

APPENDICES A AND B
TO THE REPORT TO
THE INTERNATIONAL JOINT COMMISSION

ON

THE DIVISION OF THE WATERS OF THE
ST. MARY AND MILK RIVERS

1987

BY

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representing the United States

AND

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The data contained in these appendices are the culmination of a concerted effort by personnel of the Montana district of the United States Geological Survey and the Alberta and Saskatchewan districts of the Water Survey of Canada. In addition to the authors, who had primary responsibility for assuring that the data contained herein are accurate and complete, the following individuals contributed significantly to the collection, compilation, verification and tabulation of the data:

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APPENDIX A

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TABLE 6
NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
MARCH 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	115	0	115	269	384	192	192	77
2	135	0	135	281	416	208	208	73
3	132	0	132	294	426	213	213	81
4	166	0	166	306	472	236	236	70
5	-201	15	-186	318	132	66	66	252
6	-181	262	81	343	424	212	212	131
7	-152	294	142	350	492	246	246	104
8	-230	453	223	276	499	250	249	27
9	-595	602	7	235	242	121	121	114
10	-861	604	-257	450	193	96	97	353
11	-1 059	986	-73	379	306	153	153	226
12	-1 101	1 138	37	355	392	196	196	159
13	-1 018	1 177	159	443	602	301	301	142
14	-1 047	1 221	174	428	602	301	301	127
15	-842	1 255	413	369	782	391	391	-22
S. TOTAL MEAN	-6 739 -449	8 007 534	1 268 84.5	5 096 340	6 364 424	3 182 212	3 182 212	1 914 128
16	-908	1 253	345	350	695	348	347	3
17	-935	1 255	320	335	655	327	328	7
18	-939	1 253	314	321	635	318	317	4
19	-891	1 267	376	325	701	350	351	-26
20	-939	1 262	323	399	722	361	361	38
21	-864	1 255	391	350	741	371	370	-20
22	-827	1 243	416	272	688	344	344	-72
23	-710	1 216	506	223	729	364	365	-142
24	-722	1 155	433	257	690	345	345	-88
25	-604	1 103	499	235	734	367	367	-132
26	-617	1 042	425	262	687	344	343	-81
27	-516	1 035	519	203	722	361	361	-158
28	-582	1 028	446	135	581	290	291	-156
29	-675	1 023	348	159	507	254	253	-94
30	-643	1 018	375	196	571	285	286	-90
31	-599	1 013	414	228	642	321	321	-93
S. TOTAL MEAN	-11 971 -748	18 421 1 151	6 450 403	4 250 266	10 700 669	5 350 334	5 350 334	-1 100 -68.8
TOTAL MEAN	-18 710 -604	26 428 853	7 718 249	9 346 301	17 064 550	8 532 275	8 532 275	814 26.3

APPROVED BY : *J. C. Moulard* FOR THE UNITED STATES

 [Signature] FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
APRIL 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	-678	930	252	296	548	137	411	-115
2	-592	768	176	509	685	171	514	-5
3	-548	763	215	609	824	206	618	-9
4	-506	778	272	812	1 084	271	813	-1
5	-477	776	299	856	1 155	289	866	-10
6	-382	771	389	815	1 204	301	903	-88
7	-382	771	389	768	1 157	289	868	-100
8	-316	785	469	800	1 269	317	952	-152
9	-298	783	485	891	1 376	344	1 032	-141
10	-404	758	354	925	1 279	320	959	-34
11	-519	692	173	1 052	1 225	306	919	133
12	-553	609	56	1 064	1 120	290	840	224
13	-599	509	-90	1 214	1 124	281	843	371
14	-316	276	-40	1 453	1 413	353	1 060	393
15	-103	272	169	1 358	1 527	382	1 145	213
S. TOTAL	-6 673	10 241	3 568	13 422	16 990	4 247	12 743	679
MEAN	-445	683	238	895	1 133	283	850	45.3
16	127	272	399	1 407	1 806	496	1 310	97
17	367	269	636	1 598	2 234	710	1 524	74
18	974	264	1 238	1 558	2 796	991	1 805	-247
19	1 116	262	1 378	1 492	2 370	1 028	1 842	-350
20	695	262	957	1 600	2 557	871	1 686	-86
21	433	262	695	1 683	2 378	782	1 596	87
22	369	308	677	1 612	2 289	737	1 552	60
23	558	435	993	1 458	2 451	818	1 633	-175
24	629	435	1 064	1 443	2 507	846	1 661	-218
25	685	431	1 116	1 468	2 584	885	1 699	-231
26	746	428	1 174	1 544	2 718	952	1 766	-222
27	859	431	1 290	1 666	2 956	1 071	1 885	-219
28	741	431	1 172	2 072	3 244	1 215	2 029	43
29	971	433	1 404	2 642	4 046	1 616	2 430	212
30	1 810	524	2 334	3 303	5 637	2 411	3 226	77
S. TOTAL	11 080	5 447	16 527	26 546	43 073	15 429	27 644	-1 098
MEAN	739	363	1 102	1 770	2 872	1 029	1 843	-73.2
TOTAL	4 407	15 688	20 095	39 968	60 063	19 676	40 387	-419
MEAN	147	523	670	1 332	2 002	656	1 346	-14.0

APPROVED BY :

Jac. A. MacLennan

FOR THE UNITED STATES

J.H.A.

FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
MAY 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	2 432	683	3 115	3 963	7 078	3 132	3 946	17
2	2 569	692	3 261	4 600	7 861	3 523	4 338	262
3	2 143	692	2 835	4 795	7 630	3 408	4 222	573
4	1 412	685	2 097	4 624	6 721	2 953	3 768	856
5	1 094	680	1 774	4 184	5 958	2 572	3 386	798
6	1 008	724	1 732	3 792	5 524	2 355	3 169	623
7	1 233	1 089	2 322	3 376	5 698	2 442	3 256	120
8	1 355	1 160	2 515	3 352	5 867	2 526	3 341	11
9	1 637	1 187	2 824	3 572	6 396	2 791	3 605	-33
10	1 801	1 231	3 032	3 866	6 898	3 042	3 856	10
11	1 906	1 297	3 203	4 086	7 289	3 237	4 052	34
12	1 830	1 419	3 249	4 159	7 408	3 297	4 111	48
13	1 837	1 490	3 327	4 355	7 682	3 434	4 248	107
14	1 921	1 578	3 499	4 355	7 854	3 520	4 334	21
15	1 673	1 644	3 317	4 135	7 452	3 319	4 133	2
S. TOTAL MEAN	25 851 1 723	16 251 1 083	42 102 2 807	61 214 4 081	103 316 6 888	45 551 3 037	57 765 3 851	3 449 230
16	1 527	1 683	3 210	4 061	7 271	3 228	4 043	18
17	1 331	1 671	3 002	3 988	6 990	3 088	3 902	86
18	1 287	1 373	2 660	3 963	6 623	2 904	3 719	244
19	1 111	1 590	2 701	3 181	5 882	2 534	3 348	-167
20	680	1 686	2 366	2 667	5 033	2 109	2 924	-257
21	683	1 568	2 251	2 437	4 688	1 937	2 751	-314
22	668	1 284	1 952	2 363	4 315	1 750	2 565	-202
23	631	1 010	1 641	2 295	3 936	1 561	2 375	-80
24	538	754	1 292	2 209	3 501	1 343	2 158	51
25	538	751	1 289	2 014	3 303	1 244	2 059	-45
26	521	756	1 277	2 092	3 369	1 277	2 092	0
27	932	988	1 920	3 181	5 101	2 143	2 958	223
28	1 700	1 453	3 153	3 866	7 019	3 102	3 917	-51
29	1 837	1 490	3 327	3 768	7 095	3 140	3 955	-187
30	1 319	1 490	2 809	3 596	6 405	2 795	3 610	-14
31	1 395	1 492	2 887	3 572	6 459	2 822	3 637	-65
S. TOTAL MEAN	16 698 1 044	21 039 1 315	37 737 2 359	49 253 3 078	86 990 5 437	36 977 2 311	50 013 3 126	-760 -47.5
TOTAL MEAN	42 549 1 373	37 290 1 203	79 839 2 575	110 467 3 563	190 306 6 139	82 528 2 662	107 778 3 477	2 689 86.7

APPROVED BY : Joe A. Macleod FOR THE UNITED STATESJH FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
JUNE 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER AT INTERNATIONAL BOUNDARY	NATURAL FLOW AT INTERNATIONAL BOUNDARY	SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
						UNITED STATES	CANADA	
1	930	1 512	2 442	4 257	6 699	2 942	3 757	500
2	-86	1 524	1 438	4 526	5 964	2 575	3 389	1 137
3	-232	1 571	1 339	4 037	5 376	2 281	3 095	942
4	-42	1 615	1 573	3 450	5 023	2 104	2 919	531
5	147	1 620	1 767	3 009	4 776	1 981	2 795	214
6	127	1 649	1 776	2 862	4 638	1 912	2 726	136
7	210	1 649	1 859	2 936	4 795	1 990	2 805	131
8	64	1 654	1 718	3 132	4 850	2 018	2 832	300
9	-83	1 656	1 573	3 352	4 925	2 055	2 870	482
10	-169	1 654	1 485	3 376	4 861	2 023	2 838	538
11	-213	1 654	1 441	3 376	4 817	2 001	2 816	560
12	-210	1 554	1 344	3 376	4 720	1 953	2 767	609
13	20	1 302	1 322	3 401	4 723	1 954	2 769	632
14	169	1 282	1 451	3 181	4 632	1 909	2 723	458
15	423	1 280	1 703	2 960	4 663	1 924	2 739	221
S. TOTAL MEAN	1 055 70.3	23 176 1 545	24 231 1 615	51 231 3 415	75 462 5 031	31 622 2 108	43 840 2 923	7 391 493
16	318	1 353	1 671	2 985	4 656	1 921	2 735	250
17	108	1 478	1 586	2 936	4 522	1 854	2 668	268
18	-64	1 514	1 450	2 887	4 337	1 761	2 576	311
19	-86	1 563	1 477	2 838	4 315	1 750	2 565	273
20	-127	1 556	1 429	2 740	4 169	1 677	2 492	248
21	-191	1 551	1 360	2 642	4 002	1 594	2 408	234
22	-147	1 541	1 394	2 496	3 890	1 538	2 352	144
23	-235	1 536	1 301	2 246	3 547	1 366	2 181	65
24	-125	1 522	1 397	1 923	3 320	1 253	2 067	-144
25	64	1 505	1 569	1 588	3 157	1 171	1 986	-398
26	20	1 495	1 515	1 311	2 826	1 006	1 820	-509
27	127	1 483	1 610	1 037	2 647	916	1 731	-694
28	274	1 478	1 752	891	2 643	914	1 729	-838
29	127	1 483	1 610	881	2 491	838	1 653	-772
30	64	1 480	1 544	861	2 405	795	1 610	-749
S. TOTAL MEAN	127 8.5	22 538 1 503	22 665 1 511	30 262 2 017	52 927 3 528	20 354 1 357	32 573 2 172	-2 311 -154
TOTAL MEAN	1 182 39.4	45 714 1 524	46 896 1 563	81 493 2 716	128 389 4 280	51 976 1 733	76 413 2 547	5 080 169

APPROVED BY : *J. A. Macdonald* FOR THE UNITED STATES *J. A. St.* FOR CANADA

TABLE 6
NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
JULY 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	-338	1 490	1 152	1 032	2 184	685	1 499	-467
2	-528	1 502	974	1 236	2 210	698	1 512	-276
3	-548	1 505	957	1 368	2 325	755	1 570	-202
4	-670	1 505	835	1 407	2 242	714	1 528	-121
5	-639	1 517	878	1 517	2 395	790	1 605	-88
6	-536	1 128	592	1 916	2 508	847	1 661	255
7	-103	724	621	1 935	2 556	871	1 685	250
8	164	629	793	1 727	2 520	953	1 667	60
9	-61	736	675	1 522	2 197	691	1 506	16
10	-492	981	489	1 370	1 859	522	1 337	33
11	-409	981	572	1 395	1 967	576	1 391	4
12	-528	979	451	1 333	1 784	485	1 299	34
13	-465	1 050	585	1 172	1 757	471	1 286	-114
14	-700	1 226	526	1 037	1 563	391	1 172	-135
15	-756	1 289	533	954	1 487	372	1 115	-161
S. TOTAL	-6 609	17 242	10 633	20 921	31 554	9 721	21 833	-912
MEAN	-441	1 149	709	1 395	2 104	648	1 456	-60.8
16	-844	1 294	450	1 006	1 456	364	1 092	-86
17	-913	1 309	396	1 147	1 543	386	1 157	-10
18	-541	1 319	778	1 527	2 305	745	1 560	-33
19	-135	1 316	1 181	1 884	3 065	1 125	1 940	-56
20	-250	1 314	1 064	1 903	2 967	1 076	1 891	12
21	-117	1 333	1 216	2 028	3 244	1 215	2 029	-1
22	-250	1 284	1 034	3 963	4 997	2 091	2 906	1 057
23	1 563	1 076	2 639	6 092	8 731	3 958	4 773	1 319
24	2 559	1 328	3 887	5 456	9 343	4 264	5 079	377
25	1 742	1 328	3 070	4 942	8 012	3 599	4 413	529
26	1 216	1 316	2 532	4 404	6 936	3 061	3 875	529
27	869	1 319	2 188	3 817	6 005	2 595	3 410	407
28	695	1 348	2 043	3 352	5 395	2 290	3 105	247
29	506	1 395	1 901	2 936	4 837	2 011	2 826	110
30	210	1 395	1 605	2 740	4 345	1 765	2 580	160
31	86	1 390	1 476	2 520	3 996	1 591	2 405	115
S. TOTAL	6 396	21 064	27 460	49 717	77 177	32 136	45 041	4 676
MEAN	400	1 317	1 716	3 107	4 824	2 009	2 815	292
TOTAL	-213	38 306	38 093	70 638	108 731	41 857	66 874	3 764
MEAN	-6.9	1 236	1 229	2 279	3 507	1 350	2 157	121

APPROVED BY :

J. A. Moulton

FOR THE UNITED STATES

SH St

FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
AUGUST 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	-191	1 385	1 194	2 278	3 472	1 329	2 143	135
2	-274	1 375	1 101	2 031	3 132	1 159	1 973	58
3	-232	1 373	1 141	1 757	2 898	1 042	1 856	-99
4	-64	1 360	1 296	1 510	2 806	996	1 810	-300
5	-169	1 355	1 186	1 358	2 544	865	1 679	-321
6	-651	1 373	722	1 431	2 153	669	1 484	-53
7	-807	1 404	597	1 480	2 077	631	1 446	34
8	-908	1 399	491	1 419	1 910	548	1 362	57
9	-856	1 402	546	1 395	1 941	563	1 378	17
10	-829	1 399	570	1 321	1 891	538	1 353	-32
11	-1 059	1 412	353	1 333	1 686	436	1 250	83
12	-947	1 431	484	1 284	1 768	477	1 291	-7
13	-954	1 451	497	1 206	1 703	444	1 259	-53
14	-984	1 439	455	1 404	1 859	522	1 337	67
15	-847	1 377	530	1 456	1 986	586	1 400	56
S. TOTAL MEAN	-9 772 -651	20 935 1 396	11 163 744	22 663 1 511	33 826 2 255	10 805 720	23 021 1 535	-358 -23.9
16	-861	1 385	524	1 419	1 943	564	1 379	40
17	-930	1 424	494	1 370	1 864	525	1 339	31
18	-851	1 458	607	1 429	2 036	611	1 425	4
19	-829	1 463	634	1 492	2 126	656	1 470	22
20	-954	1 468	514	1 532	2 046	616	1 430	102
21	-1 042	1 465	423	1 443	1 866	526	1 340	103
22	-1 089	1 463	374	1 419	1 793	489	1 304	115
23	-1 067	1 463	396	1 358	1 754	470	1 284	74
24	-1 059	1 456	397	1 598	1 995	590	1 405	193
25	-979	1 429	450	1 796	2 246	716	1 530	266
26	-1 079	1 426	347	1 933	2 280	733	1 547	386
27	-1 177	1 426	249	1 918	2 167	676	1 491	427
28	-1 255	1 429	174	1 874	2 048	617	1 431	443
29	-1 277	1 426	149	1 769	1 918	552	1 366	403
30	-1 297	1 424	127	1 740	1 867	526	1 341	399
31	-1 267	1 424	157	1 683	1 840	513	1 327	356
S. TOTAL MEAN	-17 013 -1 063	23 029 1 439	6 016 376	25 773 1 611	31 789 1 987	9 380 586	22 409 1 401	3 364 210
TOTAL MEAN	-26 785 -864	43 964 1 418	17 179 554	48 436 1 562	65 615 2 117	20 185 651	45 430 1 465	3 006 97.0

APPROVED BY :

Joe A. Mansueti

FOR THE UNITED STATES

FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
 SEPTEMBER 1987
 QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW AT		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				INTERNATIONAL BOUNDARY	INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	-1 314	1 421	107	1 629	1 736	461	1 275	354
2	-1 353	1 424	71	1 612	1 683	434	1 249	363
3	-1 424	1 424	0	1 546	1 546	386	1 160	386
4	-1 468	1 424	-44	1 519	1 475	369	1 106	413
5	-1 387	1 421	34	1 495	1 529	382	1 147	348
6	-1 414	1 424	10	1 431	1 441	360	1 081	350
7	-1 395	1 419	24	1 395	1 419	355	1 064	331
8	-1 275	1 152	-123	1 571	1 448	362	1 086	485
9	-734	455	-279	1 884	1 605	401	1 204	680
10	-176	15	-161	1 859	1 698	442	1 256	603
11	29	0	29	1 588	1 617	404	1 213	375
12	44	0	44	1 360	1 404	351	1 053	307
13	73	0	73	1 240	1 313	328	985	255
14	-29	0	-29	1 172	1 143	286	857	315
15	-44	0	-44	1 096	1 052	263	789	307
S. TOTAL MEAN	-11 867 -791	11 579 772	-288 -19.2	22 397 1 493	22 109 1 474	5 584 372	16 525 1 102	5 872 391
16	-59	0	-59	1 064	1 005	251	754	310
17	-59	0	-59	1 008	949	237	712	296
18	29	0	29	962	991	248	743	219
19	-88	0	-88	917	829	207	622	295
20	-29	0	-29	881	852	213	639	242
21	-44	0	-44	839	795	199	596	243
22	-59	0	-59	822	763	191	572	250
23	-44	0	-44	783	739	185	554	229
24	-42	0	-42	768	726	182	544	224
25	-73	0	-73	751	678	170	508	243
26	-44	0	-44	783	739	185	554	229
27	-103	0	-103	832	729	182	547	285
28	-29	0	-29	783	754	188	566	217
29	-44	0	-44	768	724	181	543	225
30	-44	0	-44	736	692	173	519	217
S. TOTAL MEAN	-732 -48.8	0 0.0	-732 -48.8	12 697 846	11 965 798	2 992 199	8 973 598	3 724 248
TOTAL MEAN	-12 599 -420	11 579 386	-1 020 -34.0	35 094 1 170	34 074 1 136	8 576 286	25 498 850	9 596 320

APPROVED BY : Joe A. Mansland FOR THE UNITED STATESW.A. FOR CANADA

TABLE 6

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY
OCTOBER 1987
QUANTITIES IN CUBIC DECAMETRES

DAY	CHANGE IN CONTENTS OF LAKE SHERBURNE (WITH 1 DAY LAG)	DIVERTED BY ST. MARY CANAL	TOTAL USED BY UNITED STATES	ST. MARY RIVER NATURAL FLOW		SHARES OF NATURAL FLOW		FLOW IN EXCESS OR DEFICIT (-) OF CANADIAN SHARE
				AT INTERNATIONAL BOUNDARY	AT INTERNATIONAL BOUNDARY	UNITED STATES	CANADA	
1	-27	0	-27	717	690	172	518	199
2	-103	0	-103	695	592	148	444	251
3	-73	0	-73	668	595	149	446	222
4	-73	0	-73	648	575	144	431	217
5	-188	0	-188	634	446	112	334	300
6	-71	0	-71	629	558	140	418	211
7	-88	0	-88	629	541	135	406	223
8	-159	0	-159	590	431	108	323	267
9	-144	0	-144	577	433	108	325	252
10	-73	0	-73	577	504	126	378	199
11	-86	0	-86	550	464	116	348	202
12	-86	0	-86	543	457	114	343	200
13	-130	0	-130	521	391	98	293	228
14	-88	0	-88	516	428	107	321	195
15	-144	0	-144	509	365	91	274	235
S. TOTAL	-1 533	0	-1 533	9 003	7 470	1 868	5 602	3 401
MEAN	-102	0.0	-102	600	498	125	373	227
16	29	0	29	489	518	130	388	101
17	73	0	73	438	511	128	383	55
18	27	0	27	404	431	108	323	81
19	29	0	29	369	398	100	298	71
20	44	0	44	350	394	98	296	54
21	42	0	42	379	421	105	316	63
22	73	0	73	340	413	103	310	30
23	44	0	44	321	365	91	274	47
24	71	0	71	316	387	97	290	26
25	59	0	59	325	384	96	288	37
26	42	0	42	301	343	86	257	44
27	44	0	44	291	335	84	251	40
28	88	0	88	286	374	94	280	6
29	71	0	71	284	355	89	266	18
30	-59	0	-59	267	208	52	156	111
31	44	0	44	262	306	76	230	32
S. TOTAL	721	0	721	5 422	6 143	1 537	4 606	816
MEAN	45.1	0.0	45.1	339	384	96.1	288	51.0
TOTAL	-812	0	-812	14 425	13 613	3 405	10 208	4 217
MEAN	-26.2	0.0	-26.2	465	439	110	329	136

APPROVED BY :

Joe A. Mauland

FOR THE UNITED STATES

SH St

FOR CANADA

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TABLE 7
 HISTORICAL SUMMARY OF NATURAL FLOW
 ST. MARY RIVER AT INTERNATIONAL BOUNDARY
 (Cubic Decimetres)

Period	Recorded Flow			Computed Natural Flow			Share April to October	
	Period	Non- Irrigation Season	Irrigation Season	Period	Non- Irrigation Season	Irrigation Season	United States	Canada
	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.		
1902-03	1 104 946	71 500	1 033 446	1 104 946	71 500	1 033 446	434 313	599 133
1903-04	803 655	118 861	684 794	803 654	118 861	684 792	270 060	414 732
1904-05	617 963	48 264	569 698	617 963	48 264	569 698	212 390	357 308
1905-06	694 337	63 639	630 698	694 336	63 639	630 697	235 951	394 746
1906-07	1 122 571	153 055	969 516	1 122 571	153 055	969 516	402 769	566 748
1907-08	1 200 277	77 014	1 123 263	1 200 278	77 015	1 123 263	485 471	637 792
1908-09	1 049 390	80 519	968 871	1 049 388	80 518	968 870	408 525	560 345
1909-10	787 925	108 214	679 712	787 924	108 214	679 710	257 736	421 974
1910-11	922 916	120 080	802 836	922 916	120 080	802 836	318 683	484 152
1911-12	696 784	72 889	623 896	696 788	72 890	623 898	234 581	389 317
1912-13	935 407	85 855	849 552	935 411	85 857	849 555	346 357	503 196
1913-14	726 371	72 239	654 132	726 372	72 239	654 134	245 175	408 958
1914-15	757 686	103 577	654 109	757 686	103 577	654 109	243 357	410 752
1915-16	1 108 708	135 405	973 303	1 108 708	135 405	973 303	405 560	567 743
1916-17	836 896	72 563	764 333	879 915	72 564	807 350	330 334	477 015
1917-18	672 267	112 564	559 703	743 844	112 564	631 279	239 852	391 429
1918-19	412 835	61 285	351 550	537 817	61 285	476 532	175 923	300 608
1919-20	720 454	75 274	645 180	790 676	75 274	715 402	280 703	434 699
1920-21	814 067	88 956	725 111	873 668	88 956	784 712	315 392	469 318
1921-22	693 880	79 754	614 125	777 767	79 754	698 013	281 773	416 240
1922-23	675 780	58 209	617 572	777 592	58 210	719 382	283 499	435 883
1923-24	589 408	63 409	525 999	705 008	63 409	641 599	250 893	390 706
1924-25	817 584	94 569	723 015	965 972	96 977	868 996	364 510	524 485

TABLE 7
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 ST. MARY RIVER AT INTERNATIONAL BOUNDARY
 (Cubic Decametres)

Period	Recorded Flow			Computed Natural Flow			Share April to October	
	Period	Non- Irrigation Season	Irrigation Season	Period	Non- Irrigation Season	Irrigation Season	United States	Canada
	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.		
1925-26	368 543	51 791	316 752	519 347	60 686	458 661	152 683	305 978
1926-27	1 168 580	86 286	1 082 294	1 246 157	92 313	1 153 844	495 111	658 733
1927-28	964 347	150 656	813 691	1 044 148	138 295	905 853	373 419	532 434
1928-29	504 188	80 271	423 917	608 717	81 460	527 257	200 250	327 007
1929-30	603 733	57 694	546 038	725 235	64 603	660 632	258 139	402 492
1930-31	365 789	41 941	323 848	509 360	47 929	461 431	165 518	295 913
1931-32	545 919	84 834	461 085	739 568	103 306	636 263	249 726	386 538
1932-33	668 283	63 686	604 598	876 685	83 246	793 439	321 982	471 457
1933-34	794 368	204 022	590 346	983 489	207 564	775 926	317 959	457 966
1934-35	544 805	149 029	395 776	745 212	168 466	576 745	221 470	355 275
1935-36	359 021	31 798	327 223	548 721	37 010	511 711	194 416	317 296
1936-37	478 869	39 515	439 354	659 570	41 955	617 615	246 822	370 794
1937-38	580 882	68 787	512 095	786 042	80 501	705 541	283 987	421 554
1938-39	365 342	68 048	297 293	570 315	73 219	497 096	184 734	312 362
1939-40	334 201	39 513	294 688	495 708	46 645	449 063	157 684	291 379
1940-41	292 179	40 620	251 559	453 543	40 511	413 033	135 532	277 499
1941-42	583 446	88 182	495 264	777 070	116 324	660 746	255 030	405 717
1942-43	763 259	62 615	700 644	911 721	78 162	833 559	343 078	490 479
1943-44	290 225	34 537	255 689	437 231	44 829	392 402	131 767	260 635
1944-45	468 924	43 000	425 924	681 073	57 322	623 751	246 788	376 964
1945-46	505 890	70 853	435 037	795 379	94 753	660 627	255 226	405 401
1946-47	688 957	90 651	598 305	878 040	107 149	770 891	303 284	467 606
1947-48	860 499	72 743	787 756	982 363	88 046	894 317	378 647	515 670
1948-49	405 107	34 264	370 843	606 951	43 689	563 262	210 027	353 235
1949-50	876 804	89 841	786 963	1 064 374	118 953	945 821	395 664	550 157

TABLE 7
HISTORICAL SUMMARY OF NATURAL FLOW
ST. MARY RIVER AT INTERNATIONAL BOUNDARY
(Cubic Decametres)

Period	Recorded Flow			Computed Natural Flow			Share April to October	
	Period	Non- Irrigation Season	Irrigation Season	Period	Non- Irrigation Season	Irrigation Season	United States	Canada
	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.		
1950-51	1 167 750	151 534	1 016 215	286 310	174 375	1 091 935	458 295	632 640
1951-52	607 507	85 860	521 647	740 007	102 173	637 834	246 797	391 037
1952-53	902 147	59 809	842 538	1 047 864	77 149	970 715	414 762	555 953
1953-54	927 107	56 974	870 133	1 058 950	77 239	981 711	410 304	571 407
1954-55	685 070	77 449	607 621	825 209	97 767	727 442	293 136	434 306
1955-56	667 719	87 379	580 341	914 535	109 806	804 729	326 698	478 028
1956-57	529 336	57 127	472 208	745 807	73 224	672 583	272 908	399 674
1957-58	503 275	54 802	448 473	726 725	72 175	654 551	254 181	400 371
1958-59	737 840	89 853	647 987	986 922	115 348	881 574	355 191	526 381
1959-60	490 717	96 012	394 705	713 323	117 857	595 686	227 307	368 359
1960-61	516 408	54 056	462 353	771 253	72 162	699 091	275 983	423 099
1961-62	440 017	58 970	381 047	685 842	74 856	610 986	229 958	381 026
1962-63	485 177	94 274	390 904	752 639	122 744	629 894	248 049	381 842
1963-64	780 120	39 589	740 530	997 038	54 718	942 320	396 499	545 820
1964-65	748 099	69 659	678 440	911 814	83 855	827 960	333 892	494 066
1965-66	568 272	76 033	492 239	799 738	87 680	712 059	279 588	432 490
1966-67	757 125	62 168	694 956	921 967	81 468	840 499	353 987	486 511
1967-68	564 298	86 362	477 936	837 530	116 583	720 938	281 229	439 707
1968-69	564 362	77 909	486 453	767 024	97 356	669 667	262 010	407 658
1969-70	595 681	51 463	544 218	805 072	66 377	738 695	305 632	433 063
1970-71	730 571	65 203	665 368	934 016	83 117	850 899	351 386	499 533
1971-72	786 916	81 099	705 817	1 035 283	106 598	928 685	382 548	546 140
1972-73	369 763	53 897	315 866	989 165	67 367	501 778	188 998	312 780
1973-74	725 727	95 137	630 590	980 391	130 510	849 880	353 707	496 174

TABLE 7
HISTORICAL SUMMARY OF NATURAL FLOW
ST. MARY RIVER AT INTERNATIONAL BOUNDARY
(Cubic Decimetres)

Period	Recorded Flow			Computed Natural Flow			Share April to October	
	Period	Non- Irrigation Season	Irrigation Season	Period	Non- Irrigation Season	Irrigation Season	United States	Canada
	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.	Nov. to Oct.	Nov. to Mar.	Apr. to Oct.		
1974-75	953 533	38 383	915 150	1 073 758	50 046	1 023 710	437 061	586 649
1975-76	608 495	112 990	495 506	685 100	148 550	716 550	282 586	433 965
1976-77	316 097	35 373	280 724	453 391	46 886	406 495	131 278	275 220
1977-78	725 020	53 961	671 060	839 394	72 764	786 630	303 473	483 157
1978-79	525 919	65 108	460 811	686 903	75 210	611 693	240 201	371 494
1979-80	473 733	31 681	422 052	725 114*	45 116*	679 998*	264 906*	415 090*
1980-81	528 381	97 492	430 889	608 874*	134 191*	674 883*	270 694*	403 975*
1981-82	597 345	40 511	556 845	743 122	57 202	685 920	274 281	411 640
1982-83	369 202	45 879	323 323	577 933*	60 013*	517 920*	193 776*	324 136*
1983-84	397 235	60 983	336 252	617 271	83 052	534 219	195 807	338 412
1984-85	466 190	40 003	426 187	721 241	50 469	670 772	254 760	416 012
1985-86	575 137	125 518	449 619	754 504	165 009	589 495	215 974	373 521
1986-87	463 488	62 967	400 521	687 378	86 587	600 791	228 203	372 588

*Revised

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
JANUARY , 1987

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing	Share		10	11		
				5 U.S.	6 Canada		Delivery		Excess(+)/ Deficit(-)	Cumulative Excess(+)/ Deficit(-)		
							8 U.S.	9 Canada	U.S.	Delivery U.S.		
JAN 1	-	-	-	0.0	0.0	70.8	35.4	35.4	+	35.4	+	35.4
JAN 2	-	-	-	0.0	0.0	72.3	36.2	36.2	+	36.2	+	71.6
JAN 3	-	-	-	0.0	0.0	67.1	33.6	33.6	+	33.6	+	105.1
JAN 4	-	-	-	0.0	0.0	64.9	32.4	32.4	+	32.4	+	137.6
JAN 5	-	-	-	0.0	0.0	59.9	29.9	29.9	+	29.9	+	167.5
JAN 6	-	-	-	0.0	0.0	50.7	25.4	25.4	+	25.4	+	192.9
JAN 7	-	-	-	0.0	0.0	38.9	19.4	19.4	+	19.4	+	212.3
JAN 8	-	-	-	0.0	0.0	49.3	24.7	24.7	+	24.7	+	237.0
JAN 9	-	-	-	0.0	0.0	57.0	28.5	28.5	+	28.5	+	265.5
JAN 10	-	-	-	0.0	0.0	56.3	28.2	28.2	+	28.2	+	293.7
JAN 11	-	-	-	0.0	0.0	48.0	24.0	24.0	+	24.0	+	317.7
JAN 12	-	-	-	0.0	0.0	49.1	24.5	24.5	+	24.5	+	342.2
JAN 13	-	-	-	0.0	0.0	47.3	23.6	23.6	+	23.6	+	365.9
JAN 14	-	-	-	0.0	0.0	41.5	20.7	20.7	+	20.7	+	386.6
JAN 15	-	-	-	0.0	0.0	39.7	19.9	19.9	+	19.9	+	406.5
JAN 16	-	-	-	0.0	0.0	31.2	15.6	15.6	+	15.6	+	422.1
JAN 17	-	-	-	0.0	0.0	20.7	10.4	10.4	+	10.4	+	432.4
JAN 18	-	-	-	0.0	0.0	20.3	10.2	10.2	+	10.2	+	442.6
JAN 19	-	-	-	0.0	0.0	20.7	10.4	10.4	+	10.4	+	453.0
JAN 20	-	-	-	0.0	0.0	23.3	11.7	11.7	+	11.7	+	464.6
JAN 21	-	-	-	0.0	0.0	24.2	12.1	12.1	+	12.1	+	476.7
JAN 22	-	-	-	0.0	0.0	27.1	13.6	13.6	+	13.6	+	490.3
JAN 23	-	-	-	0.0	0.0	29.2	14.6	14.6	+	14.6	+	504.9
JAN 24	-	-	-	0.0	0.0	30.8	15.4	15.4	+	15.4	+	520.3
JAN 25	-	-	-	0.0	0.0	31.4	15.7	15.7	+	15.7	+	535.9
JAN 26	-	-	-	0.0	0.0	31.9	15.9	15.9	+	15.9	+	551.9
JAN 27	-	-	-	0.0	0.0	36.3	18.1	18.1	+	18.1	+	570.0
JAN 28	-	-	-	0.0	0.0	40.7	20.3	20.3	+	20.3	+	590.4
JAN 29	-	-	-	0.0	0.0	44.8	22.4	22.4	+	22.4	+	612.7
JAN 30	-	-	-	0.0	0.0	49.4	24.7	24.7	+	24.7	+	637.5
JAN 31	-	-	-	0.0	0.0	51.5	25.7	25.7	+	25.7	+	663.2
JAN Totals:	-	-	-	0.0	0.0	1326.4	663.2	663.2	+	663.2	+	663.2

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW DURING NON-IRRIGATION SEASON IS EQUAL TO THE RECORDED FLOW AT THE GAUGE (11AA005) MILK RIVER AT MILK RIVER .


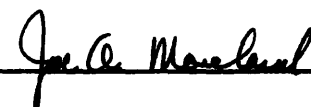
APPROVED BY:  FOR CANADA  FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
FEBRUARY, 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incantl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.		
				5 U.S.	6 Canada		8 U.S.	9 Canada				
FEB 1	-	-	-	0.0	0.0	62.9	31.4	31.4	+	31.4	+	31.4
FEB 2	-	-	-	0.0	0.0	59.0	29.5	29.5	+	29.5	+	61.0
FEB 3	-	-	-	0.0	0.0	62.8	31.4	31.4	+	31.4	+	92.4
FEB 4	-	-	-	0.0	0.0	75.5	37.8	37.8	+	37.8	+	130.1
FEB 5	-	-	-	0.0	0.0	85.4	42.7	42.7	+	42.7	+	172.8
FEB 6	-	-	-	0.0	0.0	95.9	48.0	48.0	+	48.0	+	220.8
FEB 7	-	-	-	0.0	0.0	112.3	56.2	56.2	+	56.2	+	276.9
FEB 8	-	-	-	0.0	0.0	105.4	52.7	52.7	+	52.7	+	329.6
FEB 9	-	-	-	0.0	0.0	97.6	48.8	48.8	+	48.8	+	378.4
FEB 10	-	-	-	0.0	0.0	89.9	44.9	44.9	+	44.9	+	423.4
FEB 11	-	-	-	0.0	0.0	116.6	58.3	58.3	+	58.3	+	481.7
FEB 12	-	-	-	0.0	0.0	108.0	54.0	54.0	+	54.0	+	535.7
FEB 13	-	-	-	0.0	0.0	102.0	51.0	51.0	+	51.0	+	586.7
FEB 14	-	-	-	0.0	0.0	102.0	51.0	51.0	+	51.0	+	637.6
FEB 15	-	-	-	0.0	0.0	95.9	48.0	48.0	+	48.0	+	685.6
FEB 16	-	-	-	0.0	0.0	88.1	44.1	44.1	+	44.1	+	729.6
FEB 17	-	-	-	0.0	0.0	89.9	44.9	44.9	+	44.9	+	774.6
FEB 18	-	-	-	0.0	0.0	82.8	41.4	41.4	+	41.4	+	816.0
FEB 19	-	-	-	0.0	0.0	83.5	41.7	41.7	+	41.7	+	857.7
FEB 20	-	-	-	0.0	0.0	82.1	41.0	41.0	+	41.0	+	898.7
FEB 21	-	-	-	0.0	0.0	79.0	39.5	39.5	+	39.5	+	938.2
FEB 22	-	-	-	0.0	0.0	67.4	33.7	33.7	+	33.7	+	971.9
FEB 23	-	-	-	0.0	0.0	62.2	31.1	31.1	+	31.1	+	1003.0
FEB 24	-	-	-	0.0	0.0	60.5	30.2	30.2	+	30.2	+	1033.3
FEB 25	-	-	-	0.0	0.0	59.6	29.8	29.8	+	29.8	+	1063.1
FEB 26	-	-	-	0.0	0.0	60.0	30.0	30.0	+	30.0	+	1093.1
FEB 27	-	-	-	0.0	0.0	60.5	30.2	30.2	+	30.2	+	1123.3
FEB 28	-	-	-	0.0	0.0	64.8	32.4	32.4	+	32.4	+	1155.7
FEB Totals:	-	-	-	0.0	0.0	2311.5	1155.7	1155.7	+	1155.7	+	1155.7

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW DURING NON-IRRIGATION SEASON IS EQUAL TO THE RECORDED FLOW AT THE GAUGE (11AA005) MILK RIVER AT MILK RIVER .

APPROVED BY:  FOR CANADA  FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
MARCH , 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incantl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.			
				5 U.S.	6 Canada		8 U.S.	9 Canada					
HAR 1	-	-	-	17.0	0.0	134.8	67.4	67.4	67.4	67.4			
HAR 2	-	-	-	17.0	0.0	134.8	67.4	67.4	67.4	134.8			
HAR 3	41.0	-	-	17.0	0.0	134.8	67.4	67.4	67.4	202.2			
HAR 4	39.6	-	-	17.0	0.0	146.9	73.4	73.4	73.4	275.6			
HAR 5	42.9	-	-	17.0	-0.1	244.4	122.2	122.2	122.3	397.9			
HAR 6	73.4	-	-	17.0	-0.7	488.3	244.2	244.2	244.9	642.8			
HAR 7	68.9	-	-	17.0	-0.6	366.6	183.3	183.3	183.9	826.7			
HAR 8	90.3	-	-	17.0	-0.6	293.2	146.6	146.6	147.2	973.9			
HAR 9	290.3	-	-	17.0	-0.3	611.5	305.7	305.7	306.0	1279.8			
HAR 10	529.6	-	0.5	17.0	-0.2	538.1	269.0	269.0	269.2	1549.1			
HAR 11	529.6	-	0.0	17.0	-0.1	488.9	244.5	244.5	244.6	1793.6			
HAR 12	395.7	-	2.3	17.0	0.0	464.8	232.4	232.4	232.4	2026.0			
HAR 13	298.3	-	6.7	17.0	0.0	464.8	232.4	232.4	232.4	2258.5			
HAR 14	239.3	-	10.4	17.0	-0.1	611.6	305.8	305.8	305.9	2564.4			
HAR 15	223.0	455.3	14.7	17.0	-0.3	709.7	354.9	354.9	355.2	2919.6			
HAR 16	222.9	520.1	16.4	17.0	-1.1	775.3	387.7	387.7	388.8	3308.3			
HAR 17	227.7	344.7	18.0	17.0	-0.8	606.6	303.3	303.3	304.1	3612.4			
HAR 18	220.6	259.2	18.4	17.0	-0.5	514.7	257.3	257.3	257.8	3870.3			
HAR 19	202.9	62.2	18.4	17.0	-0.5	299.9	150.0	150.0	150.5	4020.8			
HAR 20	210.0	-7.8	18.2	17.0	-0.6	236.8	118.4	118.4	119.0	4139.8			
HAR 21	185.6	-6.9	19.0	17.0	-0.3	214.3	107.1	107.1	107.5	4247.3			
HAR 22	188.4	-89.9	18.5	17.0	-5.6	128.4	64.2	64.2	69.8	4317.1			
HAR 23	174.5	-188.4	18.2	17.0	-5.9	15.5	7.7	7.7	13.6	4330.7			
HAR 24	149.2	-146.9	19.5	17.0	-2.2	36.6	18.3	18.3	20.5	4351.2			
HAR 25	118.8	-157.2	20.1	17.0	-2.9	0.0	0.0	0.0	2.9	4354.1			
HAR 26	116.0	-82.9	20.5	17.0	-2.5	68.1	34.0	34.0	36.5	4390.7			
HAR 27	114.8	20.7	20.9	17.0	-5.3	168.2	84.1	84.1	89.4	4480.0			
HAR 28	117.1	69.1	20.8	17.0	-10.4	213.6	106.8	106.8	117.2	4597.2			
HAR 29	130.6	77.8	19.9	17.0	-11.2	234.0	117.0	117.0	128.2	4725.4			
HAR 30	134.8	-1.7	18.9	17.0	-2.1	166.9	83.4	83.4	85.5	4811.0			
HAR 31	160.4	-195.3	16.7	17.0	-1.4	0.0	0.0	0.0	1.4	4812.3			
MAR Totals:				-	-	327.0	527.0	-56.3	9512.0	4756.0	4756.0	4812.3	4812.3

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW IS EQUAL TO RECORDED FLOW AT THE GAUGE (11AA031) MILK RIVER AT EASTERN CROSSING LESS RECORDED FLOW AT VERDIGRIS COULEE (11AA038).

APPROVED BY:

FOR CANADA

FOR THE UNITED STATES

TABLE 8

**SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
APRIL , 1987**

16

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.
				5 U.S.	6 Canada		8 U.S.	9 Canada		
				APR 1	156.8		38.0	17.0			17.0	-3.8	225.1	168.8	56.3	60.1	60.1
APR 2	104.4	146.0	26.8	17.0	-6.3	287.8	215.9	72.0	78.3	138.3
APR 3	114.7	121.0	35.2	17.0	-1.3	286.6	214.9	71.6	72.9	211.3
APR 4	129.0	128.7	35.8	17.0	-0.2	310.4	232.8	77.6	77.8	289.0
APR 5	206.9	365.5	28.7	17.0	-0.1	618.0	463.5	154.5	154.6	443.6
APR 6	229.4	1740.1	50.8	17.0	-0.1	2037.2	1427.2	610.0	610.1	1053.7
APR 7	417.4	2162.6	53.8	17.0	-3.2	2647.6	1732.4	915.2	918.4	1972.1
APR 8	731.8	1251.1	41.0	17.0	-1.0	2039.9	1428.5	611.4	612.3	2584.4
APR 9	1579.4	-69.1	27.0	17.0	-1.1	1553.2	1164.9	388.3	389.4	2973.9
APR 10	2104.7	-1097.3	4.1	17.0	-5.4	1023.2	767.4	255.8	261.1	3235.0
APR 11	1381.5	-604.8	6.1	17.0	-10.2	789.7	592.3	197.4	207.6	3442.6
APR 12	718.8	98.5	16.1	17.0	-1.0	849.5	637.1	212.4	213.3	3655.9
APR 13	520.1	218.6	17.8	17.0	-8.6	764.9	573.6	191.2	199.9	3855.8
APR 14	432.7	305.0	25.6	17.0	-9.5	770.8	578.1	192.7	202.2	4058.0
APR 15	359.1	224.6	44.9	17.0	-6.9	638.8	479.1	159.7	166.6	4224.6
APR 16	335.8	79.5	38.8	17.0	-5.2	465.8	349.4	116.5	121.6	4346.3
APR 17	291.3	70.8	14.3	17.0	-3.5	389.9	292.4	97.5	100.9	4447.2
APR 18	256.0	44.1	21.0	17.0	-1.7	336.3	252.3	84.1	85.8	4533.0
APR 19	233.4	29.4	16.5	17.0	-2.6	293.7	220.3	73.4	76.0	4609.0
APR 20	225.3	91.6	21.5	17.0	-4.3	351.1	263.3	87.8	92.1	4701.1
APR 21	228.8	72.6	22.2	17.0	-5.2	335.4	251.5	83.8	89.0	4790.1
APR 22	274.6	93.3	18.2	17.0	-3.5	399.6	299.7	99.9	103.4	4893.5
APR 23	379.0	96.8	3.4	17.0	-1.7	494.3	370.8	123.6	125.3	5018.8
APR 24	532.3	-124.4	5.7	17.0	-0.9	429.7	322.3	107.4	108.3	5127.1
APR 25	439.2	-88.1	13.6	17.0	-0.4	381.2	285.9	95.3	95.7	5222.9
APR 26	343.4	-43.2	12.3	17.0	-0.3	329.2	246.9	82.3	82.7	5305.5
APR 27	289.0	-20.7	27.4	17.0	-0.2	312.5	234.3	78.1	78.3	5383.8
APR 28	267.4	15.6	21.7	17.0	0.0	321.7	241.2	80.4	80.4	5464.2
APR 29	271.7	-50.1	24.1	17.0	0.0	262.7	197.0	65.7	65.7	5529.9
APR 30	258.9	-47.5	24.8	17.0	0.0	253.2	189.9	63.3	63.3	5593.2
APR Totals:	13812.7	5247.9	716.4	510.0	-88.0	20198.9	14693.8	5505.2	5593.2	5593.2

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

APPROVED BY: *JH* FOR CANADA *J. C. Mouchal* FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
MAY , 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10 Excess(+)/ Deficit(-)/ Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-)/ Delivery U.S.		
				5 U.S.	6 Canada		8 U.S.	9 Canada				
				MAY 1	247.6		-20.7	34.0			41.5	0.0
MAY 2	235.7	-19.0	20.1	41.5	0.0	276.3	208.7	69.6	+	69.6	+	145.2
MAY 3	227.9	-33.7	25.8	41.5	0.0	261.5	196.2	65.4	+	65.4	+	210.6
MAY 4	223.6	-54.4	20.3	41.5	0.0	230.9	173.2	57.7	+	57.7	+	268.3
MAY 5	219.3	-32.8	29.6	41.5	0.0	257.6	193.2	64.4	+	64.4	+	332.7
MAY 6	231.1	-15.6	20.3	41.5	0.0	277.4	208.0	69.3	+	69.3	+	402.0
MAY 7	245.2	-66.5	27.4	41.5	0.0	247.6	185.7	61.9	+	61.9	+	463.9
MAY 8	240.2	-79.5	32.1	41.5	0.0	234.3	175.8	58.6	+	58.6	+	522.5
MAY 9	207.4	-92.4	41.6	41.5	0.0	198.1	148.6	49.5	+	49.5	+	572.0
MAY 10	186.7	-95.9	25.3	41.5	0.0	157.6	118.2	39.4	+	39.4	+	611.4
MAY 11	173.8	-90.7	33.6	41.5	0.0	158.2	118.6	39.5	+	39.5	+	651.0
MAY 12	164.2	-25.1	34.9	41.5	0.0	215.6	161.7	53.9	+	53.9	+	704.9
MAY 13	154.1	-241.9	33.0	41.5	0.0	0.0	0.0	0.0	+	0.0	+	704.9
MAY 14	142.8	-282.5	44.6	41.5	0.0	0.0	0.0	0.0	+	0.0	+	704.9
MAY 15	131.5	-254.9	36.5	41.5	-0.2	0.0	0.0	0.0	+	0.2	+	705.0
MAY 16	121.1	-166.8	26.7	58.8	21.4	61.4	46.0	15.3	-	6.1	+	699.0
MAY 17	115.1	-117.5	28.9	58.8	21.2	106.4	79.8	26.6	+	5.4	+	704.4
MAY 18	110.8	-87.3	33.3	58.8	12.0	127.6	95.7	31.9	+	19.9	+	724.3
MAY 19	107.3	-14.7	63.0	58.8	20.4	234.8	176.1	58.7	+	38.3	+	762.6
MAY 20	105.4	-39.9	61.7	58.8	21.4	207.4	155.5	51.8	+	30.4	+	793.0
MAY 21	111.6	-183.2	51.3	58.8	12.0	50.6	37.9	12.6	+	0.6	+	793.7
MAY 22	111.6	-407.8	49.4	58.8	10.2	0.0	0.0	0.0	-	10.2	+	783.5
MAY 23	111.6	-425.1	45.7	58.8	16.2	0.0	0.0	0.0	-	16.2	+	767.3
MAY 24	92.9	58.0	43.7	58.8	11.0	264.3	198.2	66.1	+	55.1	+	822.4
MAY 25	73.7	-147.5	12.1	58.8	6.9	4.0	3.0	1.0	-	5.9	+	816.5
MAY 26	88.7	-419.5	21.0	58.8	6.8	0.0	0.0	0.0	-	6.8	+	809.7
MAY 27	92.9	-388.1	16.1	58.8	3.5	0.0	0.0	0.0	-	3.5	+	806.2
MAY 28	94.5	-235.2	35.2	58.8	-3.0	0.0	0.0	0.0	+	3.0	+	809.2
MAY 29	104.2	-99.2	44.9	58.8	-6.9	101.8	76.4	25.5	+	32.4	+	841.6
MAY 30	117.8	91.6	28.0	58.8	-7.6	288.6	216.4	72.1	+	79.7	+	921.4
MAY 31	135.9	64.8	43.1	58.8	-7.9	294.7	221.0	73.7	+	81.6	+	1003.0
MAY Totals:	4726.3	-3923.0	1063.3	1563.3	137.3	4561.1	3420.8	1140.3	+	1003.0	+	1003.0

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

APPROVED BY: *[Signature]* FOR CANADA *[Signature]* FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
JUNE , 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10 Excess(+) Deficit(-) Delivery U.S.	11 Cumulative Excess(+) Deficit(-) Delivery U.S.
				5 U.S.	6 Canada		8 U.S.	9 Canada		
				JUN 1	229.0		367.2	63.2			58.8	-4.4	713.7	535.3	178.4	182.8	182.8
JUN 2	373.5	-19.9	34.8	58.8	-6.2	441.0	330.8	110.3	116.5	299.3
JUN 3	482.6	-552.1	30.6	58.8	-13.1	6.8	5.1	1.7	14.8	314.1
JUN 4	332.6	-476.1	43.9	58.8	-14.2	0.0	0.0	0.0	14.2	328.4
JUN 5	235.0	-387.1	45.8	58.8	-5.1	0.0	0.0	0.0	5.1	333.5
JUN 6	175.7	-289.4	51.0	58.8	-4.4	0.0	0.0	0.0	4.4	337.9
JUN 7	146.3	-234.1	74.3	58.8	-3.8	41.4	31.1	10.4	14.2	352.0
JUN 8	126.3	-206.5	58.2	58.8	-5.1	31.8	23.8	7.9	13.0	365.0
JUN 9	111.3	-244.5	59.1	58.8	-4.5	0.0	0.0	0.0	4.5	369.5
JUN 10	99.4	-284.5	123.0	58.8	-1.2	0.0	0.0	0.0	1.2	370.7
JUN 11	87.1	-316.4	83.5	58.8	-3.4	0.0	0.0	0.0	3.4	374.2
JUN 12	78.4	-317.3	97.6	58.8	-5.5	0.0	0.0	0.0	5.5	379.7
JUN 13	72.6	-302.8	113.6	58.8	-4.0	0.0	0.0	0.0	4.0	383.7
JUN 14	78.0	-348.3	78.6	58.8	-2.5	0.0	0.0	0.0	2.5	386.2
JUN 15	76.3	-304.6	87.0	58.8	-2.2	0.0	0.0	0.0	2.2	388.4
JUN 16	74.6	-296.2	105.0	6.9	-0.8	0.0	0.0	0.0	0.8	389.2
JUN 17	79.1	-474.2	85.7	6.9	-0.5	0.0	0.0	0.0	0.5	389.7
JUN 18	67.7	-411.0	90.9	6.9	-2.8	0.0	0.0	0.0	2.8	392.5
JUN 19	55.5	-218.3	76.2	6.9	-1.9	0.0	0.0	0.0	1.9	394.4
JUN 20	46.1	58.2	49.7	6.9	0.5	161.4	121.1	40.4	39.8	434.2
JUN 21	45.6	423.3	62.3	6.9	-1.8	536.3	402.2	134.1	135.9	570.1
JUN 22	45.8	295.1	103.2	6.9	-7.2	443.9	332.9	111.0	118.1	688.3
JUN 23	47.3	85.4	89.7	6.9	-3.3	225.9	169.4	56.5	59.8	748.0
JUN 24	64.0	-66.8	67.5	6.9	-5.3	66.4	49.8	16.6	21.9	769.9
JUN 25	56.6	-127.2	44.1	6.9	-4.7	0.0	0.0	0.0	4.7	774.6
JUN 26	63.9	-102.1	76.1	6.9	-1.5	43.3	32.5	10.8	12.4	787.0
JUN 27	84.0	-124.8	58.6	6.9	1.1	25.7	19.3	6.4	5.3	792.3
JUN 28	66.6	-134.4	71.0	6.9	2.7	12.8	9.6	3.2	0.5	792.8
JUN 29	51.8	-128.3	74.8	6.9	0.7	5.9	4.4	1.5	0.8	793.6
JUN 30	43.3	-128.4	64.9	6.9	-2.8	0.0	0.0	0.0	2.8	796.4
JUN Totals:	3595.9	-5266.1	2164.1	965.5	-107.3	2756.5	2067.4	689.1	796.4	796.4

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

APPROVED BY: *SH St* FOR CANADA *Joe A. Howland* FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
JULY , 1987

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10	11		
				5 U.S.	6 Canada		8 U.S.	9 Canada	Excess(+)/ Deficit(-)	Cumulative		
									Delivery U.S.	Excess(+)/ Deficit(-) Delivery U.S.		
JUL 1	36.8	-131.2	75.9	12.1	22.4	16.0	12.0	4.0	-	18.4	-	18.4
JUL 2	33.4	-162.4	94.9	12.1	28.8	6.8	5.1	1.7	-	27.1	-	45.5
JUL 3	29.6	-167.3	110.4	12.1	29.2	14.0	10.5	3.5	-	25.7	-	71.2
JUL 4	27.9	-173.5	92.8	12.1	39.0	0.0	0.0	0.0	-	39.0	-	110.2
JUL 5	24.2	-161.4	64.2	12.1	39.8	0.0	0.0	0.0	-	39.8	-	150.0
JUL 6	23.7	-116.4	102.0	12.1	33.5	54.8	41.1	13.7	-	19.8	-	169.7
JUL 7	27.6	-99.4	62.8	12.1	40.4	43.5	32.6	10.9	-	29.5	-	199.2
JUL 8	23.0	-88.8	69.9	12.1	37.1	53.3	40.0	13.3	-	23.8	-	223.0
JUL 9	19.4	-53.3	67.2	12.1	40.6	86.0	64.5	21.5	-	19.1	-	242.2
JUL 10	21.2	-234.8	58.1	12.1	42.9	0.0	0.0	0.0	-	42.9	-	285.1
JUL 11	21.0	-477.4	50.7	12.1	41.2	0.0	0.0	0.0	-	41.2	-	326.3
JUL 12	33.9	-273.5	45.0	12.1	36.6	0.0	0.0	0.0	-	36.6	-	362.9
JUL 13	33.6	-81.4	48.8	12.1	40.9	54.0	40.5	13.5	-	27.4	-	390.3
JUL 14	31.3	-0.4	60.5	12.1	42.6	146.1	109.5	36.5	-	6.1	-	396.4
JUL 15	32.7	68.2	68.5	12.1	41.3	222.8	167.1	55.7	+	14.4	-	382.0
JUL 16	34.6	-50.9	44.2	12.1	41.5	81.5	61.1	20.4	-	21.1	-	403.2
JUL 17	26.2	-112.8	28.6	12.1	38.7	0.0	0.0	0.0	-	38.7	-	441.8
JUL 18	22.8	-58.4	26.6	12.1	37.4	40.4	30.3	10.1	-	27.3	-	469.1
JUL 19	19.9	161.4	55.3	12.1	36.9	285.6	214.2	71.4	+	34.5	-	434.6
JUL 20	18.1	102.0	73.9	12.1	31.6	237.7	178.3	59.4	+	27.9	-	406.7
JUL 21	17.5	128.6	68.6	12.1	14.9	241.6	181.2	60.4	+	45.5	-	361.3
JUL 22	23.5	67.9	46.1	12.1	21.4	170.9	128.2	42.7	+	21.4	-	339.9
JUL 23	62.3	-86.2	69.9	12.1	23.3	81.4	61.0	20.3	-	2.9	-	342.8
JUL 24	111.5	-125.7	70.7	12.1	25.3	93.9	70.4	23.5	-	1.8	-	344.6
JUL 25	246.1	-162.4	40.8	12.1	22.5	159.1	119.3	39.8	+	17.3	-	327.3
JUL 26	250.0	-121.8	55.0	12.1	23.2	218.5	163.8	54.6	+	31.4	-	295.9
JUL 27	181.7	47.5	47.6	12.1	22.2	311.1	233.3	77.8	+	55.6	-	240.3
JUL 28	193.1	1033.3	48.4	12.1	24.7	1311.6	983.7	327.9	+	303.3	+	63.0
JUL 29	783.5	760.3	35.7	12.1	24.0	1615.6	1211.7	403.9	+	379.9	+	442.9
JUL 30	640.5	-54.4	30.3	12.1	22.9	651.4	488.6	162.9	+	139.9	+	582.8
JUL 31	378.1	-2.6	62.6	12.1	21.3	471.4	353.6	117.9	+	96.6	+	679.4
JUL Totals:	3428.5	-627.4	1876.1	375.1	987.9	6669.1	5001.8	1667.3	+	679.4	+	679.4

(i) ALL FIGURES ARE IN CUBIC DECANETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

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TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
SEPTEMBER, 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incontl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing (2+3+4 +5+6)	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.		
				5 U.S.	6 Canada		8 U.S.	9 Canada				
SEP 1	196.4	-42.3	48.6	6.9	-6.5	203.1	152.3	50.8	+	57.2	+	57.2
SEP 2	156.6	48.4	69.8	6.9	-4.7	276.9	207.7	69.2	+	74.0	+	131.2
SEP 3	127.5	75.2	44.6	6.9	-4.7	249.5	187.1	62.4	+	67.0	+	198.3
SEP 4	107.7	52.8	49.7	6.9	-4.1	213.0	159.8	53.3	+	57.4	+	255.7
SEP 5	93.9	22.4	51.7	6.9	-8.7	166.2	124.6	41.5	+	50.3	+	305.9
SEP 6	83.0	76.3	54.2	6.9	-6.6	213.8	160.4	53.5	+	60.0	+	365.9
SEP 7	75.0	92.2	46.3	6.9	-2.8	217.5	163.2	54.4	+	57.2	+	423.2
SEP 8	69.4	132.4	62.0	6.9	-4.5	266.1	199.6	66.5	+	71.0	+	494.2
SEP 9	68.5	117.9	34.2	6.9	-4.0	223.5	167.7	55.9	+	59.9	+	554.0
SEP 10	65.9	86.0	43.1	6.9	-2.8	199.1	149.4	49.8	+	52.5	+	606.6
SEP 11	64.1	71.5	38.1	6.9	-2.7	177.9	133.4	44.5	+	47.1	+	653.7
SEP 12	63.5	20.5	41.8	6.9	-3.1	129.6	97.2	32.4	+	35.5	+	689.2
SEP 13	68.0	-286.4	27.5	6.9	-0.6	0.0	0.0	0.0	+	0.6	+	689.8
SEP 14	66.6	-219.9	22.4	6.9	1.2	0.0	0.0	0.0	-	1.2	+	688.6
SEP 15	65.9	72.8	49.9	6.9	1.5	197.0	147.8	49.3	+	47.8	+	736.4
SEP 16	66.8	232.7	14.3	0.0	-24.8	289.0	216.8	72.3	+	97.1	+	833.4
SEP 17	64.5	261.4	14.1	0.0	-22.2	317.8	238.4	79.5	+	101.7	+	935.1
SEP 18	61.7	225.8	8.7	0.0	-24.5	271.7	203.8	67.9	+	92.4	+	1027.5
SEP 19	61.3	213.4	9.5	0.0	-21.6	262.7	197.0	65.7	+	87.3	+	1114.7
SEP 20	60.0	188.4	8.9	0.0	-20.0	237.3	178.0	59.3	+	79.3	+	1194.0
SEP 21	69.2	-	6.2	0.0	-20.3	219.9	164.9	55.0	+	75.3	+	1269.3
SEP 22	81.4	-	4.1	0.0	-19.3	206.2	154.7	51.6	+	70.8	+	1340.1
SEP 23	81.2	-	4.7	0.0	-19.4	195.7	146.8	48.9	+	68.4	+	1408.5
SEP 24	81.5	-	5.0	0.0	-18.3	177.8	133.4	44.5	+	62.8	+	1471.3
SEP 25	84.1	-	1.7	0.0	-18.4	164.8	123.6	41.2	+	59.6	+	1530.9
SEP 26	79.0	-	6.0	0.0	-19.3	147.5	110.6	36.9	+	56.1	+	1587.0
SEP 27	73.7	-	5.7	0.0	-15.2	158.5	118.8	39.6	+	54.8	+	1641.8
SEP 28	70.3	-	6.6	0.0	-20.7	158.1	118.6	39.5	+	60.3	+	1702.1
SEP 29	67.8	-	5.8	0.0	-28.6	154.6	115.9	38.6	+	67.2	+	1769.3
SEP 30	66.4	-	4.7	0.0	-22.4	121.9	91.4	30.5	+	52.9	+	1822.2
SEP Totals:	2441.1	-	790.0	103.5	-367.9	5816.9	4362.7	1454.2	+	1822.2	+	1822.2

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW IS EQUAL TO RECORDED FLOW AT THE GAUGE (11AA031) MILK RIVER AT EASTERN CROSSING LESS RECORDED FLOW AT VERDIGRIS COULEE (11AA038).

APPROVED BY:

FOR CANADA

FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
OCTOBER, 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incentl. Evapo- trans. Loss	5 Total Consumptive Use		7 Natural Flow at East X-ing	Share		10 Excess(+) Deficit(-) Delivery U.S.	11 Cumulative Excess(+) Deficit(-) Delivery U.S.
				U.S.	Canada		8 U.S.	9 Canada		
OCT 1	69.6	-	3.1	0.0	-20.8	106.2	79.6	26.5	47.4	47.4
OCT 2	91.1	-	1.7	0.0	-22.5	100.2	75.2	25.1	47.5	94.9
OCT 3	78.5	-	2.3	0.0	-25.0	83.0	62.3	20.8	45.7	140.6
OCT 4	83.8	-	0.6	0.0	-22.0	83.4	62.5	20.8	42.9	183.5
OCT 5	100.4	-	0.0	0.0	-24.0	81.4	61.0	20.3	44.4	227.9
OCT 6	93.6	-	0.4	0.0	-26.6	78.8	59.1	19.7	46.3	274.2
OCT 7	85.2	-	1.1	0.0	-24.4	85.4	64.0	21.3	45.7	319.9
OCT 8	79.9	-	0.8	0.0	-25.2	84.5	63.4	21.1	46.4	366.2
OCT 9	74.6	-	0.8	0.0	-23.0	82.4	61.8	20.6	43.6	409.8
OCT 10	72.1	-	1.8	0.0	-29.1	78.9	59.2	19.7	48.8	458.7
OCT 11	71.3	-	1.3	0.0	-28.3	79.7	59.7	19.9	48.3	506.9
OCT 12	70.5	-	1.9	0.0	-20.0	88.0	66.0	22.0	42.0	548.9
OCT 13	69.7	-	1.7	0.0	-27.4	78.0	58.5	19.5	46.9	595.8
OCT 14	71.8	-	1.4	0.0	-27.3	78.1	58.6	19.5	46.8	642.6
OCT 15	73.4	-	1.2	0.0	-29.3	76.1	57.1	19.0	48.3	690.9
OCT 16	74.9	-	0.7	0.0	-27.4	78.0	58.5	19.5	46.9	737.8
OCT 17	74.6	-	0.5	0.0	-31.8	73.6	55.2	18.4	50.2	788.0
OCT 18	75.0	-	0.6	0.0	-23.7	81.7	61.3	20.4	44.1	832.1
OCT 19	72.7	-	0.7	0.0	-26.4	81.6	61.2	20.4	46.8	878.9
OCT 20	80.8	-	0.3	0.0	-23.8	84.2	63.1	21.0	44.9	923.8
OCT 21	80.2	-	0.3	0.0	-25.0	83.0	62.3	20.8	45.7	969.5
OCT 22	81.6	-	0.3	0.0	-15.7	94.0	70.5	23.5	39.2	1008.7
OCT 23	80.1	-	0.3	0.0	-16.1	93.7	70.2	23.4	39.5	1048.2
OCT 24	83.4	-	0.4	0.0	-18.1	91.7	68.8	22.9	41.0	1089.2
OCT 25	82.4	-	0.8	0.0	-12.6	97.1	72.8	24.3	36.9	1126.1
OCT 26	80.5	-	0.6	0.0	-4.1	108.2	81.1	27.0	31.2	1157.3
OCT 27	78.9	-	0.9	0.0	-16.6	95.7	71.8	23.9	40.5	1197.8
OCT 28	77.6	-	0.4	0.0	-10.5	101.9	76.4	25.5	35.9	1233.7
OCT 29	77.2	-	0.9	0.0	-5.1	104.6	78.5	26.2	31.3	1265.0
OCT 30	77.2	-	0.8	0.0	-6.2	103.5	77.6	25.9	32.1	1297.1
OCT 31	73.8	-	0.9	0.0	-4.8	105.0	78.7	26.2	31.0	1328.1
OCT Totals:	2436.6	-	29.3	0.0	-642.6	2741.6	2056.2	685.4	1328.1	1328.1

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.
(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.
* NATURAL FLOW IS EQUAL TO RECORDED FLOW AT THE GAUGE (11AA031) MILK RIVER AT EASTERN CROSSING LESS RECORDED FLOW AT VERDIGRIS COULEE (11AA038).

APPROVED BY: *[Signature]* FOR CANADA *[Signature]* FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
NOVEMBER, 1987

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incmtl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.
				5 U.S.	6 Canada		8 U.S.	9 Canada		
				NOV 1	74.8		-	-			0.0	-2.2	79.0	39.5	39.5	41.7	41.7
NOV 2	75.0	-	-	0.0	-1.0	79.1	39.6	39.6	40.6	82.3
NOV 3	72.8	-	-	0.0	-2.1	80.1	40.0	40.0	42.1	124.5
NOV 4	71.6	-	-	0.0	-2.2	76.9	38.4	38.4	40.7	165.2
NOV 5	71.6	-	-	0.0	-8.1	80.1	40.0	40.0	48.2	213.3
NOV 6	47.8	-	-	0.0	-2.0	79.6	39.8	39.8	41.8	255.1
NOV 7	49.1	-	-	0.0	-0.5	81.9	41.0	41.0	41.5	296.6
NOV 8	50.2	-	-	0.0	-0.4	82.8	41.4	41.4	41.8	338.4
NOV 9	-	-	-	0.0	-0.3	83.5	41.8	41.8	42.1	380.5
NOV 10	-	-	-	0.0	-0.3	83.1	41.6	41.6	41.9	422.4
NOV 11	-	-	-	0.0	-0.3	81.0	40.5	40.5	40.9	463.3
NOV 12	-	-	-	0.0	-0.6	77.9	39.0	39.0	39.6	502.8
NOV 13	-	-	-	0.0	-2.2	77.8	38.9	38.9	41.1	544.0
NOV 14	-	-	-	0.0	-3.6	78.2	39.1	39.1	42.7	586.7
NOV 15	-	-	-	0.0	-1.0	65.9	33.0	33.0	33.9	620.6
NOV 16	-	-	-	0.0	-6.0	58.7	28.3	28.3	34.4	655.0
NOV 17	-	-	-	0.0	-2.2	68.3	34.1	34.1	36.4	691.4
NOV 18	-	-	-	0.0	-0.3	69.6	34.8	34.8	35.1	726.5
NOV 19	-	-	-	0.0	-0.3	71.5	35.7	35.7	36.1	762.6
NOV 20	-	-	-	0.0	-0.3	89.9	44.9	44.9	45.2	807.8
NOV 21	-	-	-	0.0	-0.2	101.1	50.5	50.5	50.7	858.5
NOV 22	-	-	-	0.0	-0.2	108.9	54.4	54.4	54.6	913.1
NOV 23	-	-	-	0.0	-0.3	75.6	37.8	37.8	38.1	951.1
NOV 24	-	-	-	0.0	-2.5	74.4	37.2	37.2	39.7	990.8
NOV 25	-	-	-	0.0	-0.3	118.4	59.2	59.2	59.5	1050.4
NOV 26	-	-	-	0.0	-0.3	103.7	51.8	51.8	52.1	1102.5
NOV 27	-	-	-	0.0	-0.3	111.5	55.7	55.7	56.0	1158.5
NOV 28	-	-	-	0.0	-0.2	84.5	42.2	42.2	42.4	1200.9
NOV 29	-	-	-	0.0	-0.2	90.7	45.4	45.4	45.5	1246.4
NOV 30	-	-	-	0.0	-0.2	95.0	47.5	47.5	47.7	1294.1
NOV Totals:	-	-	-	0.0	-40.9	2506.5	1253.2	1253.2	1294.1	1294.1

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW DURING NON-IRRIGATION SEASON IS EQUAL TO THE RECORDED FLOW AT THE GAUGE (11AA005) MILK RIVER AT MILK RIVER .

APPROVED BY:

FOR CANADA

FOR THE UNITED STATES

TABLE 8
SUMMARY OF DAILY
NET CHANGE, NATURAL FLOW, EVAPORATIVE AND NET CONSUMPTIVE USES OF
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY
DECEMBER, 1967

1 Date at East X-ing	2 Natural Flow at West X-ing	3 Net East-West Change	4 Incontl. Evapo- trans. Loss	Total Consumptive Use		7 Natural Flow at East X-ing	Share		10 Excess(+)/ Deficit(-) Delivery U.S.	11 Cumulative Excess(+)/ Deficit(-) Delivery U.S.
				5 U.S.	6 Canada		8 U.S.	9 Canada		
				DEC 1	-		-	-		
DEC 2	-	-	-	0.0	-0.1	82.8	41.4	41.4	41.5	86.9
DEC 3	-	-	-	0.0	0.0	96.8	48.4	48.4	48.4	135.3
DEC 4	-	-	-	0.0	0.0	98.5	49.2	49.2	49.2	184.6
DEC 5	-	-	-	0.0	0.0	97.6	48.8	48.8	48.8	233.4
DEC 6	-	-	-	0.0	0.0	102.0	51.0	51.0	51.0	284.3
DEC 7	-	-	-	0.0	0.0	100.2	50.1	50.1	50.1	334.5
DEC 8	-	-	-	0.0	0.0	83.8	41.9	41.9	41.9	376.4
DEC 9	-	-	-	0.0	0.0	87.3	43.6	43.6	43.6	420.0
DEC 10	-	-	-	0.0	0.0	83.7	41.9	41.9	41.9	461.9
DEC 11	-	-	-	0.0	0.0	80.4	40.2	40.2	40.2	502.0
DEC 12	-	-	-	0.0	0.0	73.4	36.7	36.7	36.7	538.7
DEC 13	-	-	-	0.0	0.0	61.2	30.6	30.6	30.6	569.3
DEC 14	-	-	-	0.0	0.0	42.4	21.2	21.2	21.2	590.5
DEC 15	-	-	-	0.0	0.0	35.7	17.8	17.8	17.8	608.4
DEC 16	-	-	-	0.0	0.0	22.8	11.4	11.4	11.4	619.8
DEC 17	-	-	-	0.0	0.0	18.3	9.2	9.2	9.2	628.9
DEC 18	-	-	-	0.0	0.0	21.9	11.0	11.0	11.0	639.9
DEC 19	-	-	-	0.0	0.0	24.6	12.3	12.3	12.3	652.2
DEC 20	-	-	-	0.0	0.0	34.0	17.0	17.0	17.0	669.2
DEC 21	-	-	-	0.0	0.0	50.4	25.2	25.2	25.2	694.4
DEC 22	-	-	-	0.0	0.0	43.5	21.8	21.8	21.8	716.2
DEC 23	-	-	-	0.0	0.0	30.2	15.1	15.1	15.1	731.2
DEC 24	-	-	-	0.0	0.0	20.6	10.3	10.3	10.3	741.5
DEC 25	-	-	-	0.0	0.0	15.6	7.8	7.8	7.8	749.3
DEC 26	-	-	-	0.0	0.0	12.9	6.4	6.4	6.4	755.8
DEC 27	-	-	-	0.0	0.0	11.1	5.5	5.5	5.5	761.3
DEC 28	-	-	-	0.0	0.0	10.5	5.3	5.3	5.3	766.6
DEC 29	-	-	-	0.0	0.0	7.8	3.9	3.9	3.9	770.5
DEC 30	-	-	-	0.0	0.0	6.9	3.5	3.5	3.5	773.9
DEC 31	-	-	-	0.0	0.0	7.8	3.9	3.9	3.9	777.8
DEC Totals:	-	-	-	0.0	-0.2	1555.3	777.6	777.6	777.8	777.8

(i) ALL FIGURES ARE IN CUBIC DECAMETRES.

(ii) FIVE DAY LAG PERIOD IS APPLIED BETWEEN WEST AND EAST TO DETERMINE THE NATURAL FLOW AT EASTERN CROSSING.

* NATURAL FLOW DURING NON-IRRIGATION SEASON IS EQUAL TO THE RECORDED FLOW AT THE GAUGE (11A005) MILK RIVER AT MILK RIVER.

APPROVED BY:  FOR CANADA  FOR THE UNITED STATES

TABLE 9
 HISTORICAL SUMMARY
 MARCH TO OCTOBER NATURAL FLOW OF MILK RIVER
 AT
 EASTERN CROSSING OF INTERNATIONAL BOUNDARY
 (Cubic Decametres)

Year	Computed Natural Flow	United States Share	Canadian Share	Year	Computed Natural Flow	United States Share	Canadian Share
1912	141 000	93 500	47 100	1941	31 200	21 500	9 730
1913	155 000	110 000	46 300	1942	105 000	75 900	29 600
1914	85 100	59 500	25 700	1943	143 000	98 600	44 900
1915	173 000	121 000	50 800	1944	28 000	20 000	8 010
1916	280 000	187 000	92 000	1945	53 800	36 100	17 600
1917	270 000	174 000	96 000	1946	51 400	35 000	16 400
1918	79 700	55 600	24 100	1947	204 000	128 000	75 000
1919	33 800	24 100	9 700	1948	254 000	168 000	86 000
1920	212 000	136 000	77 000	1949	69 900	49 700	20 200
1921	70 200	50 300	19 900	1950	149 000	106 000	42 900
1922	108 000	76 500	31 100	1951	343 000	226 000	116 000
1923	101 000	72 700	28 900	1952	249 000	154 000	94 700
1924	89 200	63 300	25 900	1953	317 000	200 000	117 000
1925	149 000	101 000	48 200	1954	181 000	127 000	54 600
1926	30 200	21 200	9 020	1955	197 000	133 000	63 500
1927	449 000	281 000	168 000	1956	139 000	97 300	41 600
1928	273 000	178 000	95 300	1957	130 000	88 400	40 800
1929	184 000	123 000	60 600	1958	139 000	89 700	49 600
1930	131 000	87 900	43 000	1959	159 000	105 000	54 500
1931	36 800	25 000	11 700	1960	121 000	76 400	45 000
1932	94 400	64 800	29 600	1961	46 700	32 800	14 100
1933	117 000	80 500	36 600	1962	72 200	48 500	23 700
1934	117 000	79 600	37 100	1963	34 300	23 700	10 600
1935	97 600	64 600	32 900	1964	154 000	104 000	49 700
1936	79 900	50 200	29 700	1965	284 000	181 000	103 000
1937	112 000	78 900	32 700	1966	147 000	98 600	48 000
1938	133 000	89 700	43 500	1967	310 000	194 000	116 000
1939	50 100	33 600	16 500	1968	139 000	96 600	42 700
1940	69 700	46 400	23 300	1969	236 000	147 000	88 900
				1970	121 000	84 700	36 500

The totals of the United States and Canadian shares may not agree with the computed natural flow as all figures have been rounded for this summary. Table is a direct conversion from English to metric units, totals in some cases may not concur.

TABLE 9 (cont'd.)
 HISTORICAL SUMMARY
 MARCH TO OCTOBER NATURAL FLOW OF MILK RIVER
 AT
 EASTERN CROSSING OF INTERNATIONAL BOUNDARY
 (Cubic Decametres)

Year	Computed Natural Flow	United States Share	Canadian Share	Year	Computed Natural Flow	United States Share	Canadian Share
1971	128 000	91 300	36 600				
1972	228 000	148 000	80 300				
1973	44 500	29 600	14 900				
1974	117 000	82 200	34 500				
1975	324 000	206 000	118 000				
1976	118 000	80 300	37 400				
1977	37 100	25 800	11 400				
1978	274 000	173 000	101 000				
1979	248 000	153 000	95 600				
1980	99 400	69 500	29 900				
1981	113 000	79 200	34 200				
1982	164 000	109 000	55 100				
1983	46 600	32 600	13 900				
1984	26 500	17 500	9 100				
1985	58 800	41 700	17 100*				
1986	88 100	58 800	29 200				
1987	58 300	40 900	17 400				

*Revised

The totals of the United States and Canadian shares may not agree with the computed natural flow as all figures have been rounded for this summary. Table is a direct conversion from English to metric units, totals in some cases may not concur.

TABLE 10

JAN 21. 1988
11:45

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD UPPER LODGE AREA	1	2	3	4	5	6	7	8	9
	MICHEL RESERVOIR DEPLETION	GREASEWOOD RESERVOIR DEPLETION	MASSY RESERVOIR DEPLETION	TOTAL DEPLETION UPPER LODGE RESERVOIRS	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION UPPER LODGE	BARE CREEK RESERVOIR DEPLETION	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION BARE CREEK
	OBSERVED	OBSERVED	OBSERVED	1+2+3	COMPUTED	4-5	OBSERVED	COMPUTED	7-8
FEB 25-MAR 6	249	61	122	432	95	337	565	103	462
MAR 7-16	-11	-18	107	78	74	4	-104	-75	-29
MAR 17-27	-6	-2	-2	-10	-10	0	-63	-63	0
MAR 28-APR 6	9	20	2	31	31	0	41	41	0
APR 7-16	-10	-1	-5	-16	-16	0	-69	-69	0
APR 17-26	3	-5	2	0	0	0	-20	-20	0
APR 27-MAY 6	5	-3	2	4	4	0	0	0	0
MAY 7-16	1	-1	-1	-1	-1	0	-5	-5	0
MAY 17-27	-2	-5	-1	-8	-8	0	0	0	0
MAY 28-JUN 6	1	-10	-3	-12	-12	0	-5	-5	0
JUN 7-16	-3	-8	-53	-64	-64	0	-15	-15	0
JUN 17-26	-1	-6	-22	-29	-29	0	-115	-83	-32
JUN 27-JUL 6	-56	-7	-18	-81	-75	-6	-42	-42	0
JUL 7-16	-5	-78	34	-49	-49	0	-9	-9	0
JUL 17-27	4	0	-16	-12	-12	0	8	8	0
JUL 28-AUG 6	5	0	1	6	6	0	-154	-93	-61
AUG 7-16	3	0	3	6	6	0	-8	-8	0
AUG 17-27	-12	0	39	27	27	0	24	24	0
AUG 28-SEP 6	2	0	1	3	3	0	-6	-6	0
SEP 7-16	0	0	0	0	0	0	-7	-7	0
SEP 17-26	6	0	2	8	8	0	5	5	0
SEP 27-OCT 6	0	0	-14	-14	-14	0	-2	-2	0
OCT 7-16	-9	1	-1	-9	-9	0	-10	-10	0
OCT 17-27	-27	4	-9	-32	-32	0	-11	-11	0
TOTAL	146	-58	170	258	-78	336	-2	-343	341

APPROVED BY:

P. Boals
J. O. Macdonald

FOR CANADA

FOR THE UNITED STATES

ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 10

JAN 21, 1988
11:45

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD CRESSDAY & MITCHELL RESERVOIR AREA	10	11	12	13	14	15	PERIOD JAYDOT RESERVOIR AREA	16	17	18
	CRESSDAY RESERVOIR DEPLETION	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION CRESSDAY	MITCHELL RESERVOIR DEPLETION	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION MITCHELL		JAYDOT RESERVOIR DEPLETION	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION JAYDOT
	OBSERVED	COMPUTED	10-11	OBSERVED	COMPUTED	13-14		OBSERVED	COMPUTED	16-17
FEB 26-MAR 7	470	66	404	68	50	18	FEB 27-MAR 8	8	8	0
MAR 8-17	-154	-53	-101	456	66	390	MAR 9-18	-2	-2	0
MAR 18-28	-10	-10	0	92	56	36	MAR 19-29	5	5	0
MAR 29-APR 7	-14	-14	0	102	52	50	MAR 30-APR 8	-17	-17	0
APR 8-17	-1	-1	0	-108	-53	-55	APR 9-18	-10	-10	0
APR 18-27	-24	-24	0	-6	-6	0	APR 19-28	-4	-4	0
APR 28-MAY 7	-9	-9	0	-10	-10	0	APR 29-MAY 8	1	1	0
MAY 8-17	5	5	0	-4	-4	0	MAY 9-18	-5	-5	0
MAY 18-28	-7	-7	0	-36	-36	0	MAY 19-29	1	1	0
MAY 29-JUN 7	-9	-9	0	-46	-46	0	MAY 30-JUN 8	-3	-3	0
JUN 8-17	-10	-10	0	-46	-46	0	JUN 9-18	-6	-6	0
JUN 18-27	-13	-13	0	-43	-43	0	JUN 19-28	-2	-2	0
JUN 28-JUN 7	-6	-6	0	-30	-30	0	JUN 29-JUL 8	-2	-2	0
JUL 8-17	5	5	0	8	8	0	JUL 9-18	-1	-1	0
JUL 18-28	-6	-6	0	-3	-3	0	JUL 19-29	11	11	0
JUL 29-AUG 7	14	14	0	9	9	0	JUL 30-AUG 8	26	24	2
AUG 8-17	-9	-9	0	-3	-3	0	AUG 9-18	0	0	0
AUG 18-28	5	5	0	4	4	0	AUG 19-29	45	28	17
AUG 29-SEP 7	1	1	0	7	7	0	AUG 30-SEP 8	5	5	0
SEP 8-17	-1	-1	0	1	1	0	SEP 9-18	2	2	0
SEP 18-27	-1	-1	0	-2	-2	0	SEP 19-28	5	5	0
SEP 28-OCT 7	4	4	0	-6	-6	0	SEP 29-OCT 8	0	0	0
OCT 8-17	1	1	0	-16	-16	0	OCT 9-18	1	1	0
OCT 18-28	-4	-4	0	-23	-23	0	OCT 19-29	-5	-5	0
TOTAL	227	-76	303	365	-74	439		53	34	19

APPROVED BY: R. Boda FOR CANADA

ALL QUANTITIES IN CUBIC DECAMETRES

J. A. Macdonald FOR THE UNITED STATES

TABLE 10

JAN 21. 1988
11:45

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD MIDDLE CREEK RESERVOIR AREA	19 MIDDLE CREEK RESERVOIR INFLOW	20 BEDFORD OUTLET	21 FLOOD SPILLWAY	22 RETURN FLOW FROM IRRI- GATION MIDDLE CK BEL. MIDDLE CREEK RES.	23 GROSS DEPLETION	24 CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	25 NET DEPLETION MIDDLE CREEK
	OBSERVED	OBSERVED	OBSERVED	OBSERVED	19-22	COMPUTED	23-24
FEB 26-MAR 7	1864	0	0	0	1864	122	1742
MAR 8-17	1789	0	0	0	1789	119	1670
MAR 18-28	901	0	0	0	901	88	813
MAR 29-APR 7	1663	0	0	0	1663	146	1517
APR 8-17	694	0	0	0	694	88	606
APR 18-27	143	0	0	0	143	55	88
APR 28-MAY 7	40	0	0	11	29	29	0
MAY 8-17	30	0	0	155	-125	-57	-68
MAY 18-28	33	0	0	186	-153	-64	-89
MAY 29-JUN 7	21	0	0	0	21	21	0
JUN 8-17	18	0	0	0	18	18	0
JUN 18-27	22	0	0	0	22	22	0
JUN 28-JUL 7	19	0	0	0	19	19	0
JUL 8-17	18	0	0	0	18	18	0
JUL 18-28	17	0	0	0	17	17	0
JUL 29-AUG 7	12	0	0	0	12	12	0
AUG 8-17	10	0	0	0	10	10	0
AUG 18-28	14	0	0	0	14	14	0
AUG 29-SEP 7	11	0	0	0	11	11	0
SEP 8-17	11	0	0	0	11	11	0
SEP 18-27	12	0	0	0	12	12	0
SEP 28-OCT 7	12	0	0	0	12	12	0
OCT 8-17	26	0	0	0	26	26	0
OCT 18-28	16	0	0	0	16	16	0
TOTAL	7396	0	0	352	7044	765	6279

APPROVED BY: R. Boals FOR CANADA

ALL QUANTITIES IN CUBIC DECAMETRES

Joe A. Woodland FOR THE UNITED STATES

TABLE 10

JAN 21, 1988
11:45

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD FOR MIDDLE CREEK NEAR GOVENLOCK	26	27	PERIOD FOR MIDDLE CREEK ABOVE LODGE CREEK	28	29	30	31	32
	MIDDLE CR NEAR GOVENLOCK	CHANNEL LOSS TO MIDDLE CREEK ABOVE LODGE CREEK		MIDDLE CREEK ABOVE LODGE CREEK	APPARENT O AT MIDDLE CREEK ABOVE LODGE CREEK	MEASURED O AT MIDDLE CREEK ABOVE LODGE CREEK	WATER USE STOKKE- BUCHANAN PROJECTS	CHANNEL LOSS TO INTERNATIONAL BOUNDARY	NET DEPLETION STOKKE- BUCHANAN
	OBSERVED	COMPUTED		26-27	OBSERVED	28-29	COMPUTED	30-31
FEB 27-MAR 8	730	19	FEB 28-MAR 9	711				
MAR 9-18	597	18	MAR 10-19	579	689	22	12	10
MAR 19-29	228	15	MAR 20-30	213	628	-49	-12	0
					158	55	14	41
MAR 30-APR 8	155	15	MAR 31-APR 9	140	194	-54	-13	0
APR 9-18	120	14	APR 10-19	106	69	37	13	24
APR 19-28	65	13	APR 20-29	52	64	-12	-12	0
APR 29-MAY 8	23	12	APR 30-MAY 9	11	23	-12	13	24
MAY 9-18	62	14	MAY 10-19	48	5	43	-12	0
MAY 19-29	130	17	MAY 20-30	113	21	92	13	30
MAY 30-JUN 8	67	14	MAY 31-JUN 9	53	5	48	16	77
JUN 9-18	26	13	JUN 10-19	13	14	-1	14	34
JUN 19-28	3	3	JUN 20-29	0	1	-1	-1	0
JUN 29-JUL 8	3	3	JUN 30-JUL 9	0	0	0	0	0
JUL 9-18	0	0	JUL 10-19	0	0	0	0	0
JUL 19-29	1	1	JUL 20-30	0	0	0	0	0
JUL 30-AUG 8	6	6	JUL 31-AUG 9	0	0	0	0	0
AUG 9-18	2	2	AUG 10-19	0	0	0	0	0
AUG 19-29	0	0	AUG 20-30	0	0	0	0	0
AUG 30-SEP 8	0	0	AUG 31-SEP 9	0	0	0	0	0
SEP 9-18	0	0	SEP 10-19	0	0	0	0	0
SEP 19-28	0	0	SEP 20-29	0	0	0	0	0
SEP 29-OCT 8	4	4	SEP 30-OCT 9	0	0	0	0	0
OCT 9-18	14	12	OCT 10-19	2	0	0	0	0
OCT 19-29	23	14	OCT 20-30	9	0	2	0	0
TOTAL	2259	209		2050	1871	179	41	216

ALL QUANTITIES IN CUBIC DECAMETRES

APPROVED BY:

R. Bodin

FOR CANADA

Joe de Vries

FOR THE UNITED STATES

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TABLE 10

JAN 21. 1988
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NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD ALTAWAN RESERVOIR AREA	33	34	35	36	37	38	39
	ALTAWAN RESERVOIR DEPLETION	SPANGLER DITCH	RETURN FLOW FROM SPANGLER SQUAW CL	RETURN FLOW FROM BEDFORD- WALBURGER COULEE	GROSS DEPLETION	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION ALTAWAN
	OBSERVED	OBSERVED	OBSERVED	OBSERVED	33+34-35-36	COMPUTED	37-38
FEB 27-MAR 8	1164	0	0	0	1164	47	1117
MAR 9-18	-856	0	0	0	-856	-41	-815
MAR 19-29	737	0	0	0	737	41	696
MAR 30-APR 8	773	0	0	0	773	47	726
APR 9-18	-192	0	0	0	-192	-29	-163
APR 19-28	-49	0	0	0	-49	-25	-24
APR 29-MAY 8	-51	0	0	0	-51	-26	-25
MAY 9-18	-598	387	0	0	-211	-34	-177
MAY 19-29	-932	895	62	0	-99	-30	-69
MAY 30-JUN 8	-3	0	18	0	-21	-21	0
JUN 9-18	37	0	0	0	37	25	12
JUN 19-28	-6	0	0	0	-6	-6	0
JUN 29-JUL 8	-7	0	0	0	-7	-7	0
JUL 9-18	-872	818	0	0	-54	-27	-27
JUL 19-29	-234	294	4	0	56	29	27
JUL 30-AUG 8	566	0	0	0	566	68	498
AUG 9-18	-7	0	0	0	-7	-7	0
AUG 19-29	59	0	0	0	59	29	30
AUG 30-SEP 8.	45	0	0	0	45	25	20
SEP 9-18	20	0	0	0	20	20	0
SEP 19-28	16	0	0	0	16	16	0
SEP 29-OCT 8	-671	0	0	0	-671	-44	-627
OCT 9-18	-8	0	0	0	-8	-8	0
OCT 19-29	-18	0	0	0	-18	-18	0
TOTAL	-1087	2394	84	0	1223	25	1198

APPROVED BY: P Boala FOR CANADA

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ALL QUANTITIES IN CUBIC DECAMETRES

Joe A. MacLennan FOR THE UNITED STATES

TABLE 10

JAN 21, 1988
11:45

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY - 1987

PERIOD AT INTERNATIONAL BOUNDARY	40	41	42	43	44	45	46
	NET DEPLETION IN CANADA 6+9+12+15+ 18+25+32+39	MINOR IRRIGATION DIVERSIONS REPORTED	LODGE CREEK AT INTERNATIONAL BOUNDARY OBSERVED	NATURAL FLOW OF LODGE CREEK 40+41+42	U.S.A. SHARE NATURAL FLOW 50% OF 43	EXCESS FLOW TO U.S.A. 42-44	TOTAL EXCESS FLOWS TO DATE SUM COL.45
MAR 1-10	4090	176	9554	13820	6910	2644	0
MAR 11-20	1120	126	3994	5240	2620	1374	0
MAR 21-31	1586	118	1766	3470	1735	31	0
APR 1-10	2293	33	2452	4778	2389	63	0
APR 11-20	412	3	1172	1587	794	378	0
APR 21-30	64	0	553	617	309	244	0
MAY 1-10	-25	50	287	312	156	131	0
MAY 11-20	-215	206	194	185	92	102	0
MAY 21-31	-81	208	139	266	133	6	0
JUN 1-10	34	121	69	224	112	-43	-43
JUN 11-20	12	44	36	92	46	-10	-53
JUN 21-30	-32	25	42	35	18	24	-29
JUL 1-10	-6	53	1	48	24	-23	-52
JUL 11-20	-27	31	1	5	2	-1	-53
JUL 21-31	27	31	0	58	29	-29	-82
AUG 1-10	439	20	0	459	229	-229	-312
AUG 11-20	0	2	0	2	1	-1	-313
AUG 21-31	47	0	0	47	23	-23	-336
SEP 1-10	20	0	0	20	10	-10	-346
SEP 11-20	0	0	0	0	0	0	-346
SEP 21-30	0	0	0	0	0	0	-346
OCT 1-10	-627	0	391	0	0	391	45
OCT 11-20	0	0	13	13	7	7	0
OCT 21-31	0	0	3	3	2	2	0
TOTAL	9130	1247	20667	31280	15640	5027	0

APPROVED BY:

R. B. Bock

FOR CANADA

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ALL QUANTITIES IN CUBIC DECAMETRES

Joe C. Monahan

FOR THE UNITED STATES

TABLE 11

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISIONS OF NATURAL RUNOFF
OF LODGE CREEK AT INTERNATIONAL BOUNDARY
(CUBIC DECAMETRES)

YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS OR DEFICIT (-) DELIVERY TO THE U.S.A.
1950	17900	8950	16600	7650
1951	62960	31480	50200	18720
1952	161300	80650	147160	66510
1953	38240	19120	27240	8120
1954	13050	6525	7620	1095
1955	97080	48540	75390	26850
1956	21180	10590	15730	5140
1957	32760	16380	24500	8120
1958	48180	24090	42090	18000
1959	21220	10610	14300	3690
1960	39600	19800	29510	9710
1961	2210	1105	1020	-85
1962	25630	12815	18850	6035
1963	14260	7130	7500	370
1964	9790	4895	5130	235
1965	95410	47705	68060	20355
1966	44230	22115	30180	8065
1967	90380	45190	73260	28070
1968	4910	2455	2650	195
1969	36920	18460	20870	2410
1970	29060	14530	16130	1600
1971	26300	13150	13080	-70
1972	27380	13690	13580	-110
1973	2080	1040	1070	30
1974	26980	13490	14510	1020
1975	48000	24000	34540	10540
1976	29480	14740	22330	7590
1977	1230	615	888	273
1978	37240	18620	22350	3730
1979	47020	23510	30390	6880
1980	2140	1070	712	-358
1981	1260	630	407	-223
1982	38800	19400	22420	3020
1983	4660	2330	2480	150
1984	937	469	600	132
1985	21270	10635	9960	-675
1986	93870	46935	75057	28122
1987	31280	15640	20667	5027
1950-86 TOTAL	1314917	657459	958364	
1950-86 AVERAGE	35538	17769	25902	

TABLE 12

JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

1	2	3	4	5	
PERIOD REESOR LAKE AREA	REESOR LAKE STORAGE	PERIOD ADAMS LAKE AREA	TOTAL DEPLETION UPPER BATTLE CREEK	CHANNEL LOSS TO INTERNATIONAL BOUNDARY	
OBSERVED	OBSERVED	1+2	COMPUTED	NET DEPLETION UPPER BATTLE CREEK	
				3-4	
FEB 23-MAR 8	-2	FEB 24-MAR 9	16	14	0
MAR 9-19	5	MAR 10-20	13	18	0
MAR 20-29	7	MAR 21-30	14	21	0
MAR 30-APR 8	10	MAR 31-APR 9	1	11	0
APR 9-18	10	APR 10-19	-15	-5	0
APR 19-28	-4	APR 20-29	-8	-12	0
APR 29-MAY 8	0	APR 30-MAY 9	-20	-20	0
MAY 9-19	25	MAY 10-20	-404	-379	-217
MAY 20-29	22	MAY 21-30	-71	-49	0
MAY 30-JUN 8	35	MAY 31-JUN 9	-287	-252	-147
JUN 9-18	34	JUN 10-19	3	37	37
JUN 19-28	30	JUN 20-29	3	33	33
JUN 29-JUL 8	38	JUN 30-JUL 9	4	42	42
JUL 9-19	38	JUL 10-20	0	38	38
JUL 20-29	30	JUL 21-30	0	30	30
JUL 30-AUG 8	34	JUL 31-AUG 9	5	39	39
AUG 9-19	23	AUG 10-20	5	28	28
AUG 20-29	26	AUG 21-30	5	31	31
AUG 30-SEP 8	38	AUG 31-SEP 9	3	41	41
SEP 9-18	32	SEP 10-19	1	33	33
SEP 19-28	37	SEP 20-29	5	42	42
SEP 29-OCT 8	32	SEP 30-OCT 9	6	38	38
OCT 9-19	19	OCT 10-20	5	24	24
OCT 20-25	9	OCT 21-26	2	11	11
TOTAL	528		-714	-186	136
					-322

CHECKED BY
ALL QUANTITIES IN CUBIC DECANETRES

DATE

APPROVED

FOR CANADA
FOR U.S.A.

R B Coals
Jac A. Monland

PAGE 1

TABLE 12

JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

PERIOD GAFF DITCH AREA	6 GAFF DITCH MEASURED	7 RETURN FLOW COMPUTED	8 GROSS DEPLETION GAFF DITCH 6-7	9 CHANNEL LOSS TO INTERNATIONAL BOUNDARY COMPUTED	10 NET DEPLETION GAFF DITCH 8-9
FEB 25-MAR 10	2	1	1	1	0
MAR 11-21	3	1	2	2	0
MAR 22-31	2	1	1	1	0
APR 1-10	136	48	88	88	0
APR 11-20	382	134	248	98	150
APR 21-30	366	128	238	98	140
MAY 1-10	502	176	326	98	228
MAY 11-21	290	102	188	107	81
MAY 22-31	25	9	16	16	0
JUN 1-10	3	1	2	2	0
JUN 11-20	5	2	3	3	0
JUN 21-30	3	1	2	2	0
JUL 1-10	4	1	3	3	0
JUL 11-21	2	1	1	1	0
JUL 22-31	4	1	3	3	0
AUG 1-10	4	1	3	3	0
AUG 11-21	4	1	3	3	0
AUG 22-31	2	1	1	1	0
SEP 1-10	3	1	2	2	0
SEP 11-20	3	1	2	2	0
SEP 21-30	2	1	1	1	0
OCT 1-10	4	1	3	3	0
OCT 11-21	8	3	5	5	0
OCT 22-27	4	1	3	3	0
TOTAL	1763	618	1145	546	599

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JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

PERIOD CYPRESS LAKE AREA	WEST INFLOW CANAL	WEST OUTFLOW CANAL	WEST INFLOW CANAL DRAIN	TOTAL RELEASE FROM CYPRESS LAKE	NET DIVERSION TO CYPRESS LAKE	VIDORA DITCH	RETURN FLOW	GROSS DEPLETION CYPRESS LAKE	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION CYPRESS LAKE
	MEASURED	MEASURED	MEASURED	12+13	11-14	MEASURED	COMPUTED	15+16-17	COMPUTED	18-19
FEB 26-MAR 11	3247	102	532	634	2613	0	0	2613	103	2510
MAR 12-22	2258	82	26	108	2150	0	0	2150	81	2069
MAR 23-APR 1	1889	26	28	54	1835	0	0	1835	73	1762
APR 2-11	3290	322	3	325	2965	0	0	2965	73	2892
APR 12-21	1803	11	1	12	1791	0	0	1791	73	1718
APR 22-MAY 1	645	398	1	399	246	0	0	246	73	173
MAY 2-11	2	370	1	371	-369	0	0	-369	-73	-296
MAY 12-22	0	2720	1	2721	-2721	1100	138	-1759	-81	-1678
MAY 23-JUN 1	0	1567	0	1567	-1567	827	344	-1084	-73	-1011
JUN 2-11	0	394	0	394	-394	324	1	-71	-71	0
JUN 12-21	45	236	0	236	-191	214	135	-112	-73	-39
JUN 22-JUL 1	205	1	2	3	202	0	0	202	73	129
JUL 2-11	191	139	3	142	49	0	0	49	49	0
JUL 12-22	59	35	2	37	22	0	0	22	22	0
JUL 23-AUG 1	0	8	1	9	-9	0	0	-9	-9	0
AUG 2-11	200	1	3	4	196	0	0	196	73	123
AUG 12-22	0	1	1	2	-2	0	0	-2	-2	0
AUG 23-SEP 1	330	1	2	3	327	0	0	327	73	254
SEP 2-11	210	1	2	3	207	0	0	207	73	134
SEP 12-21	57	1	2	3	54	0	0	54	54	0
SEP 22-OCT 1	0	1	1	2	-2	0	0	-2	-2	0
OCT 2-11	0	1	0	1	-1	0	0	-1	-1	0
OCT 12-22	0	1	0	1	-1	0	0	-1	-1	0
OCT 23-28	0	0	0	0	0	0	0	0	0	0
TOTAL	14431	6419	612	7031	7400	2465	618	9247	507	8740

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 12

JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

PERIOD CONSUL AREA	21 RICHARDSON DITCH	22 MCKINNON DITCH	23 RETURN FLOW	24 GROSS DEPLETION AT CONSUL	25 CHANNEL LOSS TO INTERNATIONAL BOUNDARY	26 NET DEPLETION AT CONSUL
	MEASURED	MEASURED	COMPUTED	21+22-23	COMPUTED	24-25
FEB 27-MAR 12	0	0	0	0	0	0
MAR 13-23	0	0	0	0	0	0
MAR 24-APR 2	0	0	0	0	0	0
APR 3-12	0	0	0	0	0	0
APR 13-22	0	0	0	0	0	0
APR 23-MAY 2	0	0	0	0	0	0
MAY 3-12	0	0	0	0	0	0
MAY 13-23	560	620	172	1008	54	954
MAY 24-JUN 2	517	651	407	761	49	712
JUN 3-12	0	0	9	-9	-9	0
JUN 13-22	0	0	0	0	0	0
JUN 23-JUL 2	0	0	0	0	0	0
JUL 3-12	0	0	0	0	0	0
JUL 13-23	0	0	0	0	0	0
JUL 24-AUG 2	0	0	0	0	0	0
AUG 3-12	0	0	0	0	0	0
AUG 13-23	0	0	0	0	0	0
AUG 24-SEP 2	0	0	0	0	0	0
SEP 3-12	0	0	0	0	0	0
SEP 13-22	0	0	0	0	0	0
SEP 23-OCT 2	0	0	0	0	0	0
OCT 3-12	0	0	0	0	0	0
OCT 13-23	0	0	0	0	0	0
OCT 24-29	0	0	0	0	0	0
TOTAL	1077	1271	588	1760	94	1666

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J. A. Mansfield

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 12

JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

PERIOD NASHLYN AREA	27 NASHLYN CANAL MEASURED	28 RETURN FLOW COMPUTED	29 GROSS DEPLETION AT NASHLYN 27-28	30 CHANNEL LOSS TO INTERNATIONAL BOUNDARY COMPUTED	31 NET DEPLETION AT NASHLYN 29-30
FEB 28-MAR 13	753	0	753	34	719
MAR 14-24	908	0	908	27	881
MAR 25-APR 3	394	0	394	24	370
APR 4-13	355	97	258	24	234
APR 14-23	36	9	27	24	3
APR 24-MAY 3	1	2	-1	-1	0
MAY 4-13	0	0	0	0	0
MAY 14-24	411	56	355	27	328
MAY 25-JUN 3	196	96	100	24	76
JUN 4-13	0	0	0	0	0
JUN 14-23	0	0	0	0	0
JUN 24-JUL 3	0	0	0	0	0
JUL 4-13	0	0	0	0	0
JUL 14-24	0	0	0	0	0
JUL 25-AUG 3	0	0	0	0	0
AUG 4-13	0	0	0	0	0
AUG 14-24	0	0	0	0	0
AUG 25-SEP 3	0	0	0	0	0
SEP 4-13	0	0	0	0	0
SEP 14-23	0	0	0	0	0
SEP 24-OCT 3	0	0	0	0	0
OCT 4-13	0	0	0	0	0
OCT 14-24	0	0	0	0	0
OCT 25-30	0	0	0	0	0
TOTAL	3054	260	2794	183	2611

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R. Boals
Field. Manager

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 12

JAN 21 1988

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1987

PERIOD AT INTERNATIONAL BOUNDARY	32 NET DEPLETION IN CANADA	33 BATTLE CREEK AT INTERNATIONAL BOUNDARY	34 APPARENT NATURAL FLOW OF BATTLE CREEK	35 ADJUSTMENT FOR MINOR DIVERSIONS & DOM. USE	36 NATURAL FLOW OF BATTLE CREEK	37 U.S.A. SHARE NATURAL FLOW	38 EXCESS FLOW TO THE U.S.A.	39 TOTAL EXCESS FLOWS TO DATE
	15+10+20+26+31	MEASURED	32+33	REPORTED	34+35	50% OF 36	33-37	SUM COL.38
MAR 1-14	3229	3390	6619	838	7457	3729	-339	-339
MAR 15-25	2950	1201	4151	624	4775	2388	-1187	-1526
MAR 26-APR 4	2132	2504	4636	417	5053	2527	-23	-1549
APR 5-14	3126	2115	5241	583	5824	2912	-797	-2346
APR 15-24	1871	983	2854	630	3484	1742	-759	-3105
APR 25-MAY 4	313	1340	1653	252	1905	953	387	-2718
MAY 5-14	-68	1105	1037	481	1518	759	346	-2372
MAY 15-25	-532	905	373	522	895	448	457	-1915
MAY 26-JUN 4	-223	1182	959	215	1174	587	595	-1320
JUN 5-14	-105	537	432	48	480	240	297	-1023
JUN 15-24	-39	408	369	5	374	187	221	-802
JUN 25-JUL 4	129	122	251	5	256	128	-6	-808
JUL 5-14	0	21	21	3	24	12	9	-799
JUL 15-25	0	58	58	3	61	31	27	-772
JUL 26-AUG 4	0	658	658	2	660	330	328	-444
AUG 5-14	123	346	469	3	472	236	110	-334
AUG 15-25	0	181	181	4	185	93	88	-246
AUG 26-SEP 4	254	312	566	5	571	286	26	-220
SEP 5-14	134	51	185	2	187	94	-43	-263
SEP 15-24	0	50	50	15	65	33	17	-246
SEP 25-OCT 4	0	171	171	4	175	88	83	-163
OCT 5-14	0	255	255	4	259	130	125	-38
OCT 15-25	0	354	354	3	357	179	175	137
OCT 26-31	0	212	212	2	214	107	105	0
TOTAL	13294	18461	31755	4670	36425	18219	242	0

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R Boals
Joe G. MacLan

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ALL QUANTITIES IN CUBIC DECAMETRES

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISIONS OF NATURAL RUNOFF
OF BATTLE CREEK AT INTERNATIONAL BOUNDARY
(CUBIC DECAMETRES)

YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS OR DEFICIT (-) DELIVERY TO THE U.S.A.
1940	45040	22520	32100	9580
1941	31280	15640	20860	5220
1942	27510	13755	13490	-265
1943	40710	20355	27960	7605
1944	13000	6500	9460	2960
1945	11000	5500	9970	4470
1946	12820	6410	8590	2180
1947	13890	6945	8540	1595
1948	23100	11550	9670	-1880
1949	1650	825	2160	1335
1950	23790	11895	12730	835
1951	35910	17955	20440	2485
1952	138450	69225	127790	58565
1953	46580	23290	34760	11470
1954	40930	20465	31520	11055
1955	110680	55340	117630	62290
1956	31590	15795	24890	9095
1957	33910	16955	22990	6035
1958	34290	17145	25040	7895
1959	22350	11175	14680	3505
1960	34530	17265	19350	2085
1961	6970	3485	5500	2015
1962	9090	4545	6010	1465
1963	9920	4960	5800	840
1964	13100	6550	6670	120
1965	67360	33680	33950	270
1966	45860	22930	24860	1930
1967	80460	40230	67670	27440
1968	20090	10045	12820	2775
1969	35450	17725	21610	3885
1970	38280	19140	22570	3430
1971	23780	11890	15420	3530
1972	27450	13725	17210	3485
1973	11800	5900	6170	270
1974	23720	11860	15230	3370
1975	54450	27225	32440	5215
1976	34510	17255	21200	3945
1977	5850	2925	3330	405
1978	28520	14260	16690	2430
1979	47520	23760	27640	3880
1980	9960	4980	5860	880
1981	8900	4450	5610	1160
1982	36120	18060	21940	3880
1983	17720	8860	9660	800
1984	5490	2745	2820	75
1985	20790	10395	10530	135
1986	75180	37590	49544	11954
1987	36420	18210	18462	251
1940-86 TOTAL	1531350	765675	1063374	
1940-86 AVERAGE	32582	16291	22625	

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JAN 21 1988

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1987

PERIOD CYPRESS LAKE AREA	1 BELANGER CREEK DIVERSION	2 CYPRESS LAKE EAST OUTFLOW CANAL	3 NET DIVERSION FROM FRENCHMAN RIVER	4 CYPRESS LAKE NATURAL OVERFLOW	5 GROSS DEPLETION AT CYPRESS LAKE	6 CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	7 NET DEPLETION AT CYPRESS LAKE
	MEASURED	MEASURED	1-2	COMPUTED	3+4	COMPUTED	5-6
FEB 20-MAR 1	0	58	-58	0	-58	-58	0
MAR 2-11	1000	113	887	0	887	236	651
MAR 12-22	1183	119	1064	0	1064	270	794
MAR 23-APR 1	917	147	770	0	770	222	548
APR 2-11	3410	137	3273	0	3273	710	2563
APR 12-21	845	10	835	0	835	271	564
APR 22-MAY 1	86	10	76	0	76	76	0
MAY 2-11	20	11	9	0	9	9	0
MAY 12-22	47	10	37	0	37	37	0
MAY 23-JUN 1	0	3	-3	0	-3	-3	0
JUN 2-11	0	8	-8	0	-8	-8	0
JUN 12-21	0	7	-7	0	-7	-7	0
JUN 22-JUL 1	0	188	-188	0	-188	-167	-21
JUL 2-11	0	26	-26	0	-26	-26	0
JUL 12-22	0	2	-2	0	-2	-2	0
JUL 23-AUG 1	0	16	-16	0	-16	-16	0
AUG 2-11	0	14	-14	0	-14	-14	0
AUG 12-22	0	14	-14	0	-14	-14	0
AUG 23-SEP 1	0	11	-11	0	-11	-11	0
SEP 2-11	0	7	-7	0	-7	-7	0
SEP 12-21	0	5	-5	0	-5	-5	0
SEP 22-OCT 1	0	5	-5	0	-5	-5	0
OCT 2-11	0	6	-6	0	-6	-6	0
OCT 12-22	0	7	-7	0	-7	-7	0
TOTAL	7508	934	6574	0	6574	1475	5099

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JAN 21 1988

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1987

PERIOD EASTEND AREA	EASTEND RESERVOIR			EASTEND CANAL	RETURN FLOW	GROSS DEPLETION AT EASTEND	CHANNEL LOSS TO INTER- NATIONAL BOUNDARY	NET DEPLETION AT EASTEND
	8 STORED + RELEASED	9 EVAP- ORATION	10 DEPLETION					
	OBSERVED	COMPUTED	8+9	MEASURED	COMPUTED	10+11-12	COMPUTED	13-14
FEB 22-MAR 3	6	0	6	0	0	6	6	0
MAR 4-13	886	0	886	0	0	886	199	687
MAR 14-24	354	0	354	0	0	354	157	197
MAR 25-APR 3	346	0	346	0	0	346	145	201
APR 4-13	565	6	571	0	0	571	190	381
APR 14-23	-25	48	23	0	0	23	23	0
APR 24-MAY 3	225	59	284	0	0	284	147	137
MAY 4-13	246	102	348	70	18	400	192	208
MAY 14-24	-1476	57	-1419	1896	474	3	3	0
MAY 25-JUN 3	-153	15	-138	760	190	432	200	232
JUN 4-13	299	63	362	0	0	362	218	144
JUN 14-23	131	57	188	0	0	188	149	39
JUN 24-JUL 3	308	65	373	0	0	373	223	150
JUL 4-13	-1141	57	-1084	1282	321	-123	-123	0
JUL 14-24	-353	4	-349	574	144	81	81	0
JUL 25-AUG 3	774	24	798	0	0	798	393	405
AUG 4-13	99	52	151	0	0	151	134	17
AUG 14-24	145	22	167	0	0	167	148	19
AUG 25-SEP 3	160	51	211	0	0	211	158	53
SEP 4-13	-383	35	-348	0	0	-348	-179	-169
SEP 14-23	-608	18	-590	0	0	-590	-240	-350
SEP 24-OCT 3	-238	14	-224	0	0	-224	-148	-76
OCT 4-13	204	11	215	0	0	215	137	78
OCT 14-24	298	9	307	0	0	307	161	146
TOTAL	669	769	1438	4582	1147	4873	2374	2499

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 14

JAN 21 1988

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1987

] PERIOD] VAL MARIE] AREA	16	17	18	19	20	21	22
	] HUFF LAKE			] NEWTON LAKE			] TOTAL
	] STORED +] RELEASED -	] EVAP-] ORATION	] DEPLETION	] STORED +] RELEASED -	] EVAP-] ORATION	] DEPLETION	] CHANGE IN] RESERVOIR] CONTENTS
]	] OBSERVED	] COMPUTED	] 16+17	] OBSERVED	] COMPUTED	] 19+20	] 18+21
FEB 26-MAR 7	1007	0	1007	1298	0	1298	2305
MAR 8-17	-929	0	-929	1426	0	1426	497
MAR 18-28	905	0	905	-187	0	-187	718
MAR 29-APR 7	-146	0	-146	1406	0	1406	1260
APR 8-17	83	54	137	-1113	148	-965	-828
APR 18-27	-49	80	31	483	208	691	722
APR 28-MAY 7	223	90	313	285	239	524	837
MAY 8-17	-893	131	-762	-1789	346	-1443	-2205
MAY 18-28	-766	28	-738	-1716	73	-1643	-2381
MAY 29-JUN 7	-6	98	92	-538	249	-289	-197
JUN 8-17	-54	121	67	-442	306	-136	-69
JUN 18-27	-56	74	18	-251	183	-68	-50
JUN 28-JUL 7	-70	97	27	-662	241	-421	-394
JUL 8-17	-834	39	-795	-2565	92	-2473	-3268
JUL 18-28	-1247	25	-1222	-244	90	-154	-1376
JUL 29-AUG 7	-29	26	-3	124	169	293	290
AUG 8-17	47	18	65	-327	111	-216	-151
AUG 18-28	49	20	69	-295	116	-179	-110
AUG 29-SEP 7	17	28	45	-214	158	-56	-11
SEP 8-17	10	11	21	184	59	243	264
SEP 18-27	-23	22	-1	242	121	363	362
SEP 28-OCT 7	-191	21	-170	379	126	505	335
OCT 8-17	-411	8	-403	282	69	351	-52
OCT 18-28	91	4	95	-274	44	-230	-135
TOTAL	-3272	995	-2277	-4508	3148	-1360	-3637

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ALL QUANTITIES IN CUBIC DECAMETRES

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Joe A. Monahan

TABLE 14

JAN 21 1988

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1987

PERIOD VAL MARIE AREA	23 GRAVITY CANAL	24 HUFF LAKE PUMPING CANAL	25 NEWTON MAIN CANAL	26 TOTAL CANAL DIVERSION	27 RETURN FLOW	28 GROSS DEPLETION VAL MARIE	29 CHANNEL LOSS TO BOUNDARY	30 NET DEPLETION VAL MARIE
	MEASURED	MEASURED	MEASURED	23 TO 25	COMPUTED	22+26-27	COMPUTED	28-29
FEB 26-MAR 7	0	0	0	0	0	2305	139	2166
MAR 8-17	0	0	0	0	0	497	67	430
MAR 18-28	0	0	0	0	0	718	81	637
MAR 29-APR 7	0	0	0	0	0	1260	122	1138
APR 8-17	0	0	0	0	0	-828	-96	-732
APR 18-27	0	0	0	0	0	722	90	632
APR 28-MAY 7	61	33	0	94	24	907	135	772
MAY 8-17	763	255	1637	2655	664	-214	-66	-148
MAY 18-28	719	419	1985	3123	781	-39	-39	0
MAY 29-JUN 7	0	420	481	901	225	479	118	361
JUN 8-17	0	44	0	44	11	-36	-36	0
JUN 18-27	0	0	0	0	0	-50	-49	-1
JUN 28-JUL 7	0	0	518	518	130	-6	-6	0
JUL 8-17	572	24	2513	3109	777	-936	-191	-745
JUL 18-28	739	620	761	2120	530	214	80	134
JUL 29-AUG 7	17	346	0	363	91	562	131	431
AUG 8-17	23	0	0	23	6	-134	-63	-71
AUG 18-28	0	0	0	0	0	-110	-63	-47
AUG 29-SEP 7	0	0	0	0	0	-11	-11	0
SEP 8-17	0	0	0	0	0	264	71	193
SEP 18-27	0	0	0	0	0	362	81	281
SEP 28-OCT 7	0	0	0	0	0	335	66	269
OCT 8-17	0	0	0	0	0	-52	-49	-3
OCT 18-28	0	0	0	0	0	-135	-59	-76
TOTAL	2894	2161	7895	12950	3239	6074	453	5621

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ALL QUANTITIES IN CUBIC DECAMETRES

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TABLE 14

JAN 21 1988

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1987

PERIOD AT INTERNATIONAL BOUNDARY	31 NET DEPLETION IN CANADA	32 FRENCHMAN RIVER AT INTER-NATIONAL BOUNDARY	33 APPARENT NATURAL FLOW OF FRENCHMAN RIVER	34 ADJUSTMENT FOR MINOR DIVERSION AND DOMES. USE	35 NATURAL FLOW OF FRENCHMAN RIVER	36 U.S.A. SHARE NATURAL FLOW	37 EXCESS FLOW TO THE U.S.A.	38 TOTAL EXCESS FLOWS TO DATE
	7+15+30	MEASURED	31+32	REPORTED	33+34	50% OF 35	32-36	SUM OF 37
MAR 1-10	2166	10085	12251	893	13144	6572	3513	0
MAR 11-20	1768	11453	13221	579	13800	6900	4553	0
MAR 21-31	1628	13029	14657	538	15195	7598	5431	0
APR 1-10	1887	10359	12246	513	12759	6380	3979	0
APR 11-20	2212	4744	6956	523	7479	3740	1004	0
APR 21-30	1196	1439	2635	283	2918	1459	-20	-20
MAY 1-10	909	441	1350	197	1547	774	-333	-353
MAY 11-20	60	481	541	634	1175	588	-107	-460
MAY 21-31	0	947	947	374	1321	661	286	-174
JUN 1-10	593	306	899	719	1618	809	-503	-677
JUN 11-20	144	91	235	571	806	403	-312	-989
JUN 21-30	38	50	88	233	321	161	-111	-1100
JUL 1-10	129	23	152	43	195	98	-75	-1175
JUL 11-20	-745	739	0	278	278	139	600	-575
JUL 21-31	134	3916	4050	378	4428	2214	1702	1127
AUG 1-10	836	738	1574	0	1574	787	-49	-49
AUG 11-20	-54	288	234	64	298	149	139	90
AUG 21-31	-28	95	67	0	67	34	61	0
SEP 1-10	53	25	78	0	78	39	-14	-14
SEP 11-20	24	40	64	0	64	32	8	-6
SEP 21-30	-69	47	0	0	0	0	47	41
OCT 1-10	193	30	223	0	223	112	-82	-82
OCT 11-20	75	36	111	0	111	56	-20	-102
OCT 21-31	70	117	187	0	187	94	23	-79
TOTAL	13219	59519	72766	6820	79586	39799	19720	-79

CHECKED BY
ALL QUANTITIES IN CUBIC DECAMETRES

DATE

APPROVED

FOR CANADA
FOR U.S.A.

R. Boals
Joe A. Moulton

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TABLE 15

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISIONS OF NATURAL RUNOFF
OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
(CUBIC DECAMETRES)

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YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS OR DEFICIT (-) DELIVERY TO THE U.S.A.
1940	101430	50715	84110	33395
1941	71110	35555	57560	22005
1942	72180	36090	52210	16120
1943	164710	82355	147030	64675
1944	69630	34815	50560	15745
1945	42630	21315	28440	7125
1946	39790	19895	26470	6575
1947	65090	32545	43180	10635
1948	48960	24480	31000	6520
1949	17690	8845	8010	-835
1950	93280	46640	73590	26950
1951	137490	68745	110880	42135
1952	445240	222620	433530	210910
1953	92350	46175	71990	25815
1954	109720	54860	92490	37630
1955	230280	115140	210300	95160
1956	59650	29825	41950	12125
1957	48040	24020	32710	8690
1958	79390	39695	64280	24585
1959	64030	32015	41220	9205
1960	93020	46510	75440	28930
1961	23070	11535	11480	-55
1962	78090	39045	48240	9195
1963	57730	28865	41790	12925
1964	25060	12530	13300	770
1965	132160	66080	95070	28990
1966	91190	45595	66470	20875
1967	130890	65445	108240	42795
1968	49730	24865	27080	2215
1969	97930	48965	71520	22555
1970	133370	66685	102470	35785
1971	57140	28570	39360	10790
1972	45910	22955	24990	2035
1973	27470	13735	14720	985
1974	104110	52055	75610	23555
1975	91990	45995	60710	14715
1976	90690	45345	73990	28645
1977	12730	6365	8260	1895
1978	67920	33960	41310	7350
1979	108470	54235	77360	23125
1980	33440	16720	17780	1060
1981	18140	9070	8300	-770
1982	114740	57370	82530	25160
1983	44230	22115	22990	875
1984	11920	5960	5640	-320
1985	42500	21250	22180	930
1986	107010	53505	74060	20555
1987	79590	39795	59519	19724
1940-86 TOTAL	3943340	1971670	3012400	
1940-86 AVERAGE	83901	41950	64094	

TABLE 16

MONTH-END CONTENTS OF MAJOR RESERVOIRS IN LODGE, BATTLE, AND FRENCHMAN BASINS FOR 1987

QUANTITIES IN CUBIC DECAMETRES

	MIDDLE CREEK RESERVOIR	ALTAWAN RESERVOIR	CYPRESS LAKE	EASTEND RESERVOIR	HUFF LAKE	NEWTON LAKE	(A) TOTAL STORAGE	(C) COMBINED USABLE STORAGE (A-B)	% OF LIVE STORAGE (C/D*100)
FEBRUARY	6 050	5 450	48 500	112	3 330	10 400	73 842	46 709	33
MARCH	11 300	6 570	60 500	1 830	4 420	12 700	97 320	70 187	49
APRIL	13 300	6 940	71 100	2 480	4 360	13 800	111 980	84 847	60
MAY	11 300	5 160	64 600	953	2 940	10 500	95 453	68 320	48
JUNE	10 600	4 980	61 800	1 740	2 770	9 410	91 300	64 167	45
JULY	10 200	4 240	60 700	953	515	6 080	82 688	55 555	39
AUGUST	9 790	4 150	59 600	1 500	704	5 380	81 124	53 991	38
SEPTEMBER	9 320	3 790	57 800	226	720	5 740	77 596	50 463	36
OCTOBER	8 990	3 260	56 500	1 000	138	6 070	75 958	48 825	34
FULL SUPPLY LEVEL	15 610	6 710	128 100	2 090	4 470	12 270	169 250		
DEAD STORAGE	0	0	27 120	0	13	0	27 133 (B)		

TOTAL AVAILABLE LIVE STORAGE = 169 250 - 27 133 = 142 117 (D)