Preliminary Screening Report Form

Preliminary screener: MVLWB, Parks Canada Reference / File number: MV2014F0013 & MV2014L8-0006 (non-federal) MV2019L8-0002 (IAB Lands) PC2014F0013 & PC2014L8-0006 (Parks Canada) TITLE: All Season Road Type A Land Use Permits and Type B Water Licences ORGANIZATION: Canadian Zinc Corporation MEETING DATE: August 8, 2019	EIRB Reference number: EA1415-01

Type of Development: (CHECK ALL THAT APPLY)	☐	New
	☒	Amend, EIRB Ref. # EA1415-01
	☒	Requires permit, licence, or authorization
	☐	Does not require permit, licence, or authorization

Project Summary:

On May 22, 2014, the Mackenzie Valley Land and Water Board (the Board) referred Canadian Zinc Corporation's (CZN) All Season Road (ASR) Project (Project) to Environmental Assessment (EA). The Report of Environmental Assessment (REA) was released by the Mackenzie Valley Environmental Impact Review Board (Review Board) on September 12, 2017. On October 9, 2018, the Minister of Crown-Indigenous Relations, as the federal Minister, with concurrence from all responsible ministers, provided approval of the EA. On October 9, 2018, the Board and Parks Canada jointly required CZN to submit a Post-EA Information Package. On February 20, 2019, CZN submitted a response (Post-EA Information Package) to the Board. The response, dated February 20, 2019, indicates that some Project components have changed since the EA, and therefore require screening. During the review comment period, dated May 15, 2019, reviewers identified the following Project components that were not screened during EA: the modified Sundog Creek diversion; hoverbarge, and radio repeater. CZN provided additional information in response to reviewer comments regarding the hoverbarge. During the Technical Session, held on June 5-7, 2019, an Information Request (IR #10) was sent to CZN regarding Project changes that have not been assessed during EA. On June 24, 2019, CZN responded to the IR #10 and indicated minor changes including new water sources, additional minor water crossings, radio repeaters, and camps that differ from what was outlined in the EA. The Board and Parks Canada reviewed these Project changes, and determined that the changes are minor, that these aspects of the changes have been assessed during the EA, and that the changes have environmental benefits. Therefore, these minor changes do not require additional screening as they have been screened during EA. The Board and Parks Canada have conducted preliminary screening on Project changes including the modified Sundog Creek diversion, hoverbarge, and hoverbarge landings.

Scope:

In general, the scope of the development includes the construction, operation, maintenance, closure and reclamation of the ASR and supporting infrastructure. The ASR begins at the intersection of the Liard Highway kilometre post 184 (kp 184) and ends at Prairie Creek Mine (kp 0). The total ASR is 170 km in length, additional to the 10-km Nahanni Butte access road. The specific components screened are described in section 2 of the REA. The components that have changed since the EA and require screening are as follows:

- Construction and operation of a barge crossing at the Liard River from a conventional barge to a hoverbarge, and the associated landings on both sides of the Liard River; and
  - The barge itself was screened during EA, but the winch cable associated with the hoverbarge has not been assessed.
- The construction, operation, closure and reclamation of the ASR along the south bank of Sundog Creek between km 34 and km 38.
  - The alignment along the south bank of Sundog Creek was assessed in the EA, however the location of the alignment has now been modified. The original Project description was to relocate about 1.5 km of the creek main channel from its present location along the south edge of the floodplain to a prominent natural braid located in the central portion of the floodplain. The purpose of the diversion was to reduce ASR-channel interaction and allow the road segment to be built partly within the footprint of the original main channel. CZN is now proposing a revised plan for Sundog Creek that eliminates the need for the Sundog Creek Diversion. Under the revised plan, the road alignment along the former diversion reach is adjusted into the south bank above the existing main channel to minimize encroachments into the channel.

Land Use Eligibility - Section 18 Mackenzie Valley Land Use Regulations:

18 (a) via Mining Surface Leases 95F/10-5-5

Type of Disposition	Disposition Number(s)
☐ Mineral Claims	
☐ Prospecting Permit (s)	
☐ Mineral Leases	
☐ Oil and Gas: EL/SDL/PL	
☐ Quarry Permit	
☐ Timber Permit	
☒ Other:	Non-Federal Land: Surface Leases 95F/10-5-5 (mine site), 95F/10-7-4 (airstrip); no lease required for ASR because CZN cannot have exclusive right to the ASR, but licence of occupation is required [1] IAB lands [2] (Reserve No. 95G/3-11-2): licence of occupation required for ASR, federal surface lease required for barge landing sites

Principal Activities (*related to scoping)* (CHECK ALL THAT APPLY)

☒ Construction	☐ Exploration	☐ Decommissioning
☐ Installation	☐ Industrial	☐ Abandonment
☐ Maintenance	☐ Recreation	☐ Aerial
☐ Expansion	☐ Municipal	☐ Harvesting
☒ Operation	☐ Quarry	☐ Camp
☐ Repair	☐ Linear / Corridor	☐ Scientific/
☐ Research	☐ Sewage	☐ Solid Waste
☐ Water Intake		
☐ Other:		

Principal Development Components (*related to scoping*) (CHECK ALL THAT APPLY)

- ☐ Access Road
  - ☒ construction
  - ☐ abandonment/removal
  - ☐ modification e.g., widening, straightening
- ☒ Automobile, Aircraft or Vessel Movement
- ☐ Blasting
- ☐ Building
- ☐ Burning
- ☐ Burying
- ☐ Channelling
- ☒ Cut and Fill
- ☐ Cutting of Trees or Removal of Vegetation
- ☐ Dams and Impoundments
  - ☐ construction
  - ☐ abandonment/removal
  - ☐ modification
- ☐ Ditch Construction
- ☐ Drainage Alteration
- ☐ Drilling other than Geoscientific
- ☐ Ecological Surveys
- ☐ Excavation
- ☐ Explosive Storage
- ☐ Fuel Storage
- ☐ Topsoil, Overburden or Soil
- ☐ Waste Management
  - ☐ disposal of hazardous waste
  - ☐ waste generation
  - ☐ sewage
  - ☐ disposal of sewage
- ☐ Geoscientific Sampling
- ☐ Trenching
- ☐ Diamond drill
- ☐ Borehole core sampling
- ☐ Bulk soil sampling
  - ☐ gravel
  - ☐ hydrological Testing
- ☐ Site Restoration
  - ☐ fertilization
  - ☐ grubbing
  - ☐ planting/seeding
  - ☐ reforestation
  - ☐ scarify
  - ☐ spraying
  - ☐ re-contouring
- ☐ Slashing and removal of vegetation
- ☐ Soil Testing
- ☒ Stream Crossing/Bridging
- ☐ Tunnelling/Underground

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[1] See Review Board website (www.reviewboard.ca) Letter from GNWT to CZN Re- Licence of Occupation and Leasing Land Application Requirements. (January 10, 2017)

[2] See Review Board Website (www.reviewboard.ca) *Indigenous and Northern Affairs Canada Technical Report.* (March 10, 2017)

☐ fill
☐ disposal
☐ removal
☐ storage

☐ Other:

NTS topographic map sheet numbers:

Hoverbarge / hoverbarge landings: 95G
Modified Sundog Creek diversion: 95F

Latitude / longitude and UTM system:

Minimum latitude: 61° 06’ N
Maximum latitude: 61° 37’ N
Minimum longitude: 122° 50’ W
Maximum longitude: 124° 48’ W

NAD83 Zone 11

Nearest community and water body:

Hoverbarge / hoverbarge landings: Nahanni Butte, NT and Liard River
Modified Sundog Creek diversion: Nahanni Butte, NT and Sundog Creek

Land Status (consultation information)

☐ Free Hold/Private ☒ Commissioner’s/Territorial Lands ☒ Federal Crown Land (IAB and Parks) ☐ Municipal Land

Parks Canada Nahanni National Park Reserve

Transboundary/Transregional Implications

☐ British Columbia ☐ Alberta ☐ Saskatchewan ☐ Yukon
☐ Nunavut ☐ National Park ☐ Inuvialuit Settlement Region
☐ Wek’èezhìi ☐ Gwich’in ☐ Sahtu

Type of transboundary implication: ☐ Impact / Effect ☐ Development

☐ Public concern: _____
(Describe.)

1 Physical - Chemical Effects

Impact	Mitigation
1.1 Ground Water	
☐ water table alteration	
☐ water quality changes	
☐ infiltration changes	
☐ other:	
☒ N/A	
1.2 Surface Water	
☒ flow or level changes	Sundog Creek In the revised plan for Sundog Creek the road alignment along the former diversion reach is adjusted into the south bank above the existing main channel to minimize encroachments into the channel.

Hydrology baseline monitoring will include ongoing operation of Water Survey of Canada (WSC) stream gaging station 10EC003 on Prairie Creek at the Mine, established in October 2013, plus a new stream gauging station installed in 2018 and operated by WSC on Sundog Creek near kp 31. Hydrology and stream morphology monitoring of Sundog Creek will consist of: (1) stream flow monitoring at the WSC station, (2) periodic observations of specific areas of ASR encroachment to ensure that flow velocities do not exceed grayling ability to migrate upstream, and (3) watching for channel shifting that might threaten the road or watercourse crossings.

CZN is required to submit a Fish and Fish Habitat Protection Plan which must include a section specific to the construction and operation of the ASR along Sundog Creek. This plan will include any required mitigations to minimize potential adverse effects on fish and fish habitat from the design of the ASR through the use of best practices during construction and operation. This plan will also include baseline collection, monitoring and adaptive management to maintain the channel in a way that is protective of fish and fish habitat through the life of the Project.

☒ water quality changes

Hoverbarge
The winch cable raising and dropping with the operation of the hoverbarge may increase turbidity and suspended sediment in the Liard River. CZN is required to submit a Sediment and Erosion Control Plan, which will address the potential impacts of the elevated sediment. Monitoring associated with the Sediment and Erosion Control Plan is required to ensure mitigation measures are effective.

Sundog Creek
In the revised plan for Sundog Creek the road alignment along the former diversion reach is adjusted into the south bank above the existing main channel to minimize encroachments into the channel. The proposed alignment will, however, still involve some encroachment into the main channel. CZN is required to submit a Fish and Fish Habitat Protection Plan which must include a section specific to the construction and operation of the ASR along Sundog Creek. This plan will include any required mitigations to minimize potential adverse effects on fish and fish habitat from the design of the ASR through the use of best practices during construction and operation. This plan will also include baseline collection, monitoring and adaptive management to maintain the channel in a way that is protective of fish and fish habitat through the life of the Project.

In addition, CZN is required to submit a Sediment and Erosion Control Plan, which will address the potential impacts of the elevated sediment resulting from the ASR construction and operation. Monitoring associated with the Sediment and Erosion Control Plan is required to ensure mitigation measures are effective.

☐ water quantity changes

☐ drainage pattern changes

☐ temperature

☐ wetland changes/loss

☐ other:

☐ N/A

Impact | Mitigation

1.3 Noise

☐ noise in/near water

☐ noise increase

☐ other:

☒ N/A

Impact	Mitigation

1.4 Land

☐ geologic structure changes

☐ soil contamination

☐ buffer zone loss

☐ soil compaction and settling

☒ destabilization/erosion

Hoverbarge
The construction and operation of the hoverbarge landings could cause destabilization and erosion. The barge landing areas are engineered structures, and therefore require a Design and Construction Plan, which will identify any potential impacts and mitigation measures associated with the hoverbarge landings. CZN is also required to submit a Sediment and Erosion Control Plan to address the impacts of hoverbarge landings, provide mitigation measures, and identify monitoring plans to ensure mitigations are effective.

Sundog Creek
The construction and operation of the ASR alignment along the south bank of Sundog Creek could cause erosion and sedimentation into the waterway. CZN is required to submit a Sediment and Erosion Control Plan, which will address the potential impacts of the elevated sediment resulting from the ASR construction and operation. Monitoring associated with the Sediment and Erosion Control Plan is required to ensure mitigation measures are effective.

☐ permafrost regime alteration

☐ explosives/scarring

☐ other:

☐ N/A

Impact	Mitigation

1.5 Non-renewable natural resources

☐ resource depletion

☐ other:

☒ N/A

Impact	Mitigation

1.6 Air/climate/atmosphere

☐ other:

☒ N/A

2 <u>BIOLOGICAL ENVIRONMENT</u>

Impact	Mitigation

2.1 Vegetation

☐ species composition

☐ species introduction

☐ toxin/heavy accumulation

☐ other: Linear Migration routes, habitat fragmentation

☒ N/A

Impact	Mitigation
2.2 Wildlife and Fish	
☐ effects on rare, threatened or endangered species	
☒ fish population changes	Hoverbarge The construction of the hoverbarge landings and the operation of the hoverbarge may impact fish populations. CZN is required to submit a Sediment and Erosion Control Plan, and Design and Construction Plan for the hoverbarge landings, which will address the potential impacts and mitigations on fish habitat. Sundog Creek CZN is required to submit a Fish and Fish Habitat Protection Plan which must include a section specific to the construction and operation of the ASR along Sundog Creek. This plan will include any required mitigations and offsets to minimize potential adverse effects on fish and fish habitat from the design of the ASR through the use of best practices during construction and operation. This plan will also include baseline collection, monitoring and adaptive management to maintain the channel in a way that is protective of fish and fish habitat through the life of the Project. CZN is required to submit a Sediment and Erosion Control Plan, which will address the potential impacts of the elevated sediment resulting from the ASR construction and operation. Monitoring associated with the Sediment and Erosion Control Plan is required to ensure mitigation measures are effective.
☐ waterfowl population changes	
☒ breeding disturbance	Hoverbarge The construction of the hoverbarge landings and the operation of the hoverbarge may impact fish populations. CZN is required to submit a Sediment and Erosion Control Plan, and Design and Construction Plan for the hoverbarge landings, which will address the potential impacts and mitigations on fish habitat. Sundog Creek CZN is required to submit a Fish and Fish Habitat Protection Plan which must include a section specific to the construction and operation of the ASR along Sundog Creek. This plan will include any required mitigations and offsets to minimize potential adverse effects on fish and fish habitat from the design of the ASR through the use of best practices during construction and operation. This plan will also include baseline collection, monitoring and adaptive management to maintain the channel in a way that is protective of fish and fish habitat through the life of the Project CZN is required to submit a Sediment and Erosion Control Plan, which will address the potential impacts of the elevated sediment resulting from the ASR construction and operation. Monitoring associated with the Sediment and Erosion Control Plan is required to ensure mitigation measures are effective.
☐ population reduction	
☐ species diversity change	

☐ health changes

☐ behavioural changes

☒ habitat changes / effects	Hoverbarge The construction and operation of the hoverbarge landings may impact wildlife habitat. CZN is required to submit a Wildlife Management and Monitoring Plan to address the potential impacts on wildlife habitat. Sundog Creek The construction of the ASR alignment along the south bank of Sundog Creek has the potential to impact Collared Pika habitat. CZN is required to submit a Wildlife Management and Monitoring Plan to address the potential impacts on wildlife habitat. This plan will include baseline, mitigation, and monitoring related to any impacts on Collared Pika.

☐ game species effects

☐ toxins/ heavy metals

☐ forestry changes

☐ agricultural changes

☐ other:

☐ N/A

3 Interacting Environment

Impact	Mitigation
3.1 Habitat and Communities	
☐ predator-prey	
☒ wildlife habitat/ecosystem composition changes	Sundog Creek The construction of the ASR alignment along the south bank of Sundog Creek has the potential to impact Collared Pika habitat. CZN is required to submit a Wildlife Management and Monitoring Plan to address the potential impacts on wildlife habitat. This plan will include baseline, mitigation, and monitoring related to any impacts on Collared Pika habitat.
☐ reduction/removal of keystone or endangered species	
☐ removal of wildlife corridor or buffer zone	
☐ other:	
☐ N/A	

Impact	Mitigation
3.2 Social and Economic	
☐ planning/zoning changes or conflicts	
☐ increase in urban facilities or services use	
☐ rental house	

☐ airport operations/capacity changes

☐ human health hazard

☐ impair the recreational use of water or aesthetic quality

☐ affect water use for other purposes

☐ affect other land use operations

☐ quality of life changes

☐ public concern

☐ other:

☒ N/A

Impact Mitigation

3.3 Cultural and Heritage

☐ effects to historic property

☐ increased economic pressure on historic properties

☐ change to or loss of historic resources

☐ change to or loss of archaeological resources

☐ increased pressure on archaeological sites

☐ change to or loss of aesthetically important sites

☐ effects to aboriginal lifestyle

☐ other:

☒ N/A

- Pursuant to Schedule 4.1 of the **Northwest Territory Métis Nation** (NWTMN) Interim Measures Agreement, the Board determined that written notice was given to the NWTMN and that a reasonable period of time was allowed for NWTMN to make representations with respect to the application.

- Pursuant to section 27, paragraphs (a) and (b) of the **Dehcho First Nations** (DCFN) Interim Measures Agreement, the Board has determined that written notice was given to the DCFN, and that a reasonable period of time was allowed for DCFN to make representations with respect to the application.

Acho Dene Koe First Nation	GNWT - MACA (Municipal and Community Affairs)
Air Tindi	GNWT - PPCA (Policy, Planning, Communications and Analysis (w/in ITI))
Alpine Aviation	Great Slave Helicopters
Black Sheep Aviation	Hamlet of Fort Liard
Canadian Northern Economic Development Agency	Hamlet of Fort Providence
CanNor NWT Region	INAC - CARD
CanZinc Corporation	INAC - NWT Inspectors
CPAWS - NT Chapter	INAC – Yellowknife
Deh Cho Land Use Planning Committee	Ka'a'gee Tu First Nation
Deh Gah Got'ie Dene Council	Katlodeeche First Nation
Dehcho First Nations	Kluane Airways Ltd.
Deh Cho Regional Helicopters	Liard First Nation (Yukon)
Deh Gah Got'ie Kue First Nations	Liidlii Kue First Nation (Ft Simpson)
Dene Nation	Mackenzie Valley Environmental Impact Review Board
Dene Tha' First Nation	MVLWB
Digaa Enterprises Ltd.	Naha Dehe Dene Band
Eagle Fire Logistics	Nahanni Heli Adventures
Environment and Climate Change Canada	Northern Rockies Lodge
Fisheries and Oceans Canada	North Slave Metis Alliance
Fort Providence Metis Council #57	North-Wright Airways
Fort Providence Resource Management Board	NWT- OROGO
Fort Simpson Metis Local 52	Parks Canada
Forward Mining	Pehdzeh Ki First Nation (Wrigley)
General Public	Racher Consulting
GLWB	Ross River Dena Council
GNWT - ECE (Education, Culture and Employment)	Sambaa Ke First Nation (Trout Lake)
GNWT - ENR (Environment and Natural Resources)	Scoop Lake Outfitters
GNWT - ENR - Deh Cho Region	Simpson Air
GNWT - ENR - EAM	Snap Lake Environmental Monitoring Agency – SLEMA
GNWT - ENR - South Slave Region - Fort Smith	South Nahanni Airways
GNWT - Executive and Indigenous Affairs	Tlicho Government
GNWT - HSS (Health and Social Services)	Tlicho Lands Protection Department
GNWT - INF (Infrastructure)	Transport Canada
GNWT - ITI (Industry, Tourism and Investment)	Tthets'ek'ehdeli First Nation (JMR)
GNWT – Lands	Wek' eezhii Renewable Resources Board
GNWT - Lands - Dehcho Region	West Point First Nation
GNWT - Lands - Hay River Region	WLWB
GNWT - Lands - North Slave Region	Wood
GNWT - Lands - South Slave Region - Fort Smith	

DECISION

The Mackenzie Valley Land and Water Board (the Board) and Parks Canada are satisfied that the preliminary screening of Application MV2014F0013 & MV2014L8-0006 (non-federal), MV2019L8-0002 (IAB Lands), PC2014F0013 & PC2014L8-0006 (Parks Canada), Canadian Zinc Corporation, All Season Road, Prairie Creek Mine has been completed in accordance with section 125 of the *Mackenzie Valley Resource Management Act* (MVRMA).

The Board and Parks Canada are satisfied that communities and First Nations affected by the Application have been notified and provided adequate time to provide comment on the Application as required by land claim and self government agreements, the MVRMA, policy directions relating to Interim Measures Agreements, and any other applicable legislation and agreements.

Having reviewed all relevant evidence on the Public Registry, including the submissions of the Applicant, the written comments received by the Board and Parks Canada and any Staff Reports prepared for the Board, the Board and Parks Canada have decided that in its opinion:

- The proposed development will not have a significant adverse impact on the environment; and
- The proposed development is not a cause of public concern.

The Board and Parks Canada are also of the opinion that any impacts of the development on the environment can be mitigated through the imposition of the terms and conditions developed through public review, and approval by the Board and Parks Canada, for Land Use Permits MV2014F0013 and PC2014F0013 and Water Licences MV2014L8-0006, MV2019L8-0002, and PC2014L8-0006. The Board and Parks Canada, having due regard to the facts and circumstances, the merits of the submissions made to it, and to the purpose, scope, and intent of the MVRMA and the Mackenzie Valley Land Use Regulations, the *Waters Act* and Waters Regulations and the Canada National Parks Act and regulations have decided that the Application can proceed through the regulatory process.

	Preliminary Screening Decision
☒	Outside Local Government Boundaries
☐ ☒	The development proposal might have a significant adverse impact on the environment, *refer it to the EIRB*. Proceed with regulatory process and/or implementation.
☐ ☒	The development proposal might have public concern, *refer it to the EIRB*. Proceed with regulatory process and/or implementation.
☐	Wholly Within Local Government Boundaries
☐ ☐	The development proposal is likely to have a significant adverse impact on air, water or renewable resources, *refer it to the EIRB*. Proceed with regulatory process and/or implementation.
☐ ☐	The development proposal might have public concern, *refer it to the EIRB*. Proceed with regulatory process and/or implementation.

Preliminary Screening Organizations	Signatures
Mackenzie Valley Land and Water Board	
August 8, 2019	Mavis Cli-Michaud, Chair
Parks Canada	
August 9, 2019	Tim Gauthier acting for Jonah Mitchell, Field Unit Superintendent Southwest Northwest Territories