

# MONTHLY DIKE PERFORMANCE REPORT

Dike: D-CP5	
<b>Date:</b> February 2019	<b>Temps:</b> Min = -41.0°C Max = -16.8°C Mean = -32.4°C
<b>Season:</b> Ice	<b>Signature:</b>

## 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 **-7.82°C** (March 3, 2019). Temperatures have decreased since February 6 by **-2.41°C** at an average rate of change of -0.08°C/day. Compared to last year (March 3, 2018), average key trench temperatures continue to be cooler (**-1.65°C**).
- Vertical GTC's show frozen temperatures throughout the dike at all cable locations, with cooling temperatures observed throughout the dike structure.

## SURVEY MONUMENTS

- Multiple attempts at re-calibrating the survey monument data were made throughout the month of February after re-establishing a monument on M1 (damaged January 2019) that were ultimately unsuccessful and this data point has been removed from the analysis. The attached readings show 8 mm of vertical settlement for the remaining M2 monument in the month of February, which is unlikely considering the frozen condition of the dike.

## WATER/ICE ELEVATIONS

- The elevation of upstream ice taken March 5, 2019 is 65.59 m, which is 0.79 m above the maximum operating level before freshet.

## VISUAL INSPECTIONS

- No visual inspections were undertaken in February.

## RECOMMENDATIONS

- Confidence in the survey monument data collected to date is 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. Continued efforts to obtain meaningful monthly survey data should be made, although alternative methods of monitoring displacement should also be investigated.
- Additional flagging and/or protective measures will be implemented for the monuments as soon as possible. Discussions with E&I regarding restricting access to the dike to authorized personnel only are on-going.

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- The final issue of the Annual Geotechnical Inspection (Golder, 2019) was released. Key items from the September 2018 inspection regarding D-CP5 include:
  - “No significant geotechnical concerns identified”;
  - A recommendation to address daily visual inspections and seasonality requirements of visual inspections in the upcoming annual OMS review;
  - A recommendation to fill/re-contour cracking observed in the thermal cover of the dike.