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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**File No.: 1BR-ROB1536 /  
Amendment-Renewal**

November 19, 2015

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**RE: NWB Licence No. 1BR-ROB1536 Amendment/Renewal**

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Dear Ms. Lamontagne and Ms. Kydd:

Please find attached Licence No. **1BR-ROB1536** issued to the Department of Indian Affairs and Northern Development (DIAND) by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to the use of Water use and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee may be in contravention of the Nunavut Land Claims Agreement (NLCA) and/or the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRTA). However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three (3) months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this Licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment. However,

a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the NWB ftp site for the comments received by interested persons on issues identified throughout the history of this file.<sup>1</sup>

Sincerely,

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Thomas Kabloona  
Nunavut Water Board  
Chair

TK/ce/ri

Enclosure: Licence No. **1BR-ROB1536**

Cc: Kitikmeot Distribution List

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<sup>1</sup> No submissions were received – for the renewal and amendment application during the comment period from April 1, 2015 to May 1, 2015.

**Table No 1**  
**Table of Required Submissions**

<b>No</b>	<b>Document Name</b>	<b>Due Date</b>	<b>Reference to Licence</b>
1	Revised Roberts Bay and Ida Bay Long-Term Monitoring Plan	March 31, 2016	Part E Item 3
2	Annual Report, with Monitoring Summary Reports when applicable.	March 31, Yearly	Part B Item 1, 2 Part J Item 9
3	Long Term Monitoring Report, following on-site long-term monitoring activity	March 31, 2017 March 31, 2020 March 31, 2025 March 31, 2036	Part B Item 1

**Table No 2**  
**Table of Board Approved Submissions, from 2009 -2015**

<b>No</b>	<b>Document Name</b>	<b>Due Date/ Received Date</b>	<b>Reference to expired Licence 1BR-ROB0813</b>
1	Final Design and Construction Drawings for remediation of mine openings	October 7, 2008 / February 09, 2009	Part E Item 3
2	Final Design and Construction Drawings for remediation of Tailings Pond	October 7, 2008 / February 09, 2009	Part E Item 3
3	Final Design and Construction Drawings for remediation of the existing Landfill	October 7, 2008 / February 09, 2009	Part E Item 3
4	Final Design and Construction Drawings for the construction of the Solid Waste Disposal Facility	October 7, 2008 / February 09, 2009	Part E Item 3
5	Tailings Freezeback Report	October 7, 2008 / dated March 5, 2007 and submitted on February 24, 2010	Part E Item 12
6	Tailings Dewatering Plan	October 7, 2008 / February 09, 2009	Part E Item 13
7	Quarry Management Plan	Thirty (30) days prior to quarrying / June 14, 2010 and revised version received September 24, 2010	Part E Item 11
8	Solid Waste Disposal Facility Management Plan	October 7, 2008 / February 09, 2009	Part D Item 10
9	Operations and Maintenance Plan for Sewage Disposal Facility	September 7, 2008 / February 09, 2009	Part D Item 1
10	Spill Plan	September 7, 2008 / February 09, 2009	Part I Item 1
11	Robert's Bay and Ida Bay Long Term Monitoring Plan	September 7, 2008 / dated February 09, 2009 and submitted on July 10, 2014 and a revised version was received on August 12, 2015	Part K Item 1
12	Roberts Bay/Ida Bay, Nunavut Abandonment & Restoration	November 6, 2008 / February 09, 2009	Part J Item 1

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## **NWB LICENCE NO. 1BR-ROB1536**

### **I. BACKGROUND**

The Application is by the Department of Indian Affairs and Northern Development (DIAND) for a twenty (20) year amendment and renewal of Licence No. 1BR-ROB0813 to support the continuation of a landfill monitoring program at the Robert's Bay and Ida Bay mine sites. The Licensee has indicated that the continued implementation of the phased landfill monitoring program shall be undertaken in accordance with the renewed Licence issued for the project.

The Robert's Bay Mine is located on crown land approximately 115 km southwest of the Hamlet of Cambridge Bay. The Ida Bay Silver Deposit is located approximately 7 km north of the Roberts Bay Silver Mine, along the shore of Melville Sound. Both sites are within the Kitikmeot Region, in Nunavut.

The Roberts Mining Company first staked the area in 1964 and the silver deposit was discovered in 1965. The following year gold and silver deposits were staked at Ida Bay. Exploration continued in the area from 1967 until 1972 by the Hope Bay Mining Company (later called Hope Bay Mines Limited). Mining was initiated in 1973 via declines constructed at both Ida Bay and Roberts Bay. In 1974 Hope Bay Mines Limited entered a joint venture with Van silver Explorations and Recko Explorations and the Roberts Bay Mine was upgraded and a small mill was constructed. Operations ceased in 1975. Exploration continued in 1980's and 1990's and in 1997 the Roberts Mining Lease was surrendered. The area was re-staked as the ORO5 claim in 1998.

The Government of Canada then implemented the Federal Contaminated Sites Action Plan (FCSAP) to clean up federally owned contaminated sites which pose a risk to human health and/or the environment. The Department of Indian Affairs and Northern Development (DIAND) received funding approval for the investigation and remediation of the abandoned Roberts Bay Silver Mine, which had been abandoned for nearly thirty (30) years and Ida Bay Silver Deposit in Nunavut.

All site assessment activities required to develop a plan for the remediation of Roberts Bay and Ida Bay mine site have been completed. The two year implementation of the remediation plan began in 2007, the demobilization from site occurred at the end of the summer 2009. In fulfillment of AANDC's commitments to monitor the landfill post-closure, they initiated a 25 year long term monitoring program at the Roberts Bay and Ida Bay sites in 2010, after the completion of the site remediation activities.

The long term post-remediation monitoring activities has followed the schedule identified in the 2009 "Roberts Bay and Ida Bay Long-Term Monitoring Plan", dated February 09, 2009 and submitted on August 12, 2015. The three phases recommended by the protocol based pre-determined monitoring frequencies are as follows:

- Phase I: carried out years 1, 3 and 5;
- Phase II (if required): to be carried out years 7, 10, 15 and 25
- Phase III: to be carried out beyond year 25

Monitoring at Roberts and Ida Bay has completed all Phase I site visits of the post-remediation monitoring plan. Long-Term Monitoring reports (all developed by Franz Environmental Inc.) have been submitted for Phase I years 1, 3 and 5 monitoring activities, corresponding to 2010, 2012 and 2014 respectively. The Long-Term Monitoring reports submitted details the activities carried-out which include: observation of the natural environment (visual, surface water, soil and thermal), data/sample collection, picture recordings, site map updates and operational recommendations. Phase II, year 7 monitoring activities, are scheduled to take place in 2016. The visit will be carried out during the summer months of June to August. An evaluation of Phase II monitoring data will be carried out at the end of the 2035 (year 25 of the program) to confirm whether or not additional monitoring is required. If additional monitoring (Phase III) is required, it will commence and continue beyond year 25 of the program.

## **II. FILE HISTORY**

On **August 8, 2008**, the Nunavut Water Board (NWB) issued Licence 1BR-ROB0813 which allowed for water use and waste disposal associated with the remediation of the Robert's Bay and Ida Bay mine sites.

On **January 7, 2010**, the NWB issued a notice of Errata for the 1BR-ROB0813 Licence, which amended the Section Name Headings for Parts I (to be renamed as Part J) and Part J (renamed as Part K) of in the Terms and Conditions section of the Licence.

## **III. PROCEDURAL HISTORY**

On July 10, 2014, March 23, 2015, on June 28, 2015, and on August 12, 2015, the NWB received submissions as part of the Water Licence Application (Application) submitted by DIAND in support of the remediation Project for Roberts Bay Silver Mine and Ida Bay Silver Deposit. The following is a list of the submitted application documents:

- Application Cover letter, July 10, 2014
- Roberts bay Application for Water Licence Amendment, July 10, 2014
- 2011, 2012, 2013, Annual Report and Annual Report Cover Letters, July 10, 2014
- 2014 Annual Report and Annual Report Cover Letter, June 28, 2015
- 2009 Long Term Monitoring Plan, dated February 09, 2009, and a revised version was submitted on August 12, 2015
- 2010 Long Term Monitoring Report for SWMF Landfill, dated November 19, 2010 and submitted on July 10, 2014
- 2012 Long Term Monitoring Report for SWMF Landfill, dated January, 2013 and submitted on July 10, 2014
- 2014 Long Term Monitoring Report for SWMF Landfill, March 23, 2015
- Executive Summaries in English, Inuktitut and Inuinaqtun, July 10, 2014

- March 2007 NIRB Screening Decision Report, March 13, 2007 and re-submitted on July 10, 2014

The submitted application documents have been placed in the NWB's Public Registry with access provided through the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-ROB0813%20Roberts%20Bay/1%20APPLICATION/2014%20Amend%20Renew/>

Following the review of the application and the Applicant's submission of outstanding information on March 23, 2015, the NWB acknowledged receipt and provided notice of the Application, originally distributing the application, on April 1, 2015 for a thirty (30) day comment and review period, with a deadline for comments set for May 1, 2015. No submissions were received from any intervening party, including from AANDC. The NWB waived the requirement to hold a public hearing given that no public concern was expressed during the notice period. The NWB proceeded with the application process.

On April 2, 2015, the Nunavut Planning Commission (NPC) reviewed the submitted documents and determined that the proposal is located outside the boundaries of the two approved land use plans currently administered by the NPC.

On March 20, 2007, the Nunavut Impact Review Board (NIRB) completed its screening of the Application pursuant to Article 12 of the NLCA. On April 29, 2015, the Nunavut Impact Review Board (NIRB) informed the NWB that the application was exempt from the requirement for screening pursuant to Section 12.4.3 Article 12 of the Nunavut Land Claim Agreement (NLCA) and the activities therein remain subject to the terms and conditions recommended in the original March 20, 2007 Screening Decision Report.

Based upon the results of the detailed assessment of the Application, including consideration of any potential equipment malfunctions (as indicated by the applicant in the 2014 Long-Term Monitoring Report), or impacts to Water that the overall project might have in the area, the Board has granted the renewal Water Licence 1BR-ROB1536.

#### **IV. GENERAL CONSIDERATIONS**

##### **Term of the Licence**

In accordance with the *Act* s. 45, the NWB may issue a Licence for a term not exceeding twenty-five (25) years. The applicant requested a twenty (20) year renewal Licence under which it plans to monitor, assess and confirm the stability of the landfill at the project site at specific intervals during the monitoring program. In determining an appropriate term of a Water Licence, the

Board considers a number of factors, including the compliance record of the Applicant and the risk to Water resources posed by the undertaking. The Licensee has demonstrated a strong compliance record since the initial Licence was issued in 2008, and the NWB's review of landfill monitoring data collected by the Licensee thus far produced no alarming environmental or geotechnical indicators. Monitoring results will be further discussed in detail below, within the section entitled "Monitoring". Furthermore, given the current stage of the program, the Board has decided to issue the Licence for a term of twenty-one (21) years, expiring in 2036, during which the Applicant may complete Phase II monitoring, assess the results, and determine the characteristics of a Phase III Monitoring Program, if required.

## **Water Use**

Current site activities only pertain to Long-Term monitoring visits as described in the "*Roberts Bay and Ida Bay Long Term Monitoring Plan*", for a maximum duration of 1 day on site. These activities do not require the establishment of a remote camp and therefore, water usage is mainly limited to the water collected for sampling activities, expected to be a maximum of 0.05 m<sup>3</sup> *per* day.

Based upon the projected requirements of the Licensee, the Board has set the terms and conditions in the Water Licence, which govern water usage. The maximum permitted usage of Water by the Licensee, over the term of the Water Licence and for all purposes, has been set at 0.05 m<sup>3</sup> *per* day.

## **Deposit of Waste**

The Licensee has indicated that no remote camp sites will need to be established for the monitoring activities. It is expected that no sewage will be generated and that all solid waste produced during monitoring activities (estimated at 0.5 m<sup>3</sup> for paper towels, Teflon tubing, filters, etc.) will be backhauled off-site and disposed of in an approved landfill site.

The Board, having duly considered these issues and the submission of the Applicant, has set the terms and conditions in the Water Licence, which govern the disposal of solid waste during the proposed undertaking accordingly.

## **Annual Report**

The requirements for an Annual Report imposed on the Licensee in this Licence are for the purpose of ensuring that the NWB has an accurate annual update of Water use and depositions of Waste during a calendar year. Since the onset of this Licence, in 2008, until the issuance of this amend and renewed Licence, in 2015, the Board has received annual reports for 2009, 2010, 2011, 2012, 2013 and 2014.

The Phase II long-term monitoring at Robert's Bay and Ida Bay mine sites, involves intermittent monitoring events and therefore, the Board does not require a comprehensive Annual Report (as



detailed in Part B, Item 1 of this Licence) from the Licensee during non-active years, however, in place of a comprehensive Annual Report the Licensee shall continue to provide a simplified Annual Report, as explained in Part B, Item 2 of this Licence, to the Board indicating what activities did take place during that year and also indicating that no sampling events occurred at the site for the given year. These conditions are reflected in the Licence under Part B. This information is kept in the NWB's public registry and is available to interested persons upon request. In addition, the NWB maintains reporting information on its FTP site, which can be accessed using the following link: <ftp.nwb-oen.ca>

### **Spill Contingency Planning**

The Board has approved the submitted "Spill Plan", on February 09, 2009. The Board generally requires that all Licensees prepare a comprehensive Spill Contingency Plan to establish a state of readiness to ensure a prompt and effective response to possible spills or system failure events. The site-specific Spill Contingency Plan will assist the Licensee in responding to emergencies, such that the impacts to water in particular and the environment and public health in general, are minimized. The requirements for the Spill Contingency Plan is detailed under Part H.

### **Abandonment and Restoration (A&R)**

The Licensee shall continue to conduct its Abandonment and Restoration activities (and beyond the current monitoring phase) in accordance with the approved "Roberts Bay/Ida Bay, Nunavut Abandonment & Restoration" Plan, prepared by Quantum Murray LP and submitted to the NWB on February 09, 2009. According to information provided by the Licensee in the Completion Report attached to the 2010 Annual Report submitted on May 5, 2011, the abandonment and restoration activities for the site were completed in 2010.

The Licensee initiated the post-construction monitoring program in 2010 and plans to continue doing so for a period of 25 years. Under the terms and conditions in the Licence applying to abandonment and restoration, the Licensee is required to remove any remaining equipment and facilities associated with the project upon completion. Additional conditions for restoration have been included under Part I of this Water Licence.

### **Monitoring**

The Licensee shall conduct its monitoring activities in accordance with the approved "*Roberts Bay and Ida Bay Long-Term Monitoring Plan*", dated February 09, 2009 and submitted on July 10, 2014. According to Part J, Item 1, the Licensee is requested to revise the Long-Term Monitoring Plan to include selected recommendations from the "*Long Term Monitoring, 2010 SWMF Landfill, Roberts Bay, Nunavut*", "*Long Term Monitoring, 2012 SWMF Landfill, Roberts Bay, Nunavut*", and the "*Long Term Monitoring, 2014 SWMF Landfill, Roberts Bay, Nunavut*" reports prepared by Franz Environmental Inc. The Monitoring Program for Phase I long-term monitoring of the landfill occurred every other year (biennial, i.e year 1, 3 and 5) thus concluding its fifth year in 2014, the first monitoring event in phase II is scheduled for year 7 (i.e

2016). As stipulated in Section 2.5 of the Monitoring Program, it is understood that the decision to conduct further monitoring past the year 2035 will rest on the conclusions of a performance assessment of Phase I and Phase II monitoring data from an environmental, geotechnical and thermal perspective. The Board requires that twelve (12) months prior to the end of the licence term, the Licensee inform the Board in writing of any developments and the future monitoring requirements, according to Part J, item 10 of this licence.

Section 4.4 and Appendix B of the 2010, 2012 and 2014 *Long Term Monitoring* reports, prepared by Franz Environmental Inc., indicated that the Thermistor String B has continued to fail despite multiple attempts to replace the unit and recover the corrupt data. Moreover, dissolved nitrate levels from ROB 10 (a surface water sample collection point for possible leachate and runoff detection, located east of the landfill) shows an upward spike in 2012 and 2014 with concentrations greater than the upper limit of acceptability as stipulated in the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the protection of Freshwater Aquatic Life (FWAL)<sup>2</sup>.

The NWB looks to the Long Term Monitoring Reports for 2016 for improved remediation measures and monitoring activities.

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<sup>2</sup> CCME (2007), Canadian Environmental Quality Guidelines Summary Table. Canadian Water Quality Guidelines for the protection of Freshwater Aquatic Live (FWAL).

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## DECISION

### LICENCE NUMBER: 1BR-ROB1536

This is the decision of the Nunavut Water Board (NWB) with respect to an application for a new Licence dated July 10, 2014, for a renewal Water Licence made by:

**THE DEPARTMENT OF INDIAN AFFAIRS  
AND NORTHERN DEVELOPMENT (DIAND)**

to allow for the use of Water and the deposit of Waste during Post-Remediation and Long-Term Monitoring activities at the Robert's Bay and Ida Bay mine sites, which are located 115 km southwest of Cambridge Bay and 7km north of the Roberts Bay Silver Mine, respective. Both sites are within the Kitikmeot Region, Nunavut generally located at the geographical coordinates as follows:

Latitude: 68° 10' 59.65" N   Longitude: 106° 32' 10.04" W

## DECISION

After having been satisfied that the application was for a location within an area in which there is no valid Land Use Plan<sup>3</sup> and after being exempted from any Screening requirements by the Nunavut Impact Review Board<sup>4</sup> pursuant to Section 12.4.3 of the the *Nunavut Land Claim Agreement* (NLCA), the NWB decided that the application could proceed through the regulatory process. In accordance with s.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRTA) and Article 13 of the NLCA, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the NLCA and of the NWNSTRTA, decided to waive the requirement to hold a public hearing and determined that:

**Licence No. 1BR-ROB0813 be renewed as Licence No. 1BR-ROB1536 subject to the terms and conditions contained therein (Motion #: 2015-B1-036).**

SIGNED this 16<sup>th</sup> day of November 2015 at Gjoa Haven, NU.

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Thomas Kabloona  
Nunavut Water Board, Chair

TK/ce/ri

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<sup>3</sup> Nunavut Planning Commission (NPC) Land Use Conformity Determination, dated April 2, 2015.

<sup>4</sup> Nunavut Impact Review Board (NIRB) Screening Decision, dated April 29, 2015.

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## NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

THE DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

(Licensee)

PO BOX 2200, IQALUIT, NUNAVUT X0A 0H0

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use Water or deposit of Waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type: 1BR-ROB1536 / TYPE "B"

Water Management Area: KAZAN WATERSHED (07)

Location: ROBERT'S BAY AND IDA BAY MINE SITE REMEDIATION PROJECT, KITIKMEOT REGION, NUNAVUT

Classification: INDUSTRIAL UNDERTAKING

Purpose: DIRECT USE OF WATER AND DEPOSIT OF WASTE

Quantity of Water use not to Exceed: 0.05 CUBIC METRES PER DAY

Date of Licence Issuance: NOVEMBER 19, 2015

Expiry of Licence: NOVEMBER 18, 2036

This Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

**Thomas Kabloona,**  
**Nunavut Water Board**  
**Chair**

Licence No. 1BR-ROB1536

## **PART A: SCOPE, DEFINITIONS AND ENFORCEMENT**

### **1. Scope**

This Licence allows for the implementation of a post-closure monitoring program following remediation activities, during an undertaking classified as Industrial under Schedule 1 of the *Regulations* at the Robert's Bay and Ida Bay Mine Site Remediation Project, located approximately 115 km southwest of Cambridge Bay within the Kitikmeot Region, Nunavut:

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and;
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

### **2. Definitions**

In this Licence: 1BR-ROB1536

**“Acid Rock Drainage (ARD)”** means the production of acidic leachate, seepage or drainage from tailings, waste rock, borrow material or construction rock that can lead to the release of metals to groundwater or surface water during the life of the Project and beyond closure;

**“Act”** means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*

**“Addendum”** means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report.

**“Amendment”** means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

**“Application”** means the actual Water Licence amendment and renewal application and all supporting documents received for Robert’s Bay and Ida Bay former mine Site Remediation Project.

**“Analyst”** means an Analyst designated by the Minister under Section 85 (1) of the *Act*;

**“Appurtenant undertaking”** means the application for amendment and renewal of Licence No. 1BR-ROB0813, received by the NWB on July 10, 2014;

**“Board”** means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

**“Effluent”** means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or following a treatment process

**“Engineer”** means a professional engineer registered to practice in Nunavut in accordance with the Consolidation of Engineers and Geoscientists Act, s. Nu 2008, c.2 and the Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12;

**“Greywater”** means all liquid wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet wastes;

**“Inspector”** means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

**“Landfill”** as defined in the “Robert’s Bay and Ida Bay Long Term Monitoring Plan”. It is one constructed Non-Hazardous Waste Landfill (NHWL) at the Roberts Bay Site, which contains the post remediation soil, non-hazardous wastes/debris from both the Robert’s Bay Site and the Ida Bay Site. Due to the small amounts of metals and PCB contaminated within it, i.e (Tier II) soils at the site, there will not be any need for a Secure Soil Disposal Facility.

**“Licensee”** means the individual or organization to which Licence 1BR- ROB0813 Type “B” is issued or assigned;

**“Modification”** means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

**“Hazardous waste”** means waste classified as “hazardous” by Nunavut Territorial or Federal Legislation, or as “dangerous goods” under the *Transportation of Dangerous Goods Act* at the time of clean-up;

**“Monitoring Program”** means a program established to collect data on surface water and groundwater quality to assess impacts to the environment of an appurtenant undertaking.

**“Nunavut Land Claims Agreement”** (NLCA) means the “*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*,” including its preamble and schedules, and any amendments to that agreement made pursuant to it;

**“Regulations”** means the Nunavut Waters Regulations SOR 2013/69 18th April, 2013;

**“Sewage”** means all toilet Wastes and greywater;

**“Solid Waste Management Facility Landfill”** means the constructed Landfill at the Robert’s Bay Site.

**“Spill Contingency Plan”** means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

**“Sump”** means a structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

**“Tier I Soil”** means soil containing contaminant concentrations within the types and ranges defined as Dew Line Cleanup Criteria (DCC) Tier I in Appendix B of the *AANDC Abandoned Military Site Remediation Protocol, March 2005* (see Table 3);

**“Tier II Soil”** means soil containing contaminant concentrations within the types and ranges defined as Dew Line Cleanup Criteria (DCC) Tier II in Appendix B of the *AANDC Abandoned Military Site Remediation Protocol, March 2005* (see Table 3);

**“Toilet Wastes”** means all human excreta and associated products, but does not include greywater;

**“Waste”** means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means.

**“Waste Disposal Facility”** means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facility, Solid Waste Disposal Facility, Incinerator and

Landfill;

**“Water” or “Waters”** means waters as defined in section 4 of the Act.

### **3. Enforcement**

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

## **PART B: GENERAL CONDITIONS**

1. The Licensee shall file an Annual Report and a Monitoring Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported, according to the monitoring schedule presented in section 2.3 of the “Robert’s Bay and Ida Bay Long Term Monitoring Plan”. The Reports shall contain the following information:
  - a. A summary report of Water use activities;
  - b. A summary report of any Waste generated and disposed of on-site or backhauled to an approved facility for disposal;
  - c. A summary of any construction work, modification and major maintenance work (including as-built drawings) carried out on existing Solid Waste Disposal Facilities;
  - d. Tabular summaries for all data and information generated under the “Monitoring Program”;
  - e. An analysis of data collected during the Monitoring Program and a brief description of any future studies planned by the Licensee;
  - f. The results of any review conducted and any recommendations regarding any changes to the Monitoring Plan and/or remediation requirements;
  - g. A summary of remediation work undertaken during the year and an outline of work anticipated for the following year;
  - h. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
  - i. Water use or reclamation, and a brief description of any future studies planned;
  - j. A list of unauthorized discharges and summary of follow-up actions taken;
  - k. Any revisions to the remediation plan;



- l. Any updates or revisions for manuals and plans as required by changes in operation and/or technology;
  - m. If applicable, a description of any trenches and sumps excavated, including but not limited to the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
  - n. A report describing any public consultation with local organizations and the residents of nearby communities;
  - o. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
  - p. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
  - q. Any other details on Water use requested by the Board by year being reported.
2. In years where no activities occur, pursuant to Part B, Item 1, the Licensee shall file an Annual Report to the Board, informing it that no monitoring event took place for the given year, and also indicating what activities did take place (including site inspections, reports filed, updated plans, etc.). This written notice shall be submitted no later than March 31st of the year following the calendar year being reported.
3. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with the Project at least thirty (30) days prior to any such change.
4. The Licensee shall comply with the Monitoring Program described in the Monitoring Plan approved under this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
5. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
6. The Licensee shall, for all plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objective and will notify the Licensee in writing of acceptance, or rejection or alterations of the Plan.
7. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
8. Every Plan approved and to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.

9. The Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program and to inform the public of the location of the Landfill. All signage postings shall be in the Official Languages of Nunavut.
10. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
  - (a) **Manager of Licensing:**  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)
  - (b) **Inspector Contact:**  
Manager of Field Operations, AANDC  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445
11. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
12. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
13. This Licence is not assignable except as provided in Section 44 of the *Act*.

## **PART C: CONDITIONS APPLYING TO WATER USE**

1. The total volume of Water for monitoring and related purposes shall not exceed 0.05 cubic metres per day.
2. Streams cannot be used as a water source unless authorized and approved by the Board in writing.
3. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body.

4. The Licensee shall implement and maintain sediment and erosion control measures prior to and during the operation to prevent entry of sediment and/or dust into Water.
5. Equipment used should be well cleaned and free of oil and grease and maintained free of fluid leaks. The Licensee shall ensure that pollutants from machinery used during construction do not enter water.

#### **PART D: CONDITIONS APPLYING TO WASTE DISPOSAL**

1. The Licensee shall locate areas designated for waste disposal including all pump-out water (from sampling activities) at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any Water body, such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall not practice on-site land filling of domestic waste, unless otherwise approved by the Board in writing.
3. The Licensee shall provide to the Board, documented authorization from any community in Nunavut receiving wastes from the Robert's Bay and Ida Bay Sites monitoring program prior to any backhauling and disposal of wastes to those communities.
4. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at a licensed waste disposal site.
5. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste and include this information within the Annual Report, Part B, Item 1.

#### **PART E: CONDITIONS APPLYING TO THE UNDERTAKING**

1. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
2. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
3. The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of contractor's equipment and personnel around the site during post closure monitoring activities.

4. All sites affected by sampling activities shall be stabilized, landscaped as necessary, and suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site.
5. The Licensee shall implement proper handling, storage and transportation procedures for hazardous materials to prevent entry to any Water body.

#### **PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS**

1. The Licensee is authorized to drill and install a new thermistors, if required in order to improve on-site monitoring, (to replace the faulty Thermistor String B as further discussed in the Monitoring section of this Licence).
2. The Licensee shall not conduct any land-based drilling within thirty-one (31) metres of the ordinary High Water Mark of any Water body, unless otherwise approved by the Board in writing.
3. The Licensee shall dispose of all drill waste, including water, chips, muds and salts (CaCl<sub>2</sub>) in any quantity or concentration, from land-based and on-ice drilling, in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent Water body, where direct flow into a Water body is not possible and no additional impacts are created.
4. If artesian flow is encountered, drill holes shall be immediately sealed and permanently capped to prevent induced contamination of groundwater or salinization of surface waters. The Licensee shall report all artesian flow occurrences within the Annual Report, including the location (GPS coordinates) and dates.
5. Where drilling activity has penetrated below the permafrost layer, the NWB requests that the proponent record the depth of permafrost and location of the drill hole to be included within the Annual Report.

#### **PART G: CONDITIONS APPLYING TO CONSTRUCTION AND MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out Modifications to the Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
  - a. the Licensee has notified the Board in writing of such proposed Modifications at

- least sixty (60) days prior to beginning the Modifications;
  - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
  - c. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - d. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met, can be carried out only with written approval from the Board.
  3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.
  4. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including immediate banks except what is for immediate use.
  5. With respect to the access road, pad construction or other earthworks, the direct or indirect deposition of debris or sediment into any Water body is prohibited. These materials shall be disposed a distance of at least thirty-one (31) meters from the ordinary High Water Mark in such a fashion that they do not enter the Water.

#### **PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING**

1. The Board has approved the submitted Plan entitled “Spill Plan”, received on February 09, 2009. The Licensee shall continue to implement the Plan, as required.
2. The Licensee shall revise the Plan referred to in this Part to reflect the modified undertaking accordingly. Revisions to the Plan are to be submitted in the form of an addendum to be included with the Reports referred to in Part B, Item 1 and 2, unless directed otherwise by the Board.
3. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project from entering water. All sumps, fuel caches and hazardous waste shall be located a minimum of thirty-one (31) metres above the ordinary High Water Mark of any adjacent Water body and inspected on a regular basis. The Licensee shall use secondary containment with an impervious liner; such as self-supporting insta-berms, for storage of barreled fuel rather than relying on natural depressions to contain spills.
4. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.

5. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. Employ the Approved Spill Plan;
  - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the AANDC Water Resources Inspector at (867) 975-4295; and
  - c. Submit to the AANDC Water Resources Inspector on each occurrence, a detailed report including the GPS location, no later than thirty (30) days after initially reporting the event.
6. The Licensee shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line and to the Inspector if the release is near or into a Water body.

**PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Board has approved the Plan entitled “Roberts Bay/Ida Bay, Nunavut Abandonment & Restoration”, prepared by Quantum Murray LP and submitted on February 09, 2009. The Licensee shall implement the plan as required. Any changes or updates to the Plan referred to in Part I, Item 1, shall be submitted as an addendum with the subsequent Reports referred to in Part B, Item 1 and 2.
2. The Licensee shall backfill and restore, all temporary containment sumps, to the pre-existing natural contours of the land.
3. All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.
4. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment prior to the expiry of this Licence.
5. The Licensee shall, in order to promote growth of vegetation and the needed microclimate for seed deposition, prepare all disturbed surfaces by ripping, grading, or scarifying the surface to conform to the natural topography.
6. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut’s Environmental Guideline for Site Remediation, January 2009. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

7. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

## **PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM**

1. The Board has approved the Plan entitled “*Robert’s Bay and Ida Bay Long Term Monitoring Plan*” submitted on July 10, 2014 as additional information with the Application. The Licensee is requested to update this Long Term Monitoring Plan, by March 31<sup>st</sup>, 2016, in order to incorporate the recommendations made by Franz Environmental Inc in the 2010, 2012 and 2014 Long-Term Monitoring Reports.
2. The Licensee shall review the Plan referred to in this Part J, Item 1 as required by changes in operation and/or technology, modify the Plan and submit the revised plan as an addendum with the subsequent Reports referred to in Part B, Item 1 and 2.
3. The Licensee shall submit a Long-Term Monitoring Report, with the Annual Report in the subsequent year following the year of onsite monitoring activities. The Summary Report shall indicate any new monitoring findings which may affect the characteristics or duration of the monitoring schedule.
4. The Licensee shall conduct all sampling, sample preservation and analyses in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
5. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
6. The Licensee shall provide to the Board in the Annual Report, tabular summaries for all data and information generated under the “Monitoring Program”, as well as an analysis of data collected during the “Monitoring Program”, in accordance with Part B, Item 1.
7. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes.
8. The Licensee shall continue to review the Quality Assurance/Quality Control Plan *for* changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.
9. The Licensee shall submit a Preliminary Monitoring Summary Report as part of the relevant Annual Report. The Report should summarize data collected during Phase I and

II monitoring, and include information on the integrity of the remediation site. The Report shall also address whether the remediation facilities have performed as expected and encased the soil in permafrost. The report must include an assessment of how the facilities are expected to perform in the long term as well as appropriate recommendations.

10. As stipulated in Section 2.5 of the Monitoring Program, it is understood that the decision to conduct further monitoring past the year 2035 will rest on the conclusions of a performance assessment of Phase I and Phase II monitoring data from an environmental, geotechnical and thermal perspective. The Board requires that twelve (12) months prior to the end of the licence term, the Licensee inform the Board in writing of any developments and the future monitoring requirements.
11. Additional monitoring requirements may be imposed by the Inspector.



**Table No.3**  
**(From AANDC Abandoned Military Site Remediation Protocol)**  
**DEW Line Clean-up Criteria (DCC)<sup>a</sup>**

<b>Substance</b>	<b>DCC Tier I<sup>bc</sup> (mg/L)</b>	<b>DCC Tier II<sup>d</sup> (mg/L)</b>
Arsenic	-	30
Cadmium	-	5.0
Chromium	-	250
Cobalt	-	50
Copper		100
Lead	200	500
Mercury	-	2.0
Nickel	-	100
Zinc	-	500
PCB's	1.0	5.0

a. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.

b. Soil criteria are given in parts per million, ppm.

c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled,

d. Soils containing one or more substrates in excess of DCC II must be containerized - i.e. removed in a manner which precludes contact with the Arctic ecosystem.