P.O. Box 119
Gjoa Haven, NT XOE 1JO
Tel: (867) 360-6338
Fax: (867) 360-6369

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

April 23, 1999

NWB File No. NWB1JER9801

Mr. Greg Missal
Tahera Corporation
1408 Crown Street
North Vancouver, BC V7J 1G5

Subject: Security Deposit - Licence NWB1JER9801

Dear Mr. Missal:

Please find enclosed the Nunavut Water Board Decision dated April 22, 1999 in the matter of the final assessment of security deposit with respect to the Jericho Diamond Project.

Sincerely,

P. di Pizzo

Philippe di Pizzo
Executive Director

Enclosure (1) Decision

cc. Charlie Evalik, President, KIA
Jane McMullen, Community Minerals Advisor, RWED
Greg Cook, Special Project Officer, DIAND
Paul Smith, Water Resources Officer, DIAND
John Brodie, P. Eng., Brodie Consulting Ltd.

NUNAVUT WATER BOARD

DECISION

Date of Hearing: ***February 23, 1999***
Date of Decision: ***April 22, 1999***

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

- and -

IN THE MATTER OF the final assessment of security deposit with respect to the Lytton Jericho Diamond Project.

Cite as: re: security deposit for Lytton Project

TABLE OF CONTENTS

APPEARANCES

LYTTON	David Searle Q.C., Davis & Co., Counsel; Greg Missal, Land Manager, Lytton; Darryl Hockley, SRK Canada Inc.
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.

SUMMARY

On December 2, 1999, the Nunavut Water Board issued a licence to Lytton for exploration work and associated activities for the Jericho Diamond Project in Nunavut. The Board decided to make the final assessment of their security deposit after a public hearing. Following submissions from several parties, including the landowners DIAND and KIA, and the NWT Chamber of Mines, the Board has decided that $868,000 is required of Lytton, which is a full cost recovery for their advanced diamond 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, and provides an opportunity for Lytton and interested parties to have a site visit and hearing in the summer of 2000 to reassess the security issue.

I. BACKGROUND

Factual History

This matter involves the assessment of security deposit regarding the Lytton Minerals Ltd. (Lytton) Jericho Diamond Project in Nunavut. The majority of this project is located on Crown Land; land use activities are permitted by the Department of Indian and Northern Affairs Canada pursuant to the *Territorial Land Use Act* and *Regulations* and water use and waste disposal are regulated by a water licence. The original water Licence issued by the NWB on December 2, 1998 authorizes Lytton to use water and dispose of waste in conjunction with their exploration drilling project[1]. In this licence, the NWB maintains the requirement for a security deposit of $50,000 and decides that the final amount of the security deposit and the manner and reasons for its use should only be decided after a public hearing. In preparation for that hearing, Lytton was subsequently required to provide cost estimates to carry out all abandonment and restoration (A & R) activities based on a conceptual A & R plan.

Lytton (now called Tahera)[2] is the licensee and operator of the Jericho Diamond Project. The Jericho Diamond Project is located around the western end of Carat Lake. The airstrip, lay down area, fuel storage and camp are situated on the northwest end of the lake, and the portal area is found on the southwest end of the lake. Permafrost underlies the area. Vegetation is sparse.

The Jericho site is adjacent to the northwest arm of Contwoyto Lake, approximately 25 km northwest of the Lupin Mine, and approximately 420 km northeast of Yellowknife. The site is approximately equidistant from the communities of Kugluktuk (Coppermine), Bathurst Inlet, and Snare Lakes.

---

1 Licence NWB1JER9801.

2 Lytton and New Indigo recently amalgamated; On February 5, 1999, shareholders of Lytton Minerals and New Indigo Resources agreed to merge companies to form Tahera Corporation; for purposes of this decision the Board will refer to the applicant as Lytton.

Access to the site is provided by winter roads, or by air. A winter road is operated between Yellowknife and the Lupin Mine from mid January to mid March. From there, the Jericho site can be reached via the Contwoyto Lake winter road.

Activities have consisted of drilling and underground bulk sampling. The latter has involved excavation of about 14,500 m^3 of ore and 25,000 m^3 of waste rock. The only opening to the underground is the portal. Surface facilities include: waste rock stockpile, numerous small buildings at the portal and camp areas (offices, camp, shop, storage, electrical plant, etc.), roads, lay down areas, borrow areas and the airstrip. Additional disturbances presumably exist at diamond drill sites.

In order to "process" the kimberlite ore, Lytton manages an ore processing plant at the Lupin Mine site. Essentially all of the kimberlite recovered in the bulk sample from Carat lake is shipped 25 km to the Lupin site and processed there.[3]

In summary, Lytton is an advanced diamond exploration project that completed the bulk sampling phase of their operations. While it is not an operating mine, it is moving in that direction.

Procedural Background

The water license history of Lytton's Jericho site began in 1996, when the NWT Water Board issued a Class B Water Licence[4] for Lytton's water use and waste disposal operations

---

[3]
- Bulk sample from Lytton was extracted and removed from site during a six-month period in 1998;
- There are no tailings at the Jericho site; and
- The full processing of sample was carried out at Lupin, where the Jericho tailings were used to actually cover a portion of Lupin's tailings.

[4] Licence# N7L2-1666.

at the Jericho camp. The licence also covered activities related to their underground work. The procedural chronology of development at the Jericho site is roughly as follows:

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

On August 21, 1998, following Lytton's plans to continue work at the Jericho site, an application for licence renewal was submitted to the Nunavut Water Board (Board). On December 23, 1998, the Board renewed Lytton's water licence but decided to deal with the issue of security deposit[5] following a public hearing scheduled for Cambridge Bay on February 23, 1999[6]. The

---

5 Part B of Licence NWB1JER9801 stipulates the following respecting the security deposit:

2. The Licensee shall have posted and shall maintain a security deposit in the following manner:

   a. within thirty (30) days of issuance of this Licence, an amount of $50,000.00 dollars;
   b. Such further or other amounts as may be required by the Board following a public hearing on the security deposit;
   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.

3. 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.

4. 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

Board gave public notice of the hearing and invited the public and interested parties to submit written comments.

Involvement of the KIA

Although the KIA manages only a small parcel of land relative to Lytton's overall operations, 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. In general, 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. Again, the KIA is the surface land owner of a small parcel of land located at Carat Lake and only for certain small parts of the Jericho Diamond Project.[7]

---

the Trust Agreement only as, and when approved by the Board.

6 On February 23, 1999, all Board members participated in the public hearing. Since that time, on April 1, 1999, Board member and 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.

7 The only portion of Lytton's project on KIA lands is a powder and blasting caps magazine (both currently empty) and a short stretch of road. Site Plan Exhibit 1.

II. ISSUES

While the general issue raised at the hearing was the Lytton Security deposit for the Jericho operations, there are several related issues which the NWB must address:

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

III. SUMMARY OF EVIDENCE

A. Lytton

According to Lytton, they are a junior mining company with very limited resources. In setting the amount of security, Lytton stressed the importance of differentiating between junior exploration companies versus operational mines. Junior mining companies take great risks to "find" the mine, and then an operator (who will probably be another company) will mine and process the mineral resource after the ore is "proven up". Lytton, who again argued that they were spending "high risk dollars," urged the Board to avoid a "significant security" deposit as it would be a " . . . big disincentive for junior mining companies to engage in exploration in Nunavut."[8]

To assist in the preparation of their remediation program, Lytton hired Steffen, Robertson and Kirsten (SRK), a Vancouver consulting firm. Lytton's A & R plan is based on several activities including monitoring.[9] The A & R activities take place in the following areas at the site:

---

[8] Written submission of Lytton, Exhibit #1, p. 3.

[9] SRK submission, Exhibit 1, pp. 2-11.

- Fuel Tank Farm
- Portal Area
- Carat Camp Site
- Service Roads
- Borrow Areas
- Airstrip and Turnaround Pad
- Laydown Areas
- Explosives Magazines

While the remediation of the overall site would be too detailed to list here, suffice it that the remediation activities are numerous, particularly for the portal area[10] and camp site.[11]

Regarding the *total* amount of security, Lytton stated that it should be $806,000 divided roughly into $628,000 (Crown related), $146,000 (water related), and $32,000 (IOL related) allocations.

As to the $32,000 IOL based figure, Lytton stated that this amount should be "taken off the table" because KIA (the land owner relative to the $32,000 remediation portion) and Lytton had already reached a side agreement to secure any remediation costs. (KIA confirmed this agreement in their testimony).

---

10 Remediation at the **portal area** includes removal of all equipment and supplies, removal of any fuel and generators, dismantling and packaging all weatherhavens, dismantling and burning any wooden structures, dismantling concrete shop floor and place inside portal, sealing portals with shotcrete, excavating remaining kimberlite on wasterock pad, reducing any waste rock slopes to 2H:1V to minimize erosion and ensure slope stability, use suitable waste rock on rip-rap or fill material as needed elsewhere on site, cover remaining exposed wasterock pad with esker or suitable native material, the pad should be contoured so as to prevent erosion and encourage revegetation, scarify and re-contour all compacted surfaces to reduce runoff and promote vegetation growth.

11 Remediation at the **camp site** includes dismantling and packaging the weatherhavens, dismantling wooden structures and burn in the Incinerator area, collecting and packaging all equipment, biolets and miscellaneous supplies, excavating and removing all power lines, removing ashes and metal from burn area, covering burn area with 1 metre cap of esker sand or suitable fill material and recontour to minimize runoff and erosion, remove water tanks, excavating and treating contaminated soil - contaminated soils will be ignited to burn residual fuels, then covered with fill, scarify and re-contour all compacted surfaces to reduce runoff and promote vegetation re-growth, and truck materials out on winter road.

Lytton further recommended that if the Board does require full cost,[12] then Lytton should be given credit for progressive reclamation. And while Lytton did not want to use the higher cost estimate prepared by Mr. Brodie, the company did agree to pledge their asset at Lupin which is worth $1.5 million.[13] In fact, Lytton preferred to pledge the $1.5 million Lupin asset as opposed to the $806,000 as it would not require them to post additional cash.

B. KIA

To introduce the KIA, Mr. Charlie Evalik, KIA's President, stated that "KIA intervened in these hearings because the clean up and restoration of mining and other industrial sites in Nunavut is important in order to protect the environment, the wildlife and the long term health of Inuit."[14].

He also welcomed the mining industry in Nunavut, with KIA's claim that " . . mining and mining investment are essential to the future of Nunavut."[15]

KIA agreed with Lytton that the Lytton project facilities and camp were mostly on Crown land and that only "minor components" were on IOLs. Yet, KIA reminded the Board that "full cost recovery should be the starting point for determining mining security in Nunavut.[16]

---

12 The full cost, according to Lytton, would be $806,000. less $32,000 (guarantee to IOL) less $50,000 (payment already received by the Board at time of application) for a final amount of $724,000.

13 The offer to pledge the asset was made by Mr. Searle in oral argument. The $1.5 million asset is found in the kimberlite processing plant that Lytton owns at the Lupin site.

14 Exhibit 3, p. 2.

15 Exhibit 3, pg. 2.

16 Exhibit 3, pg. 6.

Mr. Evalik reminded the Board of the importance to incorporate: "the principle of full cost recovery as a starting point for all water licence related security. [He said] "We suggest that the nature of the project, any attendant risks to the environment and the potential sensitivity of the receiving environment be factors in any NWB security decision."[17] KIA *resisted* Lytton's ideas to divide the land from water, suggesting instead "breaking security down into land related and water related security seems to KIA to be arbitrary and ignores the fact that the environment is interconnected."[18] And regarding Lytton's comments about the life cycle of a mine, KIA said, "We suggest that the decision on the total security required for a water licence must take all the facts about a project and its environment into consideration and that it cannot be simply based on the stage of the project in the mining life cycle. For example, even an exploration project in an environmentally sensitive area should be subject to a significant security requirement."[19]

C. DIAND

Mr. Cook appeared for DIAND at the hearing, but only to answer questions and clarify the written submission previously filed by DIAND.[20]

Essentially, DIAND urged the Nunavut Water Board to: 1) consider past practices of the NWT Water Board, and 2) that land and water costs and activities be divided and separated into land versus water related costs of reclamation. 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 $1.134 million. DIAND basically agreed with the work of Mr. Brodie, finding his

---

17 Exhibit 4, pg. 2.

18 Exhibit 3, pg. 4.

19 Exhibit 4, pg. 5.

20 Exhibit 5, prepared by DIAND, NWT Region, Water Resources Division.

"past reviews and . . . assessment[s] and recommendations [to be] accurate."[21] Regarding abandonment and restoration at the Lytton project, DIAND stated that it should be considered a "low-risk" project.

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 Jericho 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-examination on his oral (hearing) comments and his filed report.[22]

---

21 Exhibit 5, pg. 4.

22 Mr. Brodie did not visit the Jericho site in preparing his assessment; he filed his written security estimate report of the Jericho Diamond Project on February 18, 1999, based on the following information sources:

- Jericho Diamond Project, Bulk Sample, Water Licence Application, Canamera Geological Ltd. For Lytton Minerals, Feb. 27, 1996,
- Jericho Diamond Project, Contingency Plan, Canamera Geological Ltd. for Lytton Minerals, July 30, 1996,
- SNP Minewater Quality Monitoring Report, Water Licence N7L2-1666, Jericho Diamond Project, Canamera Geological Ltd. for Lytton Minerals, Aug. 19, 1996,
- Proposal for Drill Program, letter to DIAND, Lytton Minerals, Aug. 18, 1998,
- Questionnaire for N7L3-1666, submitted by Lytton Minerals Limited, Aug. 21, 1998,
- Letter; Lytton Minerals Limited, Amendment to N7L3-1666, Aug 21, 1998
- Letter; Filter at Jericho Camp, Lytton Minerals Limited, Aug 21, 1998,
- Comments on the Water Licence Renewal, DIAND Water Resources, Sept. 14, 1998,
- Letter; Comments arising frpm Aug. 25, 1998 Application for Renewal, NWT Resources, Wildlife and Economic Development, Sept. 15, 1998,
- Water Licence Amendment on Jericho Project, Environment Canada, Sept. 17, 1998,
- Letter; Application for renewal of Water Licence for Jericho Diamond Project, Letter of advice to Nunavut Water Board, Department of Fisheries & Oceans Sept. 23, 1998,
- Preliminary Environmental Report for the Jericho Project, Nunavut, Sections 2.4.1.4 to 2.4.1.6 (Ore & Waste Rock Geochemistry) submitted Dec. 21, 1998,
- Renewal of Water Licence, NWB1JER9801, Dec. 22, 1998,
- Assorted site photographs taken by Nunavut Water Board personnel, Sept. 1998,
- Abandonment and Restoration Plan for the Jericho Project, Nunavut, Steffen Robertson and Kirsten (Canada) Inc. (SRK) Feb. 1999, prepared for Lytton Minerals Limited.
- Cost Estimate for Abandonment and Restoration of the Jericho Project, Nunavut, SRK Feb. 1999, prepared for Lytton Minerals Limited.

In general, Mr. Brodie basically agreed with Lytton's approach in reaching the figure of $806,000. However, Mr. Brodie estimated the total costs to be $1.134 million. In the words of Mr. Brodie:

> In addition to the costs anticipated by Lytton, there may be additional costs for engineering (sealing the portal, vegetation mixtures, managing/testing contaminated soil, etc.) and project management (detailed coordination of the decommissioning work and expediting of removal of materials).[23]

Mr. Brodie added approximately 25% as a matter of "conventional engineering practices."[24] During the hearing, Mr. Brodie was firm in his $1.134 million assessment. His opening and closing remarks were always prefaced with the comment that good engineering practices (for mine *or* exploration sites) require a 25% contingency.

E. OTHER SUBMISSIONS

The NWT Chamber of Mines filed a written submission that was almost verbatim to Lytton's filed submission[25] 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 Lytton, but also with the Nunavut Water Board's ". . . plans to move toward security deposits that reflect the full cost of reclamation."[26]

---

23 Exhibit 2, pg. 6.

24 Exhibit 2, pg. 6.

25 Exhibit 6.

26 Exhibit 6, unsigned letter of Mr. D. Willy, Vice-President, NWT Chamber of Mines, to P. di Pizzo, Executive Director of NWB.

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 of water or the 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."[27]

C) The burden of proof in this hearing rests with the applicant, Lytton. 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."[28]

D) The Lytton application raises fundamental questions with the assessment of security

---

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

[28] *Interim Rules of Practice and Procedure for Public Hearings*, Section 8.10.

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 Lytton'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.

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.[29] (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 Lytton? 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. 18-21).

---

[29] The exception would be in situations where the camp was located in environmentally sensitive areas.

We must deal with the mandate issue of whether a land versus water distinction shall be made by the Board. 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 Mr. Evalik represents the view of traditional users of the Carat lake site when he urged the Board not to separate land from water in determining security. 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 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 make[30] - if not highly speculative; also, it contradicts several federal legal definitions of "environment" if not all of them. To illustrate, the Canadian Environmental Assessment Act[31] provides this definition of the

---

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 one 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 Act[32] 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 Act[33] and Environmental Rights Act[34] 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 and traditional 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.

---

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)*

In the context of the NLCA, water (for our purposes) is defined as "... waters in any river, stream, 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 Court of Canada

---

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.

decisions including decisions in Oldman,[42] Hydro Quebec,[43] and others.[44]

In the Jericho case, the Board agrees that certain activities, like backfilling portals and moving wastes, are land-based in design. For example, roads have an impact on surface hydrology because 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 and could potentially increase the overall cost of reclamation.

There is no evidence of a *proven* environmental impact at Jericho, but previous impact assessments [46] of the Jericho project indicated the possibility for cumulative effects:

- underground workings may encounter ground water/dewatering and use of underground sumps for containment.
- construction of all weather roads, airstrip, facilities and quarry activity may alter natural drainage and impact terrain.
- use of heavy equipment and diesel generators along with blasting and increased air traffic may increase local ambient noise. Use of diesel generators and quarrying may impact local air quality.
- Use of wildlife habitat (eskers) and increased localized activity may alter normal wildlife patterns.

In conclusion, the Board finds that it must act to protect the Inuit and other users of water resources in the Jericho region. Given that ecosystems operate on the principle that water

---

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 well 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 Division, 1994).

46 Exhibit 10, public record. Jericho application.

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 local or regional Inuit 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 urging the Board not to separate water from land in the final assessment of the security deposit required of Lytton.

V. CONCLUSION

The amount of the security deposit and the total amount of A/R must now be decided. In reaching its decision, the Nunavut Water Board is sensitive to arguments by Lytton and industry (e.g. Chamber Of Mines) that "overbonding" would drive the mining industry out of Nunavut—especially for exploration activities as opposed to full scale mines. 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 Lytton; we do this in part because of the future uncertainty that arises from unknown factors such as the weather.

Mr. Brodie has added a 25 % contingency for the Jericho site and the Board accepts his approach. At this point in time, the Board believes Lytton is a good operator (and we address this point below). But we do not know with a certainty whether Lytton will successfully complete the reclamation without *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); we also know: (1) that pollution of surface and subsurface water may occur; (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. Therefore, the Board accepts Mr. Brodie's estimate of $1.134 million as the starting point for the security deposit required of Lytton in the Jericho case.

But that is the starting point only. The issue of Lytton's compliance and performance at the Jericho site is important to the final assessment of security and will be taken into account.

At the oral hearing Lytton adduced evidence that its performance and compliance record for the Jericho site were good. This evidence was eventually, and somewhat reluctantly, corroborated by KIA. More significant to the Board, however, is the fact that Lytton appears to the Board to be a good operator although the project was in operation for several months after the expiry of the original NWT Water Board licence before the renewal for a water licence was filed by Lytton. We accept that Mr. Missal, the land manager was a credible witness and that based on his evidence Lytton is more likely than not to be a good operator in the future. We believe this corporate attitude, plus good management at the site and good track record will make it more likely than not that Lytton will progressively remediate the site and complete their A & R responsibilities at Jericho. We believe this evidence militates in favor of a *significant* reduction in the security amount and reduce it accordingly from $ 1.134 million to $950,000, which is the gross amount of security required of Lytton at the Jericho site. The net amount of security now required is $868,000 ($950,000 minus $50,000 Lytton deposit, minus $32,000 IOL portion).

Also, Lytton urged the Board to allow for progressive A & R; that Lytton be given credit for ongoing remediation--to avoid financial problems for Lytton 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 Lytton to successfully perform ongoing remediation, and then not allow a release of any portion of the security until *after* the last portion of the last piece of work at the site is completed. We agree. This is consistent with Part B, Item 2 (d) of Licence

NWB1JER9801 which states that the amount of security include "amounts as may be required . . . based on *annual* estimates of current mine restoration liability ..."

The Board accepts Lytton's argument that periodic adjustments of the security should be given to Lytton for successful reclamation. Accordingly, Lytton 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 as required) confirming 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 particularly for a junior mining company ($950,000) the Board attaches two further conditions in favor of Lytton: First, the deposit can be made in progressive instalments, and, second, the final amount will be subject to an optimal future redetermination to occur in conjunction with a site visit and *in situ* hearing by the NWB. The Board will arrange this visit for the summer of 2000.

In summary, the installments will be based on the following schedule:

(1) $68,000 to be paid within 60 days of the date of this decision;

(2) $400,000 to be paid on or before January 1, 2000;

(3) the remaining $400,000 or portion thereof,[47] to be paid on or before January 1, 2001. Obviously, this last instalment is subject to a reduction based on a proper showing by Lytton at the summer/2000 site visit.

Payee. The security instrument should be in the name of the federal Crown and held

---

[47] The portion may be smaller if Lytton has successfully completed a portion of the remediated work by that date and no other change to the operation takes place at the site.

by the Minister of DIAND.

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;

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.[48]

---

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

1. The licencee 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 licencee 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 than liens, charges, 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 licencee shall otherwise keep the Minister informed as to the potential for significant changes in the value of the asset; and
5. Meet any other condition regarding the pledge of the asset as the Minister may require.

DECISION

NWB Licence # NWB1JER9801 is amended according to the terms of this Decision.

Dated on April 22, 1999 at Baker Lake, Nunavut

ORIGINAL SIGNED BY

Thomas Kudloo, Chair

APPENDIX A

EXHIBIT LIST

February 23, 1999

Exhibit	Description
1	Letter dated February 11, 1999 from Greg Missal, Lytton Minerals Land Manager, to Philippe di Pizzo, NWB Executive Director, enclosing an Overview of the Jericho site consisting of pictures and comments; the conceptual Abandonment and Restoration Plan for the Jericho Project, Cost Estimate For Abandonment and Restoration of the Jericho site, and submission regarding the Security Deposit.
2	Jericho Diamond Project Reclamation Cost Review. Submission dated February 18, 1999 from Brodie Consulting Ltd. to Philippe di Pizzo, NWB Executive Director.
3	Opening Statement of Kitikmeot Inuit Association for Lytton Water Licensing Hearing, Cambridge Bay, Nunavut, dated February 23, 1999, presented by Charlie Evalik, president Kitikmeot Inuit Association.
4	Letter dated February 12, 1999 from John Donihee, representing the Kitikmeot Inuit Association, to Philippe di Pizzo, enclosing submissions for BHP and Lytton Water Board Hearings.
5	Submission dated January 20, 1999 from Water Resources Division, Indian and Northern Affairs Canada, Yellowknife, N.W.T. to the Nunavut Water Board, regarding Lytton Minerals Limited Nunavut Water Licence Number: NWB1JER9801 Public Hearing Intervention-Security Deposit Public Hearing February 23, 1999.
6	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 (NWB1BOS9801) and Lytton Minerals Jericho Project (NWEIJER9801)
7	"Mine Reclamation Policy for the Northwest Territories". Indian and Northern Affairs Canada Consultation. Undated Consultation Document tabled by Greg Cook, DIAND Water Resources Special Project Officer

8 "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

9 "Acquisitions and Mine Closure Liability". In Canadian Mining Journal. Article by John Brodie, P.Eng. dated August 1998.

10 NWB Lytton Minerals Jericho Project Public Registry including current and past licenses and various correspondence.