



NUNAVUT WATER BOARD

WATER LICENCE NO: 1AR-NAN1419

**REASONS FOR DECISION
INCLUDING RECORD OF PROCEEDINGS**

NUNAVUT WATER BOARD



In the Matter of:

Applicant: Canzinc Mines Ltd. (previously Canzinc Ltd.)

Subject: Application for Renewal and Amendment of (expired)
Type "A" Water Licence 1AR-NAN0914

Date: December 23, 2014

Precedence: Where there is any inconsistency or conflict between the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*, the Agreement prevails to the extent of the inconsistency or conflict. Where there is any inconsistency or conflict between the *NWNSRTA* and any other act of Parliament, except the *Nunavut Land Claims Agreement Act*, the *NWNSRTA* prevails to the extent of the inconsistency or conflict.



RECORD OF PROCEEDINGS

Applicant: Canzinco Mines Ltd., previously known as Canzinco Ltd.

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Environment
CanZinco Mines Ltd.
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With copy to:

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c/o Nyrstar Canada (Holdings) Ltd.
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Purpose: Application for Renewal and
Amendment of Type “A” Water Licence
1AR-NAN0914 to authorize water use
and Waste deposit in support of
continued closure and remediation and
post-closure monitoring activities at the
former Nanisivik mine site

Application Received on: November 14, 2013

Application Received from: Canzinco Ltd. (name change to Canzinco
Mines Ltd. as of December 27, 2013)

Date of Public Hearing: Wednesday, October 8 and Thursday,
October 9, 2014

Date Board Confirmed Public
Hearing Record Closed Thursday, October 9, 2014



ATTENDEES:

NWB

Representatives:

Nunavut Water Board Panel Members (Panel P13 Nanisivik):	Chairman Member Member	T. Kabloona J. Pameolik B. Dean
Nunavut Water Board Staff:	Executive Director Board Secretary/Interpreter Director Technical Services Technical Advisor Licensing Administrator Legal Counsel	D. Côté B. Kogvik D. Hohnstein S. Joseph R. Ikkutisluk C. Boyer (Shores Jardine LLP)
Interpreter:	M. Allurut K. Attagutsiak	
Court Reporter:	T. Rizzoli, CSR(A), Dicta Court Reporting, Inc.	
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Applicant:

Canzinc Mines Ltd.	J. Skoglund, Group Manager, Environment C. Lavallee, Environmental Technician A. Laudrum (SRK Consulting)
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Parties:

Aboriginal Affairs and Northern Development Canada	K. Costello, Director of Resource Management M. Ball, Manager of Water Resources I. Parsons, Regional Coordinator
Fisheries and Oceans Canada	K. Bill, Manager of Strategic Planning and Investments



National Defence
Canada

L. LeMay, Technical Specialist,
(Defence Construction Canada)

R. Watson, Project Manager
(Department of National Defence)

Participants
Appearing at Public
Hearing:

Q. Attagutsiak
L. Kigutak
M. Naqitarvik
O. Naqitarvik
J. Olayuk
S. Qaunaq
T. Tatatuapik

Written Record of Submissions:

Available from the Board's public registry using the following (username: public,
password: registry):

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-NAN0914/2%20ADMIN/4%20HEARINGS/2%20HEARING/2014%20Hearing/>



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ABBREVIATIONS

In this decision, the following abbreviations are used;

<u>Short form</u>	<u>Full name</u>
AANDC	Aboriginal Affairs and Northern Development Canada
CanZinco	Canzinco Mines Ltd., previously known as Canzinco Ltd.
DCC	Defence Construction Canada
DFO	Department of Fisheries and Oceans Canada
DND	Department of National Defence
EC	Environment Canada
GN	Government of Nunavut
NIRB	Nunavut Impact Review Board
NLCA	Nunavut Land Claims Agreement
NPC	Nunavut Planning Commission
NWNSRTA	Nunavut Waters and Nunavut Surface Rights Tribunal Act
NWB	Nunavut Water Board
PHC	Pre-Hearing Conference
TM	Technical Meeting

REASONS FOR DECISION

Executive Summary

This decision is in relation to an application before the Nunavut Water Board, filed by Nyrstar Canada (Holdings) Limited on behalf of Nyrstar's subsidiary, Canzinco Mines Ltd. (CanZinco), for the amendment and renewal of the expired Type "A" Water Licence 1AR-NAN0914 for a five-year term. The Application, filed with the NWB on November 14, 2013, seeks authorization to use water and deposit waste for continued closure and reclamation, and post-closure monitoring activities at the former Nanisivik Mine located approximately 33 kilometres by road from the Hamlet of Arctic Bay.

The NWB reviewed and facilitated the review process for the Application that includes a completeness check, a technical review period, a technical meeting and pre-hearing conference held by way of teleconference on June 18, 2014, and an in-person Public Hearing in Arctic Bay held on October 8 and 9, 2014. Throughout the NWB's consideration of the Application, several written and oral commenting opportunities were provided to interested persons and interveners, including government agencies, landowners or administrators, the Regional Inuit Association, the Hamlet of Arctic Bay and the local Hunters and Trappers Organization affected by the project, community members and members of the public



On the basis of the information provided with the Application, technical review by the NWB and interveners, comments and written submissions filed with the NWB, and information provided during the Public Hearing to the three-member Panel, duly appointed by the NWB to consider the Application, the NWB has decided the following:

- To grant CanZinco's request to renew Water Licence No. 1AR-NAN0914 in accordance with the terms and conditions outlined in this Decision and attached renewed/amended Licence; and
- Specific terms and conditions of note in the renewed/amended Licence (the Licence) include the following:
 - as requested by CanZinco, the term of the Licence is 5 years expiring on (December 22, 2019), with the expectation that CanZinco apply for renewal of the Licence at least one year before the Licence is set to expire;
 - following approval of the Licence by the Minister, CanZinco will be required to pay any outstanding water use fees and/or deposit in accordance with the newly adopted *Nunavut Waters Regulations*, which require annual payment of water use fees, including for the first year of the Licence term;
 - CanZinco will be required to maintain security in the amount specified under the Licence, in the form required by the *Nunavut Waters Regulations*, including that the security is to be updated to reflect the current legal name of CanZinco;
 - CanZinco is allowed to establish a Non-Hazardous Waste Landfill facility;
 - CanZinco will be required to update specific management plans outlined in the Licence; and
 - CanZinco will be required to consider and undertake monitoring in accordance with the following key amendments:
 1. Amendment to water quality monitoring requirements to include the following:
 - a. Discontinuation of analytical test group NAN-3 in Schedule I, Table 1 of the Licence;
 - b. Exclusion of Radium-226 from the list of regulated parameters under Part F, Item 1 in the Licence;
 - c. Discontinuation of water quality monitoring stations 159-10, 159-15 and 159-17 in Schedule I, Table 2 of the Licence;
 - d. Reduction in sampling frequency for water quality monitoring;



- e. Minor changes to the description of water quality monitoring stations in Schedule I, Table 2 of the Licence; and
 - f. Changes to the monitoring program frequency.
2. Amendment to geotechnical monitoring requirements to include the following:
- a. Discontinued monitoring for malfunctioning or non-functioning instrumentation, specifically:
Thermocouples – TC12, TC13A, TC31, TC32, TC33, BGC03-18;
Thermistors – BGC02-03, BGC03-11, BGC03-21, BGC03-37, BGC02-09; and Monitoring Wells – BGC05-11, BGC05-12, BGC05-21, and BGC05-23, Schedule I, Table 3, in the Licence;
 - b. Changes in geotechnical monitoring frequency in accordance with Schedule I, Table 3 in the Licence; and
 - c. Minor additions to monitoring specific areas of the project site.

In this decision, the NWB provides a summary of issues that were identified during the review of this Application. These issues highlight the unique roles of regulatory agencies and landowners in ensuring that undertakings, such as the Nanisivik Mine site post-closure remediation and monitoring activities, meet or exceed abandonment and reclamation obligations.

SECTION I **FILE BACKGROUND AND REGULATORY HISTORY**

Current Application

The Application before the Nunavut Water Board was filed by Nyrstar Canada (Holdings) Ltd. on behalf of CanZinco Ltd. in November 2013. The NWB was provided with a Certificate of Continuation dated December 27, 2013 and issued by the Registrar of Companies for the Province of British Columbia confirming the continuation of Canzincos Ltd. under the name of Canzincos Mines Ltd. CanZinco is a corporate entity that is a wholly owned subsidiary of Breakwater Resources Ltd., which in turn is a wholly owned subsidiary of Nyrstar Sales and Marketing AG. The application and supporting information is for the renewal of Type “A” Water Licence 1AR-NAN0914 with amendments to specific terms and conditions.

The scope of the Application includes the following:

- Five (5) year renewal of licence 1AR-NAN0914, to allow for Water use and Waste deposit activities in support of continued closure and reclamation, post-closure monitoring and related activities at the former Nanisivik Mine site;
- Continued discharge of effluent from relevant water retaining structures/facilities;



- Continued remediation of Petroleum Hydrocarbon Contaminated (PHC) soil associated with the former fuel tank farm area and any other project areas;
- Continued sampling and analysis to confirm whether or not treated soil and/or water meet established treatment objectives or criteria;
- Establishment of a Non-Hazardous Waste Landfill (NHWL) facility for the disposal of inert waste including scrap metal/bulky waste that have accumulated during closure and reclamation and post-closure monitoring activities;
- Changes to geotechnical monitoring requirements to include discontinuation of monitoring at defective stations, discontinuation of groundwater monitoring, and changes to monitoring frequency and period;
- Changes to water quality monitoring requirements to include reduction in regulated monitoring parameters, discontinuation of monitoring for specific stations, reduction in monitoring of specific test groups, and changes to monitoring frequency and period, and minor changes to monitoring stations description;
- On-site disposal of sewage to on-site sump/latrine pit;
- Backhauling of specific waste types to the Hamlet of Arctic Bay following authorization from the Hamlet;
- Supply of potable from the Hamlet of Arctic Bay following authorization from the Hamlet; and
- Undertaking studies aimed at developing Tier 3 soil quality remediation objectives;

The following Application documents were received from CanZinco by the NWB on November 14, 2013:

- Application cover letter;
- Completed water licence amendment – renewal application form;
- Appendix A: Executive summary of water licence amendment application (English);
- Appendix B: Executive summary of water licence amendment application (Inuktitut);
- Appendix C: CanZinco shareholder resolution appointing directors;
- Appendix D: Site location map;
- Appendix E: Correspondence related to the Nunavut Planning Commission conformity determination;
- Appendix F: Correspondence related to the Nunavut Impact Review Board Screening requirements;
- Appendix G: Geotechnical monitoring schedule 2014-2018;
- Appendix H: Water quality monitoring schedule 2014-2018;
- Appendix I: Contaminated soil remediation progress and recommendations memo;
- Appendix J: Petroleum hydrocarbon contaminated soils risk-based remedial options analysis;
- Appendix K: Concordance table related to supplementary information requirements for hydrocarbon-impacted soil storage and landfarm treatment facilities;



- Appendix L: Site layout map;
- Appendix M: Letter of credit;
- Appendix N: CanZinco appointment of officer;
- Appendix O: CanZinco certificate of amendment; and
- Appendix P: Compliance assessment and status report.

During the NWB's consideration of the Application, CanZinco filed the following additional documentation in support of the Application and in response to interveners' comments and information requests:

- *Former Nanisivik Mine Site, Waste Management Plan (WMP)*, dated April 2014;
- *Former Nanisivik Mine Site, Spill Contingency Plan (SCP)*, dated March 2014;
- *Overview of Methodology/Approach Involved in Developing Site Specific Remediation Objectives for Pre-determined Project Areas at the Nanisivik Docksites*, dated September 4, 2014;
- *Remediation Confirmatory Soil Sampling Methodology*, dated September 5, 2014;
- *Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine*, dated September 2014; and
- *Concrete Pad Soil Movement Management Plan*, dated July 20, 2013 and updated August 13, 2014.

All documentation associated with the NWB's review of the Application, including the supporting documents referenced above is available on the NWB's FTP site and can be accessed using the following link (user name: *public*, password: *registry*):

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-NAN0914/1%20APPLICATION/2014%20Amend%20Renewal/>

History of the Nanisivik Mine

The Nanisivik Mine is a former lead-zinc mine located on Northern Baffin Island, approximately thirty three (33) kilometres by road from the Hamlet of Arctic Bay, in the Qikiqtani Region of Nunavut. The Nanisivik Mine was the first Canadian mine located north of the Arctic Circle and operated from 1976 to 2002.

During and following the years of operation, several changes were made in ownership of the assets associated with the mine. CanZinco does not own the land on which the former Nanisivik Mine is located, however, it has obtained relevant land-use authorizations, in the form of leases, from AANDC, the DFO, and the GN for continued use and access to areas of the Mine site located on Crown Lands and Commissioner's Lands, respectively. Some of the long-term leases issued to the project have expired in recent months, and CanZinco



is currently in the process of renewing those leases. It should be noted that none of the areas associated with the mine site is on Inuit-owned land.

Closure and reclamation, and post-closure monitoring activities associated with the mine site commenced in 2002 and are expected to continue for several more years. While most of the facilities and infrastructure related to the former mine have been removed from the site, CanZinco is responsible for the following existing on-site infrastructure and facilities:

- Water conveyance structures;
- Thermal covers associated with the tailings containment areas, dikes, landfill, open pit areas, waste rock areas, industrial complex foundation;
- Embankments including remnants of dikes, berms, and cell covers;
- Shale and armour borrow areas;
- Covers over mine openings, portals, crown pillar and raises;
- Service road around former mine site as required for post-closure monitoring;
- Lined treatment facilities for petroleum hydrocarbon contaminated soil remediation;
- Trailer, shed and portable outhouse rented for remediation;
- Sixteen (16) landfarm treatment cells established to treat petroleum hydrocarbon contaminated soil;
 - Landfarm treatment units are located in four main areas of the project site:
 - A portion of the concrete pad of the former concentrate building (which is the subject of a Memorandum of Agreement between CanZinco and DFO – see Exhibit 22 from Public Hearing record);
 - Lower Treatment Area (LTA);
 - Upper Treatment Area (UTA); and
 - Inside the bermed area of the former Tank farm.

In addition to facilities and infrastructure operated by CanZinco, there are other entities, including the DND and the GN, that have facilities and infrastructure on site. The following lists the facilities/infrastructure at the former Nanisivik mine site and previously owned by CanZinco, that are operated by other entities:

- Nanisivik wharf structure and general laydown pad at the wharf;
- Concrete pad which was the location of the former mine concentrate storage shed: A Memorandum of Agreement (Exhibit 22) allows CanZinco the use of a portion of the concrete pad for continued soil remediation work;
- DND trailers at the dock site; DND trailer on the Southwest corner of the concrete pad;
- Garage at the former town site now owned by the GN;
- Road from Arctic Bay to the Nanisivik Port and the Spur Road to the East Twin Lake (both owned and operated by the GN); and
- Sheds at the port maintained by the Canadian Coast Guard and residents of Arctic Bay.



Licensing History for the Undertaking

Northwest Territories Water Board (NWTWB), which was the regulatory agency with the mandate for regulating water use and waste deposit in the Northwest Territories before Nunavut separated in 1999 and the Nunavut Water Board was established, issuing the relevant authorizations and licences for the commencement of exploration and mining activities at the Nanisivik Mine site. Details regarding the duration and scope of the licences issued by the NWTWB were not readily accessible to the NWB. Since July 1, 1997, the NWB has issued three licences, one assignment, and two amendments for the use of water and deposit of waste in support of the Nanisivik Mine, details of which are as follows:

- Licence NWB1NAN9702 was issued to Nanisivik Mines Ltd. on July 1, 1997 with an expiry date of June 30, 2002. The licence allowed for the use of 180,000 cubic metres of water per year and the deposit of waste for a Mining and Milling undertaking. On February 20, 2001, the licence was assigned from Nanisivik Mines Ltd. to Nanisivik Mine (a division of Canzinc Ltd.);
 - Amendment No. 1 to Licence NWB1NAN9702 was issued on December 9, 1999 to allow for changes in operational conditions.
 - Amendment No. 2 to Licence NWB1NAN9702 was issued on March 20, 2000 to allow for additional changes in operational conditions.
- Renewal Licence NWB1NAN0208 was issued to Canzinc Ltd. on October 1, 2002 with an expiry date of May 1, 2008. The licence allowed for the use of 180,000 cubic metres of water per year and the deposit of waste in support of an Industrial undertaking that includes closure and reclamation, and post-closure monitoring activities at the former Nanisivik Mine site.
- Renewal Licence 1AR-NAN0914 was issued to Canzinc Ltd. on April 1, 2009 and expired on March 31, 2014. The licence allowed for the use of 100 cubic metres of water per day and the deposit of waste in support of an Industrial undertaking that included continued closure and reclamation, and post-closure monitoring activities at the former Nanisivik mine site.

Procedural History of this Application

The following listing summarizes key steps in the procedural history of the NWB's processing of this Application:



- November 13, 2013 – Nyrstar Canada (Holdings) Ltd., on behalf of Canzincor Ltd., filed a renewal-amendment application for licence 1AR-NAN0914¹;
- November 20, 2013 – NWB acknowledged receipt of the application and requested that CanZinco provide confirmation that the application fee and water use fee has been provided;
- December 3, 2013 – NWB confirmed receipt of the application and water use fees;
- January 29, 2014 – Following an internal review of the application, the NWB distributed correspondence requesting that parties conduct their completeness check and initial technical assessment of the application;
- March 3, 2014 – NWB received comments on completeness from AANDC, DFO, DND, and EC. CanZinco also provided a submission to the NWB in response to the NWB's January 29, 2014 correspondence;
- April 2, 2014 – NWB issued correspondence requesting that CanZinco respond to interveners' submissions on completeness and parties' initial technical assessment of the Application;
- April 10, 2014 – CanZinco submitted a written request to the NWB to amend the term of the licence to allow for commencement of on-site activities in June 2014, in advance of completion of the renewal-amendment Application process, which the NWB did not officially respond to in writing²;
- April 13, 2014 – CanZinco provided a response to the interveners' submissions on completeness and initial technical assessment;
- May 2, 2014 – NWB distributed the Application publicly for a thirty (30) day technical review period;
- On or before June 2, 2014 – Technical review submissions were received from the following intervening parties: AANDC, DFO, DND, and EC;
- June 18, 2014 – NWB hosted a TM and PHC for the Application by way of teleconference; participants included CanZinco, representatives from the Hamlet of Arctic Bay, the Arctic Bay Hunters and Trappers Organization, AANDC, DFO, DCC, DND, and EC;
- June 27, 2014 – NWB distributed the draft list of commitments generated during the TM for comments;
- June 30, 2014 – NWB received comments and feedback on the draft commitment list from CanZinco, DFO, and DND;
- July 7, 2014 – NWB issued the PHC Decision Report for the Application;
- July 11, 2014 – NWB issue notice for the Public Hearing;
- September 8, 2014 – NWB received submission from CanZinco in relations to commitments generated during TM and PHC;

¹ Canzincor Ltd. name changed to Canzincor Mines Ltd. on December 27, 2013 – see Certificate of Continuation issued by the Registrar of Companies for the Province of British Columbia dated December 27, 2013.

² Continued monitoring and reclamation work in summer of 2014 did not involve use of water or new deposit of waste. Section 46 of the NWNSRTA states that "*The expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence*".



- September 9, 2014 – NWB acknowledged receipt and distributed publicly CanZinco's September 8, 2014 submission;
- September 15, 2014 – CanZinco filed a copy of the updated Abandonment and Reclamation Plan for treatment of contaminated soil at the Former Nanisivik Mine with the NWB;
- September 17, 2014 – NWB received final written submissions filed in advance of the Public Hearing from the interveners AANDC, DFO, DND and EC;
- September 24, 2014 – NWB received CanZinco's response to interveners' final submissions preceding the Public Hearing;
- September 25, 2014 – NWB issued correspondence confirming the Public Hearing date, time and venue and circulated the draft Agendas for the formal technical session of the Public Hearing and the evening community session scheduled for October 8 and 9, 2014, for comments;
- October 1- 3 2014 – NWB received copies of presentations received from the following parties in advance of the Public Hearing: CanZinco, AANDC, DFO, and DND;
- October 8 - 9, 2014 – NWB staff and the three-member Panel, authorized by the NWB to process the Application, conducted the Public Hearing for the Application; participants included CanZinco, representatives from the Hamlet of Arctic Bay, community members from Arctic Bay, representatives from AANDC, DFO, DCC and DND.

Regulatory History of this Application

In advance of submitting an application to renew and amend the licence, CanZinco inquired with the NWB, that due to the considerable reduction in water use and waste deposit currently associated with the project, it believed that closure and reclamation and post-closure monitoring activities required for a typical Type "A" Water licence may no longer be required and that the appropriate type of water licence to authorize the on-going closure and remediation activities at the former Nanisivik Mine site would be a type "B" water licence. As the issue of the potential for a form of "graduated" licensing for sites nearing the end of the project life cycle was an important issue, the NWB took some time to canvass the approach to this issue. On July 15, 2013, the NWB issued correspondence clarifying that:

"...when the Board issues a licence, it applies not just to licence an individual activity or group of activities that result in the use of water or deposit of wastes, but rather the Board's licences apply to licence an "undertaking" throughout its life cycle. In the case of Type "A" Water Licences such as 1AR-NAN0914, the undertaking that is licensed is the closure, reclamation activities and post-closure monitoring associated with the Industrial Undertakings at the Nanisivik Mine. As the industrial undertaking (mine) triggered



the requirement for a Type “A” Water Licence, until such time as the reclamation of the Industrial Undertaking is complete, the Board requires the undertaking to be licensed under a Type “A” Water Licence.”³

Understanding that the status quo of the licence type will remain, CanZinco submitted a Type “A” Water licence renewal-amendment application in November 2013. On December 3, 2013, the NWB acknowledged receipt of the \$30.00 application fee from CanZinco.

During the early stages of the NWB’s processing of the Application and following expiry of Licence 1AR-NAN0914 on March 31, 2014, CanZinco submitted a written request on April 10, 2014 to the NWB to amend relevant terms and conditions in licence 1AR-NAN0914 to allow CanZinco to undertake site monitoring activities in the summer of 2014, prior to completion of the renewal-amendment Application process. While the NWB communicated with CanZinco’s representative by way of telephone, a written correspondence was not issued in respect of the March 31, 2014 amendment request. The work contemplated during the summer of 2014 did not involve use of water or the deposit of waste. Additionally, section 46 of the NWNSRTA states that *“The expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence”*.

The NPC issued correspondence⁴ on May 2, 2014, indicating that the proposed renewal-amendment application did not change the scope of the originally reviewed project to the extent that it would warrant a further review by the NPC and that terms agreed in the June 19, 2008 Conformity Determination, which states that the Project conforms to the North Baffin Regional Land Use Plan, must form part of any authorization, permit or licence issued to the project.

On May 2, 2014 the NWB issued the Notice of the Application⁵ to the Qikiqtani Distribution List, which indicated that a thirty-day (30) technical review period had commenced and invited interveners and other interested persons to make submissions to the NWB regarding the Application on or before June 3, 2014.

On May 28, 2014, the NIRB issued its Screening Exemption Decision⁶ for the Application, in accordance with section 12.4.3 of the NLCA.⁷ The NIRB correspondence indicated that

³ Letter from D. Côté, Executive Director, NWB to J. Skoglund, General Manager, Environment, Nyrstar, July 15, 2013, Re: Renewal of Water Licence 1AR-NANA0914 (Reclamation and Post-Closure Monitoring of the Nanisivik Mine Site), at p. 1.

⁴ Email from C. Tickner, NPC, to M. Beaulieu, NWB, and J. Skoglund, CanZinco Re: 140502 1AR-NAN0914 Notice of Application and Commencement of Technical Review

⁵ As required under s. 55(1) of the NWNSRTA.

⁶ NIRB Screening Exemption Decision dated May 28, 2014.



as this Application would not involve a material change from the original project proposal screened by the NIRB in 2002 (Type “A” licence renewal application for Water licence NWB1NAN0208) or as revisited by the NIRB in 2008 (Type “A” licence renewal application for Water Licence 1AR-NAN0208), the renewal of 1AR-NAN0914 was exempted from further NIRB screening. The NIRB also reissued their original Screening Decision Report from October 7, 2002 and reiterated that the activities remain subject to the terms and conditions contained within that report.

Pursuant to Article 13, Clause 13.3.6 of the NLCA and s. 29⁸ of the NWNSRTA, the NWB delegated its power to dispose of all matters relating to the Application, including the conduct of the Public Hearing, to a three-member panel (Panel) of the NWB. Following the NWB’s technical review of the file and receipt of technical review submissions from AANDC, DFO, DND, and EC and through direction given from the Panel, the NWB scheduled a TM and PHC for June 18, 2014, to be conducted by the NWB’s staff by way of teleconference.

As is the NWB’s normal practice with TM/PHC meetings, Panel members were not present, and the meetings were conducted by the NWB staff. The TM was chaired by the NWB’s Director of Technical Services, while the PHC was chaired by the NWB’s Executive Director. The purpose of these meetings was to bring together CanZinco, intervening parties and the NWB’s technical staff to discuss issues raised during the technical review of the Application and determine the next steps in the licensing process for the Application.

Through the discussions at the TM, the parties made commitments to provide additional information directed at resolving various outstanding technical issues and information requests prior to the Public Hearing. At the PHC, the participants, which included representatives from CanZinco, the Hamlet of Arctic Bay and the Arctic Bay Hunters and Trappers Organization, AANDC, DFO, DND and EC, were polled by the NWB staff with respect to the possible form of Public Hearing (in person, in writing or teleconference), as well as the timing and venue for the Public Hearing.

On July 7, 2014, the Panel authorized the release of the PHC Decision Report. The PHC Decision Report addressed the TM discussions, issues raised in the technical submissions, commitments of the parties and the next steps in the licensing process. The PHC Decision

⁷ Article 12, Part 4, Section 12.4.3 of the NLCA states:

Any application for a component or activity of a project proposal that has been permitted to proceed in accordance with these provisions shall be exempt from the requirement for screening by NIRB unless:

- (a) such component or activity was not part of the original proposal; or
- (b) its inclusion would significantly modify the project.

⁸ Section 29 of the NWNSRTA states:

- (1) The Board may establish panels of the Board and delegate any of its powers, duties and functions to them.



Report confirmed that with the recognition that there may be significant public and community interest in the renewal-amendment application, the Public Hearing should be in person in the community of Arctic Bay. Based on the timelines for exchange of documents prior to the Public Hearing, the NWB set the dates of October 8 and 9, 2014 for the Public Hearing. The PHC Decision Report also detailed the timelines for the final written submissions of intervening parties and CanZinco.

In advance of the Public Hearing, further submissions were received from CanZinco, AANDC, DFO, DND and EC in accordance within the deadlines established in the NWB's PHC Decision Report (as subsequently extended by the NWB to allow for full response to new information provided by CanZinco). On September 24, 2014, CanZinco provided a response to the submissions of the parties.

The Public Hearing was conducted in Arctic Bay on October 8 and 9, 2014. A copy of the Agendas are provided in [Appendix A](#). Sign-in sheets indicating the list of participants at the Public Hearing are provided in Appendix E. After the close of the Public Hearing on October 9, 2014, no further submissions were received. As such, on October 9, 2014, the Record for the Public Hearing closed and the matter had been remitted to the Panel for a decision. A list of Exhibits from the Public Hearing is provided in [Appendix B](#).

A complete list of submissions and correspondence in support of this Application is provided in [Appendix D](#) – List of Submissions and Correspondence. All listed submissions, correspondence, exhibits and transcripts associated with the Application and the Public Hearing have been placed on the NWB's public registry and are available from the NWB's ftp site using the access username of "public" and the password of "registry" (without the quotes) at the following link:

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-NAN0914/1%20APPLICATION/2014%20Amend%20Renewal/>

SECTION II **SUMMARY OF FINAL HEARING SUBMISSIONS OF THE PARTIES**

Aboriginal Affairs and Northern Development Canada

AANDC has a broad mandate for the co-management of water resources and the management of Crown land in Nunavut under the following applicable law and policy:

- the *Department of Indian Affairs and Northern Development Act*⁹;

⁹ R.S.C. 1985, c. I-6.



- the *Nunavut Land Claims Agreement* and the *Nunavut Land Claims Agreement Act*¹⁰;
- the *Territorial Lands Act*¹¹ applicable *Regulations*¹²;
- the *Nunavut Waters and Surface Rights Tribunal Act*¹³;
- the *Nunavut Waters Regulations*¹⁴;
- the *Canadian Environmental Assessment Act*¹⁵; and,
- the *Mine Site Reclamation Policy for Nunavut*.¹⁶

AANDC administers Crown land and resources and enforces regulatory permits affecting land and water resources in Nunavut. Throughout the review process, AANDC identified several issues and concerns with respect to the Application, and while many of them have been addressed to varying extent during the review process, AANDC in its final submission and presentation made during the Public Hearing generally highlighted issues related to financial security and ongoing contaminated soil remediation process including remediation objectives proposed by CanZinco.

An irrevocable letter of credit in the amount of up to \$2,000,000 was posted by CanZinco under the expired licence as security for reclamation activities associated with the project. As part of the renewal-amendment process, CanZinco provided an updated financial security assessment that is lower than \$2,000,000; however, CanZinco did not request any reduction in financial security for the project.

AANDC, during its initial presentation at the Public Hearing recommended that the updated financial security estimate provided by the Applicant should not be accepted until more details were provided about soil remediation objectives and reclamation implications, and that a new assessment for the entire mine site should be undertaken in accordance with the *Reclaim* model. However, in its closing remarks AANDC changed its position and indicated that it was satisfied with the amount of security provided for the project and that if new information becomes available for future work programs, there will be an opportunity to review the security of the scope of the project changes. AANDC also indicated that it did not see the need for a site-wide security assessment to be conducted using Reclaim 7 as indicated in its earlier submission.

¹⁰ S.C. 1993, c. 29.

¹¹ R.S.C. 1985, c. T-7.

¹² See for example *Territorial Land Use Regulations*, C.R.C. c. 1524 and the *Northwest Territories and Nunavut Mining Regulations*, C.R.C. c. 1516.

¹³ S.C. 2002, c. 10.

¹⁴ S.O.R./2013-69.

¹⁵ S.C. 1992, c. 37.

¹⁶ Minister of Indian Affairs and Northern Development, (Ottawa: Minister of Public Works and Government Services Canada, 2002) available on-line: http://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/recpolnuna_1100100036043_eng.pdf.



In terms of the ongoing contaminated soil remediation program for the project, AANDC expressed concerns about site-specific soil quality objectives being proposed that it believes CanZinco has described at a very high level and that CanZinco did not include adequate information on the following topics to allow for proper assessment of the method proposed to achieving site specific soil quality objective:

- a well develop rationale for including sweet crude oil as an acceptable indicator for gasoline and diesel contaminants found in contaminated soil associated with the former tank farm;
- analytical results of the most recent sampling conducted and that will be used as basis in establishing site-specific soil quality objectives; and
- consider the possibility of bioaccumulation in biota that may have absorbed residual contaminants.

In addition, AANDC stated that details on ex-situ bioremediation applied and the effectiveness of the technology in regards to environmental conditions, end-use of contaminated soil following remediation, and whether or not soil will be placed in Area 4 of the former tank farm area or stockpiled elsewhere are also required as there are environmental and public health implications associated with the aforementioned issues

Department of Fisheries and Oceans Canada

DFO is responsible for regulating coastal and inland fisheries as well as administering the *Federal Fisheries Act* and *Species at Risk Act*. The DFO's role in the renewal process for the Application is from the perspective of inherent responsibilities associated with it being the current administrator of Crown Lands on which most of the former mine site's footprint is based. The DFO's involvement in the process was not in the context of a regulator as the operational phase of the project has ended, and the DFO has no current concerns about impact to fish and/or fish habitat for the ongoing closure and reclamation and post-closure monitoring phase.

During the Public hearing, the DFO stated that it had no concerns with respect to information and submissions provided by CanZinco concerning the updated abandonment and reclamation plan, methodologies proposed for site-specific remediation objectives and for confirmatory soil sampling, which it believes are consistent with the *Federal Contaminated Site Action Plan, Ecological Risk Assessment Guidance* (2012).

DFO also mentioned at the Public Hearing that it recently signed a Memorandum of Agreement¹⁷ with CanZinco to extend use of the concrete pad near the dock site for the storage of petroleum hydrocarbon contaminated soil and to allow for the construction of

¹⁷ See Exhibit 22 from the Record of the Public Hearing



the DND's naval facility to proceed concurrently. The Memorandum of Agreement allows CanZinco to use the concrete pad until August 2016. Currently, the DFO is finalizing a Memorandum of Understanding with the DND to transfer administrative responsibilities for the site to the DND.

Department of National Defence and Defence Construction Canada

DND's and DCC's combined involvement in the renewal process for the Application is mainly from the perspective that part of the footprint of the DND's proposed Nanisivik Naval Facility Project, expected to officially commence construction in 2015, would potentially overlap with a section of the project area currently used for remediation of petroleum hydrocarbon contaminated soil if the anticipated remediation schedule does not proceed as planned. In addition, DND indicated that it has further interests in the Application for the former Nanisivik Mine site remediation project because the project is mainly on Crown Lands and the DND, instead of the DFO, will at some point in the future, be the administrator for the relevant property owned by the Crown. The DND participated throughout the entire review process for the Application and raised a number of specific issues such as the management or treatment of contaminated soil.

During the Public Hearing, the DND indicated that it had no significant issues with the Application; however, it expressed concerns about the following element of the project scope: quality of the berm remaining on the project site, technical guidance document being followed for the treatment of contaminated soil, potential risk of contaminant migration outside of treatment cells especially during spring freshet, and determination of responsibility party for any contaminated soil discovered during construction of the naval facility. Further, the DND indicated that it would like for CanZinco to provide, as part of the 2014 remediation progress report, details about the integrity of the berm situated at the former tank farm area prior to summer 2015 as the DND intends to review the information once submitted by CanZinco and made available by the NWB.

Another issue raised by the DND during the Public Hearing had to do with recommendations made by AANDC that CanZinco should backfill or re-contour affected areas disturbed by the project. The DND indicated that it would prefer that CanZinco not backfill or re-contour any affected areas within the potential footprint of the proposed naval facility project due to concerns that the material used in backfilling or re-contouring may not be suitable for construction. In addition, the DND mentioned that if affected areas are backfilled or re-contoured there is a strong possibility that some or all of the same areas would be excavated in the near future.



Environment Canada

EC's specialist advice is provided pursuant to the *Canadian Environmental Protection Act, 1999*, the pollution prevention provisions of the *Fisheries Act* and the *Species at Risk Act*. EC advised by letter dated September 10, 2014¹⁸ that due to operational constraints, EC could not attend the Public Hearing. EC further advised in that letter that it had no additional comments regarding the Application. EC advised that the recommendations provided at the PHC in its correspondence dated June 2, 2014 continued to apply.

Some of the main issues identified and recommendations made by EC in its submissions centred on the changes proposed by CanZinco with respect to water quality and geotechnical monitoring requirements. EC in its submission indicated that given CanZinco had addressed the relevant issues EC identified in EC's preliminary review of the Application, EC was in favour of discontinuing analytical test group NAN-2 from standard monitoring with caveat that sampling for NAN-2 will be carried out should a visible oil sheen be observed. In addition, EC indicated that it support the discontinuation of analytical test group NAN-4, reduction to the list of regulated parameters, and removal of Stations 159-10, 159-15 and 159-17 as requested by CanZinco.

SECTION III **SUBMISSIONS BY OTHER INTERVENING PARTIES OR MEMBERS OF THE PUBLIC**

There were no written submissions provided to the NWB by any other intervening party or members of the public. The main themes that came from the questions and comments made by members of the public at the Public Hearing were:

- Desire to see continued monitoring of the post-closure and remediation work for at least a further five years;
- Concern for the water quality in Kuhulu Lake and the creeks on and around the mine site (Chris Creek and Twin Lakes Creek);
- Concern for monitoring of impacts of the former mine activities on animals in the area and the fish in Kuhulu Lake;
- Concern about waste being potentially backhauled to Arctic Bay for treatment or disposal; and
- Concerns over communication of monitoring results to the public.

Excerpts of the specific concerns expressed by members of the community of Arctic Bay with respect to some of the above-mentioned topics are as follows:

¹⁸ Exhibit 19 of the Record from the Public Hearing



Community member, Martha Naqitarvik, mentioned the proponent indicated that Kuhulu Lake is clean; therefore, she wanted to know whether any sampling was conducted for the lake:

“...But going back to that Kuhulu Lake, women go there and same with these other -- like, you said that it's so clean that it's like rabbit fur, so clean, white and clean, so does it get sampled too...”¹⁹

Community member, Tommy Tatatuapik, wanted to know whether or not waste will be backhauled from the project to the Hamlet of Arctic Bay:

“...I have a question. It may not apply to this to what you're doing here. Maybe I'll have a question to AANDC. The landfill, not for lagoon or anything, are they -- are you guys thinking about backhaul?”²⁰

Community member, Sakiasie Qaunaq, also commented about concerns that the community members have with respect to waste being backhauled to the Hamlet of Arctic Bay:

...somebody said somebody from here, local, should perhaps take -- backhaul that to Arctic Bay landfill site, but I used to be a Hamlet councilor. There's people coming in to work like the Kudlik Construction companies, and they leave all the heavy equipment here, and we dump them to our landfill, and so we don't want any more litter and waste from the companies to be dumped at the landfill...²¹

The sentiments expressed in the excerpts above are only a few of the concerns expressed by community members of Arctic Bay.

SECTION IV **JURISDICTION OF THE NWB**

The NWB has jurisdiction over this Application pursuant to Division 2 of the NWNSRTA.²² Relevant sections in that Division allow the NWB to issue a licence,²³ amend a licence,²⁴ or in certain circumstances, cancel a licence.²⁵ In deciding to issue a

¹⁹ M. Naqitarvik, NWB Public Hear for Licence No.1AR-NAN0914, Community Session Transcript, October 8, 2014, pp. 41-42, line 25-26, and 1-2.

²⁰ T. Tatatuapik, NWB Public Hear for Licence No.1AR-NAN0914, Community Session Transcript, October 8, 2014, p. 60, lines 11-15.

²¹ S. Qaunaq, NWB Public Hear for Licence No.1AR-NAN0914, Community Session Transcript, October 8, 2014, p.65, line 11-18.

²² Sections 42-81 of the NWNSRTA.

²³ See ss. 42, 48, 55, 56, and 70 of the NWNSRTA.

²⁴ See s. 43(1)(b) of the NWNSRTA.

²⁵ See s. 43(1)(c) of the NWNSRTA.



licence or engage in any other statutory function, the NWB must follow the objects of the governing legislation, which are:

“... to provide for the conservation and utilization of waters in Nunavut, except in a national park, in a manner that will provide the optimum benefit from those waters for the residents of Nunavut in particular and Canadians in general.”²⁶

In setting the terms and conditions of a licence, the NWB is guided by these objects and the NWB’s statutory duty to make *all* reasonable efforts to minimize *any* adverse effects on aquatic ecosystems. Reading several of the Articles of the NLCA together,²⁷ the NWB relies on the broad definition of “ecosystemic” found in Article 12, Section 12.1.1. of the NLCA, requiring not only the NIRB but also the NWB to ensure that all components of the ecosystem, such as fish and fish habitat, are protected within the parameters of s. 71 of the NWNSRTA.

As with all applications considered by the NWB, the burden of proof rests with the applicant to demonstrate that a request for a renewed and amended water licence should be granted. In addition, the NWB Rules of Practice state: “[a]ny party offering evidence before the NWB shall have the burden of introducing sufficient and appropriate evidence to support its position.”²⁸

SECTION V **REQUIREMENTS OF THE NWNSRTA, NWR AND NLCA**

Objects of the NWB and its Relationship to other Bodies

Land Use Planning

As noted in the discussion of the regulatory history, on May 2, 2014 the NPC provided the NWB with confirmation that the NPC’s June 19, 2008 Conformity Determination still applies to the project. On this basis, the NWB considered the requisite land use planning requirements of the NLCA to be fulfilled such that the NWB could process the Application and consider the renewal-amendment of the licence.

Environmental Assessment

As outlined briefly in the section of this decision discussing the regulatory history of the file, as the NIRB had previously screened the original NWB Type “A” Water licence

²⁶ See s. 35 of the NWNSRTA.

²⁷ This approach is consistent with the direction provided in Article 2, section 2.9.1 of the NLCA.

²⁸ Section 23.1 of the Nunavut Water Board “Rules of Practice and Procedure for Public Hearing” (May 11, 2005).



renewal in 2002 and as this Application did not involve any substantive changes to the project proposal as originally screened, further screening by the NIRB was not required²⁹ before the NWB could process the Application.

Inuit Water Rights

The project is located wholly on Crown lands, as such there are no requirements for water user compensation pursuant to s. 63(1) of the NWNSRTA that must be satisfied with respect to the Application.

The Nunavut Waters Regulations

For the previous licence, the NWB's jurisdiction to charge water user fees and to require a Type "A" Water licence for this activity was set out in accordance with certain provisions of the *Northwest Territories Waters Regulations*.³⁰ These *Regulations* were identified as applicable in Nunavut (in the absence of Nunavut's own regulations) under the "Application of Regulations" made under paragraph 33(1) (m) or (n) of the *Northwest Territories Waters Act* in Nunavut Order, S.O.R./2002-253. Prior to the renewal of this Application, however, the *Northwest Territories Waters Regulations* were replaced by the *Nunavut Waters Regulations* (NWR),³¹ which came into force on April 18, 2013. Consequently, the renewed and amended Type "A" Water licence will now be governed by the provisions of the NWR, as discussed in more detail in the appropriate section of the decision.

SECTION VI: DECISION TO ISSUE

Following the close of the Public Hearing held in respect of this Application and for reasons elaborated further below, the NWB has decided to issue a renewed and amended Water licence to replace the expired Water Licence 1AR-NAN0914 subject to the terms and conditions as described further in this decision.³² The renewed and amended licence 1AR-NAN1419 (the licence) contains terms and conditions necessary to protect the environment, conserve the water resources, and provide appropriate safeguards in respect of CanZinco's use of waters and deposit of waste.

²⁹ NLCA, Article 12, Section 12.4.3.

³⁰ S.O.R./93-303.

³¹ S.O.R./2013-69.

³² The licence will be issued under separate cover as 1AR-NAN1419 subject to the approval of the Minister under section 56 of the NWNSTRA..



Conditions for Issuance of a Licence

Section 57 of NWNSRTA provides several key legislative requirements that must be satisfied before the NWB may issue a licence.³³

Financial Responsibility of the Applicant

As outlined under the NWNSRTA, s. 57(b), the NWB considers three aspects of financial responsibility:

- the financial ability of the Applicant to complete the appurtenant undertaking;
- the ability of the Applicant to undertake measures to adequately monitor for impacts and implement measures to mitigate any impacts; and
- the Applicant's ability to maintain and restore the site during care and maintenance, closure and abandonment.

This third aspect of financial responsibility will be specifically addressed in the section of this decision discussing reclamation security.

Section 57 also makes it clear that the NWB's assessment of CanZinco's financial responsibility is a contextual analysis that considers not only the remediation and monitoring activities which are the subject of the Licence, but also CanZinco, with particular regard to CanZinco's past performance.

Under the expired licence, CanZinco had furnished financial security in the amount of \$2,000,000 for potential closure and reclamation liabilities. In its renewal-amendment application, CanZinco indicated that while its updated financial security estimated for the project is less than the amount previously posted, it is willing to maintain financial security at \$2,000,000. AANDC, in its presentation at the Public Hearing initially recommended that the security of the entire undertaking should not be accepted until more details are known about soil remediation objectives and an updated assessment is filed. However, AANDC in its closing remarks at the Public Hearing indicated that it was satisfied with the

³³ Section 57 of the NWNSRTA states:

- The Board may not issue a licence unless the applicant satisfies the Board that
- (a) any waste produced by the appurtenant undertaking will be treated and disposed of in a manner that is appropriate for the maintenance of the water quality standards and effluent standards that are prescribed by the regulations or, in the absence of such regulations, that the Board considers acceptable; and
 - (b) the financial responsibility of the applicant, taking into account the applicant's past performance, is adequate for
 - (i) the completion of the appurtenant undertaking,
 - (ii) such measures as may be required in mitigation of any adverse impact, and
 - (iii) the satisfactory maintenance and restoration of the site in the event of any future closing or abandonment of that undertaking.



amount of security provided for the project and that if new information becomes available for future work; there will be an opportunity to review the security.

The irrevocable letter of credit provided by CanZinco under the expired licence is issued in the name of Canzinco Ltd. As the legal name of CanZinco is now Canzinco Mines Ltd., and should the Minister accept this form of security, the irrevocable letter of credit will need to be updated to reflect the current legal name of CanZinco.

Compensation of Existing or Other Users

The NWNSRTA requires that the NWB is satisfied that compensation of existing or other users has been or will be paid.³⁴ A Notice of the Application and the invitation to parties with respect to water user compensation was given³⁵, to advise the NWB regarding such issues and the NWB confirms that no representations regarding compensation were made to NWB.

Issuance of a Licence

As stated above and pursuant to s. 42(1) of the NWNSRTA, the NWB has decided to issue Water Licence 1AR-NAN1419 subject to the terms and conditions set out in this decision. In issuing the Licence, the NWB is satisfied that the Application contained the required information and is in the proper form having regard to the requirements of the NWNSRTA³⁶ and associated regulations.³⁷

Assumptions

When faced with choices regarding monitoring requirements such as standards or parameters to be imposed under the Licence, the NWB has opted to maintain stringent monitoring requirements in an effort to ensure that CanZinco meets its on-going environmental protection obligations.

Applications in Relation to the Licences

Overall, the NWB is satisfied that the requirements of s. 48 of the NWNSRTA have been met. CanZinco filed an Application which complied with the NWB's Rules, accompanied by the fees required by the Regulations which included the application fee and water use fees. In addition, CanZinco has also provided the necessary information to evaluate the qualitative and quantitative effect of the project.

³⁴ See ss. 58-60 of the NWNSRTA.

³⁵ Notice of the Application in accordance with s. 55 of the NWNSRTA was issued by the Board on May 6, 2013.

³⁶ See s. 48 of the NWNSRTA.

³⁷ *Nunavut Waters Regulations*, SOR/2013-69, April 18, 2013.



Application to Amend or Application for Future Modifications

In relation to future applications to amend or modify the post-closure remediation and monitoring activities, the NWB reminds CanZinco that it must comply with all requirements of the NLCA³⁸ and NWNSRTA³⁹ where applicable.

Assignment of a Licence

In future, should CanZinco wish to assign the Licence, it should be aware that a water licence is only assignable if the requirements of s. 44 of the NWNSRTA have been met. This section states:

A sale or other disposition by a licensee of any right, title or interest in an appurtenant undertaking constitutes, subject to the authorization of the Board, an assignment of the licence to the person to whom the sale or other disposition is made.

All necessary forms for filing an application for assignment can be obtained from the NWB Licensing Department.

Cancellation or Expiry of the Licence

The NWB notes that s. 46 of the NWNSRTA states: “[t]he expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence.”

In addition the NWB advises CanZinco that based on the NWB’s authority under s. 43(1)(c)(iii) of the NWNSRTA, the NWB may, on application by a licensee, or on its own motion, cancel a licence when the NWB considers the cancellation to be in the public interest. For the NWB to consider cancellation of a licence, the NWB requires evidence from the licensee and AANDC’s inspector establishing that an undertaking has been abandoned, fully reclaimed and there are no outstanding obligations under the licence.

Term of Licence

Section 45 of the NWNSRTA provides that the term of a licence or any renewal shall not exceed twenty-five (25) years.

In the current Application, CanZinco has requested a term of five years to allow for continued closure and reclamation and post-monitoring activities. In terms of duration of the licence required at this stage, the NWB is satisfied that the term requested by CanZinco

³⁸ See Article 12, Clause 12.4.3 (b) of the NLCA.

³⁹ See s. 43 of the NWNSRTA.



provides opportunities for the NWB and other stakeholders to holistically review the progress of continued post-closure reclamation and monitoring activities in advance of any decision to consider the appropriate term for a renewal licence in the future. The NWB in deciding the suitability of the term of the licence also took into consideration interveners' comments, the nature of the undertaking, and CanZinco's compliance history.

In terms of the type of licence that may be required for the project in the future, it should be noted that the NWB licenses "undertakings" and not individual water use or waste deposit activities; therefore, once the NWB has issued a Type "A" licence governing a mining undertaking, until that appurtenant undertaking has been "abandoned", the site has been "reclaimed" and the obligations in the water licence have been fully satisfied, a Type "A" Water licence continues to be required. If any activities relating to closure, reclamation and monitoring remain, such as occasionally requiring discharge of water exceeding established criteria, maintenance of water control structures, or the like, the NWB would generally not view the site as truly reclaimed and the activities would still require authorization under an active Type "A" Water Licence.

SECTION VII **RECOMMENDATIONS TO LANDOWNERS AND OTHER REGULATORY AGENCIES**

Although the NWB recognizes that the DFO is involved as an administrator of the site and not necessarily as a regulator, through the Public Hearing process, the NWB was advised by the community that there are several issues that may warrant further consideration by the landowner and regulatory agencies to ensure that the residents of Arctic Bay have confidence in the reclamation that has been done at the site to date and the reclamation and monitoring that will be conducted under the renewed and amended licence. The summary of those concerns is in Section III above.

The NWB has heard the concerns voiced by Arctic Bay residents emphasizing the need for a broader compliance assurance role by regulatory agencies and landowners in terms of providing independent verification of the monitoring results supplied by CanZinco under a renewed licence. The NWB also noted the importance of the concerns expressed by the community of Arctic Bay to have access to results of independent verification and inspections of the site. To help address or alleviate the community's concerns, the NWB notes that timely access to this type of information would be essential as the reclamation of the mine site progresses. In this way, the community may be aware of any potential risk posed by the former mine site to the environment, including the health of current and future residents of Arctic Bay and any other affected communities.

The NWB notes that section 70 of the NWNSRTA states;



70. (1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including conditions relating to

- (a) the manner in which waters may be used;
- (b) the quantity, concentration and types of waste that may be deposited and the manner of depositing waste;
- (c) the studies to be undertaken, works to be constructed, plans, including contingency plans, to be submitted, and monitoring programs to be undertaken; and
- (d) any future closing or abandonment of the appurtenant undertaking.

(2) The monitoring programs referred to in paragraph (1)(c) may specify responsibilities of the applicant, the Nunavut Impact Review Board or Her Majesty in right of Canada.

The Panel heard from several community members about their concerns regarding the water sources and wildlife around the former mine site and fish and fish habitat in Kuhulu Lake. The DFO representative was asked about what monitoring had been done given what had been heard from the community members. The response was that he did not have information about any testing or monitoring that had been done.⁴⁰

At the end of the Public Hearing, the NWB was left with the impression that agencies such as AANDC, DFO and EC were seen by the community as not being fully engaged in monitoring the impact of the post-closure activities on water sources and wildlife around the former mine site and fish and fish habitat in Kuhulu Lake. There was not enough evidence provided to demonstrate that a direction under section 70(2) would be appropriate. Nonetheless, the NWB hopes that the Federal agencies that were present during the Public Hearing and heard the community concerns will take steps to address those concerns and demonstrate to the community of Arctic Bay that the agencies are fully engaged and that the former mine site and post-closure activities are not negatively affecting water sources, wildlife or fish and fish habitat.

SECTION VIII **WATER LICENCE 1AR-NAN1419 TERMS AND CONDITIONS**

The Licence does not take effect until approval of the Minister is given or deemed to have been given pursuant to s. 56 of the NWNSRTA.⁴¹ As indicated in Section VI, the Panel

⁴⁰ NWB Public Hearing for Licence No. 1AR-NAN0914, Community Session Transcript, October 9, 2014 at p. 124, line 9 to p. 126, line 12.

⁴¹ Section 56 of the NWNSRTA states:

The issuance, amendment, renewal and cancellation of a type A licence, and if a public hearing is held, a Type B licence are subject to the approval of the Minister.



has decided to issue a renewed and amended Type “A” Water Licence No. 1AR-NAN1419, subject to the conditions contained in the attached Licence. To provide context and clarity, the NWB has provided the discussion and comments about specific terms and conditions that follow. The NWB has not, however, provided specific comments for those licence terms and conditions that are clear in their wording and intent on the face of the Licence.

Part A: Scope, Definitions and Enforcement

The Nanisivik Mine post-closure remediation and monitoring, for which this Licence is issued, is classified as an Industrial undertaking in accordance with Schedule 1, Item 1 of the *Nunavut Waters Regulations*.⁴² The general scope of the Licence includes the following activities and/or facilities that involve water use and/or impact the water and/or the deposit of waste:

- Five (5) year renewal of Licence 1AR-NAN0914, to allow for Water use and Waste deposit activities in support of continued closure and reclamation, post-closure monitoring and related activities at the former Nanisivik Mine site;
- Continued discharge of effluent from relevant water retaining structures/facilities;
- Continued remediation of petroleum hydrocarbon contaminated soil associated with the former fuel tank farm area and any other project areas;
- Continued sampling and analysis to confirm whether or not treated soil and/or water meets established treatment objectives;
- Establishment of a Non-Hazardous Waste Landfill (NHWL) facility to dispose of inert waste including scrap metal and bulky waste that have accumulated during closure and reclamation and monitoring activities;
- Changes to geotechnical monitoring requirements to include discontinuation of monitoring at defective stations, discontinuation of groundwater monitoring at specific stations, and changes to monitoring frequency and period;
- Changes to water quality monitoring requirements to include reduction in regulated parameters, discontinuation of monitoring for specific stations, reduction in monitoring of specific test groups, and changes to monitoring frequency and period, and minor changes to monitoring stations description;
- On-site disposal of sewage to sump/latrine pit;
- Backhauling of specific waste types to the Hamlet of Arctic Bay following authorization from the Hamlet;
- Supply of potable water from the Hamlet of Arctic Bay following authorization from the Hamlet; and

Under s. 56(2.2) if the Minister does not issue a decision within 45 days of receiving the Licence from the Board, (or within 90 days if the Minister has extended the decision-making period by an additional 45 days) the Minister is deemed to have approved the Licence.

⁴² SOR/2013-69.



- Undertaking studies aimed at developing Tier 3 soil quality remediation objectives;

Enforcement and Compliance

For the purpose of ensuring compliance with the Licence, an Inspector designated by the Minister may inspect or examine works, waters or waste and exercise other powers according to the NWNSRTA.⁴³

The NWNSRTA includes provisions authorizing the NWB to require a licensee to furnish and maintain security and prescribing serious penalties for breach of the Licence.⁴⁴ Investigations or inspections to support enforcement and compliance are carried out by persons designated and empowered by the Minister.⁴⁵

CanZinco should also note that the Licence states that “Compliance with the terms and conditions of this Licence does not absolve the licensee from responsibility for compliance with all applicable legislation, guidelines and directives.”

Part B: General Conditions

Water Use Fees

Subject to the applicable regulations, the licensee is required to remit fees for the right to the use of waters under this Licence. Fees for the right to the use of waters must be calculated and paid on an annual basis in advance of the date on which this Licence was issued and in accordance with s. 12 of the *Nunavut Waters Regulations*. The licensee is responsible to conduct the appropriate water use fee calculations for all waters in, on or under Crown lands that have been authorized for use under the Licence for the upcoming year and remit the required water use fees in advance. These fees must be submitted to the NWB’s Manager of Licensing and made payable to the Receiver General for Canada.

Reports and/or Plans Filed with the NWB

CanZinco has filed with the NWB the following documents or management plans, under different submissions, for the renewal application associated with the project:

- *Former Nanisivik Mine Site Waste Management Plan*, dated April 2014;
- *Former Nanisivik Spill Mine Site, Spill Contingency Plan*, dated April 2014;

⁴³ Sections 85-94 of the NWNSRTA.

⁴⁴ Section 90 of the NWNSRTA.

⁴⁵ Section 85-88 of the NWNSRTA.



- *Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine*, dated September 2014;
- *Nanisivik Mine Non-Hazardous Waste Landfill*, dated September 4, 2014;
- *Remediation Confirmatory Soil Sampling Methodology*, dated September 5, 2014;
- *Overview of the Methodology/Approach for developing Site Specific Soil Remediation Objectives for pre-determined project areas at the Nanisivik dock site*, dated September 4, 2014; and
- *Concrete Pad Soil Movement Management Plan*, dated July 20, 2013 and updated August 13, 2014.

It should be noted that while the above-mentioned management plans have relevance to the project in varying degrees, the NWB has decided to approve only the ones that are extensively overarching in terms of the wider scope of the project and accept the ones that are less extensive.

Apart from the plans above, there are several other plans associated with the project that the NWB has identified would require updating and acceptance by the Board in order to reflect relevant amendments in the Licence. CanZinco is required to update the following plans within sixty (60) days following approval of the Licence by the Minister:

- Quality Assurance/Quality Control (QA/QC) Plan, dated October 20, 2009;
- Post-Closure Geotechnical Monitoring Contingency plan, dated September 28, 2009;
- Contingency Plan for Water Quality Exceedances, former Nanisivik Mine site, dated September 9, 2007; and
- Instrument Installation and Contingency Plan, dated November 17, 2004

In addition to the above, CanZinco is required to submit to the NWB, the following:

- Landfill Operations and Maintenance Plan prepared in accordance with relevant sections of the *Guidelines for the Planning, Design, and Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories*, within sixty (60) days prior to commissioning of the land facility; and
- Landfill Closure Plan at least ninety (90) days prior to closure of the facility.

CanZinco should note that, where applicable, relevant management plans must be accepted or approved by the NWB in writing to be officially considered consistent with the requirements in the Licence. The approval or acceptance of a plan, however, does not necessarily imply that the NWB has accepted each and every element of the plan or elements not associated with the NWB's mandate.

The NWB may alter or modify a plan, if necessary, to achieve the legislative objectives and will notify the licensee in writing of acceptance, rejection, or alteration of any plan. The



plan must then be carried out in a manner and timeframe consistent with the NWB's direction. Every plan to be carried out pursuant to the terms and conditions of the Licence shall become a part of the Licence, and any additional terms and conditions imposed upon approval of a plan by the NWB also become part of the Licence.

Part C: Conditions Applying to Security

In written submissions to the NWB and during Public Hearing, conditions applying to financial security were discussed by the parties with the aim of determining whether any potential amendment would be required to the security requirements of the Licence to reflect the updated financial liability assessment provided by CanZinco. Based on representations made to the NWB, and the current stage of the project, the NWB has decided to allow for the financial security under this renewed Licence to remain at \$2,000,000.00, which is the same amount of financial security posted under the expired licence. The NWB's rationale, which took into consideration interveners' recommendations and information provided by CanZinco, is that the project has made significant progress with closure and reclamation and post-monitoring activities that may have contributed no known additional financial liabilities, based on currently available information.

Form of Security

Pursuant to s. 76(1) of the NWNSRTA and s. 10(3) of the *Nunavut Waters Regulations* S.O.R./2013-69:

- 10(3) Security must be in the form of
 - (a) a promissory note guaranteed by a bank listed in Schedule I or II to the *Bank Act* and made payable to the Receiver General;
 - (b) a certified cheque drawn on a bank listed in Schedule I or II to the *Bank Act* and made payable to the Receiver General;
 - (c) a performance bond approved by the Treasury Board for the purposes of paragraph (c) of the definition "security deposit" in section 2 of the *Government Contracts Regulations*;
 - (d) an irrevocable letter of credit from a bank listed in Schedule I or II to the *Bank Act*; or
 - (e) a cash payment.



Amount of Security

At completion of the Public Hearing, there was overall consensus from intervening parties that the financial security for potential reclamation and monitoring associated with the project should be set at \$2,000,000.00, with the caveat that if there are substantive changes to the project scope, the financial security for the project may need to be re-evaluated. It should be noted that financial security under the expired licence was posted in the form of an Irrevocable Standby Letter of Credit issued by the Bank of Nova Scotia to Her Majesty the Queen in Right of Canada, as represented by the Minister of AANDC, to a maximum of \$2,000,000.00. As noted earlier in this decision, the security will need to be updated to accurately reflect the proper name of the licensee now being CanZinco Mines Ltd. CanZinco is required to update the security and provide it to the NWB within sixty (60) days following approval of the Licence by the Minister. With respect to the renewal licence, the NWB has included terms and conditions pertaining to financial security under Part C in the Licence.

Review of the Amount of Security

Under the *NWNSRTA*, the NWB may also include conditions of a licence where it considers the review of security appropriate. Most specifically, s. 76(1) of the *Act* gives the NWB the authority to establish terms or conditions relating to the furnishing or maintaining of security. As always the NWB's authority must be exercised in light of its objects, stipulated under s. 35 of the *Act*.⁴⁶

Part D: Conditions Applying to Construction and Operations*

As mentioned previously, the closure and reclamation and post-closure monitoring phases of the former Nanisivik Mine site commenced in 2007 and are ongoing. At this stage in the closure and reclamation post-closure monitoring phases, nearly all of the infrastructure and facilities that existed when the mine was in operation have been removed.

CanZinco has requested authorization, as part of the amendment aspects of the renewal application, to construct a non-hazardous waste landfill to treat approximately 25-30 cubic metres of inert waste including bulky waste and scrap metal that have accumulated on site. As the request is aimed at improving waste management practices at the project, the NWB has granted the request and included terms and conditions under Part D in the Licence to govern the construction and operations of the Non-hazardous Waste Landfill facility. It

⁴⁶ Section 35 states:

The objects of the Board are to provide for the conservation and utilization of waters in Nunavut, except in a national park, in a manner that will provide the optimum benefit from those waters or the residents of Nunavut in particular and Canadians in general.



should also be noted that many of the general conditions under Part D in the Licence will also apply to the construction and operations of the NHWL facility.

CanZinco has also requested permission to conduct studies for the purposes of developing Tier 3 soil remediation criteria for the treatment of petroleum hydrocarbon contaminated soil. Based on the details provided by CanZinco, the NWB does not consider the proposed studies as an amendment to the Licence as long as the studies remain consistent with terms and conditions in this Licence and do not contribute to additional impact to the receiving environment or waste types that are allowed under the scope of the Licence. Terms and Conditions relevant to the additional studies being proposed have been included under Part D of the Licence.

Part E: Conditions Applying to Water Use and Management

Section 11 of the NWNSRTA states

“... no person shall use, or permit the use of, water in Nunavut except in accordance with the conditions of a licence.”

Water Use

Consistent with the water use provisions in the expired licence, CanZinco has requested the use of one hundred (100) cubic metres of water *per* day for domestic uses and for mitigation purposes associated with closure and reclamation and post-closure monitoring activities. Water for domestic purposes shall be obtained from East Twin Lake whereas water for mitigation purposes water shall be obtained East Twin Lake, West Twin Creek and/or Chris Creek. The NWB has taken in to consideration the current phase and stage of the project, overall impact to the freshwater environment, and interveners' comments, in determining that the quantity of water requested by the applicant, 100 m³/day, is appropriate for the scope and nature of the undertaking. Conditions governing water use are included under Part E, in the renewal licence. The evidence before the Panel did demonstrate that actual use of water by CanZinco over the past three years has been far below the amount authorized under the expired licence. In the three previous years, there was no water use in two of the years and a total of 20 cubic meters of water used in the third.

With respect to water use fees, conditions have been included under Part B in the Licence requiring the licensee to provide to the NWB's Manager of Licensing all fees payable to the Receiver General for Canada for the rights to use waters on, in or flowing through Crown Lands.



Part F: Conditions Applying to Waste Disposal and Management

Information contained in the Application indicates that several waste types including sewage, solid waste, hazardous waste, contaminated soil, sludge, and bulky item/scrap metal were generated by the project under the expired licence. The scope of the renewal application mentions that all of the afore-mentioned waste types, with the exception of sludge, will be generated under any renewed licence issued to the project. The following sections provide an overview of the way in which wastes generated by the project will be managed and the relevant terms and conditions included in the Licence to govern the management of the respective waste types generated.

Petroleum Hydrocarbon Contaminated Soil

The petroleum hydrocarbon contaminated soil generated during the ongoing closure and reclamation and post-closure monitoring phase of the Project has been and continues to be treated using the landfarm treatment cells. Currently, there are sixteen treatment cells on site and it is anticipated that the usage of these units will continue until all quantities of petroleum hydrocarbon contaminated soils associated with the project have been treated successfully.

CanZinco indicated that it has already treated a significant quantity of the approximately 17,000 cubic meters of petroleum hydro carbon contaminated soil identified in its assessment. By the end of the 2013 remediation season, approximately 10,300 cubic metres of soil required treatment. The remaining soil to be treated is situated in five different locations of the project site. The current soil treatment approach established in the Abandonment and Reclamation Plan (2010) and the updated A&R plan approved in the renewal Licence will be applied to treat the remaining soil. If the previous rate of treatment is achieved, CanZinco anticipates that treatment of the remaining soil will be completed in the 2016 field season.

Under the scope of the renewal application, CanZinco had proposed pursuing a risk-based approach to remediating the remaining petroleum hydrocarbon contaminated soil associated with the project. The proposed approach involved five potential remediation options:

1. Continuation of on-site bio-remediation in accordance with the 2010 Abandonment and Reclamation plan;
2. Development of alternative on-site soil remedial options to reduce or immobilize the Canada Wide Standards, F2 hydrocarbon contaminants;
3. Reconfiguration of the soil on-site to curtain any ecological direct contact pathways;
4. Relocation of the contaminated soil, off-site to an appropriately designed and approved facility; and



5. Leaving the soil in its current location or nearby, after re-contouring to encourage ecological restoration.

Based on an analysis carried out on the above-mentioned approaches, Option 4 was selected by CanZinco as the preferred option. Option 4 involved the excavation and consolidating of the contaminated soil from the tank farm site and relocating the soil to a non-ecologically sensitive area (such as the Upper Treatment Area), where a cap of clean soil would have been used to cover the material. CanZinco stated that Option 4 was preferred because, based on risk-management principles, it was most likely to ensure that environmental protection goals, degree of certainty, completion timelines, cost, and minimal socioeconomic impacts would be achieved. However, during the review process, CanZinco indicated that based on feedback received from stakeholders, it had decided to continue with the current remediation approach for the treatment of petroleum hydrocarbon contaminated soil, as outlined in the 2010 Abandonment and Reclamation Plan. The approach included in the 2010 Abandonment and Reclamation Plan involves soil aeration and bioremediation.

While the ongoing remediation process for the remaining petroleum hydrocarbon contaminated soil will be consistent with the method and approach used in the past and as contained in the 2010 A&R Plan, to improve and expedite the treatment and assessment processes, CanZinco has proposed to undertake studies to develop site specific or Tier 3, CCME soil quality remediation objectives, which the NWB does not necessarily consider as an amendment to the Licence, and develop a confirmatory soil sampling methodology as a contingency measure. CanZinco has provided two documents, which provide overviews of the elements associated with the contingency measures being proposed: The *SSRO Overview of the methodology/approach for developing Site Specific Soil Remediation Objectives (SSROs) for pre-determined project areas of the Nanisivik docksite* and a *Remediation Confirmatory Soil Sampling Methodology*. In terms of the method advanced for site specific soil remediation criteria, CanZinco is proposing an approach that involves three main elements: 1) examination of comparative response to applicable laboratory tests of plants and invertebrates grown in contaminated soil versus those grown in PHC soil, 2) use of laboratory eco-toxicity test results to develop SSRO's based on CCME guidelines, and 3) determination of native plant responses to field soil pilots at the dock site. With respect to confirmatory soil sampling, the proponent is proposing in its methodology to address treatment objectives, in-situ and ex-situ sampling procedures, and parameters to be analyzed as part of the treatment process.

In terms of the contingency measures proposed by CanZinco, most of the intervening parties did not express concerns with the proposed measures. AANDC, however, highlighted that information provided on remediation objectives was insufficient to allow for proper assessment. Further, AANDC expressed interests in reviewing and commenting on the results of the site-specific remediation objectives study and relevant results once available. To ensure that petroleum hydrocarbon contaminated soil continues to be treated



in accordance with applicable and established practices, the NWB has approved the updated abandonment and reclamation plans for the treatment of contaminated soils submitted in support of the application.

As part of the review process for the Application, the following documents were submitted in direct relevance to the treatment of petroleum hydrocarbon contaminated soil associated with the former Nanisivik Mine project:

- *Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine*, dated September 2014;
- *Remediation Confirmatory Soil Sampling Methodology*, dated September 5, 2014;
- *Overview of the methodology/approach for developing Site Specific Soil Remediation Objectives (SSROs) for pre-determined project areas of the Nanisivik docksite*, dated September 4, 2014; and
- *Concrete Pad Soil Movement Management Plan* dated July 20, 2013 and updated August 13, 2014.

It should be noted that due to relative scope and in the overall context of the Licence as mentioned above, the Abandonment and Reclamation Plan has been approved in the Licence while the Remediation Confirmatory Soil Sampling Methodology and Site Specific Soil Remediation objectives documents and Concrete Pad Soil Movement Management Plan have been accepted under the Licence for continued operations.

Hazardous Waste

The Application states that any hazardous waste generated by the project in the future will be disposed of at approved facilities offsite. The NWB has therefore included conditions under Part D in the Licence to ensure that hazardous waste is managed (stored, transported, and treated/disposed of) at approved facilities in accordance with applicable regulations. In addition, there are conditions in the Licence requiring CanZinco to register with the Government of Nunavut – Department of Environment as a hazardous waste generator, if the project generates any hazardous waste and prior to any shipment of hazardous waste.

Bulky Waste/Scrap Metals Waste

Details contained in the Application indicate that bulky items and scrap metal generated through ongoing activities will be disposed of at a proposed non-hazardous waste landfill facility (Landfill), to be constructed. Currently, there are approximately 25-30 cubic metres of bulk waste/scrap metal stored on site, which CanZinco considers suitable for disposal at the Landfill; however, there is potential for additional amounts of similar waste types to be generated and disposed of at the Landfill. As part of its Application, CanZinco



provided a Landfill Design, Operation and Conceptual Closure Plan, dated September 4, 2014, which the NWB has accepted in the Licence. The NWB has included conditions under respective sections under Parts D and F in the Licence to allow CanZinco to establish and operate the landfill facility. In addition, conditions have been included requiring CanZinco to develop and submit to the NWB for review and approval or acceptance the following documents:

- For-construction design drawings and specification for acceptance by the NWB at least sixty (60) days prior commencing construction of the landfill;
- Operations and Maintenance plans for NWB Approval at least sixty(60) days prior to commission the Landfill facility; and
- Landfill Closures Plan at least sixty (60) days prior closures of the facility.

Solid Waste

CanZinco indicated that solid waste, including food waste and other general waste generated during reclamation and remediation activities at the dock site will be backhauled to the Hamlet of Arctic Bay for treatment/disposal. It is anticipated that approximately 5 cubic metres of solid waste will be generated by the project on an annual basis. In addition, CanZinco requested permission to open-burn acceptable food waste and solid waste in accordance with applicable guidelines including the Government of Nunavut's *Environmental Guideline for the Burning and Incineration of Solid Waste*. To address the management of solid waste generated by the project, the NWB has included conditions under Parts D and F in the Licence, requiring CanZinco to submit to the NWB, at least thirty (30) days prior to backhauling any waste associated with or generated by the project, a copy of written authorization received from the Hamlet of Arctic Bay, allowing for backhauling of appropriate waste from the project to the Hamlet for treatment or disposal. With respect to open-burning of waste, CanZinco should note that general conditions have been included in the Licence, which will require a request in writing to the Board, for an authorization to open-burn acceptable waste on an as-need basis. For clarity, this Licence will not permit open burning without further written approval from the NWB. Further, to ensure that most waste types are managed in accordance with established practices that are consistent with the scope of the Licence and/or details contained in the waste management plan, the NWB has approved the Waste Management Plan, submitted with the Application, under Part F of the Licence.

Sewage

The expired licence did not allow for the establishment of an onsite camp facility for the project and the scope of the renewal application did not include a camp facility. CanZinco has requested that it be allowed to backhaul small quantities of sewage generated by the project to the Hamlet of Arctic Bay. At the time of the request, the Hamlet of Arctic Bay did not have a valid water licence (which it has since been issued); therefore, CanZinco



made an additional request to allow for the establishment of on-site sumps for the disposal and treatment of small quantities of Sewage and Greywater generated by project personnel during monitoring and maintenance of the site as contingency. Conditions have been included under Part F, requiring CanZinco to obtain written authorization from the Hamlet of Arctic Bay Prior to backhauling of waste to the Hamlet. In addition, conditions have been included under Part F, to allow CanZinco to establish on-site sumps to treat small quantities of Sewage and Greywater generated by the project, should the need arise.

Part G: Conditions Applying to Modifications

It should be noted that pursuant to Article 12 and Clause 12.4.3⁴⁷ of the NLCA a proposed modification submitted under this Licence may require a screening determination by the NIRB. It is the responsibility of CanZinco to notify and consult with NIRB to ensure Article 12 requirements are met prior to submission of a modification request to the NWB under the Licence.

Further, CanZinco is required to obtain permission from the NWB for any modification being contemplated. Without written consent from the NWB, CanZinco is not allowed to carry out modifications. All modifications must be consistent with the terms of the renewed Licence; otherwise, they cannot be carried out as modifications under this part.

Part H: Conditions Applying Condition Applying to Emergency Response and Spill Contingency Planning

Consistent with standard practices and procedures for carrying out any project requiring a water licence, CanZinco has submitted an updated Spill Contingency Plan (SCP) for consideration under its Application. The SCP is intended to prevent and/or address potential spills associated with the licensed undertaking and activities. Given the SCP is an updated version of the previous one, the review of the plan, which took into consideration interveners' comments, determined that the plan is functional and consistent with the activities and undertakings associated with the project. The NWB has therefore approved the plan under Part H, in the Licence. CanZinco should note that, notwithstanding approval of the plan, it is required to abide by all legislation/regulations that apply to spill contingency planning.

⁴⁷ Article 12, Clause 12.4.3 of the NLCA states:

- Any application for a component or activity of a project proposal that has been permitted to proceed in accordance with these provisions shall be exempt from the requirements for screening by NIRB unless
- (a) Such component or activity was not part of the original proposal [i.e. not part of the original scope of the project]; or
 - (b) Its inclusion would significantly modify the project.



Part I: Conditions Applying to the Monitoring Program

As previously noted, s. 73 of the NWNSRTA requires the NWB to set conditions at least as stringent as conditions prescribed by regulation pursuant to ss. 36(5) and (5.2) of the *Fisheries Act*.⁴⁸ Furthermore, for the purpose of ensuring compliance with the Licence or regulations, an Inspector designated by the Minister may inspect or examine works, waters or waste and exercise other powers according to the NWNSRTA.⁴⁹ For the purpose of monitoring, the NWB may include conditions in the Licence regarding monitoring programs to be undertaken.⁵⁰ There are two main components to the monitoring required under the Licence, a geotechnical component and a water quality component. The water quality component addresses both regulated and non-regulated parameters.

Geotechnical monitoring

Prior to and at the commencement of remediation activities, instrumentation was installed for the purposes of obtaining baseline information and monitoring surface, sub-surface conditions, and other relevant variables associated with the site. The monitoring results have been and continue to be used to assess the effectiveness of reclamation measures and to validate the results of analyses.

The majority of instrumentation for the project was installed in 2005 and the monitoring program was implemented in 2006. Over the years, some minor changes were made to the geotechnical monitoring requirements in the Licence to account for on-site conditions. However, from 2009 to 2014, CanZinco has conducted the geotechnical monitoring required in accordance with the appropriate schedule included in the expired water licence, 1AR-NAN0914.

The geotechnical monitoring schedule in the expired licence contained requirements for monitoring to be conducted on a bi-weekly, quarterly, and an annual basis, between July 1 and September 15. Under the scope of the renewal application, CanZinco requested that the geotechnical monitoring requirements be changed to reflect progress made in closure and reclamation activities as well as current site conditions. In a memorandum from BGC Engineering (BGC) to CanZinco entitled *2014 - 2018 Geotechnical Monitoring Schedule for Nanisivik, NU*, a geotechnical monitoring program schedule was proposed for

⁴⁸ Section 73 of the NWNSRTA states:

Where the Board issues a licence in respect of any waters to which regulations made under subsection 36(5) of the *Fisheries Act* apply, any conditions in the licence relating to the deposit of waste in those waters shall be at least as stringent as the conditions prescribed by those regulations.

⁴⁹ See ss. 85-94 of the NWNSRTA.

⁵⁰ See s. 70(1)(c) of the NWNSRTA.



implementation for the 2014 to 2018 period. Information contained in the memorandum suggests that the proposed schedule was developed based on the extent of reclamation and construction activities conducted 2006 – 2012, and on comprehensive reviews and analyses of the monitoring program results and their significance to the project's objectives.

According to BGC's analysis of the project's geotechnical information, there are indications that the surface covers may be performing as anticipated and are achieving their design objectives. BGC stated that the freeze-back of Surface Cells and Test taliks are occurring as expected, and specific areas of the site have either frozen back or remain in a perennially frozen state. BGC mentioned that because of the encouraging or positive results achieved at this stage, it believes that consideration could be given to reducing the monitoring schedule for the term of any renewed licence issued to the project. Consequently, the following changes have been requested by the Applicant to the geotechnical monitoring requirements:

- Biweekly or monthly monitoring of thermistors, during the period July 1 – September 1;
- Monthly monitoring of vibrating wire piezometers, during the period July 1 – September 1;
- Biweekly monitoring of Frost gauges during the period, during the period July 1 – September 1;
- Weekly monitoring of water levels at West Twin Outlet Wall, during the period, July 1 – September 1;
- Discontinuation in monitoring outside of the period July 1 – September 15 and for quarterly readings, generally undertaken between December and April;
- Discontinuation in the monitoring thermocouples because many are malfunctioning and the data conducted in recent years have shown to be inconsistent and unreliable given that they were installed 20 years ago;
- Discontinuation in the collection of groundwater samples from monitoring wells installed in the Surface Cell and Test Cell taliks because the wells are currently inoperable due to malfunctioning heat trace and block or bent well casings. CanZinco believes that promising water quality results from discharge and outflow reservoir, and the taliks water quality indicate that there are no concerns right now. However, should the water quality in these features deteriorate, groundwater quality monitoring may be revisited;
- Continued monitoring of the air temperature probe installed, at the Surface Cell in 2012 to collect site specific air temperature data for the entire term of any water licence issued to the project.

BGC indicated that the recommended changes above assume that the trends in current reclamation measures and achievements will continue and that if these trends turn out to be



contrary to that anticipated over time, CanZinco will need to consider adapting the monitoring schedule accordingly.

Consistent with the NWB's licensing process, intervening parties were provided with the opportunity to comment on the changes proposed by CanZinco with respect to geotechnical monitoring requirement. Interveners have generally confirmed their satisfaction that changes requested are unlikely to negatively impact CanZinco's ability to meet its monitoring commitments, following clarifications from the proponent on specific issues identified by interveners.

The NWB has examined CanZinco's requested changes in the context of rationale provided and the impact that those changes could potentially have on the project's monitoring requirements, while giving due consideration to interveners' comments and recommendations. As this time, the NWB believes that it can grant most of CanZinco's request by linking the outcome of the changes to contingencies that will need to be implemented should the monitoring results indicate that increased levels in monitoring may be required.

CanZinco should note in particular that the NWB has granted the requested changes to discontinue monitoring of defective or non-functional thermocouples, thermistors, and monitoring wells based on rationale provided by the Applicant including indications that inherent redundancies in monitoring requirements with respect to the nature of the information being collected will still allow for adequate collection of data required for proper assessment of remediation objectives. However, it should be noted that it is very unusual for the NWB to allow for discontinuation of aspects of monitoring requirements partially on the basis of malfunctioning or non-functioning instrumentation. There is therefore the expectation that CanZinco will take the necessary steps to ensure that all future malfunctioning instrumentation associated with geotechnical monitoring, that are not discontinued from monitoring under the renewed Licence, are repaired or replaced accordingly and in a timely manner.

With respect to the request to discontinue monitoring for thermocouples that are still functional, the NWB believes that useful data might still be captured from functioning instrumentation; notwithstanding, the rationale put forward indicating there might be some degree of unreliability in terms of the data generated, therefore the NWB has decided against granting such a request.

As for the changes requested to the geotechnical monitoring frequency and the interval to allow for all monitoring to occur between July 1 through September 1 annually, the NWB has granted those changes as the Board believes that the scope of sampling and the number of sampling events are unlikely to be impacted by such changes.



Although the changes requested above were proposed for the 2014 – 2018 period, they will be valid for the 2014 – 2019 monitoring period to reflect the five-year term associated with the renewal Licence. In summary, the changes to geotechnical monitoring, which are included in Schedule I, Table 3, of the Licence, generally include the discontinuation of monitoring defective or non-functioning thermistors, thermocouples, and monitoring wells; and amendments to the monitoring frequency and overall monitoring period or interval to allow for monitoring to be conducted during the period of July 1 – September 1, annually. To ensure that the changes granted to the geotechnical monitoring requirements do not impact the extent of data being collected, the NWB has included conditions under Part I in the Licence, which require CanZinco to conduct at least three sampling events during each annual sampling period. For complete details related to geotechnical monitoring requirements for the 2014-2019 period, Schedule I of the Licence should be consulted.

Water Quality Monitoring

Post-closure monitoring of the former Nanisivik Mine site commenced around 2007/2008 and is ongoing. CanZinco submitted, as part of its Application, a proposed water quality monitoring Schedule for the period 2014 – 2018, which includes requested changes to the number of regulated parameters being monitored, changes to analytical test groups for non-regulated parameters, discontinuation of monitoring stations determined to be redundant, changes to the period during which monitoring is undertaken, and minor changes to the description of monitoring stations. The changes in the proposed schedule are mainly based on the result of reviews and analyses conducted on monitoring data collected 2009 - 2012, which indicated that no untoward analytical results have been revealed. According, the water quality monitoring changes proposed by CanZinco for consideration are as follows:

- Discontinuation of monitoring requirements for Stations 150-10, 159-15, and 159-17;
- Modifications to test groups being monitored and the frequency at which they are monitored under the expired licence for the project;
- Reduction in regulated parameters being monitored under Part F, Item 1, in the expired licence; and
- Changes to the period during which monitoring will be undertaken.

Interested parties, in their review of the Application, have concurred to varying extents with the changes to water quality monitoring requirements requested by CanZinco. The requested changes pertain to monitoring of both the regulated and non-regulated parameters. EC in its technical review submission, indicated that it supports the changes to the monitoring requirements requested by CanZinco. AANDC, on the other hand, indicated in its technical review comments that it favours some of the changes to the monitoring requirements. AANDC indicated that it agrees that Radium-226 can be discontinued from the list of regulated parameters; however, the remainder of regulated



parameters should be included in any renewed licence issued to the project. With respect to non-regulated parameters, AANDC indicated that it favours discontinuation of monitoring Stations 159-10 and 159-15 and 159-17. However, analytical test groups NAN-1 and NAN-4 should continue to be monitored for all relevant monitoring stations included under the expired licence and that the analytical test group NAN-2 should be included exclusively for Station 159-6. According to AANDC recommendations, biweekly monitoring should be conducted during periods of flow.

Regulated Parameters

Regulated parameters refer to ones listed under Part F, Item 1 in both the expired and renewed licences. In terms of the changes proposed for regulated parameters by the Applicant, the NWB agrees that Radium-226 could be removed from the list of regulated parameters because historical values have been relatively low. In addition, the analysis required for Radium-226 is somewhat more specific than that required for the other regulated elements requested to be removed from the licence. As for the request to remove arsenic, copper, and nickel from the list of regulated parameters, the NWB disagrees with the rationale that the list of regulated parameters should be confined to the ones duplicated in the monitoring test group NAN-1.

Given that the degree of variability and trends generally displayed by most of the regulated parameters are quite similar, the NWB believes that a case will have to be made holistically for all regulated parameters involved and in the context of overall long-term stability of the West Twin Disposal Area in particular and any associated project areas, whose effluent is associated with the list of regulated parameters. Further, the NWB has significant concerns about the potential impacts that could be posed to the receiving environment if regulated parameters were to be reduced/removed at this relatively early stage in the monitoring program when future analyses or assessments that also partly rely on the same data could suggest that an increase in monitoring may be required. Consequently, the NWB has decided to take a precautionary and more conservative approach to the request for reducing the list of regulated parameters.

Although not requested by CanZinco, the NWB has made changes to the maximum effluent quality limits for regulated parameters in Part F, Item 1 in the Licence to better reflect the type of monitoring previously carried out and that proposed under the renewed Licence. The effluent quality limits for monthly mean samples, composite samples, and grab samples have been removed and replaced by the requirement that effluent associated with the list of regulated parameters must not exceed certain maximum authorized concentrations.

Non-Regulated Parameters

The non-regulated parameters in the Licence refer to the ones listed under Schedule I. Non-regulated parameters generally have to meet a specific action level pre-established by the proponent for certain key non-regulated parameters. Under the expired licence, four



monitoring groups were established for non-regulated parameters: 1) monitoring group NAN-1 associated with metals, major cations, anions, Total Suspended Solids, pH analysis, and oil and grease observations; 2) monitoring group NAN-2 associated with total petroleum hydrocarbon; 3) monitoring group NAN-3 associated with oil and grease and 4) monitoring group NAN-4 associated with ICP metal scan. CanZinco requested that the monitoring test groups be generally limited to NAN-1 and NAN-2 and that the monitoring stations 159-10 (Twin Lakes Creek Upstream of west townsite tributary), 159-15 (Chris Creek upstream of Area 14), and 159-17 (Mouth of Chris Creek) be discontinued from future monitoring.

The NWB understands that the changes requested by the Applicant to reduce the relevant monitoring groups partially hinge on the idea that the project's ongoing reclamation activities may be achieving the desired results and that untoward results have not been revealed from the trace elements scan. While the NWB feels encouraged by the rationale provided by CanZinco, the NWB does not believe that monitoring for non-regulated parameters should be limited to test groups NAN-1 and NAN-2 at the early stages in the monitoring history of the project.

The NWB's perspective is that key elements of the monitoring program include the assessment of short-term and long-term changes in environmental conditions associated with the project's past or current activities, assessment of trends in monitoring data collected over time, and provision of ongoing supporting environmental information on the project. The NWB believes that the extent of the requested changes is likely to impact or impede the aforementioned elements, as less data will be collected for use in the assessment of overall trends in performance of reclamation activities. Further, the NWB surmises that the changes requested, if granted, could impinge on the precautionary approach that the Board takes toward potential consequences that might be associated with any potential failure of remediation measures implemented for the project, or if those measures prove to be less effective than anticipated over time, especially when there is potential for impacts to freshwater. With respect to monitoring group NAN-3, the NWB agrees that it can be removed from the group of non-regulated parameters as there are adequate provisions in the Licence to capture the parameter associated with this monitoring group. As for monitoring group NAN-4, the NWB believes that it should continue to be monitored; however, the frequency could be reduced from twice to once annually.

With respect to the removal of Stations 159-10 (Twin Lakes Creek Upstream of west townsite tributary), 159-15 (Chris Creek upstream of Area 14) and 159-17 (Mouth of Chris Creek), the NWB concurs that these stations can be removed based on the rationale provided by CanZinco. The NWB has therefore granted the request to discontinue monitoring at Stations 159-10, 159-15, and 159-17 as indicated in Schedule I. With respect to the frequency for monitoring the remaining stations, the NWB concurs with CanZinco's request for all monitoring of regulated parameters be conducted on a monthly basis, provided however that a minimum of three sampling events are carried out during each



annual sampling period (July 1 through to September 1, approximately).

Lastly, it should be noted that while favorable and consistent monitoring results over time might suggest that reduced monitoring be warranted, the NWB's position at this time is that there is always a basis for caution when it comes to reducing monitoring levels for a project that is undergoing ongoing remediation activities because once monitoring is reduced or discontinued for particular station(s) or the entire project, valuable data will no longer be collected to inform future decisions about the project should there be issues surrounding the extent of stability achieved. Therefore, it is crucial that a reasonably comprehensive degree of monitoring continues so as to holistically reflect most, if not all aspects of the undertaking and activities associated with the project. Continued monitoring will also assist to determine and confirm, if future monitoring requirements for monitoring groups or stations, in terms of increases or reductions, should be considered. Schedule I of the Licence includes the monitoring requirements for the period 2014-2019 to reflect the Licence term.

Part J: Conditions Applying to Abandonment, Reclamation and Closure

CanZinco has submitted an updated plan entitled *Abandonment and Reclamation Plan for the Treatment of Contaminated Soil at the Former Nanisivik Mine*. Based on the NWB's review of the plan, which took into consideration interveners' comments and recommendations, determined that the plan is functional for its intended objectives. The NWB has approved the updated plan under Part J, Item 2 in the Licence. CanZinco is required to update the A & R plan on an ongoing basis to reflect changes in site operational conditions.

With respect to the overall Abandonment and restoration plan submitted in 2004 for the project, CanZinco is required to submit to the Board for approval in writing, a revised plan, as a part of any renewal or amendment application submitted to the Board in accordance with Part J in the Licence.



APPENDIX A – Agendas for Public Hearing

AGENDA: Public Hearing

Licence No. 1AR-NAN0914, Type “A”
Renewal/Amendment

October 8 – 9, 2014 - Arctic Bay Community Hall
8:30 a.m. – 5:00 p.m. (Daily)

-
1. Opening Prayer;
 2. Opening Remarks by the Chairperson, which shall include the purpose of the Hearing and the scope of matters which will be considered by the Board;
 3. Introduction of the Board Members and staff;
 4. Identification and introduction of the Parties;
 5. Introduction of the Elders and their role in the Hearing;
 6. Introduction and Identification of the persons, associations, agencies, etc., who have not submitted interventions but who have expressed a desire to speak at the Hearing;
 7. Identification of any Motions or any objections;
 8. Presentation by the Applicant;
 9. Questioning of the Applicant by Parties respecting the Applicant’s presentation;
 10. Questioning by the Board staff and Panel Members
 11. Presentation by Interveners;
 12. Questioning of Interveners by Parties;
 13. Questioning by the Board staff and Panel Members;
 14. Presentation by any other persons, associations, agencies, etc. who have advised the Chairperson that they wish to speak;
 15. Questioning of other persons, associations, agencies, etc. by Parties;



16. Question by the Board staff and Panel Members;
17. Upon completion of presentations by all Parties, the Board will give the Applicant the opportunity to reply. Then all Parties will have the opportunity to make final closing statements taking into account matters raised at the Hearing;
18. Closing remarks by the Chairperson; and
19. Closing Prayer.



AGENDA: Community Session

Licence No. 1AR-NAN0914, Type “A” Renewal/Amendment

October 8 (and October 9 if required) 2014 - Arctic Bay Community Hall
6:30 p.m. – 10:00 p.m.

-
1. Opening Prayer
 2. Opening Remarks by the Chair
 3. Presentation by the Nunavut Water Board (NWB): Type “A” water licensing process
 4. Questions and/or comments from community members and other participants;
 5. Presentation by CanZinco Mines Limited on the Renewal Amendment Application before the Board for Type “A” Water Licence 1AR-NAN0914 (20 Minutes);
 6. Question and/or comments from community members and other participants;
 7. Presentation from each intervening party pertaining to its mandate and role(s) in the water licensing process as well as an overview of their overall findings during the technical review (15 Minutes/Intervener);
 8. Questions and/or comments from community members and other participants;
 9. Closing Remarks
 10. Closing Prayer



APPENDIX B—Exhibit List

Exhibit	Exhibit Description	Date	From
1	Agenda for Public Hearing (English and Inuktitut)	October 8, 2014	NWB
2	CanZinco Powerpoint Presentation (English and Inuktitut)	October 8, 2014	CanZinco
3	AANDC Powerpoint Presentation (English and Inuktitut)	October 8, 2014	AANDC
4	AANDC Presentation Executive Summary (English, French, and Inuktitut)	October 8, 2014	AANDC
5	DND Powerpoint Presentation	October 8, 2014	DCC for DND
6	Agenda for Community Session (English and Inuktitut)	October 8, 2014	NWB
7	NWB Community Session Powerpoint Presentation (English and Inuktitut)	October 8, 2014	NWB
8	CanZinco Community Session Powerpoint Presentation (English and Inuktitut)	October 8, 2014	CanZinco
9	AANDC Community Session Powerpoint Presentation (English and Inuktitut)	October 8, 2014	AANDC
10	DFO Powerpoint Presentation (English and Inuktitut)	October 8, 2014	DFO
11	Nyrstar Letter dated September 5, 2014 (English and Inuktitut)	October 8, 2014	CanZinco
12	Hemmra Letter dated September 4, 2014	October 8, 2014	CanZinco
13	SRK Consulting letter memorandum dated September 4, 2014	October 8, 2014	CanZinco
14	SRK Consulting Letter memorandum dated September 5, 2014	October 8, 2014	CanZinco
15	AANDC Letter dated September 17, 2014	October 8, 2014	AANDC
16	DND Letter dated September 10, 2014	October 8, 2014	DND
17	DND email dated September 10, 2014	October 8, 2014	DND
18	Nyrstar Letter dated September 24, 2014	October 8, 2014	CanZinco
19	Env. Canada Letter dated September 10, 2014	October 8, 2014	Env. Canada
20	DFO Letter dated September 18, 2014	October 8, 2014	DFO



21	DFO Letter dated September 30, 2014	October 8, 2014	DFO
22	MOA dated July 25, 2014 between DFO and CanZinco (with Sch. 1 & 2)	October 9, 2014	CanZinco and DFO
23	DFO Letter dated February 19, 2009 re Lease of Mine Site	October 8, 2014	CanZinco and DFO
24	Lease dated March 22, 2001 between DFO and CanZinco	October 8, 2014	CanZinco and DFO



APPENDIX D – List of Submissions and Correspondence

Relevant Pre-application Submissions:

1. Correspondence from J. Skoglund May 30, 2013
2. Correspondence from D. Côté, July 15, 2013

Application:

1. Cover letter and initial submission of application for renewal and amendment of water licence, 1AR-NAN0914 submitted by

Submissions in Response In Relation to Application:

1. Letter to Johan Skoglund, Group Environmental Manager, Nyrstar dated July 15, 2013 Re: Renewal of Water Licence 1AR-NAN0914 (Reclamation and Post-Closure Monitoring of the Nanisivik Mine Site).
2. Submitted on November 13, 2013 by Canzinc Ltd. Appendix A: Executive Summary of Water Licence amendment application (English)
3. Submitted on November 13, 2013 by Canzinc Ltd. Appendix B: Executive Summary of Water Licence amendment application (Inuktitut)
4. Submitted on November 13, 2013 by Canzinc Ltd. Appendix C: CanZinc shareholder resolution appointing directors
5. Submitted on November 13, 2013 by Canzinc Ltd. Appendix D: Site Location Map
6. Submitted on November 13, 2013 by Canzinc Ltd. Appendix E: Correspondence related to Nunavut Planning Commission conformity determination
7. Submitted on November 13, 2013 by Canzinc Ltd. Appendix F: Correspondence related to Nunavut Impact Review Board screening requirements
8. Submitted on November 13, 2013 by Canzinc Ltd. Appendix G: Geotechnical monitoring schedule 2014-2018
9. Submitted on November 13, 2013 by Canzinc Ltd. Appendix H: Water quality monitoring schedule 2014-2018
10. Submitted on November 13, 2013 by Canzinc Ltd. Appendix I: Contaminated soil remediation progress
11. Submitted on November 13, 2013 by Canzinc Ltd. Appendix J: Petroleum hydrocarbon contaminated soils risk-based remedial options analysis
12. Submitted on November 13, 2013 by Canzinc Ltd. Appendix K: Concordance table related to supplementary information requirements for hydrocarbon-impacted soil storage and landfarm treatment facilities
13. Submitted on November 13, 2013 by Canzinc Ltd. Appendix L: Site layout map
14. Submitted on November 13, 2013 by Canzinc Ltd. Appendix M: Letter of Credit



15. Submitted on November 13, 2013 by Canzinc Ltd. Appendix N: CanZinco certificate of amendment
16. Submitted on November 13, 2013 by Canzinc Ltd. Appendix O: CanZinco certificate of amendment
17. Submitted on November 13, 2013 by Canzinc Ltd. Compliance assessment and status report.
18. Email to Johan Skoglund, CanZinco dated November 20, 2013 Re: Acknowledgement of Application – Type “A” – Renewal Amendment, Robin Ikkutisluk, Licence Administrator Assistant, NWB
19. Email to Johan Skoglund, CanZinco dated November 20, 2013 Re: Administration Fee Request, Robin Ikkutisluk, Licence Administrator Assistant, NWB
20. Email from Laura D’Costa, Department of National Defense dated November 20, 2013 Re: Water Licence Renewal Correspondence, Phyllis Beaulieu, Manager of Licensing, NWB
21. NWB Letter to Johan Skoglund dated December 3, 2013 Acknowledgement and Receipt of Application Fee and Water Use Fee Deposit for the Renewal Amendment Water Licence Application – Nanisivik Mine Site Project
22. Email Letter from Johan Skoglund to Phyllis Beaulieu, Manager of Licensing dated January 10, 2014 Regarding the status of the Water Licence Application
23. Email Correspondence from Phyllis Beaulieu, Manager of Licensing, and Laura D’Costa Department of National Defense dated January 14, 2014 Clarification and Status of Water Licence Application
24. Email Letter to Johan Skoglund from Robin Ikkutisluk, Licence Administrator Assistant Regarding Water Quality Monitoring Report and 2013 Annual Report.
25. NWB Letter to Johan Skoglund from Phyllis Beaulieu, Manager of Licensing dated January 29, 2014 Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by CanZinco Ltd. for Continued Reclamation and Post-Closure Monitoring Activities, Nanisivik Mine Site. Completeness Check and Information Request.
26. Submission from Nyrstar dated March 3, 2014 to Phyllis Beaulieu, Manager of Licensing Re: Water Licence 1AR-NAN0914: Addendum #1 to Amendment-Renewal Application.
27. Submission from Fisheries and Oceans Canada (DFO) dated March 3, 2013 to Phyllis Beaulieu, Manager of Licensing Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by Canzinc Ltd. for Continued Reclamation and Pot-Closure Monitoring Activities, Nanisivik Mine Site
28. Submission from Ian Parsons, Aboriginal Affairs and Northern Development Canada dated March 3, 2014 to Phyllis Beaulieu, Manager of Licensing Re: 1AR-NAN0914 – Completeness and Information Request Review for Water License Renewal/Amendment License Process – Nanisivik Mine Property – Canzinc Ltd. – Nyrstar Canada (Holdings) Ltd. (Nyrstar) – Nyrstar
29. Submission from Department of National Defence dated March 3, 2014 to Phyllis Beaulieu, Manager of Licensing Canzinc Ltd. Amendment Renewal Application for



- Water Licence No. 1AR-NAN0914 for Continued Reclamation and Post Closure Monitoring Activities, Nanisivik Mine
30. NWB Letter to Johan Skoglund, Canzinc from Phyllis Beaulieu, Manager of Licensing dated April 2, 2014 Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by Canzinc Ltd. for Continued Reclamation and Post-Closure Monitoring Activities at the Nanisivik Mine Site.
 31. Distributed to Public on April 2, 2014 by NWB Appendix A Table 1: Licence 1AR-NAN0914 – Information Request (IRs) provided by Interveners during the Completeness Review Stage
 32. Submitted on April 10, 2014 by Nyrstar to Phyllis Beaulieu, Manager of Licensing Re: Licence No. 1AR-NAN0914: Amendment-Renewal Application – Extension Request
 33. Submitted on April 13, 2014 by Nyrstar to Phyllis Beaulieu, Manager of Licensing Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by Canzinc Ltd. for Continued Reclamation and Post-Closure Monitoring Activities at the Nanisivik Mine Site – CanZinc Responses information Request
 34. NWB Letter dated May 2, 2014 distributed to Johan Skoglund, CanZinc and Interested Parties Re: Licence No. 1AR-NAN0914, Type “A”; Nanisivik Mine Site Remediation Project – Notice of Application and Commencement of Technical Review
 35. NWB Notice dated May 2, 2014 distributed to Interested Parties English Public Notice of Amendment-Renewal Application CanZinc Mines Ltd.
 36. NWB Notice dated May 2, 2014 distributed to Interested Parties Inuktitut Public Notice of Amendment-Renewal Application CanZinc Mines Ltd.
 37. Submission from Department of National Defense Dated May 29, 2014 to Phyllis Beaulieu, Manager of Licensing Re: Water Licence Amendment Renewal Application - Inuktitut
 38. Submission from Department of National Defense dated May 29, 2014 Canzinc Ltd. Amendment Renewal Application for Water Licence No. 1AR-NAN0914 for Continued Reclamation and Post-Closure Monitoring Activities, Nanisivik Mine
 39. Submission from Aboriginal Affairs and Northern Development Canada dated June 2, 2014 to Phyllis Beaulieu, Manager of Licensing Re: 1AR-NAN0914 – Technical Review for Water Licence Renewal/Amendment Licence Process – Nanisivik Mine Property – Canzinc Ltd. – Nyrstar Canada (Holdings) Ltd.
 40. Submission from Fisheries and Oceans Canada (DFO) dated June 2nd, 2014 to Phyllis Beaulieu, Manager of Licensing Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by CanZinc Ltd. for Continued Reclamation and Post-Closure Monitoring Activities, Nanisivik Mine Site
 41. Submission from Environment Canada dated June 2, 2014 to Phyllis Beaulieu Manager of Licensing RE: Licence No. 1AR-NAN0914, Type “A”; Nanisivik Mine Site Remediation Project – Notice of Application and Commencement of Technical Review
 42. NWB Draft Agenda for Technical Meeting-Pre-Hearing Conference – English
 43. NWB Draft Agenda for Technical Meeting-Pre-Hearing Conference – Inuktitut



44. NWB Letter to Johan Skoglund, CanZinco Ltd. dated June 6, 2014 Re: Licence 1AR-NAN0914; Type "A" – Technical Meeting and Pre Hearing Conference, for Renewal – Amendment Application by CanZinco Ltd. for the Nanisivik Mine Site Reclamation Project - English
45. NWB Letter to Johan Skoglund, CanZinco Ltd. dated June 6, 2014 Re: Licence 1AR-NAN0914; Type "A" – Technical Meeting and Pre Hearing Conference, for Renewal – Amendment Application by CanZinco Ltd. for the Nanisivik Mine Site Reclamation Project – Inuktitut
46. Submission from Aboriginal Affairs and Northern Development Canada dated June 16, 2014 to Nunavut Water Board, Executive Summary Technical Meeting and Pre-Hearing Conference Renewal Application
47. Submission from Nyrstar on June 16, 2014 to Nunavut Water Board, Nanisivik Water Licence Amendment/Renewal Technical Meeting and Pre-Hearing Conference, Presentation
48. Submission from Nyrstar on June 16, 2014 to Nunavut Water Board , Regarding Co Presentation for TM-PHC Inuktitut
49. Submission from Fisheries and Oceans Canada (DFO) dated June 18, 2014 to Nunavut Water Board, Licence 1AR-NAN0914; Type "A" Renewal-Amendment Application by CanZinco Ltd. – Nanisivik Mine Site Reclamation Project, Presentation
50. Submission from Department of National Defence dated June 18, 2014 to Nunavut Water Board, Canzinco Ltd. NWB Water Use Licence Renewal, 1AR-NAN0914 Nanisivik Department of National Defence Technical Hearing, Presentation
51. Submission from Environment Canada on June 16, 2014 to Nunavut Water Board, Environment Canada Presentation to Nunavut Water Board Regarding Canzinco Inc.'s Nanisivik Mine Site Project
52. Submission from Aboriginal Affairs and Northern Development Canada on June 16, 2014 to Nunavut Water Board , Canzinco Mines Ltd.'s Water Licence Renewal/Amendment Application #1AR-NAN0914, Presentation
53. NWB Letter dated June 17, 2014 to Nanisivik Distribution List Re: Licence No. 1AR-NAN0914, Type "A"; Nanisivik Mine Site Remediation Project Technical Meeting and Pre-Hearing Conference – Agenda and List of Confirmed Participants
54. Submission from Aboriginal Affairs and Northern Development Canada on June 17, 2014 to Nunavut Water Board, Canzinco Mines Ltd.'s Water Licence Renewal/Amendment Application #1AR-NAN0914, Inuktitut Executive Summary
55. Submission from Aboriginal Affairs and Northern Development Canada on June 17, 2014 to Nunavut Water Board Canzinco Mines Ltd.'s Water Licence Renewal/Amendment Application #1AR-NAN0914, Nunavut Water Board Technical Meeting & Pre-Hearing Conference by Teleconference June 18 to 19, 2014, Presentation
56. Submission from Environment Canada on June 17, 2014 to Nunavut Water Board, Technical Meeting and Pre-Hearing Conference, Inuktitut Summary



57. Submission from Fisheries and Oceans Canada on June 18, 2014 Re: Technical Meeting and Pre-Hearing Inuktitut Presentation
58. NWB Pre-Hearing Sign in Sheets for the Nanisivik Mine Site Project.
59. NWB document dated June 27, 2014 for Nanisivik Distribution, Appendix C: List of Draft Commitments Generated during the Technical Meeting/Pre-Hearing Conference held June 18, 2014 for Licence 1AR-NAN0914, Renewal/Amendment Application.
60. NWB Email Notice to Johan Skoglund and Distribution List dated June 27, 2014 Re: 140627 1AR-NAN0914 Commitment List-OMLE
61. Submission from CanZinco on June 30, 2014 to NWB Re: Water Licence 1AR-NAN0914: Renewal/Amendment Application CanZinco Responses to Draft List of Commitments Resulting from Technical Meeting/Pre-Hearing Conference Held on June 18, 2014
62. Email from Kevin Bill, Fisheries and Oceans Canada to Phyllis Beaulieu, Manager of Licensing Re: 140627 1AR-NAN0914 Commitment List
63. Email from Karen Watson, Department of National Defence to Phyllis Beaulieu, Manager of Licensing dated June 30, 2014 Re: Commitment List
64. NWB Report to Nanisivik Distribution List dated July 7, 2014 Subject Type "A" Water Licence 1AR-NAN0914 Subject: Type "A" Water Licence 1AR-NAN0914: Pre-Hearing Conference Decision Regarding Application for Renewal and Amendment
65. NWB Revised Public Hearing Notice dated July 11, 2014 for Nanisivik Distribution, English
66. NWB Revised Public Hearing Notice dated July 11, 2014 for Nanisivik Distribution, French
67. NWB Revised Public Hearing Notice dated July 11, 2014 for Nanisivik Distribution, Inuktitut
68. NWB Local Notice Cover Page dated July 11, 2014 for Local Organizations, Nanisivik Mine Site Project
69. Submission from Nyrstar to Phyllis Beaulieu, Manager of Licensing dated September 5, 2014 Re: CanZinco's Response to Pre-Hearing Conference Decision List of Commitments
70. Submission from Nyrstar to Phyllis Beaulieu, Manager of Licensing dated September 5, 2014 Re: CanZinco's Responses to Pre-Hearing Conference Decision List of Commitments, Inuktitut
71. Submission from Lozsef Miskolczi, Lowell Wade, SRK Consulting to Johan Skoglund dated September 4, 2014 Nanisivik Mine Non-Hazardous Waste Landfill
72. Submission from Arlene Laudrum, SRK Consulting to Johan Skoglund, Nyrstar dated September 5, 2014 Subject Remediation Confirmatory Soil Sampling Methodology
73. Submission dated September 4, 2014 by CanZinco, Nyrstar Canada (Holdings) Ltd. Re: Overview of the methodology/approach for developing Site Specific Soil Remediation Objectives (SSROs) for pre-determined project areas of the Nanisivik docksite
74. NWB Letter dated September 9, 2014 to Johan Skoglund, CanZinco Mines, Re: Licence 1AR-NAN0914; Type "A" – Acknowledgement and Distribution of Submissions Received in Support of Renewal/Amendment Application for Licence 1AR-NAN0914



75. Submission from Environment Canada to Phyllis Beaulieu, Manager of Licensing dated September 10, 2014 Re: 1AR-NAN0914 Type “A” Renewal Application – Notice of Application & Commencement of Technical Review – Nanisivik Distribution
76. Email Letter to Phyllis Beaulieu, Manager of Licensing from Kevin Bill, DFO dated September 10, 2014 Re: 1AR-NAN0914 Public Hearing – DFO Representation
77. Submitted on September 15, 2014 by CanZinco Mines Ltd. Abandonment and Reclamation Plan for Treatment of Contaminated Soil at the Former Nanisivik Mine
78. Submission from Ian Parsons and Amjad Tariq Aboriginal Affairs and Northern Development Canada to Robin Ikkutisluk , Licence Administrator Assistant dated September 17, 2014 Re: 1AR-NAN0914 – Technical Review for Water Licence Renewal/Amendment Licence Process – Additional Information – Nanisivik Mine Property – CanZinco Ltd. – Nyrstar Canada (Holdings) Ltd.
79. Submission from Department of National Defence, Johanne Paradis to Nunavut Water Board, Phyllis Beaulieu dated September 17, 2014 CanZinco Ltd. Amendment Renewal Application for Water Licence No. 1AR-NAN0914 for Continued Reclamation and Post Closure Monitoring Activities, Nanisivik Mine, English
80. Submission from Department of National Defence, Johanne Paradis to Nunavut Water Board, Phyllis Beaulieu dated September 17, 2014 CanZinco Ltd. Amendment Renewal Application for Water Licence No. 1AR-NAN0914 for Continued Reclamation and Post Closure Monitoring Activities, Nanisivik Mine, Inuktitut
81. Email Letter from Kevin Bill, DFO to Phyllis Beaulieu, Manager of Licensing dated September 17, 2014 DFO Comments on Abandonment and Reclamation Plan and SSRO Methods
82. Submission from Fisheries and Oceans Canada (DFO) Kevin Bill to Phyllis Beaulieu, NWB Manager of Licensing dated September 18, 2014 Re: Licence No. 1AR-NAN0914; Amendment-Renewal Application by CanZinco Ltd. for Continued Reclamation and Post-Closure Monitoring Activities, Nanisivik Mine Site
83. Submission from Nyrstar to Phyllis Beaulieu, NWB Manager of Licensing dated September 24, 2014 Re: CanZinco Responses to Intervener Comments on Technical Meeting / Pre-Hearing Conference Commitment Submissions
84. NWB Email Letter to Nanisivik Distribution dated September 24, 2014 Re: Notice to all Parties , CanZinco’s responses to Interveners Comments on TM/PHC
85. NWB Email Letter to Nanisivik Distribution dated September 25, 2014 Re: Notice to all Parties, Public Hearing Update
86. NWB Letter to Johan Skoglund, CanZinco Mines Ltd. from Damien Cote, Executive Director Re: Licence 1AR-NAN0914, Type “A”; Public Hearing Update – Renewal/Amendment Application by CanZinco Mines Ltd. for Nanisivik Mine Site Reclamation Project
87. Email Letter from Aboriginal Affairs and Northern Development Canada, Ian Parsons to Nunavut Water Board, Phyllis Beaulieu Re: Confirmation of Attendance at Public Hearing



88. Email Letter from Department of National Defence, Johanne Paradis to Nunavut Water Board, Phyllis Beaulieu Re: DND's Confirmation of Attendance at Public Hearing
89. Submission from CanZinco Mines Ltd. to Nunavut Water Board dated September 30, 2014 Memorandum of Agreement between her Majesty in Right of Canada, As Represented by the Minister of Fisheries and Oceans Canada (DFO) and CanZinco Mines Ltd., A Subsidiary In the Nyrstar Group of Companies (CanZinco) Concerning Use of the Existing Concrete Pad during Remediation of the Former Tank Farm Facility at Nanisivik, Nunavut
90. Submission from CanZinco Mines Ltd. to Nunavut Water Board dated September 30, 2014 Lease No. L-9195300 between Her Majesty the Queen and Nanisivik Mine, CanZinco Limited.
91. Submission from CanZinco Mines Ltd. to Nunavut Water Board received on September 20, 2014 Re: Lease #L-9195300 between CanZinco Ltd. and Canada (the "Lease") Nanisivik Mine
92. Submission from Fisheries and Oceans Canada (DFO) to Phyllis Beaulieu, NWB Manager of Licensing dated September 30, 2014 Re: DFO Response to PHC List of Commitments
93. Submission from Nyrstar to Nunavut Water Board on October 1, 2014 1AR-NAN0914 Application for Renewal and Amendment of Nanisivik Water Licence Public Hearing – Community Session Arctic Bay, 8 October 2014
94. Submission from Nyrstar to Nunavut Water Board on October 1, 2014 1AR-NAN0914 Application for Renewal and Amendment of Nanisivik Water Licence Public Hearing – Public Hearing Arctic Bay, 8 October 2014
95. Submission from Fisheries and Oceans Canada (DFO) to Nunavut Water Board on October 1, 2014 DFO Presentation October 8-9 2014 English
96. Submission from Aboriginal Affairs and Northern Development Canada to Nunavut Water Board on October 2, 2014 Executive Summary Water Licence Renewal Application Public Hearing English
97. Submission from Aboriginal Affairs and Northern Development Canada to Nunavut Water Board on October 2, 2014 Executive Summary Water Licence Renewal Application Public Hearing, French
98. Submission from Aboriginal Affairs and Northern Development Canada to Nunavut Water Board on October 2, 2014 Executive Summary Water Licence Renewal Application Public Hearing, Inuktitut
99. Submission from Aboriginal Affairs and Northern Development Canada to Nunavut Water Board on October 2, 2014 CanZinco Mines Ltd.'s Water Licence Renewal/Amendment Application #1AR-NAN0914 Nunavut Water Board Public Hearing October 8 and 9, 2014
100. Submission from Fisheries and Oceans Canada (DFO) to Nunavut Water Board on October 2, 2014 Licence 1AR-NAN0914; Type "A" Renewal-Amendment Public Hearing Fisheries and Oceans Canada October 8th-9th, 2014 Arctic Bay, Nunavut, Presentation
101. Submission from Department of National Defence to Nunavut Water Board on October 2, 2014 CanZinco Ltd. NWB Water Use Licence Renewal, 1AR-NAN0914 Nanisivik Department of National Defence Public Hearing, Presentation



102. Submission from Aboriginal Affairs and Northern Development Canada to Nunavut Water Board on October 2, 2014 CanZinco Mines Ltd.'s Water Licence Renewal/Amendment Application #1AR-NAN0914 Nunavut Water Board Public Hearing October 8 and 9, 2014, Compatibility Mode, Presentation
103. Email Letter from DFO Kevin Bill to NWB Robin Ikkutisluk, Licence Administrator Assistant dated October 2, 2014 Re: DFO's Confirmation of Attendance at Public Hearing
104. Submission from Fisheries and Oceans Canada (DFO) to Nunavut Water Board dated on October 3, 2014 DFO Presentation October 8-9 2014 Public Hearing, Inuktitut Presentation
105. Submission from Arlene Laudrum SRK Consulting to Johan Skoglund CanZinco dated July, 20, 2013 Submitted to Nunavut Water Board on October 9, 2014 Subject Nanisivik concrete pad soil management plan
Submission from Arlene Laudrum SRK Consulting to Johan Skoglund Nyrstar dated August 13, 2013, Submitted to Nunavut Water Board on October 9, 2014 Subject: Concrete Pad Soil Movement Plan



APPENDIX E – Public Hearing Sign-in Sheets

Registration Form

NO.	First Name	Last Name	Organization Representing	Address	Phone	Fax	E-mail
1	Nishat	Alluot	Interpreter	Arctic Bay	—	—	—
2	KALEEN	CESTEN D	AAVNDc	180 MEU.7.	9754546	—	KAREN.CESTEN@caudg.ca
3	ITA	Pearson	AAVDC	Isalut	975-4002	—	ian.pearson@caudg.ca
4	Murray	Ball	AAVDC	Isalut	975-4550	—	murray.ball@caudg.ca
5	E. Paul	—	—	—	—	—	—
6	Louis	LE MAY	DEC - DND	Ottawa	943-8023	—	louis.lew —
7	Aleene	Laudrum	Canineo	Yellowknife	873-8070	—	alaudrum@st.com
8	Tommy	Tatahuqik	Community	Arctic Bay	—	—	—
9	Michael	Levi	community	Arctic Bay	N/A	—	N/A
10	Johan	Skoglund	Canineo	Switzerland	—	—	johan.skoglund@nyinter.com
11	CHRISTIE	HALVICKER	CANINEO CO	Arctic Bay	—	—	Ch-Halvick@caudg.ca
12	Debbie	Johnson	Hamel	Arctic Bay	439-9917	—	finffier-ab@qig.ca
13	Damen	Cote	NWB	Caja Haven	300-6330	—	—
14	David	Hohnstein	NWB	Caja Haven	—	—	—
15	Sean	Joseph	NWB	Stamconver/dia	—	—	—
16	Gregg	Boyer	Legal Counsel/NWB	Edmonton	—	—	—
17	Robin	Ikkiukluk	Caja Haven	NWB	—	—	—
18	Ben	Kogik	NWB	Caja Haven	—	—	—
19	—	—	—	—	—	—	—
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Registration Form

NO.	First Name	Last Name	Organization Representing	Address	Phone	Fax	E-mail
1	Ian	Parsons	ANVC	Edmonton	975-4383		ian.parsons@nandc.gc.ca
2	Kellen	Co-Steele	ANVC	Edmonton	975-4383		
3	Dee	APCA	Community	Arctic Bay	-	-	-
4	LC D'Souza		Community	Arctic Bay	-	-	
5	Marta	Tsugangitug	Community	Arctic Bay	786	786	marta-tsugangitug@nandc.gc.ca
6	Lily	Kigutaq	Community	Arctic Bay			lily.kigutaq@hotmail.ca
7	Glaude	Kapelle	Nanisivik	Arctic Bay			
8	KOD	WATSON	DND	OTTAWA	613-943-8277		rodney.watson@forces.gc.ca
9	Johan	Skeglund	CanZinc	SWITZERLAND	-	-	johan.skeglund@ny11tor10.com
10	Molly	Oyekulunk	Community	Arctic Bay	439-8227		
11	Alfred	CCOVA	Community	Arctic Bay	439-8235		
12	Tommy	Totokapik	Community	Arctic Bay	435-8235		
13	Ing	Kigutikantik	Community	Arctic Bay	-	-	-
14	Dee	PUNBON	Community	Arctic Bay	-	-	-
15	S. & A. W. H. P.	5 P. A. P. I. K.	Community	Arctic Bay	-	-	-
16	Damen	Cole	NVB	Edmonton	-	-	-
17	Ben	Kogvik	NVB	" "	-	-	-
18	Robin	Kushuk	NVB	" "	-	-	-
19	Craig	Boyer	Legal Counsel	Edmonton	-	-	-
20	Sean	Joseph	NVB	Vancouver	-	-	-
21	Kevin	Bill	DFO	Edmonton	781-4645		
22	Darcy	Emerson	Community	Arctic Bay			
23	Alex	Laudrum	CanZinc	Yellowknife	873-8670		alaudrum@src.com
24	Mishak	Allurut	Interpreter	Arctic Bay	-	-	-

Registration Form

Name	Last Name	Organization Representing	Address	Phone#	Fax#	E-mail
25	Andy	ISSIGATOK	Arctic Bay	439-8306	—	—
26	Jerry	Attagutsiak Community	Arctic Bay	—	—	—
27	Moses	Ojukeluk	" "	—	—	—
28	Erud	Joseph	" "	—	—	—
29	Loate	Paulosic	" "	439-8065	—	Paulosic-gary@bbl.ca
30	NORMAN	Paulosic	" "	439-8125	—	n.paulosic@hotmail.ca
31	BRIAN	COLLANT	Arctic Bay	439-8112	—	Brian.Collant@dec.gc.ca
32	Sheena	Downag	Arctic Bay	439-8945	—	sheenagaur@bblmail.com
33	Lisa	Tatchapik	" "	439-808	—	lisetatchapik@hotmail.com
34	Lynne	Benebax	Arctic Bay	439-5513	—	Donna Donna.Donquy@bbl.ca
35	Eva	UYAKAK	" "	439-8835	—	—
36	Inga	Muckpa	Arctic Bay	439-8110	—	—
37	Mike	Kigutag	" "	439-3008	—	aka-ithugioe@hotmail.ca
38	Marya	ISSIGATOK	Arctic Bay	439-8306	—	—
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Registration Form

NO.	First Name	Last Name	Organization Representing	Address	Phone	Fax	E-mail
1	Ian	Parsons	AANDC	Arctic Bay	945-4090		ian.parsons@nandc.gc.ca
2	KAREN	COSTELLO	AANDC	Arctic Bay	5-4546		
3	Murray	Ball	AANDC	Arctic Bay			
4	POD	WATSON	IND	Arctic Bay	943-8277		rodney.watson@forces.gc.ca
5	Louis	LEMY	RC	Arctic Bay	943-8028		
6	Arlene	Laudrum	Carrieco	Yellowknife			
7	John	Skoglund	Canineco	Switzerland			
8	Claude	Lavallée	Canineco	Arctic Bay			
9	Kevin	Bill	PFO	Sarna			
10	Tommy	Tatapak	Community	Arctic Bay			
11	Damien	Cote	NWB	Arctic Bay			
12	Ben	Mogulic	" "	Arctic Bay			
13	David	Hobinstein	" "	Edmonton.			
14	Sean	Joseph	" "	Vancouver			
15	Robin	Krusinski	" "	Arctic Bay			
16	Craig	Boyer	Legal Counsel	Edmonton			
17	Niskale	Allunt	Interpreter	Arctic Bay			
18	Lily	Kigutag	Community	Arctic Bay			
19	Michael	Lev	" "	" "			
20	Jamie	Ogallak	Community	Arctic Bay	949-9913		Jamie - Okkukuk
21	Martina	Auksaq	Community	Arctic Bay	439-8496		
22							
23							
24							