

## MONTHLY DIKE PERFORMANCE REPORT

Dike: D-CP1	
Date: April 2019	Temps: Min = -30.0°C Max = -1.4°C Mean = -16.2°C
Season: Ice	Signature:

### MONITORING/INSPECTION SUMMARY

	Daily	Weekly	Monthly
Ground Temperature Readings			✓
Survey Monuments			✓
Water/Ice Elevations			✓
Visual Inspection			

### GROUND TEMPERATURES

- The average temperature across all horizontal beads within the key trench is **-8.71°C** (May 4, 2019). The overall average temperature has continued to decrease over the past month (since April 2) by **-0.93°C** at an average rate of change of -0.03°C/day. This cooling is observed in all beads throughout the key trench.
- Comparisons to this time last year are not available due to snow accumulations experienced in 2018. Compared to May 2017 however, the average temperature in the key trench across all beads is warmer by **5.00°C**, although the dike was still under construction at this time and caution should be exercised in the interpretation of this data.
- Vertical GTC's show that although the dike continues to be frozen to depth at all cable locations, warming of the upper dike material is continuing from last month. A warming trend is observed within the upper 5 m on the upstream, and within the upper 2.5 m on the downstream.

### SURVEY MONUMENTS

- All survey monuments showed between 2 and 8 mm of upward movement compared to the previous month. As with last month, although this data has been provided with this report for completeness, it is not expected to be representative of the actual movement that has occurred within the dike.

### WATER/ICE ELEVATIONS

- The elevation of upstream ice in the former H6 basin surveyed May 3, 2019 is **65.000 m**, which is essentially unchanged (30 mm ± 20 mm accuracy) since the previous month (64.970 m taken April 5, 2019). The current ice elevation is 0.90 m above the maximum operating level before freshet as per the OMS and is very close to the levels of upstream ice observed in early 2018 (64.990 m).

### VISUAL INSPECTIONS

- No visual inspections were undertaken in April.

### OTHER/RECOMMENDATIONS

- Confidence in the survey monument data collected to date remains low. It is strongly recommended that a new survey of the dike surface be undertaken during the summer of 2019 using the control point that was used during dike construction (positioned on a bedrock outcrop near the north abutment). Continued efforts to obtain meaningful monthly survey data will be made, although alternative methods of monitoring displacement will continue to be investigated.