

**Real Time Water Quality Monthly Report
 Aur Resources Inc.
 April 2007 - May 2007**

General

- The Water Resources Management Division (WRMD) staff monitors the real-time web page on a daily basis.
- Aur Resources Inc. will be informed of any significant water quality events by WRMD staff, and in the form of a monthly report.

Maintenance and Calibration of Instrumentation

- The instrument at Gills Pond Brook was removed on April 17, 2007 for cleaning and calibration and then reinstalled on April 19. The results from comparing data collected from a second instrument during removal and re-installation (for QA/QC) can be seen in **Table 1**.
- The instrument at East Pond Brook is undergoing repairs as a result of damage it sustained during a previous deployment, thus no report is available for East Pond Brook for this period.

Table 1: QA/QC Data Comparison Rankings upon removal/reinstallation on April 17th/19th

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gill's Pond Brook	April 17 th , 2007	Removal	Excellent	Poor	Fair	Excellent
	April 19 th , 2007	Installation	Excellent	Good	Good	Fair

- The Gills Pond Brook instrument was deployed until May 15th, 2007, when it was removed for maintenance and calibration. The hydrolab was reinstalled May 17th. The results from comparing data collected from a second, freshly calibrated hydrolab to the Gills Pond Brook hydrolab during removal and reinstallation on May 15th and 17th can be seen in **Table 2**.

Table 2: QA/QC Data Comparison Rankings upon removal/reinstallation on May 15th/17th, 2007

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gill's Pond Brook	May 15 th , 2007	Removal	Fair	Excellent	Poor	Good
	May 17 th , 2007	Installation	Excellent	Excellent	Fair	Fair

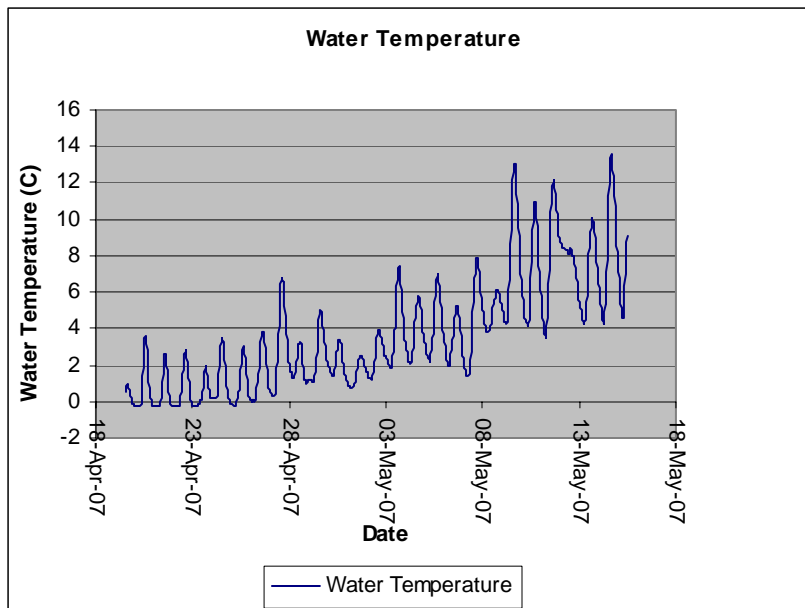
Data Interpretation

- This report interprets data from the Gills Pond Brook station for the period of April 19th-May 17th, 2007. The East Pond Brook hydrolab was removed from operation during this period.

TRIBUTARY TO GILLS POND BROOK

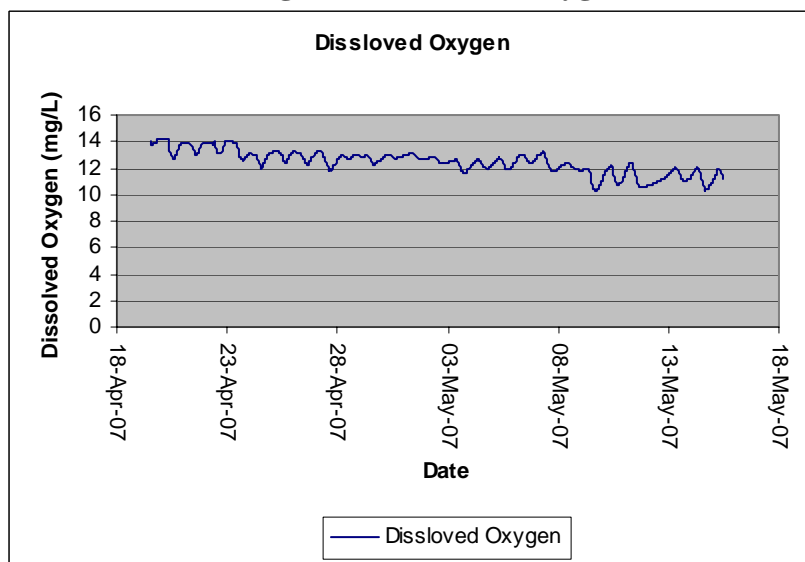
- Water temperatures (**Figure 1**) increased steadily over the deployment period, in response to increased air temperatures for the same period, as shown in Appendix A below. Water temperatures ranged from -0.24°C to 13.62°C. Snow and ice cover melted completely during this deployment.

Figure 1: Water Temperature



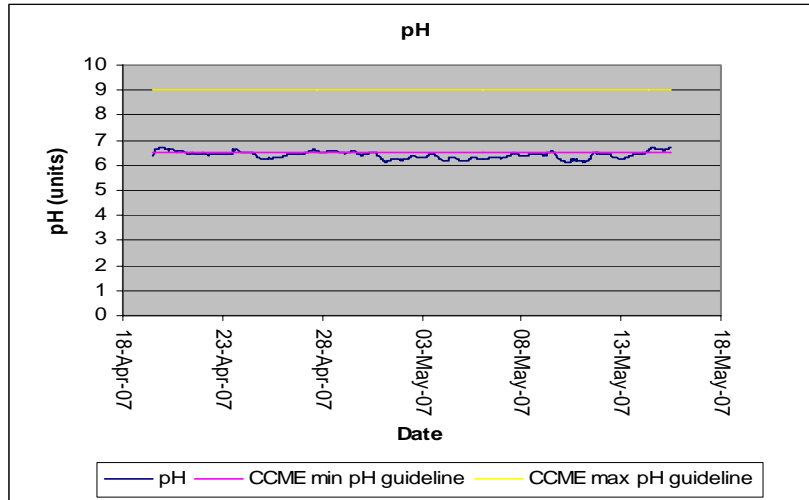
- Dissolved oxygen levels (**Figure 2**) displayed a decreasing trend throughout the deployment period. This trend was expected as water temperatures increased throughout the deployment (**Figure 1**), and warmer water has less capacity to hold dissolved oxygen than does colder water. Dissolved oxygen values ranged from 10.31 to 14.17 mg/L. These values fall within the recommended CCME Protection of Freshwater Aquatic Life guidelines for dissolved oxygen (cold water/other life stages – above 6.5; warm water/other life stages – above 5.5; warm water/early life stages – above 6; cold water/early life stages – 9.5 mg/L).

Figure 2: Dissolved Oxygen



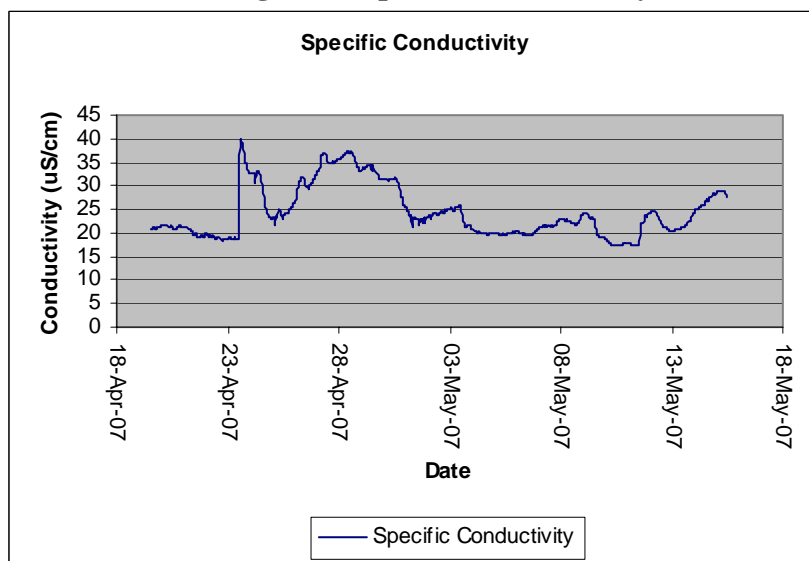
- The pH values for Gill's Pond Brook remained fairly constant throughout the deployment, hovering above and below the CCME recommended minimum guideline of 6.5 pH units for the Protection of Freshwater Aquatic Life. pH values ranged from 6.13 to 6.73 during this deployment, and these are expected background levels for the naturally acidic Gill's Pond Brook Tributary.

Figure 3: pH



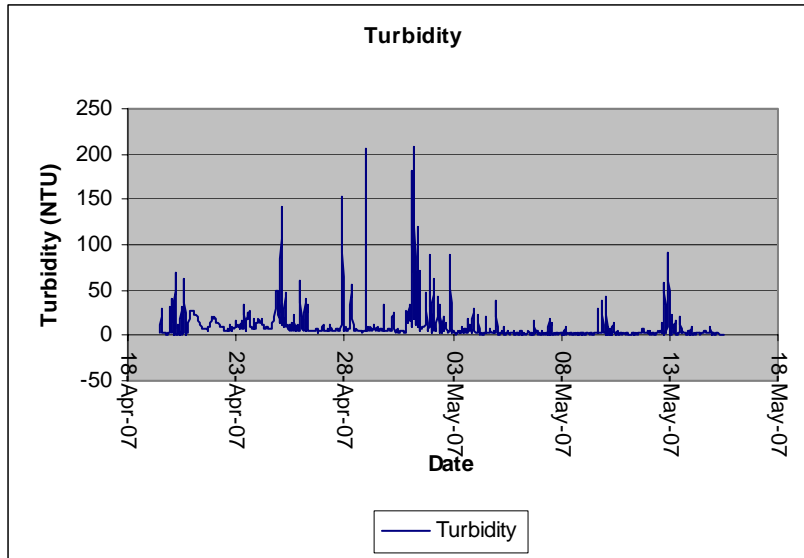
- Specific conductivity values (**Figure 4**) increased sharply on April 23rd in response to a scheduled release of water from the Aur Resources polishing pond. Water was discharged from a weir constructed at the mouth of the polishing pond commencing at 09:10hrs NDT on April 23. This weir is located approximately 1780m upstream from the Gill’s Pond Brook RTWQ station. Specific conductivity values increased from 18.8uS/cm at 10:32hrs NDT to 32.7uS/cm at 11:32hrs NDT on April 23. This indicates that it took more than 1 hour and less than 2 hours for water to travel from the discharge weir to the RTWQ station. Snow and ice cover in the brook had some influence on the length of time required for the water to travel this distance. The position of the decant valve on the weir, and thus the flow of discharge water, was frequently altered from April 23 to May 15, at which time the decant valve was completely closed. These changes in flow are reflected in the variation of specific conductance values during the same period. The RTWQ station at Gill’s Pond Brook captured subtle changes in water quality as a result of discharge from the polishing pond. This increases our confidence that this RTWQ station will capture water quality changes that occur downstream from the Aur resources tailings pond, providing quick detection and an opportunity for immediate remediation should an adverse water quality event occur in the future.

Figure 4: Specific Conductivity



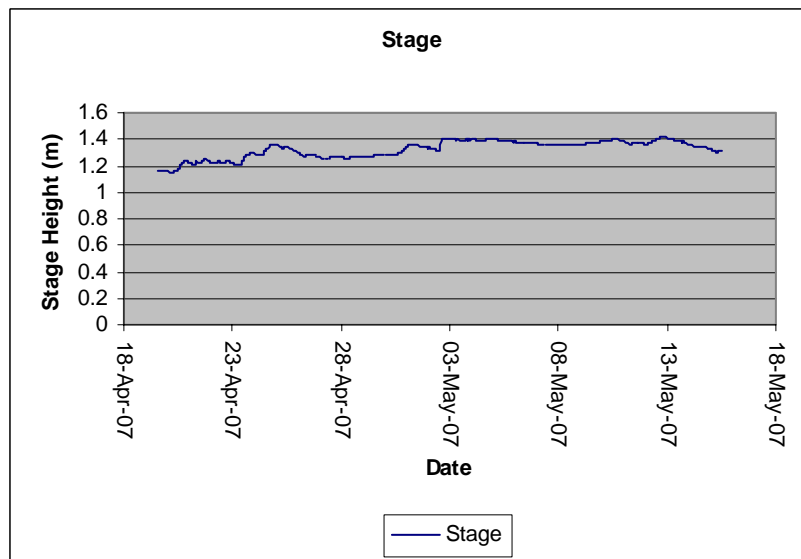
- Turbidity values (**Figure 5**) fluctuated for most of the deployment period. The CCME Guidelines for the Protection of Freshwater Aquatic Life recommend that turbidity should not change more than 8 NTU from natural background levels. Turbidity values were influenced by seasonal increases in air (**Appendix A**) and water temperature (**Figure 1**), resulting in surface run-off and moving snow and ice, as well as the discharge of water from the polishing pond. Turbidity values ranged from 0.4 to 207.6 NTU during this deployment.

Figure 5: Turbidity










- Stage height was fairly stable during this deployment period, ranging from 1.149 to 1.418m. Discharge of water from the tailings pond on April 23 and precipitation on April 28, 30 and May 11 are reflected in increases in stage height on the corresponding dates, shown in **Figure 6** below.








Figure 6: Stage Height



- Environment Canada climate and precipitation data for this deployment is listed in the charts below:

Appendix A: Environment Canada Daily Climate Charts

Daily Data Report for April 2007											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm	Total Snow cm	Total Precip mm 	Snow on Grnd cm 	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
19	1.7	-0.8	0.5	17.5	0.0			0.0	16		
20	12.3	-2.3	5.0	13.0	0.0			0.0	15		
21	7.1	-3.0	2.1	15.9	0.0			0.0	11		
22	5.4	-4.8	0.3	17.7	0.0			0.0	8		
23	13.2	-4.4	4.4	13.6	0.0			0.7	6		
24	19.5	-1.8	8.9	9.1	0.0			0.0	3		
25	5.3	-4.0	0.7	17.3	0.0			0.0	3		
26	5.4	-7.2	-0.9	18.9	0.0			0.0	3		
27	8.5	-5.7	1.4	16.6	0.0			0.7	5		
28	7.3	-5.1	1.1	16.9	0.0			10.1	3		
29	4.6	-0.3	2.2	15.8	0.0			0.0	5		
30	7.2	-0.6	3.3	14.7	0.0			9.8	3		

Daily Data Report for May 2007											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm	Total Snow cm	Total Precip mm 	Snow on Grnd cm 	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	5.8	1.4	3.6	14.4	0.0			0.6	0		
02	6.0	0.9	3.5	14.5	0.0			2.6	0		
03	7.4	-0.2	3.6	14.4	0.0			0.6	0		
04	6.4	0.9	3.7	14.3	0.0			2.1	0		
05	5.6	0.6	3.1	14.9	0.0			1.3	0		
06	4.3	0.1	2.2	15.8	0.0			0.6	0		
07	12.5	-3.2	4.7	13.3	0.0			2.0	0		
08	13.6	-0.2	6.7	11.3	0.0			0.0	0		
09	16.8	5.4	11.1	6.9	0.0			0.6	0		
10	15.7	1.3	8.5	9.5	0.0			0.7	0		
11	21.0	-4.3	8.4	9.6	0.0			8.2	0		
12	9.0	3.4	6.2	11.8	0.0			1.7	0		
13	11.1	-1.7	4.7	13.3	0.0			0.0	0		
14	10.1	-4.1	3.0	15.0	0.0			0.0	0		
15	13.5	-8.0	2.8	15.2	0.0			1.2	0		

Prepared by: Joanne Sweeney
 Environmental Scientist
 Department of Environment and Conservation

PH: (709) 292-4220

FX: (709) 292-4365

joannesweeney@gov.nl.ca