



NUNAVUT WATER BOARD

WATER LICENCE NO. 1AR-POL1531

**REASONS FOR DECISION
INCLUDING RECORD OF PROCEEDINGS**

NUNAVUT WATER BOARD



In the Matter of:

Applicant: Teck Resources Limited

Subject: Application for Renewal and Amendment of (expired)
Type "A" Water Licence No. 1AR-POL0311

Date: March 19, 2015

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:	Teck Resources Limited
Address:	Suite 3300, Bentall 5 550 Burrard Street Vancouver, BC V6C 0B3
Purpose:	Application for Renewal and Amendment of Type "A" Water Licence No. 1AR-POL0311 to authorize post- closure long term monitoring, reclamation and remediation activities at the former Polaris Mine site on Little Cornwallis Island
Application Received on:	August 31, 2013
Application Received from:	Teck Resources Limited
Address:	Teck Resources Limited Bag 2000 Kimberley, B.C. V1A 3E1
Date of Public Hearing and Public Hearing Record Closed:	December 4, 2014



ATTENDEES:

NWB Representatives:

Nunavut Water Board	Chairman	T. Kabloona
Panel Members (Panel P12	Member	C. Adjun
Polaris):	Member	J. Pameolik
Nunavut Water Board	Acting Executive Director/	D. Hohnstein
Staff:	Director Technical Services	
Board Secretary/Interpreter		B. Kogvik
Technical Advisor		S. Aredes
Licensing Administrator		M. Porter
Legal Counsel		T. Meadows (Shores Jardine LLP)
Interpreter:	S. Salluviniq	
Court Reporter:	K. Macleod, CSR(A), RPR Dicta Court Reporting, Inc.	
Sound Technician	C. Francis, PIDO Productions	
Applicant:		
Teck Resources Limited	B. Donald, Manager, Dormant/ Legacy Properties	
Parties:		
Aboriginal Affairs and	K. Costello, Director of Resource	
Northern Development	Management	
Canada	I. Parsons, Regional Coordinator	
Community	A. Ningiuq, Elder Representative	
Representatives from Grise	L. Ningiuq, Hamlet Representative	
Fiord:	J. Akeeagok, Hunters and Trappers Organization Chair	
Written Record of	Available from the Board's public registry using the following	
Submissions:	(username: public; password: registry):	



<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-POL0311/2%20ADMIN/3%20SUBMISSIONS/2011%20Amend%20Renew/>

Hearing Record
(including Hearing
Transcript):

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-POL0311/2%20ADMIN/4%20HEARINGS/2%20HEARING/2011%20Amend%20Renew/>



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REASONS FOR DECISION

Executive Summary

This decision is in relation to an application to the Nunavut Water Board filed by Teck Resources Limited (Teck or the Applicant), for the renewal and amendment of an expired Type “A” Water Licence, NWB Licence No.1AR-POL0311, originally for a term of approximately 17 years from January 2014 through to January 2031 (the Application). The Application was filed with the NWB on August 31, 2013 and seeks authorization to conduct post-closure monitoring at the former Polaris Mine site, located on Little Cornwallis Island, Nunavut. The Polaris Mine was an underground lead-zinc mine and is located approximately 100 km northwest of the community of Resolute, Nunavut.

The Licensing renewal process for the Application included a completeness check, technical review, a technical meeting and pre-hearing conference held via teleconference on August 18, 2014 and an in person Public Hearing held on December 4, 2014 in the community of Resolute. The Public Hearing also included a Community Session, held on the evening of December 4, 2014, in which representatives from the community of Grise Fiord were in attendance in addition to other attendees. Throughout the Board’s processing of the Application, several written and oral commenting opportunities were provided to interveners, including government agencies, landowners, the Regional Inuit Association (RIO), the Hamlets of Resolute and Grise Fiord and the local Hunters and Trappers Organizations (HTO’s), community members and members of the public.

On the basis of the information provided with the Application by Teck, technical review by the Board and interveners, details contained in updated inspection reports, comments and other written submissions filed with the Board and information provided during the Public Hearing and Community Session, to the three-member panel of the Board, Panel P12, duly appointed by the Board to consider the Application, the Board has decided the following:

- To grant Teck’s request to renew Water Licence No. 1AR-POL0311 (the Expired Licence) in accordance with the terms and conditions outlined in this Decision and the attached renewed and amended Licence No. 1AR-POL1531 (the Renewed and Amended Licence);
- Specific terms and conditions of note in the Renewed and Amended Licence include the following:
 - the duration of the Licence term will be 16 years, expiring on January 31, 2031. The Board notes that although Teck anticipates that this term will be sufficient to complete all long-term monitoring and associated reclamation at the site, if, during the term, Teck requires a further renewal of the



Licence, the submission of a renewal application is required at least one year prior to the expiry of the Licence;

- throughout the term, Teck is required to maintain security in the amount specified under the Renewed and Amended Licence, in a form required by the *Nunavut Waters Regulations*;
- amendment to the description of the undertaking to “Long-term Monitoring and Associated Remediation Activities at the Former Polaris Mine, Little Cornwallis Island”;
- amendment to Part B Item 2 of the Expired Licence, included as Part C Conditions Applying to Security, Item 1, to reduce reclamation security from \$3,539,000 to \$1,565,000;
- amendment to the conditions applying to the monitoring program under Part H Item 6 of the Expired Licence, geotechnical monitoring requirements, to take into account a reduction in monitoring and reporting frequencies;
- amendment to the conditions applying to the monitoring program under Part H to include reduction in monitoring stations, sampling frequency and analytical parameters of Water quality and Effluent monitoring.
- amendment to Part B Item 3 and Item 6 of the Licence to amend conditions requiring the presentation of quarterly expenditure reports and annual reports; and
- amendment to remove conditions applying to water use, waste management and conditions applying to decommissioning and reclamation activities that are no longer required.

SECTION I **FILE BACKGROUND AND REGULATORY HISTORY**

Current Application

The Application before the Nunavut Water Board (the Board or NWB) was filed by Teck Resources Limited (Teck or the Applicant). As part of the Application, the Board was provided with a Certificate of Amendment dated April 23, 2009 and issued by Industry Canada, Corporations Canada confirming a change to the name of the previous Licensee from Teck Cominco Limited to Teck Resources Limited.

The application and supporting information is for the renewal of the expired Type “A” Water Licence No. 1AR-POL0311 (the Expired Licence) with amendments to specific terms and conditions largely to reflect that the undertaking is in the final long-term monitoring phase (the Application).



The scope of the Application included the following requested amendments to the existing terms and conditions of the Expired Licence:

- A seventeen (17) year term (from January 2014 to January 2031) to govern the final renewal of the Expired Licence, to allow for post-closure monitoring and any required reclamation and remediation activities at the Polaris Mine site;
- A change in the description of the licensed activity from “Polaris Mine, Little Cornwallis Island, Nunavut”, to “Former Polaris Mine, Long Term Monitoring, Little Cornwallis Island, Nunavut”;
- Proposed amendment to Part B Item 2 of the Licence to include a reduction of reclamation security from the current security amount of \$3,539,000 to \$1,324,000;
- Proposed amendment to the conditions applying to the monitoring program under Part H Item 6 of the Licence, geotechnical monitoring requirements, to take into account a reduction in monitoring and reporting frequencies;
- Proposed amendment to the conditions applying to the monitoring program under Part H to include reduction in monitoring stations, sampling frequency and analytical parameters of Water quality and Effluent monitoring.
- Proposed amendment to Part B Item 3 and Item 6 of the Licence to amend conditions requiring the presentation of quarterly expenditure reports and annual reports;
- Proposed amendment to remove conditions applying to water use, waste management and conditions applying to decommissioning and reclamation; and
- Proposed amendment to remove authorization for Water Use or active Waste Deposit.

The following documents in support of the Application were received from Teck by the NWB on August 31, 2013:

- Application cover letter
- Attachment #1: Water Licence amendment-renewal application form
- Attachment #2: Certificate of Name Change
- Attachment #3: Map to address block 5
- Attachment #4: Email NPC
- Attachment #5: 2002 NPC Conformity Determination
- Attachment #6: Email from NIRB (conformity from NIRB is already filed)
- Attachment #7: 2002 NIRB Screening Decision
- Attachment #8a: Proposed Long Term Geotechnical Monitoring
- Attachment #8b: CV D. Johnson, Golder



- Attachment #8c: CV Ross Hammet, Golder
- Attachment #8d: Proposed Long Term Garrow Lake Monitoring Program
- Attachment #8e: CV B Baker, Azimuth
- Attachment #9: Community Engagement Report
- Attachment #10: Re: Polaris Mine Projected Site Monitoring Costs 2014 to 2031, on August 29 2013
- Attachment #11: Teck Metals List of Directors
- Attachment #12: Compliance Assessment and Detailed Amendment Requests
- Attachment #12a: Email: Missed 2009 Sublethality test
- Attachment #12b: Implications of Sublethal Toxicity Testing Results at Polaris Mine, dated April 3, 2013
- Attachment #12c: Former Polaris Mine Decommissioning and Reclamation Summary of Reporting 2003-2011
- Attachment #12d1: Reconciliation of Administrative Requirements of Type "A" WL on September 2009
- Attachment #12d2: Response to Reconciliation of Administrative Requirements of Type A on October 18 2009
- Attachment #13: Executive Summary of Water Licence Amendment Application (English)
- Attachment #14: Executive Summary of Water Licence Amendment Application (Inuktitut)
- Attachment #17: Evaluation of Limnological and Chemical Conditions of Garrow Lake and chemistry of Garrow Creek 2002-2011, dated October 17, 2011
- Attachment #18: Assessment of Total and Dissolved Metals Concentrations in the Water Column of Garrow Lake, dated December 2011
- Attachment #19a: Polaris 2005 Annual MMER and EEM Report
- Attachment #19b: Polaris Mine Environmental Effects Monitoring (EEM) Interpretative Report Review, September 15, 2006
- Attachment #19c: Polaris Mine Environmental Effects Monitoring EEM Interpretative Report Review, September 29, 2006
- Attachment #20a: Expiry of Licence letter on October 17, 2011
- Attachment #20b: Request for Comments from Parties Regarding Licensee's Proposed Approach to Expiry of Licence No.1AR-POL0311
- Attachment #20c: 1AR-POL0311 - Teck Resources Ltd. Letter of Proposal for the Cancellation of Existing Water Licence No. 1AR-POL0311 and the Application of



a New Type 'B' Water Licence for the Polaris Mine Site - Polaris Mine - Teck Resources Ltd.

- Attachment #20d: Comments Related to Cancellation of Polaris Type A Water Licence, December 22, 2011
- Attachment #21: Proposed Conditions for Water Licence

During the NWB's consideration of the Application, the Applicant filed the following additional documentation in fulfillment of commitments made at the Pre-Hearing Conference and in response to interveners' comments and information requests:

- Former Polaris Mine Long Term Monitoring Program Application to renew and amend Water Licence 1AR-POL0911 Response to Completeness Check, submitted June 19, 2014
- Former Polaris Mine - Supplemental Long Term Monitoring Program Water Licensing - Teck Resources Limited Technical Meeting Presentation and Response to Technical Comments, submitted August 14, 2014
- Technical Meeting Commitment #1 - Submission of 2014 Post Closure Monitoring Report, and Response to the Nunavut Water Board Pre-Hearing Conference Decision, submitted October 17, 2014
- Clarification on Polaris Mine Post-Reclamation Geotechnical Inspection Schedule, submitted November 3, 2014
- Post-Reclamation Geotechnical Inspection, Former Polaris Mine, Nunavut by Golder Associates dated October 9, 2014, submitted November 3, 2014
- Licence No. 1AR-POL0311 - Teck Response to Annual and Quarterly Reports Technical and Administrative Review Letter, submitted November 14, 2014
- Reclaimed Polaris Mine Site Water Licence Renewal (1AR-POL0311)- Teck Response to Final Comments, submitted November 14, 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-open.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-POL0311/2%20ADMIN/>



History of the Polaris Mine

The Polaris Mine was an underground lead-zinc mining property, situated at approximately 75°N latitude and 97°W longitude, on Little Cornwallis Island and 100 km northwest of the Hamlet of Resolute Bay, within the Qikiqtani Region of Nunavut. The Polaris Mine operated from 1981 to 2002 and produced approximately 25 million tonnes of ore during operations. In September 2002 the mine ceased operations. Commencing in September 2002, Teck carried out decommissioning and reclamation activities at the mine site under a Board-approved Decommissioning and Reclamation Plan and completed in September 2004.

In 2006, Teck was recognized as a “Closed Mine” and was released from the environmental effects monitoring requirements of the applicable *Metal Mining Effluent Regulations* under the Federal *Fisheries Act*. At present Teck has no facilities, personnel or equipment remaining at the Polaris Mine site and there is no water use or active waste deposit requested by Teck during the proposed term of the Renewed and Amended Licence.

Licensing History for the Undertaking

Prior to the establishment of Nunavut as a separate Territory and the Nunavut Water Board assuming the jurisdiction over Water management in Nunavut in 1996, the Northwest Territories Water Board (NWT Board) was responsible for issuing water licences in the Nunavut Settlement Area. The NWT Water Board issued the original water licence for the Polaris Mine, Water Licence N4L2-0262 in 1981. This was the first in a series of licences¹ that authorized the use of water and deposit of waste associated with the mine and was renewed by the NWT Water Board in 1994 and eventually expired on December 31, 2002. The Licensee under the NWT Water Board Licences was Cominco.

When the Polaris Mine site water licence was renewed in March 2003, it was the Nunavut Water Board that issued Type “A” Water Licence NWB1AR POL0311 to Teck Cominco Ltd. to authorize water use and waste deposit associated with the closure and reclamation activities at the former Polaris Mine in accordance with the Board’s jurisdiction under the Nunavut Land Claims Agreement (NLCA).

This Licence was subsequently amended in 2009 upon the request of then Licensee Teck Cominco Ltd. to reduce the security under the Licence from \$33,700,000 to \$3,539,000 in order to reflect the completion of a number of site reclamation activities. The Licence, 1AR-POL0311, as amended in 2009, expired on December 31, 2011.

¹ The NWB does not have details regarding the historical licences issued by the NWT Board.



Procedural History of this Application

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

- August 31, 2013 - Teck Resources Ltd submitted an Application for the renewal and amendment of Licence No. 1AR-POL0311 and the file was submitted within an application package, to renew and amend Water Licence No. 1AR-POL0311 as a new type 'B' Licence;
- October 21, 2013 - the Nunavut Water Board acknowledged the Application and indicated that they would process the Application received as a renewal application of the expired Type "A" Water Licence rather than as a new Type "B" Licence;
- December 31, 2013 - Teck response to the NWB correspondence of October 21, 2013, agreeing to the Type "B" Water Licence application being considered by the Board as an Application for a type "A" Water licence
- May 8, 2014 - the NWB conducted its preliminary review of the Application and distributed it for a completeness check and initial preliminary public review;
- May 28, 2014 - NWB received comments on completeness from Aboriginal Affairs and Northern Development Canada;
- June 19, 2014 - Teck responded to the submissions from Aboriginal Affairs and Northern Development Canada ;
- July 4, 2014 - the NWB indicated that the Application was complete and the NWB distributed the Application for a detailed Technical Review;
- July 8, 2014 - the Nunavut Planning Commission confirmed that the original conformity determination conducted in 2002 still applied and no additional land use conformity determination was required before the application could be referred to the Nunavut Impact Review Board for assessment;
- July 25, 2014 - the Nunavut Impact Review Board confirmed that under Section 12.4.3 of the Nunavut Land Claims Agreement the Nunavut Impact Review Board's original Screening Decision Report from 2002 continued to apply and that no additional NIRB screening was required before the Application could be considered by the NWB;
- August 1, 2014 - technical review submissions were received from two intervening parties: Aboriginal Affairs and Northern Development Canada and Environment Canada;
- August 14, 2014 - Teck submitted a response to Technical Comments;
- August 18, 2014 – a Technical Meeting and Pre-Hearing Conference was held by way of teleconference for the application—the parties attending these meetings included the Board's staff, the Applicant, and interveners including Aboriginal Affairs and Northern Development Canada (AANDC), Environment Canada (EC)



and the Grise Fiord Hunters and Trappers Organization. In keeping with the Board's practice, these meetings were conducted by the Board's staff and no Board Members were present during these sessions;

- August 29, 2014 - the NWB issued the Pre-Hearing Conference Decision Report that provided further direction to the parties, set the timelines for the pre-hearing exchange of information and established that the form of Public Hearing would be in-person in the community of Resolute Bay during the first week of December;
- October 7, 2014 – the NWB issued the Notice of Public Hearing;
- October 17, 2014 - Teck submitted the 2014 Post Closure Monitoring Report and response to NWB Pre-Hearing Conference Decision Report;
- November 3, 2014 - Teck submitted Clarification on Polaris Mine Post-Reclamation Geotechnical Inspection Schedule;
- November 3, 2014 - Teck submitted the Final Report: Post-Reclamation Geotechnical Inspection, Former Polaris Mine, Nunavut by Golder Associates ;
- November 7, 2014 - NWB submitted the Annual and Quarterly Reports Technical and Administrative Review letter;
- November 7, 2014 - AANDC submitted Technical Review Memorandum on Additional Information for Water Licence Renewal/ Amendment - Polaris Mine Property;
- November 7, 2014 - EC submitted a final response to Teck submissions;
- November 14, 2014 - Teck submitted their response to final comments;
- November 14, 2014 - Teck responded to the letter regarding the technical review of Annual and Quarterly Reports;
- November 14, 2014 - NWB submitted comments regarding the licensing of an undertaking nearing the end of the project lifecycle;
- November 14, 2014 - NWB responded to recent correspondence regarding the form of Public Hearing;
- November 28, 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 December 4 and 5, for comments;
- December 1- 3 2014 – NWB received copies of the Public Hearing and Community Session presentation materials from Teck, AANDC, and the NWB posted the Community Session presentation materials and posted the materials on the public registry;
- December 6, 2014 – NWB staff and the three-member Panel authorized by the NWB to process the Application (P12) conducted the Public Hearing for the Application; participants included Teck, representatives from the intervener,



AANDC and Community Representatives from Grise Fiord and members of the public from Resolute Bay.

Regulatory History of this Application

On October 17, 2011, Teck Metals Ltd. made a request to the NWB, suggesting that as the Polaris Mine site was no longer in active operation or reclamation, that the Type “A” Water Licence should be cancelled and that a new, much more limited Type “B” Water Licence, focused on the terms and conditions applicable solely with respect to on-going post-closure monitoring and reclamation be issued. In that correspondence, Teck also indicated that because the post-closure monitoring activities no longer required a “use” of fresh water or the active deposit of waste, no licence of any type should be required under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act).

As the issue of cancellation of the Type “A”, the potential for a form of “graduated” licensing for sites nearing the end of the project life cycle and the question of whether a water licence was required for this activity at all was an important general issue with broader implications to land owners, holders of reclamation security and indeed all Nunavummiut. On November 17, 2011 the NWB issued a request for comments to the Distribution List for the Polaris Mine site, seeking comments on the following specific issues:

1. The appropriateness of canceling the existing Type “A” Licence (recognizing that under s. 46 of the NWNSRTA, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence);
2. Further, prior to considering cancellation of the Type “A” and/or issuance of a Type “B” water licence, what information should be required by the NWB beyond the current licence compliance reporting documentation and normal Type “A” renewal or Type “B” water licence application information?;
3. Whether, if the Type “A” Licence is cancelled, the on-going post-closure and reclamation monitoring activity is such that the Board can issue a Type “B” Licence to regulate only that activity; and
4. For those parties holding reclamation security, direction regarding the effects (if any) that the cancellation of the Type “A” Water Licence may have on the



reclamation security that is held (including any changes to the amounts and mechanisms for releasing security in whole or in part).²

Comments were received from Aboriginal Affairs and Northern Development Canada (AANDC) on December 22, 2011, expressing the view that as the appurtenant undertaking of the Polaris Mine, licensed by the Board, was not yet fully reclaimed, that:

It would be inappropriate to allow cancellation or expiry of Teck's licence until the Board is satisfied that the closure, abandonment and reclamation of the mine has been satisfactorily completed and the post-closure life-cycle of the appurtenant undertaking has come to an end.³

Environment Canada (EC) also provided comments on these issues, indicating that: "EC has no concerns with cancellation of the Polaris Type "A" water licence considering there are currently no triggers being exceeded at the site that would warrant regulation under a Type A licence."⁴

The Board requested in June 2013 that Teck respond with their intentions regarding the renewal of the Expired Licence. Teck filed the Application for a Type "B" Water Licence to authorize the long-term monitoring of the site on August 31, 2013. On September 13, 2013, the NWB acknowledged that on September 10, 2013 the Board had received the \$30.00 application fee and \$30.00 annual water use fee from Teck as required before the Board could process the application under the NWNSRTA and s. 12 of the *Nunavut Waters Regulations*.

On October 21, 2013, the NWB responded to Teck's Application for a Type "B" Water Licence with the following additional guidance:

...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-POL0311, the undertaking that is licensed is the closure, reclamation activities and post-closure monitoring associated with the Industrial Undertaking at the Polaris Mine. As the industrial undertaking (mine) triggered

² Letter from D. Filiatrault, Executive Director, NWB to Polaris Mine Distribution, November 17, 2011, at p. 2.

³ Letter from I. Parsons, Regional Coordinator, AANDC, Water Resources Division, Nunavut Regional Office to P. Beaulieu, Manager of Licensing, NWB, December 22, 2011 at p. 3 of the attached Technical Review Memorandum.

⁴ Letter from A. Dunn, Senior Environmental Assessment Coordinator, Environment Canada, Environmental Protection Operations, to P. Beaulieu, Manager of Licensing, NWB, December 22, 2011 at p. 1.



the requirement for a Type “A” Water Licence, until such time as the final abandonment and reclamation of the Industrial Undertaking is complete, the Board requires the undertaking to be licensed under a Type “A” Water Licence.⁵

On this basis, the Board requested that the Application submitted by Teck on August 31, 2013 be considered and processed as an application for the renewal and amendment of the expired Type “A” Water Licence No. 1AR-POL0311 rather than as a new Type “B” Water Licence. On December 31, 2013 Teck responded that it agreed to have the Type “B” Water Licence Application considered by the Board as an Application for the renewal and amendment of the expired Type “A” Water Licence No. 1AR-POL0311.

Pursuant to Article 13, Clause 13.3.6 of the NLCA and s. 29⁶ 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 (the Panel or P12) of the NWB.

On July 4, 2014 the NWB issued notice of the Application⁷ and the NWB distributed the Application for a detailed Technical Review for a thirty-day (30) technical review period. The notice also invited interveners and other interested persons to make submissions to the NWB regarding the Application on or before August 5, 2014.⁸

In accordance with Article 11, s. 11.5.10 of the Nunavut Land Claims Agreement (NLCA), the 2002 licence renewal application was reviewed by the Nunavut Planning Commission (NPC) to determine whether the project was in conformity with the applicable approved land use plan. While a copy of the previous NPC Conformity Determination from 2002 was included with the Application, the NWB required further confirmation from the NPC in accordance with Article 13, ss. 13.4.2 through 13.4.5 of the NLCA as to whether the original conformity decision continued to apply given the Applicant’s proposed amendments to the scope of the Expired Licence in this Application.

The NPC issued correspondence⁹ on July 8, 2014, indicating that the proposed amendments to the Expired Licence included in the Application did not change the scope

⁵ Letter from D. Côté, Executive Director, NWB to B. Donald, Manager, Dormant Properties, Teck Resources Limited, October 21, 2013 at pp. 1-2.

⁶ 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.

⁷ As required under s. 55(1) of the *Nunavut Waters and Surface Rights Tribunal Act*.

⁸ Letter from D. Côté, Executive Director, NWB to B. Donald, Manager, Dormant Properties, Teck Resources Limited, July 4, 2014.

⁹ Email from B. Aglukark, NPC, to P. Beaulieu, NWB, Re: 1AR-POL0311 Notice of Application and Commencement of Technical Review, July 8, 2014.



of the project as originally reviewed to the extent that it would warrant a further review by the NPC. The NPC also indicated that the terms included in the original 2002 Conformity Determination, which stated that the Project conforms to the North Baffin Regional Land Use Plan, must form part of any future authorization, permit or licence issued to the project, including the Renewed and Amended Licence.

With respect to the impact assessment requirements of the NLCA, the NWB also required confirmation of any screening, exemption, or review decisions issued by the Nunavut Impact Review Board (NIRB) in accordance with the NLCA development assessment provisions of Article 13, s. 13.5.1 and as required under s. 39(1) of the NWNSRTA.¹⁰ Specifically, the NWB awaited direction from the NIRB regarding whether, in light of the amendments sought under the Application there was a change from the scope of the licence renewal application that was originally screened by the NIRB in 2002. On July 25, 2014, the NIRB issued its Screening Exemption Decision¹¹ for the Application, in accordance with Article 12, s. 12.4.3 of the NLCA.¹² The NIRB correspondence indicated that as the 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 No. 1AR-POL0311) the Application to Amend and Renew Licence No. 1AR-POL0311 was exempted from further NIRB screening. The NIRB also attached their original Screening Decision Report from December 5, 2002 (NIRB File No.: 01MD098) and reiterated that the activities under the scope of the Application remain subject to the terms and conditions contained within that report.

Following confirmation of the land use and assessment requirements, the NWB’s technical review of the file and receipt of technical review submissions from AANDC and EC and through direction given from the Panel, the NWB scheduled a Technical Meeting (TM) and Pre-hearing Conference (PHC) for the file. The TM/PHC was held on August 18, 2014 and was conducted by the NWB’s staff by way of teleconference. As is the NWB’s normal practice with TM/PHC meetings, the Board’s Panel Members were not present during these meetings, 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 focus of the TM/PHC was to support discussion amongst the

¹⁰ Section 39(1) prescribes that the NWB may not issue, renew, or amend a Type “A” Licence until the NIRB has completed the screening, reconsideration, or where a review is required, issued a project certificate.

¹¹ Letter from R. Barry, Executive Director, NIRB to T. Kabloona, Chairperson, NWB, July 25, 2014.

¹² 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.



Applicant, intervening parties, interested members of the public and the NWB's technical staff to discuss issues raised during the technical review of the Application and to determine the next steps in the licensing process for the Application, including discussions regarding the progression of the Application to a Public Hearing.

Through the discussions at the TM, the parties made three commitments to provide additional information directed at resolving various outstanding technical issues and information requests prior to the Public Hearing.¹³ A key commitment from Teck was the provision of an updated geotechnical inspection report in the fall of 2014 that was required to be submitted prior to the file proceeding to a Public Hearing.

At the Pre-hearing Conference which immediately followed the TM, the participants included representatives from Teck, the Grise Fiord Hunters and Trappers Organization, Aboriginal Affairs and Northern Development Canada (AANDC) and EC (Environment Canada). As it was confirmed at the PHC that there were no outstanding issues that would prevent the file from proceeding to a Public Hearing, the NWB staff then polled the participants with respect to the possible form (in person, in writing or teleconference), timing and venue for a Public Hearing.

On August 29, 2014 reflecting the outcome of the TM/PHC discussions, the NWB issued the Pre-Hearing Conference Decision Report¹⁴ that provided further direction to the parties, set the timelines for the exchange of information required to be filed in advance of the Public Hearing and established that the form of Public Hearing would be in person in the community of Resolute Bay during the first week of December 2014. At that time, the Board also listed the following as issues that remained to be addressed at the Public Hearing:

- Revisions to monitoring and reporting under the Renewed and Amended Licence pursuant to the proposed Supplemental Long-Term Monitoring Program 2014-2031;
- The length of term of the Renewed and Amended Licence;
- Updated closure and reclamation planning activities; and
- Security required to be posted under the Renewed and Amended licence.

October 7, 2014 NWB issued the Notice of Public Hearing. In advance of the Public Hearing, further submissions were received from Teck, AANDC and EC in accordance with the direction in the NWB's PHC Decision Report (and subsequent extensions granted

¹³ See Appendix D to the NWB PHC Decision 1AR-POL0311 Type "A" – Application for Renewal and Amendment, August 29, 2014.

¹⁴ NWB PHC Decision 1AR-POL0311 Type "A" – Application for Renewal and Amendment, August 29, 2014.



by the Board). On November 14, 2014 the last of the written submissions filed in advance of the Public Hearing, Teck's response to intervener's written submissions was filed with the Board. On November 14 the Board also filed correspondence included as a commitment in the PHC Decision Report to clarify the Board's requirements for licensing during post-closure monitoring and outlining the process for cancellation of a licence when it is no longer required, as well as correspondence reaffirming the Board's decision to conduct an in person Public Hearing in the community of Resolute Bay on December 4 and 5, 2014, with Community Representatives from Grise Fiord being brought into Resolute Bay to attend the Community Session on December 4.

The Public Hearing proceeded on the morning of December 4, 2014 (copies of the Agendas are included in [Appendix A](#)). Sign-in sheets indicating the list of participants at the Public Hearing are provided in [Appendix E](#). At the time of booking a venue, the gymnasium in Resolute Bay was unavailable on December 4 and 5, 2014. The Board then booked an alternative venue, the Community Recreation Hall. Unfortunately, upon arriving at the Recreation Hall on December 3, 2014, it was determined that due to logistical limits, such as size, unavailability of seating, etc., the hall would not be suitable for the Board's purposes, as it would not have allowed for the set-up of the required transcription, interpretation and sound equipment. Consequently, the Public Hearing was moved to the conference facilities at the nearby ATCO South Camp Hotel and radio and Facebook advertisements advising of the change in venue were posted on December 3 and 4, 2014. The Board also posted English and Inuktitut signs at the Recreation Hall directing attendees to the new venue. The technical component of the Public Hearing concluded in the early afternoon on December 4, 2014 and the Board adjourned to allow time for the Community Representatives from Grise Fiord to attend the Community Session (as their flights were slightly delayed).

At the close of the Community Session on the evening of December 4, 2014, the parties indicated that they were prepared to provide the Board with their closing remarks and to close the hearing on December 4, 2014. Following the completion of all closing remarks, the Record for the Public Hearing was closed and the matter 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 the Application is provided in [Appendix D](#) – List of Submissions and Correspondence. All listed submissions and correspondence associated with the Application have been placed on the NWB's public registry and are available from the NWB's ftp site at the link below (username: public and password: registry):



<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-POL0311/2%20ADMIN/>

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

Aboriginal Affairs and Northern Development Canada (AANDC)

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*¹⁵;
- the *Nunavut Land Claims Agreement* and the *Nunavut Land Claims Agreement Act*¹⁶;
- the *Territorial Lands Act*¹⁷ applicable *Regulations*¹⁸;
- the *Nunavut Waters and Surface Rights Tribunal Act*¹⁹;
- the *Nunavut Waters Regulations*²⁰;
- the *Canadian Environmental Assessment Act*²¹; and,
- the *Mine Site Reclamation Policy for Nunavut*.²²

AANDC's participation in the review of this Application recognizes the Department's role as the administrator of Crown land and resources and the enforcement authority for regulatory permits affecting land and water resources in Nunavut, including the terms and conditions of water licences. AANDC provided comments throughout the Board's processing of the Application, including comments on: 1) the completeness of the Application; 2) the request by Teck to consider the cancellation of the Type "A" Licence and issuance of a new Type "B" Licence to authorize the long-term monitoring program at the site; technical review comments on the Application; and 3) a review of Teck's updated geotechnical inspections; and final written submissions in advance of the Public Hearing.

¹⁵ R.S.C. 1985, c. I-6.

¹⁶ S.C. 1993, c. 29.

¹⁷ R.S.C. 1985, c. T-7.

¹⁸ 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.

¹⁹ S.C. 2002, c. 10.

²⁰ S.O.R./2013-69.

²¹ S.C. 1992, c. 37.

²² 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.



The focus of AANDC's comments were on ensuring that updated geo-technical inspections identify potential or actual areas of subsidence, that any reduced monitoring remains sufficient to identify unforeseen impact and indications that site stability has not yet been achieved and that security and on-going licence requirements are sufficiently protective to adequately reduce the on-going potential of risks to the environment posed by the site.

Following discussions with Teck after the NWB Technical Meeting and Pre-hearing Conference and in advance of the Public Hearing, AANDC indicated that all of their concerns had been addressed to some extent. At the Public Hearing, reflecting the outcome of an agreement with Teck, AANDC summarized their conclusions on all outstanding issues as follows:

- The proposed Geotechnical monitoring program for the Polaris site should be adopted with the condition that more frequent geotechnical inspections be required should further subsidence occur.
- The proposed water quality monitoring program should be adopted with the condition that if water quality parameters exceed limits defined in the licence or there is an upward trend, more frequent water quality monitoring will be conducted.
- Financial security may be reduced.
- The use of signage to advise people of subsidence issues.
- Potential cancellation of type A water licence.²³

With respect to the adjustment of security specifically, AANDC indicated the following:

...with regard to the amount of security. The security estimate of 1,564,994 was agreed upon by Teck in its November 14th, 2014, submission to the Water Board.

This represents a reduction in the security that is currently held, a reduction in the amount of approximately \$2 million. If you want the math, it's \$1,974,006 reduction. The security estimate has taken into account the geotechnical and water quality monitoring events for both 2019 and 2029, as well as taking in any adaptive management measures that may be required. The security amount also takes into account the need for contingency fencing around areas, should subsidence issues require it.²⁴

²³ NWB Public Hearing File No.: 1AR-POL0311, Exhibit No 3, Aboriginal Affairs and Northern Development Canada's Hard Copy PowerPoint Presentation "Review of Teck Resources Ltd. Licence No. 1AR-POL0311 Renewal and Amendment Application" (English and Inuktitut) filed by AANDC on December 4, 2014 at p. 15.

²⁴ K. Costello, AANDC, NWB Public Hearing File No. 1AR-POL0311, Transcript, Public Hearing, December 4, 2014, p. 38, lines 1-13.



Environment Canada (EC)

EC provided comments reflective of their roles and obligations under the *Canadian Environmental Protection Act, 1999*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* and the *Species at Risk Act*. EC provided comments on the completeness of the application, the appropriateness of Teck's request to cancel the Type "A" Licence and seeking a new Type "B" to authorize the long-term monitoring program at the site instead, and technical review comments on the Application in advance of and during the Technical Meeting and Pre-hearing Conference in August 2014.

EC identified four key areas of comment:

- Potential for impacts on migratory birds, wildlife and species at risk, and specifically providing comments on:
 - Identifying that all activities at the site must mitigate the potential for these types of effects;
 - Recommending several mitigation measures that should be implemented to reduce or eliminate the potential for these types of effects; and
 - Clarifying that in addition to the implementation of mitigation measures, the Applicant should also ensure compliance with the general provisions of the *Migratory Birds Convention Act* and the *Species at Risk Act* and associated regulations
- Amendments to the Post-closure Monitoring Program under the Renewed and Amended Licence:
 - Observing that the amendments to monitoring parameters and frequency proposed by Teck is in line with other northern projects;
 - Recommending that a more detailed summary of the post-closure monitoring data for Garrow Lake and Garrow Creek be provided to support the amendments sought by Teck;
- Long-term Monitoring Program:
 - Indicating that EC would not support the proposed reduction in vertical limnology and chemistry monitoring of Garrow Lake to only collection of data in Year 25 (2029 only), but rather recommending that this monitoring be conducted in step with the overall schedule proposed for Garrow Creek water quality (monitoring events in both 2014 and 2019); and
- Quality Assurance and Quality Control (QA/QC)
 - Recommending that the QA/QC include not only using trip blanks, but also field blanks as outlined in the *Metal Mining Technical Guidance for Environmental Effects Monitoring* (EC, 2012).



Unfortunately, EC advised by letter dated November 7, 2014²⁵ that “due to operational constraints, EC could not attend the Public Hearing” and requested that the Public Hearing be conducted by teleconference rather than in person. EC also advised in that letter that due to Teck’s efforts to respond to the concerns raised by EC during the technical review of the Application that EC had no additional comments regarding the Application.

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. However, during the Community Session associated with the Public Hearing and attended by Community Representatives from Grise Fiord, the following key issues were raised:²⁶

Table 1: Key Issues Raised By Community Representatives During The Community Session

Topic	Issues/Concerns/Comments
Monitoring	What are you monitoring for—just water quality or other things in terms of contaminants in the air or soil?
	Is there any monitoring of wildlife and the quality of meat around that area?
Mine Tunnels	For the tunnels that go under the ocean is there potential for seepage from above into the abandoned mine tunnels?

²⁵ Letter from M. Mohammed, Senior Environmental Assessment Coordinator, Environment Canada, Environmental Protection Operations Directorate, Prairie and Northern Region to P. Beaulieu, Manager of Licensing, NWB, dated November 7, 2014.

²⁶ Table 1 provides a general summary of the issues—the full transcript of questions and comments is available from NWB Public Hearing File No. 1AR-POL0311, Transcript, Community Session, December 4, 2014 accessible from the NWB’s ftp site at the following link (user name: public and password: registry) <<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-POL0311/2%20ADMIN/4%20HEARINGS/2%20HEARING/2011%20Amend%20Renew/141211%201AR-POL0311%20Community%20Session%20transcripts-IAAE.pdf>>.



Topic	Issues/Concerns/Comments
Tailings Impoundment	There is a Creek that goes down to the ocean from Garrow Lake (which contains tailings) – with Garrow Lake draining to the ocean if the tailings drain out into the Creek could contamination reach the ocean? Because tailings reaching the ocean would be a big issue because it could affect the wildlife along the creek, the fish in the creek and the fish or mammals in the ocean.
Wildlife effects	Have you heard from any residents of Resolute regarding the animals surrounding the mine site, have there been any effects identified, any abnormalities identified in any of the animals around the mine site?

It should be noted that with respect to both monitoring for the effects on wildlife and gathering samples from meat harvested in the area, as was identified during the Technical Meeting and was then re-iterated at the Public Hearing, the area surrounding the mine has not been known to be an area with abundant wildlife or significant harvesting activity:

Before the mine started, there were surveys done of the -- of the wildlife and discussions with the local hunters and trappers in Resolute, and that hasn't been a prime habitat for - - for caribou or other animals. Bears will pass through there, but there's -- it's not a prime hunting area. During the life of the mine, occasionally animals were seen, but they tended to pass through the area...

We have -- every year when we've gone up and done our sampling, we've always taken one of -- at least one of the residents from the community up with us so that they can see the site and see what we're doing and what we're sampling, and so I'm confident, if there were concerns or any issues like that, we would have heard about them from the community over the years, and we haven't, to my knowledge.²⁷

SECTION IV **JURISDICTION OF THE NWB**

Under Division 2 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*²⁸ (NWNSRTA) the NWB has jurisdiction to issue a licence,²⁹ amend a licence,³⁰ or in certain circumstances, cancel a licence.³¹ In exercising the Board's statutory functions

²⁷ B. Donald, Teck, NWB Public Hearing File No. 1AR-POL0311, Transcript, Community Session, December 4, 2014, pp. 33-34, lines 14-22 and lines 3-10.

²⁸ Sections 42-81 of the NWNSRTA.

²⁹ See ss. 42, 48, 55, 56, and 70 of the NWNSRTA.

³⁰ See s. 43(1)(b) of the NWNSRTA.

³¹ See s. 43(1)(c) of the NWNSRTA.



under the Nunavut Land Claims Agreement (NLCA) and the statutory regime governing the Board (the NWNSRTA and the *Nunavut Waters Regulations*), the NWB must be guided by the following objects:

... 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.³²

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,³³ 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 any applications considered by the NWB, the burden of proof rests with the Applicant, Teck, to demonstrate that the request for a renewed water licence should be granted and that the proposed amendments 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."³⁴

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 July 8, 2014 the Nunavut Planning Commission (NPC) provided the NWB with confirmation that the NPC's original Conformity Determination from 2002 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.

Environmental Assessment

³² See s. 35 of the NWNSRTA.

³³ This approach is consistent with the direction provided in Article 2, section 2.9.1 of the NLCA.

³⁴ Section 23.1 of the Nunavut Water Board "Rules of Practice and Procedure for Public Hearing" (May 11, 2005).



As outlined briefly in the section of this decision discussing the regulatory history of the file, as the Nunavut Impact Review Board (NIRB) had previously screened the original NWB Type “A” Water Licence renewal in 2002 and as this Application did not involve any substantive changes to the project proposal as originally screened, the NIRB confirmed in correspondence to the NWB on July 25, 2014 that further screening by the NIRB was not required³⁵ before the NWB could process the Application.

Inuit Water Rights

As the project is located wholly on Crown lands, there are no water user compensation requirements under s. 63(1) of the NWNSRTA.

Issues With Respect to the Limited Participation of Technical Experts from Government Agencies in Board Processes

The Board notes, with regret, that Environment Canada (EC) was unable to participate in the Public Hearing for this Application. In the past 12-18 months, on various files the NWB has received similar notifications from Environment Canada and other Federal Government authorities, such as the Department of Fisheries and Oceans Canada, identifying human and fiscal resource constraints as factors limiting the participation of these technical experts in the Board’s processes, particularly for meetings taking place in the communities.

The Board wishes to emphasize that while the NWB is all too familiar with the challenges created by human and financial constraints, the Board is also acutely aware of the Board’s obligations under the NLCA and the NWNSRTA to ensure that the Board’s processes allow for not only comprehensive technical review but also meaningful public engagement, particularly within the communities in Nunavut most likely to be affected by a proposed undertaking.

As stated in the Board’s November 14, 2014 response to the request by Teck and EC to reconsider holding an in person Public Hearing for this Application in the community of Resolute:

The Board regrets that Environment Canada has indicated they are unable to attend an in person Public Hearing in the community for the Renewal Application, however the convenience and resource constraints of a single intervener do not justify the Board ignoring the important considerations outlined in the Board’s Pre-Hearing Conference Decision that favor an in person Public Hearing.

³⁵ NLCA, Article 12, Section 12.4.3.



As noted in the Board's past decisions where limits on participation have been experienced, these limits on participation pose grave risks to the integrity, transparency and efficacy of the integrated regulatory process established under the NLCA:

...the lack of participation at the TM/PHC by both EC and by DFO is an issue of considerable concern for the NWB. The integrated regulatory system is premised on the assumption that parties with considerable expertise and experience with the technical matters before the Board will have sufficient resources to fulfill their mandates and provide meaningful contributions to the licensing process. This includes participating fully in the NWB's licensing processes, providing technical review comments and attending in person in the communities directly affected by water licence applications during technical meetings, pre-hearing conferences and public hearings.³⁶

Reflecting these concerns, the Board urges all participants when allocating scarce resources to recognize the essential role that in-person meetings in communities play in a participatory and inclusive licensing process. Although the Board does have the jurisdiction to compel the attendance of required witnesses during a Public Hearing,³⁷ the Board hopes that, in future, appropriate participation of technical experts will be supported without the need to resort to such measures.

SECTION VI DECISION TO ISSUE

On the basis of the Application, supporting documents, technical review comments received by the Board and information provided at the Public Hearing held in respect of this Application and for reasons that follow, the NWB Panel, P12 by Motion Number: 2014-25-P12-03 has decided to issue a renewed and amended Type "A" Water Licence to the Applicant to replace Water Licence No. 1AR-POL0311 (the Expired Licence) subject to the terms and conditions as described further in this decision.³⁸ It is the Board's view that the renewed and amended Licence No. 1AR-POL1531 (the Renewed and Amended Licence) contains the terms and conditions necessary to protect the environment, conserve the water resources, and provide appropriate safeguards in respect of the remaining long-term monitoring and any associated reclamation and remediation measures that may be required to address residual impacts.

³⁶ Nunavut Water Board – PHC Decision 3AM-GRA1015 Type "A" – Licence Amendment Application, January 28, 2014 at p. 13.

³⁷ See s. 54 of the NWNSRTA and ss. 4-5 of the *Federal Inquiries Act*, R.S.C. 1985, c. I-11.

³⁸ The licence will be issued under separate cover as 1AR-POL1531 subject to the approval of the Minister under section 56 of the NWNSTRA.



Conditions for Issuance of a Licence

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

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.

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.

Under Part B, Item 2 of the Expired Licence, Teck was required, and posted \$3,539,000 for potential closure and reclamation liabilities. In the Application, Teck sought a reduction of reclamation security to \$1,324,000. In technical review comments, AANDC questioned whether the reduced amount would be sufficient, particularly in light of the long term of the licence and the potential for inflation to reduce the value of the security posted over time.

At the Public Hearing, Teck conceded that:



In our original application, we proposed the reclamation security be established at \$1.324 million, and through our discussions with Aboriginal Affairs, we've agreed to accept their submission that the security is set at \$1.565 million...
So we're in agreement with that number.³⁹

On this basis, the Board accepts that the security requirements under the Expired Licence should be amended in the Renewed and Amended Licence as agreed to by Teck and AANDC. The amount of security required to be posted will be \$1,565,000 and can be found under Part C, Item 1. The Board also notes that, as is typical for most Type "A" licences, if monitoring data indicates that additional security is required to support additional monitoring, reclamation or remediation that was not included in the security assessment supporting the Application, the Board may, upon notice, revisit the security amount fixed by the Board at this time.

Compensation of Existing or Other Users

The NWNSRTA requires that the NWB be satisfied that compensation of existing or other water users affected by the Application has been or will be paid.⁴⁰ To ensure that all parties with the potential to bring a water compensation claim have been notified of their rights under the NWNSRTA, the NWB provides, in the Notice of Application, an invitation to parties with water user compensation issues to advise the NWB regarding such issues. Notice of the Application in accordance with s. 55 of the NWNSRTA was issued by the Board on July 4, 2014 and the NWB confirms that no representations regarding compensation were made to the 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 No. 1AR-POL1531 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 NWNSRTA⁴¹ and associated regulations.⁴²

³⁹ B. Donald, Teck, NWB Public Hearing File No. 1AR-POL0311, Transcript, Public Hearing, December 4, 2014, p. 29, lines 6-11.

⁴⁰ See ss. 58-60 of the NWNSRTA.

⁴¹ See s. 48 of the NWNSRTA.

⁴² *Nunavut Waters Regulations*, SOR/2013-69, April 18, 2013.



Assumptions

When faced with choices regarding monitoring requirements such as standards, parameters and monitoring frequency established under the Licence, the NWB has opted to maintain stringent monitoring requirements in an effort to ensure that the Polaris Mine site does not pose a risk of harm to the environment and that Teck continues to meet 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. Teck filed an Application which complied with the NWB's Rules, accompanied by the fees required by regulation including the application fee and water use fees. In addition, Teck has provided the necessary application and supplementary information required to evaluate whether the renewed and amended licence should be granted and also to assess whether the amendments to the Expired Licence requested by the Applicant are reasonable and consistent with the objects of the Board as established under the NLCA and the NWNSRTA.

Application to Amend or Application for Future Modifications

In relation to future applications to amend or modify the post-closure monitoring activities proposed by Teck and associated reclamation and remediation measures that may become necessary, the NWB reminds Teck that it must comply with all requirements of the NLCA⁴³ and NWNSRTA⁴⁴ where applicable. In particular, the Board notes that the scope of the Renewed and Amended Licence does not authorize the use of Water (other than for the purpose of sampling Water to support approved monitoring) or the deposit of waste, and as such if mitigation measures requiring water use or waste deposit become necessary, the Licensee will be required to seek an amendment prior to undertaking these activities.

Assignment of a Licence

In future, should Teck 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

⁴³ See Article 12, Clause 12.4.3 (b) of the NLCA.

⁴⁴ See s. 43 of the NWNSRTA.



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, as outlined by the NWB in the Board’s correspondence fulfilling Commitment #2 outlined in the Pre-hearing Conference Decision Report,⁴⁵ 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 at any time when the NWB considers the cancellation to be in the public interest. For the NWB to consider an application for the 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 years. The Applicant has applied for a term of 17 years (originally 2014-2031). This term reflects that, assuming that the long term monitoring program indicates continued site stability the last monitoring event is proposed to take place in 2029 and there would then be a period of approximately 12-18 months for Teck to summarize all data, provide a form of close out reporting and allow for the water licence enforcement authority (currently AANDC) to undertake any follow up inspections or other forms of verification prior to the expiry of the term in January 2031.

Although the Board is typically hesitant to issue licences for terms approaching 25 years given the uncertainties and contingencies that may arise for active operations over a longer term, in this case, monitoring to date has indicated that the site has remained largely stable and no active reclamation activities are currently required to limit the environmental risks at the site. Given that this stage of the Licence contemplates only very long-term post-closure monitoring on a decreasing frequency, the Board views this as an appropriate case to grant the Renewed and Amended Licence for the full term requested by the Applicant.

⁴⁵ Appendix D to the NWB PHC Decision 1AR-POL0311 Type “A” – Application for Renewal and Amendment, August 29, 2014



The NWB is satisfied that, given the significantly reduced monitoring frequency under the Renewed and Amended Licence, that the full term (now 2015-2031) requested by Teck is appropriate and may be necessary to ensure the completion of all post-closure monitoring and reporting, to demonstrate that the Polaris mine site has been abandoned and fully reclaimed. In addition, the NWB in deciding the suitability of the term of the licence, also took into consideration interveners' comments, the nature of the undertaking, and Teck's compliance history.

SECTION VII **WATER LICENCE NO. 1AR-POL1531 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.⁴⁶ As indicated in Section VI, the Panel has decided to issue a renewed and amended Type "A" Water Licence No. 1AR-POL1531, 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 Polaris Mine long-term monitoring and associated remediation, for which this Licence is issued, is classified as an Industrial undertaking in accordance with Schedule 1, Item 1 of the *Nunavut Waters Regulations*.⁴⁷ The general scope of the Licence includes the following activities and/or facilities:

- a sixteen (16) year renewal of Licence No. 1AR-POL0311, to allow for post-closure monitoring and any associated remediation measures at the former Polaris Mine site;
- Post-Closure long term Monitoring at site including but not limited to:
 - geotechnical monitoring; and
 - water quality and effluent monitoring.

⁴⁶ 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.

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.

⁴⁷ SOR/2013-69.



The Licensee has indicated that no water use or waste disposal will be necessary under the Project except for the purpose of sampling, and in accordance with the monitoring requirements established in the Renewed and Amended Licence. Also, the Applicant has clarified that unless monitoring results indicate further actions are necessary, monitoring is the only activity expected to occur on-site for the duration of the licence term.

Post-closure monitoring will be conducted by Teck and verified by AANDC. The primary purpose of the monitoring will be to continue to provide information which confirms that the four closure principles are met: 1) physical stability; 2) chemical stability; 3) there are no long-term active care requirements; and 4) the actual condition does not represent any restriction on the future use of the site (including aesthetics and values).⁴⁸

The Licensee continues to be accountable for the condition of the site for the duration of the Licence, and is responsible to undertake any remaining reclamation, remediation or other impact mitigation activities that may be required if monitoring identifies impacts or potential for environmental impacts resulting from the former mine or associated infrastructure.⁴⁹ If monitoring or inspection activities identify potential for impacts or actual impacts, the Board may require the Licensee to undertake additional activities at the site. Depending on the nature of the reclamation, remediation or other impact mitigation measures required, the Licensee or the Board may revisit the scope of the Renewed and Amended Licence to include any specific water use or waste deposits associated with these activities.

The type of activities intended to address the potential impacts from licensed undertakings may be referred to as “restoration,” “rehabilitation,” “remediation,” “reclamation,” etc. These terms are often used interchangeably in practice, but their definitions vary by authorizing and implementing agencies. For the purposes of the Renewed and Amended Licence, the Board adopts the terminology provided by the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT (the Guidelines)*⁵⁰ which uses the following definitions:

⁴⁸ *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT*, Mackenzie Valley Land and Water Boards and Aboriginal Affairs and Northern Development Canada, (MVLWB/AANDC: Yellowknife, 2013) available on-line:

http://mvlwb.com/sites/default/files/documents/wg/WLWB_5363_Guidelines_Closure_Reclamation_WR.pdf

⁴⁹ *Mine Site Reclamation Policy for Nunavut, 2002*, 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.

⁵⁰ MacKenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada, (MVLWB/AANDC: Yellowknife, 2013) available on-line at:



“Reclamation” is the process of returning a disturbed site to its natural state or one for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety.

“Remediation” is the removal, reduction, or neutralization of substances, wastes or hazardous material from a site in order to prevent or minimize any adverse effects on the environment and public safety now or in the future.

Reflecting these definitions and the Board’s mandate to protect Nunavut’s freshwater systems and dependent ecosystems for future generations, the terms and conditions included in the Renewed and Amended Licence are designed to ensure that the potential for environmental impacts associated with the former Polaris Mine both now and in the future are monitored and, if necessary mitigated. The Board notes that at present there are no terms and conditions specifying reclamation or remediation activities under the Renewed and Amended Licence. This reflects the fact that post-closure monitoring to date has not identified impacts that require the adoption of reclamation or remediation activities. However, if in future, monitoring under the Renewed and Amended Licence, inspections by Aboriginal Affairs and Northern Development Canada or other information is presented to the Board that indicates potential impacts associated with the licensed undertaking are occurring, the Board may consider amendments to the Renewed and Amended Licence to include requirements associated with specific reclamation or remediation activities

Enforcement and Compliance

For the purpose of ensuring compliance with the Licence, an Inspector designated by the Minister of AANDC may inspect or examine works, waters or waste and exercise other powers according to the NWNSRTA.⁵¹ The NWNSRTA also includes provisions authorizing the NWB to require a licensee to furnish and maintain security and prescribing serious penalties for breach of the licence.⁵² Investigations or inspections to support enforcement and compliance are carried out by persons designated and empowered by the Minister.⁵³

The Board also points out to Teck 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.”

http://mvlwb.com/sites/default/files/documents/wg/WLWB_5363_Guidelines_Closure_Reclamation_WR.pdf
at pp. 8-9.

⁵¹ Sections 85-94 of the NWNSRTA.

⁵² Section 90 of the NWNSRTA.

⁵³ Section 85-88 of the NWNSRTA.



Part B: General Conditions

Reports and/or Plans Filed with the NWB

The following Programs have been filed by the Applicant along with the Application:

- *Proposed Long Term Geotechnical Monitoring Program, Former Polaris Mine Site, Nunavut, dated May 28, 2013;*
- *Long Term Monitoring Program of Garrow Creek, Polaris Mine, Nunavut, dated April 4 2013;*

The Board has approved the *Long Term Geotechnical Monitoring Program, Former Polaris Mine Site, Nunavut*, however, the Licensee is required to submit to the Board for approval in writing, an update (Plan) to the report *Long Term Monitoring Program of Garrow Creek, Polaris Mine, Nunavut*, dated April 4 2013, to reflect the amended terms and conditions in the Renewed and Amended Licence and the current phase of the undertaking.

In addition to the above, Teck is required to submit to the NWB for approval within six months of the Licence issuance a Quality Assurance/Quality Control Plan that includes requirements for sampling and analysis. The Board notes that given the limited levels of activity on the site (associated only with very brief attendance on site to carry out sampling on a very periodic basis) the NWB no longer requires the filing of a Spill Contingency Plan with the Board. Instead, the Board has added general spill control terms and conditions into the Renewed and Amended Licence that will govern all activities at the site in future monitoring.

Teck 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 Renewed and Amended 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 the 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 Teck. Based on representation made to the NWB, and the current stage of the project, the NWB has decided to allow for the financial security under the Renewed and Amended Licence to be reduced to \$1,565,000. This security amount reflects the estimated amount required to conduct the post-closure monitoring and remaining current mine reclamation liability. The Renewed and Amended Licence recognizes that the Board may modify the amount of security, upon application from the Licensee to reduce the amount of security and also may, upon the submission of any party or the upon the Board's initiative increase the amount of security to reflect updated estimates of mine reclamation liability.

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.



Review of the Amount of Security

Under the *NWNSRTA* the NWB may also include conditions of a licence where it considers this 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*.⁵⁴

Part D: Conditions Applying to Water Use

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

As the Applicant has indicated that no water use (other than taking of a minimal amount of water during the water sampling supporting the site monitoring program) is required for the completion of the post-closure monitoring under the Renewed and Amended licence, no further terms and conditions associated with the use of Water are included in Licence No. 1AR-POL1531. If water use, other than that required for limited sampling becomes necessary by the Licensee during the term of the Renewed and Amended Licence, an amendment to this section would be required.

Part E: Conditions Applying to Waste Management

As the Applicant has indicated that no active waste deposit will take place during the completion of the post-closure monitoring under the Renewed and Amended licence, the focus of the terms and conditions associated with waste deposit included in Licence No. 1AR-POL1531, set out the effluent criteria that must be met for all Mine Water. A revised Effluent quality limits table (Table 1) is included to reflect the reduced monitoring frequency requirements under the Renewed and Amended Licence, removing the average and grab sample criteria as they no longer are relevant with the decreased monitoring activity. Effluent quality limits are generally consistent with the Metal Mines Effluent Regulations and the Canadian Council for Ministers of the Environment, Water quality guidelines for the protection of aquatic life, where applicable. General terms and conditions relating to Hazardous Waste management and transportation are also included.

⁵⁴ 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.



Part F: Conditions Applying to Modifications

Although the provisions of Part F, Item 1 do allow for the Applicant to carry out certain types of “modifications” (as defined in the Licence) without consent from the Board, it should be noted that pursuant to Article 12 and Clause 12.4.3⁵⁵ of the NLCA and as set out in Part F, a proposed modification submitted under this Licence may require a screening determination by the NIRB. It is the responsibility of the Licensee to notify and consult with NIRB to ensure the requirements of Article 12 of the NLCA are met prior to submitting a notification of modification to the NWB under the Licence.

Further, Teck is required to obtain permission from the NWB for modifications that do not meet the criteria of Part F, Item 1. Without written consent from the NWB, the Applicant is not allowed to carry out modifications. Changes that do not meet the definition of modification under the Licence or the requirements of Part F would be considered to be amendments to the Licence and would be subject to a Type “A” water licence amendment process, including a public hearing as required by the NWNSRTA.

Part G: Conditions Applying to Emergency Response and Spill Contingency Planning

The development and implementation of measures to respond to spills and other emergencies are fundamental to ensuring that any potential undesired effects that certain Project activities might have on the receiving environment are prevented and/or minimized. Accordingly, the Board has included under Part G of the Water Licence general conditions applying to Emergency Response and Spill Contingency Planning.

Although the Board recognizes that active operations will not be taking place at the site, as there will be personnel on-site for the inspection and monitoring activities required over the term, the Licensee is required to ensure that all on-site activities comply with the general terms and conditions included in this section of the Renewed and Amended Licence.

⁵⁵ 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 H: 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*.⁵⁶ 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.⁵⁷ For the purpose of monitoring, the NWB may include conditions in the licence regarding monitoring programs to be undertaken.⁵⁸ 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.

Suggested closure and reclamation planning and reporting requirements through the life of a mine are outlined in the document *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT (the Guidelines*⁵⁹). As set out in the *Guidelines*, after the permanent closure of a mine and when reclamation activities are finalized, a post-closure monitoring period is recommended. Following this initial post-closure monitoring period, the post-closure monitoring may be extended at the discretion of regulators. The *Guidelines* note that this longer-term post-closure monitoring will likely be required for projects, where some individual components may remain at site in perpetuity, such as mine tailings, underground structures, etc., which must be further monitored to ensure stability and full reclamation.

Operations at the Polaris Mine ceased in 2002, mine closure and reclamation activities concluded in 2004 and the initial post-closure monitoring was conducted by Teck from 2005 through 2011. Results from the post-closure monitoring by Teck as well as AANDC Inspector's Reports demonstrate that no significant environmental impacts that would warrant immediate remediation or reclamation activities have been identified at the site. These results are confirmed by the recent AANDC Inspector's Report and the geotechnical investigation conducted by Teck in 2014.

In the Application for the Renewal and Amendment, the Licensee provided a report prepared by Azmith Consulting Group Partnership, April 4, 2013, regarding "Long-Term Monitoring Program of Garrow Creek, Polaris Mine, Nunavut". In general, the NWB and

⁵⁶ 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.

⁵⁷ See ss. 85-94 of the NWNSRTA.

⁵⁸ See s. 70(1)(c) of the NWNSRTA.

⁵⁹ (MVLWB/AANDC: Yellowknife, 2013) at pp. 8-9.



interveners have accepted the principals and recommendations of the report. With the issuance of the Renewed and Amended Licence, the Board has requested, under Part H, a plan be developed for the long-term monitoring of the limnology, water quality and effluent entering Garrow Creek, based on the recommendations of the report and comments received during the application process. The proposed monitoring program is to include changes to the previous monitoring program (geotechnical and water quality / effluent) regulated under the Expired Licence No. 1AR-POL0311. The changes proposed in the Application involve:

- Changes to monitoring and reporting frequencies;
- Changes to geotechnical monitoring; and
- Changes to water quality/ effluent monitoring.

General

In 2008, the Department of Indian and Northern Affairs Canada (as it was then known) (now AANDC), Contaminated Site Program proposed a methodology for assessing abandoned sites, and providing guiding principles for their remediation in a guidance document entitled “Abandoned Military Site Remediation Protocol”⁶⁰ (the Protocol). Under the Northern Contaminated Sites Program (CSP), AANDC manages a number of contaminated properties abandoned by previous occupants of the land, and through the expertise gained by managing these sites, the CSP developed best practices that were outlined in the Protocol.

The Protocol presents a best practices monitoring program for landfills remediated and/or constructed during the cleanup of Distant Early Warning (DEW) Line sites. Conceptually, the Protocol identifies three monitoring phases that could apply to long-term monitoring. Teck has proposed the Board adopt the first two phases for the former Polaris Mine, presented as follows:

- Phase I: to confirm equilibrium conditions and stability are achieved. During Phase I, monitoring will occur over a period of five years.
- Phase II: verification of equilibrium conditions established during Phase I. The monitoring frequency will be reduced from Phase I and be carried out according to the following schedule: Year 7, Year 10, Year 15, and Year 25. Year 25 would mark the end of Phase II monitoring.
- At the end of Phase II, (25 years after implementation of the remedial actions for a given site), the Protocol proposes a re-evaluation be carried out prior to initiating

⁶⁰ Volume I, Main Report (INAC, Northern Affairs Organization, Contaminated Sites Program: Ottawa, 2008), available on-line: http://www.nwb-oen.ca/sites/default/files/cms_uploads/techguides/090703-08DN082-Abandoned%20Military%20Site%20Remediation%20Protocol-IMAE.PDF.



Phase III, as the Protocol notes that it is difficult to make environmental predictions for periods beyond 25 years.

The Board agrees that the Protocol provides useful guidance regarding the type of long-term post-closure monitoring for industrial/mining undertakings. In keeping with the Phases outlined in the Protocol, the Board recognizes that 2004, the first year of long-term monitoring at the Polaris Mine, can be adopted as the beginning of the Phase I monitoring described in the Protocol. Likewise, 2011 can be viewed as marking the beginning of the Phase II monitoring period described in the Protocol (Year 7). On this basis, the subsequent monitoring proposed by Teck in 2014, 2019 and 2029, is thus consistent with the schedule presented under the Protocol.

In accepting the monitoring frequency as proposed in the Application, the Board also recognizes that Environment Canada (EC) has expressed its support of the proposed schedule,⁶¹ and that EC was also satisfied that Teck had continued with the proposed schedule by performing monitoring duties in 2014 (year 10). Consequently, the Renewed and Amended Licence adopts the proposed monitoring frequency for the former Polaris Mine Site, in which monitoring activities will occur, as proposed, in the years 2019 and 2029. It is important to note however, that provisions in the Renewed and Amended Licence allow for the Board to impose additional monitoring requirements if evidence is provided to the Board that it is in the public interest to increase the frequency or extent of monitoring under the Renewed and Amended Licence.

Reflecting this revised monitoring frequency as incorporated into the Licence, the Board has also included general conditions under Part B of the Renewed and Amended Licence, that require Teck to provide reports of the monitoring activities in the year after monitoring occurs. Consequently, the last monitoring which is scheduled to take place in 2029, will be reported in 2030, approximately one year prior to the expiry of the Renewed and Amended Licence.

Limnology, Water Quality and Effluent Monitoring

Garrow Lake is a small (4.2 km²) high Arctic lake situated on Little Cornwallis Island. The Lake is permanently stratified both chemically and thermally (i.e. meromictic), with a brackish surface water layer extending to about 10 m depth which is completely separated from a deep (10-40 m) hypersaline bottom layer.

⁶¹ Letter from M. Mohammed (EC) to NWB Ref: Licence No. 1AR-POL0311; Type “A” – Former Polaris Mine Long Term Monitoring, Little Cornwallis Island Project, Renewal/Amendment Application by Teck Resources Ltd. – Notice of Application and Commencement of Technical Review, on August 1, 2014.



Garrow Lake was classified as a “Tailings Disposal Facility” under Schedule 2 of the *Metal Mining Effluent Regulations* (MMER) in place during the mine’s operations, which authorized the use of Garrow Lake as a repository for tailings during mine operations (between 1981 and 2002). On this basis, mine tailings were deposited into the bottom of Garrow Lake. According to the MMER, Garrow Creek, which is the discharge of Garrow Lake to the Ocean is defined as “effluent” under the MMER and is to be managed according to the applicable requirements of that Regulation.⁶² Teck has collected physical, limnological, chemical and toxicological data covering a period of 10 years of post-closure monitoring at Garrow Lake and Garrow Creek, in accordance with the MMER and the Expired Licence No. 1AR-POL0311.

On July 27, 2006, Environment Canada (EC) accepted Teck’s Final Environmental Effects Monitoring Interpretive Report and confirmed that the mine has no further obligations under the MMER. Given the consistently stable monitoring results obtained during the field monitoring of Garrow Lake and Garrow Creek, showing no significant on-going environmental impacts, Teck proposed a reduction in monitoring requirements from the Expired Licence, as outlined under the report “*Long Term Monitoring Program of Garrow Creek, Polaris Mine, Nunavut*”. In this Program the Applicant proposed a significant number of changes to the former Water Quality / Effluent Monitoring Program such as:

- the removal of some monitoring parameters (cyanide, nitrate, nitrite and ammonia, and radium 226);
- the removal of some monitoring stations (reference stations and receiving environment monitoring station), changes in the monitoring schedule of Garrow Creek (already discussed); and
- a reduction in the vertical limnology and chemistry monitoring of Garrow Lake, which, as proposed, would be limited to collecting data in Year 25 (2029).

In its August 1st 2014 submission, Environment Canada (EC) agreed with the provided rationale for the proposed removal of cyanide, nitrate, nitrite and other nutrients, and radium 226. Similarly, EC also agreed in principal that it is not necessary to monitor the historic Garrow Bay and reference locations. Also, EC noted that the proposed schedule for post-closure monitoring, i.e. Phase 1 from Years 1-5 and Phase 2 during Years 7, 10, 15 and 25 is in line with other northern projects. However, EC did not support the proposed reduction in vertical limnology and chemistry monitoring of Garrow Lake, expressing concern that this reduction would result in an 18-year gap in monitoring results; specifically stating:

⁶² *Metal Mining Effluent Regulations*, SOR /2002-222.



In addition to the proposed sampling at Year 25 (2029), EC recommends that vertical limnology and chemistry monitoring of the Garrow Lake centre location are also be conducted in Year 10 (2014) and Year 15 (2019), in step with the schedule proposed for Garrow Creek water quality.

Furthermore, on October 17, 2014 Teck submitted its 2014 Post Closure Monitoring Report,⁶³ presenting the results of the 2014 Geotechnical Inspection carried out by Golder and water sampling of Garrow Creek conducted in September 2014. In the submission cover letter, Teck states that:

Water quality results and geotechnical results were discussed with EC and AANDC by teleconference on October 14, 2014. Teck is pleased to report that all Parties were satisfied with the findings and in combination with the reconfirming Teck's commitment to add Garrow Lake vertical limnology to the 2019 monitoring program. The Parties are in agreement on the monitoring program, frequency and the licence term.

Finally, in their final submissions, EC⁶⁴ and AANDC⁶⁵, both expressed their satisfaction with the findings of the 2014 Inspection and the adequacy of the monitoring frequency.

Although the "*Long Term Monitoring Program of Garrow Creek, Polaris Mine, Nunavut (Azimuth, 2013)*" provided the details for the proposed continued monitoring of Garrow Lake and Garrow Creek, the information was presented as a report with recommendations and proposed monitoring. As such, the Board will require the submission of a detailed plan, taking into account the proposed monitoring, recommendations and comments received during the technical review and Public Hearing. Additionally, the Board has included other applicable terms and conditions in the Renewed and Amended Licence to be included in a submitted plan

Geotechnical Monitoring

Under the Expired Water Licence No. 1AR-POL0311, Teck conducted annual post-closure site geotechnical inspections from 2005 until 2011, with each inspection lasting two to

⁶³ Letter from B. Donald Teck to NWB, Re: Technical Meeting Commitment #1 - Submission of 2014 Post Closure Monitoring Report, and Response to the Nunavut Water Board Pre-Hearing Conference Decision, on October 17, 2014.

⁶⁴ Letter from M. Mohammed to the NWB, Re: Type "A" Water Licence No. 1AR-POL0311; Former Polaris Mine Long Term Monitoring, Little Cornwallis Island Project, Renewal/Amendment Application by Teck Resources Ltd. – Notice of Public Hearing, on November 7 2014.

⁶⁵ Memorandum from I. Parson, AANDC to the NWB, 1AR-POL0311 – Technical Review Memorandum for Water Licence Renewal/Amendment – Polaris Mine Property – Teck Metals Ltd. (Teck), on November 7, 2014.



three days. Reflecting the stable results reported in these previous geotechnical inspections, the Applicant proposed future geotechnical inspections be reduced in number for the course of the Renewed and Amended Licence, to inspections in 2014, 2019 and the final inspection occurring in 2029.

Further changes to the Geotechnical Monitoring Program proposed in the Application include a reduction in the number of areas to be monitored, a reduction in the duration of the inspections, and a change in the inspection methodology. According to the revised Geotechnical Monitoring Program proposed under the Application, the following areas⁶⁶ will be inspected:

- Ground surface area over underground mine workings (by foot);
- Operational Landfill (by air);
- Little Red Dog Quarry Landfill (by air);
- Mine Portals (by air);
- Garrow Lake wave break structure and breached dam (by air); and
- Marine foreshore adjacent to the former dock (by air).
- Each inspection should take two to three hours to perform.

AANDC indicated that the geotechnical monitoring schedule was sufficient,⁶⁷ but stipulated that the Board should retain the authority to impose new geotechnical monitoring requirements if it is subsequently determined, on the basis of credible evidence, that it is reasonable to require changes to the schedule or program.

In consideration of external comments and its own comprehensive review, the Board has approved the Geotechnical Monitoring Program for the Former Polaris Mine Site (Golder, 2013) with the issuance of Licence No. 1AR-POL1531. The Board reserves the right to request changes to the Geotechnical Monitoring Program, should the Board receive evidence to indicate that it is in the public interest to do so.

Part I: Conditions Applying to Abandonment, Reclamation and Closure

The closure and reclamation activities for the site have been completed since 2004. The Licensee initiated the post-closure monitoring program in 2005 and plans to continue doing so until 2029. The Board has included conditions under Part I, where the Licensee is

⁶⁶ Proposed Long Term Geotechnical Monitoring Program, Golder Associates, 2013

⁶⁷ Memorandum from I. Parson (AANDC) to NWB, Re: 1AR-POL0311 – Technical Review Memorandum on Additional Information for Water Licence Renewal/Amendment – Polaris Mine Property – Teck Metals Ltd. (Teck), on Nov 7, 2014.



required to remove all equipment and any materials at site associated with the project, upon completion of the Monitoring Program and prior to the expiry of the licence.



APPENDIX A – Agendas for Public Hearing and Community Session

AGENDA: Public Hearing

Licence No. 1AR-POL0311, Type “A”
Renewal/Amendment

December 4-5, 2014 – Resolute Bay Recreation Hall
(venue changed to South Camp Conference Room)
8:30 a.m. – 5:00 p.m. (Daily)

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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-POL0311, Type “A” Renewal/Amendment

December 4, 2014 – Resolute Bay Recreational Hall
(venue changed to South Camp Conference Room)

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 Tech Resources Limited of the Renewal Amendment Application before the Board for Type “A” Water Licence No. 1AR-POL0311 (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; and
 10. Closing Prayer.



APPENDIX B—Exhibit List

Exhibit	Exhibit Description	Date	From
1	Hard Copy PowerPoint Presentation Former Polaris Mine Application for Renewal of Water Licence No. 1AR-POL0311 for Supplemental Long Term (Monitoring) (English)	December 4, 2014	Teck Resources Ltd.
2	Hard Copy PowerPoint Presentation Former Polaris Mine Application for Renewal of Water Licence No. 1AR-POL0311 for Supplemental Long Term (Monitoring) (Inuktitut)	December 4, 2014	Teck Resources Ltd.
3	Hard Copy PowerPoint Presentation Review of Teck Resources Ltd. 1AR-POL0311 Renewal and Amendment Application Nunavut Water Board Public Hearing, December 4, 2014 (English and Inuktitut)	December 4, 2014	Aboriginal Affairs and Northern Development Canada
4	Hard Copy Executive Summary Water Licence 1AR-POL0311 Polaris Mine Site Teck Resources Ltd. Qikiqtani Region, Nunavut (English)	December 4, 2014	Aboriginal Affairs and Northern Development Canada
5	Hard Copy Executive Summary Water Licence 1AR-POL0311 Polaris Mine Site Teck Resources Ltd. Qikiqtani Region, Nunavut (Inuktitut)	December 4, 2014	Aboriginal Affairs and Northern Development Canada
6	Hard Copy PowerPoint Presentation NWB Community Session Presentation for Type “A” Licence 1AR-POL0311, Renewal Application Former Polaris Mine, NU (English)	December 4, 2014	Nunavut Water Board
7	Hard Copy PowerPoint Presentation NWB Community Session Presentation for Type “A” Licence 1AR-POL0311, Renewal Application Former Polaris Mine, NU (Inuktitut)	December 4, 2014	Nunavut Water Board



APPENDIX D – List of Submissions and Correspondence

Application Submissions:

1. Cover letter and initial submission of Renewal application for water licence by Teck Resources Inc., dated August 31, 2008.

File Submissions & Correspondence:

1. Letter to Phyllis Beaulieu, Manager of Licensing NWB dated October 17, 2011 from Bruce Donald, Teck Metals Ltd. Re: Expiry of Licence No. 1AR-POL0311-Polaris Mine
2. Email to Phyllis Beaulieu, Manager of Licensing NWB dated December 5, 2011 from Bruce Donald Teck Resources Ltd. Re: Extension Accepted
3. Email to Phyllis Beaulieu, Manager of Licensing NWB dated December 7, 2011 From Teck Resources Ltd. Re: Request for Extension Granted
4. Email to Damien Cote, Executive Director NWB dated December 7, 2012 From Murray Ball AANDC Re: AANDC to TC Advice on Long term monitoring plan
5. Email to Phyllis Beaulieu, Manager of Licensing NWB dated July 5, 2013 from Bruce Donald, Teck Resources Ltd. Re: Require status update on renewal
6. Letter to Dave Hohnstein, Director of Technical Services dated December 31, 2013 from Bruce Donald, Manager Teck Resources Ltd. Re: Former Polaris Mine Long Term Monitoring Program. Application to renew and amend Teck Metals Ltd.'s Water Licence 1AR-POL0911 as a Type "A"
7. Letter to Bruce Donald, Teck Resources Ltd. Dated September 8, 2011 from Phyllis Beaulieu, Manager of Licensing NWB. Re: Licence Expiry 1AR-POL0311- Polaris Project
8. Letter to Distribution list from Dionne Filiatrault, Executive Director NWB, dated November 17, 2011 Re: Request for Comments from Parties Regarding Licensee's Proposed Approach to Expiry of Licence No. 1AR-POL0311
9. Email to Bruce Donald, Teck Resources Ltd. dated December 5, 2011 From Phyllis Beaulieu, Manager of Licensing Re: Comment Deadline Extended
10. Email to Bruce Donald, Teck Resources Ltd. dated December 5, 2011 from Phyllis Beaulieu, Manager of Licensing NWB Re: Request for Extension to comments
11. Email to Bruce Donald, Teck Resources Ltd. dated November 28, 2012 from Phyllis Beaulieu, Manager of Licensing NWB Re: Renewal Application Requirement
12. Email to Bruce Donald, Teck Resources Ltd. dated June 26, 2013 from Phyllis Beaulieu, Manager of Licensing NWB Re: Require Status Update on Renewal



13. Email Cover Letter to Phyllis Beaulieu, Manager of Licensing NWB, dated August 31, 2013 from Bruce Donald, Teck Resources Ltd. Re: Polaris Mine- Application for Type B Water Licence
14. Letter to Bruce Donald, Teck Resources Ltd. dated September 13, 2013 from Megan Porter, Licensing Administrator Assistant NWB Re: Acknowledgement of Receipt of Application Fee and Water Use Fee Deposit for Renewal Amendment Water Licence Application-Polaris Mine
15. Email to Phyllis Beaulieu, Manager of Licensing NWB, dated September 24, 2013 from Ian Parsons Regional Coordinator AANDC Re: AANDC email response
16. Letter to Bruce Donald, Teck Resources Ltd. dated October 21, 2013 from Damien Cote, Executive Director NWB Re: Renewal of Water Licence No. 1AR-POL0311(Reclamation and Post-Closure Monitoring of the Polaris Mine Site)
17. Email to Bruce Donald, Teck Resources Ltd. dated October 22, 2013 from Megan Porter Licensing Administrator Assistant NWB Re: Email Receipt of NWB Response
18. Email to Ian Parsons, Regional Coordinator AANDC dated December 10, 2013, from Megan Porter, Licensing Administrator Assistant NWB, Re: Status of Polaris Amendment/Renewal
19. Letter to Bruce Donald, Teck Resources Ltd. dated March 19, 2014 from Damien Cote, Executive Director NWB, Re: NWB Response to Application. Renewal of Water Licence No. 1AR-POL0311(Reclamation and Post-Closure Monitoring of the Polaris Mine Site)
20. Email to Bruce Donald, Teck Resources Ltd. dated May 7, 2014 from Sonia Aredes, Technical Advisor NWB Re: Polaris Water Licence Application Status
21. Letter to Bruce Donald, Teck Resources Ltd. dated May 8, 2014 from Phyllis Beaulieu, Manager of Licensing NWB, Re: Completeness Review of Renewal Amendment
22. Email receipt of Completeness Review dated May 8, 2014 from Megan Porter Licensing Administrator Assistant, NWB
23. Letter to Bruce Donald, Teck Resources Ltd. dated July 3, 2014 from Damien Cote, Executive Director, NWB, Re: Licence No. 1AR-POL0311; Type "A"- Former Polaris Mine Long Term Monitoring, Little Cornwallis Island Project, Renewal/Amendment Application By Teck Resources Ltd. – Notice of Application and Commencement of Technical Review
24. Email to Polaris Distribution, dated July 3, 2014 from Megan Porter, Licensing Administrator Assistant, NWB Re: 1AR-POL0311 Notice of Application and Commencement of Technical Review
25. Submission from AANDC Technical Meeting/Pre-hearing Conference in English dated August 8, 2014



26. Submission from AANDC Technical Meeting/Pre-hearing Conference in Inuktitut dated August 8, 2014
27. Appendix B, summary of Technical Review Submissions dated August 13, 2014
28. Appendix C, summary of Technical Review Submissions and Teck's response, dated August 13, 2014
29. Letter to Bruce Donald, Teck Resources Ltd. dated August 13, 2014 from Dave Hohnstein, Director of Technical Services, NWB Re: Licence Renewal TM-PHC Correspondence and Agenda
30. August 13, 2014 DRAFT Technical Meeting/Pre-Hearing Conference Agenda 1AR-POL0311 Type "A" Licence
31. Email to Robin Ikkutisluuk, Licensing Administrator Assistant, NWB dated August 14, 2014 from Michael Mohammed, Environment Canada Re: EC Confirmation of Attendance Pre-hearing Conference
32. Submission from Environment Canada to NWB, Pre-Hearing Conference in English, dated August 14, 2014
33. Submission from Environment Canada to NWB, Pre-Hearing Conference in Inuktitut, dated August 14, 2014
34. Letter to Phyllis Beaulieu, Manager of Licensing, NWB dated August 14, 2014 from Bruce Donald, Teck Resources Ltd. Re: Teck Technical Meeting Presentation and Response to Technical Comments
35. Letter to Polaris Distribution List dated August 15, 2014 from Damien Côté, Executive Director, NWB Re: 1AR-POL0311 Type "A" Former Polaris Mine Long Term Monitoring, Little Cornwallis Island Project, Technical Meeting and Pre-Hearing Conference, Final Agenda and List of Confirmed Participants
36. Technical Meeting/Pre-Hearing Conference Agenda, Inuktitut 1AR-POL0311 Type "A" Water Licence dated August 15, 2014
37. Technical Meeting/Pre-Hearing Conference Agenda, English, 1AR-POL0311 Type "A" Water Licence dated August 15, 2014
38. Technical Meeting/Pre-Hearing Conference Sign in sheet dated August 18, 2014
39. Email Receipt of Pre-Hearing Conference Report regarding the Renewal Amendment for the Polaris Mine Site dated August 29, 2014 from Megan Porter, Licensing Administrator Assistant, NWB
40. Letter to Polaris Distribution List dated August 29, 2014 from Damien Côté, Executive Director, NWB Re: Type "A" Water Licence No. 1AR-POL0311, Pre-Hearing Conference Decision Regarding Application for Renewal and Amendment



41. Letter to Phyllis Beaulieu, Manager of Licensing, NWB dated October 17, 2014 from Bruce Donald, Teck Resources Ltd. Re: Technical Meeting Commitment # 1- Submission of 2014 Post Closure Monitoring Report, and Response to the Nunavut Water Board Pre-Hearing Conference Decision
42. Email to Polaris Distribution list dated October 6, 2014 from Phyllis Beaulieu, Manager of Licensing, NWB, Re: Notice of Public Hearing
43. Notice of Public Hearing dated October 6, 2014 English
44. Notice of Public Hearing dated October 6, 2014 Inuktitut
45. Request to post notice to Nunatsiaq News from Robin Ikkutisluuk, Licensing Administrator Assistant, NWB dated October 6, 2014
46. Email to Polaris Distribution List from Phyllis Beaulieu, Manager of Licensing, NWB Re: Notice of Public Hearing and Timelines dated October 7, 2014
47. Email to NWB from Ian Parsons, Regional Coordinator, AANDC dated October 10, 2014 Re: AANDC Extension Request for the Public Hearing Presentations deadline
48. Email to NWB Licensing, Director Technical Services, Technical Advisor, Ben Kogvik, from Damien Côté, Executive Director, NWB, dated October 11, 2014 Re: Polaris Timelines and extensions
49. Email to Polaris Distribution List dated October 15, 2014 from Megan Porter, Licensing Administrator Assistant, NWB Re: Extension Request for Intervener Presentation Submission Deadline Granted
50. Email to Marty Kuluguqtuq, Assistant Senior Administrative Officer, Hamlet of Grise Fiord dated October 15, 2015 from Megan Porter, Licensing Administrator Assistant, NWB Re: Request for Representatives for the Polaris Mine Public Hearing
51. Submission from Teck Resources Ltd. Final 2014 Geotechnical Inspection report dated November 3, 2014
52. Letter to Bruce Donald, Teck Resources Ltd. dated November 3, 2014 from Darrin Johnson and Peter Merry, Associate Geotechnical Engineer, Golder Associates Ltd. Re: Clarification on Polaris Mine Post-Reclamation Geotechnical Inspection Schedule
53. Submission from AANDC dated November 7, 2014 Re: 1AR-POL0311 Technical Review Memorandum on Additional Information for Water Licence Renewal/Amendment-Polaris Mine Property, Teck Metals Ltd.
54. Submission from Environment Canada dated November 7, 2014 Re: Type "A" Water Licence No. 1AR-POL0311; Former Polaris Mine Long Term Monitoring, Little Cornwallis Island Project, Renewal/Amendment Application by Teck Resources Ltd. -- Notice of Public Hearing



55. Letter to Bruce Donald, Teck Resources Ltd. dated November 7, 2014 from Sonia Aredes, Technical Advisor, NWB Re: Technical and Administrative Review Annual and Quarterly Reports.
56. Submission by Teck Resources Ltd., ALS Environment 2006 Certificate of Analysis File No. X6417 dated July 4, 2006 and received by the NWB on November 14, 2014
57. Submission by Teck Resources Ltd., May 2008 Polaris Garrow Lake Hydrolab results dated May 27, 2008 and received by the NWB on November 14, 2014
58. Submission by Teck Resources Ltd., 2010 Final Polaris Geotechnical Inspection Report dated January 2011 and received by the NWB on November 14, 2014
59. Submission by Teck Resources Ltd., copy of May 3, 2004 SNP (analytical results) received by the NWB on November 14, 2014
60. Submission by Teck Resources Ltd., copy of Midwinter SNP (analytical results) received by the NWB on November 14, 2014
61. Submission by Teck Resources Ltd., copy of T9117 (water analysis results) received by the NWB on November 14, 2014
62. Submission by Teck Resources Ltd., copy of T9118 (water analysis results) received by the NWB on November 14, 2014
63. Submission by Teck Resources Ltd., copy of U3253 (water analysis results) received by the NWB on November 14, 2014
64. Submission by Teck Resources Ltd., copy of U3254 (water analysis results) received by the NWB on November 14, 2014
65. Submission by Teck Resources Ltd., copy of U3258 (water analysis results) received by the NWB on November 14, 2014
66. Submission by Teck Resources Ltd., copy of U3259 (water analysis results) received by the NWB on November 14, 2014
67. Submission by Teck Resources Ltd., copy of X6417 (water analysis results) received by the NWB on November 14, 2014
68. Letter to Polaris Distribution List from Ben Kogvik, Board Secretary/Acting Executive Director, NWB dated November 14, 2014 Re: Type "A" Water Licence No. 1AR-POL0311 Written Comments of the Nunavut Water Board Regarding Licensing of Undertaking Nearing the End of the Project Lifecycle
69. Letter to Polaris Distribution List from Ben Kogvik, Board Secretary/Acting Executive Director, NWB dated November 14, 2014 Subject: Response to Recent Correspondence Regarding form of Public Hearing



70. Letter to Phyllis Beaulieu, Manager of Licensing, NWB from Bruce Donald, Teck Resources Ltd. dated November 14, 2014 Re: Reclaimed Polaris Mine Site Water Licence Renewal (1AR-POL0311) -- Teck Response to Final Comments
71. Letter to Sonia Aredes, Technical Advisor, NWB from Bruce Donald, Teck Resources Ltd. dated November 14, 2014 Re: Licence No. 1AR-POL0311- Teck Response to Annual and Quarterly Reports Technical and Administrative Review
72. NWB Public Announcement Re: Invitation to Community Representatives from Grise Fiord to Participate in Public Hearing dated November 20, 2014
73. Submission from AANDC, Executive Summary for Polaris Public Hearing dated November 26, 2014
74. Submission from Teck Resources Ltd. Polaris Public Hearing Presentation dated November 26, 2014 English
75. Email to Polaris Distribution List from Megan Porter, Licensing Administrator Assistant, NWB dated November 27, 2014 re: Acknowledgement of Public Hearing Presentations for Polaris Mine
76. Letter to Polaris Distribution List from David Hohnstein, Director of Technical Services/ Acting Executive Director, NWB dated November 28, 2014 Re: Final Hearing Update, Confirmation of Participants and Agenda
77. Public Hearing Agenda for Polaris Mine dated November 28, 2014 Inuktitut
78. Public Hearing Agenda for Polaris Mine dated November 28, 2014 English
79. Submission from Teck Resources Ltd. Polaris Public Hearing Presentation dated December 1, 2014 Inuktitut
80. Submission from NWB Polaris Public Hearing Community Session Presentation dated December 2, 2014 English
81. Submission from NWB Polaris Public Hearing Community Session Presentation dated December 2, 2014 Inuktitut
82. Submission from AANDC Executive Summary dated December 2, 2014 Inuktitut
83. Public Hearing Sign in sheets December 4, 2014 Day Session
84. Public Hearing Sign in sheets December 4. 2014 Evening Session



APPENDIX E – Sign-in Sheets; List of Participants at the Public Hearing

Sign-in Sheets are found on the following pages.

Day Session
Registration Form

NO.	First Name	Last Name	Organization Representing	Address	Phone	Fax	E-mail
1	Thomas	Kablbona	NWB chair				
2	Joseph	Pameolik	Board member NWB				
3	Colin	Adjun	Board member NWB				
4	Tevesa	Meadows	Legal NWB				
5	Katrina	McLeod	court reporter				
6	Ben	Kogvik	NWB staff				
7	David	Itzhakstein	NWB staff				
8	Megan	Porter	NWB staff				
9	Sahia	Aredus	NWB staff				
10	Tao	Parsons	ANAC	Iskut	975-4242		ian.parsons@nandc.gc.ca
11	KAREN	CUSTO	ANAC	Iskut	975-4546		
12	Bruce	Donald.	Teck Resources	Cranbrook B.C.	250 427 8405		bruce.donald@teck.com
13	Cory	Francis	Pido Production				
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Polaris Mine
Resolute Bay
December 4, 2014

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Evening Session
Registration Form

NO.	First Name	Last Name	Organization Representing	Address	Phone	Fax	E-mail
1	Thomas	Kabloona	NWB Chair				
2	Colin	Adjun	NWB Board				
3	Joseph	Pameolik	NWB Board				
4	Ben	Kogvik	NWB Staff				
5	David	Hohnstein	NWB Staff/E				
6	Sonia	Aredes	NWB Staff				
7	Megan	Porter	NWB Staff				
8	Teresa	Meadows	NWB legal				
9	Katie	McLeod	Court Reporter				
10	Cory	Bruncas	Pido Production				
11	Bruce	Donald	Teak Resources				
12	Ian	Parsons	AANDC				
13	Karen	Costello	AANDC				
14							
15	Lia Mungus						
16	Joyce	Laprise	Com. member				
17							
18	Aksakluk Kingluk		ELDER				
19	Jay Peter Akeaguk		G.F/VIR HTO				
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