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July 29, 2019

Licensing
Nunavut Water Board
P.O. Box 119
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Re: June 2019 – Monthly Monitoring Report for Water Licence 2BB-BOS1727

This report is comprised of monitoring requirements as set out in Part J of water licence 2BB-BOS1727. Boston Camp is used to support seasonal surface exploration programs. During the subject focus of this report, the Boston Camp was recommissioned to prepare support for a surface exploration program beginning in July 2019. Sampling locations monitored under this licence (seasonally or when facilities are operational) are provided in Figure 2 at the end of this report.

Part J Item 2: Water Use Volumes

In June, water was extracted from Aimaokatalok Lake for domestic use at Boston Camp. All usage from water sources during the month were metered at the source. Daily water usage for the month is presented in Table 1. Results of samples collected in June under monitoring station BOS-1A are provided in Appendix A.

Table 1: Daily water usage in cubic meters, June 2019.

Date	Domestic Water Consumption (m³)	Drill Water Usage Total (m³)	Total Daily Usage (m³)
1-Jun-19	0	0	0
2-Jun-19	0	0	0
3-Jun-19	0	0	0
4-Jun-19	0	0	0
5-Jun-19	0	0	0
6-Jun-19	0	0	0
7-Jun-19	0	0	0
8-Jun-19	0	0	0
9-Jun-19	0	0	0
10-Jun-19	0	0	0
11-Jun-19	0	0	0
12-Jun-19	0	0	0
13-Jun-19	0	0	0
14-Jun-19	0	0	0
15-Jun-19	0	0	0
16-Jun-19	0	0	0
17-Jun-19	0	0	0
18-Jun-19	0	0	0
19-Jun-19	0	0	0
20-Jun-19	0	0	0
21-Jun-19	0	0	0
22-Jun-19	0	0	0
23-Jun-19	4	0	4
24-Jun-19	0	0	0
25-Jun-19	0	0	0
26-Jun-19	5	0	5
27-Jun-19	0	0	0
28-Jun-19	0	0	0
29-Jun-19	4	0	4
30-Jun-19	0	0	0
Monthly Total	13	0	13
Annual Total	13	0	13

Part J Item 3: Minewater Discharge Volumes

Minewater was not pumped from underground during this period.

Part J Items 4 and 5: Sewage Disposal Facility Daily Effluent Discharge and Sewage Sludge

Effluent was not discharged at BOS-3 and no sludge was removed from the sewage disposal facility.

Part J Items 5: Daily Quantities of Effluent Discharged – Containment Pond, Bulk Fuel Storage and Landfarm

No water was discharged from the Containment Pond (BOS-2), the Bulk Fuel Storage Facility (BOS-5), the Landfarm (BOS-6), or the Portal Decline (BOS-9) this month.

Part J Items 6 and 7: Water Source and Waste Disposal Coordinates

GPS coordinates of locations of water sources and waste associated with camp and drilling activities are kept on file.

Part J Items 8, 11 and 12 (also Part D Items 6, 17 and 19): Sampling at Containment Pond, Minewater, Bulk Fuel Storage, and Landfarm

Water quality samples were collected from the Containment Pond (BOS-2), the Bulk Fuel Storage facility (BOS-5), the Landfarm facility (BOS-6), or the Portal Decline (BOS-9) during this month.

Effluent sampling was completed June 23 from the Containment Pond (BOS-2) and met the *Maximum Concentration in Any Grab Sample* limits outlined in Part D Item 6 of this licence. Dewatering of this facility occurred in July and volumes will be reported in the July SNP report.

Results of effluent quality sampling conducted June 17 from the Bulk Fuel Storage Facility (BOS-5) exceeded the *Maximum Concentration in Any Grab Sample* of Part D Item 19 of the licence for Total Arsenic and Total Lead. Water quality treatment was undertaken with an oil water separator containing activated carbon and Metsorb media. No dewatering of this facility occurred in June.

Effluent sampling completed June 23 from the Portal Decline (BOS-9) met the *Maximum Concentration in Any Grab Sample* limits outlined in Part D Item 6 of the licence. Dewatering of this facility occurred in July and volumes will be reported in the July SNP report.

Part J Item 9: Sewage Disposal Facility Effluent

No samples were taken at monitoring station BOS-3 this month as the Sewage Disposal Facility was being commissioned in preparation for opening of the camp to support a surface exploration program beginning in July.

No samples were taken at monitoring station BOS-4 as there was no discharge from the Sewage Disposal Facility this month.

Part J Item 11: Seepage Monitoring

Seepage at Boston (BOS-8) is monitored seasonally when water is available to sample. Seepage was observed at one location during the month of June at BOS-8 sample locations (BOS-8A). Samples were collected and results are presented in Appendix A of this report.

Part J Item 14 (also Part F Item 7): Under-Ice Water Quality Sampling

Not applicable as on-ice drilling did not occur pertaining to licence 2BB-BOS1727.

Incident Reporting

Spill #19-240 – On June 23, 2019, while conducting an inspection of the camp lift station and pipeline facilities at the Boston Camp, an employee identified that the pipe support of the main kitchen grey water line to the camp lift station had failed resulting in the pipe dropping approximately 1ft. While the grey water line was being repaired, two sections of the pipeline separated resulting in approximately 100L of grey water being released to the tundra below. Upon investigation, it was found that a 2" HDPE pipeline had been glued to an ABS pipeline. The additional strain resulting from the pipeline dropping caused the glue to separate at this location. The pipe support was also found to be weathered and no longer adequate to support the weight of the pipe.

The pipe sections were reconnected and insulated; a Victaulic clamp appropriate for the pipeline materials (HDPE to ABS connection) has been ordered and will be installed at this location to reduce the risk of a reoccurrence.

TMAC internally reviewed the incident and identified the following preventative actions in order to reduce the likelihood of a reoccurrence:

- Use Victaulic fittings for pipe connections that are appropriate for the pipe material;
- Conduct assessment of pipe connections along entire length of the grey water pipeline at Boston Camp and replace if necessary;
- Replace current pipe support with robust materials that are less susceptible to weathering and failure.

Figure 1. Pipeline and pipe connection of main kitchen grey water line

Location of pipe support failure (red arrow)



Pipeline temporarily reconnected and reinsulated



Should there be any questions regarding this monthly report, please contact enviro@tmacresources.com.

Yours sincerely,



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Figure 2. 2BB-BOS1727 SNP Monitoring Locations

