



WATER LICENCE ANNUAL REPORT

DEASE ARM, GREAT BEAR LAKE
WATER LICENCE NO. S19L3-001
REPORTING YEAR: 2021

Report Prepared for:
GREAT BEAR LAKE LODGE

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1 INTRODUCTION

“Beginning March 31, 2020, and no later than every March 31 thereafter, the Licensee shall submit an Annual Water Licence Report to the Board. The Report shall be in accordance with the requirements of Schedule 1, Condition 1. The Annual Water Licence Report referred to in Part B, Condition 16 of this Licence shall include, but not be limited to, the following information:

- a) A summary of engagement activities conducted in accordance with the approved Engagement Plan, in Part B, condition 17 of this Licence, undertaken during the previous calendar year and shall include a brief description of activities planned for the forthcoming year.*
- b) A summary of Construction activities conducted in accordance with Part E of this Licence, undertaken during the previous calendar year.*
- c) A summary of modifications and/or major maintenance work carried out on the water supply facilities, sewage disposal facilities, and solid waste disposal facilities, including all associated structures.*
- d) A summary of activities conducted in accordance with the approved Waste Management Plan, required in Part H, condition 2 of this Licence, undertaken during the previous calendar year.*
- e) The monthly and annual quantities in cubic meters of each and all Waste discharged.*
- f) The monthly and annual quantities of water usage from the issuance/anniversary date of the Water Licence along with the calendar year’s usage.*
- g) Tabular summaries of all data generated under the Surveillance Network Program, including:
 - i. Rationale for SNP stations where samples were not collected.*
 - ii. Exact coordinates for each established SNP station.*
 - iii. A tabular summary of all data collected under the SNP.*
 - iv. Information regarding the calibration and status of the meters and devices referred to in Part B, condition 14 of this Licence; and*
 - v. A tabular summary of cumulative water use.**
- h) A summary of activities conducted in accordance with the approved Spill Contingency Plan, required in Part G, condition 3 of this Licence, undertaken during the previous calendar year, including:
 - i. A list and description for all Unauthorized Discharges that occurred during the previous calendar year, including the date, NWT spill number, volume, location, summary of the circumstances and follow-up actions taken, and status (i.e., open or closed), in accordance with the reporting requirements in Part G, condition 5 of this Licence; and*
 - ii. An outline of any spill training and communications exercises carried out during the previous calendar year.**
- i) A summary of activities conducted in accordance with the Closure and Reclamation Plan, required in Part I of this Licence, completed during the year, a summary of updates or changes made, and an outline of any work anticipated for the next year.*
- j) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector; and*
- k) Any other details on Water use or Waste disposal requested by the Board by November 1st of the year being reported.”*

2 SUMMARY OF ENGAGEMENT ACTIVITIES

- a) *“A summary of engagement activities conducted in accordance with the approved Engagement Plan, in Part B, condition 17 of this Licence, undertaken during the previous calendar year and shall include a brief description of activities planned for the forthcoming year.”*

All affected parties (Déljñę Got’ine Government) were contacted. No major questions or concerns were noted by any of the affected parties. Before the commencement of the upcoming 2022 operating season, an update will be sent to the Déljñę Got’ine Government including notification of the upcoming operating season as well as job postings.

Since the Spring of 2021, Great Bear Lake Lodge (the “**Licensee**”) has attempted to coordinate with the Déljñę Got’ine Government on the completion of a Traditional Knowledge Study for the Great Bear Lake Lodge area (Lease Number 086L/12-002) (“**Great Bear Lake Lodge**”), to be completed before the renewal of the Water Licence in 2024. The Licensee has been unsuccessful in these attempts but will continue to communicate with representatives from Déljñę Got’ine Government to have one completed.

3 SUMMARY OF CONSTRUCTION ACTIVITIES

- b) *“A summary of Construction activities conducted in accordance with Part E of this Licence, undertaken during the previous calendar year.”*

There were no Construction activities during the 2021 operating season.

4 SUMMARY OF MAINTENANCE ACTIVITIES

- c) *“A summary of modifications and/or major maintenance work carried out on the water supply facilities, sewage disposal facilities, and solid waste disposal facilities, including all associated structures.”*

There were no deficiencies documented any inspections of the water supply facilities, sewage disposal facilities, and solid waste disposal facilities during the 2021 operating season. Therefore, no major maintenance activities or modifications were completed.

5 SUMMARY OF ACTIVITIES – WASTE MANAGEMENT PLAN

- d) *“A summary of activities conducted in accordance with the approved Waste Management Plan, required in Part H, condition 2 of this Licence, undertaken during the previous calendar year.”*

There were no changes made to the existing waste management facilities or processes. All processes were carried out as described in the current Waste Management Plan.

e) "The monthly and annual quantities in cubic meters of each and all Waste discharged."

Table 1 Quantities of Solid Waste Discharged to the Solid Waste Disposal Facilities

Month	Volume of Sewage Solids (m ³)	Volume of Ash (m ³)
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	8.6	0
October	0	0
November	0	0
December	0	0
Totals	8.6	0

Table 2 Quantities of Sewage Discharged to Sewage Disposal Facilities

Month	Type of Waste	Volume of Waste (m ³)	Location of Discharge
January	N/A	0	N/A
February	N/A	0	N/A
March	N/A	0	N/A
April	N/A	0	N/A
May	N/A	0	N/A
June	Greywater/Sewage	21	Septic Tank/Cobble Field
July	Greywater/Sewage	93	Septic Tank/Cobble Field
August	Greywater/Sewage	93	Septic Tank/Cobble Field
September	Greywater/Sewage	4.9	Septic Tank/Cobble Field
October	N/A	0	N/A
November	N/A	0	N/A
December	N/A	0	N/A
Totals	-	211.9	-

6 SUMMARY OF WATER USE

- f) *“The monthly and annual quantities of water usage from the issuance/anniversary date of the Water Licence along with the calendar year’s usage.”*

Table 3 Water Usage

Month	Volume from Water Intake at Great Slave Lake Lodge Ltd. (m ³)	Volume of water from any other source (m ³)	Total Volume (m ³)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	92	0	92
July	184.5	0	184.5
August 6	184.5	0	184.5
September	92	0	92
October	0	0	0
November	0	0	0
December	0	0	0
Totals	559	0	559

Please refer to Table 6 in section 7 subsection 5 for cumulative water use.

7 SURVEILLANCE NETWORK PROGRAM SUMMARY

- g) *“Tabular summaries of all data generated under the Surveillance Network Program, including:*
i. *Rationale for SNP stations where samples were not collected.”*

All samples were collected during the 2021 operating season.

- ii. *“Exact coordinates for each established SNP station.”*

Table 4 SNP Station Coordinates

SNP Station	Latitude	Longitude
SNP Station 15-1 (Water Intake)	66.708654	-119.682016
SNP Station 15-2	66.709878	-119.670334

iii. “A tabular summary of all data collected under the SNP.”

Table 5 Summary of SNP Data Analysis at SNP Station 15-2

Parameter	Sample 1 July 31, 2021	Sample 2 August 28, 2021
Ammonia as Nitrogen	< 0.005 mg/L	< 0.005 mg/L
Biochemical Oxygen Demand	< 2 mg/L	< 2 mg/L
Organic Carbon, Total	0.6 mg/L	0.7 mg/L
Orthophosphate as Phosphorous	< 0.002 mg/L	< 0.002 mg/L
Phosphorous, Total	< 0.002 mg/L	< 0.002 mg/L
Solids, Total Suspended	< 3 mg/L	< 3 mg/L
Nitrate + Nitrite as Nitrogen	0.03 mg/L	0.05 mg/L
Coliforms, Fecal	< 1 CFU/100mL	< 1 CFU/100mL

iv. “Information regarding the calibration and status of the meters and devices referred to in Part B, condition 14 of this Licence; and”

The meter monitoring water use at Great Bear Lake Lodge was operational and not calibrated during the 2021 operating season.

v. “A tabular summary of cumulative water use.”

Table 6 Cumulative Water Use

Year	Water Use (m ³)
2021	559
Total	559

8 SUMMARY OF ACTIVITIES – SPILL CONTINGENCY PLAN

- h) “A summary of activities conducted in accordance with the approved Spill Contingency Plan, required in Part G, condition 3 of this Licence, undertaken during the previous calendar year, including:
- i. A list and description for all Unauthorized Discharges that occurred during the previous calendar year, including the date, NWT spill number, volume, location, summary of the circumstances and follow-up actions taken, and status (i.e., open or closed), in accordance with the reporting requirements in Part G, condition 5 of this Licence; and”

No unauthorized discharges occurred during the 2021 operating season.

- ii. “An outline of any spill training and communications exercises carried out during the previous calendar year.”

All staff underwent a site-specific orientation upon arriving at Great Bear Lake Lodge including the designation of a spill commander and alternate, the locations of the spill contingency plan on-site, and the locations of the spill response equipment and how to use it.

9 SUMMARY OF ACTIVITIES – CLOSURE AND RECLAMATION PLAN

- i) *“A summary of activities conducted in accordance with the Closure and Reclamation Plan, required in Part I of this Licence, completed during the year, a summary of updates or changes made, and an outline of any work anticipated for the next year.”*

There are currently no plans to end or suspend operations at Great Bear Lake Lodge. No closure or reclamation activities occurred, therefore, the closure and reclamation plan is not applicable at this time.

10 SUMMARY OF ACTIONS TAKEN

- j) *“A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector; and”*

An inspection of Great Bear Lake Lodge was not conducted at the end of the 2021 operating season due to weather. The Licensee recognizes that two main issues remain from previous inspection reports before the COVID shutdown.

Regarding waste disposal, the Licensee is in the process of procuring and installing an incinerator that will meet the Northwest Territories’ standards for incineration. As well, the Licensee is continually looking for ways to improve its waste sorting and organization while reducing the overall non-combustible waste it produces.

Regarding the generator fuel tanks and their distance from the original high-water mark, the Licensee is in the process of retaining an Environment and Engineering Company to complete a third-party inspection of the area to determine the options for restructuring the generator fuel supply system. This inspection and the corresponding summary report are expected to be completed during the 2022 operating season.

11 DETAILS REQUESTED BY THE BOARD

- k) *“Any other details on Water use or Waste disposal requested by the Board by November 1st of the year being reported.”*

As of November 1, 2021, there were no additional details requested by the board.