



DEVELOPMENT TITLE: *Engineering and environmental studies associated with proposed all season road to Prairie Creek Mine.*

PROPONENT:

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PROPOSED DEVELOPMENT DATES: July 30 - Dec 31 2018

DEVELOPMENT DESCRIPTION:

In support of EA1415-01 (construction of an all-season road to the Prairie Creek Mine), currently in the Ministerial decision-making phase, Canadian Zinc Corporation (CZN) is proposing to conduct studies primarily within the boundaries of Nahanni National Park Reserve (NNPR) (figure 1) to document baseline environmental conditions and to acquire necessary data for further road design and construction planning. This work serves to build on various engineering and environmental studies conducted by CZN along the proposed all-season road (ASR) alignment during the EA process. Should EA1415-01 proceed to the permitting phase, more extensive and detailed studies will be required for completion of road design and construction planning to meet requirements from the Mackenzie Valley Land and Water Board (MVLWB) and Parks Canada.

Proposed Activities

Note: access to the proposed locations for the activities described below will be either by quad or helicopter. Quad access is available for the portion of the proposed ASR that aligns with the existing winter road alignment for approximately 24 km east of the mine site

Invasive species baseline survey

The invasive species survey will consist of up to 4 people traversing the proposed ASR alignment and inspecting vegetation to determine the presence/absence of invasive species. The survey is expected to start at the eastern NNPR boundary (Km 102, Wolverine Pass) and end at the Nahanni Butte access road. However, the survey may include some components of the road inside the NNPR. The survey will be led by a professional biologist from Tetra Tech, who will be accompanied by representatives from local indigenous groups, likely including the Nahʔą Dehé Dene Band (NDDB) and Łíídlı́ Kúé First Nation (LKFN).

Installation of surface water flow monitoring stations

Additional surface water flow data is required to support the design of a proposed diversion of Sundog Creek, and for a number of clear span and large culvert road crossings of streams. CZN proposes to contract Water Survey of Canada (WSC) to install two flow stations inside the NNPR, one on Sundog Creek just upstream of the proposed diversion (~Km 35) and one near the proposed bridge crossing of Tetcela River main stem (Km 90). WSC will install a transducer



(a small pressure sensing device) in the stream with a cable linked to a metal box on the stream bank housing a recorder and battery. This apparatus will record stream water levels. At periodic intervals, WSC will visit the locations and measure stream flow volumes and correlate them to water levels.

Definition of locations for future test pits and geotechnical drill holes

Test pits are required to determine soil and ground conditions along the proposed ASR. These will be dug using a back hoe, and geotechnical boreholes drilled using a drill rig. Both pieces of heavy machinery will require access provided by a winter road. In the mean-time (during summer 2018), CZN proposes to flag the proposed locations of pits and boreholes with ribbon so they can be easily found in winter conditions. At the same time, CZN will inspect the proposed locations for heritage/cultural resources to ensure no impacts occur. This inspection will be led by a professional archaeologist from Lifeways of Canada Ltd., assisted by designated representatives from the NDDB and LKFN. Should EA1415-01 proceed to permitting, broader, more detailed archaeological investigation of the road corridor will be undertaken. The proposed archaeological screening during summer 2018 is intended to ensure no impacts at the investigation locations.

Soil investigation using a portable hand-held drill

To minimize the future number of test pits and geotechnical drill holes required, and to collect preliminary soils data with which to optimize the locations of those pits and holes, CZN proposes to engage Tetra Tech during summer 2018 to conduct a soils investigation using a portable hand-held drill which drives a split-spoon sampler. The sampler is approximately 1.5 inches in diameter. The drill is powered by gas, and has a small crank-case containing oil. Gas and oil are added within a lined containment. The gas and oil containers are small (e.g.: <25 L) jerry cans. The crew carries absorbants to mop-up in the containment in the event of any spillage.

The proposed soils investigation would occur in tandem with the definition of future test pits and geotechnical drill holes described above. The focus of the investigation would be the borrow pits defined for construction of the ASR, although some soils investigation may also occur along the proposed road alignment. Maps of sections of the road showing the proposed road alignment and borrow pits can be found in the October 21, 2016 [Allnorth report posted to the Mackenzie Valley Review Board public registry](#) (pages 20-42 covering the NNPR portion).

Mountain caribou baseline

CZN proposes to initiate further mountain caribou baseline work in 2018. Initial suggestions are a fall rut aerial survey; plans for this or other applicable surveys/studies, will be developed in collaboration with Parks Canada.

INDIGENOUS ENGAGEMENT TO DATE:

CZN discussed the proposed activities described in this development description with the NDDB and LKFN on July 4, 2018 at a joint meeting in Fort Simpson.



Figure 1: Overview map of proposed Prairie Creek all-season road alignment

