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June 30, 2023

by EMAIL

Mark Cliffe-Phillips Executive Director Mackenzie Valley Environmental Impact Review Board PO BOX 938 YELLOWKNIFE NT X1A 2N7

Dear Mark Cliffe-Phillips:

2023 Annual Environmental Assessment Measures Implementation Report for the Prairie Creek All-Season Road (EA1415-01, Measure 15-3)

On behalf of the Government of the Northwest Territories (GNWT), I would like to share the GNWT's annual report on the implementation of environmental assessment measures for the Prairie Creek All-Season Road, for July 1, 2022, to June 30, 2023. This report is required by the October 9, 2018 <u>decision letter</u> on EA1415-01 from the then-Minister of Crown-Indigenous Relations and Northern Affairs, on behalf of responsible Ministers, and by subsection 130(5) of the *Mackenzie Valley Resource Management Act.*

Requirements for this report are specified in Measure 15-3, Annual Reporting from Regulatory Authorities and Government, in the Mackenzie Valley Environmental Impact Review Board's (Review Board) *Report of Environmental Assessment and Reasons for Decision for Canadian Zinc Corporation Ltd.'s Prairie Creek All Season Road Project* (Report of EA).

The attached report lists all measures as included in the recommendation adopted by the responsible ministers, and summarizes GNWT actions from July 01, 2022, to June 30, 2023. For reference, the GNWT's past reporting on actions taken in 2021-2022 is also included in the table. Measures directed to the GNWT are:

- Measure 6-2, Part 1: GNWT to require a Wildlife Management and Monitoring Plan (WMMP); and
- Measure 15-3: Annual reporting from government and regulatory authorities.

GNWT actions related to measures not directed to the GNWT but requiring GNWT participation or review, such as mitigation or management plans, are also summarized in the attached report. The effectiveness of measures has not been assessed because the Project is still in the early stages.

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As appropriate, the GNWT will continue to consider the Review Board's suggestions as set out in the Report of EA.

The GNWT will continue to work with resource management boards, Parks Canada, Canadian Zinc Corporation Ltd., and other parties to the Prairie Creek All Season Road Environmental Assessment (EA1415-01) on measure implementation and reporting. Should the Review Board or any parties have questions regarding the attached materials, please contact Alison Heslep, Manager of Project Assessment, by email at <u>Alison.Heslep@gov.nt.ca</u>.

Sincerely,

Cl. Seale

Lorraine Seale Director Impact Assessment and Security Management Environment and Climate Change

Attachment



Government of Gouvernement des Territories du Nord-Ouest

Government of the Northwest Territories

Canadian Zinc Corporation Ltd's (CanZinc) Prairie Creek All-Season Road Project

2023 Annual Environmental Assessment Measures Implementation Report

EA 1415-01

SUBMITTED TO

Mackenzie Valley Environmental Impact Review Board 200 Scotia Centre, P.O. Box 938 YELLOWKNIFE, NT X1A 2N7 June 30, 2023

Preamble

The Government of the Northwest Territories' (GNWT) responses found in the "2023 Detail on Measure Progress" column are provided to fulfill the annual reporting obligations associated with Measure 15-3 of the Canadian Zinc Corporation Ltd. (CanZinc) EA1415-01 Report of Environmental Assessment. Measure 15-3, as outlined below, states:

Measure 15-3: Annual reporting from government and regulatory authorities

In order to evaluate the effectiveness of mitigation measures for the protection of the environment, each regulatory authority or government that is wholly or partly responsible for implementation of any measure in this Report of EA will prepare an annual Report on Implementation of Measures. The Report will:

a) describe the actions being undertaken to implement the measures or the part(s) of the measures for which the regulatory authority or government is responsible; and b) explain how these actions, including those implemented through adaptive management, fulfill the intent of the EA measures, including consideration of the following questions:

i. How are implementation actions addressing a likely significant adverse impact on the environment? ii. How effective are implementation actions at reducing, controlling, or eliminating the impact or its likelihood?

Government and regulators will provide a copy of this annual report to the Review Board by **June 30** of each year.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	Measure 5-1: Independent Technical Review Panel			
Chapter 5. Human	5 -1, Part 1: Introduction In order to prevent significant adverse impacts on people and the environment, CanZinc will establish and fund an independent technical review panel to evaluate and approve the final road design. The developer will follow the final recommendations of the review panel with respect to road design. CanZinc will develop a term of reference for the panel based on the requirements of this measure.	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
Safety	5 -1, Part 2: Panel mandate The mandate of the independent technical review panel will be to provide independent expert advice and recommendations on the design and construction of the road to minimize traffic related accidents, road failure or malfunctions, and any resulting significant adverse impacts on human safety or the environment. The panel will ensure that the road is designed and constructed to an appropriate standard that is highly protective of people and the	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	 environment, including consideration of: the number and type of mine and non-mine related vehicles expected to use the road; two-way traffic; human safety and minimizing traffic related accidents; permafrost degradation and impacts on water quality; and, appropriate road design criteria, including but not limited to: watercourse crossings; right of way clearing width; road alignment, grades, subgrade width, and road widening at curves; cut and fill slopes, cut and fill slope angles, slope stability; and 			
	5 -1, Part 3: Panel composition At a minimum, the panel will be comprised of three members who are professional engineers and geoscientists. The panel must have expertise in northern road design, including permafrost and mountainous terrain experience. Members of the panel will have knowledge and experience to appropriately address the mandate in Measure 5- 1 part 2 and considerations in Measure 5-1 part 5. CanZinc will engage with Parks Canada, the Mackenzie Valley Land and Water Board, the Government of the Northwest Territories, Nahanni Butte Dene Band, Łiídlų Kų́ę First Nation, and Dehcho First Nations on the panel composition. Members of the panel will be independent and will be approved by the Mackenzie Valley Land and Water Board and Parks Canada.	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	5 -1, Part 4: Panel activities and timing The panel will be established prior to detailed design of the road. CanZinc will engage with Parks Canada, the Mackenzie Valley Land and Water Board, the Government of the Northwest Territories, Nahanni Butte Dene Band, Łiídlu Kúś First Nation, and Dehcho First Nations on the panel activities. CanZinc will provide the panel's reports to Parks Canada and the Mackenzie Valley Land and Water Board. At a minimum, the panel will complete the activities listed below.	CanZinc	Measure is not directed to the GNWT. The GNWT will work with the panel as required.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	i. Prior to detailed design of the road:review and comment on the Panel's terms of reference.			
	 ii. During detailed design of the road: work with CanZinc to review updated information, design plans, and detailed design work, including the terrain stability assessments undertaken for the proposed cut and fill slopes, and the developer's detailed interpretation of the permafrost conditions at the site upon completion of geotechnical site investigation work; and, provides advice and recommendations for improving road design, following the mandate above, and considering construction, operations and maintenance, closure and reclamation, and temporary closure. 			
	 iii. Following detailed design of the road: review the detailed design documents for the road; provide a preliminary report to CanZinc on the panel's findings and conclusions, including any additional or outstanding recommendations; review CanZinc's response and justification for any recommendations the developer does not wish to follow; prepare and submit a final report to CanZinc that includes the panel's findings and conclusions on the final design. 			
	 iv. During construction: work with the developer and regulatory authorities to determine the frequency and nature of the panel's activities during construction (at a minimum, the panel will be consulted and have the opportunity to revise its final report if any material changes to design are made following the panel's report). 			
	5-1, Part 5: Other panel considerations	N/A	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	The independent technical review panel will also consider any relevant information on the record from EA1415-01, information gathered as a result of relevant CanZinc commitments, and the requirements and outcomes of Review Board measures. This includes, but is not limited to:			
	 i. the updated risk assessment (Appendix C, commitment #241); ii. terrain stability assessment reports (Appendix C, commitment #137) and any additional mitigation required to address instability; iii. avalanche related information (Appendix C, commitment #114; 			
	 Suggestion 5-1); iv. individual detailed borrow site plans and designs (Appendix C, commitment #119); v. geotechnical, geophysical, permafrost, and hydrological 			
	 investigations (Appendix C, commitments #129, #156, #232, #235; Measure 12-1; Measure 8-1); vi. the Traffic Control Mitigation and Management Plan (Measure 5-2); 			
	 vii. relevant management plans and proposed mitigations; viii. extreme weather events; ix. climate change; and, x. karst features. 			
	Measure 5-2: Traffic Control Mitigation and Management Plan		I	I
	5-2, Part 1: Introduction In order to prevent significant adverse impacts from the Project on human safety, water quality, and wildlife from accidents and increased harvest along the road, CanZinc will create a Traffic Control Mitigation and Management Plan. The purpose of the plan is to manage access control mitigations and all traffic on the road, including mine and non- mine traffic. The plan will consider all Project phases (construction, operation, closure [including temporary closure]) as well as seasonal or weather related closure. This plan will replace Section 7.1 of the Road	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	Operations Plan.			
	Prior to construction, the developer will submit this plan to the Mackenzie Valley Land and Water Board and Parks Canada for approval, as a condition of respective land use permits. CanZinc will operate in accordance with the approved plan.			
	 5-2, Part 2: Managing traffic on the road CanZinc will include all the mitigations it has identified for controlling non-mine traffic on the road in the Traffic Control Mitigation and Management Plan. The plan will describe roles and responsibilities for non-mine traffic mitigation and monitoring. At a minimum CanZinc will: exercise its right to control access on the lease parcels at the Liard River to control non-mine traffic; operate a checkpoint when haul trucks are using the road and document all traffic known to be on the road; and install signs indicating that the road is operated as a mine haul road and any public traffic using the road does so entirely at its own risk. In the Traffic Control Mitigation and Management Plan, CanZinc will also address mitigation and management strategies for all traffic on the road, including how this relates to the Journey Management System that CanZinc intends to use for mine traffic. Mitigations to increase safety on the road with both mine and non-mine traffic present should consider: a) the independent technical review panel's conclusions on road design and safety; and, b) data sources that can provide information about high wildlife collision areas and non-mine traffic presence (such as wildlife camera traps [see Measure 6-3] and the harvest monitoring program[see Suggestion 7-1]). 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. ENR provided <u>comments</u> on CanZinc's Traffic Control Mitigation and Road Operations and Maintenance Plan V2 via the ORS on Dec. 09, 2021.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	adaptive management, following the guidance in Appendix B of this Report of EA, within the Traffic Control Mitigation and Management Plan.			
	Measure 6-1: Wildlife Management			
Chapter 6. Wildlife and Wildlife Habitat	 6-1, Part 1: Wildlife baseline information collection, monitoring, mitigation and adaptive management program In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, the developer will collect additional wildlife baseline information to be integrated with mitigation, focused monitoring, and a systematic approach to adaptive management. In order to accomplish this, CanZinc will: collect baseline data as described in Part 2 of this measure; monitor wildlife and wildlife habitat during construction and operations as described in Part 3; incorporate Traditional Knowledge in developing and implementing a monitoring program; and, develop and implement an adaptive management framework to manage impacts on wildlife. 	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	 6-1, Part 2: Collection of baseline wildlife information for caribou, collared pika and bird species at risk that occur in the area The purpose of this baseline information collection is to confirm the presence or absence of listed wildlife species in the Project area, their population size, seasons of use and important habitat for species described below in the All Season Road corridor. In order to support Part 1, the developer will: a) submit a baseline survey plan for review and approval to Parks Canada within the NNPR and to GNWT on territorial lands; b) conduct baseline surveys for northern mountain caribou, boreal caribou, collared pika, and bird species at risk; c) use recognized methods and standards approved by Parks 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. CanZinc submitted the following wildlife baseline reports to ENR (and Parks Canada) in fall 2021: Prairie Creek Mine All-Season Road: Woodland Caribou & Remote Camera Baseline Prairie Creek Mine All-Season Road:	Measure is not directed to the GNWT. There were no review processes in 2022.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	Canada within NNPR, by GNWT on territorial lands, and by ECCC for species at risk;		Collared Pika Baseline & Habitat Loss Estimates	
	d) conduct surveys at the direction and approval of Parks Canada within NNPR and of the GNWT on territorial lands;		Prairie Creek Mine All-Season Road: Birds Baseline	
	e) complete surveys prior to road construction;			
	f) share its baseline wildlife information with Aboriginal organizations, including NBDB, LKFN and DFN; and,		Following submission of an updated WMMP for Phase 1 of the All-Season Road Project (Pioneer Winter Road), ENR participated in	
	g) present the results of its baseline information collection with Aboriginal organizations, including NBDB, LKFN and DFN, in a culturally-appropriate way.		a number of technical committee conference calls organized by Parks Canada to discuss ongoing concerns about baseline data sufficiency and data collection methods with CanZinc.	
	 6-1, Part 3: Wildlife monitoring programs In order to reduce adverse impacts on wildlife so they are no longer significant, the developer will prepare and implement a systematic monitoring program(s) for wildlife that may be affected by the Project. The developer will: a) submit monitoring program(s) for review and approval to Parks Canada within the NNPR and GNWT on territorial lands; b) focus on monitoring of northern mountain caribou, boreal caribou, collared pika, and bird species at risk; c) use recognized methods and standards approved by Parks Canada within NNPR, by GNWT on territorial lands, and by ECCC for species at risk; 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. On October 04, 2021, CanZinc submitted a revised version of the Phase 1 WMMP to ENR and Parks Canada for approval. An approval decision for the Phase 1 WMMP has not yet been made.	Measure is not directed to the GNWT. On August 10, 2022, the GNWT-ECC ¹ approved the WMMP for Phase 1 of the All- season Road Project. The WMMP was approved with the condition that three revisions be made and an updated version of the WMMP be submitted to the GNWT- ECC at least thirty days prior to starting construction of the Pioneer Winter Road. On October 14, 2022, GNWT-ECC approved CanZinc's revised WMMP that addressed the conditions outlined in the August 10,

¹ Although the merger of the GNWT Departments of Lands and Environment and Natural Resources occurred on April 1, 2023, the Department of Environment Change (ECC) is used for all activities in the July July 1, 2022, to June 30, 2023 reporting period.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	d) conduct monitoring through all phases of the Project;			2022, WMMP decision from the GNWT-ECC.
	e) formalize monitoring programs within the Wildlife Management and Mitigation Plan (Measure 6-2);			
	 f) provide annual monitoring reports to Parks Canada, GNWT, ECCC, NBDB, LKFN and DFN; 			
	g) share its wildlife monitoring data with Aboriginal organizations including NBDB, LKFN and DFN; and,			
	 h) present the results of its wildlife monitoring programs to Aboriginal organizations, including NBDB, LKFN and DFN, in a culturally appropriate way. 			
	Measure 6-2: Wildlife Management Monitoring Plan			
Chapter 6. Wildlife and Wildlife Habitat	 6-2, Part 1: GNWT to require a WMMP In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, GNWT will require the developer to prepare and implement a Wildlife Management and Monitoring Plan. The GNWT will : a) require that the developer prepare a WMMP under the legal authority of Section 95(1) of the Wildlife Act for portions of the Project in its jurisdiction; and b) include opportunity for public review of and comment on the final WMMP prior to construction and on updates to the WMMP throughout the life of the Project. 	GNWT -ENR	On October 04, 2021, CanZinc submitted a revised version of the Phase 1 WMMP to ENR and Parks Canada for approval. On November 02, 2021, ENR sent a letter to Indigenous governments and Indigenous organizations requesting that they advise ENR if any of the proposed actions to be undertaken by CanZinc in the WMMP had the potential to adversely impact their asserted or established Aboriginal and/or treaty rights. ENR received a response ² from one Indigenous government on December 17, 2021.	On August 10, 2022, the GNWT-ECC approved the WMMP for Phase 1 of the All- season Road Project. The WMMP was approved with the condition that three revisions be made and an updated version of the WMMP be submitted to the GNWT- ECC at least thirty days prior to starting construction of the Pioneer Winter Road. On October 14, 2022, the GNWT-ECC approved CanZinc's revised WMMP that addressed the conditions outlined in the August 10, 2022, WMMP decision from the GNWT-ECC.

² The letter is not publicly available.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
			ENR responded to these concerns in a letter dated May 25, 2022 ³ . An approval decision for the Phase 1 WMMP has not yet been made.	
	 6-2, Part 2: Parks Canada to require a WMMP In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, Parks Canada will require the developer to prepare and implement a Wildlife Management and Monitoring Plan. Parks Canada will: a) require that the developer prepare a WMMP as a condition of an authorization for the portions of the road in its jurisdiction; and b) include opportunity for public review of and comment on the 	Parks -CZ	Measure is not directed to the GNWT. The GNWT is working with Parks Canada to facilitate a consistent WMMP for the entire All-Season Road.	Measure is not directed to the GNWT.
	 final WMMP prior to construction and on updates to the WMMP throughout the life of the Project. 6-2, Part 3: Developer to prepare and implement a WMMP The developer will: a) update its draft WMMP to include all commitments and mitigations agreed to or recommended by its consultants 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. See discussion of Measure 6-2, Part 1.	Measure is not directed to the GNWT.
	 b) develop an adaptive management framework that links the results of monitoring with adjustments to mitigations as part of the WMMP that satisfies the requirements set out in Appendix B of this report; 			

³ The letter is not publicly available.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	c) describe how the monitoring data is linked with adaptive management in the Traffic Control and Management Plan;			
	 d) submit its updated WMMP to the wildlife regulators described in Parts 1 and 2 for review and approval prior to construction; and 			
	e) prepare and submit an annual report to wildlife regulators on the effectiveness of the WMMP that includes a description of how the adaptive management framework was used to address Project impacts.			
	Measure 6-3 Reducing the risk of vehicle collisions with wildlife			
Chapter 6. Wildlife and Wildlife Habitat	 6-3: Reducing the risk of vehicle collisions with wildlife In order to reduce the likelihood of significant impacts on wildlife from collisions with vehicles along the road, the developer will identify and communicate wildlife caution zones to road users. The details of this approach will be incorporated into the developer's WMMP (referred to in Measure 6-2) and will include: a) a description of how wildlife information from drivers will be collected and recorded to inform the selection of wildlife crossing areas; b) a detailed system for identifying wildlife (specifically big game as defined in the Wildlife Act) caution zones and marking them along the road (such as where sightings or collisions have occurred or where Traditional Knowledge identifies trails); c) use of a remote camera trap system to identify wildlife road crossing areas and identify non-mine related traffic; d) annual reporting of wildlife sightings by drivers that includes vehicle collisions with wildlife, locations of signage for wildlife caution zones and whether they were modified based on operational experience; 	CanZinc	Measure is not primarily directed to the GNWT. The GNWT will continue to participate in review processes as required. The Phase 1 WMMP submitted for approval by CanZinc on October 04, 2021, included several additions to address the requirements of this measure; however, the WMMP submitted for Phases 2/3 of the all- season road project will need to address this measure as well.	Measure is not directed to the GNWT. The Phase 1 WMMP approved by the GNWT-ECC on August 10, 2022, included several additions to address the requirements of this measure; however, the WMMP submitted for Phases 2/3 of the all- season road project will need to address this measure as well.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	 e) annual reporting to regulators of remote camera log results, locations of primary wildlife crossings and how wildlife caution zones were modified based on monitoring results (if applicable); and, 			
	 f) annual reporting to regulators on road use by non-mine vehicles using data from remote camera logs. 			
	The GNWT will regulate this measure on territorial lands and Parks Canada will regulate this measure within the NNPR. Reporting will be included in the WMMP annual report.			
	Measure 8-1: Water baseline data, mitigation, monitoring, and adaptive management			
	8-1, Part 1: Introduction To ensure that the road and crossings are designed to an appropriate standard, and constructed and operated in a manner that will be protective of the environment, CanZinc will:	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
Chapter 8. Water quality and quantity	 i. collect additional baseline data; ii. identify and implement appropriate mitigation to prevent significant adverse impacts; iii. combine monitoring programs and plans to coordinate water monitoring efforts; and iv. incorporate principles of adaptive management into road and crossing design and monitoring. 			
	Parks Canada, Fisheries and Oceans Canada, and the Mackenzie Valley Land and Water Board will (within their respective jurisdictions) review and approve CanZinc's actions to ensure the requirements of this measure are satisfied.			
	8-1, Part 2: Baseline data CanZinc will collect baseline data necessary to enable the design, construction, and maintenance of watercourse crossings that are protective of the environment and inform future monitoring. CanZinc will install hydrometric stations and use the resulting data in its road and crossing designs. These stations will measure continuous	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. The GNWT provided <u>comments</u> on CanZinc's Water Monitoring Plan V3 via the	Measure is not directed to the GNWT. The GNWT provided <u>comments</u> on CanZinc's Road Water Monitoring Plan V3.2 via the ORS on July 25, 2022.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	streamflow data during the open water season and instantaneous flow measurements during the ice-covered period for a minimum of one year prior to construction of watercourse crossings. The stations will be established to:		ORS on November 22, 2021.	
	 i. characterize spatial variability; ii. characterize variability in watershed size; iii. measure conditions at Sundog Creek and other key locations (to be determined in consultation with regulators); and, iv. provide locations for ongoing monitoring during operations. 			
	A minimum of one year of this data will be collected prior to the start of activities related to construction of watercourse crossings, and data collection will continue into construction (see Measure 8-1 part 4).			
	CanZinc will work with Parks Canada, Fisheries and Oceans Canada, and the Mackenzie Valley Land and Water Board to determine what, if any, other water baseline data is required prior to construction to inform mitigation, future monitoring, and adaptive management.			
	8-1, Part 3: Mitigate impacts on water quality CanZinc will use the baseline data collected, as well as any other relevant information and best management practices, to determine appropriate mitigation prior to construction and to revise detailed design plans for watercourse crossings. The developer will share the baseline data with all relevant regulatory authorities and the independent panel (Measure 5-1) to facilitate Project review, permitting, and licensing.	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	8-1, Part 4: Monitoring CanZinc has identified many different plans, programs, and commitments for monitoring Project effects on water during construction and operation. CanZinc will amalgamate these plans, programs, and commitments, to the extent feasible and practical, so that water monitoring is consolidated and coordinated. The Review Board understands that for operational purposes, CanZinc may wish to keep	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	certain aspects of water monitoring separate. The Review Board encourages the developer to consolidate where it can, in order to simplify the number of plans to create and report on. The Review Board considers that this may be relevant to the following commitments (Appendix C): #55, #93, #94, #211, #212, #217, #218, and #239, among others.			
	Regarding ongoing monitoring at hydrometric stations, Parks Canada and the Mackenzie Valley Land and Water Board will review and approve monitoring plans, through the water licenses, and determine if and when ongoing monitoring can be phased out.			
	8-1, Part 5: Adaptive management As part of the water monitoring program(s), CanZinc will establish and implement an adaptive management framework that satisfies the requirements of Appendix B. This will include thresholds and actions that will be developed and adapted using all available baseline information, effects monitoring results, and Traditional Knowledge and will consider ways to coordinate or compliment Aboriginal monitoring initiatives (see Measure 15-4).	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required. The GNWT provided <u>comments</u> on CanZinc's Water Monitoring Plan V3 via the ORS on November 22, 2021.	Measure is not directed to the GNWT. The GNWT provided <u>comments</u> on CanZinc's Road Water Monitoring Plan V3.2 via the ORS on July 25, 2022.
Chapter 9. Fish and Fish Habitat	 Measure 9-1: Effects mitigation, baseline data, management for the Sundog Creek diversion 9-1 Part 1: Introduction In order to prevent significant adverse impacts on fish and fish habitat, CanZinc will design, construct and operate the Sundog Creek diversion channel in a way that is protective of fish and fish habitat and ensures the ecological and hydraulic effectiveness of the diversion. Toward this end, CanZinc will develop a Sundog Creek Diversion Plan to: a) Mitigate and minimize potential adverse effects on fish and fish habitat from the Sundog Creek diversion through appropriate and protective channel design, and by using all available best practices during construction and operation of the channel. 	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	b) Collect baseline data necessary to design, construct and			

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	maintain the diversion channel in a way that is protective of fish and fish habitat throughout the life of the Project.			
	c) Monitor for project-related effects on physical and biological characteristics relevant to the maintenance of effective fish habitat and ecological integrity and to ensure that mitigations are operational and effective.			
	 Develop and implement an adaptive management framework for Project effects on fish and fish habitat and ecological integrity. 			
	Parks Canada and DFO must review and approve this plan prior to the start of construction.			
	 9-1 Part 2: Collect baseline information CanZinc will collect baseline data necessary to design, construct and operate the Sundog Creek diversion so that fish and fish habitat are protected through the life of the Project. This baseline information will also be used to verify EA predictions and inform adaptive management. Prior to commencement of construction of the Sundog Creek diversion, CanZinc will collect a minimum of one year of baseline data for both hydrological and ecological characteristics, including at a minimum, information on: i. benthic invertebrates; ii. aquatic vegetation; iii. fish use and occupancy; iv. channel morphology; v. flow characteristics; vi. water quality; vii. hydrology (as described in Measure 8-1); and viii. any other variables of concern as deemed appropriate by DFO 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	or Parks Canada. 9-1 Part 3: Mitigate or minimize potential adverse effects CanZinc will use all available best management practices and all	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in	Measure is not directed to the GNWT.

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	available baseline data (including data requirements in measure 8-1 and 9-1) to design and construct the Sundog Creek diversion channel to avoid and mitigate adverse effects on fish and fish habitat, including both ecological and hydrological considerations.		review processes as required.	
	 9-1 Part 4: Monitor Project effects CanZinc will develop and implement a monitoring plan to detect project-related effects on fish and fish habitat from the Sundog Creek diversion. Monitoring must consider both hydrological and ecological characteristics including, at a minimum: i. benthic invertebrates; 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	 ii. aquatic vegetation; iii. fish use and occupancy; iv. channel morphology; v. flow characteristics; vi. water quality; vii. hydrology ; and viii. any other variables of concern as deemed appropriate by DFO or Parks Canada. 			
	Monitoring will consider both short and long-term effects of the diversion, and will incorporate appropriate flexibility such that monitoring requirements can be adjusted to reflect the Project stage, past monitoring results, and likely effects.			
	9-1, Part 5: Adaptive management of Project effects CanZinc will develop and implement an adaptive management framework for effects on fish and fish habitat from the Sundog Creek diversion that satisfies the requirements of Appendix B.	CanZInc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
Chapter 10.	Measure 10-1: Traditional Knowledge			
Culture and Heritage	10-1: Traditional Knowledge In order to prevent significant adverse impacts on heritage resources, and to support Traditional Knowledge requirements in other measures in this Report of EA, the developer will:	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

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	 engage with potentially-affected Aboriginal groups, including Nahanni Butte Dene Band, Łíídlıı Kúé First Nation, and Dehcho First Nations, about ways to avoid impacts from the Project, including impacts on heritage resources; 			
	 ii. conduct this engagement prior to the Archaeological Impact Assessment (AIA), so that the resulting information can inform the AIA (see Measure 10-2); 			
	 thoroughly consider and, where applicable, incorporate Traditional Knowledge into Project design, mitigations, monitoring, and adaptive management; and 			
	iv. submit an updated engagement record and plan in accordance with Mackenzie Valley Land and Water Board (MVLWB) Engagement Guidelines for review and approval by Parks Canada and the MVLWB.			
	The developer will do this in a culturally-appropriate way that respects applicable Traditional Knowledge policies and protocols.			
	Measure 10-2: Archaeological Impact Assessment			
	10-2: Archaeological Impact Assessment	CanZinc	Measure is not directed to the GNWT. The	Measure is not directed to the GNWT.
	In order to prevent significant adverse impacts on heritage resources,		GNWT will continue to participate in	
	the developer will conduct an Archaeological Impact Assessment to the		review processes as required.	An NWT Archaeology Permit was issued in
	specifications detailed in commitments #215 and #216 in Appendix C of			2021 to an archaeological consultant for
	this Report. The Archaeological Impact Assessment will also:		An NWT Archaeology Permit was issued in	the AIA of the proposed All Season Road
	i. be developed in consultation with Parks Canada, the		2021 to an archaeological consultant for an Archaeological Impact Assessment (AIA) of	and ancillary components. ECE has not yet received the permit report from the
	Government of the Northwest Territories, Nahanni Butte Dene		the proposed All Season Road and ancillary	archaeological consultant and cannot
	Band, Łíídly, Kýę First Nation, and Dehcho First Nations;		components. ECE has not yet received the	comment on the whether AIA studies
			permit report from the archaeological	completed in 2021 are sufficient or if
	ii. incorporate all evidence of place names, traditional land use,		consultant and cannot comment on the	further work is required. The report was
	Traditional Knowledge, cultural and spiritual use, and harvesting in the vicinity of the Project;		whether AIA studies completed in 2021 are	due March 31, 2022. The department last
			sufficient (or if further work is required).	followed up with the permit holder on
	iii. be conducted along the final alignment of the All Season Road,		As of June 2022, the AIA of the All-Season	February 28, 2023. No estimated date has

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	at borrow site locations, and other areas where ground disturbance is proposed; and		Road is considered not yet completed.	been provided for the submission of the AIA.
	 iv. be completed prior to any new ground disturbance. Measure 11-1: Rare plant and rare plant assemblage baseline surveys and management in the Nahanni National Park Reserve 			
Chapter 11. Rare plant assemblages, and harvested species	 11-1, Part 1: Baseline surveys In order to inform effective mitigations, adaptive management, and reclamation and to prevent significant adverse impacts on vegetation within Nahanni National Park Reserve, the developer will complete vegetation field surveys focused on the presence of rare plants and rare plant assemblages prior to ground disturbance or clearing within Nahanni National Park Reserve. Parks Canada will approve the details of these surveys, including timing, seasonality, and methods. CanZinc will use the results of the baseline surveys to inform the following: understanding impacts on rare plants and rare plant assemblages; identifying appropriate mitigation to prevent significant adverse impacts; monitoring and adaptive management; and closure and reclamation. 	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	The results of the baseline surveys will be submitted to Parks Canada.	Condina		
	 11-1, Part 2: Rare Plant Management Plan In order to prevent significant adverse impacts on rare plants as a result of construction and operation, CanZinc will develop a Rare Plant Management Plan prior to construction. This plan will include mitigation, monitoring, and adaptive management for rare plants. Mitigation: CanZinc will use the information gathered in the surveys required by Measure 11-1 part 1, as well as any other relevant information, to identify appropriate mitigation within the plan to minimize significant adverse impacts on rare plants or rare 	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

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	 plant assemblages. Effects monitoring: The plan will include details on how rare plants will be identified and monitored during construction and operations activities. The plan will include effects monitoring for any identified rare plants or rare plant assemblages. Adaptive management: The plan will include the principles of adaptive management outlined in Appendix B. This will include identifying the actions that will be taken if rare plants are identified at any time during construction and operation of the Project. The Rare Plant Management Plan will be reviewed and approved by Parks Canada prior to construction. The developer will operate in accordance with the approved plan. 			
	Measure 11-2: Invasive Species Management			
	11-2, Part 1: Introduction In order to reduce the likelihood of significant impacts on vegetation through the introduction or spread of invasive species, the developer will survey the right-of-way, mitigate the spread of invasive species, monitor for the presence of invasive species, and incorporate adaptive management, as described in the rest of this measure.	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	11-2, Part 2: Baseline CanZinc will survey the entire right-of-way for the presence of invasive species, prior to ground disturbance during construction, focusing on areas with higher likelihood for the establishment of invasive species. CanZinc will use the results of the surveys to inform Parts 3 and 4 of this measure.	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.
	11-2, Part 3: Mitigation CanZinc will mitigate the potential spread of invasive species by implementing the mitigations it has already identified (e.g., the wheel-	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.

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	wash station). CanZinc will work with the Government of Northwest Territories and Parks Canada to identify additional mitigation that will prevent the spread of invasive species.		CanZinc submitted an updated Invasive Species Management Plan in November 2021.	
	11-2, Part 4: Invasive Species Management Plan CanZinc will revise the invasive species management framework and create an Invasive Species Management Plan prior to construction, considering off-site as well as on-site prevention and control. CanZinc will include the adaptive management principles set out in Appendix B within the invasive species management framework, the Invasive Species Management Plan, and any individual weed control plans, if or as they are developed. Prior to the commencement of construction, the Invasive Species Management Plan will be reviewed and approved by Parks Canada and the Mackenzie Valley Land and Water Board, with input from the Government of Northwest Territories where appropriate, as conditions in their respective land use permits. The developer will implement the approved plan(s).	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes and provide input through the MVLWB Online Review System as required. The GNWT provided <u>comments</u> on CanZinc's Invasive Species Management Plan V2.1 via the ORS on December 09, 2021.	Measure is not directed to the GNWT.
	Measure 12-1: Permafrost Management			
Chapter 12. Permafrost	12-1, Part 1: Introduction In order to avoid permafrost degradation and prevent associated significant adverse impacts on the environment from the Project during construction, operations, closure, and post-closure, the developer will conduct additional permafrost investigations to inform design and construction of the Project and will develop and implement a permafrost management plan.	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	12-1, Part 2: Permafrost investigations The developer will investigate permafrost and collect baseline permafrost data for the road alignment and borrow pits, provide the data and results to the independent technical review panel and to regulators, and use the information and results to inform detailed and final design.	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.

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	12-1, Part 3: Design and construction of the Project CanZinc will design and construct the road, borrow pits, and other infrastructure in a way that anticipates and avoids permafrost degradation and associated impacts on the surrounding environment during all phases of the Project, including post-closure.	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	 12-1, Part 4: Permafrost Management Plan The developer will establish and implement a Permafrost Management Plan that includes permafrost monitoring and adaptive management. The Permafrost Management Plan must include: monitoring to measure the effects of the Project on permafrost (with an emphasis on early detection of any changes in permafrost) and evaluate the effectiveness of Project design and mitigations in preventing or minimizing permafrost degradation; and, an adaptive management framework that satisfies the requirements of Appendix B. The Permafrost Management Plan will be for review and approval by the Mackenzie Valley Land and Water Board and Parks Canada. 	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	Measure 15-1: Monitoring by the Developer			
Chapter 15. Follow -up	15-1, Part 1: Objectives In order to ensure that the measures the developer is responsible for are fully and effectively implemented and to inform adaptive management throughout all phases of the development, the developer will establish and implement monitoring programs that fulfill the following objectives:	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	 i. to measure the effects of the Project on the environment; ii. to assess the implementation and effectiveness of the measures in this Report of EA for preventing or minimizing impacts on 			

EA1415-01 Report of EA Chapter Reference	Text of Measure	Party Responsible	2022 detail on measure progress for measures assigned in whole or in part to the GNWT.	2023 detail on measure progress for measures assigned in whole or in part to the GNWT.
	the environment;			
	 to inform the implementation of the adaptive management frameworks required by measures in this Report of EA, so that mitigation can be adjusted to ensure significant adverse impacts do not occur; 			
	 to assess the accuracy of the developer's predictions made during the environmental assessment, regarding the impacts of the Project on the environment; and 			
	v. where applicable, to provide relevant data and information to support other monitoring initiatives (such as Aboriginal monitoring initiatives and government monitoring).			
	These objectives must be incorporated into all monitoring programs that are identified in measures in this Report of EA, either by revising existing programs or creating new programs.			
	15-1, Part 2: Traditional knowledge and inclusion of Aboriginal groups The developer will engage and consider the advice of Nahanni Butte Dene Band, Łíídlų Kų́ę First Nation, and Dehcho First Nations, and consider all available Traditional Knowledge when developing its monitoring programs. To the extent possible, the developer will involve potentially-affected Aboriginal groups, including Nahanni Butte Dene Band, Łíídlų Kų́ę First Nation, and Dehcho First Nations, in the implementation of the developer's monitoring programs.	CanZinc	Measure is not directed to the GNWT. The GNWT will continue to participate in review processes as required.	Measure is not directed to the GNWT.
	Measure 15-2: Annual reporting from the developer	L		
	15-2: Annual reporting from the developer In order to demonstrate how measures are being implemented and to evaluate the effectiveness of the developer's efforts to prevent or minimize impacts on the environment, the developer will, throughout all phases of the development, prepare an annual Report on the Implementation of Measures. The Report will address the measures that the developer is responsible for and will:	CanZinc	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.

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	i. Describe the actions, including actions implemented through adaptive management, being undertaken to implement the measures.			
	ii. Evaluate how effective the implementation actions are in controlling, reducing, or eliminating the impact (considering the results of monitoring programs and adaptive management frameworks). Where applicable, provide references to further information contained in other management plans or monitoring reports.			
	The developer will provide a copy of this annual report to the Review Board by June 30 of each year, following the commencement of construction of the Project. The developer will also report in person annually, in a culturally appropriate way, to Nahanni Butte Dene Band, Łíídlų Kų́ę First Nation, and Dehcho First Nations.			
	Measure 15-3: Annual reporting from government and regulatory authorities	I	L	L
	15-3: Annual reporting from government and regulatory authorities In order to evaluate the effectiveness of mitigation measures for the protection of the environment, each regulatory authority or government that is wholly or partly responsible for implementation of any measure in this Report of EA will prepare an annual Report on Implementation of Measures. The Report will:	GNWT	As represented in this table.	As represented in this table.
	 a. describe the actions being undertaken to implement the measures or the part(s) of the measures for which the regulatory authority or government is responsible; and 			
	b. explain how these actions, including those implemented through adaptive management, fulfill the intent of the EA measures, including consideration of the following questions:			
	i. How are implementation actions addressing a likely significant			

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	adverse impact on the environment? ii. How effective are implementation actions at reducing, controlling, or eliminating the impact or its likelihood? Government and regulators will provide a copy of this annual report to the Review Board by June 30 of each year.			
	Measure 15-4: Support Aboriginal monitoring initiatives			
	15-4: Support Aboriginal monitoring initiatives To help prevent significant adverse impacts on the environment and on Aboriginal rights, the developer will support, to the greatest extent practicable, independent monitoring of the Project area through monitoring initiatives undertaken by Nahanni Butte Dene Band, Łíídlu Kúę́ First Nation, and Dehcho First Nations. The developer will provide access to the All Season Road for these Aboriginal groups to conduct their monitoring activities throughout all phases of the Project, whenever it is safe to do so. The developer will also provide in-kind support for independent community monitors to conduct their monitoring activities (e.g., accommodations, meals, transportation and appropriate safety training to operate on the road).	CanZinc & IG/IO Monitors	Measure is not directed to the GNWT.	Measure is not directed to the GNWT.