Real Time Water Quality Monthly Report
Aur Resources Inc.
December 2006 - January 2007

General

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

Maintenance and Calibration of Instrumentation

- The instrument at Gills Pond Brook was removed on December 6th, 2006 for cleaning and calibration and then reinstalled on December 8th. The results from comparing the Minisonde values to the Datasonde values during removal and reinstallation on December 6th/8th can be seen in **Table 1**.
- As noted in the October – December monthly report, the instrument at East Pond Brook was removed on October 26th, 2006 to evaluate/assess nitrate calibration and sensor performance in the lab. It was reinstalled on November 30th, 2006. Data did not transmit from November 30th to December 6th. All connections were disconnected followed by an immediate reconnection after which the data transmitted fine. Data acquired as usual from December 6th to December 15th when data transmission was lost again. Insufficient battery power at the station was the cause of transmission failure from December 15th to January 18th. The results from comparing the Minisonde values to the Datasonde values during reinstallation on November 30th can be seen in **Table 1**.

Table 1: QA/QC Data Comparison Rankings upon removal/reinstallation on Nov. 30th/Dec. 6th/Dec. 8th

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gills Pond Brook	December 6th, 2006	Removal	NA*	Excellent	Poor	Poor
	December 8th, 2006	Installation	Excellent	Excellent	Good	Fair
East Pond Brook	November 30th, 2006	Installation	NA**	Fair	Fair	Poor

*Temperature probe on Datasonde was not reading after December 1, 2006; QA/QC not available.
**Temperature probe on Datasonde did not start transmitting until December 7th; QA/QC not available.

- The Gills Pond Brook instrument was deployed until January 17th, 2006 (41-day deployment period) at which point it was removed for maintenance and calibration. The results from comparing the Minisonde values to the Datasonde values during removal on January 17th can be seen in **Table 2.**
- The East Pond Brook lost transmission of data on December 15th; upon removal on January 17th QA/QC was not possible due to lack of Datasonde data.

Table 2: QA/QC Data Comparison Rankings upon removal on January 17th, 2006

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gills Pond Brook	January 17th, 2006	Removal	Good	Good	Excellent	Good

Data Interpretation

- This monthly report interprets the data from the Gills Pond Brook station for the period of December 6th – January 17th, 2006 and East Pond Brook station for the period of December 6th – December 15th, 2006. Data transmission for East Pond Brook was lost from December 15th to removal of instruments.

TRIBUTARY TO GILLS POND BROOK

- The water temperature (**Figure 1**) remained fairly steady over the deployment period with values around 0°C.

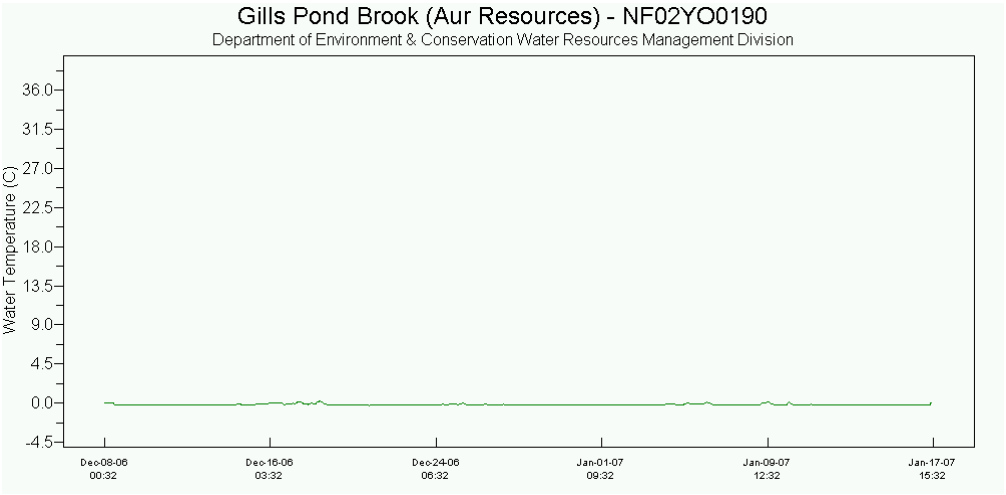

Figure 1

- The dissolved oxygen (**Figure 2**) remains consistent throughout the deployment period with a range of values from 12.8 mg/L to 14.3 mg/L. These values fall within the recommended CCME Protection of 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).

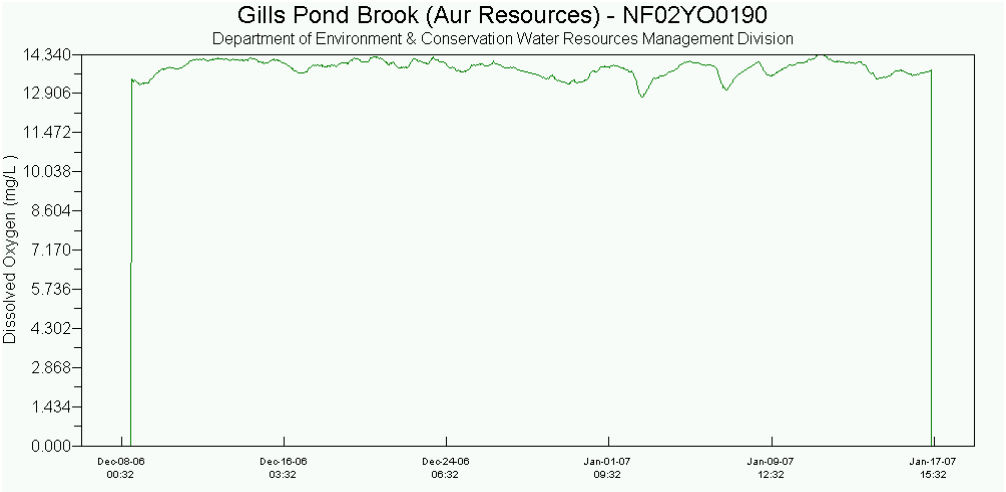

Figure 2

- The pH values (**Figure 3**) for the Gills Pond Brook station fluctuated during the December 6th – January 17th, 2006 deployment period. Increased pH values are seen for the period of December 19th to January 6th. Aur Resources Inc. released water from their polishing pond at Duck Pond Mine from Decemeber 19th to January 4th. This is likely the cause of the increased pH during this time period. The pH values ranged from 5.79 – 6.65 with many of the values falling slightly outside the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines due to the naturally acidic nature of NL waters.

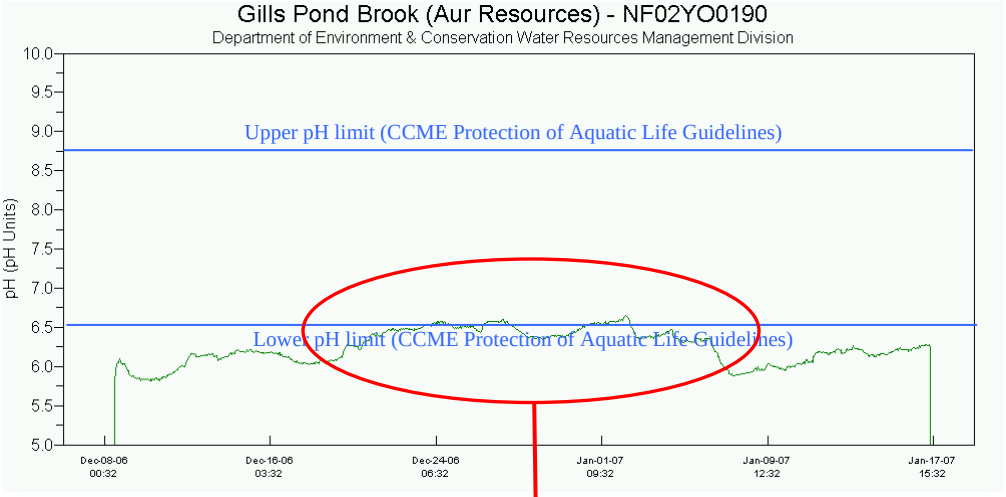

Figure 3

- The specific conductivity values (**Figure 4**) fluctuated throughout the deployment period. Conductivity values increase/decrease during December 19th to January 7th. Similarly, as seen in pH for Gill's Pond Brook, the cause of the increase/decrease in conductivity was likely due to the release of water from the polishing pond.

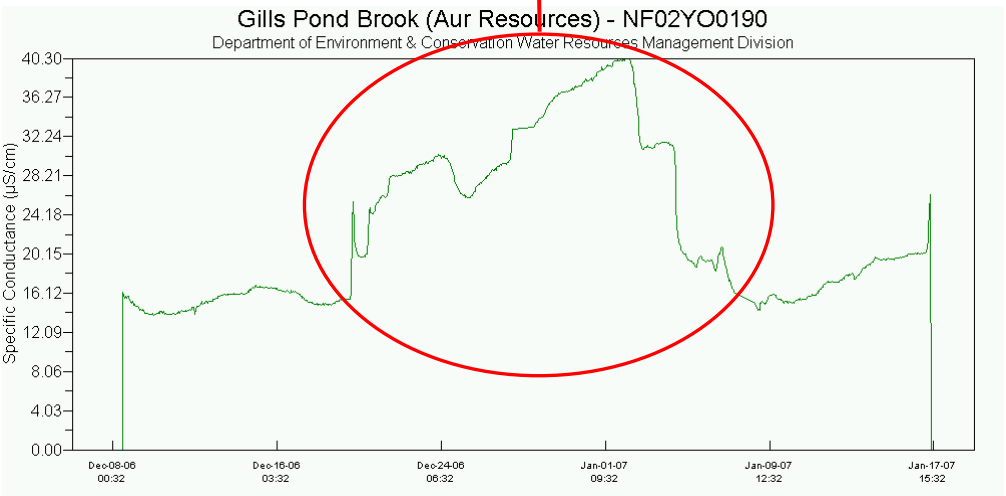

Figure 4

- The turbidity values (**Figure 5**) continued to spike throughout the deployment period. The maximum value of the spikes however was 38.2 NTU with all spikes dropping back to 0 NTU. Due to the low flow conditions in Gills Pond Brook (especially in winter months when ice covers the river), the spikes in turbidity are likely due to the natural fluctuations in stage (**Figure 6**). The maximum spike seen on December 19th (Figure 6) is likely due to the release of water from the tailings dam by Aur Resources Inc. Releases may also be affecting the turbidity spikes during that period seen in Figure 5. The two remaining spikes in stage may be attributed to the increased rainfall amounts a couple of days prior to each event (**Appendix A**) and in-turn affecting the turbidity readings.

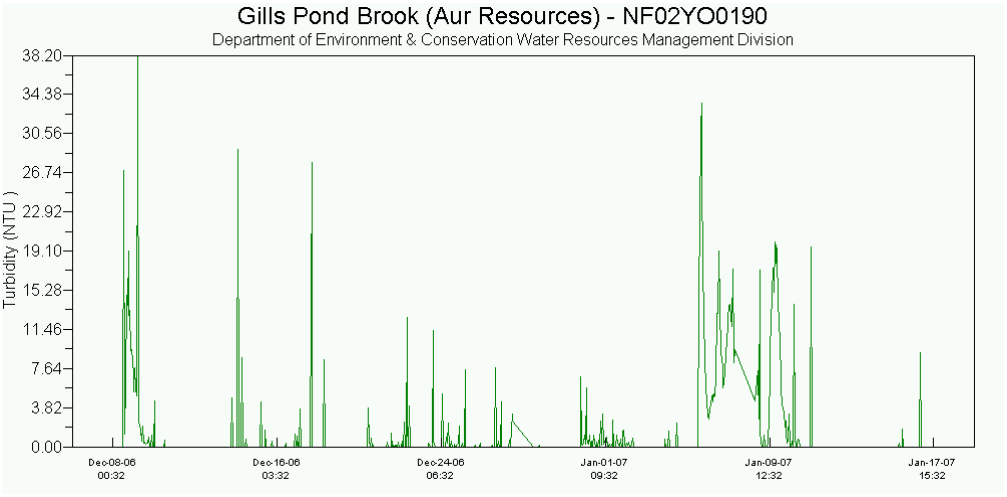

Figure 5

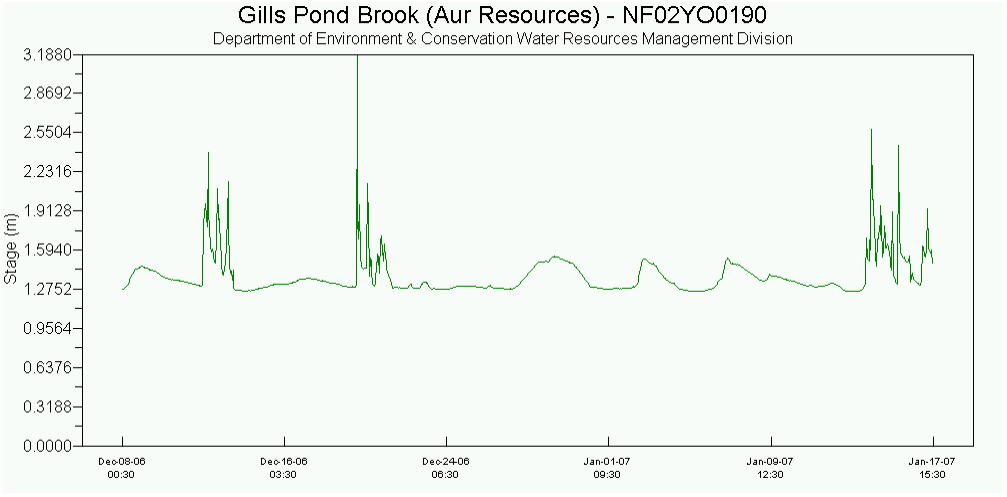

Figure 6

EAST POND BROOK

- East Pond Brook transmitted data from December 6th – December 15th and then lost transmission due to insufficient battery power.
- Water temperatures (**Figure 7**) decrease over the deployment period with a range of 4.21°C – 15.96 °C. There was a very strong diurnal pattern being detected in the data

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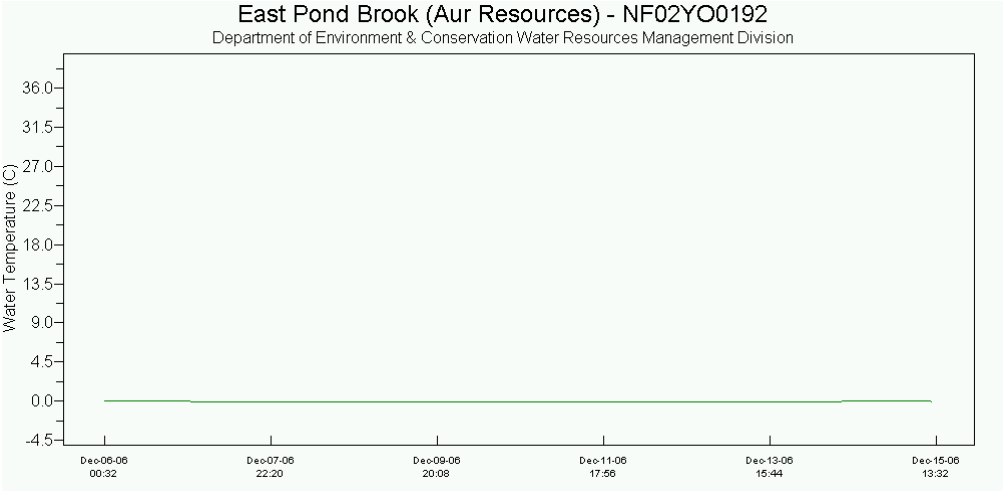

Figure 7

- The dissolved oxygen values (**Figure 8**) remained fairly consistent after the initial deployment. The dissolved oxygen values ranged from 13.32 mg/L to 15.74 mg/L. As is the case in most NL water, these values fall within the recommended CCME Protection of 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).

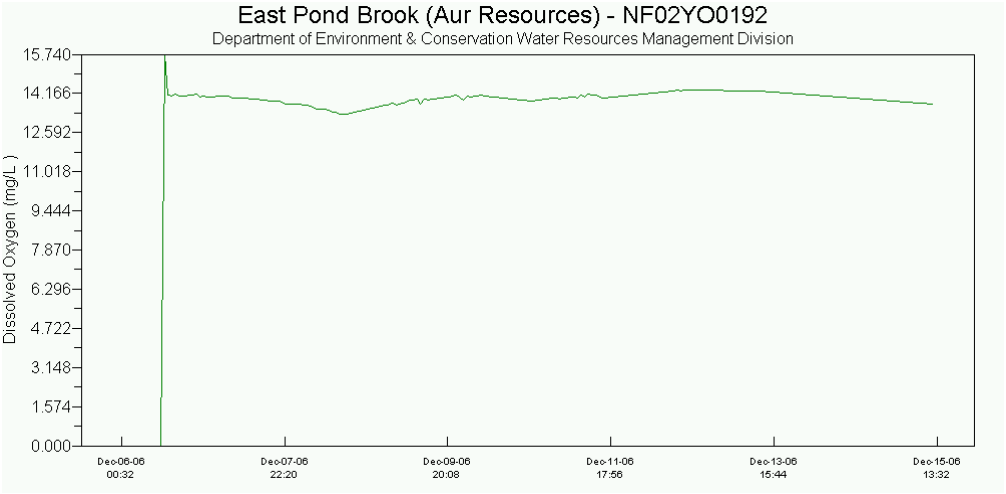

Figure 8

- The pH values (**Figure 9**) remained fairly stable over the deployment period. There was a slight drop in pH values beginning on December 9th which may have resulted from a significant amount of rainfall (**Appendix A**) from December 2nd – 8th. The pH values ranged from 6.26 – 6.73 with many of the values falling slightly outside the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines due to the naturally acidic nature of NL waters.

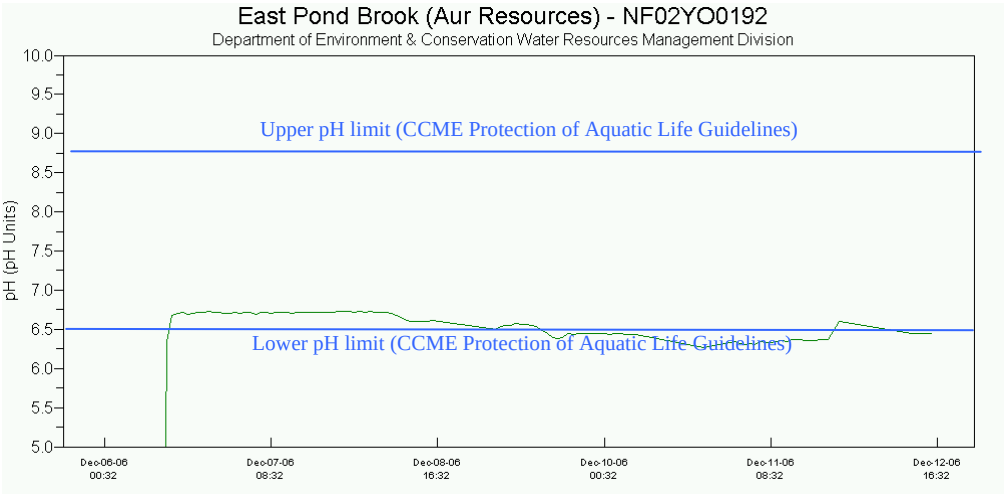

Figure 9

- The specific conductivity (**Figure 10)** showed a general decrease in values throughout the deployment period. There was a drop in conductivity to a minimum of 7.1 µS/cm on December 9th for a period of 8 hours in the morning. This decrease/increase in conductivity could be a result of the rainfall event mentioned above or from an unknown cause. This type of event will continue to be monitored in the future.

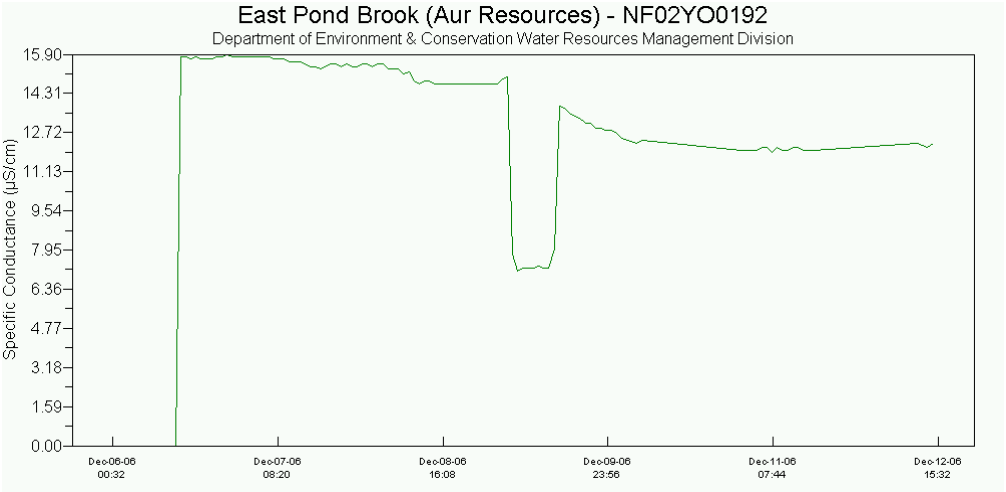

Figure 10

- The turbidity values (**Figure 11**) remained at approximately 0 NTU throughout the majority of the deployment period. The range of values were between 0.0 – 10.5 NTU with three obvious spikes (10.5 NTU on December 6th at initial installation; 7.5 NTU on December 9th; 6.9 NTU on December 11th). All three spikes occurred for only a one hour time period and dropped immediately back to 0 NTU which indicates that they are likely not due to water quality events but a disturbance to the turbidity sensor.

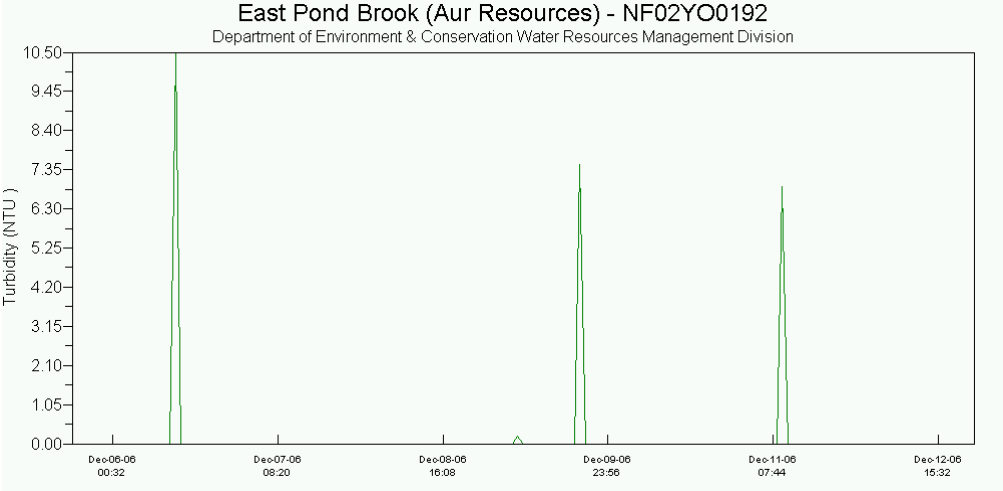

Figure 11

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Appendix A – Climate Data for Badger, NL (December 2006 & January 2007)

Daily Data Report for December 2006

Day	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	4.3	-3.1	0.6	17.4	0.0			4.6	2		
02	-1.8	-5.2	-3.5	21.5	0.0			14.7	5		
03	-2.7	-3.5	-3.1	21.1	0.0			0.7	18		
04	-2.0	-16.0E	-9.0E	27.0E	0.0E			10.7	14		
05	-2.1	-3.3	-2.7	20.7	0.0			3.2	28		
06	-2.8	-14.6E	-8.7E	26.7E	0.0E			0.6	33		
07	3.9	-18.6E	-7.4E	25.4E	0.0E			10.4	30		
08	3.2	1.0	2.1	15.9	0.0			15.7	20		
09	-5.6	-12.4	-9.0	27.0	0.0			0.0	23		
10	1.5	-18.1E	-8.3E	26.3E	0.0E			2.9	22		
11	-0.8	-3.4	-2.1	20.1	0.0			0.0	22		
12	-4.5	-12.2	-8.4	26.4	0.0			0.0	21		
13	1.5	-12.0	-5.3	23.3	0.0			0.0	20		
14	5.5	-1.1	2.2	15.8	0.0			0.0	21		
15	5.4	1.4	3.4	14.6	0.0			0.0	17		
16	3.5	-0.9	1.3	16.7	0.0			9.3	16		
17	2.7	0.3	1.5	16.5	0.0			1.1	14		
18	3.3	-3.7	-0.2	18.2	0.0			0.6	14		
19	-3.6	-10.0	-6.8	24.8	0.0			0.0	15		
20	-2.6	-11.1	-6.9	24.9	0.0			0.0	15		
21	1.4	-8.9	-3.8	21.8	0.0			1.5	15		
22	-2.7	-8.1	-5.4	23.4	0.0			0.0	17		
23	-0.7	-8.4	-4.6	22.6	0.0			3.4	15		
24	4.1	-12.6E	-4.3E	22.3E	0.0E			3.1	17		
25	0.5	-1.1	-0.3	18.3	0.0			0.0	17		
26	0.0	-3.7	-1.9	19.9	0.0			3.7	16		
27	-3.5	-4.5	-4.0	22.0	0.0			0.6	22		
28	-7.2	-15.0	-11.1	29.1	0.0			0.0	22		
29	-9.9	-14.4	-12.2	30.2	0.0			0.0	21		
30	-4.7	-16.6	-10.7	28.7	0.0			0.0	21		
31	-3.1	-13.9	-8.5	26.5	0.0			0.0	21		
Sum				**695.1E**	**0.0E**			**86.8**			
Avg	**-0.6**	**-8.2E**	**-4.4E**								
Xtrm	**5.5**	**-18.6E**									

Daily Data Report for January 2007

Day	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†	-4.2	-12.8	-8.5	26.5	0.0	M	M	0.0	21		<31
02†	2.3	-5.0	-1.4	19.4	0.0	M	M	12.0	21	29	48
03†	-2.1	-7.6	-4.9	22.9	0.0	0.0	1.0	0.6	20	26	52
04†	1.9	-3.0	-0.6	18.6	0.0	M	M	0.0	21	29	37
05†	3.9	-0.3	1.8	16.2	0.0	M	M	0.7	20		<31
06†	5.5	1.0	3.3	14.7	0.0	M	M	11.9	18		<31
07†	6.0	0.4	3.2	14.8	0.0	M	M	3.0	14	23	56
08†	1.9	-1.2	0.4	17.6	0.0	0.0	5.0	15.7	13	29	35
09†	6.4	-0.2	3.1	14.9	0.0	M	M	0.6	15	27	67
10†	1.8	-3.8	-1.0	19.0	0.0	M	M	0.0	12	28	35
11†	-2.7	-4.9	-3.8	21.8	0.0	M	M	0.0	12	30	41
12†	0.5	-6.0	-2.8	20.8	0.0	0.0	1.0	1.3	12	27	41
13†	-1.7	-16.0	-8.9	26.9	0.0	0.0	14.0	10.2	19	1	37
14†	-6.0	-28.2	-17.1	35.1	0.0	M	M	0.0	26		<31
15†	-6.9	-15.1	-11.0	29.0	0.0	M	M	0.6	24	28	46
16†	-10.0	-20.7	-15.4	33.4	0.0	0.0	5.0	2.7	23		<31
17†	-13.6	-29.0	-21.3	39.3	0.0	M	M	0.0	28	30	41
18†	-9.0	-23.7	-16.4	34.4	0.0	M	M	0.0	26	32	37
19†	2.2	-9.1	-3.5	21.5	0.0	M	M	0.0	25	16	46
20†	3.7	-3.1	0.3	17.7	0.0	M	M	10.6	20	14	54
21†	-1.3	-6.4	-3.9	21.9	0.0	M	M	0.0	18	32	33
22†	-7.7E	-11.0E	-9.4E	27.4E	0.0E	M	M	M	18	28E	33E
23†	-6.3	-21.9	-14.1	32.1	0.0	M	1.0	0.0	17		<31
24†	-1.5	-14.0	-7.8	25.8	0.0	0.0	23.0	8.1	18	1	52
25†	-1.4	-19.9	-10.7	28.7	0.0	M	M	0.6	40	25	50
26†	-1.7	-19.2	-10.5	28.5	0.0	0.0	24.0	9.4	39	3	61
27†	0.4	-5.3	-2.5	20.5	0.0	M	3.0	3.2	59	2	61
28†	-2.8	-8.1	-5.5	23.5	0.0	M	M	0.0	62	27	44
29†	-6.2	-14.0	-10.1	28.1	0.0	M	M	0.0	59	34	33
30†	-8.1	-12.5	-10.3	28.3	0.0	M	M	1.2	57	28	44
31†	-7.1	-18.8	-13.0	31.0	0.0	M	M	0.0	56	26	37
Sum				**760.3E**	**0.0E**	**0.0***	**77.0***	**92.4***			
Avg	**-2.1E**	**-10.9E**	**-6.5E**								
Xtrm	**6.4E**	**-29.0E**								**27**	**67**