



February 12, 2020

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Sanikiluaq

Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nunavut
X0B 1J0

Re: Licence No. 2AM-MRY1325 Type "A"; Mary River Project, Revised 2020 Work Plan and 2020 Marginal Closure & Reclamation Security Estimate

At the request of the Nunavut Water Board (NWB), the Qikiqtani Inuit Association (QIA) has updated the 2020 Mary River Reclamation Security Update Report¹ (attached) to reflect revisions to Baffinland Iron Mines Corporation's (Baffinland) 2020 Work Plan (Rev. 1)².

At this time, both QIA and Baffinland recognize that several components of QIA's 2020 security estimate are included in the agreed-upon scope of the 2019 Reclamation Security Arbitration (the '2019 Arbitration'). As such, QIA has agreed to delay Baffinland's annual requirement to adjust reclamation security until after the conclusion of the 2019 Arbitration. A joint statement between QIA and Baffinland (attached) provides additional details of this agreement.

Following the conclusion of the 2019 Arbitration and the resultant guidance of the Arbitrator, QIA will revise its 2019 and 2020 Mary River Reclamation Security Update Reports for submission to both Baffinland and the NWB. Both parties will reconcile reclamation security for 2019 and 2020 at this time.

QIA would like to thank the NWB for extending the submission date from February 7, 2020 to February 12, 2020 to accommodate the development of a joint submission.

Sincerely,

Chris Spencer
Manager, Regulatory Affairs

cc: Jared Ottenhof, Qikiqtani Inuit Association
Lou Kamermans, Baffinland Iron Mines Corporation
Christopher Murray, Baffinland Iron Mines Corporation

¹ ARKTIS (2020). 2020 Mary River Reclamation Security Update Report Version 2. February 4, 2020.

² Baffinland (2020). 2020 Work Plan Rev. 1. January 22, 2020.

JOINT STATEMENT TO THE NUNAVUT WATER BOARD
Update on 2020 Annual Security Review for the Mary River Project
February 12, 2020

This joint statement, drafted by the Qikiqtani Inuit Association (QIA) and Baffinland Iron Mines Corporation (Baffinland) is presented to the Nunavut Water Board (the 'Board') in response to the call for comments regarding Baffinland's revised 2020 Work Plan and associated Security Estimate submitted on January 24, 2020. This statement provides the Board with details of the ongoing 2019 reclamation security arbitration (the '2019 Arbitration') and its relationship to the annual marginal adjustment for 2020.

As stated in the March 15, 2019 joint submission to the Board, Baffinland and QIA have agreed, in good faith, to enter into arbitration under the Commercial Lease (Q13C301) to determine the adjustment to reclamation security for 2019. The arbitration hearing is currently set for April, 2020.

At this time, both parties recognize that several components of QIA's 2020 Security Estimate are common to those included in the agreed-upon scope of the 2019 Arbitration. Under these circumstances, QIA has agreed, with conditions, to delay Baffinland's annual requirement to adjust reclamation security under the Commercial Lease until after the conclusion of the 2019 Arbitration. The conditions governing this delay have been accepted by Baffinland and are provided below for your reference:

1. The existing reclamation security on deposit will remain unchanged (neither increased nor decreased) until after the arbitration decision for the 2019 Arbitration;
2. No new 2020 work plans or work plan amendments will be issued to or considered by QIA to authorize 2020 work changes until after the arbitration decision;
3. Subject only to delays in the April arbitration that are not within our reasonable control, Baffinland and QIA will reconcile any 2020 Reclamation Security adjustments before July 1, 2020, and in any event promptly following the arbitration decision, unless otherwise directed by the Arbitrator at the outcome of the arbitration;
4. QIA's 2020 reclamation security adjustment amount will continue to address reclamation of the airstrip as well as disturbed areas along the Tote Road as being reasonable, and therefore required by the Commercial Lease (subject to Baffinland's arbitration right if the parties cannot resolve this issue);
5. QIA reserves, and is not waiving or compromising, any of its rights and benefits under the Commercial Lease, including, without limitation, the requirement for prompt payment of all reclamation security adjustments when due under the Commercial Lease; and
6. QIA continues to require strict compliance by Baffinland with all of its other obligations pursuant to the Commercial Lease.

Parties will continue to inform the Board of the status of the 2019 Arbitration including the Arbitrators' findings.

2020 MARY RIVER RECLAMATION SECURITY UPDATE REPORT

VERSION 2

February 4, 2020

Nick Jewitt
ARKTIS Solutions Inc.
jewitt@arktissolutions.com

Phone: 867.446.4129
Facsimile: 866.475.1147



February 4, 2020

Qikiqtani Inuit Association
P.O. Box 1340
Iqaluit, NU, X0A 0H0

ATTENTION: Chris Spencer, Regulatory Manager

RE: 2020 MARY RIVER RECLAMATION SECURITY UPDATE REPORT

ARKTIS Solutions Inc. is providing the 2020 Mary River Reclamation Security Update Report V2 that was completed on behalf of the Qikiqtani Inuit Association (QIA) under the terms of the Commercial Lease No.: Q13C301 with Baffinland Iron Mines Corporation (Baffinland). This is an update in response to Baffinland's 2020 Work Plan Rev. 1 submission delivered on January 27, 2020.

Sincerely,
ARKTIS Solutions Inc.

Signed electronically

Nick Jewitt, M.A.Sc.
Environmental Specialist

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1 INTRODUCTION

ARKTIS Solutions Inc. (ARKTIS) submits this 2020 Mary River Security Update Report V2 (Report) to the Qikiqtani Inuit Association (QIA) that provides recommendations to the annual reclamation security for Baffinland Iron Mines Corporation's (Baffinland) Mary River Project (Project), as required per Section 9.2, Item (d), of the Lease¹ as well as by the Nunavut Water Board (NWB) for Baffinland's Type 'A' Water Licence No. 2AM-MRY1325.²

V2 of this Report is an update in response to Baffinland's 2020 Marginal Closure and Reclamation Financial Security Estimate Rev. 1³ (Baffinland's Estimate) submission delivered on January 27, 2020. In developing the quantities in the Report, ARKTIS has used Baffinland's Estimate and the 2019 Environmental Audit⁴ as the primary sources of new information.

The structure of this Report is as follows:

Section 2.0 outlines the methodology and assumptions used in the analysis.

Section 3.0 presents the Direct Costs to be reconciled from previous work plans.

Section 4.0 presents the Direct Costs in the reclamation security update.

Section 5.0 presents the Indirect Costs in the reclamation security update.

Section 6.0 provides a summary of recommendations.

Section 7.0 provides a disclaimer and a closure of the document.

Appendix A presents the general terms and conditions.

¹ QIA and Baffinland (2013). Commercial Lease No. Q13C301. September 6, 2013.

² NWB (2015). Type 'A' Water Licence No.: 2AM-MRY1325, Amendment No. 1. July 31, 2015.

³ Baffinland (2020). 2020 Marginal Closure and Reclamation Financial Security Estimate Rev. 1. January 27, 2020.

⁴ ARKTIS (2019). 2019 Environmental Audit Report. September 17, 2019.

2 METHODOLOGY

The evaluation of reclamation security for the Project continued to use the methodologies detailed in the QIA 2014 Comprehensive Security Estimate⁵, the QIA Abandonment and Reclamation Policy⁶, and generally applies the principles outlined by the Government of Canada⁷. The resultant change in reclamation security is summarized in Section 6. Note that security line items may have minor rounding inconsistencies due to the reclamation security model using additional digits to calculate reclamation security. ARKTIS has shown reclamation security to the \$1 to maintain consistency with Baffinland's Estimate.

The reclamation security estimate incorporates information from previous QIA reclamation security estimates (2014,⁵ 2015,⁸ 2015 Addendum⁹, 2016¹⁰, 2016 Update¹¹, 2017¹², 2017 Addendum¹³, 2018¹⁴, 2018 Addendum¹⁵, and 2019¹⁶), and an analysis of the changes to planned activities as listed in Baffinland's Estimate³.

For 2020 activities, Baffinland's additional quantities for each Direct Cost, were adopted by ARKTIS as QIA is unable to complete an audit on future works. Quantity values may be reconciled in future security reports. As such, differences in Direct Costs between Baffinland and QIA are typically a result of differences in Unit Rates applied by each party or reasonable assumptions made regarding work activities. Different than previous security estimates, ARKTIS has not compared unit costs of each line item to those provided by Baffinland in the main text of the Report. ARKTIS did not want the comparison to be the focus of the work and has noted that inconsistencies in Baffinland's work in the past has led to questions ARKTIS is unable to answer.

The reclamation security does not include activities on Crown Lands (e.g., Steensby Inlet or Ore dock), nor does it address the Type 'B' Exploration Water License No. 2BE-MRY1421.¹⁷ It is ARKTIS' understanding that QIA does not evaluate liability on behalf of other landowners, nor does QIA intend to take a position on whether the amount of security held by other parties is adequate to fulfill their interests.

⁵ ARKTIS (2014). QIA 2014 Comprehensive Security Estimate. December 12, 2014.

⁶ QIA (n.d.) Abandonment and Reclamation Policy for Inuit Owned Lands. V. 2.0.

⁷ INAC (2002) Mine Site Reclamation Policy for Nunavut.

⁸ ARKTIS (2014). QIA 2015 Comprehensive Security Estimate. December 5, 2014.

⁹ ARKTIS (2015). QIA Revised 2015 Comprehensive Security Estimate. January 13, 2015.

¹⁰ ARKTIS (2015). QIA 2016 Comprehensive Security Estimate. December 2, 2015.

¹¹ ARKTIS (2016). 2016 Comprehensive Security Estimate Update. January 8, 2016.

¹² ARKTIS (2016). QIA 2017 Comprehensive Security Estimate. December 2, 2016.

¹³ ARKTIS (2017). Baffinland Iron Mines Corporation, Mary River Project, QIA 2017 Addendum Reclamation Security Update Draft. July 19, 2017.

¹⁴ ARKTIS (2018). QIA 2018 Mary River Reclamation Security Report. February 1, 2018.

¹⁵ ARKTIS (2018). QIA 2018 Mary River Reclamation Security Report Addendum. July 18, 2018.

¹⁶ ARKTIS (2019). QIA 2019 Mary River Reclamation Security Report. January 17, 2019.

¹⁷ NWB (2014). Type 'B' Water Licence No.: 2BE-MRY-1421. April 17, 2014.

3 SECURITY RECONCILIATION

Section 3 updates the Project security estimate based on the 2019 Environmental Audit⁴ and Baffinland's Estimate, which includes a list of items that are to be reconciled from their previous work plans. All costs presented in this Section are Direct Costs. The following sub-sections describe the items to be reconciled during the 2020 Annual Security Review Process.

The Indirect Costs based on security reconciliation have been included in the calculated Indirect Costs presented in Section 5.

3.1 BUILDINGS AND FOUNDATIONS

Table 3-1 shows a summary of QIA's estimate for reclamation security for buildings and foundations. The Carpenter Workshop was identified by ARKTIS during the 2019 Environmental Audit and included in Baffinland's Estimate. It is believed that these buildings were those originally planned to be mobilized from the Weatherhaven Camp (2019 Audit Position ID 3).

Table 3-1 Buildings and Foundations reconciliation

Item	Unit Rate Type	Quantity (m ²)	Unit Rate	Direct Cost
Aecon Workshops	Soft Walled Building Not Contaminated	1,650	\$35.47	\$58,526
Sana Workshop	Modular Building Not Contaminated	500	\$60.52	\$30,260
Carpenter Workshop	Fold Away Building Not Contaminated	100	\$35.47	\$3,547
TOTAL		2,250.00		\$92,333

3.2 MECHANICAL AND MOBILE EQUIPMENT

The Baffinland Estimate includes a list of mechanical equipment brought to Site not previously allocated (representing an additional cost) or that was not brought to Site or that was backhauled from Site (representing a reduction in the Baffinland Estimate).

The development of an inventory or tracking system has been an item of high uncertainty between QIA and Baffinland since 2016. Without this system, QIA is lacking confidence in Baffinland's ability to provide reasonable quantities of mechanical and mobile equipment. The 2019 Environmental Audit continued to identify discrepancies between the draft inventory of mechanical equipment provided by Baffinland and the number of the same equipment estimated for reclamation security.

In 2019, ARKTIS understood QIA was of the position that reclamation security should be held for the highest determined value of mechanical and mobile equipment on site¹⁸ until Baffinland can provide reasonable evidence to the contrary. The updated position for 2020 is to reduce reclamation security for items that were not brought to site as agreed upon during the January 23, 2020 meeting¹⁹; however, there will be no reduction in reclamation security for items that have been backhauled due to the discrepancies mentioned above.

Additionally, it is ARKTIS' opinion that 3rd Party Equipment at the Project cannot be landfilled in a reclamation scenario as it is not the property of Baffinland. It is assumed that only items with "3rd party" in the description of the equipment are not owned by Baffinland. Therefore, ARKTIS has included 3rd party equipment in Section 5.2 as ARKTIS considers the demobilization of 3rd Party Equipment as an Indirect Cost.

Table 3-2 only summarizes Baffinland's Estimate for new mechanical and mobile equipment brought to Site but not previously allocated and equipment not brought to site. The associated change in security is included.

Table 3-2 Mechanical and Mobile Equipment reconciliation

Item	Unit Rate Type	Quantity (pcs)	Unit Rate (\$/pcs)	Direct Cost
Generator	Heavy Equipment	1	\$36,627.91	\$36,628
Bucket Wheel Stacker Reclaimer	Heavy Equipment	-2	\$36,627.91	(\$73,256)
Screen Metso FS353	Heavy Equipment	-1	\$36,627.91	(\$36,628)
30,000 L Fuel Tanker Truck	Heavy Mobile Equipment	-11	\$2,090.32	(\$22,993)
745C Rock Truck	Heavy Mobile Equipment	4	\$2,090.32	\$8,361
950M Loader	Heavy Mobile Equipment	1	\$2,090.32	\$2,090
Heavy Duty Shunt Truck	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
Feeder Dolly	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)

¹⁸ In-person meeting held between QIA, supported by ARKTIS, and Baffinland on December 13, 2018.

¹⁹ In-person meeting held between QIA, supported by ARKTIS, and Baffinland on January 23, 2020.

Item	Unit Rate Type	Quantity (pcs)	Unit Rate (\$/pcs)	Direct Cost
Fines Mobile Stacker	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
Conveying - Jump Conveyor	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
Conveying - Conveyor Feeder	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
Pumper fire truck	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
MOBILE EQUIPMENT- MINE SITE WHEEL DOZER-CAT 824H	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
922K Wheel Loader	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
Jet A Truck	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
D10 Dozer	Heavy Mobile Equipment	-1	\$2,090.32	(\$2,090)
D8T Dozer	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Tri-Trombone flat trailer	Medium Mobile Equipment	-1	\$1,457.15	(\$1,457)
Zoom Boom 12,000 lbs	Medium Mobile Equipment	-1	\$1,458.15	(\$1,457)
4x4 Hotseating Bus	Medium Mobile Equipment	-1	\$1,459.15	(\$1,457)
Boom Truck	Medium Mobile Equipment	-1	\$1,460.15	(\$1,457)
Pressure washing truck	Medium Mobile Equipment	-1	\$1,461.15	(\$1,457)
Kalamar DRT 450	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Tower Trailer	Medium Mobile Equipment	3	\$1,456.15	\$4,368
Light ERT utility vehicle	Light Mobile Equipment	-1	\$852.05	(\$852)
Portable water pump	Light Mobile Equipment	-2	\$852.05	(\$1,704)
Pickup truck (F350 or similar)	Light Mobile Equipment	-7	\$852.05	(\$5,964)
Genie Manlift z60	Light Mobile Equipment	-2	\$852.05	(\$1,704)
Genie Manlift s135x	Light Mobile Equipment	-3	\$852.05	(\$2,556)
Frost Fighter Heater	Light Mobile Equipment	-6	\$852.05	(\$5,112)
Rescue Boat and Trailer	Light Mobile Equipment	1	\$852.05	\$852
Light Plant	Light Equipment	-21	\$1,666.54	(\$34,997)
Generator/Air Compressor	Light Equipment	-1	\$1,666.54	(\$1,667)
TOTAL		-60		(\$160,421)

3.3 2019 ENVIRONMENTAL AUDIT RESULTS

Table 3-3 reconciles findings from the 2019 Environmental Audit that QIA has directed Baffinland and ARKTIS to include in the 2020 Annual Security Report. Note that Baffinland has not reconciled all siteworks, despite being directed to do so by the QIA. Therefore, these items account for a significant share of the difference between Baffinland's Estimate and this estimate.

Table 3-3 QIA Audit reconciliation

Item	Location	Quantity (m ²)	Unit Rate (\$/m ²)	Direct Cost
<i>Grade and Recontour</i>				
Ore Crusher Stockpile- 2019 Audit Reconciliation	Mary River	34,934	\$1.65	\$57,641
Ore Stockpile Sedimentation Pond 2a- 2019 Audit Reconciliation	Milne Port	288	\$1.65	\$475
Airstrip- 2019 Audit Reconciliation	Mine Site	233,222	\$1.65	\$384,816
Tote Road- 2019 Audit Reconciliation	Tote Road	1,154,485	\$1.65	\$1,904,900
Crusher Maintenance Shop Laydown Area Expansion- 2019 Audit Reconciliation	Mine Site	-975	\$1.65	(\$1,609)
Raw Water Intake Laydown- 2019 Audit Reconciliation	Milne Port	-66	\$1.65	(\$109)
TOTAL		1,421,888		\$2,346,115

3.4 STORAGE TANKS

Consistent with the rationale provided in Section 3.2, QIA will not be adjusting reclamation security for items that have been backhauled due to the discrepancies in inventory. As such, ARKTIS will not be reducing security for demobilized storage tanks.

4 DIRECT COSTS ANALYSIS

The following subsections describe, by reclamation activity, changes to Direct Costs resulting from Baffinland's Estimate.

4.1 BUILDINGS AND FOUNDATIONS

Table 4-1 shows a summary of the security estimate for Buildings and Foundations. Baffinland identified new washroom facilities along the Tote Road. ARKTIS maintains the position that it is reasonable to believe the washroom facilities will contaminate the ground beneath them and included the associated direct cost using the Unit Rate for "Modular Buildings Contaminated". This is consistent with previous reclamation security estimates.

Table 4-1 Buildings and Foundations

Item	Location	Quantity (m ²)	Unit Rate (\$/m ²)	Direct Cost
<i>Modular Building Not Contaminated</i>				
Crusher services trailer (2 x 36 m ²)	Milne Port	72	\$60.52	\$4,357
Sailivik Camp Mine Dry	Mine Site	1,200	\$60.52	\$72,618
Office trailers for Environment (2 x 36 m ²)	Mine Site	72	\$60.52	\$4,357
Office trailers for Crushing (2 x 36 m ²)	Mine Site	72	\$60.52	\$4,357
<i>Modular Building Contaminated</i>				
Washroom facilities at KM26 and KM80 IT Towers (2x36 m ²)	Tote Road	72	\$181.55	\$13,071
TOTAL		1,488		\$98,760

4.2 MECHANICAL AND MOBILE EQUIPMENT

Table 4-2 summarizes QIA's Estimate for mechanical and mobile equipment reclamation security. ARKTIS has used Baffinland's provided quantities. Baffinland has not included any additional 3rd Party Mobile Equipment in their estimate. It was noticed that Baffinland had reconciled a Jet A Truck using the Unit Rate for Heavy Mobile Equipment but included it in 2020 works using the Unit Rate for Medium Mobile Equipment. ARKTIS has used the Unit Rate for Heavy Mobile Equipment consistent with 2019.

Table 4-2 Mechanical and Mobile Equipment

Item	Unit Rate Type	Quantity (pcs)	Unit Rate (\$/pcs)	Direct Cost
Feed Conveyor	Heavy Equipment	1	\$36,627.91	\$36,628
Generator 1000 kW	Heavy Equipment	1	\$36,627.91	\$36,628
Conveyors	Heavy Equipment	3	\$36,627.91	\$109,884
Jaw Crusher Unit	Heavy Equipment	1	\$36,627.91	\$36,628
Screener + Cone crusher unit	Heavy Equipment	1	\$36,627.91	\$36,628
908 Loader	Heavy Mobile Equipment	2	\$2,090.32	\$4,181
950 Loader	Heavy Mobile Equipment	2	\$2,090.32	\$4,181
D10 Dozer	Heavy Mobile Equipment	1	\$2,090.32	\$2,090
374F Excavator	Heavy Mobile Equipment	4	\$2,090.32	\$8,361
Jet A Truck	Heavy Mobile Equipment	1	\$2,090.32	\$2,090
600kW Generators	Medium Equipment	2	\$3,860.22	\$7,720
60kW Generator	Medium Equipment	3	\$3,860.22	\$11,581
Atlas 1000 mVA Transformers	Medium Equipment	4	\$3,860.22	\$15,441
740B Water Truck	Medium Mobile Equipment	1	\$1,456.15	\$1,456
14M Grader	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Fuel Tanker	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Cube Truck	Medium Mobile Equipment	2	\$1,456.15	\$2,912
48p School Bus	Medium Mobile Equipment	2	\$1,456.15	\$2,912
Steam Truck	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Track Mounted Drill Rig	Medium Mobile Equipment	2	\$1,456.15	\$2,912
4x4 Hotseating Bus	Medium Mobile Equipment	2	\$1,456.15	\$2,912
Flatbed Boom Truck	Medium Mobile Equipment	1	\$1,456.15	\$1,456
CCM200E Concrete Mixer	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Pressure Washing Truck	Medium Mobile Equipment	1	\$1,456.15	\$1,456
Light Plant	Light Equipment	10	\$1,666.54	\$16,665
Larue Snow Blower	Light Mobile Equipment	1	\$852.05	\$852
257 Skid Steer	Light Mobile Equipment	2	\$852.05	\$1,704
Blaze Cube Frost Fighters	Light Mobile Equipment	2	\$852.05	\$1,704
TOTAL		56		\$354,806

4.3 SITE WORKS

Table 4-3 shows a summary of QIA's grade and recontour reclamation security estimate.

Table 4-3 Site Works

Item	Location	Quantity (m ²)	Unit Rate (\$/m ²)	Direct Cost
<i>Grade and Recontour</i>				
Warehouse Laydown Area	Mine Site	3,200	\$1.65	\$5,280
<i>Grade and Recontours with Liner</i>				
New Hazardous Waste Containment Facilities	Milne Port	72	\$4.68	\$337
Hazardous Waste Berm Containment facilities	Mine Site	456	\$4.68	\$2,134
Geotube Settling Pond	Mine Site	3,000	\$4.68	\$14,040
Mine Haul Road Sedimentation Pond	Mine Site	10,000	\$4.68	\$46,800
TOTAL		16,728		\$68,591

4.4 STORAGE TANKS

Table 4-4 summarizes QIA's storage tanks security estimate. ARKTIS used quantities provided by Baffinland.

Table 4-4 Storage Tanks

Item	Quantity (ea.)	Unit Rate (\$/ea.)	Direct Cost
Water Tanks – Light Tank	4	\$2,501	\$10,004

4.5 PIPING

Baffinland has added 3,750m of piping to be installed at the Mine Site, as shown in Table 4-5.

Table 4-5 Piping

Item	Location	Quantity (m)	Unit Rate (\$/m)	Direct Cost
Fuel Line- Bulk Fuel Storage Area	Mine Site	250	\$52.68	\$13,170
Transfer Line for Deposit 1 to Waste Rock Facility	Mine Site	3,500	\$52.68	\$184,380
TOTAL		3,750		\$197,550

4.6 INCINERATORS

Baffinland has added security for two incinerator units at the Mine Site and Milne Port. Table 4-6 provides ARKTIS' estimate.

Table 4-6 Incinerators

Item	Quantity (ea.)	Unit Rate (\$/ea.)	Direct Cost
Incinerator Unit	2	\$8,582.85	\$17,166

4.7 FILL APPLICATION

Table 4-7 summarizes QIA's fill application security estimate. ARKTIS used Baffinland's quantity estimate, therefore any differences would be based on Unit Rates.

Table 4-7 Fill Application

Item	Location	Quantity (m ²)	Unit Rate (\$/m ²)	Direct Cost
Fill Application for 2020 Estimate	Mine Site	5,170	\$38.43	\$198,683

4.8 CONTAMINATED SOIL REMOVAL

Table 4-8 summarizes QIA's contaminated soil removal estimate. QIA has included contaminated soil removal Direct Costs for the washroom facilities that are reasonably assumed to be contaminated. For all items, 50% of the soil was assumed contaminated at a depth of 0.5m, concurrent with the 2014 Comprehensive Security Estimate⁵. The Indirect Costs for the treatment of the soil are included in Section 5.1.

Baffinland did not include any increase in contaminated soil removal.

Table 4-8 Contaminated Soil Removal

Item	Quantity (m ³)	Unit Rate (\$/m ³)	Direct Cost
Washroom facilities at KM26 and KM80 IT Towers (2x36 m ²)	18	\$29.10	\$524

4.9 CABLING REMOVAL

Table 4-9 summarizes QIA's cabling removal reclamation security estimate. ARKTIS used Baffinland's quantity estimate, therefore any differences would be based on Unit Rates.

Table 4-9 Cabling Removal

Item	Location	Quantity (m)	Unit Rate (\$/m)	Direct Cost
Additional permanent lighting at the warehouse	Mine Site	600	\$24.87	\$14,922

5 INDIRECT COSTS ANALYSIS

The following subsections describe in detail, by reclamation activity, changes to Indirect Costs resulting from Baffinland's Estimate.

5.1 CONTAMINATED SOIL TREATMENT

Contaminated Soil Treatment is included as an Indirect Cost consistent with the 2014 Comprehensive Security Estimate⁵. For this estimate, ARKTIS has not included worker and fuel mobilization costs as it is included in the Unit Rate in this case. The contaminated soil removed in **Table 4-8** is brought to the Landfarm for treatment. This cost is provided in **Table 5-1**.

Table 5-1 Contaminated Soil Treatment

Item	Quantity (m ³)	Unit Rate (\$/m ³)	Indirect Cost
Washroom facilities at KM26 and KM80 IT Towers (2x36 m2)	18	\$9.40	\$169

5.2 SEA CONTAINERS

Consistent with the 2019 Annual Security Report, ARKTIS adjusts security for the maximum number of Sea Containers observed on-site. During the 2019 Environmental Audit, this was found to be 2,765 TEU. This is an increase of 766 TEU and is shown in **Table 5-2**. For the Report, the Unit Rate has been decreased to \$612.54/TEU from \$694/TEU, consistent with the 2019 Nunavut Freight Rates²⁰. This has been reconciled in throughout the Report.

Table 5-2 Sea Containers

Item	Quantity (TEU)	Unit Rate (\$/TEU)	Indirect Cost
20" ISO-Container (TEU), 2019 Unit Rate Adjustment	-1999	\$694	(\$1,387,306)
20" ISO-Container (TEU), 2019 Unit Rate Adjustment	1999	\$612.54	\$1,224,387
20" ISO-Container (TEU) 2020 Additions	766	\$612.54	\$469,206
TOTAL	2,765		\$306,287

²⁰ NEAS (2019). Sealift Rates for 2019 Season. April 1st, 2019.

5.3 3RD PARTY OWNED EQUIPMENT

Table 5-3 summarizes QIA's reclamation security estimate for 3rd Party Owned Equipment. As discussed in Section 3.2, Baffinland has included 3rd party owned equipment as a Direct Cost. Baffinland has not reconciled any backhauled 3rd Party Owned Equipment or included any additions in the 2020 Work Plan. Baffinland's Estimate³ includes an Indirect Cost associated with the mobilization and demobilization of equipment calculated as 10% of the Direct Costs.

Table 5-3 3rd Party Owned Equipment

Item	Quantity (pcs)	Unit Rate (\$/pc)	Indirect Cost
3rd Party Heavy Mobile Equipment (make up for 'typical' fleet)	60	\$15,964.53	\$957,872
3rd Party Medium Mobile Equipment (make up for 'typical' fleet)	67	\$8,202.67	\$549,579
3rd Party Light Mobile Equipment (make up for 'typical' fleet)	65	\$2,785.99	\$181,089
TOTAL	192		\$1,688,540

5.4 WORKER MOBILIZATION AND CAMP ACCOMMODATIONS

Table 5-4 summarizes QIA's reclamation security estimate for worker mobilization and accommodations. ARKTIS calculates that an additional 1,503 person-days will be required. ARKTIS continues to use the 70/30 split between northern and southern workers on 20-day shifts. The cost for accommodation and camp operation continues to be \$225.50/person day and includes camp maintenance, catering, housekeeping, and fuel costs.

Table 5-4 Worker Mobilization and Camp Accommodations

Item	Quantity	Unit Rate (\$/person-days)	Indirect Cost
Worker Mobilization - Northern Hires	451	\$63.16	\$28,485
Worker Mobilization - Southern Hires	1052	\$76.62	\$80,604
Worker Accommodations and Camp Operations	1,503	\$225.50	\$338,927
TOTAL			\$448,016

5.5 FUEL

Table 5-5 summarizes QIA's reclamation security estimate for the Indirect Cost for fuel. There are no new fuel demobilization costs for 2020 according to Baffinland, only an increase to fuel mobilization.

The following three assumptions have been included in QIA's reclamation security estimate.

1. QIA takes the conservative assumption that fuel abandoned on-site will not be available for use for reclamation activities, as there is no guarantee QIA will have access to the fuel, as another creditor may be awarded this asset.
2. QIA assumes that 50% of total fuel storage capacity will be left at closure and will need to be demobilized from Site.
3. QIA assumes that all fuel required for reclamation will have to be mobilized to Site. Contrarily, Baffinland typically assumes it will only need to bring half of the required fuel to complete reclamation activities.

Table 5-5 Fuel

Item	Quantity (m ³)	Unit Rate (\$/m ³)	Indirect Cost
Fuel Mobilization	439	\$380	\$166,820

5.6 CONTINGENCY

As detailed in the 2019 Mary River Security Update Report¹⁶, QIA has maintained contingency at 20% due to the nature of the information used to develop the Report. This has been applied to marginal and historical total Direct Costs, contaminated soil treatment costs, care and maintenance costs, and closure monitoring/reporting costs as established in 2014⁵. QIA's increase in marginal security based on a 20% contingency is **\$623,944**.

5.7 SUPERVISION, PROJECT MANAGEMENT AND CONTRACT ADMINISTRATION

The 2020 reclamation security estimate for project supervision, management and contract administration is **\$436,760**. Supervision, Project Management and Contract Administration is calculated as 14% of the total Direct Costs, contaminated soil treatment costs, care and maintenance costs, and closure monitoring/reporting costs. This increase from 9.6% is based on ARKTIS' professional judgement and experience working in Canada's Arctic and the OSPE Fee Guideline²¹. Considerations for this increase include the increasing size and complexity of the Project, northern rates being higher than Ontario rates, and additional complexities such as the distance between the port and mine.

5.8 ENGINEERING FEES

ARKTIS has increased the Engineering Fee percentage to 5% of total Direct Costs. This is based on an update to the Association of Consulting Engineering Companies' Budget Guidelines for Engineering Services²² for deconstruction projects in excess of \$20M and based on ARKTIS' experience at other projects in Canada's Arctic. ARKTIS has calculated the 2020 Engineering Fees to be **\$155,978**.

²¹ OSPE FEE GUIDELINE 2015.

²² ACEC-BC. Budget Guidelines for Engineering Services – Infrastructure and Transportation. <https://www.acec-bc.ca/resources/procurement/>.

6 RECOMMENDATIONS

The estimated security increase was calculated to be **\$8,751,121**. This includes **\$1,829,124** to reconcile the increase to Supervision, Project Management, and Contract Administration and Engineering Fees. Estimates have been rounded to the nearest hundredth in **Table 6.1**.

As the unit rates used to determine Direct Costs were updated in 2018, ARKTIS has adjusted the security estimate to December 2019 Canadian dollars using the monthly Commercial Price Index for Canada²³.

The mathematical formula used to determine the Inflation Rate can be found in the 2018 Reclamation Security Report¹⁵. Baffinland has not applied an adjustment for inflation and change in market conditions.

Table 6-1 Recommendation

Item	Cost	Cost-Adjusted for Inflation
2019 Security Estimate	\$124,611,900	\$126,632,000
2020 Work Plan increase	\$8,751,100	8,889,600
2020 Total Security Estimate	\$133,363,000	\$135,521,600

²³ CANSIM table 326-0020.

7 CLOSURE

This report has been prepared exclusively for the use of the QIA for the specific application described within this report. The details provided in this report are for general information purposes only. The information and recommendations contained in this report should not be used for any other purpose, at another location, or by any other parties. Any use of, or reliance on this report by any third party is at that party's sole risk. ARKTIS assumes no responsibility for inappropriate use of the contents of this report, and disclaims all liability arising from negligence or otherwise. General terms and conditions are provided in Appendix A.

ARKTIS SOLUTIONS INC.

Signed electronically

Nick Jewitt

M.A.Sc.

APPENDIX A – GENERAL TERMS AND CONDITIONS

USE OF REPORT

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of ARKTIS Solutions Inc.'s (ARKTIS) client. ARKTIS does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than ARKTIS' client unless otherwise authorized in writing by ARKTIS. Any unauthorized use of the report is at the sole risk of the user.

LIMITATIONS OF REPORT

This report is based solely on the conditions which existed on site at the time of ARKTIS' investigation. The client, and any other parties using this report with the express written consent of the clients and ARKTIS, acknowledge that conditions affecting the environmental assessment of the site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The client, and any other party using this report with the express written consent of the client and ARKTIS, also acknowledge that the conclusions and recommendations set out in this report are based on limited observations and testing on the subject site and that conditions may vary across the site which, in turn, could affect the conclusions and recommendations made.

The client acknowledges that ARKTIS is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the client.

During the performance of the work and the preparation of this report, ARKTIS may have relied on the information provided by persons other than the client. While ARKTIS endeavors to verify the accuracy of such information when instructed to do so by the client, ARKTIS accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

STANDARD OF CARE

Services performed by ARKTIS for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and financial and physical constraints applicable to the services. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

ALTERNATE REPORT FORMAT

Where ARKTIS submits both electronic file and hard copy versions of reports, drawings and other project related documents and deliverables (collectively termed instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by ARKTIS shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancies, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by ARKTIS shall be deemed to be the overall original for the Project.

The Client agrees that both electronic file and hard copy versions of instruments of professional services shall not, under any circumstances, no matter who owns or uses them, be altered by any party except ARKTIS. The Client warrants that instruments of professional services will be used only and exactly as submitted by ARKTIS.