

NUNAVUT WATER BOARD

DECISION

Date of Hearing: February 22, 1999

Date of Decision: April 21, 1999

IN THE MATTER OF Article 13 of the Nunavut Land Claims Agreement,

- and -

IN THE MATTER OF an application for amendment filed by BHP Diamonds Inc. on October 7, 1998 for final assessment of security deposit with respect to the Boston Gold Project.

Cite as: Re: security deposit for BHP Boston Gold Project.

TABLE OF CONTENTS

| | | |
|------|-------------------------------------|----|
| I. | BACKGROUND..... | 2 |
| II. | ISSUES..... | 6 |
| III. | SUMMARY OF EVIDENCE..... | 6 |
| IV. | THE BOARD’S ANALYSIS..... | 12 |
| V. | CONCLUSION..... | 19 |
| VI. | APPENDIX A: DISPUTE RESOLUTION..... | 26 |
| VII. | APPENDIX B: EXHIBIT LIST..... | 27 |

APPEARANCES

| | |
|-------------------------|--|
| BHP | David Searle Q.C., Davis & Co., Counsel; K. T. Johnson, BHP General Counsel; Chris Hanks Senior Environmental Specialist, BHP; Rich Rein, Manager of Project Feasibility, BHP. |
| KIA | John Donihee, Bayly and Co., Counsel; Charlie Evalik, President, KIA. |
| DIAND | Greg Cook, Special Projects Officer, Yellowknife. |
| BRODIE CONSULTING LTD. | M. John Brodie, P. Eng. |
| HAMLET OF CAMBRIDGE BAY | Vivienne Aknavigak, Councillor |

SUMMARY

On October 7, 1998, BHP applied for a final assessment of their security deposit at the Boston site. Following submissions from several parties, including the landowner KIA and the Hamlet of Cambridge Bay, the Board has decided that \$1.7 million is required of BHP, which is a full cost recovery for their advanced gold exploration site. In deciding the security amount, the Board attaches several conditions, including provisions for instalments, progressive reduction of payments, options as to the type of security, access to security, ADR provisions, and provides an opportunity for BHP and interested parties to have a site visit and hearing in the summer of 2000 to reassess the security issue.

I. BACKGROUND

This matter involves the final assessment of security deposits regarding the BHP Diamonds Inc. - Boston Gold Project (BHP) in Nunavut. The original Licence issued by the NWB authorizes BHP to use water and dispose of waste in conjunction with BHP's "Boston Gold" project. The subsequent public hearing was triggered by BHP's request for licence amendments on October 7, 1998.¹

BHP is the licensee and operator of the Boston Gold Project. The Boston Gold Project is located on a peninsula situated on the south shore of Aimaoktak Lake. The terrain consists of glacial tills, clays and some bedrock outcrops. Vegetation includes Arctic shrubs,

¹ See Exhibit 16, Letter of C., Hanks (BHP) to P. di Pizzo (NWB). The original NWB licence for BHP contained the following condition for security deposit:

1. The Licensee shall have posted and shall maintain a security deposit according to the following schedule:
 - a. within thirty (30) days of issuance of this licence, an amount of \$20,000.00 dollars;
 - b. Such further amounts as may be required by the Board based on an independent security analysis to be completed by the Board within sixty days of issuance of the licence.
 - c. Upon notification of the amount required under Part B, Item 2 (b), the Licensee shall provide the Board with the amount within thirty (30) days.
 - d. Such further or other amounts as may be required by the Board based on annual estimates of current mine restoration liability in accordance with Part H, Item 3 and Part H, Item 4 of this Licence.

2. The security deposit may be applied to carry out work necessary to fulfil requirements of this licence where there is contravention of a condition of the licence and failure by the licensee to comply with a direction issued by the Board or by any other competent and authorized governmental body or official. This includes operational requirements as well as the provision of the Final Abandonment and Restoration Plan.

The Security Deposit shall be maintained until such time as the Board is satisfied that the Licensee has complied with all provisions of the approved Final Abandonment and Restoration Plan. This clause shall survive the expiry of this Licence or renewals thereof.

3. The Licensee may submit to the Board for approval the terms of reference for the establishment of a Reclamation Trust Fund. The Licensee shall implement the terms of the Trust Agreement only as, and when approved by the Board.

mosses and lichens.

Surface disturbances have been limited to a compact footprint of about 4 hectares, plus 1.5 hectares for the airstrip. Additional disturbances may exist at diamond drill sites. Activities have consisted of drilling and underground bulk sampling. The latter has involved excavation of about 22,000 tonnes of ore and 114,000 tonnes of waste rock. Openings to the underground consist of a portal and a vent raise. Surface facilities include: ore and waste stockpiles, an ore processing plant, and numerous small buildings (offices, camp, shop, storage, etc.).

The water license history of BHP's Boston site began in 1995, when the NWT Water Board issued a Class B Water Licence² for BHP's initial operations at the Boston site. The initial licence was amended in 1997 for: (1) the upgrade of the Sewage treatment system; and (2) the second water intake. The Nunavut Water Board issued a separate permit for a weir to measure water flow.³

² Licence# N7L2-1652.

³ Permit # NWB4WEI

The Nunavut Water Board was one of the first tribunals created as part of the newly established Nunavut Government under the Agreement: Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada. The Nunavut Land Claims Agreement was “ratified, given effect and declared valid” by the *Nunavut Land Claims Agreement* Act, S.C. 1993, c.29. Although Nunavut came into existence on April 1, 1999, the Board came into existence on July 9, 1996, pursuant to the terms of the Nunavut Land Claims Agreement and the NLCA Act.

The procedural chronology of development at the Boston Site is roughly as follows:

- 1991 - BHP began preliminary exploration;
- 1993 - BHP initiated an environmental baseline;
- 1996 - Underground Bulk Sampling began;
- 1997 - Underground Bulk Sampling concluded; and
- 1998 - Surface Drilling and Resource Evaluation started.

In 1998, following BHP’s initial application to the Nunavut Water Board (NWB), the NWB issued licence NWB1BOS9801 for the Boston site. On October 7, 1998, BHP filed for an amendment to that licence,⁴ and, following public notice for a hearing and the receipt of written

⁴ BHP actually requested several amendments, of which the security deposit attracted the most attention. One of BHP’s complaints, raised in writing and at the public hearing, was the concern that the original (1998) licence left the security amount in dispute.

Condition B.2 of the NWB’s Licence requires BHP to provide \$20,000 in security up front, but states that the NWB will determine the full amount of security that it will require through an “independent security analysis” which will be concluded within 60 days of its issuance of the licence. That condition also states that “further” security may be required based on an annual determination of BHP’s restoration requirements.

BHP questions the propriety of this post-issuance procedure, noting that a “typical” licence includes the exact amount of security. The Board’s predecessor legislation, NIWA section 13(2), states that a board may require “an applicant for a licence” to provide security. The section does not specifically require the board to determine the amount of security prior to or in conjunction with issuing the licence, but that requirement is inferred from the section’s reference to the licence “applicant” rather than to the “licencee.” The statute’s use of the former term could reasonably be read to suggest that the board must determine the amount of security in conjunction with its decision on whether to issue the licence, rather than after already having issued the licence (at which point the project proponent is not longer the “applicant”). By contrast with NIWA, section 17(1) of the NWT Water Act authorizes that board to require

submissions, the NWB scheduled a public hearing for Cambridge Bay on February 22, 1999⁵.

The BHP operations at the Boston site are peculiar to the north in that the land manager is not the federal crown; instead, the Kitikmeot Inuit Association (KIA) are the owners and managers of BHP's Boston site. Accordingly, KIA plays a critical role in this approval process.

Involvement of the KIA

The KIA is the Designated Inuit Organization in whose name title to Inuit owned surface lands in the Kitikmeot was vested upon ratification of the Nunavut Land Claims Agreement (NLCA) in 1993. The KIA manages Inuit Owned Lands (IOL) on behalf of Inuit and in particular Kitikmeot Inuit in order to promote Inuit self-sufficiency and economic development in a manner consistent with Inuit cultural and environmental values and goals.

The KIA is the surface land owner of the land parcel located at Aimaokatak Lake upon which parts of the BHP Boston Project improvements and facilities are located.

The NWB hearing for BHP Boston is significant in northern Canada because it is the first water board hearing (Yukon, NWT, or Nunavut) that addresses the interplay between IOLs and federal regulatory authorities. Outside of Nunavut, the federal Dept. Of Indian Affairs and Northern Development (DIAND) regulates water use under the auspice of DIAND legislation and other federal environmental legislation. Inside Nunavut, the federal laws apply unless there is an inconsistency with the NLCA, in which case the latter prevails.⁶

security from either the "applicant" or the "licencee," or a "prospective assignee of the licensee." The use of these terms makes it clear that the NWT Water Act, though not NIWA, contemplated issuance of the security before *or* after the licence was issued.

⁵ On February 22, 1999, all Board members participated in the public hearing. Since that time, on April 1, 1999, Board member and former vice-chair Peter Kattuk was sworn in as MLA for Sanikiluaq in Nunavut. Accordingly, Mr. Kattuk has resigned from the Board and did not participate in this decision.

⁶ Section 2.12.2 of the NLCA states: Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to

II. ISSUES

While the general issue raised at the hearing was the BHP security deposit for the Boston operations, there are several related issues, including:

- A. an assessment of the overall cost of reclamation or abandonment and restoration of the Boston site;
- B. the total amount of security required of BHP;
- C. the payee of the security instrument; and
- D. the form of security.

III. SUMMARY OF EVIDENCE

A. BHP

At the hearing, BHP summarized for the Board the factual circumstances that led to the advanced exploration status of their Boston site. Among other things, BHP has now extracted 22,000 tonnes of ore to assist in the evaluation of the commercial viability of the site. This exploratory process left 114,000 tonnes of waste rock and several necessary surface improvements at Boston.⁷

the extent of the inconsistency or conflict.

⁷ For example, the site improvements now include:

- 70 person trailer camp,
- Crushing Plant for Sampling Ore,
- Diesel Generators,
- Equipment Maintenance Shop,
- Work Pad and Roads,
- Ore Stock Piles,
- Sediment Settling Ponds, and
- Airstrip for Twin Otter.

Regarding the amount of security, BHP pointed out their “good track record” at the Boston site, and requested a lower security deposit, to be consistent with several other sites in the N.W.T.⁸ That said, BHP’s current estimate of abandonment and reclamation for all activities at the Boston site is \$1.7 million.

However, BHP urged the NWB to stick to water-related restoration/reclamation, which according to BHP would fix the water related components of the total reclamation at \$350,000. Yet, BHP *also* suggested that a “single security deposit that covers both land and water” is preferred.⁹ This suggestion again leads to an overall deposit of \$1.7 million.

BHP acknowledged the significance of KIA’s intervention in this case, recognizing that KIA, as the land owner, was in a good position to control the surface use of the land quite apart from the NWB’s licencing jurisdiction. BHP also pointed out that while the payee is normally the Crown, the involvement of KIA as a land tenure recipient could, again in this case, only, lead to the security instrument being issued to joint payees: the KIA *and* the federal Crown.¹⁰

In summary, BHP is operating an advanced gold exploration camp at the Boston site for which security in some amount is required. BHP warned the Board against exceeding the total cost of remediation/reclamation (again, which they calculate at \$1.7 million). In oral arguments, BHP repeatedly urged the Board to divide land from water impacts, and to keep in mind the exploratory and preliminary nature of Boston project, i.e., to remember that BHP is conducting preliminary work, i.e., advanced exploration, not operating a full scale mine. In

⁸ Exhibit #5. According to BHP, previous security deposits assessed in the eastern arctic apparently range from \$50,000 to \$250,000.

⁹ Exhibit 6. See also the written submission of BHP, exhibit 5, page 3, stating as an alternative that “... a single bond cover [] the full amount of land and water related reclamation ...”.

¹⁰ Exhibit 5, pg. 3.

addition, BHP urged the Board to use their abandonment and restoration numbers due to the advantages of *in situ* information held by BHP, but not held by experts like Mr. Brodie with whom BHP ultimately disagreed.¹¹

B. KIA

Mr. Evalik, KIA's President, reminded the Board of the importance of the "... clean up and restoration of mining ... in Nunavut [which is] important to protect the environment, the wildlife, and even the long term health of Inuit."¹² KIA *resisted* BHP's ideas to divide the land from water, suggesting instead that the Nunavut Water Board take a holistic approach to reclamation when deciding on the amount of security deposit.¹³ Significantly, KIA pointed out (and BHP conceded) that the Boston site is within historical calving grounds of caribou. According to Mr. Evalik, these traditional customs apply at the Boston site:

The Boston project site is within the historical calving grounds of the Bathurst caribou herd. These caribou are a primary food source for Inuit and also for Dogrib and other Dene communities. The calving ground is of significant importance for wildlife management reasons. Only a complete clean up of the Boston site when the project is complete is acceptable to Inuit.¹⁴

Yet, Mr. Evalik made it clear that KIA welcomes mining and exploratory activities related to mining, and that there must be flexibility in the security instrument to allow KIA access to the

¹¹ According to BHP, the advantage of using their figures lies with their familiarity with the site and exact costs to operate and reclaim, including mobilization costs, labor costs, etc.

¹² Exhibit 9, page 1.

¹³ At the oral hearing, KIA advised the Board that previous Yukon and NWT water boards did not make a distinction between land-based versus water impacts when deciding on the amount of security required. And regarding the Boston Site, Mr. Evalik said, "We are not convinced that the activities and facilities at the mining site can be easily divided into these that may affect both the water and those that won't." (Transcript, p. 24).

¹⁴ Exhibit 9, pp. 4-5.

security.

C. DIAND

Mr. Cook appeared for DIAND at the hearing, but only to answer questions and clarify the written submissions previously filed by DIAND.¹⁵ He attended the hearing at the last minute, but only because of NWB's written request to have somebody from DIAND appear, when it seemed clear that DIAND would be a "no show".

In DIAND's written submission, DIAND urged the Nunavut Water Board to: 1) consider past practices of the NWT Water Board in setting the deposit, and, 2) that land and water costs and activities be divided and separated. DIAND *supported* the approach to security found in the computer model Reclaim 3.1, a model developed by Mr. Brodie and used for his security assessment of higher \$2.378 million. DIAND basically agreed with the work of Mr. Brodie, finding his "past reviews and . . . assessment[s] and recommendations [to be] accurate."¹⁶

Under cross-examination, Mr. Cook admitted that reclamation/restoration costs are "becoming expensive" and that the Crown does not want to be responsible for the Boston site.

D. BRODIE CONSULTING LTD.

The Nunavut Water Board hired Mr. John Brodie as an independent expert to assist with the issue of security deposits at the Boston site. The terms of his engagement were to prepare a written report for all parties, to appear at the hearing, and be available for cross-

¹⁵ Exhibit 10, prepared by Water Resources Division.

¹⁶ Exhibit 10, pg. 2.

examination on his oral (hearing) comments and his filed report.¹⁷

In general, Mr. Brodie agreed with BHP's approach in reaching the figure of \$1.7 million. However, Mr. Brodie estimated the total costs to be \$2,378 million. In the words of Mr. Brodie:

In addition to the costs anticipated by BHP, there may be additional costs for engineering (sealing underground openings, vegetation mixtures, completion of ARD kinetic testing, etc.) and project management (detailed coordination of the decommissioning work and expediting of removal of materials). In keeping with conventional engineering practice, and especially considering that I have not inspected the site or examined the transportation logistics in detail, this estimate includes a contingency of 25%.¹⁸

In other words, Mr. Brodie added approximately 25% as a matter of "good engineering practices." During the hearing, Mr. Brodie was firm in his higher \$2,378 million assessment, having listened to BHP's direct oral evidence and notwithstanding lengthy cross-examination by BHP's counsel, Mr. Searle. Brodie's opening and closing remarks were always prefaced with the comment that good engineering practices for mine or exploration sites require a contingency in the evaluation of reclamation. He did not budge on that point.

¹⁷ Mr. Brodie did not visit the Boston site in preparing his assessment; he filed his written report of the Boston Gold Project on February 9, 1999. *Exhibit 13*. In reaching his assessment, he took for following documents into account:

- Exploration & Bulk Sampling Program Waste Rock Disposal Plan, BHP, Oct. 1998,
- Spill Contingency Plan, BHP, Aug. 1998,
- Abandonment & Restoration Plan, BHP, Sept. 1998,
- Hope Bay Gold, color brochure, BHP Nov. 1997,
- Water Licence NWB1BOS9801,
- Amendment to Water Licence NWB1BOS9801,
- Estimate for Security Deposit for the Boston Gold Project, letter to Nunavut Water Board, BHP, Oct. 1998, and,
- assorted site photographs taken by Nunavut Water Board personnel. Sept. 1998.

¹⁸ Exhibit 13, p.5.

On the issue of dividing security for *land* versus *water* based activities, Mr. Brodie stated (at the oral hearing)¹⁹ that his clear preference was against this approach, though he did attempt to break the numbers down for purposes of the hearing. He said, for example that it is difficult to divide land from water and that his experience with assessing 40 projects in the last 7 years was consistent with assigning security for one single amount without a distinction for media-specific (land v. water) environmental components.

BHP cross-examined Mr. Brodie on several points; one area of contention was the difference between security for a *mine* versus *exploration project*. On this topic Mr. Brodie strongly disagreed with BHP, stating that the concept of reclamation applies equally to both types of projects; the difference in amounts, according to Brodie, reflect the size and quantity of waste regardless of the “classification” of the project or life cycle of the mine.

E. HAMLET OF CAMBRIDGE BAY

Mrs. Vivienne Aknavigak appeared on behalf of the Hamlet Council to “outline [council’s] views on the Boston project.” The Hamlet Council echoed KIA’s concerns and pointed out the sensitivity of the wildlife impacts from the Boston project, in these terms:

The Boston project is very close to if not on the Bathurst caribou herd calving ground. This area is important to our Inuit communities that harvest those caribou for their food. The land and water in that area should not be degraded by any kind of mining activity.²⁰

The Hamlet also noted the contribution of BHP to the economy of the area, and supported the project, as long as “the [Boston] area [is] restored as closely as possible to the way

¹⁹ At the hearing, he said breaking water and land into separate reclamation costs was “... very difficult professionally to do ...” (transcript pg. 47).

²⁰ Exhibit 14, p.1.

it was before the activity began.”²¹

F. OTHER SUBMISSIONS

The NWT Chamber of Mines filed a written submission that was almost verbatim to BHP’s filed submission²² so it will not be discussed in detail. Suffice it that in a cover letter to the NWB, the Chamber of Mines raised concerns with not only fairness issues raised by BHP, but also with the Nunavut Water Board’s “. . . plans to move toward ... full cost of reclamation.”²³

IV. THE BOARD’S ANALYSIS

A) The Nunavut Water Board is seized with jurisdiction to consider this application pursuant to the NLCA, Article 13. Article 13.7.1. prohibits the use or disposal of waste into water without an “approval of the NWB.”

B) Section 13.8.1 of the NLCA authorizes the NWB to request a broad range of information from an applicant for an approval, including information regarding steps to “mitigate adverse impacts” and “any other matters that the NWB considers relevant.”²⁴

²¹ Exhibit 14, p.2.

²² Exhibit 15.

²³ Exhibit 15, unsigned letter of Mr. D. Willy, Vice-President, NWT chamber of Mines, to P. di Pizzo, Executive Director of N.W.B..

²⁴ Section 13.8.1 states: “Consistent with subsection 13(2) of the *Northern Inland Waters Act*, RSC 1985, c. N-25, the NWB, when considering a water application, may issue guidelines to the applicant for provision of information with respect to the following:

- a) project description;
- b) any qualitative and quantitative effects of the proposed water use on the water management area, including anticipated impacts on other water users of that area;
- c) steps which the proponent proposes to take to avoid and mitigate adverse impacts;
- d) steps which the proponent proposes to take to compensate interests adversely affected by water use;
- e) the program the proponent proposes to establish for monitoring impacts of the water

C) The burden of proof in this hearing rests with the applicant, BHP. The NWB rules of practice state: “In cases in which the Board accepts evidence, any party offering such evidence shall have the burden of introducing appropriate evidence to support its position. Where there is conflicting evidence, the Board will decide which evidence to accept and will generally act on a balancing of the evidence.”²⁵

D) The BHP Boston application raises fundamental questions with the assessment of security deposits in Nunavut. All parties agreed that one of the critical issues facing the water Board is the potential disincentive to mining from security deposits. Another important issue, particularly in this case, is whether the NWB should treat land and water separately in assessing reclamation and the amount of security. The second point, the water mandate issue, is critical to the resolution of all other issues raised in BHP’s application, so it will be addressed in some length below.

The first issue, the “disincentive” to the mining industry, relates to this hearing in a more general, but very important way. Simply put, if the security deposit is too high, or inflexible with terms and conditions, the mining industry may leave Nunavut. The Board agrees that security deposits can and should *vary*, depending on the site specific information that accompanies an application, but also on the type of operation which is being permitted. For example, the Board would expect to encounter three different types of mining operations:

- 1) initial exploration;
- 2) advanced exploration, with a bulk sample and processing program; or
- 3) operating mine.

-
- f) use;
 - g) interests in the lands and waters which the proponent has secured or seeks to secure;
 - h) options for implementing the project; and
 - any other matters that the NWB considers relevant.”

²⁵ *Interim Rules of Practice and Procedure for Public Hearings*, Section 8.10 (Exhibit 2).

For an *initial* exploration, the Board would expect little or no security, if the activity involves nothing more than a few tents or woodframe units.²⁶ (Even a moderate security deposit would be an unattractive disincentive for this kind of small exploration in the north.) However, a full operating mine, at the other extreme, is a different matter and the Board would expect security issues to be fully scrutinized, site visits by both government inspectors and the Board to occur, and 100% of abandonment and restoration costs to be posted. Yet, what should be done for the second category - advanced exploration, like BHP Boston? It seems that there should be sufficient security to cover the costs of abandonment and restoration, but there should be flexibility regarding terms such as payment, access, and reduction. These issues are addressed later in this decision. (pp. 21-25).

The second fundamental issue, the Board's "mandate" issue does relate directly to this hearing. KIA argued that the Board's mandate is remedial and broad and should be given a large and liberal interpretation. According to KIA, that the Board has the flexibility *inter alia* to require joint payees on a single bond, for land and water. In other words, KIA argues that Article 13 includes an implied authorization to the NWB to include all terms NWB considers necessary in an approval including those relating to security deposits.²⁷ And the Nunavut Water Board has the ability to issue guidelines over a broad range of impacts. This includes information relating to any qualitative and quantitative effects of the proposed water use on the water management area, including anticipated impacts on other water users of that area.²⁸

The biophysical nature of "environment" is such that everything is inter-connected. In terms of traditional Inuit culture and knowledge, the Board agrees with KIA and concludes that

²⁶ The exception would be in situations where the camp was located in environmentally sensitive areas.

²⁷ This argument is consistent with the *Interpretation Act*, R.S.C. s.10 ("An enactment . . . shall be given the fair, large and liberal construction and interpretation that best ensures the attainment of its objects.") and NLCA s.2.9.4 (NLCA shall be construed according to the Interpretation Act. R.S.C. 1985, c.I-21).

²⁸ Article 13.8.1.

Mr. Evalik represents the view of traditional users of the land when he urged the Board not to separate land from water in determining security.²⁹ The Board finds from this hearing alone that the public interest in the use of water and the deposit of waste into water in Nunavut arises from many factors. Some of these factors related to water affect the Inuit culture, including:

- the benefit to the applicant resulting from the proposed use;
- the effect or potential effect of the economic activity resulting from the proposed use;
- the effect or potential effect on fish and wildlife resources and on Inuit and other public recreational opportunities;
- the effect or potential effect on public health;
- the effect or potential effect of losses of alternative uses of water that might be made if not eventually precluded or hindered by the proposed use;
- the intent and ability of the applicant to complete the remediation and restoration; and
- the project's effect upon access to public waters or Article 20 waters at the Boston site.

The Board finds that it is an artificial distinction at best to separate "land" reclamation activities from "water" reclamation activities; the distinction is difficult to make³⁰ - if not highly speculative; also, it contradicts several federal legal definitions of "environment" if not all of them. To illustrate, the Canadian Environmental Assessment Act³¹ provides this definition of the

²⁹ Mr. Evalik stated (at pp. 23-24 of the transcript): "We understand that the security deposits ordered by the Nunavut Water Board are intended to protect the waters and the environment of Nunavut. KIA strongly supports the approach to water licence security requirements. We agree with the use of the full cost recovery for minesite reclamation as a starting point for determining the amount of a security deposit. We are not convinced that the activities and facilities at the mining site can be easily divided into those that may affect both the water and those that won't."

³⁰ It would be difficult, costly, and probably unfair to force the applicant to prove or disprove the precise relationships between land and water. In fact they are inseparable. Those relationships are based on complex factors, including but not limited to: i) hydro-geologic data, including geologic structure, and surficial geologic maps, hydrologic assessment and geologic cross-sections; ii) soils and vegetation data, including a detailed soil survey and chemical and physical analyses of soils, a vegetation map and narrative descriptions of quantitative and qualitative surveys, and land use data, including an evaluation of plant yields and plant/wildlife relationships; iii) surveys and other related data including at a minimum, surface hydrologic data, including streamflow, runoff, sediment yield, and water quality analyses describing seasonal variations over at least 1 full year, plus field geomorphic surveys and other geomorphic studies.

³¹ S.C. 1992, c.37 as am., s.2.

environment:

“environment” means the components of the Earth, and includes,

- a) land, water and air, including all layers of the atmosphere,
- b) all organic and inorganic matter and living organisms, and
- c) the **interacting natural systems** that include components referred to in paragraphs (a) and (b). (*emphasis added*)

The Canadian Environmental Protection Act³² defines environment in a similar fashion:

“environment” means the components of the Earth, and includes,

- a) air, land, and water,
- b) all layers of the atmosphere,
- c) all organic and inorganic matter and living organisms and
- d) the **interacting natural systems** that include components referred to in paragraphs (a) to (c). (*emphasis added*)

And the NWT Environmental Protection Act³³ and Environmental Rights Act³⁴ both establish broad definitions of environment. Incidentally, these definitions concur with the traditional belief of the Inuit regarding the land, or *nuna* in Inuktitut, which includes all of nature: the earth itself as well as the water, the ice, the wind, the sky, the plants and animals. The point is that water, which is an essential component of the environment, *interacts* with all other biophysical environmental elements, both in scientific terms and by legal definition. Given these interconnections, the Board needs to ensure the land is cleaned up in order to prevent damage to water, fish, and wildlife. In the context of the NLCA, water (for our purposes) is defined as “... waters in any river, stream,

³² RSC 1985, c.16 (4th Supp), as am., s.3.

³³ “environment” means the components of the Earth, and includes.

- a) air, land, and water,
- b) all layers of the atmosphere,
- c) all organic and inorganic matter and living organisms and
- d) the **interacting natural systems** that include components referred to in paragraphs (a) to (c). (R.S.N.W.T. 1988, c.75 (Supp.), s.2(c)).(*emphasis added*)

³⁴ “environment” means the components of the Earth within the Territories and includes

- a) all air, land, and water, snow, and ice,
- b) all layers of the atmosphere,
- c) all organic and inorganic matter and living organisms and
- d) the **interacting natural systems** that include components referred to in paragraphs (a) to (c). (*emphasis added*)

lake or other body of inland waters on the surface or under ground in the Nunavut Settlement Area, and includes ice and all inland ground waters ... ”³⁵

Several courts have commented on the breadth of the environmental water jurisdiction;³⁶ one such court has commented specifically on the environmental jurisdiction of the Nunavut Water Board.³⁷ In *QIA v. Canada*³⁸ the Federal Court of Canada reviewed the Nunavut Water Board’s first public hearing related to the Nanisivik Mine in the NorthWest Territories (Nunavut). While the court ultimately upheld the Board’s decision, it is worthy to note that the Trial Judge carefully scrutinized the Board’s assessment of not only water related impacts, but also a variety of matters including air quality,³⁹ wildlife,⁴⁰ and even public health,⁴¹ without questioning the Board’s authority to consider those factors. Her conclusion is logical because the use of water (not to mention deposits of waste in water) depletes the quantity/quality of water that is left for other users, but also affects the waste assimilative aspects of the original water source. In terms of the assessment of security deposits, we believe the amount should reflect the potential for impacts to the land via either hydrological or hydro-geological pathways.

The nature of water and its connection to the environment has consistently received a broad and liberal interpretation. This is true in the QIA case, and several Supreme

³⁵ NLCA, section 1.1.1.

³⁶ See e.g. *Curragh Resources Inc. v. Canada*, 8 C.E.L.R. 94 (F.C.T.D. 1992); *Curragh Resources Inc. v. Canada*, 11 C.E.L.R. 173 (F.C.A. 1993).

³⁷ *QIA v. Canada*, Docket T-2019-97 (Oct 9, 1998).

³⁸ *Ibid.*

³⁹ Slip opinion, pp. 24.33.

⁴⁰ Slip opinion, pp. 20, 29.

⁴¹ Slip opinion, pp. 23-24, 33.

Court of Canada decisions including decisions in *Oldman*,⁴² *Hydro Quebec*,⁴³ and others.⁴⁴

In the Boston case, the Board agrees that certain activities, like backfilling portals and moving wastes, are land-based in design. But, these land based activities, and structures like the construction and decommissioning of roads have an impact on surface hydrology. Surely everyone knows a road can act as a dike, and a culvert, by design, affects the flow of water.⁴⁵ Further, some reclamation activities, like revegetation, can benefit land and water at the same time; to separate these activities into either land or water would be difficult if not impossible and could potentially increase the overall cost of reclamation.

In the BHP Boston case, the Board places *great* significance in the value and well-being of the Bathurst caribou herd. The Board accepts evidence of the Hamlet that the wildlife in general and caribou in particular are of great *cultural* importance to the land manager (KIA) and traditionally, to Inuit. The negative impact on caribou is not a certainty in this case, but the potential impact, if reclamation is not guaranteed, could exist for decades. It is obvious to the Board that caribou need clean water to drink and they also survive on plants, and that the health of plants and their distribution is directly affected by water quality.

In conclusion, the Board finds that it must act to protect the Inuit and other users of water resources in the Boston region. Given that ecosystems operate on the principle that water supports all forms of life, and that fishing is linked to water quality, and that aquatic organisms are linked to water quality, and that public health is linked to water quality; that the

⁴² *Oldman River Society v. Canada*, 7 C.E.L.R. (N.S.) 1 (1992).

⁴³ *Quebec (A.G.) v. Canada (N.E.B.)*, 14 C.E.L.R. (N.S.) 1 (1994).

⁴⁴ See e.g. *R. v. Crown Zellerbach*, [1988] 1 S.C.R. 401.

⁴⁵ The impact of the construction of culverts on water quality is known to Canadian courts. See e.g. *Boise Cascade Canada Ltd. v. R.* 14 C.E.L.R. (NS) 93. (Ontario Court of Justice, General Div. 1994).

local Inuit customs including harvesting is based in part on land use activities, and this is also linked to water quality, we must therefore accept the several submissions in this hearing cautioning the Board not to separate water from land in the assessment of the security deposit required of BHP.

V. CONCLUSION

The amount of the security deposit and the total amount of abandonment and restoration. In reaching its decision, the Nunavut Water Board is sensitive to arguments by BHP and industry (e.g. Chamber Of Mines) that “overbonding” would drive the mining industry out of Nunavut—especially for preliminary exploration activities. This economic disincentive is undesirable.

Yet, for reasons already discussed, “underbonding” is a problem too. The Board wants to ensure that the amount of security is sufficient to cover 100 percent of the cost of reclamation if a third party contractor had to perform the reclamation after the site is eventually vacated, using off-site equipment to do so. On this point, the Board generally accepts the evidence of Mr. Brodie, that the security amount should be higher than the amount calculated by BHP. We do this in large part because of the future uncertainty that arises from: (1) unknown factors such as the weather, and, (2) known factors such as high mobilization costs in the north.

Mr. Brodie has added a 25 % “contingency” for the Boston site and the Board accepts his cautious approach; significantly, his evidence withstood cross-examination by BHP, KIA, RWED⁴⁶ and Board staff at the hearing. At this point in time, the Board believes BHP is a good operator (and we address this point below which will weigh in their credit). But we do not know with a certainty whether BHP will successfully complete the reclamation without

⁴⁶

Jane McMullan appeared on behalf of the Nunavut Government.

difficulties, nor do we know the difficulties that may arise in completing the reclamation. We do know that there is a potential for acid rock drainage (ARD);⁴⁷ we also know: (1) that pollution of surface and subsurface water may occur;⁴⁸ (2) that the backfilling and regrading of northern sites to original contour and drainage patterns is more difficult in the Arctic due to extreme weather conditions and other constraints unique to northern Canada (like mobilization); and (3) that there are related difficulties with revegetation of Arctic plants and grasses.⁴⁹ Therefore, the Board accepts Mr. Brodie's estimate of \$2.378 million as the starting point for the security deposit required of BHP in the Boston case.

⁴⁷ Section 1.1, page 1-3 of the "BHP Diamonds Inc. Boston Gold Project, Aimaoktak Lake, N.T. Abandonment and Restoration Plan" prepared for the NWB by BHP Diamonds Inc. dated September 1998: "Bermed stockpile pads for ore and potentially acid generating rock have been situated north and east of the portal entrance..." However preliminary testing indicates that samples have a low potential for generating acid. Also, on the subject of Acid Rock Drainage Characterization, section 6, page 6-29 of the "Exploration and Bulk Sampling Program, Waste Rock Disposal Plan" dated October 1998, submitted by BHP to the NWB, states that.. "tests are ongoing and the results available to date are preliminary...a full report will be prepared that provides a detailed interpretation of the kinetic test results".

⁴⁸ Section 2.3, page 2-1 of the "Exploration and Bulk Sampling Program, Waste Rock Disposal Plan" dated October 1998, states: "The activities associated with the generation of development rock and bulk ore samples can affect receiving water quality". Also, section 3.2, page 3-2 of the "BHP Diamonds Inc. Boston Gold Project, Aimaoktak Lake, N.T. Abandonment and Restoration Plan" prepared for the NWB by BHP Diamonds Inc. dated September 1998: states that "Surface erosion will be minimized at the point of discharge by dispersing the flow of water."

In general, ground water quality problems which originate on the land surface include: stockpiles, infiltration of contaminated surface water, land disposal of liquid waste materials (sewage), accidental spills, and particulate matter from airborne sources.

⁴⁹ Section 131, page 1-7 of the "BHP Diamonds Inc. Boston Gold Project, Aimaoktak Lake, N.T. Abandonment and Restoration Plan" prepared for the NWB by BHP Diamonds Inc. dated September 1998, states: "The arctic environmental conditions pose significant challenges to the revegetation of disturbed areas. These include short growing seasons, low soil and air temperatures, poorly developed soils, low soil nutrients levels, low moisture levels and limited microbial processes. The most significant influences are permafrost and the short growing season. Permafrost affects landscape stability and drainage patterns while the short growing season limits revegetation efforts. As a result, vegetation growth is slow and the recovery of disturbed areas will be prolonged".

Other potential problems may affect revegetation. These include: lack of suitable topdressing material (root growth medium), limited native plant material (seed or rhizome sources), surface compaction, slope stability, and drainage control.

But that is the starting point only. The issue of BHP's good compliance and performance at the Boston site is relevant to the final assessment of security and will be taken into account. This is consistent with NWB's original licence (s.11.B), which states that the amount of security will take into consideration BHP's financial resources and its past record.

At the oral hearing BHP adduced evidence that its performance and compliance record for the Boston site was excellent. This evidence was corroborated by KIA and DIAND and the Board accepts it. More significant to the Board, however, is the fact that BHP *voluntarily* reported small amounts of fuels that were spilled during its operations at Boston. Voluntary reporting is critical to the regulation of water users in the north because inspections are few and far between, hard to perform, and costly. This factor, combined with BHP's otherwise perfect regulatory record, plus support by the landowner KIA, suggest that BHP will be a good operator in the future. We believe this corporate attitude, plus good management at the site and track record will make it more likely than not that BHP will progressively remediate the site and complete their abandonment and restoration responsibilities at Boston. We believe this evidence militates in favor of a *significant* reduction in the security amount.

There are several other reasons to reduce the security deposit required of BHP. First, BHP has engaged in aggressive environmental management systems. Significant examples include their sewage treatment facility which is built beyond the standards required in Nunavut and is one of the better facilities in all exploration camps in the north. Additionally, BHP has implemented innovative technologies in spills remediation. And BHP has submitted detailed environmental impact statement documentation for their Boston activities for a 5 year period (1993-1998) though this information was not legally required. Second, BHP engaged these progressive environmental technologies, management systems, and environmental baseline studies, voluntarily. In every case, the licensee did more than what was legally required.

DECISION

After taking all of the evidence and arguments into account, including what the Board believes is a significant salvage value of BHP's Boston assets, the Board sets the total amount required of BHP for security at \$1,700,000.

BHP urged the Board to allow for progressive abandonment and restoration. In other words, BHP wants credit for ongoing remediation--to avoid problems caused by a concept referred to by Mr. Searle as "double dipping." In other words, Mr. Searle argued that it would be unfair to establish the initial amount of security, require BHP to perform ongoing remediation successfully, and then not release *any* portion of the security until *after* the last portion of the last piece of work at the site is completed. We agree.

Licence condition B.2 provides that the amount of security include "amounts as may be required . . . based on annual estimates of current mine restoration liability in accordance with Part H, Item 3 and Part H, Item 4 of this Licence." (Emphasis added) The Board accepts BHP's argument that periodic adjustments of the security should be given to BHP for successful reclamation. Accordingly, BHP may notify the Board annually of whether remediation/restoration has occurred and is entitled to request a reduction in the security deposit at that time. The Board will reduce such amounts based on written submission of KIA and other regulatory authorities (DIAND inspectors as required) corroborating the success of the remediation/restoration work. Following these reports, and assuming they are satisfactory to the Board, the Board will reduce the security by an appropriate amount.

There is another matter. Given that the security deposit is large for exploration site and cash flow is expected to be small (as there is no production) the Board attaches two further conditions in favor of BHP: First, the security deposit can be made in progressive instalments, and, second, the final amount will be subject (at BHP's option) to a future redetermination of the security deposit to occur following a visit and hearing *in situ* by the NWB.

The Board expects to arrange this visit for the summer of 2000.

Installments. As for installments,⁵⁰ or “phasing in” of the payments, they will be based on the following schedule:

- (1) \$400,000 to be paid within 30 days of the date of this decision;
- (2) \$600,000 to be paid on or before January 1, 2000;
- (3) the remaining \$700,000 or portion thereof,⁵¹ to be paid on or before January 1, 2001.

The last instalment is subject to change based on a showing by BHP at the summer/2000 site visit, and assuming BHP takes advantage of this option to reassess the security.

Payee. Both KIA and BHP argue that the security instrument should be in the joint names of DIAND and KIA. In the circumstances of the Boston case, we agree. It is therefore ordered that:

- (1) The security should be in the joint name of “KIA and the federal Crown,” and
- (2) The security should be held by the Minister of DIAND.

Access to the Security. The Board concludes that the following terms and conditions should apply to access:

⁵⁰ The Board finds that installments, or phasing, is appropriate as long as the following conditions are met: first, because we believe each installment is sufficient to cover reclamation work in the period for which the instalment covers, and second, that the sum total of the security posted for all periods meets or exceeds the gross reclamation amount for the entire geographical area covered by the permit.

⁵¹ The \$700,000 portion may be smaller if BHP has successfully completed a portion of the remediated work by that date and no other change to the operation takes place at the site.

- (1) The security deposit should be available:
 - a) for reclamation or abandonment and restoration under the NWB water licence, and
 - b) be accessed under the land tenure agreement that exists or will exist between KIA & BHP;
- (2) There must be notice of default to BHP;
- (3) The notice of default must be related to issues of abandonment and restoration or remediation;
- (4) There must be an opportunity by BHP to rectify any problem, to the satisfaction of the appropriate DIAND inspector, and with input from KIA;
- (5) Notice to BHP must be sufficiently broad when viewed objectively to allow for seasonal time frames at the site⁵²; and
- (6) There must be an alternative dispute resolution mechanism (ADR), to resolve security deposit problems that may arise. The terms of the ADR mechanism are found in Appendix A. The dispute resolution mechanism shall apply in all cases except for emergencies.

Form of Security. The Board agrees that the form of security should be optional, as long as the security instrument is a legal financial instrument in Canada and that it takes one, or more, of the following forms:

- a) a promissory note guaranteed by a bank in Canada payable to the Receiver General;
- b) a certified cheque drawn on a bank in Canada payable to the Receiver General;

⁵²

In other words, notice in the winter months would be longer than notice in the summer months due to weather related problems.

- c) a performance bond approved by the Treasury Board of Canada;
- d) an irrevocable letter of credit from a bank in Canada;
- e) cash; or
- f) a pledge of assets.⁵³

NWB Licence # NWB1BOS9801 is amended according to the terms of this Decision.

Dated on April 21, 1999 at Baker Lake, Nunavut

ORIGINAL SIGNED BY

Thomas Kudloo, Chair

⁵³

If a pledge of assets is chosen, the following conditions apply:

1. The licensee may pledge to the Minister of DIAND an asset as a security deposit *if* the net value of the asset as determined below equals and remains at least 25% more than the security required by the Board;
2. The licensee must provide the Minister of DIAND an independent market appraisal (IMA) of the asset on the day this security deposit option is selected, plus an updated IMA of the asset on each anniversary date;
3. The IMA shall be a valuation of the asset as defined on a net recovery basis, which is the market value of the asset less any liens, charges, costs including but not limited to mobilization costs, taxes, commissions, etc. The net recovery basis is the figure to be used in calculating the value of the security, which must remain at least 25% more than the security to be required;
4. The licensee shall otherwise keep the Minister and the Board informed as to the potential for significant changes to the value of the asset and immediately notify the Minister and the Board of any encumbrance to the asset that is pledged that would further reduce the value of the asset; and
5. Meet any other condition regarding the pledge of the asset as the Minister may require.

APPENDIX A

DISPUTE RESOLUTION

Dispute Resolution.

In all cases except environmental emergencies, the following terms apply:

- 1) KIA and BHP shall act in good faith and promptly engage in discussions to resolve any dispute;
- 2) In the event that either KIA or BHP determine that the dispute cannot be resolved through discussions, GNT and DIAND shall appoint, in consultation with KIA and BHP, a mediator to assist in further discussions to resolve the dispute; and
- 3) In the event that any KIA or BHP determine that the dispute cannot be resolved satisfactorily with the assistance of a mediator, the dispute shall be referred to an Arbitration Committee and the arbitration process shall be open to the public. Any arbitration shall be conducted pursuant to the *Commercial Arbitrations Act* (Canada).

Arbitration Committee An arbitration committee shall be constituted when required to conduct the arbitration of disputes and shall be a committee of three arbitrators composed of an appointee selected by DIAND and the GNT, an appointee selected by BHP and a third appointee selected by KIA. The parties shall select appointees for an Arbitration Committee who have expertise with respect to the matter in dispute as well as expertise with respect to the conduct of arbitration and who are otherwise independent and impartial.

Costs of Dispute Resolution The parties shall bear their own costs of dispute resolution and the costs of a mediator or an Arbitration Committee shall be paid as to fifty (50%) percent by BHP and as to the other fifty (50%) by KIA, unless the Arbitration Committee in its award assesses any costs against any specified party or parties.

APPENDIX B
EXHIBIT LIST
February 22, 1999

| <u>Exhibit</u> | <u>Description</u> |
|-----------------------|--|
| 1 | NWB BHP Boston Public Registry: including past and current licences and correspondence. |
| 2 | NWB Interim Rules of Practice and Procedures for Public Hearing. October 1997. |
| 3 | NWB Water Licensing in Nunavut: Interim Procedures and Information Guide for Applicants. |
| 4 | Letter dated October 22, 1998 from Chris Hanks, BHP Environmental Coordinator, to Philippe di Pizzo, NWB Executive Director, regarding Estimate for Security Deposit for the Boston Gold Project. |
| 5 | Letter dated February 5, 1999 from Chris Hanks, BHP Environmental Coordinator, to Philippe di Pizzo, Executive Director NWB, regarding BHP Diamonds Inc.' submission to the NWB on Security Deposit for the February 22, 1999 Hearing on the BHP Boston Water Licence (NWB1BOS9801). |
| 6 | BHP Public Hearing Slide presentation by Chris Hanks, BHP Environmental Coordinator. |
| 7 | BHP Public Hearing Slide presentation by Rich Rein, BHP Boston Project Manager. |
| 8 | Letter dated February 12, 1999 from John Donihee, representing the Kitikmeot Inuit Association, to Mr. Philippe di Pizzo, enclosing submissions for BHP and Lytton Water Board Hearings. |
| 9 | Opening Statement of Kitikmeot Inuit Association for BHP Water Licensing Hearing, Cambridge Bay, Nunavut, dated February 23, 1999, presented by Charlie Evalik, President Kitikmeot Inuit Association. |
| 10 | Submission dated January 20, 1999 from Water Resources Division, Indian and Northern Affairs Canada, Yellowknife, N.W.T. to the Nunavut Water Board, regarding BHP Diamonds Inc. Nunavut Water Licence Number: NWB1BOS9801 |

Public Hearing Intervention-Security Deposit Public Hearing February 22, 1999.

- 11 "Mine Reclamation Policy for the Northwest Territories". Department of Indian Affairs and Northern Development. Document dated January 8, 1999. Tabled by John Donihee of Bayly Williams Barristers and Solicitors.
- 12 "Mine Reclamation Policy for the Northwest Territories". Indian and Northern Affairs Canada. Undated Consultation Document. Tabled by Greg Cook, DIAND Water Resources Special Project Officer
- 13 Project Reclamation Cost Review Submission dated February 18, 1999 from Brodie Consulting Ltd. to Philippe di Pizzo, NWB Executive Director.
- 14 Presentation to the NWB by Vivienne Aknavigak representing the Hamlet of Cambridge Bay regarding the BHP Water Licence Hearing.
- 15 Letter dated January 26, 1999 from Doug Willy, Vice President NWT Chamber of Mines to Philippe di Pizzo, NWB Executive Director, enclosing a Submission Regarding the Security deposit for the BHP-Boston Gold Project (NW1BOS9801) and Lytton Minerals Jericho Project (NWE1JER9801)
- 16 Letter dated October 7, 1998 by Chris Hanks, BHP Environmental Coordinator, to Philippe di Pizzo, NWB Executive Director, regarding BHP Request for Amendment of BHP Boston Water Licence NWB1BOS9801.
- 17 BHP Security Deposit Submission Reply to Interventions (undated).