



Parent Company of Canadian Zinc

May 13, 2020

Jaqueline Ho
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St.
PO Box 2130
Yellowknife, NT
X1A 2P6

Dear Ms. Ho:

Re: **Prairie Creek Mine**
Applications for New Mining and Milling LUP and Water Licence

With this letter, Canadian Zinc Corporation (CZN) is applying for a new Type A Land Use Permit (LUP) and Type A Water Licence (WL) for mining and milling at the Prairie Creek Mine.

When CZN obtained operating permits in 2013, the Company had hoped to be in a position to move forward with commercial production by now. However, capital markets have been, and remain, challenging and, as announced on February 4, 2020, the Company will be seeking to make project enhancements so that the Mine is more financially attractive. Until we have completed our analyses, we will not be in a position to confirm the changes we wish to make. In the mean-time, we wish to maintain valid operating permits, which are an important part of project attractiveness

LUP MV2008D0014 for mine operations is due to expire on June 16, 2020. CZN is applying for a new 5-year permit (Attachment 1). WL MV2008L2-0002 is due to expire on September 23, 2020. CZN is applying for a new 3-year WL (Attachment 2), a term we believe should be adequate to cover the period of the above-noted analyses, and the resulting regulatory process to incorporate necessary project changes into a new, longer term, WL.

For these applications, we are not seeking any changes to the existing LUP or WL conditions. We propose to address any changes once the above-noted analyses are complete. Therefore, we propose that the expiring LUP and WL be used as templates for new versions. Also, since no changes are currently being proposed to the scope of the undertaking, the applications are considered to be exempt from preliminary screening.

Application fees have been forwarded to you by mail. A water use fee has also been forwarded as a deposit.

Management Plans

Revised engagement, closure and reclamation, waste and spill contingency plans are being provided with these applications. We note that submission of a revised Closure and Reclamation Plan 6 months prior to extracting waste rock is a condition of MV2008L2-002 (Part I, item 1). We would not be opposed to a similar condition in the new WL. Regarding the waste and spill contingency plans, while we would be happy to receive any review comments on the current versions, we suggest that it may be more efficient to require resubmission of these plans at a suitable time prior to construction, by which time we can incorporate updates to reflect the proposed project changes.

A draft Aquatic Effects Monitoring Plan (AEMP) was submitted in 2014. A review did not occur, and no comments were received. We are aware that the Board issued a guideline for AEMP's recently. For efficiency, we would like to propose that the 2014 AEMP be subject to formal review at the appropriate time. Once we have received review comments, we will revise the AEMP to be consistent with the new guideline and to address the review comments.

Engagement

LUP

CZN previously engaged with local Indigenous groups on a new operations LUP application in July last year. However, the Company did not immediately proceed with the application. In view of that delay, we wrote to the groups and engaged again recently to advise that the Company is now proceeding with the application. This information is reflected in the Engagement Records provided in Attachment 3. The attachment also includes correspondence received from the groups.

WL

CZN previously applied in November 2017 to extend the term of MV2008L2-0002 to 25 years. The Company wrote to Indigenous groups about the extension in October 2017, April 2018, and July, 2019. It was our impression that the Company had completed the necessary engagement for the application by March 2019 when the Liidlii Kue First Nation wrote to the Board to provide their support for the application. Therefore, we were surprised to learn earlier this month from Board staff that the Board does not extend the term of Type A Licences. We were not made aware of this in previous correspondence from the Board.

In any event, in the same letter the Company wrote to Indigenous groups recently regarding a new operations LUP (Attachment 3), we also referred to the previous correspondence in connection with an extended term for the WL, and that the Company is instead intending to apply for a new 3-year WL.

We refer to the Engagement Records and correspondence in Attachment 3, which while specific to the new LUP application, also relate to the new WL application. In Attachment 4, we provide

the previous engagement details and correspondence relating to the application for an extended WL term.

Security

CZN previously engaged with Environment and Natural Resources (ENR) of the GNWT regarding an update of the security estimate for MV2008D0014 and MV2008L2-002. CZN provided a revised estimate using the most recent version of Reclaim. It was then agreed that further review of the updated estimate should occur during the formal regulatory process. This is documented in CZN's April 5, 2018 letter to the Board provided in Attachment 4.

Closing

Since this Licence is due to expire in September of this year, it is our intention to apply for a new Licence. We are currently in discussions with Board staff and the Government of the Northwest Territories regarding the form and content of this application.

Sincerely,



David P. Harpley
VP, Environment and Permitting Affairs

Mackenzie Valley Land and Water Board



LAND USE PERMIT APPLICATION FORM

Subsection 19(2) and Schedule 2 of the [Mackenzie Valley Land Use 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'èezhì Land and Water Board:		Gwich'in Land and Water Board:	

To complete this Form, please refer to the MVLWB [Guide to the Land Use Permitting Process \(Guide\)](#) and fill in the grey fields; attach additional pages if necessary. Please review the following guidance for formatting your Application Package:

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

If applicable, reference the existing or current Land Use Permit file number:	MV2008D0014		
Use an “x” to indicate if this Application is accompanied by an Application for a Water Licence:	Water Licence – in a non-federal area:	<input checked="" type="checkbox"/>	
	Water Licence – in a federal area:		

1. NAME AND CONTACT INFORMATION – APPLICANT

Applicant's Name:	Canadian Zinc Corporation		
Position:			
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 – APPLICANT'S HEAD OFFICE

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		
Prov/Terr:	BC	Telephone:	604 688 2001
Postal Code:	V6B 4N9	Email:	Donald.McDonald.norzinc.com
Field Supervisor:	To be determined	Other:	

3. NAME AND CONTACT INFORMATION – CONTRACTORS AND SUB-CONTRACTORS

Please include relevant names, responsibilities, and contact information. An additional table should be added for each contractor and subcontractor.

Name:	David Harpley		
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:	

4. LOCATION OF ACTIVITIES

Maps and Geographic Information System (GIS) Data: Attach a map to your Application Package indicating the locations of proposed activities, including waste deposits, watercourses, and water sources. Provide latitude and longitude geographic coordinates of project features, and the maximum and minimum project boundary in degrees, minutes, seconds, or decimal degrees. Attach GIS data to your Application Package, if applicable. Refer to the MVLWB [Guideline for Geographic Information Systems \(GIS\) Submission Standard](#) for providing geographic information.

Minimum latitude:	61° 32' 45" N	Maximum latitude:	61° 34' 30" N
Minimum longitude:	124° 48' 00" W	Maximum longitude:	124° 49' 15" W

NTS Map Sheet No.: Provide the map sheet number:

95F/10

Land Types: Use an “x” to indicate the type(s) of the land on which the activities are proposed.

Free Hold/ Private:	<input type="checkbox"/>	Commissioner’s/ Territorial Lands:	<input checked="" type="checkbox"/>	Federal Land:	<input type="checkbox"/>	Municipal Land:	<input type="checkbox"/>
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5. ELIGIBILITY

Please refer to section 18 of the [Mackenzie Valley Land Use Regulations](#). Use an “x” to indicate which one applies.

18(a)(i):	<input checked="" type="checkbox"/>	18(a)(ii):	<input type="checkbox"/>	18(a)(iii):	<input type="checkbox"/>	18(b):	<input type="checkbox"/>
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6. RIGHTS AND/OR CONTRACTS TO SUPPORT ELIGIBILITY

Please contact federal, territorial, and Aboriginal governments, and other parties to ensure all appropriate rights, authorizations, permissions, dispositions, and contracts have been obtained or are in the process of being obtained (e.g. mineral exploration rights, quarry permits, licences of occupation, leases, access agreements and authorizations, etc.). List and provide confirmation of other authorizations that relate to your activities; include these to your Application Package (e.g. rights, permits, licences, etc.).

Mining Leases ML 2854, ML 2931, ML 2932, ML 2933, ML 3313, ML 3314, ML 3315, ML 3338, ML 5113-5116; Surface Leases 95F/10-5-5, 95F/10-7-4; Mine site Land Use Permit MV2008D0014 and Water License MV2008L2-0002. Access road Land Use Permits MV/PC2014F0013 and Water Licenses MV/PC2014L8-0006 and MV2019L8-0002.

7. PERMIT TYPE AND CRITERIA

Please refer to sections 4 and 5 of the [Mackenzie Valley Land Use Regulations](#). Use an “x” to indicate which permitting criteria apply:

Type A				Type B				Type C	
4(a)(i):	X	4(b)(i):	X	5(a)(i):		5(b)(i):		(SLWB and WLWB only):	
4(a)(ii):	X	4(b)(ii):	X	5(a)(ii):		5(b)(ii):			
4(a)(iii):	X	4(b)(iii):	X	5(a)(iii):					
4(a)(iv):	X	4(b)(iv):	X	5(a)(iv):					
4(a)(v):				5(a)(v):					
				5(a)(vi):					

8. PROJECT DESCRIPTION

Please include your project description in your Application Package, or for small-scale projects, describe your proposed activities in the grey field provided below. Include the elements identified in subsection 19(3) of the [Mackenzie Valley Land Use Regulations](#), the name and type (e.g., lake, river) of water source(s), and the purpose and quantity of water to be used (rates, volumes (m³/day)). Indicate the total

Underground mining of up of lead-zinc mineralization using explosives, followed by milling and flotation to produce mineral concentrates. Re project description, refer to the updated Consolidated Project Description (CPD) submitted with this application. Fresh water for camp use (drinking, washing, toilets) would be drawn from the existing supply well. The quantity would be 14,300 m³ annually. The Project will use 180 ha for all phases.

number of hectares to be used in each phase of the project, as well as through the life of the project.

9. CAMP

Please describe the proposed camp size and layout. Indicate the number of person-days; explain, with

The existing camp layout is shown in the CPD referred to in 8. For mine operations, the camp size and layout will be similar, although there will be new bunk houses to replace the current trailers. During construction, the number of personnel will be 150. During operations, 110 will be on-site at any one time, and thus the annual person-days would be 40,150. This number should not vary over the life of the project, until the closure and reclamation phase is reached.

rationale, any variations in the number of people that may be on site over the life of the project.

10. ROADS AND ACCESSES

Please include detailed information about the construction, location, and decommissioning of any roads and accesses.

Use an “x” to indicate if this is to be a pioneered road or access.	Yes	X	Use an “x” to indicate if the route has been laid out or ground-truthed.	Yes	X
	No			No	

An all season road (ASR) is to be built from the Nahanni Butte access road. Large sections of the route were previously used for winter roads in the early 1980's. The ASR alignment is defined in an Updated Project Description submitted for MV2014F0013. On-site, there are existing roads to outlying areas of the site and to previous locations of surface exploration drilling.

11. WASTE MANAGEMENT METHODS

Please use the grey fields below to provide or reference the following information:

Waste Management Plan: Include your Waste Management Plan in your Application Package, if applicable, or for small-scale projects, describe the proposed waste management activities in the grey fields provided below. A template for the Plan can be found in the MVLWB [Guidelines for Developing a Waste Management Plan](#).

Waste Type	Management Method(s)
Garbage:	See waste plan
Sewage (Sanitary and greywater):	See waste plan
Brush and trees:	NA
Overburden (Organic soils, waste material, etc.):	NA

Off-site Disposal: 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. Include it/these in your Application Package.

Hazardous waste would be taken off-site for disposal to BC or Alberta. There are many commercial enterprises accepting such waste.

12. EQUIPMENT

Please identify the types of equipment proposed to be used.

Number	Type/Description	Size (weight in tonnes)	Proposed use
6	Scoops	5	Mining
4	Ore trucks	10	Mining
6	Personnel trucks	5	Mining
2	Diamond drills	5	Mining
4	Drill jumbos and bolters	20	Mining
2	Cement trucks	12	Camp Operations
3	Rock wagons (Volvos)	30	Camp Operations
3	Dozers	50	Camp Operations
4	Scrapers & compactors	40	Camp Operations
2	Graders	20	Camp Operations
6	Loaders & forklifts	15	Camp Operations
2	Excavators	40	Camp Operations
4	Trailers	20	Camp Operations
2	Buses	15	Camp Operations
20	Trucks	25	Camp Operations
8	Pick-ups	0.5-1	Camp Operations

13. FUEL

Please identify all fuel types proposed to be used.

Type of Fuel	Number of containers	Capacity of containers (e.g., litres, pounds)	Type of container (barrel, tank, tidy-tank)	Proposed storage or staging location(s)
Diesel:	4	1.7 million litres	Tank	Tank Farm
	1	4,000 litres	Tank	Mill
	1	4,000 litres	Tank	Admin Building
	1	800 litres	Tank	Admin Building
	1	2,000 litres	Tank	870 m level portal
	4	1,000 litres	Tidy-tank	P/U Trucks
Gasoline:	1	2,000 litres	Tank	Camp
Aviation Fuel:	40	205 litres	Drum	Airstrip
Propane:	2	120,000 litres	Tank	930 m portal
	2	120,000 litres	Tank	Camp
Other:				

14. METHODS OF FUEL TRANSFER

Please describe the proposed methods to transfer fuel.

Manual or electric pump, gravity. Tidy tanks in pick-up trucks will be used to top up heavy equipment.

15. SPILL CONTINGENCY PLAN

Please include your Spill Contingency Plan in the Application Package, if applicable, or for small-scale projects, provide relevant details in the grey field provided below. An example of a Plan can be found in the INAC [Guidelines for Spill Contingency Planning](#).

16. PROPOSED TIME SCHEDULE

Indicate the proposed project start and completion dates and the time of year the project activities are planned to occur. Describe any anticipated temporary closure(s) or seasonal shutdowns. Refer to subsections 26(5) and (6) of the [Mackenzie Valley Land Use Regulations](#); indicate the term requested.

Start Date:	June 16, 2020	Completion Date:	Unknown
The Project schedule is dependent on financing, but the start of construction is planned for 2022, with operations in 2024 for 15 years, although more resources exist and operations may continue. The start date above is the date of expiry of the existing LUP.			
Term of Permit Requested:	5 years		

17. POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROJECT AND PROPOSED MITIGATIONS

Please use the grey field below to provide or reference the following information:

Preliminary Screening: Describe all potential impacts and proposed mitigations. This information is used for the preliminary screening of potential impacts from the project and/or to develop conditions for the land use permit. 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, provide supporting rationale.

The project was assessed in EA0809-002. The subsequent process leading to MV2008D0014 included additional mitigations. No changes are proposed at this time, and an exemption from preliminary screening is requested.

Wildlife Management and Monitoring Plan: Applicants are encouraged to contact the Wildlife Division of the Government of the Northwest Territories – Environment and Natural Resources, prior to applying, to determine whether a Wildlife Management and Monitoring Plan may be needed.

18. CLOSURE AND RECLAMATION

Please use the grey field below to provide or reference the following information:

Closure and Reclamation Plan: Describe your plans for closure and reclamation, including any temporary closure(s) and seasonal shutdowns. Include your Closure and Reclamation Plan in your Application Package, if applicable, or for small-scale projects, describe the proposed activities in the grey field provided below. Please also refer to the MVLWB/AANDC [Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories](#).

Closure Cost Estimate: Prepare a [Closure Cost Estimate](#) and include it in your Application Package. Applicants are encouraged to contact the Board, prior to applying, to determine which closure-cost-estimate template is most suited to the activities being applied for. Guidance is provided in section 2.2 of the MVLWB/INAC/GNWT [Guidelines for Closure and Reclamation Cost Estimates for Mines](#). If your Application is submitted concurrently with a Water Licence Application, please ensure water- and land-related activities and liabilities are provided.

A draft closure and reclamation plan is on file under MV2008D0014. The main components of closure are placing all tailings underground as backfill, sealing mine openings, capping and covering the waste rock pile, demolishing buildings, breaching dams and berms and grading the site. A closure cost estimate is provided.

19. ADDITIONAL SUPPORTING INFORMATION

Please use the grey field below to provide or reference the following 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 include them in your Application Package. Templates are provided in the Guidelines. Please also refer to [Information for Proponents on MVLWB's Engagement Requirements](#).

Land Use Planning: Please contact the applicable Land Use Planning Board or Tłı̨chǫ Government to discuss conformity with the relevant land use plan(s). Attach your 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): Provision of TEK/TK is mandatory for applications to the Sahtu Land and Water Board. Other applicants are strongly encouraged to include TEK/TK.

Studies Undertaken to Date: Please list any relevant studies that support the proposed activities and include them in your Application Package.

Engagement records are provided with this application. An engagement plan is on file for MV2008D0014 which remains current. Many studies were undertaken as part of EA0809-002 and for MV2001C0023 and MV2008D0014.


20. FEES

Please refer to section 20 of the [Mackenzie Valley Land Use Regulations](#).

Type of Fee	Amount (\$)
Application fee:	150.00
Land-use fees (for federal areas only):	
Total Fees:	150.00

21. SIGNATURE

David Harpley, CZN	VP Environment
Applicant's Name (print) or Company Name	Position (print)

	April 9, 2020
Signature	Date

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).