

Project Report

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## Baffinland Iron Mines Corporation

### Mary River Project

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## Baffinland Response to AANDC Questions Regarding 2014 Workplan and Security Estimate

### 1. Milne Port Landfarm

Table 1-1: Response to Comments/Questions Regarding the 2014 Work Plan

Ref #	Comment/Question	Response
1 (Part 1)	<p>Section 3.1 of the 2014 Work Plan states that no progressive reclamation credits have been applied for in the reclamation estimate for any planned progressive reclamation conducted in 2014. However, Section C. 2.6.15 of the 2014 Marginal Closure and Reclamation Cost Estimate states that the value associated with decommissioning of the bladder farm (73 bladders were drained, folded, and containerized and shipped off site) has been applied as a credit.</p> <p>In Figure B4 on the 2<sup>nd</sup> last line entry a credit of \$243,984 is shown for "Decommission of existing bladder farm". This is equal to the first two itemized costs in Section C.2.6.15 (i.e., "Milne Inlet fuel farm Oil water Separation Operation" - \$199,280 and "Drain, fold, and containerize Milne bladder tanks" - \$44,704). The other itemized costs under Section 2.6.15 totaling \$129,678 are still carried</p>	<p>The 2013 Work Plan Marginal Cost Summary, Carry Over to Type A Cost, considered the following activities related to the bladder farm at Milne Inlet:</p> <ul style="list-style-type: none"> <li>- Milne Inlet fuel farm Oil Water Separation Operation (total cost of \$199,280)</li> <li>- Drain, fold, and containerize Milne bladder tanks (total cost of \$44,704)</li> <li>- Remove all hazardous material/fuel storage geomembrane fuel liners and package for sealift (total cost of \$11,424)</li> <li>- Execute civil works to convert the fuel farm to hydrocarbon impacted soil land farm (total cost of \$54,432)</li> <li>- Execute civil works to transport potential hydrocarbon contaminated soil from Milne Inlet non bulk fuel farm lined containment areas to landfarm (total cost of \$34,740)</li> <li>- Re-contour surface (total cost of \$26,520 with \$2,562 as contingency)</li> </ul> <p>During 2013, the 73 bladders were drained, folded, containerized and shipped off-site thus, the value</p>

	<p>forward from the 2013 estimate. The cost for the sealift does not appear to be a part of the itemized costs in this Section and it is unclear whether Baffinland took a credit elsewhere in the estimate for shipping the bladders offsite.</p> <p>Appendix F of the 2014 Marginal Reclamation and Closure Security Estimate includes 9 pages of manifests of "<i>Hazardous Waste Shipped Off-site in 2013</i>". These manifests indicate that 71 bladders were placed in sea containers. Unfortunately these manifests are not fully signed and dated to verify they have actually left the site.</p> <p>AANDC recommends that Baffinland clarify exactly what activities are associated with the reclamation credit; confirm what reclamation activities took place in 2013 and what reclamation activities remain in 2014 (if any) (cont'd)</p>	<p>associated to this activity has been applied as credit. In addition the operation of the Oil Water Separation Facility will no longer require during 2014.</p> <p>Thus, the cost associated to the Milne Inlet fuel farm Oil Water Separation Operation (\$199,280) and drain, fold, and containerize Milne bladder tanks (\$44,704) was applied as credit from 2013.</p> <p>A credit related to shipping the bladders offsite was not considered.</p> <p>No reclamation credits for planned work in 2014 is claimed in the 2014 Marginal Reclamation and Closure Security Estimate as this work has yet to be conducted.</p>
1 (Part 2)	<p>(cont'd) provide signed manifests to confirm that the bladders were placed in sea containers; clarify whether the bladders were shipped offsite and whether this has been incorporated in the reclamation security estimate.</p>	<p>The nine (9) pages of documentation for "<i>Hazardous Waste Shipped Off-site in 2013</i>" are itemized list of containers and material sent from Site to Valleyfield that were all consigned by Sanexen. Both the IMDG Declaration and the Shipping Manifest are fully signed off on and meet all regulatory requirements for transportation of hazardous materials. The provided annex's are supporting documentation of the signed documents and do not require signatures. As these documents are the actual documents that were used for the shipment of the hazardous materials, Baffinland is of the position this is the most appropriate evidence available to document these materials were shipped off-site.</p>
2	<p>Section 6.0 of the Milne Inlet Preliminary Hydrocarbon Impacted Soil Storage and Landfarm Facility states that "soils that do not respond to bioremediation treatment may be</p>	<p>The landfarm on-site will be used to treat contaminated soils. Due to the primary nature of soil contamination (hydrocarbon-based), Baffinland does not expect to generate any contaminated soils that will not respond to bioremediation treatment.</p>

	disposed of off-site." AANDC recommends that this should be accounted for in the marginal reclamation and closure security estimate as a precautionary measure to ensure that shipping of all hydrocarbon impacted soil off site is accounted for, should it be determined that the soil does not respond to the treatment.	In the unforeseen event contaminated soils do not respond to bioremediation treatment, these would only be small quantity and a cost allocation for shipment of these types of items is considered in the contingency cost for the sealift. Specifically, the contingency allocation in the sealift cost is an additional 8,700 t, with a total cost of \$1,000,500, for de-mobilization of misc-equipment, materials, waste, and consumables that have yet to be identified at the time of this estimate (see section C.2.9.4 of the 2014 Marginal Reclamation and Closure Security Estimate)
3	Section C.2.6.8 states that hydrocarbon contaminated soil will be transported from Mary River bulk fuel farm to the Milne Inlet Landfarm. The Milne Inlet Landfarm was initially designed to treat soil impacted by hydrocarbons (Jet A fuel) when a fuel bladder ruptured in 2008. Will the design of the landfarm sizing requirements be revised to accommodate soil from Mary River? And if so, in what way will this affect the remediation process with respect to additional security requirements?	Baffinland is in the process of expanding the capacity of the Milne Port landfarm to accommodate additional project-wide soil. This expansion will double the remediation process capacity on-site. This is expected not to have any impact on additional security requirements and would only increase the conservatism of the 2014 Marginal Reclamation and Closure Security Estimate. Specific details of the landfarm expansion will be available once finalized.

## 2. Waste

**Table 2-1: Response to Comments/Questions Regarding the 2014 Marginal Reclamation and Closure Security Estimate**

Ref #	Comment/Question	Response
4	Section C.2.7.2 states that removing hazardous waste is an annual activity that has been accounted for in the 2013 estimate. Appendix F of the 2014 Marginal Reclamation and Closure Security Estimate includes 9 pages of manifests of "Hazardous Waste Shipped Off-site in 2013". Unfortunately these are not fully signed and dated to verify they have actually left the site. AANDC maintains that credits for ongoing reclamation work be based on evidence of the work having been completed. In	The nine (9) pages of documentation for "Hazardous Waste Shipped Off-site in 2013" are itemized list of containers and material sent from Site to Valleyfield that were all consigned by Sanexen. Both the IMDG Declaration and the Shipping Manifest are fully signed off on and meet all regulatory requirements for transportation of hazardous materials. The provided annex's are supporting documentation of the signed documents and do not require signatures. As these documents are the actual documents that were used for the shipment of the hazardous materials, Baffinland is

Ref #	Comment/Question	Response
	this case signed manifests should be provided to parties to confirm that all hazardous waste was removed from site.	<p>of the position this is the most appropriate evidence available to document these materials were shipped off-site.</p> <p>If additional documentation is needed, please advise specifically what is being requested as any additional documentation would be above and beyond what is regulatory required for shipment.</p>
5	<p>Section C.2.7.4 states that the estimate includes the costs of removing 20% of the explosives brought on site. According to Mine Site Reclamation Policy for Nunavut and Water Licence 2AM-MRY1325, the total financial security amount must be sufficient to meet the highest reclamation liability in the upcoming year (2014-15). AANDC recommends that the cost estimate should account for the highest reclamation liability by including the costs of removing closer to 100% of explosives brought on site.</p>	<p>The costs of removing 20% of the explosives brought on-site was based on an assumption that was used in the 2013 Work Plan Marginal Cost Summary and to which no concerns were raised.</p> <p>Baffinland recognizes that although this assumption represents a conservative estimate of the amount of explosives that would remain on-site at the completion of the 2014 Work Plan for the purpose of a closure estimate, that it can be interpreted as a non-conformance to Mine Site Reclamation Policy for Nunavut and Water Licence 2AM-MRY1325 as it does not account for the highest reclamation liability for the time period the estimate covers with regard to explosives. Baffinland therefore proposes the 2014 Marginal Reclamation and Closure Security Estimate increase by \$614,108 to account for the highest amount of explosives on-site during the 2014 Work Plan (see Note 1).</p> <p>As an added contingency, a cost allocation is included in the sealift cost for an additional 8,700 t or \$1,000,500, for de-mobilization of misc-equipment, materials, waste, and consumables that have yet to be identified at the time of this estimate (see section C.2.9.4 of the 2014 Marginal Reclamation and Closure Security Estimate).</p>

Ref #	Comment/Question	Response
6	Section C.2.6.9 states that the 12 ML diesel fuel storage tank at Milne is allocated but the 750,000L (0.75 ML) Jet A fuel storage tank indicated in Section 2.2 of the 2014 Work Plan is not allocated in the 2014 marginal security cost estimate. The 2013 Work Plan Marginal Cost Summary (Section D.2.6.5) already includes a cost to decommission a 0.75 ML fuel storage tank and re-contour the tank site. AANDC requests clarification on whether the 0.75 ML Jet A fuel storage tank indicated in Section 2.2 of the 2014 Work Plan is a second 0.75 ML storage tank.	Recognized omission. Due to project changes, there will be three (3), 750,000 L Jet-A fuel tanks constructed at Milne Port at the completion of the 2014 Work Plan. One (1), 750,000L Jet-A was considered in the 2013 Work Plan Marginal Cost Summary. No additional Jet-A tanks were captured in the 2014 Marginal Closure and Reclamation Security Estimate or previous estimates. Therefore, an additional \$29,172 is estimated to be required in the 2014 Marginal Closure and Reclamation Security Estimate to account for the two (2) 750,000 L Jet-A fuel tanks not previously considered. This is based on the reclamation of a 750,000L fuel tank costing \$14,586 (including indirect costs of 10% for contingency and 5% for engineering). See Note 2 for more detail on cost calculation.

**Note 1:**

Baffinland proposes the 2014 Marginal Reclamation and Closure Security Estimate increase by \$614,108 to account for the highest amount of explosives on-site during the 2014 Work Plan. This value is based on the following assumptions:

- Pre-packaged explosives are being used on-site until explosives emulsion plant is constructed. Completion of construction of the emulsion plant is anticipated at the end of January 2014. It is therefore assumed no pre-packaged explosives will be used on-site after January 2014.
- It is assumed AN consumption is equal across all months of the 2014 Work Plan (April 2014 – March 2015) based on construction schedule.
- In July 2014, sealift will re-supply project sites with AN for the remainder of the 2014 Work Plan.
- From February 2014 to July 2014, AN emulsion will be used and AN supplied by air freight periodically.
- It is estimated that the sealift of explosives would have to account for 8 months of AN consumption (August 2014 to March 2015).
- Total AN required on-site for the 2014 Work Plan is 519,095 kg with an additional quantity of 20,468 kg of boosters and 20,468 kg of 'Ez detonators' for a total of 560,031 kg of explosive material to cover 12 months of activity (including supply by air and sealift).

- The maximum amount of explosives on-site at one time therefore will be upon receipt of the July 2014 sealift which is estimated to require delivery of eight (8) months worth of explosive material or 345,717 kg (66% of 560,031 kg).
- \$285,343.26 (120,398 kg x \$2.37/kg) has already been included in the 2014 Marginal Closure and Reclamation Security Estimate for explosives reclamation.
- Therefore, Baffinland proposes the 2014 Marginal Reclamation and Closure Security Estimate increase by \$614,108 (225,319 kg x \$2.37/kg, plus contingency and engineering) to account for the additional 225,319 kg (345,717 kg – 120,398 kg) of explosive material at the RECLAIM unit rate.
- This cost is based on the following calculations:

**Table 2-2: Explosives Reclamation Cost Breakdown**

Activity	Quantity (kg)	Unit Cost (\$/kg)	Cost (\$)
Reclamation of Explosives	225,319	2.37	\$ 534,007
TOTAL Direct			\$ 534,007
Engineering	5%	-	\$ 26,700
Contingency	10%	-	\$ 53,401
TOTAL Indirect			\$ 80,101
TOTAL Cost			\$ 614,108

**Note 2:**

The reclamation activities for 1x750,000L tank would have a cost of \$14,586 (including percentages for contingency and engineering). Therefore, an additional \$29,172 is estimated to be required in the 2014 Marginal Closure and Reclamation Security Estimate to account for the two (2) 750,000 L Jet-A fuel tanks not previously considered. This cost is based on the following calculations:

**Table 2-3: Jet-A Fuel Tank Reclamation Cost Breakdown**

Activity	Area (m <sup>2</sup> )*	Unit Cost (\$/m <sup>2</sup> )	Cost (\$)
Decontaminate bulk fuel storage**	83	200	\$ 12,450
Grade and contour	83	2.6193	\$ 217
TOTAL Direct			\$ 12,667
Engineering	5%	-	\$ 633
Contingency	10%	-	\$ 1,267
TOTAL Indirect			\$ 1,900
TOTAL Cost per Tank			\$ 14,586

\*Area was taken from 2013 Marginal closure cost, which assumed a tank with a radius equal to 5.13 m

\*\* It is assumed that strictly the footprints of the aboveground fuel tanks would be reclaimed and not the entire fuel storage site. Therefore it is estimated that this is 75% of the fuel storage site area will need to be reclaimed.



### 3. 2014 Marginal Reclamation and Closure Security Estimate Proposed Changes

Based on changes to assumptions related to explosives liability (see Ref #5 above) and Jet-A fuel tank reclamation (see Ref #6 above), Baffinland would propose the 2014 Marginal Reclamation and Closure Security Estimate be increased by \$657,866. Impact of these changes on the project-wide reclamation and closure security estimate is reflected in Table 3-1 below.

**Table 3-1: Mary River Project Total Closure and Reclamation Security Summary**

Liability Allocation		Total Security for Type A Water License in 2013	Mary River Exploration Project Closure Cost Estimate (Type B Renewal)	2014 Work Plan Marginal Closure Estimate – Approved Activities	2014 Work Plan Marginal Closure Estimate – ERP Activities	Total 2014 Closure Estimate for Mary River Project	Total Project-Wide Security for 2014
TOTAL		\$35,994,000	\$1,247,000	\$3,958,000	\$279,000	\$4,237,000	\$41,478,000
IOL	Land	\$33,840,000	\$147,000	\$3,793,000	\$279,000	\$4,072,000	\$38,059,000
	Water	\$2,154,000	\$18,000	\$0	\$0	\$0	\$2,172,000
	<b>Total IOL</b>	<b>\$35,994,000</b>	<b>\$165,000</b>	<b>\$3,793,000</b>	<b>\$279,000</b>	<b>\$4,072,000</b>	<b>\$40,231,000</b>
Crown	Land	\$0	\$1,082,000	\$166,000	\$0	\$166,000	\$1,248,000
	Water	\$0	\$0	\$0	\$0	\$0	\$0
	<b>Total Crown</b>	<b>\$0</b>	<b>\$1,082,000</b>	<b>\$166,000</b>	<b>\$0</b>	<b>\$166,000</b>	<b>\$1,248,000</b>

\*\*Rounded to the nearest '000's

## 4. Clarification of the Concordance Issue

### 4.1 Clarification Request

Reference #8: "It is understood that the work plan is divided into ERP, Type B, and Type A activities but as reviewers and enforcers of the water licences, it would be helpful if the ERP and Type B sections were further divided into activities that are approved vs those that are pending approval. So rather than having to focus a part of our review trying to distinguish between the two, we can concentrate more fully on our review of the estimate itself and more importantly it would be clear that Baffinland can show that they have a plan to carry out each activity. It needs to be clear what activities in the work plan are licenced and what revisions and approvals may be necessary in order to carry out all of the activities in the work plan. So in this way, a concordance table would be very helpful to show all this information. For an example of how a concordance could clarify how Baffinland plans to conduct their activities in the work plan, please refer to Table 1 below for some examples of activities where clarification would be appreciated. As stated yesterday, we are requesting a concordance table listing all the activities and cross-referencing them to a licence (Type A or Type B), where they are referenced in the cost estimate (Type A, Type B, ERP), and whether they are already approved, and if so whether a revised plan or other documentation is required (i.e. updated management plans, etc.), or whether the activity is pending approval."

## 4.2 Response

As requested a concordance table is found in Table 4-1 below. It is recognised that all of the activities in the 2014 Work Plan have yet to receive regulatory approval as some activities are pending approval of an amendment of Project Certificate #005 by the Minister. However, the bulk of the 2014 Work Plan is approved under the existing Project Certificate as well as the Type A and Type B Water Licences.

Table 4-1 below describes which sections of the 2014 Work Plan correspond to which approval. All of the activities within that heading fall under the licence stated except 'Section 2.2 Construction Activities associated with the Early Revenue Phase'. Here the construction of the Ore Dock, Stockpile at Milne Port and the associated settling ponds are activities that are pending approval of the revised Project Certificate, however the dredging activities are already licenced under the Type A Licence (Part F, number 4b), requiring only an update to the Waste Management Plan. The drawings for these construction activities will be provided to the NWB upon approval of the amended Project Certificate.

The cost associated with the Early Revenue Phase activities, as differentiated in Section 2.10 of the 2014 Work Plan, will require an update to the Securities posted for 2014 of an estimated amount of \$279,000.

**Table 4-1: Concordance Table of 2014 Work Plan Activities**

Activity per Section	Page number	Licence Scope	Approved / Pending approval
Section 2.2 Infrastructure and Construction Works	Pg. 6-9	A mix of Type A, pending ERP approval and Type B. Broken down below	Various
Section 2.2 Milne Inlet	Pg. 6-7	Within Scope of Type A	Approved
Section 2.2 Tote Road	Pg. 7	Within Scope of Type A	Approved
Section 2.2 Mine Site	Pg. 7-8	Within Scope of Type A	Approved
Section 2.2 Construction Activities associated with the Early Revenue Phase	Pg. 8-9	Pending approval of ERP (will fall within Type A)	Pending approval
Section 2.3 Infrastructure Layout at end of 2014	Pg. 9	Within Scope of Type A and including ERP	Type A approved, ERP activities pending approval (As per activities described in Section 2.2 above)
Section 2.4 Mining, Quarrying and Exploration Activities Part i Exploration Activity and drilling plan	Pg. 9-10	Within Scope of Type B	Approved/pending renewal
Section 2.4 Mining, Quarrying and	Pg. 10-11	Within Scope of Type A	Approved



Activity per Section	Page number	Licence Scope	Approved / Pending approval
Exploration Activities Part ii An estimate of the amount and type of ore and waste to be mined in each month,			
Section 2.4 Mining, Quarrying and Exploration Activities Part iii. An estimate of the amount and type of ore to be shipped each month,	Pg. 11	Within Scope of Type A	Approved
Section 2.4 Mining, Quarrying and Exploration Activities Part iv. Expected quarterly quantities to be quarried of each Specified Substance including sand, gravel and construction stone, where possible, estimated by individual quarry site or borrow location;"	Pg. 11	Within Scope of Type A	Approved
Section 2.5 Solid Waste Disposal	Pg. 12	Within Scope of Type A	Approved
Section 2.6 Specified Substances	Pg. 12	Within Scope of Type A	Approved – none contemplated at this time
Section 2.7 Water Use	Pg. 13	Within Scope of Type A	Approved
Section 2.8 Materials Shipped out	Pg. 14-15	Within Scope of Type A	Approved
Section 2.9 Materials Shipped in	Pg. 16-18	Within Scope of Type A	Approved
Section 2.10 Closure and Reclamation Costs	Pg. 18	A mix of Type A, pending ERP approval and Type B.	Both
Section 2.11 Option Exercise Notices	Pg. 19	Associated with QIA lease	N/A
Section 2.12 Lease Schedule Updates	Pg. 19	Associated with QIA lease	N/A
Section 2.13 Lease Amendment Provisions	Pg. 19	Associated with QIA lease	N/A

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AG:ag  
Attachment(s)/Enclosure  
None