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A Response to Baffinland's January 26, 2021 Review of OpenOil's Financial Analysis of the Mary River Mine Operations

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Background

This assessment is prepared for the Hamlet of Pond Inlet and the Nunavut Impact Review Board. My understanding is that there are currently, before the Board, competing analyses of the economic viability of the current operations of Baffinland Iron Mines Corporation at Mary River. The Board is considering an application by Baffinland to replace its current truck haul operation with a railroad running from the mine at Mary River, to a port at Milne Inlet with increased shipping of ore through Milne Inlet and Eclipse Sound.

The Hamlet of Pond Inlet is interested in knowing if the current operation is viable without the proposed expansion and is therefore interested in the exchange between Baffinland and OpenOil. I am aware of the potential social and environmental costs and uncertainties associated with the proposed expansion and impacts of values of importance to the community. The focus here is, as requested, solely on the question of the financial health of the current and future truck haul operation.

The critical question under consideration is the necessity of the Phase 2 Proposal to the ongoing financial viability of the current operation. Is Baffinland sustainable at its current level of production and with the operation of a truck haul to get the ore to port? The price of iron ore going forward is clearly the critical calculation in relation to current viability. I have focused primarily, but not exclusively on this in what follows.

This text can be read in relation to the criticisms Baffinland has made of the OpenOil Report and the response to those criticisms advanced by OpenOil in its revised financial analysis, *Financial Analysis: Mary River Iron Ore Mine*, January 2021, v.2. The numbers below refer to the 10 points and concerns raised by Baffinland in its review of January 26, 2021.

Analysis

Baffinland Iron Mines Corporation (BIMC) believes that a number of assumptions, outdated reports and some definitive errors have resulted in an overly optimistic outlook submitted by OpenOil on January 8, 2021 and leading to its Financial Analysis of a continued trucking operation. Baffinland's analysis leads them to disagree with the OpenOil conclusion that the current state of operations is stable enough to realize profit and hence make the status quo acceptable.
With regard to Baffinland's criticisms of the OpenOil report:

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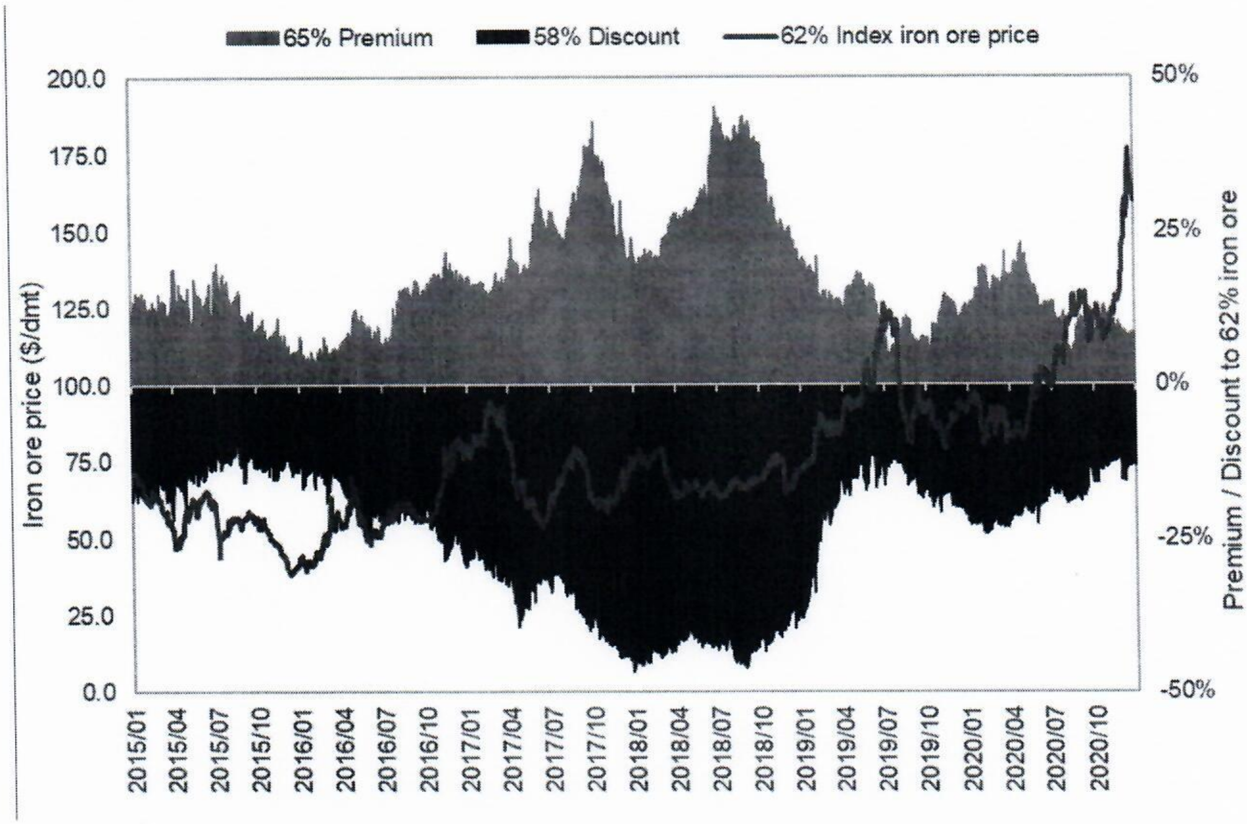
1. Baffinland notes that market conditions at the end of 2020 are not reflective of the market conditions that BIMC has operated under for the past 5 years as noted in Figure 1.



Baffinland contends that: "Pricing for the 62% index1 (blue line) has been generally less than $75/dry metric tonnes (dmt) over this time frame and has only recently spiked. To assume this spike will be sustained for a considerable period as has been assumed within the Report, ignores the historical trending of the pricing of iron ore as well as the environment that BIMC has been operating within historically. "

Baffinland is correct in criticizing OpenOil's use of the most recent price of iron ore in its determinations but, as it turns out – and as noted in what follows – this is not an observation that substantially changes what is a reasonable analysis of the current situation with regard to iron ore prices.

Baffinland states that: "While it may be accurate to indicate that BIMC makes money at the current high prices, this is a very recent pricing landscape that has not been seen in BIMCs operating life, nor was it in the place at the time it applied for the Rail Project, nor is it likely to be sustainable."

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2. In its second point and in reference to page 17 of the OpenOil report, BIMC questions the belief that it is the "wide expectation of analysts" that market prices will continue to remain high into the future. While a reference within the Report providing support of analyst expectations could not be found, BIMC would invite information that could support this brighter forecast for the iron ore market." In what follows I have used a widely accepted method for addressing this concern.

3. Under point 3, Baffinland questions the reliability of using the current price as a long run forecast. This is a 'red herring'. From Figure 1 it can be seen that there is a fairly consistent increase in the 62% iron ore price in the long run.

   While the 2020/12 price of $175 is clearly exceptional, there is no evidence in the chart of a downturn to pre 2019 prices. (I performed a simple time series modelling exercise using the World Bank data. Over the 2016-2020 period, log (prices) have a monthly growth rate of 0.303%, 3.636% annualized. If prices were to decline at the same rate[1] as it has increased over the data period, it would take almost 3 years to return to pre 2019 levels, and 5 years to get below the $57 bench mark for the 10% return mentioned in the Open Oil report).

4. Point four is a criticism of OpenOil for using a base case trucking operation of 6.6 million tonnes. I can't comment on this, but the reader should consult OpenOil's response.
   I am also informed that in responding to the Hamlet of Pond Inlet and its proposal for a 1.5 million tonne per year incremental increase in order to accommodate a regime of 'adaptive management' proposed for the operation, Baffinland suggested that it would be possible to truck 6.5 million tonnes a year for a period of 3 years during construction.

5. Here, Baffinland refers to page 7 of the OpenOil report and concern that capital costs, financing costs, waste capitalization costs, corporate office and royalties and corporate social responsibility costs, including Mary River Project Inuit Impact and Benefit Agreement (IIBA) implementation have not been included.

   This is a valid point but again, see OpenOil's response. It is evident that OpenOil has included these costs – in part. In response they did clarify what it was they had considered, but Baffinland is also not clear on what it has considered in its calculations.

   Something that needs to be clarified is the extent to which, or whether or not Baffinland has included in its calculations, money already spent in anticipation of its Phase 2 expansion. These costs should not be written off against its current operation. They should be treated as costs against revenues accrued from future operations. They are not relevant to answering the question as to whether or not the current operation is financially viable and that is the concern here.

[1] A probability analysis reveals that this is an almost 0 probability event. The chance that the growth rate is actually negative is roughly 14%. That it could be -0.303% per month or lower has a probability of virtually 0.

6. Baffinland notes that the OpenOil Report has maintained a 21% premium on the iron ore price within its financial analysis, inflating the revenue that would be achieved. As shown in the green part of Figure 1, this may have been relevant during 2018 when iron ore prices were low, but as iron ore prices have gone up those premiums have decreased and as of the end of 2020 are below 10%.

   This is a valid point. While using a premium of 10% does affect the analysis of financial return, it does not affect substantially the conclusion that the trucking operation is and is likely to remain profitable for the foreseeable future.

7. BIMC considers it unreasonable that financing costs would not be included as part of a financial analysis. It is common practice for project financing, equipment leasing, debt financing, etc... to be used in the construction of a mining project. In fact, it would be highly uncommon for it not to be. The cost of debt is a real cost to any company and would be a component of any development of the Mary River Project regardless of owner.

   I agree with this point, but again see OpenOil's response. OpenOil's response to this criticism is reasonable. If financing related to the proposed Phase 2 Project has been included in Baffinland's calculations, this is inappropriate to assessing the viability of current operations.

8. Assumptions on capital, sustaining and operating costs use out of date technical reports.
   I have no comment on this observation. The OpenOil report is not clear in detailing what reports or information they used in their calculations and it is difficult to say if the information they used is out of date or not.

9. Baffinland states that: "No sustaining or growth capital for 2018 and 2019 was modelled and no growth capital for a sustained trucking operation was modelled even though as the pit increases in depth, more equipment is required to deal with the increasing strip ratio. Capital for ancillary buildings and equipment such as shops, fuel storage, power needs and accommodations to support that additional equipment and operators is also not modelled".
   I don't understand why this is a problem for viability of the ongoing process, if it was properly accounted for in the original budget plan. It would be highly unusual for a company knowing the nature of its operations and their implications for costs going forward, to not include these in the initial analysis. That the pit is going to increase in depth should come as no surprise and should have been anticipated in the original budget and capital sourcing. Unfortunately, such information has not been released.

10. Baffinland suggests that with the Phase 2 expansion it will expand its market to include Asia. "Shipping rates to Asia are significantly higher than shipping rates to Europe. Although BIMC is able to recoup some of the freight cost for delivery to the customer, the cost it can recuperate is

constrained by what other major suppliers charge for the delivery of their freight who are much closer including Brazil and Australia."

Future market expansion is not relevant in establishing the continued viability of the current operation if current market arrangements remain in place.

Conclusion

As noted, the sustainability of the current operation is heavily dependent on the price of iron ore going forward. The low price for iron ore in the period prior to 2016 can reasonably be attributed to dramatic changes in the growth rate for the Chinese economy; the shock created by the international economic collapse of 2007 – 08, and shaken confidence in the world market and commodity prices in general. Chinese demand for iron ore is *the* critical factor in determining international prices. Prior to the events of 2007-08, the Chinese economy had been expanding at a phenomenal and unsustainable rate of 9 – 10% per annum. The demand for steel reflected, in large measure, China's rapidly expanding presence in world markets, seriously affected by the economic collapse of 2007-8 and beyond.

The resulting shock had an effect on ore prices well beyond 2011-2012. They did not start to recover until 2016. However, recovery since has been reasonably steady and predictable. In response to policies enacted by the Chinese Government, and an emphasis on domestic growth as well as international exports, China's economic growth has since returned to a more sustainable level of about 4% per annum. It took a number of years to achieve this.

In the presence of this combination of domestic and export demand for steel products, there is every reason to believe that current prices, while they may retreat from their current peak, are highly unlikely to return to a level where Baffinland's current truck haul operation is not profitable. The growth in the price of iron ore since 2016 has been consistent and reasonably continuous, demonstrating what one would typically expect for iron ore as a primary commodity on world markets.

The OpenOil Report is somewhat optimistic and has overestimated some elements in its analysis (the premium paid for Baffinland's ore being an example). Generally, OpenOil has made good use of the information to which it had access. Baffinland's calculations also contain assumptions and elements that are questionable if the purpose is to establish the viability of current operations.

As noted, the price of ore going forward is of critical importance to questions of sustainability and viability. Baffinland has asked for a reliable projection of price going forward, and I have provided it.

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Based on a critical review of OpenOil's report and response to Baffinland, while in some places overly optimistic in its assessments, I find nothing in the content that suggests that the current truck haul operation is not financially viable, both at present and for the foreseeable future.

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[i] Biographical Note for Dr. Gordon Anderson
Gordon Anderson was educated at the University of Newcastle Upon Tyne (BA 1972), and at the London School of Economics and Political Science (MSc Econometrics and Mathematical Economics 1974, and PhD Applied Econometrics 1980).

From 1974 until 1984 he was variously Research Fellow, Lecturer and Senior Lecturer at Southampton University (during which time he was also Secretary and founder of the UK Econometric Study Group). From 1984 until 1988 he was Professor of Economics at McMaster University (Graduate Chairman1984-1986), in 1988 he became Professor of Economics at the University of Toronto (Departmental Chair 1990-1994).

He is a recipient of the Bowley Prize for work in applied statistics (by the London School of Economics) 1983, The Sayers Prize for work in Money and Macroeconomics by the University of London 1984, Journal of Applied Econometrics Distinguished Author Award 2004, and the Connaught Senior Research Fellowship 2005. He is a member of the Governing Councils and Editorial Boards of The International Association for Research into Income and Wealth and ECINEQ (an International Society for the study of Economic Inequality) and is a Fellow of the Journal of Econometrics. Dr. Anderson's work has been published extensively in Canadian and international journals.