March 26, 2024

Richard Dwyer
Manager of Licensing
Nunavut Water Board
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Gjoa Haven, NU, X0B 1J0
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Re: Requested information and Response to Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) Reclamation Cost Estimate in support of the Annual Security Review for Baffinland Iron Mines Corporation's 2024 Work Plan for the Mary River Project, Water Licence 2AM-MRY1325 Amendment No. 1

Dear Mr. Dwyer,

Baffinland would like to thank CIRNAC for their review of the 2024 Work Plan for the Mary River Project and the associated input they have provided regarding the 2024 Annual Security Review. Baffinland would like to take this opportunity to provide comment on CIRNAC's proposed approach to the 2024 Security Amount, as well as provide CIRNAC with the responses to their submitted information requests to assist with their review.

In their March 15, 2024 submission to the Nunavut Water Board (NWB), CIRNAC recommended a global estimate value of approximately $134 million, provided that Baffinland provides the appropriate and requested documentation for CIRNAC's review and approval.

As requested, Baffinland has updated its Phase I Waste Rock Management Plan (Attachment 1) in response to comments received as part of the ASR process. Baffinland is committed to completing progressive reclamation of the WRF through installation of a 4.0 m cover of Non-AG waste over exposed PAG waste, with the objective of achieving and maintaining an active PAG waste footprint of 15 % by the end of 2024. As outlined in the QAQC Monitoring Plan (Appendix B of Attachment 1), Baffinland will share the results of this progressive reclamation in a quarterly progressive reclamation report. This report will also include details on any corrective actions and exceedances of the applicable regulatory requirement or trigger levels, should they occur. Furthermore, Baffinland will provide the following documentation to regulators:

- Drawings stamped by a NAPEG registered engineer showing the extents and design details of the Non-AG cover over the WRF, and the area of exposed PAG waste remaining to be covered.
- Records supporting in-pit material identification and WRF placement.
- Next 3-months material placement plan, highlighting planned changes in percent PAG exposure.

Furthermore, Baffinland is planning to conduct the following studies in 2024:

- **Pit-wall stability and geochemical analysis**
- **WRF cover system modelling**: Thermal modelling of the WRF active zone accounting for climate change projections from Environment and Climate Change Canada

- **Water quality modelling**: Long-term water quality modelling to demonstrate successful closure is on track to match prediction.

Within Attachment 2 of this letter Baffinland has provided responses to the information requests contained within Section 5.5 of Annex A in the AtkinsRealis report attached to their letter.

Furthermore, Baffinland would like to address two items in CIRNAC's estimate:

1. **Construction Bonding and Insurance Costs**

   CIRNAC suggested that Baffinland carry an additional percentage on all direct costs to account for potential construction bonding and insurance. Baffinland notes that the security already contains a 20% contingency on all direct and indirect costs, and construction bonding and insurance has already been accounted for as part of this contingency.

2. **Post-Closure Monitoring and Maintenance**

   CIRNAC recommended "*the post-closure monitoring should be extended to 25 years, and the timeframe of interim care and maintenance be extended to 5 years*" (CIRNAC 2024, p.23). This recommendation is made without providing scientific evidence or additional justification for such a significant expansion of the post-closure period. Information currently available shows the existing monitoring period is still valid. However, Baffinland is in the process of updating its Interim Closure and Reclamation Plan (ICRP), as well as conducting additional reclamation studies, as described above. As such, Baffinland commits to updating the post-closure monitoring and maintenance period based on additional discussions and availability of supporting evidence.

We hope this provided information and clarifications is adequate and assists the NWB and CIRNAC with their review.

Regards,

Elisabeth Luther
Senior Manager, Regulatory Affairs

Cc: Lou Kamermans (Baffinland), Spencer Dewar (CIRNAC), Andrew Keim (CIRNAC)

Attachments
Attachment 1. Phase I Waste Rock Facility Management Plan
Attachment 2. Responses to CIRNAC Information Requests

Attachment 1. Phase I Waste Rock Facility Management Plan

Baffinland

Attachment 2. Responses to CIRNAC Information Requests

Baffinland

Table 1 Baffinland Information Request Responses

Item	Item Description	AtkinsRealis Comment	Baffinland Response
1	Composite Crew Rate	• Overall average composite crew rate (includes labour, construction equipment and Contractor indirect costs) of $239/hour appears low for heavy civil work. • Individual craft labour wage rates appear low especially for an 84-hour work week. • The source of All-in Blended Crew Labour Rates by Discipline (Table 6-1) is unknown. • The rates listed in Heavy Civil Construction Equipment Rates (Table 6-2) appears high	Blended (84 hours / week) hourly rates have been provided by Baffinland for MSA agreements with regular northern contractors and are shown in Table 2 and Table 3 below. Appendix D of the Basis of Estimate details the labour rate build-ups.
2	Productivity Factor	a. Average overall productivity factor of 1.27 appears low for an 84-hour work week and a brownfield site. b. There appears to be 46 direct workers and 18 indirect workers for a total of 64 workers on site. This appears to be a high number of workers on site for a short duration, which would impact cost.	a. This work is all demolition (bulk demolition not salvage demolition) and heavy civil work. The PF calculation has been included in tab 6 – PF of the Basis of Estimate. b. Regarding the number of workers, this work is part of the $100M+ reclamation and closure project and is meant to represent the incremental inclusion of this years sustaining capital developments to the overall reclamation and security work. The climate in at Mary River is very harsh 6 - 9 months a year and therefore, this work is intended to occur between Jun 1 - August 31 when the weather is warm and it is lightly nearly 24 hours a day. There will be a large day shift and large night shift. The work area is very large with multiple work fronts. Thus, to optimize production during the prime work months there will be large numbers of workers.
3	Major Direct Costs	a. As outlined in the Basis of Estimate there are 3 major direct costs presented in this year's ASR, being grade and recontour; fill removal from the KM 105 sedimentation pond and sea can landfilling. b. Grade and recontour is 59% of the total direct costs and appears low. To be validated with heavy civil software. c. Quantity and the fuel consumption of each construction equipment is unknown. A list of equipment is as follows: ú CAT D6R Crawler Tractor; ú ú ú ú CAT 14H Motor Grader; CAT 246C Skid Steer Loader; Service Truck; and Water Truck.	a. Noted. b. The landscape in Baffinland is Canadian Shield. There is very little overburden, topsoil etc. So the grading and leveling task that is applied to the total gross area will have large areas that do not have significant requirements. c. Please see Table 4 below. d. Noted. Baffinland believes these costs are reasonable and in-line with the costing methodology provided in the Basis of Estimate, but can provide additional detail or information if CIRNAC has a specific concern or costing question. e. This rate is for the Surface Infrastructure Demolition contractor. Their scope is minimal (687 hours of direct labour). The surface infrastructure equipment includes: generator, large excavator c/w demolition sheers and breaker hammer, loader c/w forklift attachments, Tool crib, large Aerial work platform (AWP), Compressor, 1/2 ton, Flat deck trailer, and pump. For these items Baffinland believes this value is appropriate.

		d. Fill sedimentation pond is 18% of the total direct costs which appears low. To be validated with heavy civil software. e. The volume of the contractor supplied fuel (civil equipment included in unit civil rates) is one hundred (100) liters (L) per day for fourteen (14) days that has been estimated for general fuel usage. This consumption is to be validated with the grade and recontour and fill sedimentation pond detailed review with heavy civil software. f. Sea cans is 11% of the total direct costs. The overall average is 6.3 hours per each sea can to remove various sea cans inventories throughout the site. The manhours per sea can appears low.	f. 48 of the 138 sea cans are at the Milne Port. Unit backhaul rates of $1,113.02 (20' sea can) and $1,996.91 (40' sea can) include costs to load the sea cans from the lay down area onto the ship. This is why 2 hours has been carried for each of the 48 Milne Port Sea cans being shipped off site as the cans only need to be moved to the laydown area, some of which will be there already. The balance of sea cans have carried 6 hours for 10' sea cans, 8 hours for 20' sea cans, and 12 hours for 40' sea cans. It is assumed that these will be loaded with a Winch Truck and taken to the landfill where they will be cut with a large excavator and demolition shears. Multiple 10' and 20' Sea cans can be hauled at the same time. The average unit rate for the 138 sea cans is $1,370.19 with contractor indirects being considered on top of this.
4	General Direct Cost	a. The supply cost of the backfill captured in unknown since the Basis of Estimate excludes crushing and screening of the backfill materials. b. There is no cost amount for any bulk materials. The Basis of Estimate indicates new larger culverts are to be installed so this appears to be an omission. March 15, 2024 26 AtkinsRéalis c. Minimal excavation quantities are included in the estimate. It is unclear if excavation is needed for the 5,669 m2 liner removal. d. The Basis of Estimate is assumed to be tied to the much larger overall mine closure being done and the new estimate is not to be treated as a standalone estimate.	a. The backfill for the Quarry Sedimentation Pond is assumed to come from existing material stockpiles at the Quarry. The haul distance would be minimal, the diameter for the quarry is 392 m at its largest point. See picture below for reference:  b. For culvert reclamation, additional bulk materials are not expected to be required given the task. PPE and consumables are included in the labour rates and construction equipment rates include fuel, oil, grease, filters, tires, repairs, and spill trays. c. Per the note in the Comments column of the estimate details and Assumption 8 in Section 9.1 of the BOE: "Sedimentation, water, sludge, and contaminated soils will be removed and treated as part of the care and maintenance activities and therefore, this is excluded from the 2024 annual security review (ASR) and assumed to be adequately secured as part of the global estimate."

			d. Noted. Baffinland is currently a full standalone estimate for 2025 using the new closure security model.
5	Project Indirect Costs	a. It is uncertain how the flight costs of $1,275/worker were generated and whether the workers are paid to travel to and from the Site. b. The estimate base date is 4th quarter 2023. It is unclear as to where this is escalation captured for the work proposed in 2024.	a. BIM has a contractor supplied price of $1,260.24 per seat for a 100 seat plane that is currently being used. This is for flights to Southern Canada. Northern community flights are less. Baffinland has carried $1,275 for 100% of the flights to be conservative in the estimate. b. Presently, every year BIM completes an ASR. Any escalation from the previous year(s) is to be incorporated in the annual updates and therefore escalation beyond 4th quarter 2023 is excluded and will be addressed in next ASR.

Information Tables

Table 2 Labour Rates

Labour Rates	2022 (CAD/hr)	Nunami Stantec Rate
Site Superintendent	$ 160.20	$ 165.00
Site Foreman	$ 110.41	$ 102.00
Crane Operator(direct hire, if available)	$ 114.20	$ -
Multi-Purpose Operator (incl 988 Loader)	$ 79.50	$ 83.00
Loader Operator (< 988)	$ 75.29	$ 83.00
Truck Driver (Conventional)	$ 69.01	$ 76.00
Skilled Labourer	$ 66.24	$ 67.00
Mechanic	$ 104.89	Incl in CEQ Rates
Rigger (direct hire, if available)	$ 95.53	$ 98.00
Carpenter	$ 86.12	$ 93.00
Project Manager	$ 156.95	$ 160.00
Construction Engineer	$ 107.16	$ 110.00
Site Administrator	$ 75.78	$ 80.00
Surveyor	$ 113.66	$ 150.00
Safety Coordinator	$ 113.66	$ 115.00
Multi-Purpose Operator	$ 77.94	$ 83.00
Loader Operator (988 + >)	$ 77.39	$ 83.00
Dozer Operator	$ 73.81	$ 83.00
Excavator Operator	$ 74.69	$ 83.00
Truck Driver (Haul Truck)	$ 64.95	$ 76.00
Truck Driver (Other)	$ 67.65	$ 76.00
Crusher Operator	$ 84.98	$ 83.00
Bobcat Operator	$ 64.95	$ 83.00
Packer Operator	$ 64.95	$ 83.00
Labourer	$ 64.95	$ 67.00
Welder	$ 95.25	$ 105.00
Serviceman	$ 77.38	Incl in CEQ Rates

able 3 Equipment Rates

Site Location	Equipment Type	Manufacturer	Model	2022 Rate (Canadian Dollars per Month)	Rate Unit	Nunami Stantec Rate
Mine Site	Loader 988	Caterpillar	988	$ 270.61	/ hour	$ 260.00
Mine Site	Maintenance Shop (Mine Site)			$ 2,597.84	/ month	
Port Site	Maintenance Shop (Port Site)			$ 1,515.41	/ month	
Mine/Port	Carpenter shop/Water Truck Garage			$ 4,870.94	/ month	
Mine/Port	Washcar			$ 2,706.08	/ month	$ 2,500.00
Mine/Port	930 Loader	Caterpillar	930	$ 14,829.32	/ month	$ 15,000.00
Mine/Port	Crew Bus	Freightliner		$ 9,092.43	/ month	
Mine/Port	Crewcab	Ford F350		$ 4,329.73	/ month	
Mine/Port	F550 Flat Deck	Ford F550		$ 5,412.16	/ month	$ 5,500.00
Port Site	Fuel/Lube Truck	Kenworth	C500	$ 20,566.21	/ month	
Mine Site	Grocery Truck			$ 8,767.70	/ month	
Mine/Port	Effluent Haul Truck			$ 12,556.21	/ month	
Mine/Port	Raw Water Truck			$ 17,968.37	/ month	
Mine/Port	Sterling RO/RO			$ 16,236.48	/ month	
Mine/Port	Mechanic Truck	Ford F550		$ 10,283.11	/ month	
Mine/Port	Tracked Skid Steer			$ 6,386.35	/ month	
Mine/Port	Frost Fighter	Frost Fighter		$ 359.37	/ month	
Mine/Port	Light Tower	Ingersoll Rand		$ 1,904.00	/ month	
Mine/Port	Excavator	Caterpillar	345	$ 211.08	/ hour	$ 204.00
Mine/Port	Excavator	John Deere	850	$ 281.43	/ hour	$ 302.00
Mine/Port	Nuna 60T Crane	Grove 60T RT Crane		$ 267.83	/ hour	
Mine/Port	GNSS GPS RTK - Base and Rover			386.97/Day	/ Day	

Table 4 Selected Equipment

Equipment	Average Equipment Use for Grade and Recontour	Liters/hour
a. CAT D6R Crawler Tractor	1	35.00
b. CAT 14H Motor Grader	0.75	35.00
c. CAT 246C Skid Steer Loader	1	35.00
d. Service Truck	0.1	15.00
e. Water Truck	0.1	15.00