



Sahtu Land and Water Board

Staff Report

Division: Water Program	Report No.: 7
Date Prepared: June 12, 2020	File No.: S17L8-002
Meeting Date: June 18, 2020	
Subject: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) -Contaminants and Remediation Division (CARD) – Great Bear Lake Sites 2019 Annual Water Licence Report	

1. Purpose/Report Summary

The purpose of this Report is to present to the Sahtu Land and Water Board for information:

- a) 2019 Annual Water Licence Report; and
- b) Summary of stakeholder review comments and Proponent responses.

2. Background

- **March 31, 2019** - The Board received the Great Bear Lake Sites 2019 Annual Water Licence Report and the Surveillance Network Program Data;
- **April 28, 2020** - Review packages were sent out electronically to members of the Deline Distribution List using the Online Review System with a request for comments by May 26, 2019;
- **May 26, 2020** – Reviewer comments received and deadline;
- **June 9, 2020** - Proponent response deadline and received;
- **June 18, 2020** - Presentation to the Board for information.

3. Discussion

3.1 Project Overview

The Water Licence S17L8-002, entitles the use of water and waste deposition in support of remediation and restoration activities at the Great Bear Lake Sites, including the Silver Bear Mines, Contact Lake Mine, El Bonanza/Bonanza Mine and the Sawmill Bay site.

The Water Licence was issued in support of upcoming remediation activities at the project sites. However, during the 2019 period the sites remained in pre-remediation status and no site remediation occurred. The sole on-site work activities were conducted during two short field programs which included the following tasks:

July 30-31, 2019 - Water Quality Monitoring:

- Water Quality Monitoring Program adhering to the approved *Great Bear Lake Sites Pre-Remediation Monitoring Plan*;
- Included Water Sample Training Program with two members from Déljñę;
- Inspection and/or servicing of select site vehicles and buildings;
- Access daily from Déljñę using fixed-wing aircraft.

September 11-15, 2019 - Roadway Brush Clearing

- Cleared existing roadways of encroaching vegetation in and around the Norex, Smallwood, and Graham Vein mines, and the road to Terra Mine using chainsaws and other handheld equipment;
- Team consisted of four personnel from Déljñę, accessing site by boat and staying at Norex Mine for five days.

3.2 Process Requirements

In accordance with the requirements of the Water Licence S17L8-002 Part B, condition 15 and Schedule 1, DIAND (now CIRNAC) -CARD has produced the 2019 Annual Water Licence Report. Although formal Board approval is not required under the Licence, the Board must be satisfied that the Licensee has met the requirements of the Licence.

The 2019 Annual Report meets requirements as specified in Water Licence S17L8-002 Schedule 1 and includes all Surveillance Network Program (SNP) Data Tables and SNP data in Excel format; SNP Location Figures for all active sampled SNP stations (not all stations are active) and the Great Bear Lake Sites 2019 Water Quality Monitoring Report, which includes the results of all surface water monitoring completed in 2019 (including SNP stations). The purpose of this review is also to consider whether the results and conclusions of the 2019 Water Quality Monitoring Report have been appropriately and accurately reported and support the recommendations.

A summary of all relevant information related to 2019 activities is provided below.

1. Water Use during 2019 was limited to a small quantity (0.2 m³) withdrawn from Camsell River in September to support camping.
2. Engagement Activities during 2019 included:
 - **May 2 - Déljñę** - Leadership meeting to discuss Project activities, results from 2018 and activities planned for 2019;
 - **June – Yellowknife** - meeting in with representative from Déljñę Got’jñę Government (DGG) to discuss contribution agreement funding and scope;
 - **November** - project update provided to the Waste Sites Management Committee;
 - **December – Ottawa** - Déljñę Leadership, senior management of CIRNAC-CARD met to discuss opportunities, concerns, and future plans.

Outcomes:

- Funding for a part-time Community Liaison Coordinator based in Déljñę through contribution agreement;
 - Small-scale training program for two Déljñę members to assist with Water Quality Sampling Program.
3. Activities – no construction activities, major maintenance work, changes to waste management processes or facilities, deposit or disposal of wastes, unauthorized discharges, were conducted or occurred in 2019.

4. Schedule of Remediation Project - CARD project team is anticipating commencing remediation within the next two years.
5. The Principal Findings of the Great Bear Lake Sites 2019 Water Quality Monitoring Report include:
 - Water levels in the Camsell River were higher than in previous sampling events, though ground conditions were drier than observed in 2018;
 - Water sample results were below applicable Effluent Quality Criteria (EQC) at SNP Stations within the Water Licence;
 - Consistent with previous monitoring events, elevated metal concentrations above background were reported in water samples in Ho Hum Tailings Containment Area (TCA), Hermandy Lake, waste rock seepage points, and the Contact Lake Tailings Pond. With the exception of a single elevated copper concentration at the Northrim Mine Camsell River station NO-5, metal concentrations in downstream receiving environments were below conservative generic guidelines (Canadian Council of Ministers of Environment – Protection of Aquatic Life Guidelines) and generally consistent with background stations;
 - Despite analysis of multiple samples at each of the sites, there were no PHC concentrations above detection limits in any sample;
 - At Contact Lake Mine, all radionuclide concentrations were below applicable guidelines and several results were below detection limits;
 - The addition of the responsive monitoring stations at Northrim was a response to consistently high levels of arsenic and copper in the water exiting Hermandy. Sampling indicates that the elevated concentrations are diluted in the river to levels well below the guidelines (SRRB ID4 Comment).
6. Development of Baseline Water Quality Monitoring Program – This report is under development and will be submitted at least 6 months prior to the commencement of the Remediation Project.
7. Water Quality Report Recommendations
 - a) At the Contact Lake Mine, results of 2019 sampling from Tailings Pond stations CL-3 (south shore SNP station) and CL-29 (north shore Responsive Monitoring station), suggest these two locations capture the same general findings from within the Tailings Pond. **It is recommended that consideration be given to requesting a change in SNP station to the northern shore of the Tailings Pond, at which steeper banks ensure the station may be reliably accessed.**
 - b) Flow conditions at the toe of the Norex Mine waste rock pile are often different during each sampling year. While in some years the flow is directed westward toward seep NX-3 (the SNP station); in other years this station is near dry and the seeps on the northern toe of the waste rock pile (NX-1 and NX-2) have significant flow. **It is recommended that flexibility be incorporated in the SNP program to enable field personnel to sample/assess where flow conditions are greatest.**

4. Comments from Reviewers

The 2017 Annual Report was distributed to members of the current SLWB Déljñę Distribution List which includes 29 review organizations, requesting a reply by May 26, 2020. Of the 29 organizations to which the plans were distributed, 9 are represented within the Sahtu Settlement Area. A summary of review comments received are provided below. The Review Comment Table and letters received are attached for reference (Attachment 1).

- **GNWT – Department of Environment and Natural Resources (ENR) and Environmental Assessment and Monitoring (EAM)** – no comments or recommendations;
- **CIRNAC – Yellowknife** – commented that the environmental specialist with Resource and Land Management is supportive of the recommendations made in section 10.2;
- **Sahtu Renewable Resources Board (SRRB)** – commented that the report is well done, and results of the elemental concentration data show a clear trend through the long term, indicating consistent sampling

methods, contamination control, and lab analysis. The SRRB indicated that the roll-up of data from the Pre-remediation Water Quality Monitoring Program would be useful for this project and as a regional water quality document. The SRRB requested that future reports include all SNP station locations and more complete description of “Camp Operations”.

5. Conclusion

Reviewer comments were positive about the format and content of the report. Staff are of the opinion that the results and conclusions have been appropriately and accurately reported and support the recommendations in section 10.2 of the 2019 Water Quality Report.

6. Recommendation

Board staff recommend that the Board:

- Receive the Great Bear Lake Sites 2019 Annual Water Licence Report for information, noting that the Board is satisfied that the Licensee has met the requirements of the Licence;
- Direct staff to send a letter to CIRNAC-CARD indicating Board satisfaction with the 2019 Annual Report and support for the recommendations in section 10.2 of the report (Attachment 2).

7. Attachments

- 8.1 Review Comment Table and letters
- 8.2 Letter from Board staff to CIRNAC-CARD supporting Recommendations

Respectfully submitted,



Bonnie Bergsma
Regulatory Specialist

Review Comment Table

Board:	SLWB
Review Item:	2019 Annual Water Licence Report
File(s):	S17L8-002
Proponent:	CIRNAC-CARD
Document(s):	2019 Annual Water Licence Report (18 MB) 2019 SNP Data (112 KB)
Item For Review Distributed On:	Apr 28 at 13:07 Distribution List
Reviewer Comments Due By:	May 26, 2020
Proponent Responses Due By:	June 9, 2020
Item Description:	<p>Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) – Northwest Territories Region – Contaminants and Remediation Division (CARD) submitted 2019 Annual Water Licence Report on March 31, 2020. This report is required by Water Licence S17L8-002, Part B, condition 15 and Schedule 1.</p> <p>Although formal approval of this Annual Report is not required under the Licence, the Board must be satisfied that the Licensee has met the requirements of the Licence.</p> <p>Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the review comment deadline specified. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations.</p>
General Reviewer Information:	All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Bonnie Bergsma at (867) 496-2778 or email

	bonnie.bergsma@slwb.com.
Contact Information:	Bonnie Bergsma

Comment Summary

GNWT - ENR - EAM (Environmental Assessment and Monitoring): Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	General File	Comment (doc) ENR Letter - No Comments or Recommendations Recommendation		
INAC - Yellowknife: Dinah Elliott				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Annual Report	Comment CIRNAC's environmental specialist with Resource and Land Management has reviewed the annual report and is supportive of the recommendations made in section 10.2. Recommendation N/A	June 9: Thank you.	Concur with recommendations in section 10.2
Sahtu Renewable Resource Board: Colin Macdonald				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Full Report	Comment As in past years, the report is well done. Good organisation, figures and summary. The water data are consistent, and the QA/QC of the duplicates is well done. The report is straightforward in that samples were collected at the same stations as in previous years and there is little interpretation involved, and hence no overinterpretation. The	June 9: Thank you.	Agreed

		<p>elevated levels of the same contaminants (arsenic, copper at Silver Bear, uranium at Contact) show a clear trend through time which shows consistency in analysis and sampling methods. The lack of physical activity at the sites indicates that there shouldn't be any new sources of contamination. Comments for the 2019 report are similar to previous years and there are no recommendations.</p> <p>Recommendation None.</p>		
2	Page 9	<p>Comment The location of the stations isn't mentioned for several sites and would be useful. Camp Operations isn't descriptive enough.</p> <p>Recommendation None.</p>	<p>June 9: Thank you. We will ensure all station locations are described for all sites in future Water Licence Reports and will ensure "Camp Operations" is described more completely within the context of the water licence.</p>	Agreed
3	Analytical Results	<p>Comment Most of the elemental concentration data are very consistent over the long term, indicating that sampling, contamination control and lab analysis have been consistent. The analysis of the duplicates looks very good with very low RPDs.</p> <p>Recommendation None.</p>	<p>June 9: Thank you.</p>	Agreed
4	Page 3	<p>Comment The addition of the responsive monitoring stations at Northrim was a response to consistently high levels of arsenic and copper in the water exiting Hermandy. Sampling indicates that the elevated concentrations are diluted in</p>	<p>June 9: Thank you.</p>	Agreed

		the river to levels well below the guidelines. Recommendation None.		
5	Baseline Water Quality Monitoring Report, Page 20.	Comment The roll up of data into the <i>Baseline Water Quality Monitoring Report</i> would be useful for this project and as a regional water quality document. Recommendation None.	June 9: Thank you. We agree. The Baseline Water Quality Monitoring Report is currently in development and will be submitted at least 6 months prior to the commencement of remediation.	Agreed



May 26, 2020

Bonnie Bergsma
Regulatory Specialist
Sahtu Land and Water Board
Box 1,
Fort Good Hope, NT
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Dear Ms. Bergsma,

**Re: CIRNAC CARD
Water Licence – S17L8-002
2019 Annual Water Licence Report
Request for Comment**

The Department of Environment and Natural Resources, Government of the Northwest Territories has reviewed the report at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and has no comments or recommendations for the consideration of the Board at this time.

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email patrick.clancy@gov.nt.ca.

Sincerely,

Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring Section
Environmental Stewardship and Climate Change Division
Department of Environment and Natural Resources
Government of the Northwest Territories



Sahtu Land and Water Board

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June 19, 2020

File : S17L8-002

Murray Somers,
Contaminants & Remediation Division
Crown-Indigenous Relations and Northern Affairs Canada
P.O. Box 1500 4923 – 52nd Street
Yellowknife, NWT X1A 2R3

Sent by email

Dear Mr. Somers,

Great Bear Lake Sites 2019 Annual Water Licence Report – Recommendations Supported

The Sahtu Land and Water Board (SLWB) met on June 19, 2020 to consider the 2019 Annual Water Licence Report submitted on March 31, 2020, in accordance with Part B, condition 15 and Schedule 1 of Licence S17L8-002. Based on reviewer comments and Board staff review, the Board was satisfied that the licensee has met the requirements of the Licence.

The Board also supported the two recommendations in section 10.2 of the Great Bear Lake Sites 2019 Water Quality Monitoring Report, requesting consideration of a change in location of one of the two SNP Stations at Contact Lake Tailings Pond (CL-29 or CL-3) for more reliable access; and that flexibility be incorporated into the SNP program at the Norex Mine waste rock pile at SNP Station NX-3, to allow samples to be taken at NX-1 or NX-2 when flow conditions change.

The ongoing cooperation of CIRNAC-CARD is appreciated. If you have any questions or concerns please contact Bonnie Bergsma at (867) 496-2778 or email bonnie.bergsma@slwb.com.

Respectfully,

Bonnie Bergsma, M.Sc.
Regulatory Specialist