



APPLICATION FOR LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE

Subsection 5(1) and Schedule C of the [Waters Regulations](#)

Use an "x" to indicate which Board the Application is being made to.	Mackenzie Valley Land and Water Board:	<input checked="" type="checkbox"/>	Sahtu Land and Water Board:	
	Wek'èezhii Land and Water Board:		Gwich'in Land and Water Board:	

To complete this form please fill in the grey boxes and attach additional pages, if necessary. Please review the following guidance for formatting your Application package:

- [Document Submission Standards](#)
- [Standard Outline for Management Plans](#)



Received: May 27, 2021

File #: MV2021L2-0004

Copied to: KM/Registry

If applicable, insert existing or current Licence number:	MV2020C0008, MV2019L2-0006		
Use an "x" to indicate if this Application is accompanied by another Application for a Water Licence in a federal area and/or a Land Use Permit.	Water Licence:		
	Land Use Permit:		<input checked="" type="checkbox"/>

1. NAME AND CONTACT INFORMATION – APPLICANT

Applicant's Name:	Canadian Zinc Corporation		
Mailing Address:	1710 – 650 W. Georgia St.		
Community:	Vancouver	Telephone:	604 688 2001
Prov/Terr:	BC	Email:	David.Harpley@norzinc.com
Postal Code:	V6B 4N9	Other:	

2. NAME AND CONTACT INFORMATION – CORPORATE HEAD OFFICE, IN CANADA IF INCORPORATED

Please include a Certificate of Corporate Registration from the Government of the Northwest Territories in your Application Package.

Name:	Canadian Zinc Corporation		
Mailing Address:	1710 – 650 W. Georgia St		
Community:	Vancouver	Telephone:	604 688 2001
Prov/Terr:	BC	Email:	Donald.McDonald.norzinc.com
Postal Code:	V6B 4N9	Other:	

3. LOCATION OF UNDERTAKING

Attach a map indicating watercourses and the location of any proposed waste deposits. Refer to the [MVLWB Policy on Transboundary Applications](#) to identify whether the proposed activities are transboundary. Refer to the [MVLWB Guideline for Geographic Information Systems \(GIS\) Submission Standard](#) for providing geographic information. Provide latitude and longitude geographic coordinates of project features, and the maximum and minimum project boundary in degrees, minutes, seconds, or decimal degrees.

Minimum latitude:	61° 32' 45" N	Maximum latitude:	61° 34' 30" N
Minimum longitude:	124° 48' 00" W	Maximum longitude:	124° 49' 15" W
A Consolidated Project Description (CPD) submitted with this application provides a number of figures providing the requested details.			
<u>Land Type(s)</u> : Use an "x" to indicate all the type(s) of land on which the project activities are proposed to occur. Additional guidance to determine land type(s) is available on the MVLWB website.			
Free Hold/Private:	Commissioner's/ Territorial Lands:	X	Federal Crown Land:
			Municipal Land:

4. DESCRIPTION OF UNDERTAKING

Include a description of the proposed activities and contact Board staff to determine whether an activity-specific questionnaire will be required. For proposed amendments to authorized activities, specify: the nature of the amendment, the condition(s) to be amended, and the rationale for the amendment.

<p>To develop a new exploration decline from the existing 880 m level, including pumping, treatment and discharge of water inflows, use of the existing water treatment infrastructure and Polishing Pond, and placement of waste rock on a waste rock pad near the 870 m level portal. Also, the use of water from local sources for surface exploration drilling. The underground exploration was assessed in EA01-002. Surface exploration was the subject of EA00-002, EA01-003 and EA0405-002. Existing WL MV2019L2-0006 regulates these activities.</p> <p>Operation of a mine and mill processing ~2,400 tonnes/day supported by a camp for ~180 personnel during normal operations, and up to 300 personnel during construction. Drilling and blasting underground. Temporary surface storage of tailings, followed by underground backfill. Placement of waste rock in a permanent surface pile. Temporary storage of mill water and groundwater intercepted underground in a storage pond, recycling of mill water and controlled management and release of the intercepted groundwater to the environment. The project was originally assessed in EA0809-002, and many studies were conducted. The 2013 Reasons for Decision for MV2008L2-002, issued after EA, provides a list of studies. MV2008L2-0002 was replaced with MV2020L2-0003. This application is accompanied by a Consolidated Project Description which provides details of studies conducted since 2013.</p>

5. TYPE OF UNDERTAKING

Please refer to Schedule B of the [Waters Regulations](#).

Use an "x" to indicate which one type of undertaking applies.

1	Industrial	X	
2	Mining and milling	X	
3	Municipal		
4	Power		
5	Agriculture		
6	Conservation		
7	Recreation		
8	Miscellaneous		

6. WATER USE

Please refer to Schedules D to H of the [Waters Regulations](#).

Use an "x" to indicate which trigger(s) applies.

To obtain water	X	
To cross a watercourse	X	
To modify the bed or bank of a watercourse		
Flood control		
To divert water		
To alter the flow of, or store, water		
Other		

7. QUANTITY OF WATER INVOLVED

Describe the purpose of each proposed water use, name and type (e.g., lake, river) of the water source, the location, and the quantity of water that would be used. Please add more rows if needed.

Purpose of Water Use	Name and Type of Water Source	Location	Geographic Coordinates (Decimal Degrees)		Proposed Water Use Vol./Rate
			Latitude	Longitude	
Domestic/potable	Camp Well	Prairie Creek	61° 33' 17" N	124° 48' 00" W	11 m ³ /day (exploration) 82 m ³ /day (construction) 50 m ³ /day (operations)
Drilling	Local creeks	Various	61° 33' 17" N	124° 48' 00" W	5 m ³ /hole

For each water source, provide a comparison of total proposed water use to the available capacity.

Water Source	Capacity of Water Source	Other Users of the Water Source	Comparison of Total Proposed Water Use to Available Capacity
Well	The flow in the screened aquifer was previously estimated at 500 m ³ /day (Ker, Priestman 1982)	None	Domestic demand would be approx. an order less than the aquifer flow
Creeks	Seasonally dependent.	None	Amount drawn will be <10% of instantaneous flow

8. WASTE DEPOSITED

Include a Waste Management Plan in the Application Package, or for small-scale activities describe the proposed waste management activities in the space provided below. Guidance is provided in the [MVLWB Guidelines for Developing a Waste Management Plan](#). If waste is proposed to be disposed of off-site within the NWT, written confirmation (e.g., an email, letter, etc.) from the facility/facilities indicating they will accept the waste is required.

Municipalities must complete the relevant Operations and Maintenance Plans [using the available Templates](#) and include them in the Application Package. Please refer to Sections 4-8 of Environment and Climate Change Canada’s [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

For activities that involve the deposit of waste into water, provide proposed effluent quality criteria in accordance with the [MVLWB Water and Effluent Quality Management Policy](#) and [MVLWB/GNWT Guidelines for Effluent Mixing Zones](#). Please refer to the [MVLWB/GNWT Guidelines for Effluent Mixing Zones](#) when mixing zones are being considered. Please refer to the [Guidelines for Aquatic Effects Monitoring Programs](#) for more information regarding the development of AEMP programs.

For mining and milling, refer to the provided waste management plan, water management plan, tailings and backfill management plan, waste rock and ore storage management plan, EQC Report and draft AEMP design plan.

For underground exploration, discharge of treated decline water, amount dependent on rate of inflow. Approximately 6,000 m³ of waste rock will be placed on a surface pad. Drill cuttings from any surface drill holes will be buried in backfilled sumps.

9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING

Applicants are encouraged to describe pre-Application engagement efforts with any existing water users and associated possible claims for water compensation or compensation agreements. Include the names and contact information of persons (e.g., existing licensees) or properties affected by this undertaking. An additional table should be added for each water user.

Name:	None		
Mailing Address:			
Community:		Telephone:	
Prov/Terr:		Email:	
Postal Code:		Other:	
Describe Engagement Completed: Site is within area claimed by the Naha Dehe Dene Band as their traditional territory. Engagement records provided with application. Refer to the Engagement Plan on file for MV2008L2-0002.			

10. PREDICTED ENVIRONMENTAL IMPACTS OF THE UNDERTAKING AND PROPOSED MITIGATIONS

Describe all potential impacts and proposed mitigations. This information is used for the preliminary screening of impacts from the project and/or to develop conditions for the water licence. Please indicate whether any of the mitigation measures have been developed as a result of input from affected parties. Additional guidance is provided in [Appendix B of the MVLWB Guide to the Land Use Permitting Process](#), the [Mackenzie Valley Review Board Environmental Impact Assessment Guidelines](#), and the

[Mackenzie Valley Review Board Socio-Economic Impact Guidelines](#). Alternatively, if you are seeking an exemption from preliminary screening, please provide supporting rationale.

Include a Spill Contingency Plan in the Application Package, or for small-scale activities, provide relevant details in the space provided below. Guidance is provided in [INAC Spill Contingency Guidelines](#).

The exploration projects were assessed in EA01-002 (decline) and EA04-005 (surface drilling). The subsequent processes led to MV2001L2-0003 which was replaced by MV2019L2-0006, and MV2004C0030 which was replaced by MV2013C0002, respectively. Decline water will have low metal content, much lower than present 880 m level drainage. Waste rock will not be mineralized and will have a high neutralization potential. Leachate is expected to be benign. No changes are proposed to the conditions of MV2019L2-0006, and an exemption from preliminary screening for exploration is requested.

The original mining and milling project was assessed in EA0809-002. The subsequent process leading to MV2008L2-0002 included additional mitigations. Exemption from preliminary screening for those elements of the project which have not changed in this application requested. For the elements of the project that have changed, a preliminary screening assessment is provided in the accompanying Consolidated Project Description (CPD). The CPD and other documents provided explain the mitigations that will be implemented to minimize impacts associated with the changed elements.

11. CONTRACTORS AND SUB-CONTRACTORS

Please include relevant names, responsibilities, and contact information in the fields below. An additional table should be added for each contractor.

Name:	David Harpley		
Responsibilities:	VP Permitting		
Company Name:	Canadian Zinc Corporation		
Mailing Address:	1710 – 650 W. Georgia St.		
Community:	Vancouver	Telephone:	604 688 2001
Prov/Terr:	BC	Email:	David.Harpley@norzinc.com
Postal Code:	V6B 4N9	Other:	

12. STUDIES UNDERTAKEN TO DATE

Please list and attach any relevant studies that support the proposed activities.

For exploration, many studies were undertaken as part of EA00-002, EA01-002, EA01-003, EA04-005 and MV2001L2-0003.

For mining and milling, many studies were undertaken as part of EA0809-002, and for MV2001C0023 and MV2008L2-0002.

The Report of EA for EA0809-002 has a Public Registry index in Appendix C. A number of studies are contained in the appendices to the Developers’ Assessment Report for that EA. The more notable studies can be found on the public registry for the above noted permits. Additional studies since 2013 are described in the accompanying CPD.

13. PROPOSED TIME SCHEDULE

Please include the time of year the project activities are planned to occur and indicate whether seasonal shutdowns are anticipated.

Start Date:	May 1, 2021	Completion Date:	Unknown
<p>The Decline Project schedule is expected to be May 2021-Jan 2022 with no seasonal shut-down. Surface exploration drilling will also occur over this period.</p> <p>The mining and milling project schedule is dependent on financing, but the start of construction is planned for May 2022, with operations at the end of 2024 for at least 15 years.</p>			
Term of Licence Requested:	Please refer to subsections 26(2) and 36(1) of the Waters Act . 25 years, to cover exploration, construction, operations and closure.		

14. ADDITIONAL SUPPORTING INFORMATION

Engagement: Conduct engagement, prepare an Engagement Record and Engagement Plan in accordance with the [MVLWB Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits](#), and attach them to the Application. Templates are provided in the Guidelines. Please also refer to [Information for Proponents on MVLWB's Engagement Requirements](#).

Eligibility: Please contact federal, territorial, and Aboriginal governments and other parties to ensure all appropriate authorizations have been obtained or are in the process of being obtained. Obtain permission from the landowner, if necessary (e.g., obtain and reference licences of occupation, leases, access authorizations, etc.) and attach it/them to the Application.

Land Use Planning: Please contact the applicable Land Use Planning Board or Tłı̨ch̓ Government to discuss conformity with the relevant Land Use Plan(s). Attach a Land Use Plan Conformity Table that demonstrates how the project meets the requirements of the Land Use Plan, if applicable.

Traditional (Environmental) Knowledge (TEK/TK): Applicants are strongly encouraged to include TEK/TK in the Application. Provision of TEK/TK is mandatory for Applications to the Sahtu Land and Water Board.

Facilities: Please include the supporting information referenced in subsection 5(2) of the [Waters Regulations](#) if the project includes the following: dam(s); storage reservoir(s); watercourse crossing(s); camp(s) or lodge(s); use of water for industrial use or mining and milling; deposit of waste; or handling or storage of petroleum products or hazardous materials.


Closure and Reclamation: Please describe the plan for closure and reclamation, including any temporary closures and seasonal shutdowns, or include a Closure and Reclamation Plan in the Application Package. Please also refer to [MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories](#) and Environment and Climate Change Canada's [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

Closure Cost Estimate: Prepare a [Closure Cost Estimate](#) and include it in the Application Package. Applicants are encouraged to contact the Board, prior to applying, to obtain a template to calculate security that is most suited to the project activities being applied for. Additional guidance is provided in section 2.2 of the [MVLWB/INAC/GNWT Guidelines for Closure and Reclamation Cost Estimates for Mines](#). If this Application is submitted concurrently with a Land Use Permit Application, please ensure water- and land-related activities and liabilities are provided.

Financial Capacity: Provide information relating to your financial capacity, as outlined in paragraph 26(5)(d) of the [Waters Act](#). Please note this information will be required by the Board prior to issuance.

For exploration, a closure and reclamation plan is on file under MV2019L2-0006, and was the subject of a recent review. Following completion of the underground exploration program, all equipment will be removed from the workings. Dewatering will be discontinued and the workings will flood to the natural groundwater level. As the development is a decline, very little discharge of water with a low content of metals is expected, as is the case from the previous decline. Rock removed from underground will be consolidated with the existing waste rock pad near the 870 m portal. Surface drilling would use existing tote roads with minimal clearing to create drill pads. Sumps used for drilling would be backfilled after borehole completion.

For mining and milling, a draft closure and reclamation plan (CPD) is provided with this application, which builds on the version on file under MV2020L2-0003. The main components of closure are placing all tailings underground as backfill, sealing mine openings, covering the waste rock pile, demolishing buildings, breaching dams and berms and grading the site. A closure cost estimate is provided in the CRP. Financial capacity information is provided in the CPD.

Name (print)	Title (print)	Signature	Date
David Harpley	VP Environment		May 25, 2021

FOR OFFICE USE ONLY

	Amount (\$)	Receipt no.
Application fee	30.00	
Water use deposit	299.30	

Please make all cheques payable to the Receiver General for Canada.

The following guidance assists with determination of relevant fees:

- (1) [Water Licence Application Fee, Water Use Fee, and Security Deposit Information](#);
- (2) [Water Use Fee Policy](#); and
- (3) [Water Use Fee Calculator](#).

Please submit completed applications to the Regulatory Manager or Executive Director at the respective Land and Water Board (www.mvlwb.com, www.wlwb.ca, www.slwb.com, www.glwb.com).