



4923-52nd St
P.O. Box 1500
Yellowknife, NT X1A 2R3

November 23rd, 2020

File: W2020L8-0003 and W2020X0005

Ryan Fequet
Executive Director
Wek'èezhii Land and Water Board
#1-4905 48th St., Yellowknife, NT X1A 3S3

Dear Mr. Fequet,

**Re: Rayrock Remediation Project
Response to Information Request for Water Licence (W2020L8-0003) and Land Use
Permit Application (W2020X0005)**

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Contaminants and Remediation Division (CARD) submitted a complete application to the Wek'èezhii Land and Water Board (WLWB) for a Type A Water Licence (W2020L8- 0003) and a Type A Land Use Permit (W2020X0005) on September 21st, 2020. Information Requests (IRs) to CIRNAC-CARD and to Fisheries and Oceans Canada (DFO) were issued on November 19th, 2020 to obtain additional information required to conduct the preliminary screening. CIRNAC-CARD was requested to provide the following:

1. The Remedial Action Plan for the Rayrock Remediation Project includes several references to Human Health and Ecological Risk Assessments (HHERAs) that were completed for the Rayrock and Sun Rose sites to assist with understanding the site-specific environmental risks. As part of the public review of the Applications, the HHERAs were referenced in several comments and proponent responses regarding potential impacts and mitigations of the Project (e.g., Response to Environment and Climate Change Canada comment 10; Tłı̄chq̓ Government comments 24 and 29, and Response to Tłı̄chq̓ Government comment 32).

Please provide the Board with a copy of the relevant HHERAs.

2. DFO comment 1 identifies that if the two proposed treatment systems were running simultaneously, Discharge would be upwards of 3,000m³/day to Sherman Lake. The Application evaluates potential impacts of 1,500m³/day; however, it is unclear whether CIRNAC-CARD has evaluated potential impacts of discharging 3,000m³/day to Sherman Lake.

Describe the potential impacts and possible mitigations relevant to discharge volumes of up to 3,000m³/day to Sherman Lake.

In response to these IRs, CIRNAC-CARD is pleased to confirm the following:

1. HHERAs for the Rayrock and Sun Rose sites were uploaded to the WLWB FTP site on November 20th, 2020. There are two reports uploaded – one for each of the requested sites.



2. DFO comment 1, and ENR comment 3, both concerned questions about the potential impact of the addition of Mill Lake water to Sherman Lake. CIRNAC-CARD's response to the ENR comment 3 on November 17th, 2020, provided a more complete description of the potential for impact, "Hydrological studies were performed by Arcadis between 2016 and 2018. The two critical factors in determining negative impacts is contamination and volume. The effluent will be treated to water quality that is the same or better than the receiving water body. The maximum volume of water discharged is currently considered 3000 m³ per day, with 100,000 m³ to be treated to drain the Lake. Assuming a very conservative 1m average depth for the Sherman Lake water body (it is over 9m deep in locations) and an area of 178.5 ha (from the RAP), the daily discharge represents 0.17% of the receiving Lake volume and the entire Mill Lake volume represents 5.6%. Based on this information, CIRNAC does not anticipate that these volumes will cause an issue." CCME Water Quality Guidelines will be used as water quality standards for most metals; however, the receiving waterbody (Sherman Lake) has water chemistry for copper that exceeds CCME, so the average copper concentration of Sherman Lake, 7 µg/L, will be used. The volume of Mill Lake is 85,000 m³, but 100,000 m³ is estimated to require treatment in the first year to allow for input from precipitation. After the first year and for subsequent years until completion of the cap for the disposal facility, water that is drained from the sediments and from precipitation will require treatment. Please consider this response valid for DFO comment 1, as well.

If you require any clarification on these responses, or if you have any additional IRs, please let us know.

Yours truly,

Rasel Hossain, P.Eng.
Senior Manager, CIRNAC-CARD

cc:

Ron Breadmore, Project Manager, CIRNAC-CARD
Andrew Richardson, Project Officer, CIRNAC-CARD