Reference/File Number: W2007L2-0003 (Type “A”)

Licensee: Diavik Diamond Mines Inc. (DDMI)

Subject: Security Review

Wek’èezhìi Land and Water Board (WLWB)

REASONS FOR DECISION

Issued pursuant to Section 26 of the Northwest Territories Waters Act, R.S.C. 1992, c.39

1.0 Decision

On February 6th, 2012, the Board determined that the amount of the security deposit to be held under the Diavik Diamond Mine Inc. (DDMI) Water Licence (W2007L2-0003) is $120,270,000. This decision was made pursuant to Part B, Item 2c of the Water Licence. The Water Licence condition (Part B, Item 2 will be amended to reflect the Board’s decision.

2.0 Background and Regulatory History

Diavik Diamond Mine Inc. (DDMI) currently holds a type A water licence (W2007L2-0003), administered by the Wek’èezhìi Land and Water Board (WLWB). The Water Licence stipulates specific conditions, under which DDMI must construct, operate and close the Diavik mine. Part B, Item 2 of the Water Licence states that DDMI must maintain a security deposit for closure and reclamation of the mine:

2. The Licencee shall maintain the current security deposit of $116,000,000 and shall post and maintain further security deposits in accordance with this section:

a) on each anniversary of the issuance of this licence, an additional amount according to the following:
Years 2008 and 2009: $24,355,000 in each of the two years
Years 2010 to 2013: $3,237,000 in each of the four years
Year 2014 and 2015: $3,236,000 in each of the two years
until an amount of $184,130,000 is posted;

b) such further or other amounts as may be required by the Board based on annual estimates of
current mine reclamation liability in accordance with Part L, Item 2 of this Licence or based on
such other information as may be available to the Board; and

c) reductions to the security deposit may be granted by the Board based on annual estimates of
current liability in accordance with Part L, Item 2 of this Licence or based on such other
information as may be available to the Board.

Part L of the Water Licence also requires DDMI to regularly update the estimate of mine reclamation
liability:

2. The Licensee shall annually, and upon request of the Board, submit to the Board, an updated
estimate of the anticipated mine reclamation liability, utilizing the current version of RECLAIM,
or another method acceptable to the Board. This estimate shall include the expected liability at
the end of the upcoming year.

The security deposit amounts specified in the Water Licence are based on an estimate of the cost to
close and reclaim the mine, prepared in 1999 by Brodie Consultants Limited (BCL) for Aboriginal Affairs
and Development Canada (AANDC)\(^1\). BCL’s 1999 closure cost estimate was based on DDMI’s Initial
Abandonment and Restoration Plan, which DDMI submitted in August 1999 with their original
application for a water licence. BCL’s closure cost estimate was used to set the security deposit amounts
in both the original Water Licence (N7L2-1645) and the current Water Licence, which the WLWB
renewed on November 1\(^{st}\), 2007. Although AANDC provided the Board with an updated closure cost
estimate during the Water Licence renewal proceeding (June 21\(^{st}\), 2007), AANDC indicated that this
estimate should not be used in the renewed Water Licence. AANDC’s 2007 estimate was prepared by
BCL and was close to 54 million dollars less than BCL’s 1999 estimate.

On November 20\(^{th}\), 2007 and October 27\(^{th}\), 2008, DDMI sent letters to AANDC requesting a review of the
security estimate. AANDC responded in both cases that they would not review the security deposit at
that time.

BCL’s 2007 estimate (discussed in more detail in Section 3.0 of this document) was based in part on
Version 2 of the Interim Closure and Reclamation Plan\(^2\), which DDMI submitted in September 2006

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\(^1\) At the time, AANDC was called Indian and Northern Affairs Canada (INAC).
\(^2\) DDMI submitted Version 1 of the ICRP (then called the Interim Abandonment and Restoration Plan) on
November 1, 2001 in accordance with the original Water Licence (N7L2-1645), which at the time was administered
by the Mackenzie Valley land and Water Board (MVLWB).
during the water licence renewal proceedings. During the renewal proceeding, interveners submitted many comments on Version 2 of the ICRP; however, the Board decided that issues related to the ICRP could be resolved after the Water Licence was renewed, as there were more time-sensitive issues that required attention.

After the Board renewed DDMI’s Water Licence, the Board reviewed Version 2 of the ICRP. On August 7th, 2008 the Board informed DDMI that “the ICRP [Version 2] requires substantial revision and a process to assist in the development of a sound and inclusive plan is required.” The Board developed a comprehensive process for the development and review of Version 3 of the ICRP. This process, which began in November 2008, is described in detail in the Board’s Reasons for Decision for Version 3.2 of the ICRP (November 7th, 2011).

After completing the initial steps of the ICRP review process, the WLWB sent a directive to DDMI with specific instructions for updating the ICRP (May 7th, 2009). The Board’s directive included a requirement to estimate the cost of closure and reclamation. This requirement was made in accordance with Part L, Item 2 of the Water Licence. DDMI included closure cost estimates in Versions 3.0, 3.1, and 3.2 of the ICRP. The WLWB did not approve Versions 3.0 and 3.1 of the ICRP, and requested specific revisions to address outstanding issues.

During the Board’s review of Version 3.2 of the ICRP, the Board asked AANDC to prepare an updated closure cost estimate for the Diavik mine site (February 22nd, 2011 letter from WLWB to AANDC). The purpose of this request was to assist the Board in evaluating the closure options proposed in Version 3.2 of the ICRP, and to allow the Board to assess the magnitude of the uncertainties that had been identified by reviewers.

On February 25th, 2011, AANDC agreed to prepare a closure cost estimate for the Board, and indicated that they would require additional information from DDMI. AANDC’s information requests and DDMI’s corresponding responses during the period prior to approval of the ICRP are as follows:

- AANDC requested specific information to assist them in estimating closure costs on March 4th, 2011. DDMI provided a response to AANDC’s information request on March 9th, 2012.
- AANDC requested additional information from DDMI on April 7th, 2011.
- DDMI responded to AANDC’s information request on April 7th, 2011.
- AANDC submitted a closure cost estimate to the Board on April 18th, 2011.

The Board approved Version 3.2 of the ICRP on September 21st, 2011. On October 13th, 2011, the Board sent a letter to AANDC and DDMI outlining a process for finalizing the closure cost estimate. During this process, the following events occurred:

- DDMI provided clarifying information to AANDC on October 13th, 2011.
• AANDC provided a revised closure cost estimate on October 24th, 2011, based on new information from DDMI.
• DDMI submitted a description of the remaining differences between the AANDC and DDMI estimates, along with a rationale for DDMI’s position, on October 28th, 2011.
• The Board met on November 7th, 2011 to discuss the AANDC and DDMI submissions. Board staff prepared a staff report to update the Board.
• The Board sent information requests to DDMI and AANDC on November 15th, 2011, to enable the resolution of the remaining differences between the two parties. DDMI and AANDC submitted responses to the WLWB information request on November 25th, 2011. DDMI submitted information on November 26th, 2011 regarding AANDC’s November 25th submission.
• The Board met on December 5th, 2011 to discuss the information provided by AANDC and DDMI since the November 7th, 2011 Board meeting. Board staff prepared a staff report to update the Board. At the meeting, the Board decided on the issues related to the costs of bringing fuel to the site (as discussed in Section 3 of this document).
• The Board requested additional information from AANDC on December 20th, 2011. AANDC responded to the Board’s information request on December 30th, 2011. DDMI submitted a letter addressing AANDC’s December 30th, 2011 submission on January 3rd, 2012.
• The Board met on January 9th, 2012 to discuss the information submitted by AANDC and DDMI. Board staff prepared a staff report to update the Board.
• The Board sent a request for additional information to AANDC on January 12th, 2012. AANDC responded to the Board’s information request on January 19th, 2012. On the same date, DDMI and AANDC exchanged emails regarding AANDC’s submission.

On January 20th, 2012 the Board set the total land and water liability at $131,360,000. The Board informed DDMI of this decision on January 25th, 2012. At that time, the Board had not yet determined whether all or only some portion of the financial liability would be held as a security deposit under the Water Licence. The Board noted in its January 25th letter to DDMI that “if evidence of reclamation related security being held under other instruments is provided to the Board by AANDC or DDMI, they will take that into consideration when setting the amended security value held under the Water Licence.” On January 27th, 2012, AANDC and DDMI submitted (separately) details about security held by the Crown under other instruments.

At the Board’s February 6th, 2012 meeting, the Board decided that the amount of security held under the Water Licence would not include the amount already held under the land leases ($11,090,000). Thus, the total amount of the security deposit to be held under the Water Licence was determined to be $120,270,000.

3.0 Reasons for Decision

The reasons the Board set DDMI’s security deposit at $120,270,000 are as follows:

1. The Board is confident that the security review process was reasonable and fair.
2. The Board concluded that AANDC and DDMI agree on all aspects of AANDC’s October 24th, 2011 closure cost estimate, except the estimates associated with mobilization of fuel, development of a quarry, and the unit cost of placing rock covers on the waste rock pile and process kimberlite containment area (tailings).

3. The Board determined that it is reasonable to include a cost for mobilization of fuel in the closure cost estimate.

4. The Board determined that there is not enough evidence to support the need for a quarry.

5. The Board concluded that it is reasonable to use a unit cost of $3.96/m³ for placement of a rock cover on the tailings and waste rock pile.

6. The Board determined that the security deposit held under the Water Licence can be reduced by the amount held by the Crown under the land leases.

Based on these reasons, which are explained in more detail below, the Board calculated the security deposit as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>AANDC closure cost estimate; October 24th, 2011 (including fuel mobilization)</td>
<td>$156,890,022</td>
</tr>
<tr>
<td>Adjustment to correct error in unit cost of rock cover*</td>
<td>+$2,865,096</td>
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<tr>
<td>Cost of quarry development*</td>
<td>-$28,394,456</td>
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<tr>
<td>Amount of security held under land leases</td>
<td>-$11,090,000</td>
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<tr>
<td>Water Licence security deposit (before rounding)</td>
<td><strong>$120,270,662</strong></td>
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*Includes associated allowances for engineering, project management, and contingencies

The Board rounded the final estimate to five significant figures to account for imprecision in the estimate; therefore, the security deposit was set at $120,270,000³.

3.1 Security Review Process

The Board’s process, as described above in Section 2 of this document, enabled discussion and collaboration between AANDC and DDMI, which ensured that both parties had ample opportunity to provide evidence to support their respective positions. The Board publicly distributed the documents produced during the review process and posted them to the public registry. The Board is confident that the Board’s review process was fair and thorough.

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³ In the original and renewed Water Licence, there is a schedule of payments for the security deposit, to reflect the increase in liability as the mine develops. Since the mine is now largely developed, there is no longer a need for a schedule of payments.
3.2 DDMI and AANDC Agreement

On October 13th, 2011 the Board directed DDMI as follows:

Diavik will review AANDC’s reclamation liability estimate (due October 24th, 2011) and identify any differences from their own estimate along with supporting rationale to the Board. Diavik should also indicate the line items in the AANDC submission, which differ from the Diavik submission, that are supported by the company by October 28th, 2011.

On October 28th, 2011, DDMI submitted their response, which included the following statement:

After almost a year of discussions and information exchange there is agreement on most of the elements of the two cost estimates. Differences however remain in two areas; need for a Type I rock quarry and the need to mobilize fuel to site.

The Board therefore concluded that DDMI agreed on all aspects of AANDC’s October 24th, 2011 closure cost estimate, except the estimates associated with mobilization of fuel and development of a quarry. During the review process, a third area of disagreement emerged related to the unit cost of placing the rock cover on the tailings area and the waste rock pile.

3.3 Costs of Fuel Mobilization

AANDC’s October 24th, 2011 closure cost estimate included $5.5 million dollars to bring 7 million liters of fuel to the site for closure and reclamation activities. AANDC assumed that no fuel would remain on-site at closure. DDMI disagreed with AANDC’s inclusion of fuel mobilization costs, and maintained that at least 7 million liters of fuel would remain at closure.

To help resolve this issue, the Board requested additional information from AANDC and DDMI. The Board’s requests and the corresponding responses are in Table 1.

<table>
<thead>
<tr>
<th>Information Request</th>
<th>Response to Information Request</th>
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<tbody>
<tr>
<td>WLWB Information Request to DDMI (November 14th, 2011): “Describe the basis for DDMI’s assumption that 7 million liters of fuel (or 6% of available storage capacity) would be suitable for use and would not be sold for cost recovery if the mine were nearing receivership.”</td>
<td>DDMI response (November 25th, 2011): “The 7 million liter value is what AANDC proposed would be required to mobilize to site for closure, it is not a value calculated by DDMI. DDMI’s position was simply that it is unlikely that there would ever be less than 7 million liters of fuel on-site during operation. To operate a remote arctic facility such that fuel reserves were fully depleted, i.e. no contingency would put people and the facility at unreasonable risk. It is difficult to conceive of a plausible scenario where if the operation were nearing receivership that it could sell the on-site fuel for cost recovery. An operation nearing receivership would not be planning to resupply the mine and so would not be constructing a winter road in that year. It would not be economical to construct a winter road exclusively for the purpose of recovering diesel.”</td>
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In their response (November 25th, 2011), AANDC noted that the cost to mobilize fuel was not included in the 1999 estimate, although they were unable to provide an explanation for this. AANDC cited the 2002 Mine Site Reclamation Policy for the NWT, which states that “adequate security should be provided to ensure the cost of reclamation, including shutdown, closure and post-closure, is born by the operator of the mine rather than the Crown”. They also explained that the experience gained through their Contaminant and Remediation Directorate “has resulted in improvements in Departmental practice when calculating reclamation security for industrial projects”. They noted that “The Crown cannot assume that equipment or fuel would be left onsite, nor can it be assumed that if it is left onsite that it would be suitable for use. It is assumed that a mine nearing receivership will take cost reduction/recovery steps to alleviate losses. Usable equipment and fuel may be sold to adjacent operations. AANDC also notes that at several sites where clean-up activities have been initiated or undertaken by the Department, little to no usable fuel was available onsite.” AANDC indicated that they now include costs to mobilize fuel in closure cost estimates for all mine sites, and that “a commitment by the proponent that a minimum amount of fuel will remain in their on-site storage is simply not adequate to ensure that the Crown will not incur costs in this regard.”

Although DDMI concluded that it is unlikely that there would be a need to mobilize fuel, AANDC’s direct experience with closing mine sites does not support this assertion. The particular logistical and economic circumstances that will exist when the mine closes cannot be known; therefore, the Board concluded that, based on AANDC’s experience to date, it is reasonable and prudent to include the costs of mobilizing fuel in the closure cost estimate for the Diavik mine site.

3.4 Costs for Quarry Development

As described in the approved ICRP (Version 3.2), DDMI plans to cover the processed kimberlite containment area (PKC or tailings) and the potentially acid-generating rock (Type III rock) in the North Country Rock Pile (NCRP). The cover will consist of non-potentially acid-generating rock (Type I rock).

BCL’s closure cost estimates in 1999 and 2007 were based on the assumption that Type I rock for the cover could be obtained entirely from the NCRP; however, in 2011 BCL assumed that DDMI would have to develop a quarry to generate enough rock for the covers. This increased BCL’s estimate by 28 million dollars compared to the 2007 estimate (based on BCL’s October 24th, 2011 closure cost estimate). AANDC explained that they were concerned that a shortfall of Type I would exist at closure.
DDMI maintains that there are approximately 37 million tonnes of Type I rock in the NCRP. Both parties agree that approximately 21 million tones (just over 10 million m³) of rock are required for closure. The company plans to obtain the majority of the required amount from the NCRP, and the remainder would come from other locations where DDMI believes Type I rock will be most readily available. BCL, on the other hand, assumed that no rock would be available from the NCRP and that a quarry would be needed.

AANDC explained that they are not confident that Type I rock will be available, practically recoverable, and appropriate to meet design criteria for the covers. To address these concerns, AANDC maintains that DDMI must perform a pre-feasibility level (or higher) study, signed by a Professional Engineer. More detail on AANDC’s concerns, DDMI responses, and the Board’s conclusions is outlined below.

After a review of the AANDC and DDMI submissions regarding the quarry, the Board drew a number of conclusions, discussed below.

1. In 2007, BCL concluded that a quarry would not be required. AANDC did not provide sufficient evidence to explain why BCL’s conclusions in 2007 are no longer valid.

Since operations began, DDMI has been segregating rock into Type I, Type II, and Type III rock (based on its acid-generating potential), as described in the Board-approved Waste Rock Management Plan. In 2007, BCL concluded that DDMI’s rock segregation plan (developed after BCL made their 1999 estimate) would result in a significant decrease in closure costs. BCL determined at that time that a quarry would not be required and that there would not be a shortfall of rock. In BCL’s words:

- “Diavik Diamond Mines Inc. (Diavik) has made several significant modifications to the mine plan, primarily with respect to management of potentially acid generating waste rock. These changes will reduce the environmental risk of the proposed development and the effort required to produce an acceptable closure configuration.”
- “Re-evaluation of unit costs as short-fall of inert rock has been precluded due to improved waste segregation and assumptions concerning methodology for placement of course PK.”
- “A review of the schedule of production of the main rock types suggests that there will always be a surplus of Type I rock in excess of that required to cover the Type III rock. Therefore premature closure would not require quarrying to produce the necessary cover material”

AANDC’s 2011 closure cost estimates (in April and October) demonstrated that AANDC had changed its position regarding the quarry since 2007. The Board recognized that factors may have changed since 2007 and wished to ensure that AANDC had ample opportunity to explain these. Therefore, the Board requested the following from AANDC:

“Explain why AANDC now believes that a quarry is necessary to obtain rock for closure when this cost was not included in the 2007 estimate. For example, are there known changes to operations
that necessitate the need for a quarry? Is there evidence that the waste rock segregation methods employed in 2007 were more reliable than they are now?” (November 15th, 2011).

In response (November 25th, 2011), AANDC noted that DDMI’s waste rock segregation methods have changed since 2007 and that DDMI’s Waste Rock Management Plan indicates that these changes could result in less rock being classified as Type I.

DDMI responded to AANDC’s comments by saying (November 26th, 2011):

“To be clear, the method of waste rock classification (i.e. sulphur assay with visual geology during equipment failures) implemented by DDMI operations has not changed since 2007. In fact the assay method has been implemented consistently by mine operations since the Waste Rock Management Plan was first approved by the Mackenzie Valley Land and Water Board on June 14, 2001.”

Even though some Type I rock may be misclassified as Type III, what matters is whether this would result in a shortfall of Type I rock available for closure. Using the segregation practices approved by the Board, DDMI has estimated how much Type I rock will be present in the pile at closure. These estimates are available in Version 3.2 of the ICRP, and submissions made by DDMI a number of times during 2010 and 2011. DDMI has provided additional documentation since 2007 (described below) to support their estimates of how much rock will be available. AANDC has not provided any evidence demonstrating that DDMI’s estimates of segregated Type I rock are incorrect.

Similarly, INAC raised concerns about whether the Type I rock in the pile would be accessible and appropriate to meet the design criteria for the covers. The Board agrees that these issues will need to be explored in the coming years. However, these concerns were not raised in 2007 and BCL was able to conclude that there would be sufficient Type I rock to use as cover material, and determine the appropriate cost of obtaining the rock and placing the covers. BCL’s estimates in 2007 and 2011 include a 20% contingency allowance, which accounts for uncertainties.

2. DDMI has satisfactorily addressed AANDC’s concerns regarding issues related to the A21 pit.

In April 2011, AANDC first included quarry costs in their closure cost estimate. At that time, AANDC explained that DDMI’s decision not to mine the A21 kimberlite pipe meant that there would be a shortfall of Type I rock. In response, DDMI noted that “it is incorrect to assume that without an A21 open-pit there would be a shortfall of Type I rock” (October 28th, 2011). The company also made a number of points, including that:

- Use of A21 rock for closure of the waste rock pile is progressive reclamation and BCL and DDMI estimates do not account for progressive reclamation, thus development of the A21 mine should not affect the cost of placing rock covers on the PKC or NCRP.
- BCL’s 2007 cost estimate for covering the NCRP and PKC is the same with or without A21 development.
AANDC continued to raise this issue in their submission to the Board, and DDMI clarified that:

“It was the difference in the cost of using re-mined NCRP versus direct hauled A21 material that was the basis for the proposed change to the cover design. It was not a shortfall of material from the NCRP. There is more than sufficient volumes of Type I available in the NCRP and elsewhere on the island for closure.” (November 26, 2011)

AANDC did not specifically address the points raised by DDMI. The Board concluded that the decision not to develop the A21 open pit does not mean there will be a shortfall of Type I rock for closure. The Board must evaluate the evidence supporting or refuting the availability of Type I rock on its own merits.

3. **DDMI has satisfactorily addressed AANDC’s concerns about confusion surrounding a diagram provided by DDMI in December 2010.**

AANDC explained that a diagram presented to them by DDMI in a powerpoint presentation on December 10th, 2010 lead them to believe that there would be no Type I rock available in the NCRP for closure. Based on the diagram, AANDC concluded that the entire waste rock pile is a blend of Type II and Type III rock. On October 13th, 2011, DDMI clarified that the diagram depicted a proposed waste rock pile closure plan that the WLWB subsequently rejected. DDMI provided a revised diagram for AANDC to use to make its October 24th, 2011 estimate. This diagram depicted a waste rock pile that had been segregated into areas of Type I, Type II, and Type III rocks. Despite this, AANDC continued to maintain that Type I rock from the NCRP would not be available for closure. As discussed above, DDMI segregates Type I rock from other rock according to the Board-approved Waste Rock Management Plan, and has provided evidence to support that the plan is being followed. AANDC did not specifically address DDMI’s responses.

Although the figure presented to AANDC by DDMI in December 2010 created confusion, the conclusion that the entire pile is a blend of Type II and Type III rock contradicts substantial evidence to the contrary, including BCL’s own conclusions in 2007 (as discussed above).

4. **Since 2007, DDMI has provided additional evidence to support the presence, accessibility, and suitability of the Type I rock.**

For the reasons explained above, AANDC concluded that it would be reasonable to include costs for a quarry, unless DDMI conducts a pre-feasibility level (or higher) level study.

As discussed above, the Board does not agree. Nonetheless, the Board took a precautionary step of acquiring additional information from DDMI, as requested on November 15th, 2011. DDMI’s response (November 28th, 2011) included the following new information:

- A description of the field verification methodology to confirm that rock is stored as per the Board approved Waste Rock Management Plan, including haul truck records and inspection reports.
b. A description of the software used to create the diagram of rock locations in the NCRP and generate the rock volume estimates.

c. A description of the software inputs and their accuracy and the level of accuracy of the software output.

d. Engineering drawings illustrating survey control during NCRP construction.

e. Additional re-mining information, including cross sections of the proposed re-mine areas for closure representing re-mining sequence.

Although this additional evidence supporting Type I rock availability was not available to BCL in 2007, BCL was able to conclude that a quarry was not necessary.

In 2011, AANDC also identified the need for information from DDMI to illustrate that Type I rock in the NCRP will be accessible and appropriate to meet design criteria. The Board recognizes that some of the information related to accessibility of waste rock is not yet available (e.g., a re-mining plan). However, once again, the Board notes that BCL did not have this information in 2007, yet concluded a quarry would not be needed. The Board assumes that BCL’s 2007 estimate is reasonable and based on valid assumptions and calculations methods. In the absence of evidence contradicting this, the Board has no reason to believe that a quarry is warranted. As the closure plan progresses, the Board expects to receive more information from DDMI to outline the details of how Type I rock will be accessed and re-mined.

In conclusion, the Board has determined that there is insufficient evidence to support the need for a quarry at this time. The Board also concluded that AANDC’s concerns do not justify an increase in the level of information over what was available in 2007, although, as a precaution, the Board requested and received additional evidence from DDMI to support their position regarding Type I rock.

3.5 Unit Cost of Rock Covers

BCL’s October 24th, 2011 closure cost estimate included over 28 million dollars for placing rock covers on the processed kimberlite containment facility and the potentially acid generating rock portion of the waste rock pile. The cost to place a rock cover is calculated from two numbers: the estimated volume of rock to be moved, which DDMI and AANDC both agree is 10.4 million meters cubed, and the unit cost, which is the estimated cost to move one meter cubed of rock. The total cost to place the rock covers is simply the volume of rock to be moved multiplied by the unit cost. The unit costs were developed by Brodie Consultants Limited (BCL) for AANDC, and adopted by DDMI.

In its November 25th, 2011 submission to the WLWB, AANDC informed the Board that, should the Board conclude that a quarry is not required, “the AANDC estimate will have to be revisited to ensure costs associated with recovering and collecting material from within the NCRP for cover purposes are adequate”. Therefore, on December 20th, 2011, the Board requested that AANDC confirm BCL’s cost estimate for recovering and collecting Type I rock. Specifically, the Board asked AANDC to confirm that the unit costs for placing the rock covers were as follows:
- $3.6 per m$^3$ for covering the PKC
- $3.96 per m$^3$ for covering potentially acid-generating rock in the waste rock pile

In response to the Board’s request to confirm these unit costs, AANDC noted that $3.6/m^3$ was a typographical error and that $3.96/m^3$ should have been used for both the PKC and waste rock pile covers (December 30th, 2011). This would increase the total closure cost estimate by close to 3 million dollars. DDMI, however, concluded the reverse: that $3.6/m^3$ is the correct unit cost and $3.96/m^3$ is the error (January 3rd, 2012). DDMI noted that BCL used $3.6/m^3$ at Snap Lake in 2011 and $3.05/m^3$ at Ekati in 2005. A review of the Snap Lake documentation did not help the Board to resolve this issue. The Board requested documentation from AANDC to support a unit cost of $3.96/m^3 (January 12th, 2011). In their response (January 19th, 2011), AANDC did not provide documentation to demonstrate how BCL arrived at a unit cost of $3.96/m^3, but they noted the following:

- BCL used a unit cost of $4.35 at Snap Lake and that the unit cost would be slightly lower at Diavik.
- A unit cost of $3.96/m^3 is appropriate (as opposed to $3.6/m^3) because of rock accessibility issues that AANDC had previously identified.
- Recent bids at a site in the Yukon included unit costs that were well above $3.96.m^3.
- BCL developed the Snap Lake unit cost using RECLAIM’s Detailed Estimator Function. BCL did not use this method for the Diavik unit cost.

As noted by BCL, the level of detail at this stage of interim planning at the Diavik site does not yet enable a great degree of accuracy in unit cost estimates. This makes it difficult to choose between two unit costs that are close together. Furthermore, there was insufficient documentation to support either unit cost ($3.6/m^3 or $3.96/m^3). However, BCL’s comparisons to other sites with higher unit costs estimates suggested that it would be reasonably cautious to use the higher unit cost of $3.96/m^3. The Board expects that the unit cost will need to be refined and fully documented in the future, as more information is acquired about accessibility to rock, re-mining methods, and other aspects of placing rock covers.

3.6 Security Held Under the Leases

The Northwest Territories Waters Act (the Act) and regulations give the Board wide discretion in setting security for licensed undertakings. Subsection 12(1) of the Regulations confirms that discretion and effectively sets an upper limit on the amount of security which may be ordered by the Board as the aggregate of the costs of abandonment, restoration and the costs of any ongoing measures necessary after closure. This proceeding is in fact focused directly on questions related to the determination of the appropriate amount of security for the Diavik mine. The outstanding question is whether the security held under the land leases between DDMI and the Crown can be factored in to a decision about security to be held under a water licence.

Federal policy, the Indian and Northern Affairs Canada (as the Department was then named) 2002 “Mine Site Reclamation for the Northwest Territories” (the Policy) provides the framework which guides the
Board in the exercise of its statutory authorities. The Policy requires that the total outstanding liability for a mine be secured and it also encourages coordination amongst authorities sharing jurisdiction for the management of land and water. In this case, even though the Board has some responsibility for land use permitting at the Diavik site, it recognizes that Aboriginal Affairs and Northern Development Canada (AANDC) holds security which could be applied for closure and reclamation purposes under the land leases applicable to the mine site. The Board has evidence about these leases in this proceeding including an indication that the security under the leases is $11,090,000.00.

There are good reasons why licensed operations should be fully secured and they are set out in the Policy. Although the Policy does not speak directly to the issue of overlap or duplicating security, the Board acknowledges that such occurrences could be unfair to shareholders of mining companies and could represent a disincentive to mining development. The Regulations give the Board some flexibility in setting security. Subsection 12(2) indicates that the licensee’s ability to pay and its previous compliance record are both considerations relevant to such a determination. In reviewing similar decisions made by other water boards, the Board notes the recent Nunavut Water Board decision\(^4\) in the proceeding which led to the renewal of the Shear Diamonds (Nunavut) Corp. (Shear) water licence for the Jericho facility.

The Nunavut Water Board (NWB) was applying provisions in the Nunavut Waters and Surface Rights Tribunal Act which are similar to section 17 of the Act. The NWB, of course operates under the same regulations as this Board. The NWB took a “contextual” approach to the determination of security in that case and considered the capacity of Shear to pay, its compliance record and it also considered and took into account security held by the Crown under various instruments as well as the security held by the private (Inuit) land owner in setting security amounts under the Shear licence.

The NWB adopted a “holistic but practical” approach to assessing total security indicating as follows at page 47 of its reasons:

“…. the Board’s focus in assessing security is that the Applicant must have posted sufficient security, through all means, when taken together, to ensure that the overall reclamation of the site (land and water) has been adequately addressed. Consequently, the Board’s starting point to assess security remains considering any security requirements holistically and then deducting from the aggregate land and water reclamation totals any security held under other instruments, with the remainder being secured under the water licence.”

The Board sees merit in this approach in appropriate cases. Here, the additional security is held by AANDC under the land leases for the Diavik mine site. The lease security can be applied to closure and reclamation if required. There is no doubt that DDMI has the capacity to pay the costs of closure and reclamation for the site. In fact, as indicated elsewhere in these reasons, the Crown currently holds more security than is required for closure and reclamation of the mine. Finally, DDMI has a good track

\(^4\) Shear Diamonds (Nunavut) Corp. water licence, Reasons issued December 21, 2011. See the discussion on pages 29-47 of the Reasons.
record of compliance with the requirements of their water licence. Thus, in the Board's view, the company satisfies the criteria necessary for the Board to apply its discretion to the setting of security under section 12 of the Regulations.

In the circumstances, the Board is satisfied that there is sufficient security held by the Crown to cover the full costs of reclamation and that the Policy's requirements can be satisfied without holding all of the security under the water licence. Consequently, the Board will include the lease security in its calculation of the amounts available and will not require duplication of that amount (the $11,090,000.00) in the water licence security. In this case, the Board is convinced that the lease security should be included as a component of the aggregate security available for closure and reclamation of the licensed undertaking and that water licence security should be reduced by the amount of security held by AANDC under the leases. The Board directs the licensee to notify it forthwith if there is any change in the amount of security held under the lease.

4.0 Final Comments

The Board recognizes the substantial amount of effort and technical expertise required to prepare closure cost estimates, and appreciates the work performed by DDMI and AANDC (and their consultant BCL) to provide the Board with the evidence required to make a decision on the amount of the security deposit held within the Water Licence.

The Board also acknowledges that DDMI’s closure and reclamation plan will continue to evolve in the future as new technologies and best practices become available, as research results are collected and analysed, and as the project approaches final closure. In accordance with the Water Licence, the Board may increase or reduce the security based on annual cost estimates or such other information as may be available to the Board.

Signed the 24th day of April, 2012 on behalf of the Wek’èezhii Land and Water Board

Witness

Violet Camsell-Blondin
Chair, WLWB