baffinland's Commitment #201 in the NIRB review is as follows:<br><i>Baffinland collects and reports data on fish presence, catch per unit effort, and fork length from 30-60 crossing sites along the Tate Road annually. Baffinland commits to adding observations regarding physical condition of fish (e.g., lesions, injuries, activity level). Baffinland and QIA will determine an appropriate approach to analysis and development of a metric for monitoring fish health for the 2022 reporting period. The program will be evaluated every three (3) years to determine if monitoring locations may be reduced due to no observations of project related-impacts.</i><br>This commitment will be incorporated into the SWAEMP (Attachment 22 of the Updated Application) presents the thresholds, actions and reporting requirements related to erosion and sedimentation project-wide including the railway. |                                       |                                  |
| 95       | QIA    | QIA 19.1              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm                                                                                                                       | SWAEMP             | These reports should be included in Baffinland's reporting to NWB.                                                                                                                                                                                                                                                | Observations of erosion and sedimentation may be identified during General or Component Inspections described in Section 5.2 of the Railway Operation and Maintenance Plan. As noted in Section 1.3 of the same Plan, water quality issues will be dealt with in accordance with the relevant plans including the EPP and SWAEMP, as with any other erosion and sedimentation issue on the Project.                                                                                                                                                                                                                                                                                                                                                                                         | Unresolved                              | This concern remains outstanding until reporting criteria inclusive of sedimentation monitoring is provided in the amended Water Licence.                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                                  |
| 96       | QIA    | QIA 19.2              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm                                                                                                                       | SWAEMP             | Provide the measures and what are the specific triggers to action them.                                                                                                                                                                                                                                           | Rail operations staff will report any erosional events that are or have the potential to cause the release of sediment into watercourses to the Environment Dept. This would be the triggering event. Any remedial measures will be implemented consistent with the SWAEMP. Aside from potentially elevated TSS above thresholds described in the Water Quality Monitoring outline for rail construction presented in Attachment 05 (Proposed North Rail Monitoring Programs). Monitoring and sampling of select water crossings in the Northern Transportation Corridor will also include a visual inspection of crossings to assess erosion and sedimentation events, consistent with the monitoring framework outlined in the Tate Road Monitoring Program in the Roads Management Plan. | Resolved                                |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                                  |
| 97       | QIA    | QIA 20.1              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm<br><br>2AM-MRY1325 Baffinland Iron Mines Revised Run of Mine Stockpile and Sedimentation Pond Issued For Construction | Rail O&M Mgmt Plan | This work should be completed and provided by Baffinland prior to any construction approvals for the North Railway deviation is provided.                                                                                                                                                                         | Further geotechnical investigations to confirm permafrost conditions along the North Railway deviation are planned in advance of construction, during winter 2019/2020. Any required updates to the Geotechnical Recommendations for Northern Railway report will be filed with the NWB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Deferred                                | Refer to TC 24 1.4                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                                  |
| 98       | QIA    | QIA 21.1              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm                                                                                                                       | Rail O&M Mgmt Plan | The Water Licence should require Baffinland to complete and report on embankment cut test sections. The reporting should describe how the results were included in final designs. This work should be completed and provided by Baffinland prior to any construction approvals for the North Railway is provided. | A report on embankment cut sections cannot be produced unless actual cuts have been constructed and condition monitoring has taken place during construction. Following the construction monitoring phase, long-term monitoring will be proposed based on the findings from the construction monitoring program. Embankment cut sections have been studied in the thermal analysis reports and these have been presented as part of the FEIS Addendum.                                                                                                                                                                                                                                                                                                                                      | Unresolved                              | This concern remains outstanding until further detail is provided in either the North Railway Monitoring Program or the mentioned drone-based monitoring program. | What is included in the amended Water Licence is the decision of the NWB. However, Baffinland suggests that a test embankment would inform engineering design, and that it is not relevant to regulatory reporting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                  |
| 99       | QIA    | QIA 22.1              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm                                                                                                                       | Rail O&M Mgmt Plan | Additional details regarding the frequency, and extent of the aerial assessments is requested.                                                                                                                                                                                                                    | Aerial Photostat imagery is already collected on an annual basis as agreed to with QIA. Aerial images from previous years will be compared with new images to identify areas of standing water which may indicate localized settlement has occurred.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unresolved                              | This concern is outstanding until reporting criteria inclusive of a satellite imagery assessment is provided in the amended Water Licence.                        | Aerial assessments or similar will form part of the Railway Monitoring Program, which will be incorporated into the relevant management plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |                                  |
| 100      | QIA    | QIA 22.2              | 190502-2AM-MRY1325-Amend2-SWAEMP Applic-Att-8.5-Rail-Geotech-Recomm                                                                                                                       | Rail O&M Mgmt Plan | A specific trigger for when additional insulation is required should be considered in the Water Licence.                                                                                                                                                                                                          | Triggers for when additional insulation or soil cover may be required will be determined after the completion of the construction monitoring phase, as no detailed site-specific information is currently available to make an accurate assessment of the potential triggers. Some triggers may relate to the safe operation of the rail line, such as excessive settlement (beyond what can be accommodated in the rail design) or cut slope failure as a result of freeze/thaw action within the active zone and changes to the local                                                                                                                                                                                                                                                     | Unresolved                              | This concern is outstanding until reporting criteria inclusive of a satellite imagery assessment is provided in the amended Water Licence.                        | This will form part of the Railway Monitoring Program, which will be incorporated into the relevant management plan. Baffinland suggests that the incorporation of geotechnical criteria is appropriate in the relevant management plan and not the licence.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                                  |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                     | Subject Area  | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Baffinland's Aug 2019 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                          | Intervenor Nov 12, 2021 Presentations | Baffinland Response Pres |
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| 102      | QIA    | QIA 23.1              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                                                 | SWAEMP        | Provide what monitoring would be conducted that could lead to mitigation measures.                                                                                                                                                                                                                                                                                                                                                                                                                                       | Further to the QIA's comment on the hydrological modelling completed in 2017 as presented in the FES Addendum (Appendix C of TSD 13), the railway design was updated. Ten diversions will now occur, and these were assessed with updated hydrological modelling, presented as Attachment 04 to this response (Fish Passage Risk Assessment of Water Crossings and Stream Diversions). Nine of the 10 stream diversions were assessed as low risk and the tenth stream diversion was assessed as medium risk. An outline of a proposed monitoring program is provided in Attachment 05 (Proposed North Rail Monitoring Programs).              | Unresolved                              | Refer to 8.1 and 10.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland has responded to QIA-8.1 and QIA-10.1.                                                                                                                                                                                                                                               |                                       |                          |
| 103      | QIA    | QIA 23.2              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                                                 | SWAEMP        | Provide the monitoring values that would trigger mitigation measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Monitoring will consist of visual inspections, survey transects and possibly TSS/turbidity monitoring if elevated TSS is observed as the result of erosion of the stream channel. The only numerical value that would trigger mitigation would be TSS above the thresholds identified in the Rail Monitoring memo provided in Attachment 05 (Proposed North Rail Monitoring Programs). Effects to stream morphology will be based on professional judgement with consideration of potential alteration of fish habitat.                                                                                                                        | Unresolved                              | Refer to 8.1 and 10.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland has responded to QIA-8.1 and QIA-10.1.                                                                                                                                                                                                                                               |                                       |                          |
| 104      | QIA    | QIA 23.3              | 190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                                                                                                 | SWAEMP        | Provide reasoning when monitoring and adaptive management would not be needed during and post construction.                                                                                                                                                                                                                                                                                                                                                                                                              | Monitoring will not be required following a full open water season (plus a preceding partial season, if applicable) indicates that the channel capacity is not being exceeded, subsidence or slope instability is not occurring, and if channel bed scour or sediment deposition is not occurring within what is judged to be normal limits. Proposed monitoring is described further in Attachment 05 (Proposed North Rail Monitoring Programs).                                                                                                                                                                                              | Unresolved                              | QIA is engaged with Baffinland in improving current adaptive management processes as part of a separate regulatory process. QIA will provide an update on this TC when available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Baffinland is prepared to continue to discuss this issue outside of the NWB process as indicated by the QIA.                                                                                                                                                                                    |                                       |                          |
| 105      | QIA    | QIA 24.1              | 190502 2AM-MRY1325 Amend2<br>Applic-Main-Rpt-ILAE                                                                                                                                                      | Water Licence | The NWB should develop a new Part of the amended Water Licence devoted to stream crossings, the construction of the North Railway, and subsequent reporting requirements. At a minimum this should consider the following:<br><br>24.1.1 - Environmental monitoring for construction<br><br>24.1.2 - Construction QA/QC programs for the North Railway<br><br>24.1.3 - In-field design change reporting<br><br>24.1.3 - North Railway As-Built reporting on time frequency basis<br><br>24.1.4 - A construction sequence | Baffinland suggests that this can be dealt with in Part D of the current licence, through the process of the NWB approving design drawings and reports, requiring the submission of as-builts with construction summary reports, and the implementation of mitigation measures and monitoring as described in the management plans approved under the Water Licence. Baffinland would be amenable to inclusion of water quality criteria for water crossings that consider the influence of background or upstream concentrations (i.e. natural conditions).                                                                                   | Unresolved                              | 24.1 Unresolved.<br>This TC remains unresolved until applicable reporting criteria are included.<br>24.1.1 Unresolved.<br>This concern remains outstanding until reporting criteria for monitoring during construction of the North Railway is included.<br>24.1.2 Unresolved.<br>This concern remains outstanding until quality control considerations of the North Railway are included in Part D, with inclusion of reporting criteria.<br>24.1.3 Unresolved.<br>This concern remains outstanding until reporting of in field design changes for construction of crossings along the North Railway are included in Part D.<br>24.1.4 Unresolved.<br>In addition to recommendation 24.1, it is requested that as-builts for sections of the North Railway are provided on a more frequent basis. | Baffinland stands by its August 2019 response to this technical comment. The current Type A Water Licence was issued for construction of the south railway with similar features. Hence, the current licence already contains the appropriate reporting criteria for construction of a railway. |                                       |                          |
| 106      | QIA    | QIA 24.2              | 190502 2AM-MRY1325 Amend2<br>Applic-Main-Rpt-ILAE                                                                                                                                                      | Water Licence | This new Part should also provide requirements for construction reporting.                                                                                                                                                                                                                                                                                                                                                                                                                                               | Construction reporting requirements are outlined in Part D, item 17 of the current Water Licence.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Unresolved                              | Refer to 24.1.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Baffinland has responded to Recommendation 24.1.4.                                                                                                                                                                                                                                              |                                       |                          |
| 107      | QIA    | QIA 24.3              | 190502 2AM-MRY1325 Amend2<br>Applic-Main-Rpt-ILAE                                                                                                                                                      | Water Licence | QIA is willing to work through the NWB process and review to support the development of draft terms and conditions.                                                                                                                                                                                                                                                                                                                                                                                                      | Baffinland is also open to discussing this further with the parties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Resolved                                | QIA is in agreement with Baffinland August 23, 2019 response.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                 |                                       |                          |
| 108      | QIA    | QIA 25.1              | 190502 2AM-MRY1325 Amend2<br>Applic Att-8.5-Rail-Geotech-<br>Recomm<br><br>190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE<br><br>08MIN053_BAF-PH1-830-P16-0022_railway-ops-maint-DRAFT-PHASE-2 | Water Licence | Provide a timeline for the completion of modelling, additional testing, final design, and final approval of the North Railway.                                                                                                                                                                                                                                                                                                                                                                                           | Thermal modelling have been completed and is provided in Attachments 8.4, 8.5, 8.9, 8.10 and 8.11 of the updated Application. Hydrological modelling is provided in Attachment 04 of this submission. Additional geotechnical testing will occur along the North Railway deviation in winter 2019/2020, and testing will continue through the construction phase. The final design has been completed and is shown on the plan and profile drawings in Attachments 11.1 to 11.3 of the updated Application. While this design is final and approved for construction, it is recognized that there may be local changes due to site conditions. | Resolved                                | QIA is of the understanding that Baffinland is now solely seeking approval for the construction of Route 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                 |                                       |                          |
| 109      | QIA    | QIA 25.2              | 190502 2AM-MRY1325 Amend2<br>Applic Att-8.5-Rail-Geotech-<br>Recomm<br><br>190506 2AM-MRY1325 Amend2<br>Applic Att-22-SWAEMP-ILAE                                                                      | Water Licence | Baffinland should be required to provide bi-weekly reports during the construction of the North Railway that outline any deviations from the approved construction drawings.                                                                                                                                                                                                                                                                                                                                             | Information on as-built deviations from the approved construction drawings will be provided in Construction Summary Reports to be prepared as required under Baffinland's 8395: Type 8495/AA/433; Water Licence.                                                                                                                                                                                                                                                                                                                                                                                                                               | Unresolved                              | Refer to 24.1.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Baffinland has responded to Recommendation 24.1.4.                                                                                                                                                                                                                                              |                                       |                          |



| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Subject Area     | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                    | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                | Intervenor Nov 12, 2021 Presentations | Baffinland's Response Pres |
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| 111      | QIA    | QIA-26.1              | <ul style="list-style-type: none"> <li>190502 2AM-MRY1325 Amend2 Applic Att-2-Applic-ILAE</li> <li>190502 2AM-MRY1325 Amend2 Applic-Main-Rpt-ILAE</li> <li>Nunavut Water Board SIGs</li> <li>190502 2AM-MRY1325 Amend2 Applic-Att-3.2-SIG-Concord-ILAE</li> <li>Nunavut Water Board, 2004, "Draft Guide for Community Consultation and Public Participation". [NWB FTP Site]</li> <li>190823 2AM-MRY1325-mrp2-BIM-Tech-Comment-Responses</li> <li>FEIS Addendum TSD 04 Public Consultation</li> </ul> | IQ               | Please describe all community and other meetings where water and/or the water licence amendment were a central topic of discussion. Please also include copies of any plain language materials on the Water Licence Amendment provided at those meetings.                      |                                | Unresolved                              | <p>Relevant activities related to this topic that have occurred in the interim include:</p> <ul style="list-style-type: none"> <li>QIA has been working with Pond Inlet on an IQ study on Inuit water values in relation to the Mary River Project. This work is being funded by Baffinland. An update on the status of this work and its implications for the water licensing process can be provided at the technical meeting on November 12, 2021.</li> <li>QIA has also initiated work to develop Inuit OITR's and a Culture, Resources and Land Use Monitoring Program.</li> <li>QIA notes that Baffinland is now committed to Route 3 for the North Railway and provides more information on this in its updated Water Licence filings. In the Main Report, at pg. 7 of 65, Baffinland states that the shift to Route 3 was "in response to community feedback". It is not clear what community feedback this was or the status of Inuit parties' support for Route 3. Nor is it clear from the updated filings what IQ has informed this choice and what remaining Inuit concerns there are related to the routing of the North Railway.</li> </ul> | The scope of the water licence amendment is included within the NIRB review, which has involved substantial community engagement. Baffinland has also conducted additional community engagement outside of the formal NIRB process. Water-related feedback is presented in Appendix 1.                                                                                                                                                                                |                                       |                            |
| 112      | QIA    | QIA-26.2              | <ul style="list-style-type: none"> <li>190502 2AM-MRY1325 Amend2 Applic Att-2-Applic-ILAE</li> <li>190502 2AM-MRY1325 Amend2 Applic-Main-Rpt-ILAE</li> <li>Nunavut Water Board SIGs</li> <li>190502 2AM-MRY1325 Amend2 Applic-Att-3.2-SIG-Concord-ILAE</li> <li>Nunavut Water Board, 2004, "Draft Guide for Community Consultation and Public Participation". [NWB FTP Site]</li> <li>190823 2AM-MRY1325-mrp2-BIM-Tech-Comment-Responses</li> <li>FEIS Addendum TSD 04 Public Consultation</li> </ul> | Inuit engagement | As required by the SIGs, please list all Inuit concerns to date associated with water and how BIMC intends to mitigate those concerns.                                                                                                                                         |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                            |
| 113      | QIA    | QIA-26.2a             | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Inuit engagement | Baffinland to provide an updated list of all Inuit concerns to date associated with water, including from the Tusaqtaut reports for the five impacted communities, Inuit submissions on the public record for the NIRB Phase 2 process, and from the NIRB hearing transcripts. |                                | Supplemental                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | A summary of Inuit concerns expressed to date and Baffinland's commitments regarding water from the NIRB review process is presented as Appendix 1. The concerns raised in the Tusaqtaut studies were consistent with those documented during the NIRB review.                                                                                                                                                                                                        |                                       |                            |
| 114      | QIA    | QIA-26.3              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Inuit engagement | Please describe any forthcoming opportunities provided by BIMC for Inuit communities to provide comment and raise their concerns on Water Licence Amendment changes.                                                                                                           |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | The NIRB review has and continues to provide Inuit communities with the opportunity to comment on the Phase 2 Proposal including water. The NWB has invited Inuit community representatives to attend the November 12, 2021 technical meetings. If additional focused engagement is requested at that time Baffinland will work with the community representatives to schedule additional meetings related to water. Baffinland notes that ongoing work to collect IQ |                                       |                            |



| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Subject Area     | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation /Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Intervenor Nov 12, 2021 Presentations | Baffinland Response Presentation |
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| 115      | QIA    | QIA-26.4              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Inuit engagement | Baffinland commit to expedite work with QIA and Inuit communities to identify additional water-related values data collection, monitoring, thresholds of acceptable change, and adaptive management mechanisms.                                                                                                                                                                                                                                                                                                    |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Baffinland agrees to this commitment. Baffinland has funded the QIA-led freshwater IQ studies currently underway. Additionally, the QIA will be working with the communities to develop Inuit Objectives, Indicators, Thresholds and Responses (OITRs) that Baffinland has committed to incorporating into its water-related management plans.<br><br>Commitment: Baffinland commits to incorporating Inuit Objectives, Indicators, Thresholds and Responses (OITRs) into its water-related management plans. |                                       |                                  |
| 116      | QIA    | QIA-26.5              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Inuit engagement | Baffinland to provide more information on remaining Inuit concerns with the proposed Route 3 for the Northern Railway, how IQ informed Baffinland's move to prefer Route 3, and what form of verification of Route 3 as a preferred route for Inuit has been completed by Baffinland.                                                                                                                                                                                                                              |                                | Supplemental                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Baffinland maintains that questions on the routing of the North Railway are outside the scope of the NWRB review. This question has already been discussed in detail and is being addressed in the NWRB review.                                                                                                                                                                                                                                                                                               |                                       |                                  |
| 117      | QIA    | QIA-27.1              | <ul style="list-style-type: none"><li>190506 2AM-MRY1325 Amend2 Applic Att-22-SWAEMP-ILAE</li><li>190502 2AM-MRY1325 Amend2 Applic-Main-Rpt-ILAE</li><li>190502 2AM-MRY1325 Amend2 Applic-Att-23-FWSWMP Part1-LAE</li><li>190502 2AM-MRY1325 Amend2 Applic-Att-27-AEMP-Part1-LAE</li><li>Knight Plesold, November 2018. "Mary River Project – Fresh Waterbodies with Unique Value and/or Cultural Significance to Inuit", (filed on the NRB Mary River Project Phase 2 EA public record by Baffinland in response to Health Canada Technical Comments, as HC 02 Attachment 2 from the Advance Technical Comment Submission (Jan 2019)).</li><li>190823-2AM-MRY1325-mrp2-BIM-Tech-Comment-Responses</li><li>Appendix C Water Take Assessment IN FEIS Addendum TSD 13 Surface Water Assessment, Pages 113 to 124 of</li></ul> | IQ               | The Proponent is requested to commit to expedite work with affected communities to develop and implement baseline data collection including on the ground studies for Inuit Water Values, Water Use, and Identification of Waterbodies of heightened importance.                                                                                                                                                                                                                                                   |                                | Unresolved                              | <p>Relevant activities related to this topic that have occurred in the interim include:</p> <ul style="list-style-type: none"><li>QIA has completed an additional Tusaqtaut IQ study with the communities of Arctic Bay and Clyde River, and filed this work on the public record with NRB in the summer of 2021. This work was funded by Baffinland.</li><li>QIA is working with the community of Pond Inlet to complete a study on IQ on and use of freshwater resources in the area impacted by the Mary River Project. This work has been funded by Baffinland. QIA will be available to provide an update on the status of this work and its implications for the water licensing process at the technical meeting on November 12, 2021.</li></ul> <p>Baffinland provides information in its updated Water Licence filings for each proposed water withdrawal location. However, it is not clear what IQ and Inuit perspectives has informed this work. It is important to determine whether any of the proposed water withdrawal sources and amounts are an issue from an Inuit water use and values perspective. For example, at pg. 22 of 25 of Part 1 of the Water Withdrawal Plan, Baffinland notes "Regarding the extraction of water from lakes during the open water season, the FEIS identified the reduction in lake outflow of 10% as a commonly applied threshold value (FEIS Volume 7, Page 19; Baffinland, 2012)." It is</p> | Baffinland is not aware of any Inuit concerns regarding the proposed water withdrawal stations. Baffinland has funded a QIA-led study that is currently underway to collect this information. Impacts to Inuit water use that are identified can be addressed by the new Water Compensation Agreement.                                                                                                                                                                                                        |                                       |                                  |
| 118      | QIA    | QIA-27.2              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IQ               | The Proponent is requested to provide further detail on:<br>a. How IQ related to water use and water values was recorded from Inuit community members during any IQ data collection for the Project.<br>b. How IQ related to water use and water values will be integrated into the Project management systems prior to conclusion of the Water Licensing process.<br>c. How IQ related to water use and water values will be integrated into the Project management systems if the Phase 2 amendment is approved. |                                | Unresolved                              | <p>See QIA's updated comment above, relevant to both QIA-27.1 and QIA-27.2.</p> <p>Appendix 2 of this response is a report that Baffinland provided previously to the QIA in support of Water Compensation Agreement negotiations for Phase 2. This report summarized the information collected during Baffinland's earlier IQ studies and identifies the 20 questions used to collect this information.<br/><br/>An important distinction of Baffinland's earlier IQ study was that information was sought on Inuit knowledge and land use within each community's entire land use area. This helped Baffinland understand the relative importance of different areas to Inuit land use, a perspective not gained by studies that focus on a specific area.<br/><br/>Response to b and c.<br/><br/>Baffinland has provided the QIA with funding to support the QIA's supplemental IQ studies, described in other responses. This information will be used to inform a new Water Compensation Agreement, and will also be used to develop Inuit Objectives, Indicators, Thresholds and Responses (OITRs) that will be integrated into Baffinland's management plans. For almost two years, Baffinland has been revising and incorporating the QIA's feedback on its draft Phase 2 management</p>                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                  |

| Item No. | Agency | Technical Comment ID# | Document Reference | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Intervenor Nov 12, 2021 Presentations | Baffinland Response Pres |
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| 119      | QIA    | QIA-27.3              | Same as above      | IQ           | Baffinland is requested to update whether it has identified any waterbodies of heightened importance to Inuit in the Regional Study Area for the Mary River Project, and if so:<br>i. provide details about those waterbodies and why they are considered of heightened importance to Inuit, and<br>ii. identify what additional monitoring and mitigation measures Baffinland commits to put in place around waterbodies of heightened importance.<br><br>Data sources that are available to Baffinland include its engagement with Inuit parties, the results of the Tusadavut studies with all five impacted communities, through oral submissions at the technical meetings and hearings for the Mary River Phase 2 Project, and submissions on the public record by Inuit parties.                                                                                                                                                      |                                | Supplemental                            |                                                                | Baffinland has identified waterbodies of heightened importance within the Regional Study Area as described by RP (2018) in Appendix 2. This includes the Robertson River / Qurluktuk located northwest of Mine Port, the Tugaat River located east of Mine Port, and the Ikaluut River at the head of Tay Sound. Each of these waterbodies are used to harvest sea-run arctic char. Each of these waterbodies are removed from the Project. Aquatic studies were planned at each of these three waterbodies in 2021 in fulfillment of Project Certificate condition 48a. The 2021 field programs were successfully completed in Qurluktuk and Tugaat systems, but the studies in Ikaluut River were not completed as proposed due to inclement weather preventing access. Results from these studies will be shared with the MHTO. The results of these studies and the QIA's Culture, Resources and Land Use (CRLU) studies currently underway could yield additional waterbodies of heightened importance and will help to identify potential impacts and mitigation measures. The CRLU studies are the assumed responsibility of QIA, with funding provided by Baffinland.                                                                                                                                                                                                                                                                     |                                       |                          |
| 120      | QIA    | QIA-27.4              | Same as above      | IQ           | Baffinland to identify whether and how IQ and Inuit perspectives were integrated into the siting of quarries, laydown areas, water withdrawal points and amounts, and water crossings associated with the Phase 2 construction and operations, including provision of evidence that Inuit were asked about their concerns and values related to each location currently proposed for each of the above infrastructure-related physical works and activities noted in this technical Comment.<br><br>a. In relation to water withdrawals as identified in Baffinland's updated filings, including dust suppression water sources, Baffinland is requested to identify what role Inuit and IQ played in site characterization, what have Inuit said about where it is appropriate to withdraw water from and how much, where, when and under what conditions it is acceptable to do so, and how this has been included in the updated filings. |                                | Supplemental                            |                                                                | The siting of the railway is first and foremost influenced by its proximity to the Tote Road (to minimize the overall footprint), also considering geotechnical conditions, Inuit feedback on overall routing, and the absence of archaeological sites of high cultural significance. Bridge and other crossing locations are dictated in large part by permafrost conditions and the rail routing, and repositioning crossings to avoid areas results in a cascade of changes in the alignment in either direction. Because of grade limitations and turning radius constraints, the routing of a railway is much more complicated and constrained than a road. The construction of crossings for wildlife and snowmobiles, for example, has resulted in a wider embankment with a larger footprint and longer culverts that can present an issue for fish passage. There are a number of trade-offs that need to be balanced in siting the railway.<br><br>Baffinland has spoken to these constraints in both the Phase 2 EIS documentation and at technical meetings and hearings. Routing alternatives including Inuit feedback on routing have been covered extensively in the NRB review, and such alternatives are considered at the environmental assessment stage, not during licensing.<br><br>More minor features such as quarries and laydown areas were sited based on the availability of suitable rock or ground, proximity to the |                                       |                          |
| 121      | QIA    | QIA-27.5              | Same as above      | IQ           | Baffinland to identify any evidence it has of Inuit verification of fish bearing vs. non fish-bearing waterbodies, and marginal vs. important habitat, as presented by Baffinland in its updated Water Licence filings.<br><br>a. Baffinland to identify what role IQ and Inuit played in the North Railway Freshwater Habitat Survey, 2018.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                | Supplemental                            |                                                                | IQ collected by Baffinland identified the Phillips Creek watershed, mine site area lakes and the upper part of the Ravn River as containing only land-locked populations of arctic char. Important sea-run lakes that are outside of the immediate Project footprint (i.e., Qurluktuk, Tugaat and Ikaluut) were also identified. Our understanding of what Inuit consider important vs. unimportant fish habitat mainly relates to waterbodies containing sea-run char (important) vs. land-locked char (less important but not unimportant). Inuit were not involved in the 2018 fisheries surveys unfortunately. However, Inuit participated in the 2019 and 2021 field program. Baffinland is pleased to say that one of the Inuit field assistants involved in the 2021 field program is now working fulltime based in Winnipeg for the consultancy that completed the fisheries work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                          |

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| 122      | QIA    | QIA-28.1              | Same as above      | IQ           | The Proponent, in consultation with QIA and the affected Inuit communities, to work with Inuit and provide funding to develop additions to the current water management and monitoring system that include Inuit identified indicators or thresholds for use, water quality, quantity or flow, including any experiential indicators identified by Inuit as important.                                                                                                                                                                                                                                                                                                  |                                | Unresolved                              | Relevant activities related to this topic that have occurred in the interim include:<br><ul style="list-style-type: none"> <li>The completion of a Tusaqavut study with two additional communities, Clyde River and Arctic Bay, with identification of additional values related to and impacts on freshwater and fishing from the perspectives of these two communities.</li> <li>Data collection and identification of initial impact pathways on freshwater and fishing by QIA for the ongoing Culture, Resources and Land Use (CRLU) Assessment, using data from the five communities' Tusaqavut reports.</li> <li>Baffinland's FEIS Addendum, NIRB transcripts, and Inuit parties' submissions on the public record. Notwithstanding that it is primarily the developer's responsibility to do this work, QIA will be prepared to provide an update to the NWB on impact pathways associated with freshwater and fishing at the forthcoming technical meeting.</li> <li>QIA worked with Pond Inlet community members in an ongoing IQ Water Values Study. This work, funded by Baffinland, will be an important contribution to TC 28.1 above. QIA will be prepared to provide an update on the implications of and timing for completion of this work at the forthcoming technical meeting.</li> <li>QIA notes that while Tusaqavut studies for each of the five impacted communities have</li> </ul> <p>Same as above</p> | Baffinland reviewed and considered the Tusaqavut studies during the NIRB review process. Baffinland has provided funding to the QIA to complete freshwater-specific IQ studies. The intent of the study was to gather information from Inuit about where and how to monitor water, and what actions should be taken to protect the freshwater environment. It is Baffinland's understanding this work has since been completed by the QIA with the community of Pond Inlet in October 2021. A verification workshop on this study will be held in late November 2021. It is expected that a final report will be completed in December 2021.                                                                                                                                                                                                                                |                                       |                          |
| 123      | QIA    | QIA-28.2              | Same as above      | IQ           | The Proponent, in consultation with QIA and the affected Inuit communities, to identify ways in which the ongoing assessment of Project Effects on Inuit Water Use and water quality, quantity and flow on Inuit Owned Lands can be conducted through an Inuit/IQ enriched lens.                                                                                                                                                                                                                                                                                                                                                                                        |                                | Unresolved                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | To date, Baffinland has undertaken extensive work to collect IQ on freshwater resource. These efforts, and the outcomes of IQ studies is documented in TSD-05. The QIA's own Tusaqavut studies were reviewed and considered during the course of the NIRB review. Additionally, as the QIA is aware, Baffinland has provided funding to the QIA to complete freshwater-specific IQ studies. The intent of the study was to gather information from Inuit about where and how to monitor water, and what actions should be taken to protect the freshwater environment. It is Baffinland's understanding this work has since been completed by the QIA with the community of Pond Inlet in October 2021. A verification workshop on this study will be held in late November 2021. It is expected that a final report will be completed in December 2021.                    |                                       |                          |
| 124      | QIA    | QIA28.3               | Same as above      | IQ           | Baffinland to provide a supplemental filing prior to the technical meeting, identifying all existing and potential Phase 2 impact pathways from the Mary River Project on Inuit water values and associated Inuit rights, and what Baffinland mitigation and monitoring commitments should be applied to those impact pathways. All of the data sources on the NIRB process public record, including those referred to above, should be considered by Baffinland in developing this list of impact pathways.<br>a. In addition, Baffinland should provide any evidence it has of Inuit verification of Baffinland's findings regarding likely Phase 2 impacts on water. |                                | Supplemental                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Baffinland has provided impact pathway breakdowns for all valued components identified in the Tusaqavut Study, which includes fish and freshwater (refer to Appendix 3). These breakdowns have been considered with the development of the impact pathway database. Additionally, as the QIA is aware, Baffinland has provided funding to the QIA to complete freshwater-specific IQ studies. As QIA outlined, the intent of the study was to gather information from Inuit about where and how to monitor water, and what actions should be taken to protect the freshwater environment. It is Baffinland's understanding this work has since been completed by the QIA with the community of Pond Inlet in October 2021. A verification workshop on this study will be held in late November 2021. It is expected that a final report will be completed in December 2021. |                                       |                          |

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| 126      | QIA    | QIA-29.2              | Same as above                                                                                                                                                                                                                                                         | IQ           | Describe any future opportunities for IQ to inform revisions to the Snow Management Plan, and how consultation with QIA and the affected Inuit communities has informed these revisions.                                                                                                                                                                                                                                          |                                | Unresolved                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The Snow Management Plan is not currently required under the Water License, and was developed at the QIA's request, to address acknowledged runoff quality issues associated with snow stockpiles.<br><br>The Snow Management Plan in its current form (with adaptive management and a trigger action response plan) was first provided to the QIA for review in mid-2020, and one round of comments have been incorporated in the latest version provided to the QIA in October 2021. Baffinland will continue to work with the QIA to refine this plan over time, as part of the Commercial Lease. This includes incorporating any IQ identified as relevant to snow management collected by the QIA.                                                                                  |                                       |                          |
| 127      | QIA    | QIA-30.1              | <ul style="list-style-type: none"> <li>190502 2AM-MRY1325 Amend2 Applic-Mais-Ror-LIAE</li> <li>190502 2AM-MRY1325 Amend3 Applic-AH-27-AEMP</li> <li>190502 2AM-MRY1325 Amend2 Applic-AH-28-EPP</li> <li>190823-2AM-MRY1325-mrp2-BIM-Tech-Comment-Responses</li> </ul> | IQ           | Describe how IQ has informed aquatic monitoring programs and recent revisions to relevant monitoring and management plans.                                                                                                                                                                                                                                                                                                        |                                | QIA-30.1 to 30.4 Unresolved             | <p>Relevant activities related to this topic that have occurred in the interim include:</p> <ul style="list-style-type: none"> <li>QIA worked with Pond Inlet community members in an ongoing IQ Water Values Study. This work, funded by Baffinland, will be an important contribution to IC 30.2 above. QIA will be prepared to provide an update on the implications of and timing for completion of this work at the forthcoming technical meeting.</li> </ul> <p>QIA notes that Section 6.0 through 6.3 of the Main Report ("General and Aquatic Effects Monitoring – Part 1") does not refer at all to the Inuit Stewardship Plan, Inuit-led water quality monitoring, or the Inuit-led Culture, Resources and Land Use Monitoring Program. This seems like a major gap in the description of the committed-to monitoring program, given the almost total absence of Inuit-led monitoring under the current Mary River Project monitoring system.</p> | <p>Baffinland has agreed to incorporate Inuit Objectives, Indicators, Thresholds and Responses (OITRS) into its management plans including the AEMP as per the QIA's request. This process is still ongoing, and Baffinland awaits additional Inuit input into these plans.</p> <p>Baffinland shared a draft copy of the amendment application on April 14, 2021. QIA did not provide any comments before the draft was finalized and submitted on September 17, 2021. Baffinland suggests that QIA is best positioned to describe how Inuit led monitoring programs to be led by QIA should be considered by the NWB. Baffinland will work with the QIA to ensure these monitoring programs are understood and represented in an amended Water License prior to the Public Hearing.</p> |                                       |                          |
| 128      | QIA    | QIA-30.2              | Same as above                                                                                                                                                                                                                                                         | IQ           | Commit to working with QIA and the affected Inuit communities to identify opportunities for Water-specific IQ studies and monitoring programs including how Inuit monitors and Inuit observational criteria will be used in Project-related monitoring activities.                                                                                                                                                                |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | This is a comment provided on October 25, 2019 that wasn't responded to previously. Baffinland has made this commitment through the ICA, and the QIA is actively working to engage the communities on water-specific IQ studies and monitoring programs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                          |
| 129      | QIA    | QIA-30.3              | Same as above                                                                                                                                                                                                                                                         | IQ           | Provide further information on what role the Proponent is committed to having Inuit play in developing priority SNP site locations and related monitoring activities.                                                                                                                                                                                                                                                             |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland believes the Inuit Stewardship Plan under the ICA provides the mechanism to engage Inuit on monitoring. The SNP program, however, is dictated by the NWA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |                          |
| 130      | QIA    | QIA-30.4              | Same as above                                                                                                                                                                                                                                                         | IQ           | Provide further information on how data collected by Inuit and through water monitoring overall will be integrated into the Proponent's committed to Culture, Resources, and Land Use (CRLU) Monitoring Program for the Project, and what role is envisioned for the Proponent's committed to Inuit Committee/Inuit Panel for the Project, in relation to water planning, effects assessment, monitoring and adaptive management. |                                |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Baffinland believes the process for accomplishing this has been outlined in the Inuit Certainty Agreement that has been negotiated with the QIA. Baffinland is aware that the QIA has made good progress on the CRLU study and monitoring program.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |
| 131      | QIA    | QIA-30.5              | Same as above                                                                                                                                                                                                                                                         | IQ           | Baffinland to identify whether it is formally committed to support the development of an Inuit-led water quality monitoring program in the Mary River area.                                                                                                                                                                                                                                                                       |                                | Supplemental                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Under Phase 2, an Inuit-led water quality monitoring program is covered in Section 17.1.3 of ESR-2019-17, 464-474 (CA, 9-464-1067).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                          |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                       | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Intervenor Nov 12, 2021 Presentations | Baffinland Response Pres |
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| 132      | QIA    | QIA-31.1              | NIRB document 210203-08MIN053-QIA Inuit Certainty Agreement-IAAE                                                         | IQ           | Baffinland to provide for its existing monitoring programs in place, either the average annual costs of its overall monitoring program and the proportion of that which goes to Inuit-led, IQ-driven monitoring, at present; or, if Baffinland deems this financial data to be proprietary, the proportion of average annual monitoring expenditures that go to technical, scientific monitoring works and activities, and Inuit-led, IQ-driven monitoring works and activities, respectively, at present. |                                | New                                     |                                                                | Baffinland's position is that there is already a path forward for resolution of this item through the ICA for Phase 2. This information is not required to evaluate the Updated Water Licence Application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                          |
| 133      | QIA    | QIA-31.2              | Same as above                                                                                                            | IQ           | Baffinland to provide its expectations for what proportion of its monitoring expenditures will be for technical, scientific monitoring works and activities, and Inuit-led, IQ-driven monitoring works and activities, respectively. Should Phase 2 proceed, given new committed-to programs.                                                                                                                                                                                                              |                                | New                                     |                                                                | As described in Section 1 of the Inuit Certainty Agreement, Inuit-led monitoring of the Phase 2 Project will be managed under the Inuit Stewardship Plan (ISP), to be authored by QIA. The proportion of technical/scientific monitoring to Inuit-led monitoring initiatives in the future will depend on the scope of activities put forth in the ISP, and while Baffinland will provide input into the development of this plan, and has committed to fund the ISP for the life of the Mary River Project, it would not be appropriate for Baffinland to prescribe the scope of monitoring to be undertaken under the ISP. Baffinland is committed to implementing both technical/scientific monitoring works and activities, as well as Inuit-led, IQ-driven monitoring works for the Mary River Project and will continue to work with QIA on these initiatives, however Baffinland considers this to be outside the scope of the NWB process. |                                       |                          |
| 134      | QIA    | QIA-32.1              | 210917-2AM-MRY1325-Amend2-IAAE<br>Applic-Att-3.2-SIG-Concord-IAAE                                                        | IQ           | Baffinland provide an update or supplemental filing to TSD-01 that provides its current comparison of all technically and economically feasible alternative means to transport ore to Milne Port, including alternative rail routes, which should be altered from the 2018 TSD given that additional information has come forward in the interim.                                                                                                                                                          |                                | New                                     |                                                                | Alternatives assessment is a key focus of the NIRB review, not water licensing. It should be noted that everything in the public record in the NIRB review process relating to alternatives builds on TSD-01; it is not necessary to update the document.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |                          |
| 135      | QIA    | QIA-32.2              | Same as above                                                                                                            | IQ           | Baffinland provide an update on the position of Inuit parties in relation to Route 3 to the NWB, and results of all engagement meetings on this topic to date.                                                                                                                                                                                                                                                                                                                                             |                                | New                                     |                                                                | Alternatives assessment, including rail routing, has been a subject area discussed at length in the NIRB review, and is available on NIRB's public registry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                          |
| 136      | QIA    | QIA-33.1              | • 210923-2AM-MRY1325-Amend2-Applic-Att-30-ICRP-PI3oF3-IAAE<br>• 210923-2AM-MRY1325-Amend2-Applic-Att-30-ICRP-PI3oF3-IAAE | ICRP         | Baffinland to provide a supplemental filing indicating where it has integrated prior input from QIA and any other Inuit party into revisions to the Interim Closure and Reclamation Plan.                                                                                                                                                                                                                                                                                                                  |                                | New                                     |                                                                | Baffinland will provide a supplemental filing (concordance table) with the next revision of the ICRP that identifies how and where the QIA's previous comments on the ICRP have been considered. The next revision of the ICRP and the supplemental filing will be provided before the NWB public hearing.<br>Commitment: A supplemental filing will be provided with the next revision of the ICRP that identifies how and where the QIA's previous comments on the ICRP have been considered.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                          |
| 137      | QIA    | QIA-33.2              | Same as above                                                                                                            | ICRP         | Baffinland to identify whether Inuit parties and IQ have played any role in the development of the residual effects characterization methodology used in Appendix G, and/or have verified the findings in Appendix G.                                                                                                                                                                                                                                                                                      |                                | New                                     |                                                                | Appendix G includes excerpts from the FEIS, which incorporated Q and the results of Inuit engagement. The methodology for community-based research undertaken for the FEIS is presented as Appendix 2B, and the public consultation report is Appendix 2C. Collected IQ was presented throughout the various FEIS volumes.<br>This question is not relevant to water licensing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                          |
| 138      | QIA    | QIA-33.3              | Same as above                                                                                                            | ICRP         | Baffinland to identify any plans it has to engage Inuit parties moving forward in the steps outlined in #2 above.                                                                                                                                                                                                                                                                                                                                                                                          |                                | New                                     |                                                                | The Nunavut Impact Review Board process for the review of the Phase 2 Proposal has provided, and continues to provide opportunities for Inuit to share input on the residual effects characterization methodology and the findings of the environmental assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                          |

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| 140      | QIA    | QIA-35.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P1E-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 2.1 Objectives</li> <li>Table 2.1 Objectives and Performance Indicators page 11 of 109</li> </ul>                                                                                                | SWAEMP                          | It is recommended that Baffinland include discharge in the list of performance indicators for the mitigation of potential impacts to water, the protection of aquatic ecosystems and maintaining receiving environment water quality.     |                                | New                                     |                                                                | <p>Discharge volumes from surface water management ponds are recorded in accordance with Water Licence requirements and this allows for Baffinland or reviewers to determine mass loadings as referenced.</p> <p>Baffinland does not consider discharge volume to be a useful performance indicator as the volumes of effluent discharged from surface water management ponds are a function of the amount of runoff reporting to these facilities, which is largely dependent on precipitation levels which are out of Baffinland's control. The effluent is discharged in accordance with Baffinland's management plans governed under the Water Licence.</p> <p>The priority is to place soil spoils in borrow pits along the Tote Road and exhausted quarries adjacent the railway. Section 4.9 of the Updated Application discusses the volumes of soil spoils requiring disposal in relation to the available space in quarries. It is expected that all the soil spoils generated along the railway (estimated to be 1.8 Mm3) can be placed in borrow pits and quarries (available capacity ~5.5 Mm3). Therefore, there is more than enough capacity available with contingencies. This approach will reduce the use of dedicated disposal sites that would occupy additional land.</p> <p>Soil spoils disposal areas will be constructed for closure and will naturally revegetate. Future access will not be required.</p> | The QIA is requesting a volume threshold be established for each pond, and that measures to address the inadequacy of the pond be identified. The required pump-out is specified by the design and construction notification request for that structure. | Pres                |
| 141      | QIA    | QIA-36.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P1E-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 2.4.4 Preventative Design Measures for Ground Disturbances.</li> <li>Table 2.4 Comparison of Soil Spoils Volumes with Available Capacities at Borrow Pits and Quarries Page 19 of 109</li> </ul> | SWAEMP                          | Indicate where additional storage will be provided and the volume of extra storage available in the event that estimates of spoils generated are greater than anticipated or volume of available storage is underutilized.                |                                | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                     |
| 142      | QIA    | QIA-36.2              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                            | SWAEMP                          | Clarify if spoils will be stored in such a way as to permit access to promote revegetation at closure.                                                                                                                                    |                                | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                          |                     |
| 143      | QIA    | QIA-37.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P1E-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 3.3.7 Working Near Waters page 30 of 109 and</li> <li>Section 3.3.4 Quarries page 44 of 109</li> <li>Section 5.1 Monitoring During Construction page</li> </ul>                                  | SWAEMP                          | Baffinland develop and implement a monitoring program for all stages of the project including background, construction and operational monitoring and provide a parameter list that is indicative of all potential parameters of concern. |                                | New                                     |                                                                | <p>Reference to contractors developing general construction monitoring procedures in no way relinquishes Baffinland's responsibilities for environmental compliance. Contractors will be required to develop their own procedures and processes to meet the requirements of the Water Licence, legislation and Baffinland's own management plans (which are approved under the Water Licence).</p> <p>The QIA stated, "all components of the aquatic environment monitoring program and Surveillance Network Program (SNP) must be presented for each stage of the project." Not all components of the Project at all stages will form part of the SNP. Temporary construction fronts are an example of this, and why the terminology is included in the management plans.</p> <p>The QIA requested, "Baffinland develop and implement a monitoring program for all stages of the project including background, construction and operational monitoring and provide a parameter list that is indicative of all potential parameters of concern." This monitoring program exists in the form of the Water Licence which includes the SNP, the AEMP and other monitoring programs. These programs and management plans have been in place since 2013, and thus do not require development.</p>                                                                                                                                        | It is recommended that Baffinland commit to submitting the monitoring plans for these temporary construction fronts 90 days prior to the start of construction for review and approval inclusive of QIA.                                                 |                     |
| 144      | QIA    | QIA-38.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P1E-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 3.3.3.2 Fish Protection</li> </ul>                                                                                                                                                               | Borrow Pit and Quarry Mgmt Plan | Baffinland clarify the criteria they will use to determine if quarries have the "potential" for acid rock drainage or metal leaching.                                                                                                     |                                | New                                     |                                                                | <p>Thresholds for acid rock drainage and metal leaching are presented in Table 3.1 of the Borrow Pit and Quarry Management Plan (Attachment 26).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                          |                     |
| 145      | QIA    | QIA-38.2              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                            | Borrow Pit and Quarry Mgmt Plan | Baffinland should also describe what measures will be used to prevent and manage ARD/ML at source so that the integrity of vegetation in the 100m buffer is not damaged.                                                                  |                                | New                                     |                                                                | <p>The first preventative measure is regular testing of rock in quarries against the ARD/ML testing thresholds in Table 3.1 of the Borrow Pit and Quarry Management Plan (Attachment 26). Based on testing of quarry rock along the railway to BCW of a 10,000 BCM blast) will be tracked as to the location of its final placement." This management strategy does not indicate how ARD/ML at the source will be managed to ensure the integrity of vegetation in the 100m buffer is not damaged. We reiterate the request for Baffinland to describe what measures will be used to prevent and manage ARD/ML at source so that the integrity of vegetation in the 100m buffer is not damaged.</p> <p>Use of the Tote Road Monitoring program is not considered appropriate for baseline data use as it is not representative of water quality as a result of Tote Road related effects. DS</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                          |                     |
| 146      | QIA    | QIA-39.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan</li> </ul>                                                                                                                                                                                                                                                                                                | SWAEMP                          | It is recommended that the table and monitoring programs be updated to include: <ul style="list-style-type: none"> <li>A defined period of record that will be used as</li> </ul>                                                         |                                | New                                     |                                                                | <p>Baseline data for monitoring is presented in the FEIS as well as the AEMP. Baffinland has accumulated baseline (pre-rail construction).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                          |                     |



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| 147      | QIA    | QIA-39.2              | Same as above                                                                                                                                                                                                                                                                                                 | SWAEMP       | Dates or timelines to determine when each phase is expected to take place to understand how much data will be collected for each phase of the mine.<br>A definition of the "post-construction verification phase" and how it differentiates from the operations phase                                                                                                                                                                                                          |                                | New                                     |                                                                | Baffinland is in Year 7 of operations, and the management plans reflect this. It is not clear what the QIA is requesting in terms of dates or timelines when each phase is expected to take place. The mine is currently operating, and will temporarily enter a combined construction phase (Phase 2 construction) while the mine continues to operate. Baseline water quality monitoring began at the site in 2004 and has been ongoing through implementation of the existing Water Licence SNP program and the various other monitoring programs since 2013.<br>Post-construction verification specifically refers to the period immediately following completion of construction of a given project component (i.e., water crossing).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                               |
| 148      | QIA    | QIA-39.3              | Same as above                                                                                                                                                                                                                                                                                                 | SWAEMP       | Collection of data for the SNP, NCMP, snow management monitoring, groundwater monitoring, Type B Water Licence Monitoring and AEMP during all four Phases of the mine (baseline, construction, post-construction verification and operation)                                                                                                                                                                                                                                   |                                | New                                     |                                                                | Each of the referenced monitoring programs (SNP, NCMP, snow management monitoring, groundwater monitoring, Type B Water Licence Monitoring and AEMP) are already established and will continue through construction of Phase 2 components of the Project and the Project's entire operation phase, in accordance with Water Licence and Commercial Lease requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | It is recommended that Baffinland update Table 5.1 in the next iteration to reflect when data collection for each of the monitoring programs takes place including the construction phase and baseline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                               |
| 149      | QIA    | QIA-40.1              | Attachment 22<br>• Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2<br>Proposal Revisions for Review Purposes Only Rev G<br>• Section 5.0 Monitoring<br>• Table 5.2 Surface Water and Aquatic Ecosystems Trigger Action Response Plan pages 57 through 60 of 109                 | SWAEMP       | Propose more conservative thresholds for their low, moderate and high-risk thresholds. Add fish health measures including fish length, fork length, lesions and injuries into their response-action framework for road operation activities. Add iron and chloride to the response-action framework for road operation activities and add total ammonia nitrogen, nitrate and total nitrogen to the response-action framework for quarry and borrow pit operations activities. |                                | New                                     |                                                                | With respect to more conservative thresholds for low, moderate and high risk thresholds, Baffinland will continue to adhere to Water Licence discharge limits as the moderate risk threshold, an approach requested by the QIA during refinement of these management plans over the past two years. More conservative thresholds are not necessarily constrain construction activities without necessarily providing additional environmental protection. With respect to adding fish health measures to the response-action framework, Baffinland refers to the QIA to Commitment No. 201, which was developed jointly and was agreed upon by both parties:<br>Baffinland collects and reports data on fish presence, catch per unit effort, and fork length from 30-60 crossing sites along the Tote Road annually. Baffinland commits to adding observations regarding physical condition of fish (e.g., lesions, injuries, activity level). Baffinland and QIA will determine an appropriate approach to analysis and development of a metric for monitoring fish health for the 2022 reporting period. The program will be evaluated every three (3) years to determine if monitoring locations may be reduced due to no observations of project related-impacts.<br>Regarding the QIA's request to have iron and chloride added to the response-action framework:<br>With respect to adding flow meter readings to monitoring under the SWAEMP, effluent discharge volumes are recorded as required by the Water Licence but under the Fresh Water Supply, Sewage and Wastewater Management Plan (not the SWAEMP).<br>Land disturbance and spill kit inspections are covered under the Environmental Protection Plan (Attachment 29). | With respect to fish health and its inclusion in the response framework, fish amalgamate the effects of varied water chemistry and their aquatic habitat. A response framework that relies on the amalgamating power of fish is important and provides the mine with another line of evidence to help inform their management mitigation options that may be required as a result of dynamic mine conditions. We will address this with Baffinland in 2022.<br><br>With regards to the inclusion of iron and chloride response-action framework for road operation it is noted that Baffinland has under predicted the distance mine related dust travels. The dust produced by the mine contains concentrations of iron that alters the quality of atmospheric deposition and can impact water quality further from the mine. Therefore, we reiterate the recommendation that Baffinland include iron in the response-action framework for road operation. As noted earlier chloride is a conservative ion that does not break down and even if it is applied as a dust suppressant intermittently it may still build up in the aquatic environment. While we applaud Baffinland in their attempts to find an alternate road suppressant calcium chloride is still being used intermittently, therefore the recommendation to include chloride in the response-action framework.<br>BIM provided an explanation for the lack of flow meter readings however did not explain why land disturbance and spill kits were missing from routine inspections. It is recommended that BIM provide an explanation for the absence of land disturbance and spill kits from routine inspections. | Regarding the application of the response framework, Baffinland believes acute toxic compounds in runoff are more appropriate. Over short periods of time elevated concentrations containing compounds occur. |
| 150      | QIA    | QIA-41.1              | Attachment 22<br>• Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2<br>Proposal Revisions for Review Purposes Only Rev G<br>• Section 5.2 Routine Inspections and Monitoring Requirements<br>page 61 of 109                                                                      | SWAEMP       | QIA requests the aforementioned items be included in the inspection routine or an explanation be provided for their absence.                                                                                                                                                                                                                                                                                                                                                   |                                | New                                     |                                                                | With respect to adding flow meter readings to monitoring under the SWAEMP, effluent discharge volumes are recorded as required by the Water Licence but under the Fresh Water Supply, Sewage and Wastewater Management Plan (not the SWAEMP).<br>Land disturbance and spill kit inspections are covered under the Environmental Protection Plan (Attachment 29).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | With regards to the inclusion of iron and chloride response-action framework for road operation it is noted that Baffinland has under predicted the distance mine related dust travels. The dust produced by the mine contains concentrations of iron that alters the quality of atmospheric deposition and can impact water quality further from the mine. Therefore, we reiterate the recommendation that Baffinland include iron in the response-action framework for road operation. As noted earlier chloride is a conservative ion that does not break down and even if it is applied as a dust suppressant intermittently it may still build up in the aquatic environment. While we applaud Baffinland in their attempts to find an alternate road suppressant calcium chloride is still being used intermittently, therefore the recommendation to include chloride in the response-action framework.<br>BIM provided an explanation for the lack of flow meter readings however did not explain why land disturbance and spill kits were missing from routine inspections. It is recommended that BIM provide an explanation for the absence of land disturbance and spill kits from routine inspections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Routine inspections EPP                                                                                                                                                                                       |
| 151      | QIA    | QIA-42.1              | Attachment 22<br>• Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2<br>Proposal Revisions for Review Purposes Only Rev G<br>• Section 5.4 Monitoring at Project Quarries and Borrow                                                                                              | SWAEMP       | Provide the criteria Baffinland utilizes to determine when a berm or other drainage control measure is considered necessary.                                                                                                                                                                                                                                                                                                                                                   |                                | New                                     |                                                                | Selection of the appropriate erosion and sediment control measure is site-specific and is based on professional judgement. The TARP provides the triggers that prompt a response to take action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                               |
| 152      | QIA    | QIA-43.1              | Attachment 22<br>• Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2<br>Proposal Revisions for Review Purposes Only Rev G<br>• Section 5.6 Northern Corridor Monitoring Program<br>• Figure 5.1 Northern Corridor Monitoring Program Adaptive Management Framework page 66 of 109 | SWAEMP       | Baffinland propose a more conservative threshold for action with regard to the Northern Corridor Monitoring Program.                                                                                                                                                                                                                                                                                                                                                           |                                | New                                     |                                                                | The existing thresholds in the Northern Corridor Monitoring Program were agreed upon jointly by Baffinland and the QIA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                               |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Subject Area    | Intervenor July 2019 Recommendation/Request                                                                                                                                        | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                  | Baffinland Response Pres |
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| 153      | QIA    | QIA-44.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 5.7 Fish Passage Monitoring page 67 of 109</li> </ul>                                                                                                                                                                                                    | SWAEMP          | Baffinland include fish health data including fish presence, catch per unit effort, fish length, fork length, lesions and injuries in their adaptive management plan.              |                                | New                                     |                                                                | <p>Baffinland made this commitment to the QIA in the NRB review process. Commitment No. 201 was developed jointly and was agreed upon by both parties:</p> <p>Baffinland collects and reports data on fish presence, catch per unit effort, and fork length from 30-60 crossing sites along the Tote Road annually. Baffinland commits to adding observations regarding physical condition of fish (e.g., lesions, injuries, activity level). Baffinland and QIA will determine an appropriate approach to analysis and development of a metric for monitoring fish health for the 2022 reporting period. The program will be evaluated every three (3) years to determine if monitoring locations may be reduced due to no observations of project related impacts.</p> <p>Annual inspections will be conducted by a Professional Fisheries Biologist for five years following installation of the culverts at high risk locations on the North Baffin. The need for further monitoring will be determined following the 5-year program based on the monitoring results. This commitment will be incorporated to the draft Fisheries Act Authorization (FAA) scheduled for completion in May 2022 and shared for review and comment.</p> <p>The term "significant precipitation event" is specified in the Water Licence but it is not defined. Baffinland interprets this to mean heavy rainfall.</p> <p>With respect to SNP stations MS-C-C and MS-C-D, these SNP stations will disappear once the SDIT-1 Pond shown on the figure and approved under Modification Request No. 13 is constructed. These stations will continue to be monitored until the pond is constructed.</p> <p>With respect to stations MQ-C-A through MQ-C-E, these are identified in the Quarry Management Plans and are not official SNP stations, as they do not appear in Table 14 of the Water Licence</p> <p>Baffinland will conduct post-construction monitoring as described in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications (Appendix F in the SWAEMP), which was developed jointly with and approved by the QIA. The Northern Corridor Monitoring Program will also be ongoing at select crossings.</p> <p>Routine inspections both during construction and operation are specified in the TASP in the SWAEMP, and if visual evidence of erosion or sedimentation is observed, this triggers notification of the Environmental Department, which will undertake sampling, as well as action by the relevant department to mitigate the issue.</p> <p>The QIA is incorrectly interpreting Section 7 of the Construction Monitoring section in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications. The trigger is 75% of the threshold (i.e., 75% of a maximum increase of 100 mg/L TSS, which is a maximum increase of 75 mg/L).</p> <p>This is articulated a different way in Table 5.2 in the SWAEMP: the low risk condition is when downstream turbidity and/or TSS are between 75% and 100% of the applicable water quality action level (+25 NTU turbidity and/or +100 mg/L TSS over background).</p> | Responses observed in fish represent the amalgamation of water chemistry and exposure to varied stressors throughout their lives. A response framework that incorporates fish is important and provides the mine with another line of evidence to help inform their management mitigation options that may be required as a result of dynamic mine conditions. It is important for this to be presented as part of the current application for review. |                          |
| 154      | QIA    | QIA-45.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 5.7 Fish Passage Monitoring page 69 of 109</li> </ul>                                                                                                                                                                                                    | FAA Application | Request commitment to annual inspections for life of mine.                                                                                                                         |                                | New                                     |                                                                | <p>Professional Fisheries Biologist for five years following installation of the culverts at high risk locations on the North Baffin. The need for further monitoring will be determined following the 5-year program based on the monitoring results. This commitment will be incorporated to the draft Fisheries Act Authorization (FAA) scheduled for completion in May 2022 and shared for review and comment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 155      | QIA    | QIA-46.1              | <ul style="list-style-type: none"> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Appendix C Site Drainage and Monitoring Figures 6.1 and 6.2</li> <li>pages 108 and 109 of 109</li> <li>Appendix G Surveillance Network Program Schedule</li> <li>Schedule G.1 – Construction Phase SNP Stations – Mine Port page 23 of 52</li> </ul>                                    | SWAEMP          | Clarify what is considered a significant precipitation event and update maps to ensure all sites are included and have been labelled for evaluation of the SNP monitoring program. |                                | New                                     |                                                                | <p>With respect to SNP stations MS-C-C and MS-C-D, these SNP stations will disappear once the SDIT-1 Pond shown on the figure and approved under Modification Request No. 13 is constructed. These stations will continue to be monitored until the pond is constructed.</p> <p>With respect to stations MQ-C-A through MQ-C-E, these are identified in the Quarry Management Plans and are not official SNP stations, as they do not appear in Table 14 of the Water Licence</p> <p>Baffinland will conduct post-construction monitoring as described in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications (Appendix F in the SWAEMP), which was developed jointly with and approved by the QIA. The Northern Corridor Monitoring Program will also be ongoing at select crossings.</p> <p>Routine inspections both during construction and operation are specified in the TASP in the SWAEMP, and if visual evidence of erosion or sedimentation is observed, this triggers notification of the Environmental Department, which will undertake sampling, as well as action by the relevant department to mitigate the issue.</p> <p>The QIA is incorrectly interpreting Section 7 of the Construction Monitoring section in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications. The trigger is 75% of the threshold (i.e., 75% of a maximum increase of 100 mg/L TSS, which is a maximum increase of 75 mg/L).</p> <p>This is articulated a different way in Table 5.2 in the SWAEMP: the low risk condition is when downstream turbidity and/or TSS are between 75% and 100% of the applicable water quality action level (+25 NTU turbidity and/or +100 mg/L TSS over background).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 156      | QIA    | QIA-47.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Appendix F Environmental Guidelines for Project Water Crossing Repairs and/or Installations</li> <li>Section 4. Water Sampling and Monitoring Frequency</li> <li>Table C-1 – Summary of Water Quality Monitoring Frequency page 9 of 52</li> </ul>               | SWAEMP          | Baffinland commit to sampling for three years after water crossing construction or disturbance with monitoring during operations considered acceptable.                            |                                | new                                     |                                                                | <p>Baffinland will conduct post-construction monitoring as described in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications (Appendix F in the SWAEMP), which was developed jointly with and approved by the QIA. The Northern Corridor Monitoring Program will also be ongoing at select crossings.</p> <p>Routine inspections both during construction and operation are specified in the TASP in the SWAEMP, and if visual evidence of erosion or sedimentation is observed, this triggers notification of the Environmental Department, which will undertake sampling, as well as action by the relevant department to mitigate the issue.</p> <p>The QIA is incorrectly interpreting Section 7 of the Construction Monitoring section in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications. The trigger is 75% of the threshold (i.e., 75% of a maximum increase of 100 mg/L TSS, which is a maximum increase of 75 mg/L).</p> <p>This is articulated a different way in Table 5.2 in the SWAEMP: the low risk condition is when downstream turbidity and/or TSS are between 75% and 100% of the applicable water quality action level (+25 NTU turbidity and/or +100 mg/L TSS over background).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 157      | QIA    | QIA-48.1              | <ul style="list-style-type: none"> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Appendix F Environmental Guidelines for Project Water Crossing Repairs and/or Installations</li> <li>Section 5. Water Quality Action Levels</li> <li>Table C-1 – Water Quality Action Levels page 11 of 52</li> <li>Section 7. Action Response Framework During Construction</li> </ul> | SWAEMP          | Identify a single exceedance as a trigger to investigate mitigative actions (i.e., sediment control fencing or rip rap placement).                                                 |                                | New                                     |                                                                | <p>Baffinland will conduct post-construction monitoring as described in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications (Appendix F in the SWAEMP), which was developed jointly with and approved by the QIA. The Northern Corridor Monitoring Program will also be ongoing at select crossings.</p> <p>Routine inspections both during construction and operation are specified in the TASP in the SWAEMP, and if visual evidence of erosion or sedimentation is observed, this triggers notification of the Environmental Department, which will undertake sampling, as well as action by the relevant department to mitigate the issue.</p> <p>The QIA is incorrectly interpreting Section 7 of the Construction Monitoring section in the Environmental Guidelines for Water crossing Repairs, Installations and Modifications. The trigger is 75% of the threshold (i.e., 75% of a maximum increase of 100 mg/L TSS, which is a maximum increase of 75 mg/L).</p> <p>This is articulated a different way in Table 5.2 in the SWAEMP: the low risk condition is when downstream turbidity and/or TSS are between 75% and 100% of the applicable water quality action level (+25 NTU turbidity and/or +100 mg/L TSS over background).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 158      | QIA    | QIA-49.1              | <ul style="list-style-type: none"> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2</li> <li>Proposal Revisions for Review Purposes Only Rev G</li> <li>Appendix G Surveillance Network Program Schedule</li> <li>Schedule G.3 – Operation Phase SNP Stations – Mine Port page 26 through 30 of 52</li> <li>Schedule G.4 – Operation Phase SNP Stations – Mine Site pages 31 through 38 of 52</li> </ul>                                        | FWSSWMP         | Weekly monitoring of water discharge volume from the Mine and Mine Port contaminated snow dumps during fresher and monthly during the remainder of the open water season.          |                                | New                                     |                                                                | <p>Water collected in the landfill (including snow dump) are controlled discharges. This water is only discharged after testing has shown the effluent is below applicable discharge limits. Due to the intermittent nature of the discharge and pre-discharge testing, weekly testing is not required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 159      | QIA    | QIA-49.2              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FWSSWMP         | Item to be added to the parameter list for                                                                                                                                         |                                | New                                     |                                                                | Hydrocarbon-impacted snow is disposed of in this                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                        | BIM does not agree       |

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| 161      | QIA    | QIA-49.4              | Same as above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FWSSWMP         | Increase monitoring of stockpile surface runoff to weekly to confirm compliance.                                                                                         |                                | New                                     |                                                                | Regarding SNP stations MS-07 (ROM ore stockpile) and MS-10 (future SDL-1 pond), these ponds are sampled prior to discharge, as well as during discharge, as described in Section 3.5 and on Figure 3.3 of the Fresh Water Supply, Sewage and Wastewater Management Plan (Attachment 23). Weekly sampling would be appropriate if these were flow-through ponds that continuously discharged, but they are controlled discharge ponds. Baffinland's practice of sampling prior to and during discharge, and pausing discharge if sampling detects parameters above internal Discharge Limits (less than the Water Licence Discharge Limits) is highly protective of the environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       | Sampling frequency indicated in Appendix 4 of the 2018 dataset. Frequency is described in the 2018 dataset.                                                           |
| 162      | QIA    | QIA-50.1              | <ul style="list-style-type: none"> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2 Proposal Revisions for Review Purposes Only Rev G</li> <li>Appendix H Northern Corridor Monitoring Program</li> <li>Section 4. Monitoring Frequency page 46 of 52</li> </ul>                                                                                                                                                                                                     | SWAEMP          | Group 3 parameters be collected at the same frequency as Group 4 and allow a lab technician who is trained in the detection of oil and grease to determine its presence. |                                | New                                     |                                                                | <p>In the preamble of this technical comment, the QIA states the following:</p> <p>"While water quality is not considered a VEC, Article 20 of the Nunavut Land Claims Agreement (the Nunavut Agreement) states that Inuit are entitled to unaltered water quality, quantity and flow."</p> <p>This is not accurate. Section 20.3.1 of Article 20 states:</p> <p>"No project or activity within the Nunavut Settlement Area which may substantially affect the quality of water flowing through Inuit Owned Lands, or the quantity of such water, or its flow, shall be approved by the NMB unless the applicant for a licence has entered into a compensation agreement with the DIO for any loss or damage which may be caused by the change in quality, quantity or flow of the water or the NMB has made a determination in accordance with Section 20.3.2."</p> <p>The Northern Corridor Monitoring Program has been adapted from the Tote Road Monitoring Program developed jointly between the QIA and Baffinland. The QIA approved this sampling program. The focus was on managing erosion and sedimentation, and monitoring of oil and grease when visual evidence warrants is appropriate adaptive management.</p> <p>Baffinland agrees to establish thresholds for iron and chloride as part of the Northern Corridor Monitoring Program. This will be reflected in the next update of the SWAEMP.</p> |                                       |                                                                                                                                                                       |
| 163      | QIA    | QIA-51.1              | <ul style="list-style-type: none"> <li>Attachment 22</li> <li>Surface Water, Aquatic Ecosystem Management Plan BAF-PH1-830-P16-0026 Phase 2 Proposal Revisions for Review Purposes Only Rev G</li> <li>Section 5.6 Northern Corridor Monitoring Program page 65 of 109</li> <li>Appendix H Northern Corridor Monitoring Program</li> <li>Section 5. TSS Water Quality Criteria and Response-Action Framework page 48 of 52</li> <li>Figure H.4 TSS Response-Action Framework page 49 of 52</li> </ul> | SWAEMP          | Include iron and chloride in addition to TSS in the adaptive management framework and response-action framework for the Northern Corridor Monitoring Program.            |                                | New                                     |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                                                                                                                                                       |
| 164      | QIA    | QIA-52.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1 Crossings – page 11 of 62</li> </ul>                                                                                                                                                                                                                                                                                                                                           | FAA Application | Provide a reference to the specific protocols that were developed.                                                                                                       |                                | New                                     |                                                                | The reference (Baffinland, 2012a) is provided in the references section of the report: Baffinland, 2012a. Mary River Project - Final Environmental Impact Statement, Volume 7: Freshwater Environment, February 2012, Volume 7 references Appendix 7C for the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                                                                                                                                                                       |
| 165      | QIA    | QIA-53.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1</li> <li>Section 1.0 Introduction – page 8 of 62</li> </ul>                                                                                                                                                                                                                                                                                                                    | FAA Application | Provide site specific data for each crossing                                                                                                                             |                                |                                         |                                                                | <p>Site-specific data for each crossing are provided in Appendix 4 of the North Railway Freshwater Habitat Survey, 2018. More recent study results are provided in Appendix 4 of this response.</p> <p>It was stated in the North Railway Freshwater Habitat Survey Report 'there have been changes in the specific design of Project-related infrastructure at many of the crossings and some new locations have been added, the fish and fish habitat information acquired during the 2018 field survey still provides a useful description of fish habitat at or near the majority of sites identified in the final design'</p> <p>The comment provided wanted to ensure that habitat assessments were completed at all crossings even where changes were made to the design and that new crossings were also properly assessed and did not rely on data from 2018 that may have been collected upstream or downstream. If this was the case where data was relied on from 2018 at a new crossing, what distance was considered 'near' to not have to</p>                                                                                                                                                                                                                                                                                                                                                       |                                       | <p>BM conducted spring 2019 and 2021 at the same locations as the 2018 dataset so the 2018 dataset of information that data will be provided for all permanent an</p> |

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| 168      | QIA    | QIA-55.2              | Same as above                                                                                                                                                                                                 | FAA Application | Provide references that indicate that a stream gradient of 15° is difficult or impassable for Arctic Char.                                                                                |                                | New                                     |                                                                | The 15° gradient threshold was derived from past field experience from working in the region since 2008. There are no published references that support this value.                                                                                                                                                                                                                                                                         | Based on past field experiences - can you expand on what that means? I.e. for all sites that had a stream gradient of 15° or greater that no fish were observed upstream? Please provide rationale.                                                                                                                                                                                                | BIM needs to correct to further substantiate adopted a gradient of 15° is difficult or impassable gradient of 15° or greater that no fish were observed upstream? Please provide rationale.                                                                                                                        |
| 169      | QIA    | QIA-56.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1</li> <li>2.1.3 North Rail Lake/Pond Encroachments/Infilling – page 15 of 62</li> </ul> | FAA Application | Was the waterbody classified as non-fish bearing if fish were not captured after completing the 100 m long section using the backpack electrofisher? Were other capture methods utilized? |                                |                                         |                                                                | No fish captured after sampling a 100 m long section was combined with other field data before designating a stream section as non fish bearing. This work was conducted by a Professional Biologist. In general we are confident that non fish bearing stream sections were                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                    | Char have not been gradient of 10 degrees there is overwintering which case fish can of the barrier). These arctic char that are juveniles are unable gradients. The other gradients also present water (depending on combined contributions                                                                       |
| 170      | QIA    | QIA-57.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1</li> <li>2.1.4 North Rail Stream Diversions – page 14 of 62</li> </ul>                 | FAA Application | What additional studies were completed to address the reduction in flow to the unnamed lake downstream of CV-90-4?                                                                        |                                |                                         |                                                                | The unnamed lake downstream of CV-90-4 was assessed with a sidescan echosounder to determine bathymetry and substrate distribution. The lake is assumed to include seasonal use by Arctic char but may include overwintering. The railway design has changed and there currently is no expected flow reduction downstream of CV-90-4. The affected tributary includes a barrier at its mouth and the crossing location is now fish habitat. |                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| 171      | QIA    | QIA-57.2              | Same as above                                                                                                                                                                                                 | FAA Application | How will water levels in the unnamed lake be mitigated from the diversion at CV-90-4?                                                                                                     |                                |                                         |                                                                | The railway design has changed and there currently is no expected flow reduction downstream of CV-90-4. No. There is no diversion currently planned at CV-90-4.                                                                                                                                                                                                                                                                             | Please ensure that if plans change and a diversion of water is required at this location that the appropriate studies are completed to ensure there are no impacts to downstream waterbodies and fish habitat.                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                    |
| 172      | QIA    | QIA-57.3              | Same as above                                                                                                                                                                                                 | FAA Application | Have studies been completed to understand the contribution of water from this upper reach to the lake?                                                                                    |                                |                                         |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| 173      | QIA    | QIA-57.4              | Same as above                                                                                                                                                                                                 | FAA Application | Will the diverted water ultimately flow back into the unnamed lake or a different receiving waterbody?                                                                                    |                                |                                         |                                                                | The railway design has changed and there currently is no expected flow reduction downstream of CV-90-4.                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| 174      | QIA    | QIA-58.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1</li> <li>3.2.1 North Rail Crossings – page 19 of 62</li> </ul>                         | FAA Application | Confirm if fish sampling surveys were completed at these sites.                                                                                                                           |                                | New                                     |                                                                | Fish sampling surveys were completed at all stream crossings along the North Railway. More recent study results are provided in Appendix 4 of this response.                                                                                                                                                                                                                                                                                | It is not clear which sites are the 48 sites that may potentially support char under higher flow conditions as these are not identified as such in Appendix 1 of the North Railway Freshwater Habitat Survey: 2018 – Part 1. These sites should be afforded the same protection and mitigation measures as sites that are confirmed Arctic Char habitat, unless the proponent can prove otherwise. | The 2018 report pre survey; some stream that work and were 2019 and 2021. Add alignment changed it is no longer an accurate The updated fisherie will be presented w the current rail crossing question in a generic habitat supported fish be considered low quality years of surveys during these areas are fish |
| 175      | QIA    | QIA-59.1              | <ul style="list-style-type: none"> <li>Attachment 13.2</li> <li>North Railway Freshwater Habitat Survey, 2018 – Part 1</li> <li>3.5 North Rail Stream Diversions – page 21 of 62</li> </ul>                   | Water Licence   | Confirm if all engineered drawings have been provided for the stream diversions.                                                                                                          |                                | New                                     |                                                                | Diversions are shown on the detailed plan and profile drawings in Attachment 11.3. Engineered drawings have not been developed for the diversions themselves.                                                                                                                                                                                                                                                                               | It is critical that engineered drawings are provided for each of the diversion channels and that they are reviewed by QIA.                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |
| 176      | QIA    | QIA-59.2              | Same as above                                                                                                                                                                                                 | Water Licence   | Confirm if the drawings show the reconstruction channel and tie in to the downstream waterbody.                                                                                           |                                | New                                     |                                                                | The engineered drawings for the diversions have not been developed.                                                                                                                                                                                                                                                                                                                                                                         | It is critical that engineered drawings are provided for each of the diversion channels and that they are reviewed by QIA.                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |
| 177      | QIA    | QIA-60.1              | <ul style="list-style-type: none"> <li>Attachment 16</li> <li>Drilled Water Withdrawal Plan Part 1 of 4 – page 17 of 25</li> </ul>                                                                            | FWSSWMP         | What monitoring will be completed to ensure there is no impact to fish and fish habitat?                                                                                                  |                                | New                                     |                                                                | No monitoring of the water withdrawal streams is proposed. This is not normal practice, and nor is it required because the pumping rates and other mitigation measures identified in the Detailed Water Withdrawal Plan will be adhered to. Baffinland's Environment Department periodically audits water withdrawal operations to ensure appropriate procedures and mitigation measures are being employed.                                |                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |
| 178      | QIA    | QIA-60.2              | Same as above                                                                                                                                                                                                 | FWSSWMP         | How will stream flow be measured during the time of any withdrawals to establish what the                                                                                                 |                                | New                                     |                                                                | It is not practical to measure flow in streams during water withdrawals. The approach of                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                    |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                | Subject Area                | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                            | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                              | Baffinland Response Pres |
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| 180      | QIA    | QIA-61.1              | <ul style="list-style-type: none"> <li>Attachment 16</li> <li>Detailed Water Withdrawal Plan Part 2 of 4 – pages 18 &amp; 2 of 30</li> </ul>                                                                                                                      | FWSSWMP                     | Confirm if a monitoring program has been developed to monitor the pump intakes/screen for sediment, debris and impinged fish on a routine schedule (i.e. inspection frequency should be increased during periods when the maximum pumping rate is used)?                                                                                                                                                                                                                                                                                                                               |                                | New                                     |                                                                | Baffinland adheres to DFO's Code of Practice for fish screens, as specified in Part D, Item 6 of the Water Licence. Baffinland notes that the referenced 1995 guideline has been replaced with a 2020 code of practice. This assessment is completed upon deployment of a pump, and the operator monitors the intake during pumping activities.                                   | BIM did not provide a response if monitoring of the pump intakes/screen for sediment, debris and impinged fish will be completed on a routine schedule                                                                                                                                             |                          |
| 181      | QIA    | QIA-61.2              | Same as above                                                                                                                                                                                                                                                     | FWSSWMP                     | If it is determined that a site is not appropriate for pumping (i.e. sediment uptake, fish impingement) what steps will be taken to identify a new pumping location?                                                                                                                                                                                                                                                                                                                                                                                                                   |                                | New                                     |                                                                | If a site is determined to be inappropriate for use, it will no longer be used. Other nearby approved stations will be used. If a viable alternate can be identified nearby, Baffinland will submit a notification to the NWB accompanied by a hydrology assessment, in accordance with Part E, Item 14 of the Water Licence.                                                     |                                                                                                                                                                                                                                                                                                    |                          |
| 182      | QIA    | QIA-62.1              | <ul style="list-style-type: none"> <li>Attachment 16</li> <li>Detailed Water Withdrawal Plan Part 2 of 4 – pages 8 of 30</li> </ul>                                                                                                                               | FWSSWMP                     | A detailed fish habitat assessment be completed and submitted for review prior to this location being used for water taking.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                | New                                     |                                                                | Agreed. A fish habitat assessment will be conducted at the alternate WS27.1c station if Baffinland seeks to use it during summer. Winter water withdrawals came be made offshore and depth measurements can be taken to ensure an environmentally protective water withdrawal                                                                                                     |                                                                                                                                                                                                                                                                                                    |                          |
| 183      | QIA    | QIA-63.1              | <ul style="list-style-type: none"> <li>Environmental Protection Plan</li> <li>Bat-Ph1-S30-P16-0008</li> <li>Phase 2 Proposal Revisions - For Review Purposes Only &gt;Rev B</li> <li>Section 4.4.3 Environmental Protection Measures – page 40 of 85</li> </ul>   | EPP                         | Integration of a monitoring threshold for turbidity such as CCME guidelines for the Protection of Aquatic Life. Turbidity clear flow - Maximum increase of 8 NTUs from background levels for a short-term exposure (e.g., 24-h period). Maximum average increase of 2 NTUs from background levels for a longer term exposure (e.g., 30-4 period). High flow or turbid waters - Maximum increase of 8 NTUs from background levels at any one time when background levels are between 8 and 80 NTUs. Should not increase more than 10% of background levels when background is >80 NTUs. |                                |                                         |                                                                | The referenced text in the EPP is dated and is superseded by the Environmental Guidelines for Water crossing Repairs, Installations and Modifications in Appendix F of the SWAEMP. This guideline was developed jointly with the QIA. Baffinland will update the EPP to be consistent with the above-mentioned guideline.                                                         |                                                                                                                                                                                                                                                                                                    |                          |
| 184      | QIA    | QIA-64.1              | <ul style="list-style-type: none"> <li>Environmental Protection Plan</li> <li>Bat-Ph1-S30-P16-0008</li> <li>Phase 2 Proposal Revisions - For Review Purposes Only &gt;Rev B</li> <li>Section 4.7.3.1 Environmental Protection Measures – page 44 of 85</li> </ul> | FAA Application             | Confirm if culverts that contain baffles will be monitored to ensure rock movement/accumulation or winter ice build up in the culverts do not create fish barriers during low flow periods or freshet.                                                                                                                                                                                                                                                                                                                                                                                 |                                |                                         |                                                                | Confirmed. These will be monitored to ensure fish passage during freshet and summer low flows.                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                    |                          |
| 185      | QIA    | QIA-65.1              | Same as above                                                                                                                                                                                                                                                     | FAA Application             | Provide further details on mitigation measures to ensure that culverts >50 m do not become fish barriers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                         |                                                                | Monitoring plans will include detailed sampling to confirm fish passage. Crossings that are not passable by fish may form part of the Fisheries Act Authorization (FAA) Application. The draft FAA Application will be shared for review and comment.                                                                                                                             | Crossings that are not passable by fish will form part of the Fisheries Act Authorization Application. Please ensure the QIA has adequate time to review the draft FAA Application.                                                                                                                |                          |
| 186      | QIA    | QIA-65.2              | Same as above                                                                                                                                                                                                                                                     | FAA Application             | Confirm if a monitoring program will be developed to ensure that fish are using and able to pass through these extended culverts.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                                         |                                                                | Confirmed. A fish passage monitoring program will be developed. These details will be included in the Fisheries Act Authorization (FAA) Application. The draft FAA Application will be shared for review and comment.                                                                                                                                                             | Please ensure the QIA has adequate time to review the draft FAA Application.                                                                                                                                                                                                                       |                          |
| 187      | QIA    | QIA-65.3              | Same as above                                                                                                                                                                                                                                                     | FAA Application             | Please describe means by which longer culverts can be illuminated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                                         |                                                                | The illumination of culverts is a potential mitigation if culverts are determined to be impassable. The feasibility of this option is being further investigated.                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                          |
| 188      | QIA    | QIA-66.1              | Same as above                                                                                                                                                                                                                                                     | FAA Application             | Provide the results of the fish passage potential for each culvert.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                                         |                                                                | These details will be included in the Fisheries Act Authorization (FAA) Application. The draft FAA Application will be shared for review and comment.                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                    |                          |
| 189      | QIA    | QIA-67.1              | <ul style="list-style-type: none"> <li>Environmental Protection Plan</li> <li>Bat-Ph1-S30-P16-0008</li> <li>Phase 2 Proposal Revisions - For Review Purposes Only &gt;Rev B</li> <li>Section 4.7.3.3 Environmental Protection Measures – page 45 of 85</li> </ul> | EPP                         | What is Baffinland's course of action if spawning sites are identified within 20 m upstream and/or 20 m downstream of the work area?                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |                                         |                                                                | The identification of spawning sites in proximity to construction work areas is not anticipated. No spawning sites have been identified during baseline studies. Arctic Char are assumed to spawn in lakes or potentially in deep pools in rivers. The small lakes affected by the North Railway may require special construction work windows to avoid potential spawning areas. | A statement from BIM should be provided and included in the report that explains what the mine will do in the event that spawning areas are identified prior to the start of works. This will provide reassurance to QIA that these areas will be protected and works delayed until safe to do so. |                          |
| 190      | QIA    | QIA-68.1              | <ul style="list-style-type: none"> <li>Attachment 31 - Surface Water Sampling Program - QA/QC Plan</li> <li>5.2.2 River and Grab Sampling – page 17 of 139</li> </ul>                                                                                             | Sampling Program QA/QC Plan | Please clarify the exact procedure for sediment sampling.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                         |                                                                | The procedures for sediment sampling in streams are provided in Section 5.2 of the Sampling Program - QA/QC Plan.                                                                                                                                                                                                                                                                 | It should be clearly stated in your sediment sampling procedure as the second step how the sediment sample will be obtained from the river/stream bed.                                                                                                                                             |                          |
| 191      | QIA    | QIA-69.1              | <ul style="list-style-type: none"> <li>Attachment 13</li> <li>Watercourse Crossings – Attachment 13.1 Phase 2 Proposed Infrastructure Interactions with Watercourses</li> </ul>                                                                                   | FAA Application             | Clarify which Table is the most up to date with the project interaction and corresponding watercourse, pond/lake.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                                         |                                                                | An updated list of watercourse crossings and project interactions is provided in Appendix 4 of this response document.                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                    |                          |
| 192      | QIA    | QIA-69.2              | Same as above                                                                                                                                                                                                                                                     | FAA Application             | Update both tables to ensure fish habitat is                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                |                                         |                                                                | See response to QIA-69.1.                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                    |                          |



| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                                                                                                                                                                                                                           | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                                                                                                                                                                                               | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Baffinland Response Pres |
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| 195      | QIA    | QIA-72.1              | <ul style="list-style-type: none"> <li>Attachment 28 Aquatic Effects Monitoring Plan BAF-PH1-830-P16-0039 Phase 2 Proposal Revisions for Review Purposes Only Rev 2</li> <li>Section 3.1.2 Nutrient/Eutrophication Indicators and Benchmarks page 47 of 105</li> </ul>                                                                                       | AEMP         | Baffinland continue to monitor nutrients and add sampling of primary producers, in the form of periphyton, in lotic systems (such as the Mary River) receiving discharge of treated sewage effluent.                                                                                                                                                                                                                      |                                |                                         |                                                                | <p>Baffinland will continue to monitor concentrations of nutrients including total ammonia, nitrate, nitrite, Total Kjeldahl Nitrogen (TKN), dissolved organic carbon (DOC), total organic carbon (TOC), and total phosphorus in surface waters at all lotic and lotic water quality monitoring stations under the AEMP Rev 2. In addition to monitoring nutrient concentrations in water at all AEMP lotic water quality monitoring stations, Baffinland monitors chlorophyll a concentrations at these stations as a surrogate for the assessment of phytoplankton abundance and as a basis for evaluating changes in trophic status. Furthermore, because benthic invertebrate communities are sensitive to nutrient enrichment, benthic invertebrate community monitoring conducted annually at all AEMP lotic systems (including Mary River at three areas upstream, and two areas downstream, of the primary mine camp STP discharge) provides an additional tool for assessing potential nutrient enrichment influences of the project on biota of lotic environments. The collective monitoring of nutrients, chlorophyll a as a proxy for phytoplankton abundance, and benthic invertebrate communities at AEMP lotic environments provides sufficient information (through weight-of-evidence analysis) for assessing nutrient enrichment effects and the tracking of potential changes in trophic status at Mary River.</p> <p>As stated in Wetzel (2001), "The phosphorus of the littoral water is very actively assimilated by the loosely attached epiphytic periphyton, incorporated into the periphyton, and intensively recycled (e.g., Riber and Wetzel, 1987; Wetzel, 1993a). The periphyton, rather than the submersed macrophytes, function as the primary scavenger for limiting nutrients such as phosphorus from the water."</p> <p>Once phosphorus is cycling within the submersed macrophyte-periphyton community, however, it is improbable that much of it will be exported to the open waters.</p> <p>Attached microbial communities are well adapted to water movements (Wetzel, 2001).</p> | Periphyton are the main scavengers of limiting nutrients in water. They actively assimilate phosphorus and once phosphorus is cycling within periphyton it is highly unlikely to be exported to open waters (Wetzel, 2001). Therefore, to fully understand the impacts of the discharge sewage effluent on the Mary River it is recommended that BIM add sampling of periphyton, in lotic systems to their monitoring program.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |
| 196      | QIA    | QIA-73.1              | <ul style="list-style-type: none"> <li>Attachment 28 Aquatic Effects Monitoring Plan BAF-PH1-830-P16-0039 Phase 2 Proposal Revisions for Review Purposes Only Rev 2</li> <li>Section 3.1.2 Nutrient/Eutrophication Indicators and Benchmarks</li> <li>Table 3.8 Reference Areas for the Mary Lake System page 48 of 105</li> </ul>                           | AEMP         | In Table 3.8 it is indicated that phytoplankton are not sampled at the Mary River Reference sites GO-09-A, GO-09, GO-09-B. Given that Mary River is the primary receiver of treated sewage effluent and Baffinland wants to evaluate nutrient enrichment primarily by chlorophyll-a, it is recommended that Baffinland collect samples of phytoplankton and periphyton at the reference sites GO-09-A, GO-09 and GO-09-B. |                                |                                         |                                                                | <p>Baffinland regrets that the information presented in Table 3.8 related to the sampling of phytoplankton at Mary River GO-09-A, GO-09, and GO-09-B reference stations was misrepresented. Phytoplankton sampling (based on using chlorophyll a as a proxy for phytoplankton abundance) will be included as a monitoring component of the AEMP at Mary River GO-09-A, GO-09, and GO-09-B stations. Table 3.8 will be updated accordingly. As outlined in the response to QIA comment #72.1, the sampling of nutrients, phytoplankton (chlorophyll a), and benthic invertebrates at the GO-09 series stations is deemed by Baffinland to be sufficient for evaluation of project-related enrichment and trophic status effects. Therefore, no additional measures of phytoplankton or periphyton are required at lotic stations under AEMP Rev 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Baffinland regrets that the information presented in Table 3.8 related to the sampling of phytoplankton at Mary River GO-09-A, GO-09, and GO-09-B reference stations was misrepresented. Phytoplankton sampling (based on using chlorophyll a as a proxy for phytoplankton abundance) will be included as a monitoring component of the AEMP at Mary River GO-09-A, GO-09, and GO-09-B stations. Table 3.8 will be updated accordingly. As outlined in the response to QIA comment #72.1, the sampling of nutrients, phytoplankton (chlorophyll a), and benthic invertebrates at the GO-09 series stations is deemed by Baffinland to be sufficient for evaluation of project-related enrichment and trophic status effects. Therefore, no additional measures of phytoplankton or periphyton are required at lotic stations under AEMP Rev 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |
| 197      | QIA    | QIA-74.1              | <ul style="list-style-type: none"> <li>Attachment 28 Aquatic Effects Monitoring Plan BAF-PH1-830-P16-0039 Phase 2 Proposal Revisions for Review Purposes Only Rev 2</li> <li>Section 3.3.3 Sediment Quality Study Design page 53 of 105</li> <li>Table 3.12 Profundal Sediment Quality Stations page 55 of 105</li> <li>Figure 3.3 page 57 of 105</li> </ul> | AEMP         | Clarify if the number of profundal sediment stations in Sheardown Lake SE is being reduced to two or if profundal sediment stations are being eliminated entirely.                                                                                                                                                                                                                                                        |                                |                                         |                                                                | <p>The maximum depth attained in Sheardown Lake SE is approximately 14 metres (m). The depth throughout the majority of this basin of Sheardown Lake (i.e., &gt;95%) is estimated to be less than 12 m deep, which was the cut-off depth assigned to distinguish 'littoral' from 'profundal' lake stations under the CREMP. Therefore, a minimal amount of profundal habitat occurs in Sheardown Lake SE, and that which is present is at the threshold between classification as littoral or profundal. Hence, no 'profundal' stations are proposed for sampling in Sheardown Lake SE. Figure 3.3 provided in the AEMP Rev 2 will be updated to reflect no profundal stations sampled in Sheardown Lake SE. It is noteworthy that the five stations proposed for sediment sampling in Sheardown Lake SE under the AEMP Rev 2 have been evenly distributed throughout the lake and reflect depths ranging from approximately 6.8 to 13.2 m, the latter of which is within the deepest portion of the lake. Therefore, although no profundal stations are included at Sheardown Lake SE for sediment sampling, the proposed design considers proper spatial coverage and variable water depths to ensure that sediment sampling conducted at Sheardown Lake SE meets the AEMP objectives.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>The maximum depth attained in Sheardown Lake SE is approximately 14 metres (m). The depth throughout the majority of this basin of Sheardown Lake (i.e., &gt;95%) is estimated to be less than 12 m deep, which was the cut-off depth assigned to distinguish 'littoral' from 'profundal' lake stations under the CREMP. Therefore, a minimal amount of profundal habitat occurs in Sheardown Lake SE, and that which is present is at the threshold between classification as littoral or profundal. Hence, no 'profundal' stations are proposed for sampling in Sheardown Lake SE. Figure 3.3 provided in the AEMP Rev 2 will be updated to reflect no profundal stations sampled in Sheardown Lake SE. It is noteworthy that the five stations proposed for sediment sampling in Sheardown Lake SE under the AEMP Rev 2 have been evenly distributed throughout the lake and reflect depths ranging from approximately 6.8 to 13.2 m, the latter of which is within the deepest portion of the lake. Therefore, although no profundal stations are included at Sheardown Lake SE for sediment sampling, the proposed design considers proper spatial coverage and variable water depths to ensure that sediment sampling conducted at Sheardown Lake SE meets the AEMP objectives.</p> |                          |
| 198      | QIA    | QIA-75.1              | <ul style="list-style-type: none"> <li>Attachment 28 Aquatic Effects Monitoring Plan BAF-PH1-830-P16-0039 Phase 2 Proposal Revisions for Review Purposes Only Rev 2</li> <li>Section 2.4.5.3 Tote Road and Northern Railway (Water Management Area 48) page 32</li> </ul>                                                                                    | AEMP         | Provide further details on the anticipated discharge location, the monitoring site label, the parameters to be sampled and the frequency of sampling.                                                                                                                                                                                                                                                                     |                                | New                                     |                                                                | <p>The temporary ore stockpiling area at KM57 was removed from the Project. References to this component were removed from the Updated Water Licence (Main Report). That reference to this project component was not removed from the AEMP is an oversight. It will be removed from the next revision of this plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |



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| 200      | QIA    | QIA-77.1              | <ul style="list-style-type: none"> <li>ICRP - 1. Plain Language Summary</li> <li>PROJECT AND CLOSURE SUMMARY, p. 13</li> </ul>                                                                                                                   | ICRP                            | How will feasibility of restoring natural drainage be assessed as reasonably possible or not and how will the decisions be documented?                                  |                                | New                                     |                                                                | The feasibility of restoring natural drainage will be determined by a Professional Engineer based on the level of disturbance that is required to re-establish natural drainage, and which drainage (project or natural) will be most physically stable in the long-term. The proposed approach will appear in design drawings supporting closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
| 201      | QIA    | QIA-77.2              | <ul style="list-style-type: none"> <li>ICRP Section Plain Language Summary</li> <li>PROJECT AND CLOSURE SUMMARY, p. 14</li> </ul>                                                                                                                | ICRP                            | What factors will be considered and what would prevent re-establishment of natural drainage at closure?                                                                 |                                | New                                     |                                                                | See response to QIA-77.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
| 202      | QIA    | QIA-78.1              | Same as above                                                                                                                                                                                                                                    | Borrow Pit and Quarry Mgmt Plan | Please clarify the number of quarries in the Phase 2 project.                                                                                                           |                                | New                                     |                                                                | Thirty aggregate sources (29 rock quarries and one borrow pit) are proposed to support Phase 2 construction (Section 2.7 of the Updated Application Main Report). An additional 79 quarries were previously identified to support construction of the South Railway and Steensby                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
| 203      | QIA    | QIA-78.2              | Same as above                                                                                                                                                                                                                                    | Borrow Pit and Quarry Mgmt Plan | How many are anticipated to remain as viable landforms following closure?                                                                                               |                                | New                                     |                                                                | It is likely that some evidence of each quarry will be apparent at closure. How viable a landform each will be at closure will depend on quarry designs, to be presented in the quarry-specific management plans, and whether and the degree of use for disposal of soil spoils during                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
| 204      | QIA    | QIA-79.1              | <ul style="list-style-type: none"> <li>ICRP</li> <li>Plain Language Summary</li> <li>PROJECT AND CLOSURE SUMMARY, p. 18 and Table 1.1</li> <li>Section 5 – Permanent Closure and Reclamation, Table 5.1</li> <li>Sect. 5.2.1.2 p. 102</li> </ul> | ICRP                            | In the event that refinements do not reduce risk to acceptable levels, what mitigation options are available and when could they implemented?                           |                                |                                         |                                                                | Section 5.2.1.5 of the ICRP (Attachment 30) states "It is currently anticipated that the discharge from the open pit will not require treatment (AMEC 2010). However, if treatment is required several effective technologies are currently available to manage metal leaching and/or acid rock drainage (ML/ARD). If ML/ARD were to develop, batch treatments will be carried out to adjust the pH and/or metal concentrations of the water in the pit so that it meets discharge requirements before overflow into the environment." Section 5.2.1.9 further states: "Although indications to-date demonstrate a low probability of ML/ARD, in the event that ongoing water quality modelling or field monitoring shows a trend toward exceedance of discharge requirements, then water treatment options will be determined and implemented. Details regarding theoretical treatment options are provided in the Life-of-Mine Waste Rock Management Plan (Section 3.6.4, BAF-PH1830-P16-0031) and were considered for both metal and ammonia/nitrate removal. Theoretical treatment options for metals removal included: <ul style="list-style-type: none"> <li>Resins</li> <li>Polymer Addition</li> <li>Sodium Hydrosulfite Treatment</li> <li>Ozonation</li> <li>Biofilters-Sulphide Precipitation</li> <li>Activated Carbon</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
| 205      | QIA    | QIA-80.1              | ICRP Sect 5.2 p. 100 Permanent Closure and Reclamation Requirements                                                                                                                                                                              | ICRP                            | If docks are left in place but not maintained, are they likely to deteriorate over time?                                                                                |                                | New                                     |                                                                | Geotechnical analyses and monitoring of the docks at Mine Port will be undertaken prior to closure to confirm long term stability and maintenance requirements (if any).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Please commit to a) long term maintenance of dock structures to maintain their physical stability over time or b) removal of dock structures at closure.                                                                                                                                                                                                                                                                       |                          |
| 206      | QIA    | QIA-80.2              | Same as above                                                                                                                                                                                                                                    | ICRP                            | How does this fit the Closure Objective of physical stability?                                                                                                          |                                | New                                     |                                                                | Undertaking geotechnical analyses and monitoring to confirm the long-term stability of docks at Mine Port is consistent with the Closure Objective of physical stability. It is incorrect to suggest that an absence of active maintenance will necessarily result in long-term physical stability issues for the docks at closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | What is the demonstrated need for dock structures to remain after closure? The QIA should not be left with the potential need for long term maintenance and any associated liability. Monitoring does not assure long term stability unless there is also a commitment to maintenance. Please commit to long term maintenance of dock structures to maintain their physical stability over time or b) removal of dock          |                          |
| 207      | QIA    | QIA-81.1              | <ul style="list-style-type: none"> <li>Sect. 5.2.1.4 CONSIDERATION OF CLOSURE OPTIONS AND SELECTION OF CLOSURE ACTIVITIES: Enhanced Pit Filling Alternative Table 5.2 p.103-104</li> <li>Sect. 5.2.1.7 p. 106</li> </ul>                         | ICRP                            | Please provide a schedule and source of water for pit refilling that Baffinland considers to be feasible and which can be used to predict pit water quality at closure. |                                |                                         |                                                                | Research and studies on potential pit filling scenarios are ongoing. Baffinland maintains that as active mining at Deposit 1 remains a hilltop outcrop, no Open Pit has formed, and development of an Open Pit is still several years away, this should not preclude approval of the ICRP. As noted in Section 1 of the ICRP, "The Project's Interim Mine Closure and Reclamation Plan (ICRP) is considered to be a "living" document, which is refined regularly throughout the life of mine until a Final Closure and Reclamation Plan is achieved." Further refinements to potential pit filling scenarios will be provided as information becomes available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BIM has provided four scenarios for pit refilling but has not indicated that any are a) feasible or b) acceptable to them due to concerns with available volumes, seasonality of flow or distances. Rate of filling has implications to geochemistry and water quality. No open pit development should proceed without demonstration that it is feasible to refill them and documentation of potential impacts and mitigation. |                          |
| 208      | QIA    | QIA-82.1              | p. 10-6 Sect. 5.2.17 Uncertainties                                                                                                                                                                                                               | ICRP                            | Provide feasible mitigation and closure options for the open pit that address the need for chemical stability and reasonable water quality.                             |                                |                                         |                                                                | Theoretical treatment options to mitigate potential pit water quality issues at closure are provided in Section 5.1.1.0 of the ICRP. If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |

| Item No. | Agency | Technical Comment ID# | Document Reference                                                                                                                                     | Subject Area | Intervenor July 2019 Recommendation/Request                                                                                                                                                                                                  | Baffinland's Aug 2019 Response | Intervenor's October 2021 Status Update | Intervenor's October 25, 2021 Updated Recommendation / Request | Baffinland's November 4, 2021 Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Intervenor Nov 12, 2021 Presentations                                                                                                                                                                                                                                                                                                                                                                                                                                   | Baffinland Response Presentation |
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| 209      | QIA    | QIA-83.1              | ICRP Sect 5.2.1.9 Contingencies p. 107                                                                                                                 | ICRP         | Are the options provided feasible for batch treatment of the pit or for ongoing treatment of pit discharge at closure?                                                                                                                       |                                |                                         |                                                                | As noted, the treatment options provided in Section 5.2.1.9 of the ICRP are theoretical, and are intended to provide a high-level summary of treatment technologies and approaches that could be implemented if required. In the absence of a clearly defined water quality issue that would require treatment, it is premature to determine details such as whether batch treatment or ongoing treatment would be feasible.<br><br>Section 5.2.1.9 of the ICRP provides information on the timeline for future work on open pit water quality: "ML/ARD will be periodically reassessed as a potential issue in the future ICRP revisions and in the Final CRP Reclamation Research to address the uncertainty of what closure and post closure activities are required to ensure open pit runoff water quality meets closure objectives and criteria, including ML/ARD issues, is expected to commence at approximately Year 10 of Operations (when an Open Pit is expected to exist associated with the Project). Based results of this research, the ICRP will be updated to present a time frame for the potential development of ML/ARD conditions, if any, and discuss the impact of ML/ARD release on final closure identifying the need for ongoing monitoring, treatment, and potential mitigations."<br><br>The cited Year 10 was based on the full production rate. Development of the open pit is Baffinland does not anticipate that ongoing treatment of pit discharge will be required over the long term at closure. However, as discussed in Section 5.2.1.7 of the ICRP, there is uncertainty as to the long-term water quality in the open pit. Baffinland has committed to addressing this uncertainty within the Reclamation Research Plan and adaptive management during operations. The ICRP addresses the potential that treatment of open pit discharge could be required, such as in Section 5.2.1.9 where theoretical treatment options are presented. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |
| 210      | QIA    | QIA-83.2              | Same as above                                                                                                                                          | ICRP         | Does Baffinland foresee a scenario in which ongoing treatment of pit discharge is required over the long term at closure?                                                                                                                    |                                |                                         |                                                                | The cited Year 10 was based on the full production rate. Development of the open pit is Baffinland does not anticipate that ongoing treatment of pit discharge will be required over the long term at closure. However, as discussed in Section 5.2.1.7 of the ICRP, there is uncertainty as to the long-term water quality in the open pit. Baffinland has committed to addressing this uncertainty within the Reclamation Research Plan and adaptive management during operations. The ICRP addresses the potential that treatment of open pit discharge could be required, such as in Section 5.2.1.9 where theoretical treatment options are presented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |
| 211      | QIA    | QIA-84.1              | ICRP Sect. 5.2.2.1 p. 108 Waste Rock and Overburden Piles                                                                                              | ICRP         | Confirmation if the overburden be isolated and used to promote revegetation of disturbed sites at mine closure.                                                                                                                              |                                |                                         |                                                                | Overburden generated during stripping of the open pit will be stockpiled for use in the construction of a closure cover over the Waste Rock Facility. Natural revegetation will be encouraged by seed addition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |
| 212      | QIA    | QIA-85.1              | • ICRP Section 5.2.2. Waste Rock and Overburden Piles<br>• D3 Reclamation Research Program - Waste Rock Stockpile Seepage/Runoff Water Quality, p. 303 | ICRP         | What climate change scenarios have been considered in the modelling?                                                                                                                                                                         |                                |                                         |                                                                | Climate change criteria used for modelling are from IPCC (2007). Baffinland has committed to account for climate change in the development of the thermal model for the waste rock stockpile (Appendix D.4 of the ICRP).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | QIA requesting commitment to update ICRP with more recent climate change predictions                                                                                                                                                                                                                                                                                                                                                                                    |                                  |
| 213      | QIA    | QIA-85.2              | Same as above                                                                                                                                          | ICRP         | What sensitivity assessments have been made on rate and magnitude of permafrost and runoff?                                                                                                                                                  |                                |                                         |                                                                | Sensitivity assessments have not been conducted in regard to cover thickness to account for climate change, but it is not required given the conservatism in a 50 m thick cover. The proposed 50 m cover is an order of magnitude greater than approved cover thicknesses at other Nunavut mines based on the latest climate change predictions.<br><br>Chapter 4 in Bush, E. and Lemmen, D.S. (Eds.) Canada's Changing Climate Report<br>Government of Canada, Ottawa, pp 112-113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The response addresses permafrost. What sensitivity assessments have been used for runoff in light of increased precipitation in a warming climate?<br>Zhang, X., Flato, G., Kirchmeier-Young, M., Vincent, L., Wan, H., Wang, X., Rong, R., Fyfe, J., Li, G., Khairin, V.V. (2019): Changes in Temperature and Precipitation Across Canada; Chapter 4 in Bush, E. and Lemmen, D.S. (Eds.) Canada's Changing Climate Report<br>Government of Canada, Ottawa, pp 112-113 |                                  |
| 214      | QIA    | QIA-85.3              | Same as above                                                                                                                                          | ICRP         | Compare the climate change predictions from 2007 that were used in the closure plan development with the most recent modelling completed in 2019 and comment on the implications to permafrost development and runoff management at closure. |                                |                                         |                                                                | Refer to Baffinland's response to QIA-85.2 regarding the level of conservatism in the currently proposed final cover thickness.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | The response addresses permafrost. What sensitivity assessments have been used for runoff in light of increased precipitation in a warming climate?<br>Zhang, X., Flato, G., Kirchmeier-Young, M., Vincent, L., Wan, H., Wang, X., Rong, R., Fyfe, J., Li, G., Khairin, V.V. (2019): Changes in Temperature and Precipitation Across Canada; Chapter 4 in Bush, E. and Lemmen, D.S. (Eds.) Canada's Changing Climate Report<br>Government of Canada, Ottawa, pp 112-113 |                                  |
| 215      | QIA    | QIA-86.1              | ICRP 5.2.2.2 PRE-DISTURBANCE, EXISTING, AND FINAL SITE CONDITIONS p. 116                                                                               | PH1 WRMP     | Was this predicted from geochemical modelling and testing?                                                                                                                                                                                   |                                |                                         |                                                                | The potential for acid rock drainage was identified in the initial testing as part of the waste rock management plan (Baffinland 2014). This initial testing indicated a longer lead time to realization of acidic drainage than was observed in the field. Further geochemical testing was completed in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |

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| 216      | QIA    | QIA-86.2              | Same as above                                                                                              | PH1 WRMP     | How has this development been considered in the closure planning?                                                                                                                                     |                                |                                         |                                                                | Additional work has been completed to further characterize the geochemical Characteristics of the materials including evaluation of soluble sulfate minerals and a review of waste deposition practices (Golder 2019). Thermal modelling was completed and the Phase 1 Waste Rock Management Plan was subsequently updated (Issued as Rev 3 in 2020 and issued as Rev B incorporating adaptive management in Attachment 32 of the Updated Application) to evaluate for the presence of soluble sulfate minerals, and the depositional strategy was reviewed and updated such that potentially acid generation materials are placed in thin lifts, away from the edges of the pile, to promote freeze-back such that acidic conditions do not develop in the pile or in seepage or runoff from the pile, both during operations, and in closure and post closure. Details of the measures taken are as noted in ICRP Appendix H (page 368), the mercury, selenium and silver concentrations adopted as source terms in water quality modelling were based upon laboratory method detection limits (only 2% of the data were above MDL). Thus the modelling is highly conservative. Baffinland's response to QIA-79.1 discusses available theoretical treatment options that could be employed for metals removal, if that was required. |                                                                                                                                                                                                                                                                                                                                                                           |                          |
| 217      | QIA    | QIA-87.1              | ICRP 5.2.6.6 PREDICTED RESIDUAL EFFECTS p. 119                                                             | ICRP         | Please describe the mitigation options available to control Hg, Se and Ag in seepage and runoff from the site and whether these are suitable for long term deployment or batch/short term mitigation. |                                |                                         |                                                                | As noted in ICRP Appendix H (page 368), the mercury, selenium and silver concentrations adopted as source terms in water quality modelling were based upon laboratory method detection limits (only 2% of the data were above MDL). Thus the modelling is highly conservative. Baffinland's response to QIA-79.1 discusses available theoretical treatment options that could be employed for metals removal, if that was required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                           |                          |
| 218      | QIA    | QIA-87.2              | Same as above                                                                                              | ICRP         | Please include a Response Framework, Triggers and Action Levels for implementing enhanced mitigation for site runoff and seepage in the closure and post closure environment.                         |                                |                                         |                                                                | The Fresh Water, Sewage and Wastewater Management Plan includes a TARP for contact water that can be applied to closure and post-closure. However, at planned closure, Baffinland will have the benefit of significant experience mitigating adverse runoff from the Waste Rock Facility. This will provide guidance as to whether seepage concerns may occur at closure, and appropriate thresholds and responses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | This Issue will need to be addressed and updated as the mine progresses.                                                                                                                                                                                                                                                                                                  |                          |
| 219      | QIA    | QIA-88.1              | ICRP Sect. 5.2.5.2 PRE-DISTURBANCE, EXISTING, AND FINAL SITE CONDITION ICRP 5.2.8.5 p. 152 Issue / Concern | ICRP         | Will infrastructure be removed from the site or disposed on site (i.e. in waste rock piles or open pits)?                                                                                             |                                |                                         |                                                                | Selection of the final disposal option(s) will be made after receiving input from the Mine Closure Working Group, the QIA, and other regulatory agencies and stakeholders. The selected options will be described in the Final Closure and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                           |                          |
| 220      | QIA    | QIA-88.2              | Same as above                                                                                              | ICRP         | What criteria will be used to determine fate and disposal?                                                                                                                                            |                                |                                         |                                                                | Criteria used to determine whether non-hazardous materials are disposed of on-site or off-site will include:<br>- space required/available in on-site landfills or other approved waste disposal locations<br>- logistical constraints/level of effort required for on-site vs. off-site disposal options<br>- cost of on-site vs. off-site disposal options<br>- input from the Mine Closure Working Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Has the QIA expressed any preferences and how will their preferences be addressed in the discussions of disposal options?                                                                                                                                                                                                                                                 |                          |
| 221      | QIA    | QIA-89.1              | ICRP 5.2.6.2 PRE-DISTURBANCE, EXISTING, AND FINAL SITE CONDITIONS p. 135 ICRP 5.2.6.5 p. 136               | ICRP         | What community uses have been identified for structures that are >100km from any existing communities?                                                                                                |                                |                                         |                                                                | Specific community uses for remaining structures at closure have not yet been identified. As indicated in Section 2.4 of the ICRP, Baffinland has proposed to establish a Mine Closure Working Group (MCWG) to best incorporate considerations for post-closure land use of the Project site. Future discussions with the MCWG will include potential future uses for remaining structures at closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Feasibility of leaving the docks in place for "community use" is dependent on the community identifying a use for the docks. This feasibility should be established at the approvals stage, in the event that Baffinland needs to plan for removal of docks and associated costs.                                                                                         |                          |
| 222      | QIA    | QIA-89.2              | Same as above                                                                                              | ICRP         | Has Baffinland documented whether a community has specifically identified a need for the dock post closure?                                                                                           |                                |                                         |                                                                | Baffinland does not recall this being mentioned up to now. This will be a key point of discussion with the future Mine Closure Working Group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | BIM identified the potential of leaving the docks in place for community use in the ICRP and so it is not clear what it meant by "BIM does not recall this being mentioned up to now."                                                                                                                                                                                    |                          |
| 223      | QIA    | QIA-89.3              | Same as above                                                                                              | ICRP         | Have CIRNAC or the communities indicated any agreement to assume liability for the ore docks?                                                                                                         |                                |                                         |                                                                | Section 5.2.6.2 of the ICRP states "Ongoing engagement with communities and discussions with QIA will occur to confirm an approach for the Tote Road and water crossings such that an acceptable level of liability exists for transfer of these remaining structures." Similar engagement and discussions will be held with communities and CIRNAC for the Milne Port docks prior to closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Feasibility of leaving the docks in place for "community use" is dependent on the community identifying a use for the docks. The willingness of CIRNAC or QIA to assume liability should be established at the approvals stage in order to establish if this closure option is feasible. If not, then Baffinland needs to plan for removal of docks and associated costs. |                          |
| 224      | QIA    | QIA-90.1              | ICRP 5.2.7.2 p. 144 and 5.2.7.5 p. 146 Landfills                                                           | Landfill     | Confirm if the proposed depth of overburden cover incorporate predictions for a warmer climate to accommodate a deeper active layer over time?                                                        |                                |                                         |                                                                | Commitment: Baffinland will review whether or not climate change has adequately been incorporated into the landfill cover thickness, particularly in reference to the latest climate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                           |                          |
| 225      | QIA    | QIA-91.1              | ICRP 5.2.8.5 p. 152 ENGINEERING WORK                                                                       | ICRP         | What are the proposed effluent criteria for closure and what is the predicted timeline for                                                                                                            |                                |                                         |                                                                | Closure water quality will need to meet Type A Water Licence effluent criteria, territorial/federal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mitigation has been identified - Criteria can be developed in the Water Licence as the project                                                                                                                                                                                                                                                                            |                          |

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| 226      | QIA    | QIA-92.1              | ICRP 6.2.1.1. Land Farm Operation, p. 155                                | ICRP         | Explain why the CCME (2008) risk-based methodology may be preferable to guidelines that are specific to Nunavut?                                                                                 |                                |                                         |                                                                | Section 2.4: Application of Remediation Criteria at Contaminated Sites in the Government of Nunavut Guideline for Contaminated Site Remediation (Government of Nunavut, 2019) is based heavily on the Canada-Wide Standards for Petroleum Hydrocarbons (PCH) in Soil (CCME, 2008). The three tiers of approaches provided in the two documents (Tier 1: Criteria-Based Approach, Tier 2: Modified-Criteria Approach, and Tier 3: Risk-Based Approach) are essentially identical. The guidelines provided in the Nunavut Guideline are not specific to Nunavut, and in fact the Tier 1 Guidelines in both documents are exactly the same.<br><br>Both the Government of Nunavut and CCME guidelines provide information on when a modified-criteria or risk-based approach may be suitable. Per the Government of Nunavut guideline:<br>"- In general, this modified-criteria approach is utilized in situations where site conditions, land use, receptors or exposure pathways differ only slightly from those assumed in the development of Tier 1 criteria."<br>"- In certain circumstances, neither the criteria-based or modified-criteria approach may be suitable for a site because pathways of exposure, target chemicals, receptors or other site characteristics differ significantly from those used to develop these more generic approaches." |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| 227      | QIA    | QIA-92.2              | Same as above                                                            | ICRP         | What criteria would influence a decision to use the CCME protocol?                                                                                                                               |                                |                                         |                                                                | As noted in the response to QIA 92.1, the Tier 1, Tier 2 and Tier 3 approaches in the Government of Nunavut guideline are identical to those in the CCME guideline.<br><br>Using a Tier 2 modified-criteria or Tier 3 risk-based approach would be considered if there were significant issues managing hydrocarbon-impacted soil in the landfarm using the Tier 1 criteria-based approach, such as if soil treated in the landfarm was not able to consistently meet the Tier 1 guidelines. The Tier 1 guidelines were developed based on generalized assumptions for site conditions, receptors, and exposure pathways, and some of these assumptions may differ slightly or significantly from the site conditions, receptors and exposure pathways at the Mary River Project sites. Using a Tier 2 or Tier 3 approach would utilize site-specific information rather than generalized assumptions, and would generate site-specific soil quality guidelines for the Project that are protective of human health and the environment.                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| 228      | QIA    | QIA-93.1              | ICRP 7.1 SHORT-TERM TEMPORARY MINE CLOSURE – CARE AND MAINTENANCE p. 159 | ICRP         | Confirm if Baffinland has developed a list of all necessary temporary closure activities in order of importance to guide execution of temporary closure and inform the level of effort required. |                                |                                         |                                                                | Section 7.1 describes the activities that would be undertaken in a short-term temporary closure scenario. All of the specified activities are the minimum requirements in this scenario and will be executed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| 229      | QIA    | QIA-94.1              | ICRP Figure 8.1 Final Closure Schedule                                   | ICRP         | Confirm where and how will rails and ties be disposed. Will they be disposed of on-site or off-site?                                                                                             |                                |                                         |                                                                | Rails and ties are inert, non-hazardous materials and would be suitable for either on-site or off-site disposal. Final determination of the disposal location will be determined closer to closure in consultation with the Mine Closure Working Group.<br><br>Baffinland will update the ICRP to indicate that rails and ties will be removed and either recycled, shipped offsite to an appropriate facility for disposal, or deposited within an onsite landfill, the open pit or other approved repositories.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| 230      | QIA    | QIA-95.1              | • ICRP Pit Flooding<br>• Also See QIA 1C "Enhanced Pit Filling"          | ICRP         | Which enhanced flooding scenario does the 10 year timeline assume and what are the associated sources and water withdrawal rates?                                                                |                                |                                         |                                                                | It is clearly stated in Section 9.2.4 of the ICRP that the 10 year timeline for enhanced pit filling was assumed solely for the purposes of devising a monitoring program. The 10-year timeline that is tentatively assumed in Section 9.5 was also assumed for the purposes of determining aquatic monitoring requirements at closure.<br><br>No enhanced flooding scenario associated with the 10-year timeline has been developed. Further work will be undertaken on potential enhanced pit filling timelines. When further refinements of these potential timelines are available, sections of the ICRP where pit filling timelines had been assumed will be updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | See QIA 81. Baffinland has provided four scenarios for pit refilling but has not indicated that any are a) feasible or b) acceptable to them due to concerns with available volumes, seasonality of flow or distances. Rate of filling has implications to geochemistry and water quality. No open pit development should proceed without demonstration that it is feasible to refill them and documentation of potential impacts and mitigation. |                          |
| 231      | QIA    | QIA-96.1              | ICRP Section 9.6 Environmental                                           | ICRP         | Confirm which guidelines will be used in the FSA                                                                                                                                                 |                                |                                         |                                                                | Tier 1 Guidelines provided in the Environmental                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |

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| 232      | QIA    | QIA-97.1              | ICRP Appendix D1 Reclamation Research Program – Open Pit Water Quality p. 293 | ICRP         | Describe what elements of conservatism in the pit water quality model result in the predicted water quality at closure.                                                     |                                |                                         |                                                                | Further details on the mass balance modelling are provided in Appendix H of the ICRP (FEIS Freshwater Quality Predictions). Factors that support the modelled water quality being highly conservative include:<br>- The model assumes near-instantaneous mixing in riverine environments due to the discharge to receiving flow ratio, and no modification of indicators due to precipitation, speciation, attenuation or degradation. (page 366)<br>- For a number of parameters sampled in the humidity cell tests, metals were measured at or below the analytical method detection limit (MDL) for a large proportion of samples. Generally the MDLs are high relative to the selected water quality objectives (CCME PAL or SSWQOs). For these parameters, the values assigned were set at one-half the MDL (AMEC, 2012a). The 50th percentile calculated source term was influenced by predicted water quality results based largely on the non-detect results in the humidity cells for the following metals: mercury (Hg), selenium (Se), copper (Cu), arsenic (As), cadmium (Cd), chromium (Cr), silver (Ag) and thallium (Tl). Consequently, the modelled water quality for these parameters is highly conservative. (page 368)<br>- A similar issue with detection limits was identified in the baseline water quality dataset. The majority of sample results for several metals. As noted in the response to QIA 97.1, metals were measured at or below the analytical method detection limit (MDL) for a large proportion of samples in both humidity cell tests (used to generate source terms) and baseline water quality samples in the receiving environments. In these cases, values assigned were set at one-half the MDL for the humidity cell tests, and were set at the MDL for the baseline dataset. These are conservative assumptions as they are based on realistic measured values which were in many cases below the MDL.<br>Estimates for pit water quality assume that during the latter portion of the mine life, pH may decrease below the lower limit of the MDMER (pH 6.0). It is therefore assumed that pH adjustment of the pit water will be required in the second half of mine life and into post-closure. However, the source terms applied in the water quality modelling assume no treatment as a conservative measure. |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
| 233      | QIA    | QIA-97.2              | Same as above                                                                 | ICRP         | Describe the origin of the conservative model inputs and compare with realistic measured values.                                                                            |                                |                                         |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Please describe how "realistic measured values" can be "below the MDL." Values below the MDL cannot be measured                                                                                                                                                                                                                                                                             |                                  |
| 234      | QIA    | QIA-97.3              | Same as above                                                                 | ICRP         | Provide a range of modelling outcomes based on a realistic range of pit conditions (or varying conservatism) at closure and explain which scenarios are most likely         |                                |                                         |                                                                | Further modelling of pit water quality conditions will be completed as part of additional research as described in Appendix D of the ICRP (Reclamation Research Plan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
| 235      | QIA    | QIA-97.4              | Same as above                                                                 | ICRP         | Provide a comparison of the short term and long term water quality in the pit lake at closure and describe how the chemistry of the lake may change once the pit is flooded |                                |                                         |                                                                | See response to QIA-97.3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
| 236      | QIA    | QIA-98.1              | ICRP Research Task – Pit Lake Meromixis p. 297                                | ICRP         | Provide an update on the status of the meromixis research program, any findings to date and comment on whether meromixis is proposed as a closure option for the pit lake.  |                                |                                         |                                                                | Baffinland continues to include a meromixis research program in future plans for closure research. Discussions with experts has identified a need to collect meteorologic data from the top of Deposit 1 to inform future modelling on meromixis of the Pit Lake. Baffinland will be investigating strategies to collect this data given the harsh conditions atop Deposit 1 that can impact instrumentation in this location.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Appendix C1 states that "Research into meromictic pit lakes has not yet been completed. This work is scheduled to start in 2019," and "In support to this evaluation, a focused review of scientific literature relating to meromictic pit lakes in cold regions should be carried out." Has the research or the scientific review begun? Is meromixis being proposed as a closure option ? |                                  |
| 237      | QIA    | QIA-99.1              | ICRP Research Task Open Pit Water Quality Research Results p. 297             | Ph1 WRMP     | What geochemical tests have been completed on the ore body to date?                                                                                                         |                                |                                         |                                                                | Geochemical testing completed to date is summarized in Section 2.4.2 of the Phase 1 Waste Rock Management Plan (Attachment 32). A more detailed discussion is provided in Appendix B of the Phase 1 Waste Rock Management Plan, specifically in Appendix A1 of the Appendix B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
| 238      | QIA    | QIA-99.2              | Same as above                                                                 | Ph1 WRMP     | Provide the status of any humidity cell tests on ore characteristics.                                                                                                       |                                |                                         |                                                                | Humidity cell tests have not been conducted on the ore. The focus of geochemical testing including humidity cell tests is the waste rock that will be left behind. This is standard practice in characterizing mine wastes. A summary of humidity cell testing of waste rock is provided in Section 2.4.2 of the Phase 1 Waste Rock Management Plan (Attachment 32).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
| 239      | QIA    | QIA-99.3              | Same as above                                                                 | ICRP         | Compare the above results to the inputs to the pit lake model and comment on the conservatism of                                                                            |                                |                                         |                                                                | The historical geochemical testing and humidity cell tests were used to generate source inputs for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                             |                                  |

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| 240      | QIA    | QIA-99.4              | Same as above      | ICRP         | What existing results could be used to test the conservatism of the water quality model? |                                |                                         |                                                                | <p>As no pit lake currently exists, there are no existing results that can be directly correlated to future pit water quality. Existing results are available for water quality in runoff from the Waste Rock Facility, and it is instructive to look at how these results relate to the pit water quality model. Elevated concentrations of some metals have been observed in runoff from the Waste Rock Facility that were not in agreement with observations from historical humidity cell test. As a result, an additional geochemistry program was undertaken in 2019 as described in Appendix A1 of Appendix B to the Phase 1 Waste Rock Management Plan (Attachment 32). Section 5.0 of Appendix A1 provides a comparison of the results from the 2019 geochemistry program to historical geochemical data (that has informed the development of the pit lake water quality model). This section concludes that "All the historical dataset is from areas outside the current Deposit 1 mining area with some samples from within the planned 2021 expansion. The differences in the geochemical results between the 2019 blasthole data and the historical suggests that Non-AG material with stored acidity may be limited to the current area of Deposit 1." This suggests that existing water quality data for runoff from the Waste Rock Facility is not indicative of what will occur when the pit lake is developed.</p> | <p>Pending ongoing review as more data are obtained and the model is refined. Baffinland has identified treatment and mitigation options that can be applied to manage water quality in the pit.</p> |                           |