

Project to modernize the wharfs of the Oka ferry

Memoire submitted to B.A.P.E. by David Morton,

LAKE OF TWO MOUNTAINS WATER LEVELS: ENVIRONMENTAL IMPACT

The water level of the Ottawa River, especially the Lake of Two Mountains, is a key factor in the operation of the Oka Ferry, be it the present operating ferry or the future, proposed system. The bay on the Hudson (Como) side of the Lake of Two Mountains is shallow, shallower than the Oka side.(CHS chart #1510) Any change downward in the Ottawa River water level could have serious implications for the present as well as the proposed new ferry. The draft of the boats, empty and fully charged, must be considered. The length of the proposed new docking pier (wharfs) may prove to be too short. Ultimately, there may need to be more regular dredging to keep any ferry boats in service.

Water levels in the Lake of Two Mountains on the Ottawa River depend on the downstream flow from the rivers above Ottawa, i.e., the Mattawa, the numerous tributaries that flow into the Ottawa River, and their sources from the reservoirs, i.e., Timiskaming and Baskatong reservoirs. The flow of water into the Lake of Two Mountains is measured by water flow in cubic metres per second from the Carillon Dam. The level for the Lake of Two Mountains is measured in metres at Pointe Calumet, Station # 043108, and at the Ste. Anne de Bellevue Locks, Station # 043116, (Centre d'expertise Hydrique Québec, Ministère de l'Environnement)

At these stations, the Lake of Two Mountains water levels have been measured by Environment Canada since 1970. (see chart #1) In that time period, water levels have been measured in metres from a range of 21 m.(minimum) to 24 m. (maximum). In the months of August and September, 2005, the levels were approx. 21.4 m., very close to the minimum (21m.) of the 35 year period. More importantly, since 2000, the summer water levels measured at Pte. Calumet have averaged below the Mean recorded levels in 4 of the 5 years. (see chart #3) . The average (mean) water flow through Carillon dam has been measured (see www.ottawariver.ca) at 1931 cubic metres per second for the same period from 1970 to 2005. Last year, the average water flow was measured at 1705 cubic metres per second, well below the average. In the last ten years, the water flow has been below the mean in 6 of the 10 years. (see chart #2)

The current water level of the Lake of Two Mountains and water flow into it from Carillon Dam remain for now at an acceptable, though low, below-average level. However flow and level measurement, along with eyewitness trends, in recent years show that the level and flow are decreasing.

Climate change is being cited as an important factor. Warmer mean temperatures are slowly lowering the amount of precipitation, especially winter snows, and increasing the amount of evaporation in the lakes and reservoirs that feed into the Ottawa River. Meteorologist, Alain Bourque, in a presentation entitled, 'Vers une adaptation aux changements climatiques, given at the Colloque sur la sécurité civile, Feb 21-22, 2005 at St. Hyacinthe, QC, (sponsored by the Québec Ministère de la sécurité publique) said that recent trends show that water levels in our lakes and rivers are descending. Hydro Québec appears to be worried that water levels in our northern reservoirs are dangerously low. The Lake Timiskaming Reservoir is currently at 32% of capacity. Recently published reports on the lower water levels in the St. Lawrence River system are another cause for alarm.

The current Canadian Hydrographic Service Chart #1510 for the Ottawa River from Carillon to Lac St. Louis has always shown shallow levels in the Como docking area for the Oka Ferry, lower than on the Oka side. It would appear, based on recent trends, accentuated by climate change that water levels in the Ottawa River (and hence the Lake of Two Mountains) will continue to go down. So, whatever ferry service operates in this area, the lowering of the water level may have a significant effect on the draft (fully charged) of the ferry boats, old or new. The docking area may become too shallow, even the proposed new docks with movable ramps. Will the new 26 metre loading dock (wharfs) have to be extended? More importantly, will there have to be more dredging, more often, to maintain service? Who will pay for increased dredging, and the possible extension of the dock? The owner? The taxpayer? Will there be more BAPE hearings? Is it even worth the effort? The current Hudson site is already close to being too shallow. Perhaps this is not the right site to consider for a modernized facility.

In all current hearings into the Oka Ferry project, the situation of probable lower Ottawa River water levels and their impact on the current and future Oka ferry service have not been studied by the owner of Oka Ferry and by the Québec Ministère de l'environnement and Ministère de Transport. Attention must be paid to the water levels of the Ottawa River, the effects of climate change on these levels, and their ensuing impact on any ferry service, present or modernized.

Respectfully submitted

David Morton

Centre d'expertise
 hydrique

Québec

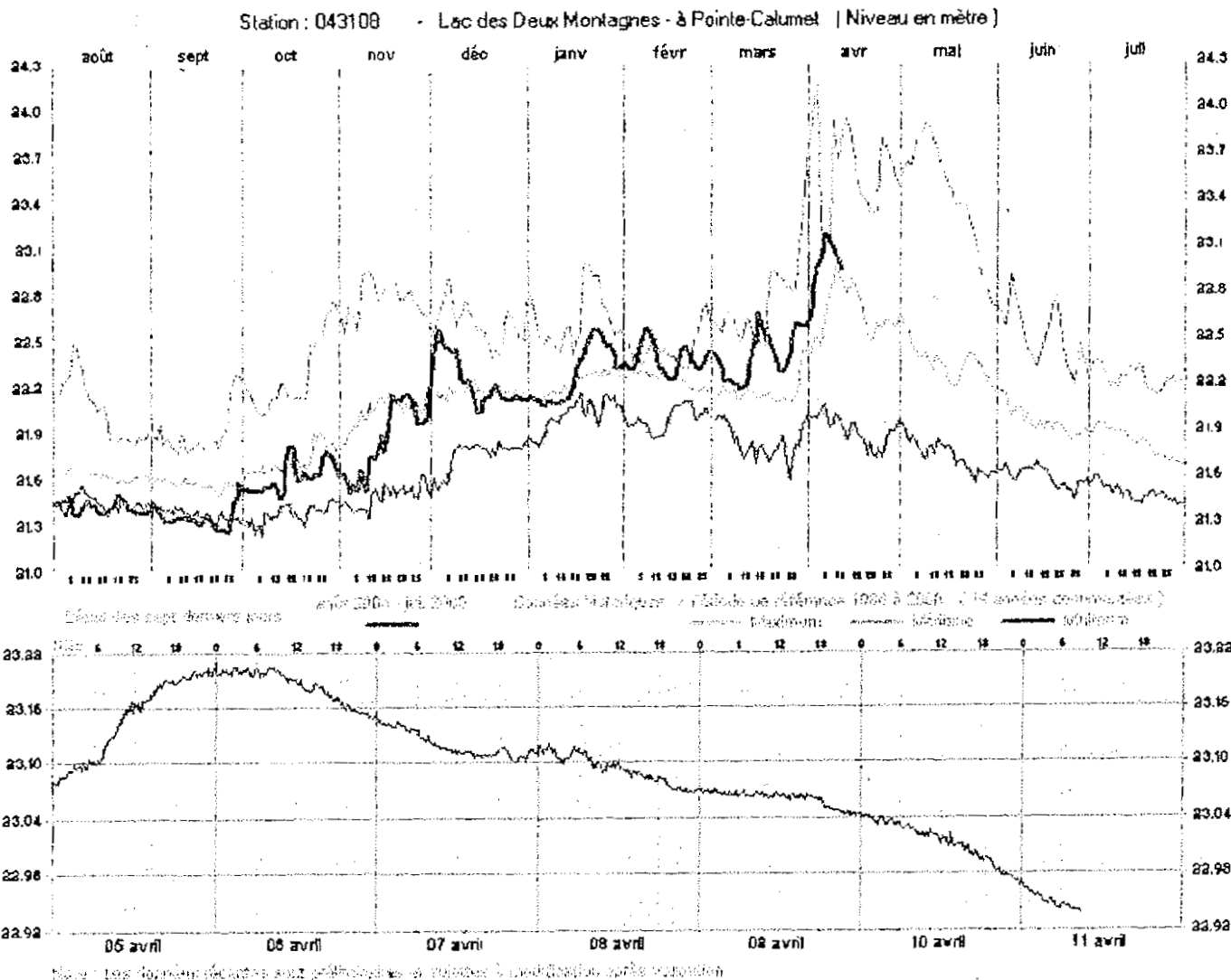


Accueil Plan du site Courrier Portail Québec Recherche English
 Ministère du Développement durable, de l'Environnement et des Parcs

CHART #1 a)

Niveau d'eau à la station

(Données préliminales)



Printed on 2006-04-19 10:48

Numéro de la station :	043108
Nom de la station :	Lac des Deux Montagnes
Description :	à Pointe-Calumet
Municipalité :	Pointe-Calumet
Région administrative :	Laurentides
Lac ou cours d'eau :	Deux Montagnes, des
Région hydrographique :	Outaouais et Montréal
Bassin versant à la station :	146 000 km ²
Régime d'écoulement :	Influencé



Centre d'expertise
hydrique

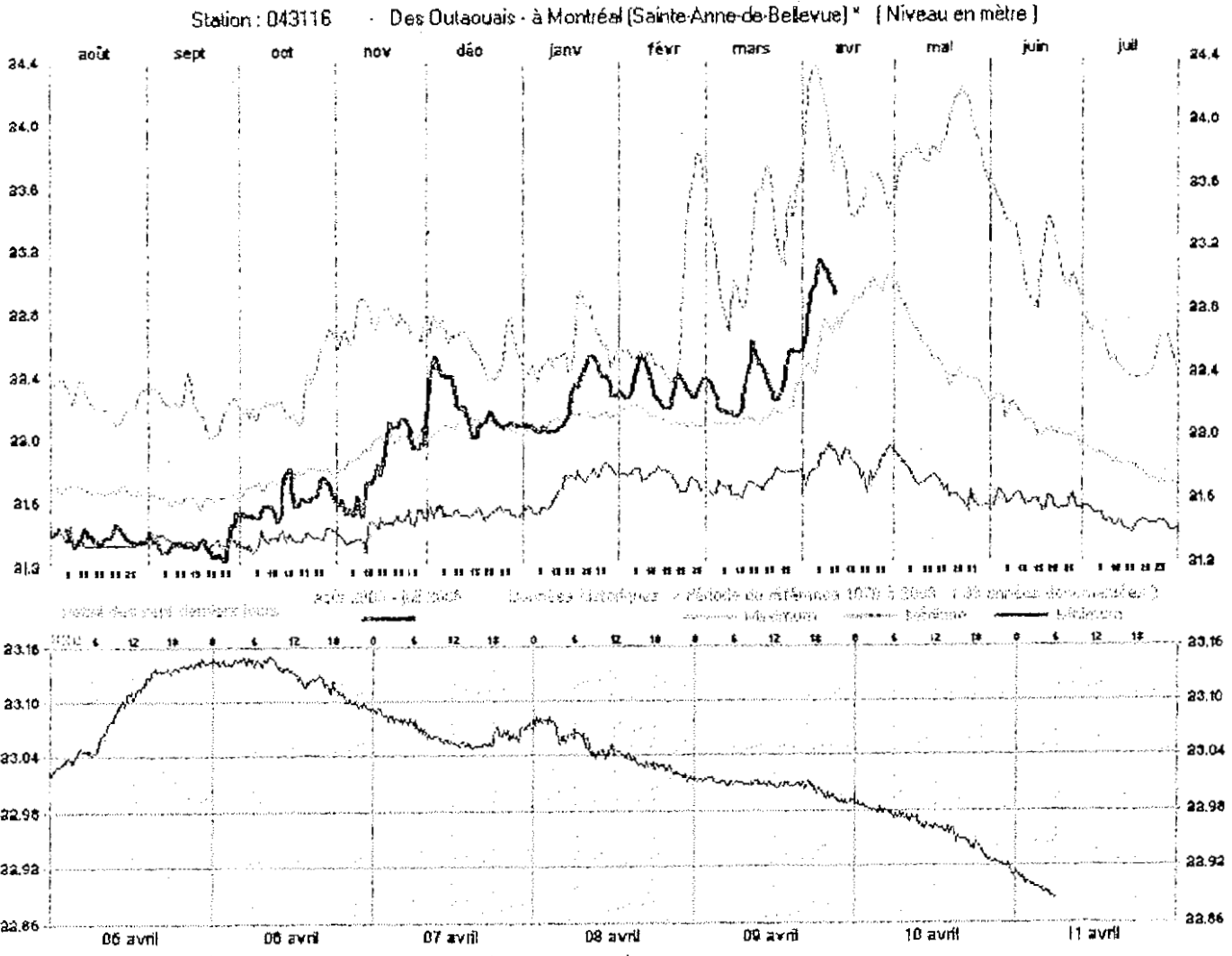
Québec

Accueil Plan du site Courrier Portail Québec Recherche English
Ministère du Développement durable, de l'Environnement et des Parcs

Chart # 13

Niveau d'eau à la station

(Données préliminaires)



* Station opérée par Environnement Canada (0304013).

Inclus le site de la station

Numéro de la station :	043116
Nom de la station :	Des Outaouais
Description :	à Montréal (Sainte-Anne-de-Bellevue)
Municipalité :	Montréal
Région administrative :	Montréal
Lac ou cours d'eau :	Outaouais, Rivière des
Région hydrographique :	Outaouais et Montréal
Bassin versant à la station :	146 000 km ²
Régime d'écoulement :	Influencé

Historical Streamflow Summary Sommaire chronologique de l'écoulement

Chart #2

Ottawa River at Carillon - rivière des Outaouais à Carillon

Monthly and Annual Mean Discharges in Cubic Metres per Second From 1964

Annual Extreme Discharges

Débits moyens mensuels et annuels en mètres cubes par seconde depuis 1964

Débits extrêmes annuels

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Means	Maximum	Minimum	Year
Année	Jan	Fév	Mars	Avr	Mai	Juin	Juil	Août	Sept	Oct	Nov	Déc	Moyens annuels			An:
1964	1471	1436	1782	2564	2227	1754	1256	924	851	990	1028	1232	1460	3727	560	19
1965	1257	1286	1426	2078	2851	1511	1017	1247	1785	3164	2605	2243	1873	3672	570	19
1966	2147	1908	2648	3197	2635	2254	1336	1481	1240	1397	1917	3422	2132	5410	840	19
1967	2220	2221	1737	4256	3924	3157	2106	1363	1306	2112	3374	2265	2503	5407	974	19
1968	2016	1913	2339	3480	1799	1596	1659	1280	1184	1150	1223	1361	1750	4653	805	19
1969	1453	1510	1644	3293	3499	2217	1595	1440	1101	1235	2135	1958	1923	5134	771	19
1970	1592	1480	1543	2925	3553	2470	2261	1698	1228	1379	1609	1525	1939	4990	842	19
1971	1396	1354	1484	3512	3536	1579	997	952	880	870	907	1172	1553	5704	306	19
1972	1224	1163	1253	3169	4806	2374	2195	2046	1850	1941	2614	2073	2226	6329	863	19
1973	1975	2071	3615	4137	3841	2765	2065	1563	1362	1665	1703	1904	2389	5703	1086	19
1974	1726	1678	2307	3883	6496	4349	2210	1299	1069	1235	1968	2025	2521	8105	611	19
1975	1922	1748	2005	3206	3057	2060	1109	866	826	975	1162	1612	1712	5790	613	19
1976	1553	1546	2338	5767	3861	1882	1548	1252	1125	1217	1231	1437	2063	8190	704	19
1977	1351	1201	2677	3743	2326	1134	1121	930	973	1323	1571	2012	1697	5062	617	19
1978	1966	1902	1499	3169	2923	1537	1069	958	844	1263	1231	1286	1637	4668	701	19
1979	1454	1428	2537	4113	5023	2231	1466	1273	1296	1934	2483	2850	2341	6686	998	19
1980	2332	1948	2182	3574	2736	1484	1431	1420	1300	2175	2294	1919	2066	5329	683	19
1981	1603	2813	3116	4309	2996	2759	1582	1203	1706	1741	2027	1563	2285	6222	907	19
1982	1394	1374	1558	3176	2283	1426	1100	851	852	1030	1580	2259	1574	4585	684	19
1983	2381	2176	2571	2914	4915	3049	1237	1039	896	1081	1581	1787	2136	6907	567	19
1984	1640	1978	2069	4444	2916	2492	1964	1435	1306	1245	1925	2054	2122	5568	873	19
1985	2094	2015	2699	3646	3793	1539	1340	1623	1134	1109	1350	1593	1995	6004	901	19
1986	1620	1676	1647	3353	2769	2083	1322	1351	1401	1801	1829	1742	1883	4647	988	19
1987	1683	1563	1910	3111	1176	1201	985	816	771	926	1325	1846	1443	4767	614	19
1988	1868	1933	1649	3708	2788	1247	915	1176	1268	2289	3457	2251	2046	4665	826	19
1989	2062	2107	1888	2959	2986	2666	1287	920	854	933	1841	1859	1863	3883	566	19
1990	1919	2061	2499	3222	2628	1552	1444	1018	897	1829	2180	2829	2006	4562	775	19

Level and Discharge Summaries

1991	2262	2235	2412	4796	2542	1312	893	778	842	1177	1502	1881	1886	6728	666	19
1992	1827	1820	1678	3150	2998	1238	1163	996	1463	1820	2705	2199	1921	5337	763	19
1993	2171	1876	1496	3738	1780	1866	1090	882	935	1853	2408	2249	1862	5459	725	19
1994	1714	1942	1806	2846	2557	2194	2195	1724	1132	1116	1656	1800	1890	4594	977	19
1995	2525	2216	2559	1751	2387	2228	1059	958	704	990	1986	1816	1765	3962	614	19
1996	2063	2294	2033	3066	4306	1928	1586	1381	1035	1214	1714	1881	2042	5879	839	19
1997	2009	2162	2268	4104	4905	1871	1496	990	966	1030	1452	1394	2054	6368	782	19
1998	1579	1560	2314	4669	1382	1113	1168	795	763	816	907	1391	1538	7285	588	19
1999	1752	1958	1943	3251	1259	1434	1335	879	831	1659	2445	2737	1790	5413	729	19
2000	2087	2009	2386	2836	2715	1840	1555	1387	1215	1020	1102	1464	1801	3205	971	20
2001	1473	1649	1510	2890	1744	1433	1015	668	823	1836	2555	2801	1700	4070	563	20
2002	2186	1968	2346	4167	3962	3703	1835	1102	885	820	856	934	2064	5947	666	20
2003	1238	1236	1500	2371	1857	1728	1109	1520	994	1829	3283	3066	1811	4792	519	20
2004	2469	2031	2280	3219	3868	1914	1875	1066	1258	880	1102	1558	1960	4917	534	20
2005	1826	1708	1370	4222	2438	1341	999	784	700	1057	1574	2445	1705	4862	529	20
2006	2237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20

Mean

-	1823	1813	2077	3458	3088	2004	1439	1184	1101	1416	1849	1933	1931	5374	736	
---	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----	--

Moyen

CHART #3

LAC DES DEUX MONTAGNES

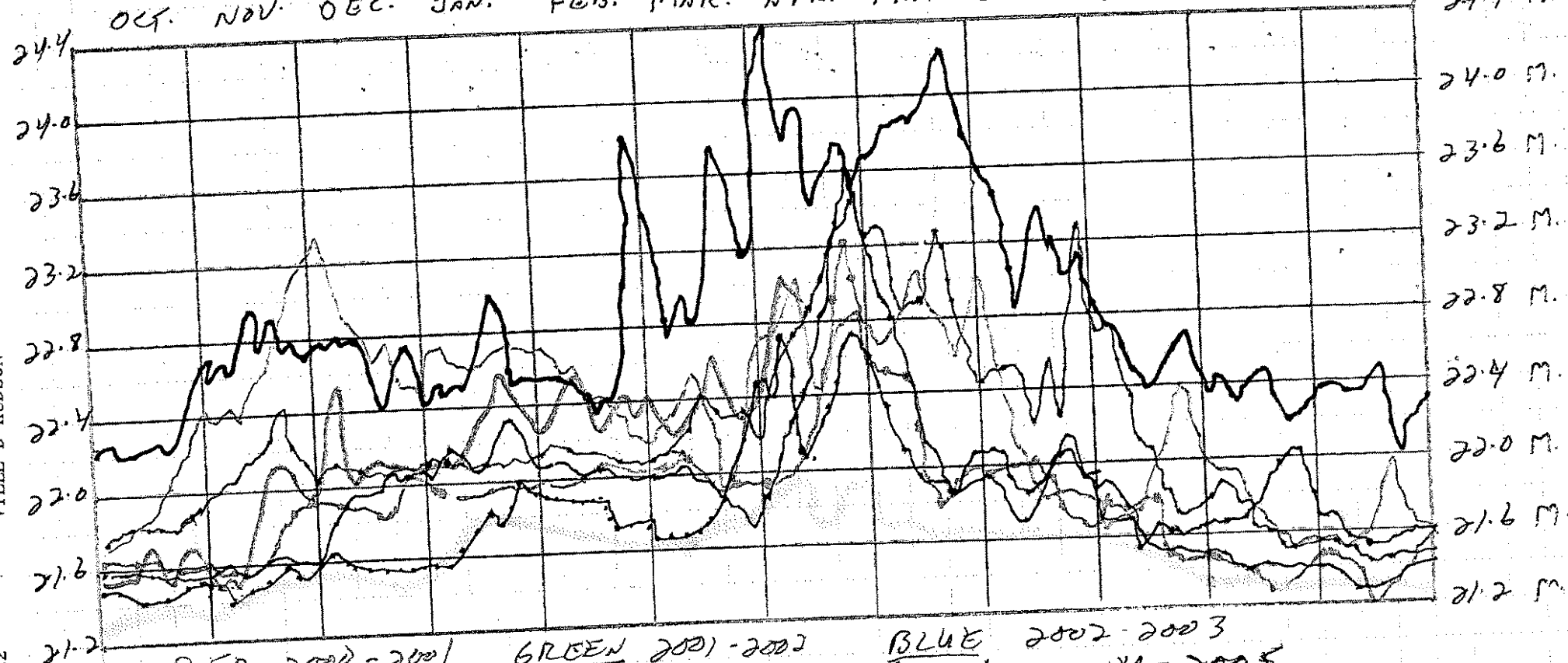
(2000 - 2006)

STATION: 043108

Pte. CALUMET

WATER DEPTH

OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT.



RED 2000-2001 GREEN 2001-2002 BLUE 2002-2003
PENCIL 2003-2004 (BLACK) 2004-2005
 MEAN PENCIL 2005-2006

MINIMUM

MEDIAN

MAXIMUM