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

1981

by

Philip Cohen
representing United States

and

D.A. Davis
representing Canada

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APPENDIX A TO THE

REPORT TO

THE INTERNATIONAL JOINT COMMISSION

ON

THE DIVISION OF THE WATERS OF THE

ST. MARY AND MILK RIVERS

1981

BY

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representing United States

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TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR MARCH 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES		+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	RELEASED					UNITED STATES	CANADA	
1	29	0	0	29	0	0	29	509	538	269	269	240
2	0	15	0	0	15	0	-15	467	453	225	228	240
3	15	0	0	15	0	181	196	264	460	230	230	34
4	0	76	0	0	76	301	225	264	489	245	245	20
5	0	120	0	0	120	296	176	289	465	232	232	56
6	0	269	0	0	269	311	42	321	362	181	181	139
7	0	357	0	0	357	465	108	225	333	166	166	59
8	0	372	0	0	372	477	105	254	360	181	179	76
9	0	492	0	0	492	541	49	279	328	164	164	115
10	0	663	0	0	663	724	61	203	264	132	132	71
11	0	881	0	0	881	876	-5	220	215	108	108	113
12	0	1064	0	0	1064	971	-93	311	218	108	110	201
13	0	1358	0	0	1358	1211	-147	306	159	81	78	228
14	0	1284	0	0	1284	1280	-5	374	369	183	186	188
15	0	1385	0	0	1385	1282	-103	399	296	149	147	252
SUB.T	44	8336	0	44	8336	8915	624	4685	5309	2655	2655	2031
MEAN	2.9	556	0	2.9	556	594	41.6	312	354	177	177	135
16	0	969	2	0	966	1297	330	362	692	345	347	15
17	0	1309	2	0	1306	1343	37	306	343	171	171	135
18	0	878	2	0	876	1348	472	328	800	401	399	-71
19	0	1309	2	0	1306	1351	44	333	377	188	188	144
20	0	1035	2	0	1032	1346	313	316	629	313	316	0
21	0	1067	2	0	1064	1329	264	316	580	291	289	27
22	0	1162	2	0	1160	1331	171	311	482	240	242	69
23	0	1067	2	0	1064	1363	298	294	592	296	296	-2
24	0	1015	2	0	1013	1373	360	311	670	335	335	-24
25	0	1196	2	0	1194	1409	215	345	560	281	279	66
26	0	1289	2	0	1287	1448	161	418	580	289	291	127
27	0	1277	2	0	1275	1485	210	399	609	306	303	95
28	0	1231	2	0	1228	1490	262	460	722	360	362	98
29	0	1245	2	0	1243	1483	240	533	773	387	387	147
30	0	1191	2	0	1189	1470	281	524	805	404	401	122
31	0	976	2	0	974	1373	399	438	837	418	418	20
SUB.T	0	18217	39	0	18178	22237	4059	5992	10051	5025	5025	966
MEAN	0	1139	2.4	0	1136	1390	254	374	628	314	314	60.4
TOTAL	44	26553	39	44	26514	31153	4683	10677	15360	7680	7680	2997
MEAN	1.4	857	1.3	1.4	855	1005	151	344	495	248	248	96.7

Approved
District Chief U.S.G.S.
Regional Chief WS of Canada

TABLE CONVERTED FROM ENGLISH UNITS. DISCREPANCIES IN VALUES MAY BE INTRODUCED BECAUSE OF ROUNDING.

TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR APRIL 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES		+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED					UNITED STATES	CANADA	
1	0	262	2	0	259	1057	798	391	1189	298	891	-499
2	0	284	2	0	281	991	710	343	1052	264	788	-445
3	0	979	0	0	979	1157	179	321	499	125	374	-54
4	0	1096	0	0	1096	1248	152	362	514	127	387	-24
5	0	1032	2	0	1030	1267	237	470	707	176	531	-61
6	0	1091	2	0	1089	1267	179	526	705	176	528	-2
7	0	1077	2	0	1074	1265	191	504	695	174	521	-17
8	0	1025	2	0	1023	1265	242	492	734	183	550	-59
9	0	1072	0	0	1072	1272	201	484	685	171	514	-29
10	0	1013	2	0	1010	1270	259	450	710	176	533	-83
11	0	1077	2	0	1074	1275	201	450	651	161	489	-39
12	0	1096	2	0	1094	1250	157	470	626	157	470	0
13	0	1099	2	0	1096	1182	86	519	604	152	453	66
14	0	1101	2	0	1099	1160	61	511	573	142	431	81
15	0	1113	2	0	1111	1064	-46	565	519	130	389	176
SUB.T	0	14415	29	0	14386	17990	3604	6858	10462	2613	7849	-991
MEAN	0	961	2	0	959	1199	240	457	697	174	523	-66.1
16	0	1037	2	0	1035	996	-39	550	511	127	384	166
17	0	372	2	0	369	665	296	732	1028	257	771	-39
18	0	267	2	0	264	303	39	883	922	230	692	191
19	0	137	2	0	135	294	159	805	964	240	724	81
20	0	22	2	0	20	272	252	768	1020	254	766	2
21	120	0	2	122	0	225	347	844	1191	298	893	-49
22	83	0	2	86	0	225	311	873	1184	296	888	-15
23	191	0	2	193	0	223	416	954	1370	343	1028	-73
24	208	0	2	210	0	230	440	1287	1727	455	1272	15
25	849	0	2	851	0	218	1069	1710	2779	981	1798	-88
26	986	0	2	988	0	218	1206	2447	3653	1419	2234	213
27	0	17	2	0	15	274	259	2838	3097	1140	1957	881
28	0	401	2	0	399	969	570	2432	3002	1094	1908	524
29	504	0	2	506	0	1287	1793	1938	3731	1458	2273	-335
30	763	0	2	766	0	1363	2129	1593	3721	1453	2268	-675
SUB.T	3704	2253	37	3724	2236	7761	9248	20654	29902	10046	19857	798
MEAN	247	150	2.4	248	149	517	617	1377	1993	670	1324	53.2
TOTAL	3704	16669	66	3724	16622	25750	12852	27512	40364	12659	27705	-193
MEAN	123	556	2.2	124	554	858	428	917	1345	422	924	-6.4

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TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR MAY 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES UNITED STATES	SHARES CANADA	+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED							
1	861	0	2	864	0	1346	2209	1845	4054	1620	2434	-590
2	1617	0	2	1620	0	1287	2907	2911	5818	2500	3318	-406
3	2305	0	2	2307	0	1302	3609	3327	6936	3061	3875	-548
4	1265	0	2	1267	0	1309	2576	3401	5977	2581	3396	5
5	785	0	0	785	0	1306	2092	3401	5493	2339	3154	247
6	475	0	0	475	0	1299	1774	3230	5003	2094	2909	321
7	367	0	2	369	0	1287	1656	2911	4568	1877	2691	220
8	345	0	2	347	0	1284	1632	2667	4299	1742	2557	110
9	435	0	0	435	0	1270	1705	2471	4176	1681	2496	-24
10	458	0	2	460	0	1262	1722	2168	3890	1536	2354	-186
11	409	0	0	409	0	1250	1659	1908	3567	1375	2192	-284
12	411	0	0	411	0	1240	1651	1637	3288	1236	2053	-416
13	347	0	2	350	0	1233	1583	1441	3024	1103	1921	-480
14	154	0	2	157	0	1233	1390	1338	2728	957	1771	-433
15	0	230	2	0	228	1284	1057	2667	3724	1453	2270	396
SUB.T	10234	230	24	10256	228	19194	29222	37323	66545	27155	39390	-2067
MEAN	682	15.3	1.6	684	15.2	1280	1948	2488	4436	1810	2626	-138
16	1358	0	0	1358	0	1319	2677	4404	7080	3132	3949	455
17	1786	0	0	1786	0	1309	3095	3963	7058	3122	3937	27
18	1351	0	0	1351	0	1304	2655	3743	6398	2792	3606	137
19	952	0	0	952	0	1302	2253	3743	5997	2591	3406	338
20	1191	0	2	1194	0	1316	2510	3988	6498	2841	3658	330
21	1578	0	-2	1576	0	1434	3009	4306	7315	3249	4066	240
22	2004	0	-2	2001	0	1536	3538	6924	10462	4822	5639	1284
23	3112	0	-24	3088	0	1412	4499	8588	13087	6136	6951	1637
24	2978	0	-20	2958	0	1316	4274	8294	12568	5877	6691	1603
25	2454	0	2	2456	0	1329	3785	8147	11932	5559	6373	1774
26	2696	0	7	2703	0	1412	4115	8074	12189	5686	6503	1571
27	2748	0	12	2760	0	1532	4291	8049	12341	5762	6579	1470
28	2618	0	7	2625	0	1573	4198	7780	11979	5581	6398	1382
29	2151	0	7	2158	0	1598	3756	7217	10973	5079	5894	1324
30	1872	0	7	1879	0	1583	3462	6679	10141	4663	5478	1201
31	1906	0	7	1913	0	1581	3494	6141	9635	4409	5226	915
SUB.T	32753	0	5	32758	0	22854	55611	100041	155653	71299	84354	15688
MEAN	2047	0	.31	2047	0	1428	3476	6253	9728	4456	5272	980
TOTAL	42987	230	29	43014	228	42047	84833	137364	222198	98454	123744	13620
MEAN	1387	7.4	.95	1388	7.3	1356	2737	4431	7168	3176	3992	439

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TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR JUNE 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES UNITED STATES	SHARES CANADA	+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	RELEASED							
1	1879	0	10	1889	0	1600	3489	5701	9189	4186	5003	697
2	1735	0	10	1744	0	1603	3347	5162	8509	3846	4663	499
3	1309	0	10	1319	0	1610	2929	4697	7626	3406	4220	477
4	1566	0	12	1578	0	1639	3217	4428	7646	3415	4230	198
5	1869	0	10	1879	0	1673	3552	4428	7981	3582	4399	29
6	1830	0	20	1850	0	1683	3533	4404	7937	3560	4377	27
7	1673	0	7	1681	0	1683	3364	4502	7866	3526	4340	161
8	1752	0	10	1762	0	1673	3435	4404	7839	3511	4328	76
9	1478	0	12	1490	0	1676	3166	4159	7325	3254	4071	88
10	1402	0	15	1417	0	1666	3083	3743	6826	3004	3822	-78
11	1204	0	10	1214	0	1671	2885	3278	6163	2674	3489	-210
12	991	0	20	1010	0	1691	2701	2911	5613	2398	3215	-303
13	1052	0	-27	1025	0	1688	2713	2985	5698	2442	3256	-272
14	944	0	-44	900	0	1448	2349	4502	6850	3017	3834	668
15	1010	0	-98	913	0	1297	2209	3988	6197	2691	3506	482
SUB.T	21694	0	-24	21670	0	24302	45972	63294	109265	48511	60754	2540
MEAN	1446	0	-1.6	1445	0	1620	3065	4220	7284	3234	4050	169
16	783	0	15	798	0	1549	2346	3107	5453	2319	3134	-27
17	1001	0	20	1020	0	1551	2571	2936	5507	2346	3161	-225
18	1236	0	15	1250	0	1556	2806	2838	5644	2415	3230	-391
19	1010	0	15	1025	0	1578	2603	2716	5319	2251	3068	-352
20	758	0	10	768	0	1578	2346	2716	5062	2124	2938	-223
21	758	0	20	778	0	1583	2361	2936	5297	2241	3056	-120
22	820	0	20	839	0	1578	2417	3107	5524	2354	3171	-64
23	585	0	2	587	0	1578	2165	3278	5444	2314	3129	149
24	391	0	17	409	0	1585	1994	3376	5370	2278	3093	284
25	428	0	17	445	0	1588	2033	3425	5458	2322	3137	289
26	511	0	20	531	0	1600	2131	3327	5458	2322	3137	191
27	829	0	20	849	0	1634	2483	3352	5835	2510	3325	27
28	1145	0	-20	1125	0	1595	2721	3890	6611	2897	3714	176
29	159	0	10	169	0	1617	1786	4110	5896	2540	3357	754
30	20	0	17	37	0	1661	1698	4061	5759	2471	3288	773
SUB.T	10435	0	196	10630	0	23832	34463	49177	83639	35703	47936	1240
MEAN	696	0	13	709	0	1589	2298	3278	5576	2380	3196	82.7
TOTAL	32129	0	171	32300	0	48134	80434	112470	192905	84214	108690	3780
MEAN	1071	0	5.7	1077	0	1604	2681	3749	6430	2807	3623	126

Approved
District Chief U.S.G.S.

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TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR JULY 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES		+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED					UNITED STATES	CANADA	
1	176	0	20	196	0	1661	1857	3939	5796	2491	3305	634
2	394	0	10	404	0	1656	2060	3963	6024	2603	3420	543
3	39	0	27	66	0	1664	1730	3988	5718	2451	3266	722
4	0	176	22	0	154	1659	1505	3890	5395	2290	3105	785
5	0	0	22	22	0	1654	1676	3890	5566	2376	3190	700
6	296	0	10	306	0	1651	1957	3915	5872	2527	3345	570
7	0	78	20	0	59	1659	1600	4037	5637	2410	3227	810
8	316	0	17	333	0	1659	1992	4086	6077	2630	3447	639
9	0	573	20	0	553	1647	1094	3719	4812	1999	2814	905
10	0	296	10	0	286	1639	1353	3254	4607	1896	2711	543
11	0	179	20	0	159	1629	1470	2814	4284	1735	2549	264
12	218	0	10	228	0	1615	1842	2324	4167	1676	2491	-166
13	573	0	7	580	0	1642	2222	2053	4274	1730	2544	-492
14	0	237	7	0	230	1673	1443	2018	3462	1324	2138	-120
15	98	0	7	105	0	1673	1779	1987	3765	1475	2290	-303
SUB.T	2109	1539	228	2239	1441	24782	25579	49876	75456	31613	43843	6033
MEAN	141	103	15.2	149	96.1	1652	1705	3325	5030	2108	2923	402
16	0	157	12	0	144	1673	1529	1955	3484	1333	2151	-196
17	0	316	0	0	316	1671	1355	2018	3374	1280	2094	-76
18	0	533	5	0	528	1678	1150	2067	3217	1201	2016	51
19	0	751	20	0	732	1681	949	2236	3185	1184	2001	235
20	0	749	10	0	739	1683	944	2341	3286	1236	2050	291
21	0	944	5	0	939	1686	746	2471	3217	1201	2016	455
22	0	565	12	0	553	1678	1125	2273	3398	1292	2107	166
23	0	313	10	0	303	1669	1365	1987	3352	1267	2085	-98
24	0	196	10	0	186	1666	1480	2018	3499	1341	2158	-139
25	0	135	44	0	91	1600	1510	2361	3871	1527	2344	17
26	117	0	29	147	0	1551	1698	1938	3636	1409	2226	-289
27	193	0	0	193	0	1581	1774	1581	3354	1270	2085	-504
28	0	157	17	0	139	1588	1448	1581	3029	1106	1923	-343
29	0	761	5	0	756	1598	842	1891	2733	959	1774	117
30	0	1010	20	0	991	1607	617	2004	2620	903	1718	286
31	0	856	12	0	844	1598	754	1908	2662	922	1740	169
SUB.T	311	7443	210	340	7262	26208	19287	32630	51917	19431	32486	144
MEAN	19.4	465	13.2	21.3	454	1638	1205	2039	3245	1214	2030	9
TOTAL	2420	8981	438	2579	8703	50990	44866	82507	127372	51043	76329	6178
MEAN	78.1	290	14.1	83.2	281	1645	1447	2662	4109	1647	2462	199

Approved
District Chief U.S.G.S.

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TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR AUGUST 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES UNITED STATES	SHARES CANADA	+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED							
1	0	991	10	0	981	1595	614	1877	2491	837	1654	223
2	0	986	10	0	976	1588	612	1710	2322	754	1568	142
3	0	788	12	0	776	1578	802	1551	2354	768	1585	-34
4	0	729	10	0	719	1573	854	1390	2244	714	1529	-139
5	0	820	10	0	810	1563	754	1287	2040	612	1429	-142
6	0	778	12	0	766	1566	800	1250	2050	617	1434	-183
7	0	981	12	0	969	1568	599	1262	1862	524	1338	-76
8	0	1108	20	0	1089	1568	480	1299	1779	482	1297	2
9	0	1079	7	0	1072	1573	502	1338	1840	511	1329	10
10	0	1057	17	0	1040	1571	531	1351	1881	533	1348	2
11	0	1160	15	0	1145	1576	431	1326	1757	470	1287	39
12	0	1077	15	0	1062	1571	509	1299	1808	497	1311	-12
13	0	1125	15	0	1111	1571	460	1262	1722	453	1270	-7
14	0	1062	15	0	1047	1563	516	1238	1754	470	1284	-46
15	0	1106	10	0	1096	1568	472	1238	1710	448	1262	-24
SUB.T	0	14846	188	0	14658	23593	8935	20679	29614	8688	20926	-247
MEAN	0	990	12.6	0	977	1573	596	1379	1974	579	1395	-16.5
16	0	1028	12	0	1015	1566	550	1226	1776	480	1297	-71
17	0	1001	15	0	986	1534	548	1238	1786	484	1302	-64
18	0	1184	15	0	1169	1429	259	1326	1585	396	1189	137
19	0	1086	10	0	1077	1446	369	1262	1632	409	1223	39
20	0	1125	5	0	1121	1490	369	1177	1546	387	1160	17
21	0	1162	5	0	1157	1490	333	1130	1463	367	1096	34
22	0	1101	10	0	1091	1488	396	1086	1483	372	1111	-24
23	0	1167	10	0	1157	1485	328	1062	1390	347	1042	20
24	0	1277	12	0	1265	1480	215	1030	1245	311	935	95
25	0	1260	15	0	1245	1480	235	976	1211	303	908	69
26	0	1184	15	0	1169	1480	311	922	1233	308	925	-2
27	0	1047	10	0	1037	1475	438	864	1302	325	976	-113
28	0	1094	15	0	1079	1475	396	834	1231	308	922	-88
29	0	1157	12	0	1145	1473	328	815	1143	286	856	-42
30	0	1150	10	0	1140	1473	333	805	1138	284	854	-49
31	0	1094	-2	0	1096	1475	379	844	1223	306	917	-73
SUB.T	0	18117	166	0	17951	23739	5789	16598	22386	5674	16713	-115
MEAN	0	1132	10.4	0	1122	1484	362	1037	1399	355	1045	-7.2
TOTAL	0	32963	355	0	32608	47332	14724	37276	52000	14362	37638	-362
MEAN	0	1063	11.4	0	1052	1527	475	1202	1677	463	1214	-11.7

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Regional Chief WS of Canada

TABLE CONVERTED FROM ENGLISH UNITS. DISCREPANCIES IN VALUES MAY BE INTRODUCED BECAUSE OF ROUNDING.

TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR SEPTEMBER 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES		+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED					UNITED STATES	CANADA	
1	0	1099	7	0	1091	1480	389	844	1233	308	925	-81
2	0	1118	10	0	1108	1470	362	844	1206	301	905	-61
3	0	1292	5	0	1287	1473	186	834	1020	254	766	69
4	0	1309	2	0	1306	1473	166	854	1020	254	766	88
5	0	1338	5	0	1333	1470	137	854	991	247	744	110
6	0	1321	5	0	1316	1468	152	844	996	250	746	98
7	0	1346	5	0	1341	1466	125	825	949	237	712	113
8	0	1289	5	0	1284	1461	176	758	935	235	700	59
9	0	1314	10	0	1304	1458	154	722	876	220	656	66
10	0	1370	7	0	1363	1458	95	705	800	201	599	105
11	0	1351	7	0	1343	1458	115	695	810	203	607	88
12	0	1343	10	0	1333	1458	125	670	795	198	597	73
13	0	1282	2	0	1280	1456	176	636	812	203	609	27
14	0	1309	5	0	1304	1458	154	604	758	191	568	37
15	0	1236	5	0	1231	1448	218	573	790	198	592	-20
SUB.T	0	19316	91	0	19225	21956	2730	11262	13992	3501	10491	771
MEAN	0	1288	6	0	1282	1464	182	751	933	233	699	51.4
16	0	1311	5	0	1306	1461	154	558	712	179	533	24
17	0	1284	5	0	1280	1512	232	484	717	179	538	-54
18	0	1287	5	0	1282	1507	225	470	695	174	521	-51
19	0	1297	7	0	1289	1514	225	462	687	171	516	-54
20	0	1248	2	0	1245	1514	269	492	761	191	570	-78
21	0	1466	2	0	1463	1517	54	450	504	127	377	73
22	0	1189	2	0	1187	1512	325	450	776	193	582	-132
23	0	1351	2	0	1348	1510	161	379	541	135	406	-27
24	0	1253	2	0	1250	1502	252	338	590	147	443	-105
25	0	1299	2	0	1297	1507	210	321	531	132	399	-78
26	0	1385	-2	0	1387	1463	76	379	455	113	343	37
27	0	1421	-2	0	1424	1218	-206	612	406	103	303	308
28	0	1218	0	0	1218	739	-480	1030	550	137	413	617
29	0	1042	0	0	1042	130	-913	1429	516	130	387	1042
30	0	577	0	0	577	2	-575	1326	751	188	563	763
SUB.T	0	18628	32	0	18597	18609	12	9180	9192	2297	6895	2285
MEAN	0	1242	2.1	0	1240	1241	.82	612	613	153	460	152
TOTAL	0	37944	122	0	37822	40565	2743	20441	23184	5798	17386	3056
MEAN	0	1265	4.1	0	1261	1352	91.4	681	773	193	580	102

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TABLE CONVERTED FROM ENGLISH UNITS. DISCREPANCIES IN VALUES MAY BE INTRODUCED BECAUSE OF ROUNDING.

TABLE 5

NATURAL FLOW OF ST. MARY RIVER AT INTERNATIONAL BOUNDARY

QUANTITIES IN CUBIC DECAMETERS FOR OCTOBER 1981

	LAKE SHERBURNE 1 DAY LAG APPLIED					DIVERTED BY ST.MARY CANAL	TOTAL USED BY U.S.	ST. MARY RIVER AT INT. BDY.	NATURAL FLOW AT INT. BDY.	SHARES		+EXCESS -DEFICIT OF CAN. SHARE
	+STORED	-RELEASED	EVAPOR-ATION	CORRECTED VALUES STORED	CORRECTED VALUES RELEASED					UNITED STATES	CANADA	
1	0	237	2	0	235	0	-235	1108	873	218	656	453
2	0	328	2	0	325	0	-325	944	619	154	465	480
3	678	0	2	680	0	0	680	758	1439	360	1079	-321
4	157	0	2	159	0	0	159	653	812	203	609	44
5	135	0	2	137	0	0	137	565	702	176	526	39
6	137	0	2	139	0	0	139	504	643	161	482	22
7	113	0	2	115	0	0	115	462	577	144	433	29
8	242	0	2	245	0	0	245	462	707	176	531	-69
9	98	0	2	100	0	0	100	450	550	137	413	37
10	130	0	2	132	0	0	132	404	536	135	401	2
11	17	0	2	20	0	0	20	391	411	103	308	83
12	139	0	-2	137	0	0	137	384	521	130	391	-7
13	135	0	-2	132	0	0	132	379	511	127	384	-5
14	108	0	2	110	0	0	110	372	482	120	362	10
15	108	0	2	110	0	0	110	362	472	117	355	7
SUB.T	2195	565	27	2217	560	0	1656	8201	9857	2461	7396	805
MEAN	146	37.7	1.8	148	37.4	0	110	547	657	164	493	53.7
16	78	0	2	81	0	0	81	350	431	108	323	27
17	93	0	2	95	0	0	95	333	428	108	321	12
18	83	0	2	86	0	0	86	333	418	105	313	20
19	93	0	2	95	0	0	95	333	428	108	321	12
20	95	0	2	98	0	0	98	343	440	110	330	12
21	110	0	2	113	0	0	113	321	433	108	325	-5
22	103	0	2	105	0	0	105	321	426	108	318	2
23	86	0	2	88	0	0	88	316	404	100	303	12
24	95	0	2	98	0	0	98	311	409	103	306	5
25	86	0	2	88	0	0	88	321	409	103	306	15
26	132	0	2	135	0	0	135	321	455	113	343	-22
27	130	0	2	132	0	0	132	306	438	110	328	-22
28	105	0	2	108	0	0	108	306	413	103	311	-5
29	105	0	2	108	0	0	108	298	406	103	303	-5
30	105	0	2	108	0	0	108	298	406	103	303	-5
31	132	0	2	135	0	0	135	311	445	113	333	-22
SUB.T	1632	0	39	1671	0	0	1671	5118	6789	1703	5086	32
MEAN	102	0	2.4	104	0	0	104	320	424	106	318	2
TOTAL	3826	565	66	3888	560	0	3327	13319	16647	4164	12483	837
MEAN	123	18.2	2.1	125	18.1	0	107	430	537	134	403	27

Approved
District Chief U.S.G.S.

Regional Chief WS of Canada

TABLE CONVERTED FROM ENGLISH UNITS. DISCREPANCIES IN VALUES MAY BE INTRODUCED BECAUSE OF ROUNDING.

TABLE 6

HISTORICAL SUMMARY OF NATURAL FLOW

ST. MARY RIVER AT INTERNATIONAL BOUNDARY

(Cubic Decametres)

Period	Computed Natural Flow			Recorded Flow			Share April to October	
	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	United States	Canada
1902-03	1 104 946	71 500	1 033 446	1 104 946	71 500	1 033 446	434 313	599 133
1903-04	803 654	118 861	684 792	803 655	118 861	684 794	270 060	414 732
1904-05	617 963	48 264	569 698	617 963	48 264	569 698	212 390	357 308
1905-06	694 336	63 639	630 697	694 337	63 639	630 698	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	1 200 278	77 015	1 123 263	1 200 277	77 014	1 123 263	485 471	637 792
1908-09	1 049 388	80 518	968 870	1 049 390	80 519	968 871	408 525	560 345
1909-10	787 924	108 214	679 710	787 925	108 214	679 712	257 736	421 974
1910-11	922 916	120 080	802 836	922 916	120 080	802 836	318 683	484 152
1911-12	696 788	72 890	623 898	696 784	72 889	623 896	234 581	389 317
1912-13	935 411	85 857	849 555	935 407	85 855	849 552	346 357	503 196
1913-14	726 372	72 239	654 134	726 371	72 239	654 132	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	879 915	72 564	807 350	836 896	72 563	764 333	330 334	477 015
1917-18	743 844	112 564	631 279	672 267	112 564	559 703	239 852	391 429
1918-19	537 817	61 285	476 532	412 835	61 285	351 550	175 923	300 608
1919-20	790 676	75 274	715 402	720 454	75 274	645 180	280 703	434 699
1920-21	873 668	88 956	784 712	814 067	88 956	725 111	315 392	469 318
1921-22	777 767	79 754	698 013	693 880	79 754	614 125	281 773	416 240
1922-23	777 592	58 210	719 382	675 780	58 209	617 572	283 499	435 883
1923-24	705 008	63 409	641 599	589 408	63 409	525 999	250 893	390 706
1924-25	985 972	96 977	888 996	817 584	94 569	723 015	364 510	524 485

TABLE 6

HISTORICAL SUMMARY OF NATURAL FLOW

ST. MARY RIVER AT INTERNATIONAL BOUNDARY

(Cubic Decametres)

Period	Computed Natural Flow			Recorded Flow			Share April to October	
	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	United States	Canada
1925-26	519 347	60 686	458 661	368 543	51 791	316 752	152 683	305 978
1926-27	1 246 157	92 313	1 153 844	1 168 580	86 286	1 082 294	495 111	658 733
1927-28	1 044 148	138 295	905 853	964 347	150 656	813 691	373 419	532 434
1928-29	608 717	81 460	527 257	504 188	80 271	423 917	200 250	327 007
1929-30	725 235	64 603	660 632	603 733	57 694	546 038	258 139	402 492
1930-31	509 360	47 929	461 431	365 789	41 941	323 848	165 518	295 913
1931-32	739 568	103 306	636 263	545 919	84 834	461 085	249 726	386 538
1932-33	876 685	83 246	793 439	668 283	63 686	604 598	321 982	471 457
1933-34	983 489	207 564	775 926	794 368	204 022	590 346	317 959	457 966
1934-35	745 212	168 466	576 745	544 805	149 029	395 776	221 470	355 275
1935-36	548 721	37 010	511 711	359 021	31 798	327 223	194 416	317 296
1936-37	659 570	41 955	617 615	478 869	39 515	439 354	246 822	370 794
1937-38	786 042	80 501	705 541	580 882	68 787	512 095	283 987	421 554
1938-39	570 315	73 219	497 096	365 342	68 048	297 293	184 734	312 362
1939-40	495 708	46 645	449 063	334 201	39 513	294 688	157 684	291 379
1940-41	453 543	40 511	413 033	292 179	40 620	251 559	135 532	277 499
1941-42	777 070	116 324	660 746	583 446	88 182	495 264	255 030	405 717
1942-43	911 721	78 162	833 559	763 259	62 615	700 644	343 078	490 479
1943-44	437 231	44 829	392 402	290 225	34 537	255 689	131 767	260 635
1944-45	681 073	57 322	623 751	468 924	43 000	425 924	246 788	376 964
1945-46	755 379	94 753	660 627	505 890	70 853	435 037	255 226	405 401
1946-47	878 040	107 149	770 891	688 957	90 651	598 305	303 284	467 606
1947-48	982 363	88 046	894 317	860 499	72 743	787 756	378 647	515 670
1948-49	606 951	43 689	563 262	405 107	34 264	370 843	210 027	353 235
1949-50	1 064 374	118 553	945 821	876 804	89 841	786 963	395 664	550 157

TABLE 6

HISTORICAL SUMMARY OF NATURAL FLOW

ST. MARY RIVER AT INTERNATIONAL BOUNDARY

(Cubic Decametres)

Period	Computed Natural Flow			Recorded Flow			Share April to October	
	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	United States	Canada
1950-51	1 266 310	174 375	1 091 935	1 167 750	151 534	1 016 215	459 295	632 640
1951-52	740 007	102 173	637 834	607 507	85 860	521 647	246 797	391 037
1952-53	1 047 864	77 149	970 715	902 147	59 609	842 538	414 762	555 953
1953-54	1 058 950	77 239	981 711	927 107	56 974	870 133	410 304	571 407
1954-55	825 209	97 767	727 442	685 070	77 449	607 621	293 136	434 308
1955-56	914 535	109 806	804 729	667 719	87 379	580 341	326 699	478 028
1956-57	745 807	73 224	672 583	529 336	57 127	472 208	272 909	399 674
1957-58	726 725	72 175	654 551	503 275	54 802	448 473	254 181	400 371
1958-59	996 922	115 348	881 574	737 840	89 853	647 987	355 191	526 381
1959-60	713 323	117 657	595 666	490 717	96 012	394 705	227 307	368 359
1960-61	771 253	72 162	699 091	516 408	54 056	462 353	275 993	423 099
1961-62	685 842	74 856	610 986	440 017	58 970	381 047	229 958	381 026
1962-63	752 639	122 744	629 894	485 177	94 274	390 904	248 049	381 842
1963-64	997 038	54 718	942 320	780 120	39 589	740 530	396 499	545 820
1964-65	911 814	83 855	827 960	748 099	69 659	678 440	333 892	494 066
1965-66	799 738	87 680	712 059	568 272	76 033	492 239	279 569	432 490
1966-67	921 967	81 468	840 499	757 125	62 168	694 956	353 987	486 511
1967-68	837 530	116 593	720 938	564 298	86 362	477 936	281 229	439 707
1968-69	767 024	97 356	669 667	564 362	77 909	486 453	262 010	407 658
1969-70	805 072	66 377	738 695	595 681	51 463	544 218	305 632	433 063
1970-71	934 016	83 117	850 899	730 571	65 203	665 368	351 366	499 533
1971-72	1 035 283	106 598	928 685	786 916	81 099	705 817	382 548	546 140
1972-73	569 165	67 387	501 778	369 763	53 897	315 866	188 998	312 780
1973-74	980 391	130 510	849 880	725 727	95 137	630 590	353 707	496 174

TABLE 6

HISTORICAL SUMMARY OF NATURAL FLOW

ST. MARY RIVER AT INTERNATIONAL BOUNDARY

(Cubic Decametres)

Period	Computed Natural Flow			Recorded Flow			Share April to October	
	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	Period Nov. to Oct.	Non-Irrigation Season Nov. to Mar.	Irrigation Season Apr. to Oct.	United States	Canada
1974-75	1 073 756	50 046	1 023 710	953 533	38 383	915 150	437 061	586 649
1975-76	865 100	148 550	716 550	608 495	112 990	495 506	282 586	433 965
1976-77	453 391	46 896	406 495	316 097	35 373	280 724	131 278	275 220
1977-78	839 394	72 764	766 630	725 020	53 961	671 060	303 473	463 157
1978-79	686 903	75 210	611 693	525 919	65 108	460 811	240 201	371 494
1979-80	716 594	36 597	679 998	473 733	31 681	442 052	264 906	415 090
1980-81	777 717	103 034	674 683	528 381	97 492	430 889	270 694	403 975

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

MARCH 19 81

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
West xing	East xing	N. Fk. Milk River above canal	North Milk River on Int'l boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+6	East West Mean (6+7)/2	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14-15	
5 DAY LAG																
Feb.24	1														609	
	2					Diversions began March 2, 1981									563	
	3					use Milk River at Eastern Crossing									516	
	4					as Natural Flow until March 11, 1981									465	
28	5														440	4 741
Mar. 1	6														416	
	7														411	
	8														394	
	9														345	
5	10														306	
	11														276	
	12	37	378	86	477	464	123	470	0.10	120	74	46	5	13	141	
	13	37	555	95	913	650	132	782	0.10	137	75	62	6	263	401	
	14	37	596	104	1 077	700	141	888	0.10	142	76	66	7	377	525	
10	15	37	709	112	1 204	821	149	1 013	0.10	148	77	71	7	383	539	
	16	37	845	138	1 294	983	175	1 138	0.10	153	80	73	7	311	493	
	17	37	864	156	1 740	1 020	193	1 380	0.10	162	83	79	8	720	921	
	18	37	1 002	156	1 962	1 158	193	1 560	0.10	170	83	87	9	804	1 006	
	19	37	1 184	147	1 774	1 331	184	1 553	0.10	169	82	87	9	443	636	
15	20	39	1 236	130	1 583	1 366	169	1 474	0.10	165	80	85	9	217	395	
	21	39	1 244	112	1 563	1 356	151	1 460	0.10	164	77	87	9	207	367	
	22	39	1 296	86	1 346	1 382	125	1 364	0.20	161	74	87	17	- 36	106	
	23	39	1 313	69	1 522	1 382	108	1 452	0.20	164	70	94	19	140	267	
	24	42	1 305	60	1 669	1 365	102	1 517	0.20	167	68	99	20	304	426	10 775
20	25	44	1 296	60	1 669	1 356	104	1 512	0.20	167	69	98	20	313	437	
	26	46	1 287	69	1 691	1 356	115	1 524	0.20	168	72	96	19	335	469	
	27	51	1 305	86	1 730	1 391	137	1 560	0.20	170	75	95	19	339	495	
	28	54	1 322	112	1 840	1 434	166	1 637	0.20	174	79	95	19	406	591	
		56	1 339	149	1 999	1 488	205	1 744	0.20	180	84	96	19	511	735	
	30	54	1 374	162	2 231	1 536	216	1 883	0.20	188	86	102	20	695	931	
Mar.26	31	51	1 477	219	2 300	1 696	270	1 998	0.20	194	93	101	20	604	894	
Total dam³		-	-	-	-	-	-	-					-	-	15 516	

Computed by RBB Date 82-01-12

Checked by DJ Date 82-01-14

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TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

APRIL 1981

DATE		ACTUAL FLOWS dom³							EVAPORATION					NATURAL FLOW dom³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. Fk. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean (6+7)/2	Mean Evaporation cm	Table 4 actual flow dom³ cm 9	Table 4 natural flow dom³ cm 8	Table 4 increment in evaporation dom³ cm 11-12	Increment in evaporation dom³ 10X13	Inflow or loss 6-7	Eastern Crossing 8-14+15
5-DAY LAG															
Mar.27	1	49	1 495	312	2 403	1 807	361	2 105	0.40	205	105	100	40	596	997
	2	64	1 564	295	2 334	1 859	359	2 097	0.36	204	105	99	36	475	870
	3	98	1 797	350	2 045	2 147	448	2 096	0.38	204	117	87	33	-102	379
	4	108	1 624	487	1 837	2 111	595	1 974	0.38	193	128	65	25	-274	346
31	5	73	1 486	439	1 541	1 925	512	1 733	0.44	179	123	56	25	-384	153
Apr. 1	6	64	1 356	372	1 341	1 728	436	1 534	0.38	168	115	53	20	-387	69
	7	61	1 037	356	1 341	1 393	417	1 367	0.37	161	113	48	18	- 52	383
	8	61	1 020	267	1 385	1 287	328	1 336	0.38	160	101	59	22	98	448
	9	56	1 166	221	1 382	1 387	277	1 385	0.47	162	94	68	32	- 5	304
5	10	56	1 244	199	1 351	1 443	255	1 397	0.47	162	91	71	33	- 92	196
	11	56	1 253	175	1 336	1 428	231	1 382	0.48	162	88	74	36	- 92	175
	12	54	1 236	181	1 458	1 417	235	1 437	0.32	164	88	76	24	41	300
	13	54	1 236	179	1 532	1 415	233	1 474	0.25	165	88	77	19	117	369
	14	51	1 253	156	1 463	1 409	207	1 436	0.25	164	85	79	20	54	281
10	15	49	1 227	157	1 409	1 384	206	1 396	0.72	162	85	77	55	25	286
	16	51	1 244	130	1 358	1 374	181	1 366	0.96	161	81	80	77	- 16	242
	17	54	1 236	131	1 360	1 367	185	1 364	0.60	161	82	79	47	- 7	225
	18	51	1 201	130	1 380	1 331	181	1 355	0.68	161	81	80	54	49	284
	19	51	1 149	130	1 385	1 279	181	1 332	0.90	160	81	79	71	106	358
15	20	59	1 123	121	1 385	1 244	180	1 315	0.78	159	81	78	61	141	382
	21	66	1 063	126	1 419	1 189	192	1 304	0.16	159	83	76	12	230	434
	22	64	933	205	1 240	1 138	269	1 189	0.32	155	93	62	20	102	391
	23	59	628	271	937	899	330	918	0.70	144	101	43	30	38	398
	24	59	373	257	766	630	316	698	0.90	133	99	34	31	136	483
20	25	59	353	240	710	593	299	651	0.88	130	97	33	29	117	445
	26	66	330	231	656	561	297	609	0.36	128	97	31	11	95	403
	27	59	289	243	624	532	302	578	0.54	127	97	30	16	92	410
	28	59	285	256	590	541	315	565	0.72	126	99	27	19	49	383
	29	66	304	236	609	540	302	575	0.48	127	97	30	14	69	385
25	30	59	263	245	580	508	304	544	0.72	125	98	27	19	72	395
	~~31~~														
Total dom³		1 836	30 768	7 098	39 157	37 866	8 934	38 512					949	1 291	11 174

Computed by RBB Date 82-01-12

Checked by DJ Date 82-01-14

Approved by for Canada / for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

MAY 1981

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. FK. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+6	East West Mean (6+7)/2	Mean Evaporation cm	Table 4 actual flow dam³ cm 5	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14+15
5-DAY LAG															
Apr. 26	1	54	258	253	563	511	307	537	0.84	125	98	27	23	52	382
	2	51	266	233	550	499	284	524	0.50	124	95	29	15	51	350
	3	51	375	201	1 128	576	252	852	0.51	140	91	49	25	552	829
	4	51	1 002	180	1 879	1 182	231	1 531	0.71	168	88	80	57	697	985
30	5	51	1 270	174	2 072	1 444	225	1 758	0.58	181	87	94	55	628	908
May 1	6	51	1 356	169	2 251	1 525	220	1 888	0.58	188	86	102	59	726	1 005
	7	54	1 296	172	2 471	1 468	226	1 969	0.43	192	87	105	45	1 003	1 274
	8	49	1 261	175	2 544	1 436	224	1 990	0.59	194	87	107	63	1 108	1 395
	9	49	1 287	175	2 146	1 462	224	1 804	0.31	183	87	96	30	684	938
5	10	61	1 322	185	2 239	1 507	246	1 873	0.91	187	90	97	88	732	1 066
	11	61	1 313	213	2 187	1 526	274	1 857	0.22	186	94	92	20	661	955
	12	61	1 313	253	2 199	1 566	314	1 882	0.17	188	99	89	15	633	962
	13	105	1 391	314	2 138	1 705	419	1 922	0.52	190	113	77	40	433	892
	14	100	1 374	354	2 158	1 728	454	1 943	0.34	191	118	73	25	430	909
10	15	76	1 287	375	2 258	1 662	451	1 960	0.49	192	117	75	37	596	1 084
	16	66	1 261	319	2 593	1 580	385	2 086	0.34	203	108	95	32	1 013	1 430
	17	59	1 244	284	2 740	1 528	343	2 134	0.23	208	103	105	24	1 212	1 579
	18	54	1 227	245	4 184	1 472	299	2 828	0.47	275	97	178	84	2 712	3 095
	19	51	1 218	213	4 233	1 431	264	2 832	0.48	276	92	184	88	2 802	3 154
15	20	166	1 547	232	3 083	1 779	398	2 431	0.30	235	110	125	38	1 304	1 740
	21	316	2 074	2,229	3,156	4 303	2 545	3 730	0.48	367	247	120	58	-1 147	1 456
	22	183	1 572	2,748	3 645	4 320	2 931	3,982	0.25	392	286	106	27	- 675	2 283
	23	147	1 443	1,149	3 205	2 592	1 296	2 899	0.48	282	158	124	60	613	1 969
	24	139	1 469	890	3 645	2 359	1 029	3 002	0.47	293	149	144	68	1 286	2 383
20	25	103	1 382	968	3 792	2 350	1 071	3 071	0.76	300	150	150	114	1 442	2 627
	26	110	1 417	1,063	3 548	2 480	1 173	3 014	0.45	294	154	140	63	1 068	2 304
	27	186	1 892	1,823	2 960	3 715	2 009	3 337	0.46	327	196	131	60	- 755	1 314
	28	157	1 806	1,693	2 593	3 499	1 850	3 046	0.49	297	186	111	54	- 906	998
	29	105	1 469	1,270	2 667	2 739	1 375	2 703	0.53	263	161	102	54	- 72	1 357
	30	98	1 356	856	2 544	2 212	954	2 378	0.57	230	146	84	48	332	1 334
26	31	113	1 434	826	2 366	2 260	939	2 313	0.40	224	145	79	32	106	1 077
Total dam³		2 978	40 182	20 234	79 737	60 416	23 212	70 076					1 501	19 321	44 034

Computed by RBB Date 82-01-13

Checked by DJ Date 82-01-14

Approved by for Canada / for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

JUNE 19 81

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N FK Milk River above canal	North Milk River Br. Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean $\frac{6+7}{2}$	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14+15
5 DAY LAG															
May 27	1	81	1 460	933	2 283	2 393	1 014	2 338	0.57	227	148	79	45	- 110	949
	2	76	1 529	631	2 234	2 160	707	2 197	0.63	214	133	81	51	74	832
	3	71	1 607	495	2 077	2 102	566	2 089	0.58	204	126	78	45	- 25	586
	4	69	1 633	436	2 080	2 069	505	2 075	0.69	202	123	79	55	11	571
31	5	66	1 607	391	2 087	1 998	457	2 042	0.84	199	118	81	68	89	614
Jun. 1	6	66	1 607	354	2 104	1 961	420	2 033	0.34	199	113	86	29	143	592
	7	69	1 624	334	2 126	1 958	403	2 042	0.50	199	111	88	44	168	615
	8	64	1 624	322	2 199	1 946	386	2 072	0.57	202	109	93	53	253	692
	9	59	1 607	295	2 400	1 902	354	2 151	0.39	209	104	105	41	498	893
5	10	59	1 659	269	2 496	1 928	328	2 212	0.53	215	101	114	60	568	956
	11	59	1 711	257	2 496	1 968	316	2 232	0.54	217	99	118	64	528	908
	12	56	1 685	243	2 593	1 928	299	2 261	0.36	220	97	123	44	665	1 008
	13	59	1 702	247	2 691	1 949	306	2 320	0.43	225	98	127	55	742	1 103
	14	56	1 702	228	2 838	1 930	284	2 384	0.26	231	95	136	35	908	1 227
10	15	56	1 693	223	2 667	1 916	279	2 291	0.32	222	94	128	41	751	1 071
	16	56	1 668	217	3 548	1 885	273	2 717	0.41	264	93	171	70	1 663	2 006
	17	56	1 702	211	4 086	1 913	267	2 999	0.61	293	93	200	122	2 173	2 562
	18	157	1 987	295	2 985	2 282	452	2 634	0.33	256	117	139	46	703	1 201
	19	379	2 514	1 469	2 427	3 983	1 848	3 205	0.47	314	186	128	60	-1 556	352
15	20	144	1 555	2 013	2 317	3 568	2 157	2 942	0.53	287	210	77	41	-1 251	947
	21	95	1 452	1 071	2 229	2 523	1 166	2 376	0.46	230	154	76	35	- 294	907
	22	81	1 616	532	2 111	2 148	613	2 130	0.49	208	129	79	39	- 37	615
	23	76	1 598	373	2 121	1 971	449	2 046	0.63	200	117	83	52	150	651
	24	73	1 624	311	2 067	1 935	384	2 001	0.63	196	108	88	55	132	571
20	25	71	1 633	274	1 967	1 907	345	1 937	0.89	191	103	88	78	60	483
	26	69	1 616	249	1 901	1 865	318	1 883	0.91	188	100	88	80	36	434
	27	66	1 616	230	1 945	1 846	296	1 895	0.58	188	97	91	53	99	448
	28	69	1 624	234	1 933	1 858	303	1 896	0.55	188	97	91	50	75	428
	29	66	1 624	213	1 796	1 837	279	1 816	0.72	184	94	90	65	- 41	303
25	30	64	1 624	193	1 722	1 817	257	1 770	0.80	181	91	90	72	- 95	234
	~~31~~														
Total dam³		2 488	49 903	13 543	70 526	63 446	16 031	66 986					1 648	7 080	24 759

Computed by RBB Date 82-01-13

Checked by DJ Date 82-01-19

Approved by [signature] for Canada

[signature] for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

JULY 19 81

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. Fk. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean 6+7 / 2	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14+15
5 DAY LAG															
Jun. 26	1	64	1 642	176	1 747	1 818	240	1 782	0.72	182	89	93	67	- 71	236
	2	64	1 668	164	1 678	1 832	228	1 755	0.81	181	87	94	76	-154	150
	3	83	1 728	150	1 644	1 878	233	1 761	0.85	181	88	93	79	-234	78
	4	69	1 668	148	1 930	1 816	217	1 873	0.95	187	86	101	96	114	427
30	5	64	1 685	153	1 940	1 838	217	1 889	0.96	188	86	102	98	102	417
Jul. 1	6	61	1 728	143	1 928	1 871	204	1 900	0.75	189	84	105	79	57	340
	7	64	1 711	128	2 043	1 839	192	1 941	0.72	191	83	108	78	204	474
	8	61	1 711	117	1 458	1 828	178	1 643	0.82	174	81	93	76	-370	0
	9	56	1 702	105	1 409	1 807	161	1 608	0.86	172	79	93	80	-398	0
5	10	59	1 711	95	1 522	1 806	154	1 664	1.05	176	78	98	103	-284	0
	11	59	1 711	81	1 607	1 792	140	1 699	0.67	177	76	101	68	-185	23
	12	61	1 719	74	1 627	1 793	135	1 710	0.88	178	75	103	91	-166	60
	13	59	1 711	69	1 889	1 780	128	1 835	0.46	185	74	111	51	109	288
	14	59	1 693	66	1 947	1 759	125	1 853	0.50	186	74	112	56	188	369
10	15	59	1 702	68	1 810	1 770	127	1 790	0.66	182	74	108	71	40	238
	16	61	1 693	65	1 769	1 758	126	1 763	0.75	181	74	107	80	11	217
	17	61	1 676	62	1 803	1 738	123	1 771	0.68	181	74	107	73	65	261
	18	64	1 676	64	1 850	1 740	128	1 795	0.81	183	74	109	88	110	326
	19	64	1 719	62	1 881	1 781	126	1 831	0.62	185	74	111	69	100	295
15	20	61	1 719	69	1 923	1 788	130	1 855	0.60	186	74	112	67	135	332
	21	71	1 745	79	1 867	1 824	150	1 846	0.76	186	77	109	83	43	276
	22	71	1 745	80	1 947	1 825	151	1 886	0.55	188	77	111	61	122	334
	23	64	1 745	83	2 067	1 828	147	1 947	0.66	191	77	114	75	239	461
	24	59	1 737	81	1 879	1 818	140	1 849	0.60	186	76	110	66	61	267
20	25	56	1 719	71	1 974	1 790	127	1 882	0.60	188	74	114	68	184	379
	26	56	1 728	62	1 938	1 790	118	1 864	0.91	187	72	115	105	148	371
	27	56	1 737	57	1 950	1 794	113	1 872	0.92	187	71	116	107	156	376
	28	59	1 737	53	2 087	1 790	112	1 938	0.42	191	71	120	50	297	459
	29	78	1 797	50	1 911	1 847	128	1 879	0.78	187	74	113	88	64	280
	30	95	1 884	55	1 874	1 939	150	1 907	0.64	189	77	112	72	- 65	157
26	31	73	1 676	111	1 908	1 787	184	1 847	0.50	186	82	104	52	121	357
Total dam³		1 991	53 223	2 841	56 807	56 064	4 832	56 435					2 373	743	8 248

Computed by RBB Date 82-01-14

Checked by DJ Date 82-01-19

Approved [signature] for Canada

by [signature] for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

AUGUST 1981

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. FK. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean (6+7)/2	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14+15
5 DAY LAG															
Jul. 27	1	64	1 650	311	1 737	1 961	375	1 849	0.72	186	107	79	57	- 224	208
	2	61	1 642	226	1 639	1 868	287	1 754	0.70	180	95	85	60	- 229	118
	3	61	1 616	156	1 634	1 772	217	1 703	0.65	178	86	92	60	- 138	139
	4	56	1 624	119	1 649	1 743	175	1 696	0.67	177	80	97	65	- 94	146
31	5	59	1 624	97	1 654	1 721	156	1 687	0.56	177	78	99	55	- 67	144
Aug. 1	6	56	1 616	84	1 627	1 700	140	1 664	0.84	176	76	100	84	- 73	151
	7	56	1 607	68	1 578	1 675	124	1 626	0.93	173	74	99	92	- 97	119
	8	54	1 598	58	1 551	1 656	112	1 604	0.55	172	71	101	56	- 105	63
	9	56	1 581	57	1 480	1 638	113	1 559	0.55	170	71	99	54	- 158	9
5	10	56	1 564	52	1 502	1 616	108	1 559	0.75	170	70	100	75	- 114	69
	11	54	1 564	49	1 497	1 613	103	1 555	0.91	170	69	101	92	- 116	79
	12	54	1 555	45	1 463	1 600	99	1 531	0.88	168	68	100	88	- 137	50
	13	56	1 572	47	1 421	1 619	103	1 520	1.06	168	69	99	105	- 198	10
	14	56	1 572	40	1 395	1 612	96	1 504	0.57	167	67	100	57	- 217	0
10	15	54	1 564	36	1 387	1 600	90	1 493	0.81	166	65	101	82	- 213	0
	16	54	1 572	30	1 390	1 602	84	1 496	0.67	166	64	102	68	- 212	0
	17	54	1 564	24	1 407	1 588	78	1 498	0.94	166	62	104	98	- 181	0
	18	51	1 555	21	1 468	1 576	72	1 522	0.60	168	61	107	64	- 108	28
	19	54	1 564	19	1 451	1 583	73	1 517	1.48	167	61	106	157	- 132	98
15	20	59	1 572	19	1 439	1 591	78	1 515	0.53	167	62	105	56	- 152	0
	21	54	1 564	11	1 436	1 575	65	1 505	0.79	167	59	108	85	- 139	11
	22	51	1 564	45	1 377	1 609	96	1 493	0.80	166	67	99	79	- 232	0
	23	51	1 477	38	1 311	1 515	89	1 413	0.84	163	65	98	82	- 204	0
	24	54	1 408	25	1 353	1 433	79	1 393	0.72	162	63	99	71	- 80	70
20	25	54	1 434	19	1 397	1 453	73	1 425	0.88	163	61	102	90	- 56	107
	26	54	1 460	13	1 390	1 473	67	1 432	0.90	163	60	103	93	- 83	77
	27	51	1 452	13	1 365	1 465	64	1 415	0.78	163	59	104	81	- 100	45
	28	49	1 452	16	1 363	1 468	65	1 415	0.70	163	59	104	73	- 105	33
	29	46	1 452	14	1 380	1 466	60	1 423	0.68	163	58	105	71	- 86	45
	30	46	1 443	16	1 458	1 459	62	1 459	0.50	164	58	106	53	- 1	114
26	31	46	1 443	17	1 490	1 460	63	1 475	0.65	165	59	106	69	30	162
Total dam³		1 681	47 925	1 785	45 689	49 710	3 466	47 700					2 372	-4 021	2 095

Computed by RBB Date 82-01-15

Checked by JD Date 82-01-19

Approved by for Canada for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

SEPTEMBER 1981

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. Fk. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean 6+7 / 2	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14+15
5 DAY LAG															
Aug. 27	1	46	1 443	14	1 439	1 457	60	1 448	0.68	164	58	106	72	- 18	114
	2	46	1 443	12	1 417	1 455	58	1 436	0.65	164	57	107	70	- 38	90
	3	46	1 443	10	1 426	1 453	56	1 439	0.55	164	57	107	59	- 27	88
	4	49	1 443	8	1 470	1 451	57	1 461	0.53	164	57	107	57	19	133
31	5	54	1 452	8	1 502	1 460	62	1 481	0.40	165	58	107	43	42	147
Sep. 1	6	49	1 452	6	1 485	1 458	55	1 471	0.72	165	57	108	78	27	160
	7	49	1 443	5	1 461	1 448	54	1 455	0.60	164	56	108	65	13	132
	8	51	1 452	5	1 441	1 457	56	1 449	0.89	164	57	107	95	- 16	135
	9	51	1 460	5	1 395	1 465	56	1 430	0.72	163	57	106	76	- 70	62
5	10	51	1 452	6	1 341	1 458	57	1 399	0.55	162	57	105	58	- 117	0
	11	51	1 443	16	1 306	1 459	67	1 383	0.70	162	60	102	71	- 153	0
	12	51	1 452	14	1 316	1 466	65	1 391	0.76	162	59	103	78	- 150	0
	13	49	1 434	14	1 326	1 448	63	1 387	0.60	162	59	103	62	- 122	3
	14	46	1 434	13	1 331	1 447	59	1 389	0.78	162	58	104	81	- 116	24
10	15	49	1 426	12	1 358	1 438	61	1 398	0.78	162	58	104	81	- 80	62
	16	49	1 426	10	1 385	1 436	59	1 410	0.66	163	58	105	69	- 51	77
	17	49	1 426	8	1 390	1 434	57	1 412	0.60	163	57	106	64	- 44	77
	18	51	1 417	8	1 375	1 425	59	1 400	0.81	162	58	104	84	- 50	93
	19	51	1 417	7	1 365	1 424	58	1 395	0.53	162	57	105	56	- 59	55
15	20	51	1 408	6	1 375	1 414	57	1 394	0.41	162	57	105	43	- 39	61
	21	51	1 408	5	1 404	1 413	56	1 409	0.26	163	57	106	28	- 9	75
	22	51	1 443	4	1 441	1 447	55	1 444	0.64	164	57	107	68	- 6	117
	23	51	1 477	3	1 480	1 480	54	1 480	0.62	165	56	109	68	0	122
	24	51	1 486	3	1 434	1 489	54	1 461	0.56	164	56	108	60	- 55	59
20	25	51	1 469	2	1 463	1 471	53	1 467	0.31	165	56	109	34	- 8	79
	26	54	1 486	2	1 461	1 488	56	1 475	0.26	165	57	108	28	- 27	57
	27	54	1 477	2	1 443	1 479	56	1 461	0.25	164	57	107	27	- 36	47
	28	54	1 477	1	1 419	1 478	55	1 448	0.42	164	57	107	45	- 59	41
	29	54	1 469	1	1 473	1 470	55	1 472	0.16	165	57	108	17	3	75
25	30	56	1 477	1	1 434	1 478	57	1 456	0.26	164	57	107	28	- 44	41
	-31-														
Total dam³		1 516	43 453	211	42 356	43 646	1 727	43 001					1 765	-1 290	2 226

Computed by _____ Date _____

Checked by _____ Date _____

Approved _____ for Canada

by _____ for United States

TABLE

TABLE 7

NATURAL FLOW OF MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

OCTOBER 19 81

DATE		ACTUAL FLOWS dam³							EVAPORATION					NATURAL FLOW dam³	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
West xing	East xing	N. FK. Milk River above canal	North Milk River at Int'l Boundary	Milk River at West xing	Milk River at East xing	Total Flow West xing 4+5	Natural Flow West xing 3+5	East West Mean 6+7 / 2	Mean Evaporation cm	Table 4 actual flow dam³ cm 9	Table 4 natural flow dam³ cm 8	Table 4 increment in evaporation dam³ cm 11-12	Increment in evaporation dam³ 10X13	Inflow or loss 6-7	Eastern Crossing 8+14-15
5 DAY LAG															
Sep. 26	1	61	1 486	1	1 311	1 487	62	1 399	0.32	162	58	104	33	- 176	0
	2	56	1 391	1	1 069	1 392	57	1 230	0.21	156	57	99	21	- 323	0
	3	56	1 115	2	744	1 117	58	931	0.17	144	57	87	15	- 373	0
	4	54	648	5	497	653	59	575	0.30	127	58	69	21	- 156	0
30	5	56	301	12	369	313	68	341	0.30	103	60	43	13	56	137
Oct. 1	6	59	160	17	301	177	76	239	0.35	89	62	27	9	124	209
	7	56	109	21	257	130	77	193	0.30	83	62	21	6	127	210
	8	56	88	21	220	109	77	165	0.36	79	62	17	6	111	194
	9														193
5	10														183
	11														269
	12														279
	13														286
	14														262
10	15														232
	16														213
	17														203
	18														186
	19														169
15	20														169
	21														166
	22														166
	23														169
	24														174
20	25														179
	26														183
	27														179
	28														174
	29														169
	30														166
26	31														164
total dam³															5 283

Diversion ended on September 30, 1981
Milk River at Eastern Crossing used as
Natural Flow October 9 to 31

750

TABLE 4 533

Computed by RBB Date 82-01-15

Checked by DJ Date 82-01-19

Approved by for Canada for United States

TABLE 8

HISTORICAL SUMMARY
MARCH TO OCTOBER NATURAL FLOW OF MILK RIVER
AT
EASTERN CROSSING OF THE INTERNATIONAL BOUNDARY

(Cubic Decametres)

Year	Computed Natural Flow	United States Share	Canadian Share	Year	Computed Natural Flow	United States Share	Canadian Share	Year	Computed Natural Flow	United States Share	Canadian Share
				1936	79 900	50 200	29 700	1961	46 700	32 800	14 100
1912	141 000	93 500	47 100	1937	112 000	78 900	32 700	1962	72 200	48 500	23 700
1913	155 000	110 000	46 300	1938	133 000	89 700	43 500	1963	34 300	23 700	10 600
1914	85 100	59 500	25 700	1939	50 100	33 600	16 500	1964	154 000	104 000	49 700
1915	173 000	121 000	50 800	1940	69 700	46 400	23 300	1965	284 000	181 000	103 000
1916	280 000	187 000	92 000	1941	31 200	21 500	9 730	1966	147 000	98 600	48 000
1917	270 000	174 000	96 000	1942	105 000	75 900	29 600	1967	310 000	194 000	116 000
1918	79 700	55 600	24 100	1943	143 000	98 600	44 900	1968	139 000	96 600	42 700
1919	33 800	24 100	9 700	1944	28 000	20 000	8 010	1969	236 000	147 000	88 900
1920	212 000	136 000	77 000	1945	53 800	36 100	17 600	1970	121 000	84 700	36 500
1921	70 200	50 300	19 900	1946	51 400	35 000	16 400	1971	128 000	91 300	36 600
1922	108 000	76 500	31 100	1947	204 000	128 000	75 000	1972	228 000	148 000	80 300
1923	101 000	72 700	28 900	1948	254 000	168 000	86 000	1973	44 500	29 600	14 900
1924	89 200	63 300	25 900	1949	69 900	49 700	20 200	1974	117 000	82 200	34 500
1925	149 000	101 000	48 200	1950	149 000	106 000	42 900	1975	324 000	206 000	118 000
1926	30 200	21 200	9 020	1951	343 000	226 000	116 000	1976	118 000	80 300	37 400
1927	449 000	281 000	168 000	1952	249 000	154 000	94 700	1977	37 100	25 800	11 400
1928	273 000	178 000	95 300	1953	317 000	200 000	117 000	1978	274 000	173 000	101 000
1929	184 000	123 000	60 600	1954	181 000	127 000	54 600	1979	248 000	153 000	95 600
1930	131 000	87 900	43 000	1955	197 000	133 000	63 500	1980	99 400	69 500	29 900
1931	36 800	25 000	11 700	1956	139 000	97 300	41 600	1981	113 000	79 200	34 200
1932	94 400	64 800	29 600	1957	130 000	88 400	40 800				
1933	117 000	80 500	36 600	1958	139 000	89 700	49 600				
1934	117 000	79 600	37 100	1959	159 000	105 000	54 500				
1935	97 600	64 600	32 900	1960	121 000	76 400	45 000				

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

JAN 12 1982

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD	MICHELE RESERVOIR	GREASEWOOD RESERVOIR	MASSY RESERVOIR	TOTAL UPPER LODGE RESERVOIRS	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION UPPER LODGE	BARE CREEK RESERVOIR	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION BARE CREEK
UPPER RESERVOIRS									
*	*	*	*	*	*	*	*	*	*
FEB 25-MAR 6	13	8	8	29	29	0	9	9	0
MAR 7-16	15	8	6	29	29	0	8	8	0
MAR 17-27	14	9	8	31	31	0	8	8	0
MAR 28-APR 6	1	3	-1	3	3	0	-6	-6	0
APR 7-16	7	5	1	13	13	0	3	3	0
APR 17-26	10	4	3	17	17	0	5	5	0
APR 27-MAY 6	8	3	2	13	13	0	14	14	0
MAY 7-16	3	4	33	40	40	0	3	3	0
MAY 17-27	13	15	4	32	32	0	23	23	0
MAY 28-JUN 6	8	0	3	11	11	0	9	9	0
JUN 7-16	3	12	32	47	47	0	1	1	0
JUN 17-26	12	3	2	17	17	0	3	3	0
JUN 27-JUL 6	9	2	4	15	15	0	-17	-17	0
JUL 7-16	7	2	41	50	50	0	-21	-21	0
JUL 17-27	10	4	6	20	20	0	-18	-18	0
JUL 28-AUG 6	2	1	0	3	3	0	-13	-13	0
AUG 7-16	2	1	1	4	4	0	-13	-13	0
AUG 17-27	0	1	3	4	4	0	-227	-116	-111
AUG 28-SEP 6	-11	0	-1	-12	-12	0	-36	-36	0
SEP 7-16	-10	1	2	-7	-7	0	2	2	0
SEP 17-26	-10	0	-1	-11	-11	0	-5	-5	0
SEP 27-OCT 6	-3	1	2	0	0	0	0	0	0
OCT 7-16	-2	1	-2	-3	-3	0	-5	-5	0
OCT 17-27	0	1	1	2	2	0	-1	-1	0
TOTAL	101	89	157	347	347	0	-274	-163	-111

CHECKED BY DATE APPROVED FOR CANADA

FOR U.S.A.

PAGE 1

ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 9

JAN 12 1982

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD CRESSDAY & MITCHELL RESERVOIRS	CRESSDAY RESERVOIR	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION CRESSDAY	MITCHELL RESERVOIR	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION MITCHELL	PERIOD JAYDOT RESERVOIR	JAYDOT RESERVOIR	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION JAYDOT
*	*	*	*	*	*	*	*	*	*	*
FEB 26-MAR 7	15	15	0	2	2	0	FEB 27-MAR 8	-4	-4	0
MAR 8-17	3	3	0	4	4	0	MAR 9-18	-3	-3	0
MAR 18-28	-6	-6	0	0	0	0	MAR 19-29	-3	-3	0
MAR 29-APR 7	-10	-10	0	-5	-5	0	MAR 30-APR 8	-2	-2	0
APR 8-17	0	0	0	1	1	0	APR 9-18	-1	-1	0
APR 18-27	-3	-3	0	4	4	0	APR 19-28	4	4	0
APR 28-MAY 7	-7	-7	0	6	6	0	APR 29-MAY 8	-3	-3	0
MAY 8-17	72	52	20	4	4	0	MAY 9-18	-3	-3	0
MAY 18-28	111	60	51	16	16	0	MAY 19-29	5	5	0
MAY 29-JUN 7	2	2	0	3	3	0	MAY 30-JUN 8	-5	-5	0
JUN 8-17	-15	-15	0	-3	-3	0	JUN 9-18	-3	-3	0
JUN 18-27	4	4	0	5	5	0	JUN 19-28	0	0	0
JUN 28-JUN 7	6	6	0	0	0	0	JUN 29-JUL 8	1	1	0
JUL 8-17	-4	-4	0	-1	-1	0	JUL 9-18	-1	-1	0
JUL 18-28	-9	-9	0	2	2	0	JUL 19-29	0	0	0
JUL 29-AUG 7	-9	-9	0	0	0	0	JUL 30-AUG 8	-1	-1	0
AUG 8-17	6	6	0	0	0	0	AUG 9-18	0	0	0
AUG 18-28	2	2	0	1	1	0	AUG 19-29	1	1	0
AUG 29-SEP 7	-4	-4	0	-3	-3	0	AUG 30-SEP 8	-2	-2	0
SEP 8-17	3	3	0	2	2	0	SEP 9-18	2	2	0
SEP 18-27	-2	-2	0	-2	-2	0	SEP 19-28	-1	-1	0
SEP 28-OCT 7	1	1	0	1	1	0	SEP 29-OCT 8	0	0	0
OCT 8-17	-2	-2	0	-1	-1	0	OCT 9-18	-2	-2	0
OCT 18-28	-2	-2	0	-1	-1	0	OCT 19-29	-1	-1	0
TOTAL	152	81	71	35	35	0		-22	-22	0

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ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

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TABLE 9

JAN 12 1982

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD MIDDLE CREEK RESERVOIR	MIDDLE CREEK RESERVOIR STORED + RELEASE-	EVAPORATION	CORRECTED FOR EVAPORATION	MIDDLE CREEK OUTLET	BEDFORD OUTLET	FLOOD SPILLWAY	RETURN FLOW FROM IRRIGATION	GROSS DEPLETION	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION MIDDLE CREEK
*	*	*	*	*	*	*	*	*	*	*
FEB 26-MAR 7	137	0	137	0	0	0	0	137	53	84
MAR 8-17	-31	0	-31	0	0	0	0	-31	-31	0
MAR 18-28	-90	0	-90	0	0	0	0	-90	-56	-34
MAR 29-APR 7	-91	30	-61	0	0	0	0	-61	-50	-11
APR 8-17	-129	171	42	0	0	0	0	42	42	0
APR 18-27	-292	162	-130	52	0	0	0	-78	-51	-27
APR 28-MAY 7	-500	52	-448	392	0	0	133	-189	-63	-126
MAY 8-17	-544	3	-541	820	0	0	308	-29	-29	0
MAY 18-28	-384	163	-221	275	0	0	301	-247	-73	-174
MAY 29-JUN 7	-99	113	14	0	0	0	0	14	14	0
JUN 8-17	-28	22	-6	0	0	0	0	-6	-6	0
JUN 18-27	-212	184	-28	0	0	0	0	-28	-28	0
JUN 28-JUL 7	-66	188	122	0	0	0	0	122	61	61
JUL 8-17	-141	143	2	0	0	0	0	2	2	0
JUL 18-28	-183	177	-6	0	0	0	0	-6	-6	0
JUL 29-AUG 7	-162	198	36	0	0	0	0	36	36	0
AUG 8-17	-179	217	38	0	0	0	0	38	38	0
AUG 18-28	-276	238	-38	0	0	0	0	-38	-38	0
AUG 29-SEP 7	-124	123	-1	0	0	0	0	-1	-1	0
SEP 8-17	-143	183	40	0	0	0	0	40	40	0
SEP 18-27	-101	92	-9	0	0	0	0	-9	-9	0
SEP 28-OCT 7	-78	78	0	0	0	0	0	0	0	0
OCT 8-17	-35	18	-17	0	0	0	0	-17	-17	0
OCT 18-28	-37	14	-23	0	0	0	0	-23	-23	0
TOTAL	-3788	2569	-1219	1539	0	0	742	-422	-195	-227

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FOR U.S.A.

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 9

JAN 12 1982

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD ALTAWAN RESERVOIR	ALTAWAN RESERVOIR STORED + RELEASE-	ALTAWAN RESERVOIR EVAPORATION	ALTAWAN RESERVOIR CORRECTED FOR EVAPORATION	SPANGLER DITCH	RETURN FLOW FROM SPANGLER	RETURN FLOW FROM BEDFORD	GROSS DEPLETION	CHANNEL LOSS TO INTERNATIONAL BOUNDARY	NET DEPLETION ALTAWAN
*	*	*	*	*	*	*	*	*	*
FEB 27-MAR 8	203	0	203	0	0	0	203	28	175
MAR 9-18	75	0	75	0	0	0	75	25	50
MAR 19-29	9	0	9	0	0	0	9	9	0
MAR 30-APR 8	-13	16	3	0	0	0	3	3	0
APR 9-18	-34	27	-7	0	0	0	-7	-7	0
APR 19-28	-38	34	-4	0	0	0	-4	-4	0
APR 29-MAY 8	-20	7	-13	0	0	0	-13	-13	0
MAY 9-18	35	2	37	0	0	0	37	25	12
MAY 19-29	-750	30	-720	779	0	0	59	28	31
MAY 30-JUN 8	-600	13	-587	489	0	0	-98	-30	-68
JUN 9-18	41	3	44	115	0	0	159	35	124
JUN 19-28	38	20	58	0	0	0	58	27	31
JUN 29-JUL 8	-24	22	-2	0	0	0	-2	-2	0
JUL 9-18	-9	15	6	0	0	0	6	6	0
JUL 19-29	-625	9	-616	0	0	0	-616	-74	-542
JUL 30-AUG 8	23	5	28	0	0	0	28	24	4
AUG 9-18	-44	5	-39	3	0	0	-36	-25	-11
AUG 19-29	0	5	5	0	0	0	5	5	0
AUG 30-SEP 8	-2	2	0	0	0	0	0	0	0
SEP 9-18	-2	4	2	0	0	0	2	2	0
SEP 19-28	-1	2	1	0	0	0	1	1	0
SEP 29-OCT 8	-7	1	-6	0	0	0	-6	-6	0
OCT 9-18	-8	0	-8	0	0	0	-8	-8	0
OCT 19-29	-7	0	-7	0	0	0	-7	-7	0
TOTAL	-1760	222	-1538	1386	0	0	-152	42	-194

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ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

PAGE 4

TABLE 9

JAN 12 1982

NATURAL FLOW OF LODGE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD AT INTERNATIONAL BOUNDARY	NET DEPLETION IN CANADA	MINOR IRRIGATION DIVERSIONS	LODGE CREEK AT INTERNATIONAL BOUNDARY	NATURAL FLOW OF LODGE CREEK	U.S.A. SHARE NATURAL FLOW	EXCESS FLOW TO U.S.A.	TOTAL EXCESS FLOWS TO DATE
*	*	*	*	*	*	*	*
MAR 1-10	259	0	31	290	145	-114	-114
MAR 11-20	50	0	27	77	39	-12	-126
MAR 21-31	-34	0	7	0	0	7	-119
APR 1-10	-11	0	8	0	0	8	-111
APR 11-20	0	0	2	2	1	1	-110
APR 21-30	-27	44	0	17	9	-9	-119
MAY 1-10	-126	150	0	24	12	-12	-131
MAY 11-20	32	265	0	297	149	-149	-280
MAY 21-31	-92	100	142	150	75	67	-213
JUN 1-10	-68	75	115	122	61	54	-159
JUN 11-20	124	50	5	179	90	-85	-244
JUN 21-30	31	0	0	31	16	-16	-260
JUL 1-10	61	0	0	61	31	-31	-291
JUL 11-20	0	0	0	0	0	0	-291
JUL 21-31	-542	0	68	0	0	68	-223
AUG 1-10	4	0	2	6	3	-1	-224
AUG 11-20	-11	0	0	0	0	0	-224
AUG 21-31	-111	0	0	0	0	0	-224
SEP 1-10	0	0	0	0	0	0	-224
SEP 11-20	0	0	0	0	0	0	-224
SEP 21-30	0	0	0	0	0	0	-224
OCT 1-10	0	0	0	0	0	0	-224
OCT 11-20	0	0	0	0	0	0	-224
OCT 21-31	0	0	0	0	0	0	-224
TOTAL	-461	684	407	1256	631	-224	-224

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ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

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TABLE 10

LODGE CREEK BASIN

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISION OF NATURAL RUNOFF

CUBIC DECAMETRES

YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS (+) OR DEFICIT (-1) DELIVERY TO THE U.S.A.
1950	17 900	8 950	16 600	+ 7 650
1951	62 960	31 480	50 200	+ 18 720
1952	161 300	80 650	147 160	+ 66 510
1953	38 240	19 120	27 240	+ 8 120
1954	13 050	6 525	7 620	+ 1 095
1955	97 080	48 540	75 390	+ 26 850
1956	21 180	10 590	15 730	+ 5 140
1957	32 760	16 380	24 500	+ 8 120
1958	48 180	24 090	42 090	+ 18 000
1959	21 220	10 610	14 300	+ 3 690
1960	39 600	19 800	29 510	+ 9 710
1961	2 210	1 105	1 020	- 85
1962	25 630	12 815	18 850	+ 6 035
1963	14 260	7 130	7 500	+ 370
1964	9 790	4 895	5 130	+ 235
1965	95 410	47 705	68 060	+ 20 355
1966	44 230	22 115	30 180	+ 8 065
1967	90 380	45 190	73 260	+ 28 070
1968	4 910	2 455	2 650	+ 195
1969	36 920	18 460	20 870	+ 2 410
1970	29 060	14 530	16 130	+ 1 600
1971	26 300	13 150	13 080	- 70
1972	27 380	13 690	13 580	- 110
1973	2 080	1 040	1 070	+ 30
1974	26 980	13 490	14 510	+ 1 020
1975	48 000	24 000	34 540	+ 10 540
1976	29 480	14 740	22 330	+ 7 590
1977	1 230	615	888	+ 273
1978	37 240	18 620	22 350	+ 3 730
1979	47 020	23 510	30 390	+ 6 880
1980	2 140	1 070	712	- 358
1981	1 260	630	407	- 223
1950-80 TOTAL	1 154 120	577 060	847 440	
1950-80 AVERAGE	37 230	18 610	27 340	

TABLE 11

JAN 04 1982

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD REESOR LAKE	REESOR LAKE STORAGE	PERIOD ADAMS LAKE	ADAMS LAKE STORAGE	TOTAL STORAGE UPPER BATTLE CREEK	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION UPPER BATTLE CREEK	PERIOD GAFF DITCH	GAFF DITCH RETURN FLOW	GROSS DEPLETION GAFF DITCH	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION GAFF DITCH
*	*	*	*	*	*	*	*	*	*	*	*
FEB 23-MAR 8	-4	FEB 24-MAR 9	32	28	28	0	FEB 25-MAR 10	0	0	0	0	0
MAR 9-19	-2	MAR 10-20	128	126	126	0	MAR 11-21	0	0	0	0	0
MAR 20-29	-4	MAR 21-30	20	16	16	0	MAR 22-31	2	1	1	1	0
MAR 30-APR 8	-6	MAR 31 APR 9	-79	-85	-85	0	APR 1-10	70	25	45	45	0
APR 9-18	-6	APR 10-19	-57	-63	-63	0	APR 11-20	365	128	237	98	139
APR 19-28	9	APR 20-29	-40	-31	-31	0	APR 21-30	394	138	256	98	158
APR 29-MAY 8	17	APR 30-MAY 9	57	74	74	0	MAY 1-10	23	8	15	15	0
MAY 9-19	13	MAY 10-20	93	106	106	0	MAY 11-21	218	76	142	107	35
MAY 20-29	19	MAY 21-30	9	28	28	0	MAY 22-31	219	77	142	98	44
MAY 30-JUN 8	27	MAY 31-JUN 9	38	65	65	0	JUN 1-10	11	4	7	7	0
JUN 9-18	44	JUN 10-19	220	264	147	117	JUN 11-20	4	1	3	3	0
JUN 19-28	32	JUN 20-29	12	44	44	0	JUN 21-30	15	5	10	10	0
JUN 29-JUL 8	30	JUN 30-JUL 9	22	52	52	0	JUL 1-10	58	20	38	38	0
JUL 9-19	41	JUL 10-20	17	58	58	0	JUL 11-21	13	5	8	8	0
JUL 20-29	26	JUL 21-30	7	33	33	0	JUL 22-31	18	6	12	12	0
JUL 30-AUG 8	-2	JUL 31-AUG 9	-6	-8	-8	0	AUG 1-10	8	3	5	5	0
AUG 9-19	-7	AUG 10-20	-12	-19	-19	0	AUG 11-21	1	0	1	1	0
AUG 20-29	0	AUG 21-30	-11	-11	-11	0	AUG 22-31	0	0	0	0	0
AUG 30-SEP 8	-4	AUG 31-SEP 9	-13	-17	-17	0	SEP 1-10	23	8	15	15	0
SEP 9-18	4	SEP 10-19	-10	-6	-6	0	SEP 11-20	0	0	0	0	0
SEP 19-28	-14	SEP 20-29	-23	-37	-37	0	SEP 21-30	43	15	28	28	0
SEP 29-OCT 8	11	SEP 30-OCT 9	8	19	19	0	OCT 1-10	27	9	18	18	0
OCT 9-19	59	OCT 10-20	-1	58	58	0	OCT 11-21	0	0	0	0	0
OCT 20-25	15	OCT 21-26	0	15	15	0	OCT 22-27	0	0	0	0	0
TOTAL	298		411	709	592	117		1512	529	983	607	376

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 11

JAN 04 1982

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1981

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 INTERNATIONAL BOUNDARY	NET DEPLETION CYPRESS LAKE
* *	*	*	*	*	*	*	*	*	*	*
FEB 26-MAR 11	21	3	21	24	-3	0	0	-3	-3	0
MAR 12-22	19	2	19	21	-2	0	0	-2	-2	0
MAR 23-APR 1	1	1	0	1	0	0	0	0	0	0
APR 2-11	0	1	0	1	-1	0	0	-1	-1	0
APR 12-21	0	0	0	0	0	0	0	0	0	0
APR 22-MAY 1	0	1245	0	1245	-1245	0	0	-1245	-73	-1172
MAY 2-11	99	2131	1	2132	-2033	172	0	-1861	-73	-1788
MAY 12-22	311	2038	1	2039	-1728	1407	192	-513	-81	-432
MAY 23-JUN 1	238	1438	2	1440	-1202	961	254	-495	-73	-422
JUN 2-11	0	5	1	6	-6	0	37	-43	-43	0
JUN 12-21	1023	3	2	5	1018	0	0	1018	73	945
JUN 22-JUL 1	163	2	2	4	159	0	0	159	73	86
JUL 2-11	0	109	1	110	-110	0	0	-110	-73	-37
JUL 12-22	0	254	0	254	-254	1	0	-253	-81	-172
JUL 23-AUG 1	0	29	0	29	-29	0	0	-29	-29	0
AUG 2-11	0	6	0	6	-6	0	0	-6	-6	0
AUG 12-22	0	0	0	0	0	0	0	0	0	0
AUG 23-SEP 1	0	0	0	0	0	0	0	0	0	0
SEP 2-11	0	0	0	0	0	0	0	0	0	0
SEP 12-21	0	0	0	0	0	0	0	0	0	0
SEP 22-OCT 1	0	30	0	30	-30	0	0	-30	-30	0
OCT 2-11	0	21	0	21	-21	0	0	-21	-21	0
OCT 12-22	0	16	0	16	-16	0	0	-16	-16	0
OCT 23-28	0	12	0	12	-12	0	0	-12	-12	0
TOTAL	1875	7346	50	7396	-5521	2541	483	-3463	-471	-2992

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 11

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NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD CONSUL AREA	RICHARD-SON DITCH	MCKINNON DITCH	RETURN FLOW	GROSS DEPLETION AT CONSUL	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION AT CONSUL	PERIOD AT NASHLYN	NASHLYN CANAL	RETURN FLOW	GROSS DEPLETION AT NASHLYN	CHANNEL LOSS TO INTER-NATIONAL BOUNDARY	NET DEPLETION AT NASHLYN
*	*	*	*	*	*	*	*	*	*	*	*	*
FEB 27-MAR 12	0	0	0	0	0	0	FEB 28-MAR 13	132	4	128	34	94
MAR 13-23	0	0	0	0	0	0	MAR 14-24	496	54	442	27	415
MAR 24-APR 2	0	0	0	0	0	0	MAR 25-APR 3	306	31	275	24	251
APR 3-12	0	0	0	0	0	0	APR 4-13	205	23	182	24	158
APR 13-22	1	0	0	1	1	0	APR 14-23	64	9	55	24	31
APR 23-MAY 2	596	463	122	937	49	888	APR 24-MAY 3	257	23	234	24	210
MAY 3-12	823	858	356	1325	49	1276	MAY 4-13	460	43	417	24	393
MAY 13-23	208	84	99	193	54	139	MAY 14-24	140	20	120	27	93
MAY 24-JUN 2	2	0	0	2	2	0	MAY 25-JUN 3	299	30	269	24	245
JUN 3-12	1	0	0	1	1	0	JUN 4-13	1	0	1	1	0
JUN 13-22	2	0	0	2	2	0	JUN 14-23	0	0	0	0	0
JUN 23-JUL 2	1	0	0	1	1	0	JUN 24-JUL 3	0	0	0	0	0
JUL 3-12	2	0	0	2	2	0	JUL 4-13	0	0	0	0	0
JUL 13-23	2	0	1	1	1	0	JUL 14-24	0	0	0	0	0
JUL 24-AUG 2	2	0	0	2	2	0	JUL 25-AUG 3	0	0	0	0	0
AUG 3-12	2	0	0	2	2	0	AUG 4-13	0	0	0	0	0
AUG 13-23	2	0	0	2	2	0	AUG 14-24	0	0	0	0	0
AUG 24-SEP 2	2	0	0	2	2	0	AUG 25-SEP 3	0	0	0	0	0
SEP 3-12	0	0	0	0	0	0	SEP 4-13	0	0	0	0	0
SEP 13-22	0	0	0	0	0	0	SEP 14-23	0	0	0	0	0
SEP 23-OCT 2	0	0	0	0	0	0	SEP 24-OCT 3	0	0	0	0	0
OCT 3-12	0	0	0	0	0	0	OCT 4-13	0	0	0	0	0
OCT 13-23	0	0	0	0	0	0	OCT 14-24	0	0	0	0	0
OCT 24-29	0	0	0	0	0	0	OCT 25-30	0	0	0	0	0
TOTAL	1646	1405	578	2473	170	2303		2360	237	2123	233	1890

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ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

TABLE 11

JAN 04 1982

NATURAL FLOW OF BATTLE CREEK AT THE INTERNATIONAL BOUNDARY
1981

PERIOD AT INTERNATIONAL BOUNDARY	NET DEPLETION IN CANADA	BATTLE CREEK AT INTERNATIONAL BOUNDARY	APPARENT NATURAL FLOW OF BATTLE CREEK	ADJUSTMENT FOR MINOR DIVERSIONS	NATURAL FLOW OF BATTLE CREEK	U.S.A. SHARE NATURAL FLOW	EXCESS FLOW TO THE U.S.A.	TOTAL EXCESS FLOWS TO DATE
*	*	*	*	*	*	*	*	*
MAR 1-14	94	740	834	182	1016	508	232	0
MAR 15-25	415	244	659	144	803	402	-158	-158
MAR 26-APR 4	251	188	439	96	535	268	-80	-238
APR 5-14	158	86	244	53	297	149	-63	-301
APR 15-24	170	120	290	63	353	177	-57	-358
APR 25-MAY 4	84	128	212	46	258	129	-1	-359
MAY 5-14	-119	527	408	89	497	249	278	-81
MAY 15-25	-165	1182	1017	222	1239	620	562	481
MAY 26-JUN 4	-133	498	365	80	445	223	275	0
JUN 5-14	0	382	382	83	465	233	149	0
JUN 15-24	1062	485	1547	338	1885	943	-458	-458
JUN 25-JUL 4	86	189	275	60	335	168	21	-437
JUL 5-14	-37	142	105	23	128	64	78	-359
JUL 15-25	-172	466	294	64	358	179	287	-72
JUL 26-AUG 4	0	178	178	39	217	109	69	-3
AUG 5-14	0	52	52	11	63	32	20	17
AUG 15-25	0	3	3	1	4	2	1	0
AUG 26-SEP 4	0	0	0	0	0	0	0	0
SEP 5-14	0	0	0	0	0	0	0	0
SEP 15-24	0	0	0	0	0	0	0	0
SEP 25-OCT 4	0	0	0	0	0	0	0	0
OCT 5-14	0	0	0	0	0	0	0	0
OCT 15-25	0	0	0	0	0	0	0	0
OCT 26-31	0	0	0	0	0	0	0	0
TOTAL	1694	5610	7304	1594	8898	4455	1155	0

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ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

TABLE 12

BATTLE CREEK BASIN

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISION OF NATURAL RUNOFF

CUBIC DECAMETRES

YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS (+) OR DEFICIT (-) DELIVERY TO THE U.S.A.
1940	45 040	22 520	32 100	+ 9 580
1941	31 280	15 640	20 860	+ 5 220
1942	27 510	13 755	13 490	- 265
1943	40 710	20 355	27 960	+ 7 605
1944	13 000	6 500	9 460	+ 2 960
1945	11 000	5 500	9 970	+ 4 470
1946	12 820	6 410	8 590	+ 2 180
1947	13 890	6 945	8 540	+ 1 595
1948	23 100	11 550	9 670	- 1 880
1949	1 650	825	2 160	+ 1 335
1950	23 790	11 895	12 730	+ 835
1951	35 910	17 955	20 440	+ 2 485
1952	138 450	69 225	127 790	+ 58 565
1953	46 580	23 290	34 760	+ 11 470
1954	40 930	20 465	31 520	+ 11 055
1955	110 680	55 340	117 630	+ 62 290
1956	31 590	15 795	24 890	+ 9 095
1957	33 910	16 955	22 990	+ 6 035
1958	34 290	17 145	25 040	+ 7 895
1959	22 350	11 175	14 680	+ 3 505
1960	34 530	17 265	19 350	+ 2 085
1961	6 970	3 485	5 500	+ 2 015
1962	9 090	4 545	6 010	+ 1 465
1963	9 920	4 960	5 800	+ 840
1964	13 100	6 550	6 670	+ 120
1965	67 360	33 680	33 950	+ 270
1966	45 860	22 930	24 860	+ 1 930
1967	80 460	40 230	67 670	+ 27 440
1968	20 090	10 045	12 820	+ 2 775
1969	35 450	17 725	21 610	+ 3 885
1970	38 280	19 140	22 570	+ 3 430
1971	23 780	11 890	15 420	+ 3 530
1972	27 450	13 725	17 210	+ 3 485
1973	11 800	5 900	6 170	+ 270
1974	23 720	11 860	15 230	+ 3 370
1975	54 450	27 225	32 440	+ 5 215
1976	34 510	17 255	21 200	+ 3 945
1977	5 850	2 925	3 330	+ 405
1978	28 520	14 260	16 690	+ 2 430
1979	47 520	23 760	27 640	+ 3 880
1980	9 960	4 980	5 860	+ 880
1981	8 900	4 450	5 610	+ 1 160
1940-80 TOTAL	1 367 150	683 575	963 270	
1940-80 AVERAGE	33 350	16 670	23 490	

TABLE 13

JAN 21 1982

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1981

PERIOD CYPRESS LAKE AREA	BELANGER CREEK DIVERSION	CYPRESS LAKE EAST OUTFLOW CANAL	NET DIVERSION FROM FRENCHMAN RIVER	CYPRESS LAKE NATURAL OVERFLOW	GROSS DEPLETION AT CYPRESS LAKE	CHANNEL LOSS TO INTERNATL BOUNDARY	NET DEPLETION AT CYPRESS LAKE
*	*	*	*	*	*	*	*
FEB 20-MAR 1	187	26	161	0	161	149	12
MAR 2-11	2	28	-26	0	-26	-26	0
MAR 12-22	26	48	-22	0	-22	-22	0
MAR 23-APR 1	28	28	0	0	0	0	0
APR 2-11	9	20	-11	0	-11	-11	0
APR 12-21	0	13	-13	0	-13	-13	0
APR 22-MAY 1	0	11	-11	0	-11	-11	0
MAY 2-11	0	20	-20	0	-20	-20	0
MAY 12-22	0	21	-21	0	-21	-21	0
MAY 23-JUN 1	0	9	-9	0	-9	-9	0
JUN 2-11	0	7	-7	0	-7	-7	0
JUN 12-21	295	34	261	0	261	202	59
JUN 22-JUL 1	0	191	-191	0	-191	-168	-23
JUL 2-11	0	27	-27	0	-27	-27	0
JUL 12-22	0	100	-100	0	-100	-100	0
JUL 23-AUG 1	0	11	-11	0	-11	-11	0
AUG 2-11	0	6	-6	0	-6	-6	0
AUG 12-22	0	1	-1	0	-1	-1	0
AUG 23-SEP 1	0	0	0	0	0	0	0
SEP 2-11	0	0	0	0	0	0	0
SEP 12-21	10	0	10	0	10	10	0
SEP 22-OCT 1	0	0	0	0	0	0	0
OCT 2-11	0	3	-3	0	-3	-3	0
OCT 12-22	0	7	-7	0	-7	-7	0
TOTAL	557	611	-54	0	-54	-102	48

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 13

JAN 21 1982

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1981

PERIOD EASTEND AREA	EASTEND RESERVOIR STORED + RELEASED -	EASTEND RESERVOIR EVAP-ORATION	EASTEND RESERVOIR TOTAL DIVERSION	EASTEND CANAL	RETURN FLOW	GROSS DEPLETION AT EASTEND	CHANNEL LOSS TO INTERNATL BOUNDARY	NET DEPLETION AT EASTEND
*	*	*	*	*	*	*	*	*
FEB 22-MAR 3	-6	0	-6	0	0	-6	-6	0
MAR 4-13	1107	0	1107	0	0	1107	221	886
MAR 14-24	645	1	646	0	0	646	186	460
MAR 25-APR 3	624	27	651	0	0	651	176	475
APR 4-13	408	37	445	0	0	445	171	274
APR 14-23	177	87	264	0	0	264	144	120
APR 24-MAY 3	-120	82	-38	417	104	275	146	129
MAY 4-13	-1307	22	-1285	1779	445	49	49	0
MAY 14-24	-477	22	-455	1133	283	395	200	195
MAY 25-JUN 3	486	30	516	47	12	551	230	321
JUN 4-13	270	18	288	0	0	288	189	99
JUN 14-23	859	58	917	0	0	917	440	477
JUN 24-JUL 3	-108	92	-16	0	0	-16	-16	0
JUL 4-13	259	80	339	46	12	373	223	150
JUL 14-24	-834	88	-746	833	208	-121	-121	0
JUL 25-AUG 3	-1203	57	-1146	1286	322	-182	-146	-36
AUG 4-13	-885	33	-852	752	188	-288	-189	-99
AUG 14-24	16	15	31	28	7	52	52	0
AUG 25-SEP 3	-162	3	-159	0	0	-159	-137	-22
SEP 4-13	0	0	0	0	0	0	0	0
SEP 14-23	0	0	0	0	0	0	0	0
SEP 24-OCT 3	71	0	71	0	0	71	71	0
OCT 4-13	137	2	139	0	0	139	125	14
OCT 14-24	0	3	3	0	0	3	3	0
TOTAL	-43	757	714	6321	1581	5454	2011	3443

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ALL QUANTITIES IN CUBIC DECAMETRES

TABLE 13

JAN 21 1982

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1981

PERIOD VAL MARIE AREA	HUFF LAKE STORED + RELEASED-	HUFF LAKE EVAP-ORATION	HUFF LAKE TOTAL DIVERSION	NEWTON LAKE STORED + RELEASED-	NEWTON LAKE EVAP-ORATION	NEWTON LAKE TOTAL DIVERSION	TOTAL CHANGE IN RESERVOIR CONTENTS
*	*	*	*	*	*	*	*
FEB 26-MAR 7	-1189	0	-1189	3834	0	3834	2645
MAR 8-17	675	0	675	413	0	413	1088
MAR 18-28	160	10	170	276	21	297	467
MAR 29-APR 7	10	53	63	183	112	295	358
APR 8-17	-70	71	1	10	149	159	160
APR 18-27	312	97	409	-1113	195	-918	-509
APR 28-MAY 7	-784	86	-698	-2024	149	-1875	-2573
MAY 8-17	-1047	36	-1011	-1308	60	-1248	-2259
MAY 18-28	-1078	88	-990	-714	157	-557	-1547
MAY 29-JUN 7	240	10	250	-1064	16	-1048	-798
JUN 8-17	277	17	294	-865	18	-847	-553
JUN 18-27	368	61	429	-25	53	28	457
JUN 28-JUL 7	478	129	607	-174	101	-73	534
JUL 8-17	341	92	433	-425	49	-376	57
JUL 18-28	-770	102	-668	703	80	783	115
JUL 29-AUG 7	21	84	105	-145	69	-76	29
AUG 8-17	-81	101	20	-190	78	-112	-92
AUG 18-28	-117	110	-7	-139	79	-60	-67
AUG 29-SEP 7	-128	79	-49	-95	55	-40	-89
SEP 8-17	-128	95	-33	-111	64	-47	-80
SEP 18-27	-236	46	-190	-22	31	9	-181
SEP 28-OCT 7	-120	32	-88	-37	23	-14	-102
OCT 8-17	-223	9	-214	-28	6	-22	-236
OCT 18-28	-357	5	-352	79	5	84	-268
TOTAL	-3446	1413	-2033	-2981	1570	-1411	-3444

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ALL QUANTITIES IN CUBIC DECAMETRES

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NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1981

PERIOD VAL MARIE AREA	HUFF GRAVITY CANAL	HUFF PUMPING CANAL	PUMP NO. 1	MAIN CANAL	TOTAL CANAL	RETURN FLOW	GROSS DEPLETION VAL MARIE	CHANNEL LOSS TO BOUNDARY	NET DEPLETION VAL MARIE
*	*	*	*	*	*	*	*	*	*
FEB 26-MAR 7	0	0	0	0	0	0	2645	153	2492
MAR 8-17	0	0	0	0	0	0	1088	91	997
MAR 18-28	0	0	0	0	0	0	467	71	396
MAR 29-APR 7	0	0	0	0	0	0	358	68	290
APR 8-17	0	0	0	0	0	0	160	56	104
APR 18-27	0	0	0	49	49	12	-472	-75	-397
APR 28-MAY 7	483	337	42	1989	2851	713	-435	-88	-347
MAY 8-17	669	630	0	2016	3315	829	227	67	160
MAY 18-28	688	440	155	850	2133	533	53	53	0
MAY 29-JUN 7	84	11	0	99	194	49	-653	-146	-507
JUN 8-17	0	0	0	0	0	0	-553	-130	-423
JUN 18-27	0	0	0	0	0	0	457	114	343
JUN 28-JUL 7	0	0	0	0	0	0	534	127	407
JUL 8-17	0	0	0	0	0	0	57	50	7
JUL 18-28	0	0	0	0	0	0	115	64	51
JUL 29-AUG 7	0	0	0	0	0	0	29	29	0
AUG 8-17	0	0	0	0	0	0	-92	-56	-36
AUG 18-28	0	0	0	0	0	0	-67	-56	-11
AUG 29-SEP 7	0	0	0	0	0	0	-89	-53	-36
SEP 8-17	0	0	0	0	0	0	-80	-52	-28
SEP 18-27	0	0	0	0	0	0	-181	-62	-119
SEP 28-OCT 7	0	0	0	0	0	0	-102	-52	-50
OCT 8-17	0	0	0	0	0	0	-236	-60	-176
OCT 18-28	0	0	0	0	0	0	-268	-67	-201
TOTAL	1924	1418	197	5003	8542	2136	2962	46	2916

CHECKED BY DATE APPROVED FOR CANADA PAGE 4

ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

TABLE 13

JAN 21 1982

NATURAL FLOW OF FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY
1981

PERIOD AT INTERNATL BOUNDARY	NET DEPLETION IN CANADA	FRENCHMAN RIVER AT INTERNAIL BOUNDARY	APPARENT NATURAL FLOW OF FRENCHMAN RIVER	ADJUSTMENT FOR MINOR DIVERSIONS	NATURAL FLOW OF FRENCHMAN RIVER	U.S.A. SHARE NATURAL FLOW	EXCESS FLOW TO THE USA	TOTAL EXCESS FLOWS TO DATE
*	*	*	*	*	*	*	*	*
MAR 1-10	2504	607	3111	535	3646	1823	-1216	-1216
MAR 11-20	1883	196	2079	357	2436	1218	-1022	-2238
MAR 21-31	856	85	941	162	1103	552	-467	-2705
APR 1-10	765	33	798	137	935	468	-435	-3140
APR 11-20	378	10	388	67	455	228	-218	-3358
APR 21-30	-277	967	690	119	809	405	562	-2796
MAY 1-10	-218	725	507	87	594	297	428	-2368
MAY 11-20	160	896	1056	182	1238	619	277	-2091
MAY 21-31	195	694	889	153	1042	521	173	-1918
JUN 1-10	-186	1312	1126	194	1320	660	652	-1266
JUN 11-20	-324	1057	733	126	859	430	627	-639
JUN 21-30	879	78	957	165	1122	561	-483	-1122
JUL 1-10	384	1	385	66	451	226	-225	-1347
JUL 11-20	157	654	811	139	950	475	179	-1168
JUL 21-31	51	860	911	157	1068	534	326	-842
AUG 1-10	-36	130	94	16	110	55	75	-767
AUG 11-20	-135	0	0	0	0	0	0	-767
AUG 21-31	-11	0	0	0	0	0	0	-767
SEP 1-10	-58	0	0	0	0	0	0	-767
SEP 11-20	-28	0	0	0	0	0	0	-767
SEP 21-30	-119	0	0	0	0	0	0	-767
OCT 1-10	-50	0	0	0	0	0	0	-767
OCT 11-20	-162	0	0	0	0	0	0	-767
OCT 21-31	-201	0	0	0	0	0	0	-767
TOTAL	6407	8305	15476	2662	18138	9072	-767	-767

CHECKED BY DATE APPROVED FOR CANADA

ALL QUANTITIES IN CUBIC DECAMETRES FOR U.S.A.

PAGE 5

TABLE 14

FRENCHMAN RIVER BASIN

HISTORICAL SUMMARY OF MARCH TO OCTOBER DIVISION OF NATURAL RUNOFF

CUBIC DECAMETRES

YEAR	COMPUTED NATURAL RUNOFF	CANADIAN AND U.S.A. SHARES	RECORDED RUNOFF	EXCESS (+) OR DEFICIT (-) DELIVERY TO THE U.S.A.
1940	101 430	50 715	84 110	+ 33 395
1941	71 110	35 555	57 560	+ 22 005
1942	72 180	36 090	52 210	+ 16 120
1943	164 710	82 355	147 030	+ 64 675
1944	69 630	34 815	50 560	+ 15 745
1945	42 630	21 315	28 440	+ 7 125
1946	39 790	19 895	26 470	+ 6 575
1947	65 090	32 545	43 180	+ 10 635
1948	48 960	24 480	31 000	+ 6 520
1949	17 690	8 845	8 010	- 835
1950	93 280	46 640	73 590	+ 26 950
1951	137 490	68 745	110 880	+ 42 135
1952	445 240	222 620	433 530	+ 210 910
1953	92 350	46 175	71 990	+ 25 815
1954	109 720	54 860	92 490	+ 37 630
1955	230 280	115 140	210 300	+ 95 160
1956	59 650	29 825	41 950	+ 12 125
1957	48 040	24 020	32 710	+ 8 690
1958	79 390	39 695	64 280	+ 24 585
1959	64 030	32 015	41 220	+ 9 205
1960	93 020	46 510	75 440	+ 28 930
1961	23 070	11 535	11 480	- 55
1962	78 090	39 045	48 240	+ 9 195
1963	57 730	28 865	41 790	+ 12 925
1964	25 060	12 530	13 300	+ 770
1965	132 160	66 080	95 070	+ 28 990
1966	91 190	45 595	66 470	+ 20 875
1967	130 890	65 445	108 240	+ 42 795
1968	49 730	24 865	27 080	+ 2 215
1969	97 930	48 965	71 520	+ 22 555
1970	133 370	66 685	102 470	+ 35 785
1971	57 140	28 570	39 360	+ 10 790
1972	45 910	22 955	24 990	+ 2 035
1973	27 470	13 735	14 720	+ 985
1974	104 110	52 055	75 610	+ 23 555
1975	91 990	45 995	60 710	+ 14 715
1976	90 690	45 345	73 990	+ 28 645
1977	12 730	6 365	8 260	+ 1 895
1978	67 920	33 960	41 310	+ 7 350
1979	108 470	54 235	77 360	+ 23 125
1980	33 440	16 720	17 780	+ 1 060
1981	18 140	9 070	8 300	- 770
1940-80 TOTAL	3 604 800	1 802 400	2 796 700	
1940-80 AVERAGE	87 920	43 960	68 210	

TABLE 15

MAJOR RESERVOIRS IN LODGE, BATTLE, AND FRENCHMAN BASINS

MONTH-END CONTENTS IN DAM^3

1981

	MIDDLE CREEK	ALTAWAN	CYPRESS LAKE	EASTEND	HUFF LAKE	NEWTON LAKE
FEBRUARY	5 140	1 850	49 900	250	4 410	4 730
MARCH	5 010	2 060	50 400	2 320	3 950	8 280
APRIL	4 250	1 950	47 800	3 340	4 170	6 450
MAY	3 030	1 050	42 300	1 590	1 260	2 810
JUNE	2 720	707	42 100	2 870	2 420	1 230
JULY	2 280	59	40 400	1 320	2 190	1 300
AUGUST	1 680	29	37 800	0	1 990	813
SEPTEMBER	1 340	25	34 700	2	1 490	647
OCTOBER	1 200	3	34 600	208	890	643
FULL SUPPLY LEVEL	16 200	7 190	128 000	2 410	4 370	11 500

APPENDIX B TO THE

REPORT TO

THE INTERNATIONAL JOINT COMMISSION

ON

THE DIVISION OF THE WATERS OF THE

ST. MARY AND MILK RIVERS

1981

BY

PHILIP COHEN

representing United States

AND

D. A. DAVIS

representing Canada

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UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

05020500 ST MARY RIVER AT INTERNATIONAL BOUNDARY 05AE027

DRAINAGE AREA 1215 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	6.34	6.60	b21.5	6.80	5.89	4.53	21.4	66.0	45.6	21.7	9.77
2	16.8	6.71	b 5.49	21.2	7.08	5.41	3.96	33.7	59.7	45.9	19.8	9.77
3	16.1	6.17	5.80	20.0	6.51	3.06	3.71	38.5	54.4	46.2	18.0	9.66
4	15.4	6.43	6.26	18.5	6.51	3.06	4.19	39.4	51.3	45.0	16.1	9.88
5	14.7	6.34	5.97	13.8	6.34	3.34	5.44	39.4	51.3	45.0	14.9	9.88
6	13.8	6.34	5.80	11.6	6.06	3.71	6.09	37.4	51.0	45.3	14.5	9.77
7	12.7	6.80	5.64	12.0	6.17	2.61	5.83	33.7	52.1	46.7	14.6	9.54
8	11.9	8.18	5.49	12.7	5.80	2.94	5.69	30.9	51.0	47.3	15.0	8.78
9	11.5	9.03	5.32	12.5	5.32	3.23	5.61	28.6	48.1	43.0	15.5	8.35
10	11.0	10.4	5.07	12.0	b 5.15	2.35	5.21	25.1	43.3	37.7	15.6	8.16
11	10.4	11.5	4.56	11.5	5.24	2.55	5.21	22.1	37.9	32.6	15.3	8.04
12	9.94	12.3	3.99	10.9	5.61	3.60	5.44	18.9	33.7	26.9	15.0	7.76
13	9.94	12.7	3.65	10.3	6.00	3.54	6.00	16.7	34.5	23.8	14.6	7.36
14	9.60	12.7	3.65	9.77	5.89	4.33	5.92	15.5	52.1	23.4	14.3	6.99
15	9.49	12.4	3.99	9.49	5.80	4.62	6.54	30.9	46.2	23.0	14.3	6.63
16	9.15	12.0	4.28	8.92	5.95	4.19	6.37	51.0	36.0	22.6	14.2	6.46
17	9.15	11.8	4.84	8.55	6.17	3.54	8.47	45.9	34.0	23.4	14.3	5.61
18	8.92	11.9	5.24	b 8.33	6.29	3.79	10.2	43.3	32.8	23.9	15.3	5.44
19	8.69	11.2	5.64	8.21	6.23	3.85	9.32	43.3	31.4	25.9	14.6	5.35
20	8.38	10.6	5.80	8.07	6.09	3.65	8.89	46.2	31.4	27.1	13.6	5.69
21	8.18	10.9	6.26	7.76	6.00	3.65	9.77	49.8	34.0	28.6	13.1	5.21
22	8.07	10.1	6.34	7.56	5.97	3.60	10.1	80.1	36.0	26.3	12.6	5.21
23	8.07	9.37	6.51	7.56	b 5.95	3.40	11.0	99.4	37.9	23.0	12.3	4.39
24	7.76	8.69	6.80	7.67	5.95	3.60	14.9	96.0	39.1	23.4	11.9	3.91
25	7.56	8.07	7.36	7.48	5.92	3.99	19.8	94.3	39.6	27.3	11.3	3.71
26	7.28	7.67	8.50	7.28	5.89	4.84	28.3	93.4	38.5	22.4	10.7	4.39
27	6.88	6.88	10.4	7.28	5.72	4.62	32.8	93.2	38.8	18.3	10.00	7.08
28	7.16	8.81	13.5	7.08	5.80	5.32	28.1	90.0	45.0	18.3	9.66	11.9
29	7.16	8.07	17.0	7.08	---	6.17	22.4	83.5	47.6	21.9	9.43	16.5
30	6.88	7.28	20.4	7.08	---	6.06	18.4	77.3	47.0	23.2	9.32	15.3
31	6.60	---	b21.7	6.99	---	5.07	---	71.1	---	22.1	9.77	---
TOTAL	317.16	277.68	227.85	330.66	168.21	123.58	318.19	1590.0	1301.7	955.1	431.28	236.49
MEAN	10.23	9.256	7.350	10.67	6.007	3.986	10.61	51.29	43.39	30.81	13.91	7.883
MAX	18.0	12.7	21.7	21.5	7.08	6.17	32.8	99.4	66.0	47.3	21.7	16.5
MIN	6.60	6.17	3.65	6.99	5.15	2.35	3.71	15.5	31.4	18.3	9.32	3.71
DAM^3	27 400	23 990	19 690	28 570	14 530	10 680	27 490	137 400	112 500	82 520	37 260	20 430

CAL YR 1980 TOTAL 5811.27 MEAN 15.9 MAX 125 MIN .85 DAM^3 502 100
WTR YR 1981 TOTAL 6277.90 MEAN 17.2 MAX 99 MIN 2.35 DAM^3 542 400

MAX DISCH, 107 M^3/S AT 2200 HRS ON MAY 22 (G.H. 2.112 M).
MIN DISCH, 1.98 M^3/S ON MAR. 10 (G.H. 0.738 M).

b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

05020500 ST MARY RIVER AT INTERNATIONAL BOUNDARY 05AE027

DRAINAGE AREA 1215 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.8											
2	10.9											
3	8.78											
4	7.56											
5	6.54											
6	5.83											
7	5.35											
8	5.35											
9	5.21											
10	4.67											
11	4.53											
12	4.45											
13	4.39											
14	4.30											
15	4.19											
16	4.05											
17	3.85											
18	3.85											
19	3.85											
20	3.96											
21	3.71											
22	3.71											
23	3.65											
24	3.60											
25	3.71											
26	3.71											
27	3.54											
28	3.54											
29	3.45											
30	3.45											
31	3.60											
TOTAL	154.08											
MEAN	4.970											
MAX	12.8											
MIN	3.45											
DAM^3	13 310											

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

RESERVOIR DATA

05 0155 00 Lake Sherburne at Sherburne — Water year ending Sept. 30, 1981

Date	Gage height (meters)	Contents, in cubic decameters: Actual	Contents, in cubic decameters: Rounded	Change in contents: Date	Change in contents: Change (dam^3)
Dec. 31, 1979	--	--	18 640		
Sept. 30, 1980	11.256	10 088	10 090		
				October	+ 6060
Oct. 31, 1980	13.149	16 150	16 150		
				November	+10 120
Nov. 30, 1980	15.871	26 270	26 270		
				December	+11 450
Dec. 31, 1980	18.544	37 720	37 720		
--	--	--	--	1980 calendar year	+19 080
				January	+ 6540
Jan. 31, 1981	19.946	44 258	44 260		
				February	+ 3780
Feb. 29, 1981	20.726	48 042	48 040		
				March	-26 800
Mar. 31, 1981	14.569	21 242	21 240		
				April	-11 840
Apr. 30, 1981	11.025	9 401	9 400		
				May	+43 780
May 31, 1981	21.729	53 175	53 180		
				June	+30 420
June 30, 1981	26.780	83 602	83 600		
				July	- 7 760
July 31, 1981	25.570	75 837	75 840		
				August	-33 070
Aug. 31, 1981	19.632	42 765	42 770		
				September	-37 090
Sept. 30, 1981	9.665	5 679	5 680		
--	--	--	--	1981 water year	- 4410
				October	+ 3620
Oct. 31, 1981	10.991	9 302	9 300		

Maximum contents: 84 400 dam^3 at 2400 hrs on July 7 (gage height 26.902 m).

Minimum contents: 6030 dam^3 at 1100 hrs on Apr. 19 (gage height 9.802 m).

Approved:

Regional Chief WS of Canada

District Chief of U.S.G.S.

Converted from English units.

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

05016000 SWIFTCURRENT CREEK AT SHERBURNE, MONT. 05AE033
DRAINAGE AREA 167 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.30				---	1.16	4.79	5.10	0.003	12.4	17.7	17.4
2	1.30				---	1.16	13.0	5.72	0.003	15.3	15.2	18.5
3	1.33				---	1.64	13.6	5.86	0.002	15.7	13.9	19.2
4	1.33				---	2.35	14.0	6.00	0.002	15.1	13.9	19.0
5	0.651				---	4.08	13.6	6.09	0.002	15.0	14.9	18.7
6	0.002				---	5.15	13.3	6.14	0.002	15.5	16.4	18.5
7	0.000				---	5.10	13.4	4.30	0.001	16.3	17.9	18.2
8	0.000				---	6.34	13.3	2.35	0.001	16.6	18.4	17.8
9	0.000				---	9.00	12.9	1.81	0.001	14.0	18.3	18.2
10	0.000				---	12.1	13.3	1.78	0.001	11.2	18.2	18.4
11	0.000				---	14.0	13.8	1.81	0.001	4.93	18.0	18.0
12	0.000				---	18.5	13.5	1.81	0.002	4.56	17.9	17.6
13	0.000				---	18.5	12.7	4.02	0.012	7.25	17.8	17.3
14	0.000				---	16.1	11.7	8.16	2.63	9.46	17.7	17.0
15	0.000				---	14.6	9.43	5.89	2.69	10.4	17.6	17.3
16	0.000				---	14.6	5.83	1.81	2.66	12.3	17.5	17.3
17	0.000				---	14.9	3.85	1.84	2.66	15.1	17.4	16.9
18	0.000				b0.003	14.7	3.00	3.03	2.66	17.9	17.2	17.1
19	0.000				0.003	14.5	2.75	2.66	4.22	19.0	17.1	17.4
20	0.000				0.003	14.3	3.00	2.07	6.94	20.8	17.0	17.2
21	0.000				0.003	14.1	3.45	1.10	7.99	16.6	16.9	16.7
22	0.000				0.006	14.0	4.47	0.181	9.40	11.6	17.5	16.1
23	0.000				0.006	14.5	5.18	0.139	10.4	10.3	17.7	16.0
24	0.000				0.005	15.9	9.06	0.113	10.5	10.1	17.6	16.4
25	0.000				b0.004	16.6	15.4	0.099	8.98	7.50	16.8	16.9
26	0.000				0.003	16.3	17.0	0.025	6.51	5.69	16.3	16.7
27	0.000				0.736	16.0	16.3	0.010	7.36	8.95	16.1	14.5
28	0.000				1.19	15.7	9.43	0.007	16.2	17.3	16.6	10.5
29	0.000				---	14.1	2.94	0.006	15.6	21.8	16.8	6.12
30	0.000				---	11.9	3.65	0.006	13.0	16.7	16.7	3.94
31	0.000				---	5.58	---	0.003	---	18.7	17.2	---
TOTAL	5.913				---	357.46	291.63	79.939	130.433	414.04	526.2	490.86
MEAN	0.1907				---	11.53	9.721	2.579	4.348	13.36	16.97	16.36
MAX	1.33				---	18.5	17.0	8.16	16.2	21.8	18.4	19.2
MIN	0.000				---	1.16	2.75	0.003	0.001	4.56	13.9	3.94
DAM^3	511				---	30 880	25 200	6910	11 270	35 770	45 460	42 410

MAX DISCH, 65.1 M^3/S AT 1200 HRS ON JULY 15 (G.H. 2.368 M).
MIN DISCH, NO FLOW ON MANY DAYS.

b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

05016000 SWIFTCURRENT CREEK AT SHERBURNE, MONT. 05AE033

DRAINAGE AREA 167 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.00	0.000										
2	0.850	0.000										
3	0.000	0.000										
4	0.000	0.000										
5	0.000	---										
6	0.000	---										
7	0.000	---										
8	0.000	---										
9	0.000	---										
10	0.000	---										
11	0.000	---										
12	0.000	---										
13	0.000	---										
14	0.037	---										
15	0.054	---										
16	0.031	---										
17	0.022	---										
18	0.016	---										
19	0.013	---										
20	0.009	---										
21	0.006	---										
22	0.003	---										
23	0.002	---										
24	0.002	---										
25	0.001	---										
26	0.000	---										
27	0.000	---										
28	0.000	---										
29	0.000	---										
30	0.000	---										
31	0.000	---										
TOTAL	4.046	---										
MEAN	0.1305	---										
MAX	3.00	---										
MIN	0.000	---										
DAM^3	350	---										

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

WATER SURVEY OF CANADA
CALGARY, ALTA
STATION NO. 05AE029

ST. MARY CANAL AT ST. MARY CROSSING

1981 (PRELIMINARY) DAILY DISCHARGE IN CUBIC METRES PER SECOND

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0 B	12.2	15.6	18.5	19.2	18.5	17.1	0	0		1
2			.003 B	11.5	14.9	18.5	19.2	18.4	17.0	0	0		2
3			2.09 B	13.4	15.1	18.6	19.2	18.3	17.0	0	0		3
4			3.48 B	14.4	15.2	19.0	19.2	18.2	17.1	0	0 A		4
5			3.41	14.7	15.1	19.4	19.1	18.1	17.0	0			5
6			3.59	14.7	15.0	19.5	19.1	18.1	17.0	0			6
7			5.39	14.6	14.9	19.5	19.2	18.2	16.9	0			7
8			5.52	14.6	14.9	19.4	19.2	18.1	16.9	0			8
9			6.26	14.7	14.7	19.4	19.1	18.2	16.9	0			9
10			8.37	14.7	14.6	19.3	19.0	18.2	16.9	0			10
11			10.1	14.7	14.5	19.3	18.8	18.2	16.9	0			11
12			11.2	14.5	14.4	19.6	18.7	18.2	16.9	0			12
13			14.0	13.7	14.3	19.5	19.0	18.2	16.8	0			13
14			14.8	13.4	14.3	16.8	19.4	18.1	16.9	0			14
15			14.8	12.3	14.9	15.0	19.4	18.2	16.8	0			15
16			15.0	11.5	15.3	17.9	19.4	18.1	16.9	0			16
17			15.5	7.70	15.1	18.0	19.3	17.8	17.5	0			17
18		0 B	15.6	3.50	15.1	18.0	19.4	16.5	17.5	0			18
19		0 B	15.6	3.41	15.1	18.3	19.5	16.7	17.5	0			19
20		0 B	15.6	3.15	15.2	18.3	19.5	17.3	17.5	0			20
21		0 B	15.4	2.61	16.6	18.3	19.5	17.2	17.6	0			21
22		0 B	15.4	2.60	17.8	18.3	19.4	17.2	17.5	0			22
23		0 B	15.8	2.57	16.3	18.3	19.3	17.2	17.5	0			23
24		0 B	15.9	2.66	15.2	18.3	19.3	17.1	17.4	0			24
25		0 B	16.3	2.51	15.4	18.4	18.5	17.1	17.4	0			25
26		0 B	16.8	2.51	16.4	18.5	18.0	17.1	16.9	0			26
27		0 B	17.2	3.17	17.7	18.9	18.3	17.1	14.1	0			27
28		0 B	17.3	11.2	18.2	18.5	18.4	17.1	8.56	0			28
29			17.2	14.9	18.5	18.7	18.5	17.0	1.51	0			29
30			17.0	15.8	18.3	19.2	18.6	17.1	.028	0			30
31			15.9		18.3		18.5	17.1		0			31
TOTAL			360.513	297.89	486.9	557.2	590.2	547.9	469.498	0			TOTAL
MEAN			11.6	9.93	15.7	18.6	19.0	17.7	15.6	0			MEAN
DAM3			31100	25700	42100	48100	51000	47300	40600	0			DAM3
MAX			17.3	15.8	18.5	19.6	19.5	18.5	17.6	0			MAX
MIN			0	2.51	14.3	15.0	18.0	16.5	.028	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 13.5 M3/S
TOTAL DISCHARGE, 286000 DAM3
MAXIMUM DAILY DISCHARGE, 19.6 M3/S ON JUN 12
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED: District Chief W.S.C.
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS

WATER SURVEY OF CANADA
CALGARY, ALTA
STATION NO. 11AA025

MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY

1981 (PRELIMINARY) DAILY DISCHARGE IN CUBIC METRES PER SECOND

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			1.80 B	4.30	1.96	4.10	1.65	.971	.074	.197	.623		1
2			1.80 B	4.12	1.99	3.86	1.48	.790	.057	.241	.610 A		2
3			1.60 B	3.09	2.03	3.73	1.35	.671	.057	.246			3
4			1.30 B	2.56	2.02	3.42	1.22	.661	.059	.242			4
5			1.00 B	2.30	2.14	3.11	1.10	.600	.070	.243			5
6			.900 B	2.03	2.47	2.98	.937	.563	.182	.246			6
7			1.00 B	2.10	2.93	2.81	.853	.520	.166	.263			7
8			1.10 B	2.07	3.64	2.86	.796	.549	.157	.283			8
9			1.20 B	1.81	4.10	2.64	.768	.467	.154	.317			9
10			1.30 B	1.82	4.34	2.58	.791	.418	.140	.314			10
11			1.60 B	1.51	3.69	2.51	.758	.343	.120	.372			11
12			1.80 B	1.52	3.29	2.44	.712	.275	.096	.401			12
13			1.80 B	1.51	2.83	3.42	.743	.241	.088	.403			13
14			1.70 B	1.51	2.47	17.0	.719	.215	.078	.481			14
15			1.50 B	1.40	2.69	23.3	.799	.222	.071	.540			15
16			1.30 B	1.46	25.8	12.4	.916	.129	.056	.629			16
17			1.00 B	2.37	31.8	6.16	.925	.519	.046	.739			17
18			.799 B	3.14	13.3	4.32	.957	.445	.036	.772			18
19			.700 B	2.97	10.3	3.60	.934	.286	.032	.687			19
20			.700 B	2.78	11.2	3.17	.824	.225	.026	.649			20
21			.799 B	2.67	12.3	2.88	.723	.153	.022	.589			21
22			1.00 B	2.81	21.1	2.66	.663	.153	.019	.547			22
23			1.30 B	2.96	19.6	2.71	.608	.183	.015	.597			23
24		2.49 B	1.73	2.73	14.7	2.46	.583	.162	.012	.668			24
25		2.20 B	1.88	2.84	9.91	2.23	.635	.189	.013	.686			25
26		2.00 B	2.53	2.93	9.56	2.04	1.26	.193	.016	.713			26
27		1.90 B	3.61	2.70	10.8	1.90	3.60	.159	.017	.735			27
28		1.80 B	3.41	2.33	7.30	1.74	2.62	.143	.021	.741			28
29			4.05	2.08	5.73	1.71	1.81	.112	.057	.729			29
30			5.64	2.01	5.05	1.77	1.38	.097	.141	.691			30
31			5.08		4.53		1.12	.087		.653			31
TOTAL			56.928	72.43	255.57	132.51	34.254	10.741	2.098	15.614			TOTAL
MEAN			1.84	2.41	8.24	4.42	1.10	.346	.070	.504			MEAN
DAM3			4920	6260	22100	11400	2960	928	181	1350			DAM3
MAX			5.64	4.30	31.8	23.3	3.60	.971	.182	.772			MAX
MIN			.700	1.40	1.96	1.71	.583	.087	.012	.197			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 2.37 M3/S
TOTAL DISCHARGE, 50100 DAM3
MAXIMUM DAILY DISCHARGE, 31.8 M3/S ON MAY 17
MINIMUM DAILY DISCHARGE, .012 M3/S ON SEP 24

MAXIMUM INSTANTANEOUS DISCHARGE, 39.9 M3/S AT 0050 MST ON May 17

APPROVED: Geo Pike
District Hydrologist
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS

WATER SURVEY OF CANADA
CALGARY, ALTA
STATION NO. 11AA005

MILK RIVER AT MILK RIVER

1981 (PRELIMINARY) DAILY DISCHARGE IN CUBIC METRES PER SECOND

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1	2.39 B	1.04 B	3.81 B	22.9	17.2	24.4	20.6	18.5	17.1	5.20	1.60	.944 B	1
2	2.26 B	.951 B	3.40 B	21.4	18.2	24.0	20.5	18.4	17.0	3.50	1.63	.921 B	2
3	2.14 B	.867 B	3.11 B	17.3	17.5	24.0	20.4	18.4	16.9	2.60	1.61	.900 B	3
4	1.97 B	.809 B	2.83 B	16.2	17.5	23.2	20.2	18.3	17.1	2.18	1.59	.893 B	4
5	1.80 B	.750 B	2.61 B	17.1	18.6	22.8	20.0	18.2	17.1	1.90	1.56	.893 B	5
6	1.68 B	.679 B	2.40 B	17.4	19.1	23.3	19.9	17.9	17.1	1.73	1.52	.880 B	6
7	1.54 B	.640 B	2.40 B	17.1	19.0	23.4	19.7	17.9	16.9	1.68	1.58	.867 B	7
8	1.43 B	.607 B	2.61 B	17.1	20.4	22.9	19.3	18.2	16.9	1.64	1.59	.848 B	8
9	1.32 B	.568 B	3.61 B	17.0	22.0	23.0	19.5	18.4	16.9	1.55	1.60	.841 B	9
10	1.24 B	.549 B	5.41 B	16.9	21.6	22.5	19.5	18.3	16.7	1.48	1.57	.861 B	10
11	1.14 B	.542 B	7.91 B	16.8	19.8	22.3	19.5	18.2	16.7	1.60	1.56	.861 B	11
12	1.07 B	.542 B	11.6	16.7	18.8	22.1	19.5	18.1	16.8	1.62	1.52	.841 B	12
13	1.04 B	.529 B	12.0	16.8	18.0	24.3	19.4	18.1	16.8	1.59	1.51	.822 B	13
14	1.02 B	.549 B	13.9	16.5	17.4	32.4	19.4	18.2	16.8	1.61	1.55	.770 B	14
15	1.03 B	.562 B	16.4	16.1	17.7	49.6	19.6	18.5	16.7	1.62	1.53	.731 B	15
16	1.05 B	.601 B	16.6	15.5	30.3	33.0	19.7	18.6	16.9	1.62	1.55	.672 B	16
17	1.02 B	.815 B	18.0	14.9	57.6	26.1	20.1	18.5	16.7	1.65	1.61	.620 B	17
18	.982 B	2.40 B	16.8	14.7	39.0	24.1	20.0	18.5	17.0	1.64	1.64	.542 B	18
19	.967 B	5.01 B	14.7 B	11.5	30.7	22.6	20.1	17.8	17.4	1.67	1.32 B	.483 B	19
20	.989 B	6.69 B	14.8 B	7.73	30.9	22.2	19.7	17.0	17.5	1.62	1.19 B	.439 B	20
21	1.05 B	6.80 B	14.1 B	6.56	29.9	21.7	19.5	17.3	17.3	1.65	1.11 B	.389 B	21
22	1.20 B	6.41 B	15.4 B	6.33	36.6	21.2	19.8	17.5	17.3	1.63	1.06 B	.351 B	22
23	1.45 B	6.10 B	15.6 B	5.99	42.9	21.2	19.8	17.4	17.3	1.63	1.02 B	.312 B	23
24	1.76 B	5.67 B	17.0	5.81	38.8	21.2	20.3	17.2	17.2	1.63	1.00 B	.269 B	24
25	1.87 B	5.41 B	17.3	5.50	32.1	21.0	20.9	17.1	17.1	1.68	.982 B	.231 B	25
26	1.78 B	5.01 B	18.8	5.86	28.8	20.8	21.0	17.0	17.1	1.72	.959 B	.212 B	26
27	1.60 B	4.60 B	21.0	5.53	30.1	20.7	19.5	17.1	17.3	1.70	.951 B	.180 B	27
28	1.45 B	4.41 B	22.3	5.24	28.6	21.3	20.6	17.2	16.2	1.68	.951 B	.169 B	28
29	1.33 B		23.9	5.17	26.7	21.0	19.7	17.0	13.2	1.69	.959 B	.151 B	29
30	1.24 B		25.4	12.2	26.1	20.1	18.9	17.1	8.73	1.67	.959 B	.140 B	30
31	1.14 B		25.7		25.5		18.7	17.1		1.63		.129 B	31
TOTAL	43.948	70.110	391.40	391.82	817.4	722.4	615.3	553.0	497.73	58.01	40.781	18.162	TOTAL
MEAN	1.42	2.50	12.6	13.1	26.4	24.1	19.8	17.8	16.6	1.87	1.36	.586	MEAN
DAM3	3800	6060	33800	33900	70600	62400	53200	47800	43000	5010	3520	1570	DAM3
MAX	2.39	6.80	25.7	22.9	57.6	49.6	21.0	18.6	17.5	5.20	1.64	.944	MAX
MIN	.967	.529	2.40	5.17	17.2	20.1	18.7	17.0	8.73	1.48	.951	.129	MIN

SUMMARY FOR THE MONTHS JAN TO DEC
MEAN DISCHARGE, 11.6 M3/S
TOTAL DISCHARGE, 365000 DAM3
MAXIMUM DAILY DISCHARGE, 57.6 M3/S ON MAY 17
MINIMUM DAILY DISCHARGE, .129 M3/S ON DEC 31

MAXIMUM INSTANTANEOUS DISCHARGE, 59.7 M3/S AT 2305 MST ON May 16

APPROVED: Geo Oike
Director, W.S.C.
Regional Chief W.S.C.

B-ICE CONDITIONS

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06135000 MILK RIVER AT EASTERN CROSSING OF INT BOUNDARY 11AA031

DRAINAGE AREA 6807 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDAR YEAR JANUARY 1981 TO DECEMBER 1981

MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		---	b7.05	27.8	6.51	26.4	20.2	20.1	16.7	15.2		
2		---	6.51	27.0	6.37	25.9	19.4	19.0	16.4	12.4		
3		---	5.97	23.7	13.1	24.0	19.0	18.9	16.5	8.61		
4		---	5.38	21.3	21.7	24.1	22.3	19.1	17.0	5.75		
5		---	5.10	17.8	24.0	24.2	22.5	19.1	17.4	4.28		
6		---	b4.81	15.5	26.1	24.4	22.3	18.8	17.2	3.48		
7		---	4.76	15.5	28.6	24.6	23.6	18.3	16.9	2.97		
8		---	4.56	16.0	29.4	25.5	16.9	18.0	16.7	2.55		
9		---	3.99	16.0	24.8	27.8	16.3	17.1	16.1	2.24		
10		---	3.54	15.6	25.9	28.9	17.6	17.4	15.5	2.12		
11		---	3.20	15.5	25.3	28.9	18.6	17.3	15.1	3.11		
12		---	5.52	16.9	25.5	30.0	18.8	16.9	15.2	3.23		
13		---	10.6	17.7	24.7	31.1	21.9	16.5	15.3	3.31		
14		---	12.5	16.9	25.0	32.8	22.5	16.1	15.4	3.03		
15		---	13.9	16.3	26.1	30.9	21.0	16.1	15.7	2.69		
16		---	15.0	15.7	30.0	41.1	20.5	16.1	16.0	2.46		
17		---	20.1	15.7	31.7	47.3	20.9	16.3	16.1	2.35		
18		---	22.7	16.0	48.4	34.5	21.4	17.0	15.9	a2.15		
19		---	20.5	16.0	49.0	28.1	21.8	16.8	15.8	1.95		
20		---	18.3	16.0	35.7	26.8	22.3	16.7	15.9	1.95		
21		---	18.1	16.4	36.5	25.8	21.6	16.6	16.3	1.93		
22		---	15.6	14.4	42.2	24.4	22.5	15.9	16.7	1.93		
23		---	17.6	10.8	37.1	24.6	23.9	15.2	17.1	1.95		
24		---	19.3	8.86	42.2	23.9	21.7	15.7	16.6	2.01		
25		b6.51	19.3	8.21	43.9	22.8	22.9	16.2	16.9	2.07		
26		6.17	19.6	7.59	41.1	22.0	22.4	16.1	16.9	2.12		
27		5.66	20.0	7.22	34.3	22.5	22.6	15.8	16.7	2.07		
28		b8.50	21.3	6.82	30.0	22.4	24.2	15.8	16.4	2.01		
29		---	23.1	7.05	30.9	20.8	22.1	16.0	17.0	1.95		
30		---	25.8	6.71	29.4	19.9	21.7	16.9	16.6	1.93		
31		---	26.6	---	27.4	---	22.1	17.2	---	a1.90		
TOTAL		---	420.29	452.96	922.88	816.4	657.5	529.0	490.0	107.70		
MEAN		---	13.56	15.10	29.77	27.21	21.21	17.06	16.33	3.474		
MAX		---	26.6	27.8	49.0	47.3	24.2	20.1	17.4	15.2		
MIN		---	3.20	6.71	6.37	19.9	16.3	15.2	15.1	1.90		
DAM^3		---	36 310	39 140	79 740	70 540	56 810	45 710	42 340	9310		

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 379,900 DAM^3
MAX DISCH, 60.6 M^3/S AT 1500 HRS ON MAY 18 (G.H. 2.073 M).
MIN DAILY DISCH, 1.90 M^3/S ON OCT. 31.

a--NO GAGE-HEIGHT RECORD.
b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06132200 SOUTH FORK MILK RIVER NEAR BABB, MT. 11AA033

DRAINAGE AREA 178 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDAR YEAR JANUARY 1981 TO DECEMBER 1981

MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			b 0.241	1.02	0.934	2.35	0.991	0.623	0.340	0.195	0.283	
2			0.241	0.906	0.906	2.32	0.963	0.566	0.272	0.195	0.311	
3			0.241	0.793	0.878	2.18	0.906	0.566	0.278	0.181	0.311	
4			0.241	b 0.708	0.878	2.04	0.793	0.566	0.283	0.198	0.311	
5			0.241	0.680	1.10	1.95	0.736	0.510	0.272	0.224	0.311	
6			0.255	0.793	1.39	1.98	0.708	0.510	0.266	0.244	---	
7			0.283	b 0.736	1.39	1.98	0.736	0.481	0.249	0.229	---	
8			0.396	b 0.680	1.36	1.87	0.708	0.453	0.201	0.227	---	
9			0.510	0.623	1.53	1.84	0.680	0.538	0.156	0.221	---	
10			0.566	0.595	1.33	1.78	0.708	0.510	0.125	0.221	---	
11			0.623	0.595	1.30	1.70	0.736	0.425	0.110	0.283	---	
12			0.680	0.595	1.33	1.76	0.765	0.396	0.091	0.368	---	
13			0.708	0.595	1.13	3.03	0.821	0.340	0.088	0.368	---	
14			0.793	0.595	0.991	4.39	0.878	0.396	0.099	0.425	---	
15			0.906	0.680	3.68	4.28	0.793	0.425	0.110	0.510	---	
16			0.793	0.934	8.83	2.61	0.793	0.340	0.110	0.453	---	
17			0.708	1.19	4.45	2.01	0.793	0.311	0.105	0.368	---	
18			0.623	1.13	3.71	1.78	0.765	0.280	0.091	0.340	---	
19			0.538	1.08	4.19	1.67	0.680	0.278	0.093	0.278	---	
20			0.481	1.08	3.77	1.59	0.595	0.283	0.079	0.311	---	
21			0.453	1.10	5.72	1.61	0.538	0.368	0.088	0.340	---	
22			0.453	1.16	5.52	1.61	0.566	0.340	0.108	0.340	---	
23			0.481	1.10	5.52	1.50	0.595	0.283	0.130	0.340	---	
24			0.538	1.08	4.64	1.42	0.793	0.252	0.153	0.396	---	
25			0.651	1.13	4.36	1.30	2.49	0.215	0.156	0.425	---	
26			0.850	1.10	5.27	1.19	2.66	0.184	0.212	0.425	---	
27			0.850	0.991	3.82	1.13	1.42	0.164	0.238	0.396	---	
28			0.906	0.934	3.11	1.16	1.08	0.150	0.244	0.368	---	
29			1.33	0.850	2.83	1.16	0.963	0.130	0.204	0.340	---	
30			1.27	0.878	2.63	1.08	0.793	0.164	0.187	0.311	---	
31			b 1.05	---	2.46	---	0.680	0.340	---	0.311	---	
TOTAL			18.900	26.331	90.957	58.27	28.126	11.387	5.138	9.831	---	
MEAN			0.6097	0.8777	2.934	1.942	0.9073	0.3673	0.1713	0.3171	---	
MAX			1.33	1.19	8.83	4.39	2.66	0.623	0.340	0.510	---	
MIN			0.241	0.595	0.878	1.08	0.538	0.130	0.079	0.181	---	
DAM^3			1630	2270	7860	5030	2430	984	444	849	---	

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 22,550 DAM^3
MAX DISCH, 12.3 M^3/S AT 0215 HRS ON MAY 16 (G.H. 1.582 M).
MIN DAILY DISCH, .079 M^3/S ON SEPT. 20.

b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06133500 N F MILK RIVER AB ST MARY CA, NR BROWNING, MT. 11AA032
DRAINAGE AREA 160 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDAR YEAR JANUARY 1981 TO DECEMBER 1981
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		---	b0.453	b0.736	0.595	0.765	0.708	0.651	0.566	0.680	0.651	
2		---	0.453	0.708	0.623	0.793	0.736	0.651	0.566	0.651	0.651	
3		---	0.425	0.708	0.566	0.736	0.708	0.623	0.595	0.651	0.651	
4		---	0.425	0.651	0.566	0.680	0.651	0.651	0.595	0.680	0.651	
5		---	0.425	0.651	0.708	0.680	0.680	0.651	0.595	0.680	0.651	
6		---	0.425	0.651	0.708	0.680	0.680	0.623	0.595	0.680	---	
7		---	0.425	0.623	0.708	0.651	0.708	0.623	0.595	0.680	---	
8		---	0.425	0.623	1.22	0.680	0.680	0.651	0.566	0.680	---	
9		---	0.425	0.595	1.16	0.651	0.680	0.651	0.538	0.651	---	
10		---	0.425	0.566	0.878	0.651	0.680	0.623	0.566	0.680	---	
11		---	0.425	b0.595	0.765	0.651	0.708	0.623	0.566	0.708	---	
12		---	0.425	0.623	0.680	0.651	0.708	0.623	0.566	0.736	---	
13		---	0.425	0.595	0.623	1.81	0.736	0.595	0.595	0.708	---	
14		---	0.425	0.595	0.595	4.39	0.736	0.623	0.595	0.765	---	
15		---	0.453	0.680	1.93	1.67	0.708	0.680	0.595	0.736	---	
16		---	0.453	0.765	3.65	1.10	0.821	0.623	0.595	0.708	---	
17		---	0.453	0.736	2.12	0.934	0.821	0.595	0.595	0.680	---	
18		---	0.453	0.680	1.70	0.878	0.736	0.595	0.595	0.680	---	
19		---	0.481	0.680	1.61	0.850	0.680	0.623	0.595	0.680	---	
20		---	0.510	0.680	1.19	0.821	0.651	0.623	0.595	0.708	---	
21		---	0.538	0.765	1.27	0.793	0.651	0.623	0.623	0.708	---	
22		---	0.595	0.680	2.15	0.765	0.651	0.595	0.623	0.708	---	
23		b0.680	0.623	0.680	1.81	0.793	0.680	0.566	0.623	0.708	---	
24		0.651	0.651	0.765	1.22	0.765	0.906	0.538	0.623	0.736	---	
25		0.595	0.623	0.680	1.13	0.736	1.10	0.538	0.651	0.736	---	
26		0.566	0.595	0.623	1.30	0.736	0.850	0.538	0.708	0.680	---	
27		0.510	0.566	0.595	0.934	0.736	0.736	0.538	0.651	0.680	---	
28		b0.481	0.736	0.595	0.878	0.963	0.708	0.538	0.651	0.680	---	
29		---	1.13	0.595	0.821	0.793	0.708	0.538	0.623	0.651	---	
30		---	1.25	0.595	0.793	0.736	0.651	0.566	0.651	0.651	---	
31		---	b0.850	---	0.765	---	0.680	0.623	---	0.651	---	
TOTAL		---	16.966	19.714	35.666	28.538	22.537	18.802	18.096	21.411	---	
MEAN		---	0.5473	0.6571	1.151	0.9513	0.7270	0.6065	0.6032	0.6907	---	
MAX		---	1.25	0.765	3.65	4.39	1.10	0.680	0.708	0.765	---	
MIN		---	0.425	0.566	0.566	0.651	0.651	0.538	0.538	0.651	---	
DAM^3		---	1470	1700	3080	2470	1950	1620	1560	1850	---	

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 15,700 DAM^3
MAX DISCH, 6.37 M^3/S AT 2315 HRS ON MAY 15 (G.H. 0.985 m).
MIN DAILY DISCH, 0.425 M^3/S ON MAR. 3-14.

b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.

APPROVED: Leo Eiche
DISTRICT CHIEF, U.S.G.S.

R H Dutt
REGIONAL CHIEF, W.S.C.

WATER SURVEY OF CANADA
CALGARY, ALTA
STATION NO. 11AA001

NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY

1981 (PRELIMINARY) DAILY DISCHARGE IN CUBIC METRES PER SECOND

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			.591 B	15.7	15.7	18.6	20.0	18.7	16.8	1.85	.670		1
2			.591 B	12.0	15.0	18.8	19.8	18.6	16.7	1.26	.683 A		2
3			.604 B	11.8	14.6	18.8	19.8	18.5	16.8	1.02			3
4			.657 B	13.5	14.9	18.6	19.7	18.3	16.9	.974			4
5			.774 B	14.4	15.3	19.2	19.8	18.1	16.8	.951			5
6			4.13 B	14.5	15.2	19.8	19.8	18.1	16.7	.827			6
7			4.38 B	14.3	15.2	19.5	19.9	18.0	16.8	.754			7
8			6.42 B	14.3	16.1	19.7	19.8	18.2	16.6	.649			8
9			6.90 B	14.5	15.9	19.7	19.6	18.2	16.6	.636			9
10			8.21 B	14.2	14.9	19.6	19.7	18.1	16.5	.643			10
11			9.78 B	14.4	14.6	19.3	19.6	18.2	16.5	.718			11
12			10.0	14.3	14.4	19.7	19.4	18.1	16.5	.760			12
13			11.6	13.9	14.2	23.0	19.4	18.0	16.4	.787			13
14			13.7	13.3	14.1	29.1	19.9	18.1	16.4	.767			14
15			14.3	13.0	17.9	18.0	19.9	18.2	16.3	.760			15
16			14.4	12.3	24.0	16.8	20.2	18.1	16.3	.703			16
17			15.0	10.8	18.2	18.7	20.2	18.1	16.7	.665			17
18			15.2	7.27	16.7	18.5	20.2	17.1	17.1	.666			18
19			15.1	4.32	17.0	18.8	20.1	16.3	17.2	.657			19
20			15.0	4.08	16.0	18.9	19.9	16.6	17.0	.715			20
21			14.9	3.82	16.4	18.7	20.0	16.9	17.2	.710			21
22			15.1	3.35	21.9	18.7	20.1	16.8	17.1	.700			22
23		1.00 A	15.3	3.30	20.9	18.8	20.1	16.8	17.1	.725			23
24		.838	15.5	3.52	17.0	18.8	20.8	16.8	17.0	.763			24
25		.713	15.9	3.04	15.7	18.8	21.8	16.7	17.1	.756			25
26		.644 B	17.1	2.99	16.6	19.0	19.4	16.7	17.2	.697			26
27		.598 B	17.3	3.08	16.9	19.3	19.1	16.7	16.1	.697			27
28		.591 B	18.1	4.34	17.7	20.0	19.0	16.7	12.9	.695			28
29			20.8	11.6	18.6	19.3	18.7	16.7	7.50	.673			29
30			18.8	14.7	18.9	19.5	18.8	16.7	3.48	.680			30
31			17.2		18.6		18.8	16.8		.666			31
TOTAL			353.337	300.61	519.1	584.0	613.3	543.9	476.28	24.524			TOTAL
MEAN			11.4	10.0	16.7	19.5	19.8	17.5	15.9	.791			MEAN
DAM3			30500	26000	44900	50500	53000	47000	41200	2120			DAM3
MAX			20.8	15.7	24.0	29.1	21.8	18.7	17.2	1.85			MAX
MIN			.591	2.99	14.1	16.8	18.7	16.3	3.48	.636			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 13.9 M3/S
TOTAL DISCHARGE, 295000 DAM3
MAXIMUM DAILY DISCHARGE, 29.1 M3/S ON JUN 14
MINIMUM DAILY DISCHARGE, .591 M3/S ON MAR 1

MAXIMUM INSTANTANEOUS DISCHARGE, 33.9 M3/S AT 0550 MST ON Jun 14

APPROVED: District Hydrologist
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06145500 LODGE CREEK BELOW MCRAE CREEK, AT INTERNATIONAL BOUNDARY 11AB083
DRAINAGE AREA 2119 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDER YEAR JANUARY 1981 TO DECEMBER 1981
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0.021	0.011	0	0.319	0	0.010	0	0		
2			.018	.014	0	.441	0	.005	0	0		
3			.016	.013	0	.217	0	.003	0	0		
4			.015	.012	0	.117	0	.002	0	0		
5			.014	.010	0	.075	0	.002	0	0		
6			.015	.011	0	.052	0	.001	0	0		
7			.025	.008	0	.036	0	.001	0	0		
8			.081	.005	0	.030	0	0	0	0		
9			.079	.004	0	.023	0	0	0	0		
10			.070	a .003	0	.016	0	0	0	0		
11			.064	.003	0	.011	0	0	0	0		
12			.053	.004	0	.009	0	0	0	0		
13			.042	.004	0	.012	0	0	0	0		
14			.033	.004	0	.010	0	0	0	0		
15			.028	.002	0	.007	0	0	0	0		
16			.024	.002	0	.006	0	0	0	0		
17			.021	.002	0	.004	0	0	0	0		
18			.017	.001	0	.002	0	0	0	0		
19			.015	.001	0	.001	0	0	0	0		
20			.014	.001	0	.001	0	0	0	0		
21			.012	a0	0	0	0	0	0	0		
22			.011	0	0	0	0	0	0	0		
23			.009	0	0	0	0	0	0	0		
24			.009	0	.065	0	0	0	0	0		
25			.008	0	.194	0	0	0	0	0		
26			.006	0	.309	0	.297	0	0	0		
27			.005	0	.233	0	.272	0	0	0		
28		0.025	.004	0	.182	0	.117	0	0	0		
29		---	.004	0	.217	0	.056	0	0	0		
30			.007	0	.208	0	.032	0	0	0		
31			.010	---	.233	---	.017	0	---	0		
TOTAL			.750	.115	1.641	1.389	.791	.024	0	0		
MEAN			.0242	.0038	.0529	.0463	.0255	.0008	0	0		
MAX			.081	.014	.309	.441	.297	.010	0	0		
MIN			.004	0	0	0	0	0	0	0		
DAM^3			64.8	9.94	142	120	68.3	2.07	0	0		

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 407 DAM^3
MAX DISCH, 0.625 M^3/S AT 2330 HRS ON JUNE 1 (G.H. 0.817 M).
MIN DISCH, NO FLOW ON MANY DAYS.

a--NO GAGE-HEIGHT RECORD.

APPROVED: _____
DISTRICT CHIEF, U.S.G.S.

_____
REGIONAL CHIEF, W.S.C.

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME MICHELE RESERVOIR 1981

STATION NO. 11AB091

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 24	302.303	477		-		-	
Feb 25-Mar 6	302.379	490	+13	-		-	+13
Mar 7-16	302.458	505	+15	-		-	+15
Mar 17-27	302.540	519	+14	-		-	+14
Mar 28-Apr 6	302.540	519	0	1.1	302.540	1	+1
Apr 7-16	302.540	519	0	5.7	302.540	7	+7
Apr 17-26	302.557	522	+3	6.3	302.549	7	+10
Apr 27-May 6	302.581	526	+4	3.5	302.570	4	+8
May 7-16	302.603	530	+4	-0.9	302.592	-1	+3
May 17-27	302.635	536	+6	6.3	302.619	7	+13
May 28-Jun 6	302.646	539	+3	4.6	302.641	5	+8
Jun 7-16	302.658	541	+2	0.9	302.652	1	+3
Jun 17-26	302.674	544	+3	7.5	302.667	9	+12
Jun 27-Jul 6	302.675	544	0	7.7	302.675	9	+9
Jul 7-16	302.676	544	0	6.1	302.676	7	+7
Jul 17-27	302.675	544	0	8.1	302.676	10	+10
Jul 28-Aug 6	302.637	537	-7	7.4	302.656	9	+2
Aug 7-16	302.590	528	-9	9.4	302.614	11	+2
Aug 17-27	302.519	515	-13	11.0	302.562	13	0
Aug 28-Sep 6	302.414	497	-18	5.9	302.467	7	-11
Sep 7-16	302.302	477	-20	8.7	302.358	10	-10
Sep 17-26	302.189	462	-15	4.7	302.246	5	-10
Sep 27-Oct 6	302.142	454	-8	4.2	302.155	5	-3
Oct 7-16	302.124	451	-3	0.6	302.133	1	-2
Oct 17-27	302.116	450	-1	1.0	302.120	1	0
TOTAL		-27	-27			128	+101

COMPUTED BY W.R. Klassen

CHECKED BY L.O. Redick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME GREASEWOOD RESERVOIR NEAR ELKWATER 1981

STATION NO. 11AB092

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 24	28.344	48	0	-		-	0
Feb 25-Mar 6	28.598	56	+8	-		-	+8
Mar 7-16	28.837	64	+8	-		-	+8
Mar 17-27	29.062	73	+9	-		-	+9
Mar 28-Apr 6	29.140	76	+3	1.1	29.103	0	+3
Apr 7-16	29.209	79	+3	5.7	29.175	2	+5
Apr 17-26	29.264	81	+2	5.9	29.237	2	+4
Apr 27-May 6	29.310	83	+2	3.5	29.287	1	+3
May 7-16	29.380	87	+4	0.9	29.345	0	+4
May 17-27	29.650	100	+13	6.3	29.536	2	+15
May 28-Jun 6	29.622	98	-2	4.6	29.639	2	0
Jun 7-16	29.839	110	+12	0.9	29.661	0	+12
Jun 17-26	29.830	110	0	7.5	29.838	3	+3
Jun 27-Jul 6	29.825	109	-1	7.7	29.833	3	+2
Jul 7-16	29.826	109	0	6.1	29.828	2	+2
Jul 17-27	29.833	110	+1	8.1	29.830	3	+4
Jul 28-Aug 6	29.794	108	-2	7.4	29.814	3	+1
Aug 7-16	29.747	105	-3	9.4	29.771	4	+1
Aug 17-27	29.692	102	-3	11.0	29.720	4	+1
Aug 28-Sep 6	29.653	100	-2	5.9	29.673	2	0
Sep 7-16	29.611	98	-2	8.7	29.632	3	+1
Sep 17-26	29.581	96	-2	4.7	29.597	2	0
Sep 27-Oct 6	29.585	96	0	4.2	29.581	1	+1
Oct 7-16	29.594	97	+1	0.6	29.590	0	+1
Oct 17-27	29.616	98	+1	1.0	29.605	0	+1
TOTAL		+50	+50			39	+89

COMPUTED BY W.R. Klassen

CHECKED BY L.O. Redick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME MASSY RESERVOIR NEAR ELKWATER 1981

STATION NO. 11AB104

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 24	27.198	75		-		-	-
Feb 25-Mar 6	27.297	83	+8	-		-	+8
Mar 7-16	27.392	89	+6	-		-	+6
Mar 17-27	27.492	97	+8	-		-	+8
Mar 28-Apr 6	27.469	95	-2	1.1	27.481	1	-1
Apr 7-16	27.448	93	-2	5.7	27.459	3	+1
Apr 17-26	27.438	93	0	5.9	27.443	3	+3
Apr 27-May 6	27.440	93	0	3.5	27.439	2	+2
May 7-16	27.880	127	+34	-0.9	27.661	-1	+33
May 17-27	27.875	127	0	6.3	27.878	4	+4
May 28-Jun 6	27.876	127	0	4.6	27.876	3	+3
Jun 7-16	28.235	158	+31	0.9	27.934	1	+32
Jun 17-26	28.203	155	-3	7.5	28.223	5	+2
Jun 27-Jul 6	28.190	154	-1	7.7	28.199	5	+4
Jul 7-16	28.591	191	+37	6.1	28.349	4	+41
Jul 17-27	28.590	191	0	8.1	28.590	6	+6
Jul 28-Aug 6	28.538	186	-5	7.4	28.564	5	0
Aug 7-16	28.483	181	-5	9.4	28.511	6	+1
Aug 17-27	28.438	177	-4	11.0	28.461	7	+3
Aug 28-Sep 6	28.389	172	-5	5.9	28.414	4	-1
Sep 7-16	28.342	168	-4	8.7	28.366	6	+2
Sep 17-26	28.303	164	-4	4.7	28.323	3	-1
Sep 27-Oct 6	28.286	163	-1	4.2	28.295	3	+2
Oct 7-16	28.270	161	-2	0.6	28.278	0	-2
Oct 17-27	28.264	161	0	1.0	28.267	1	+1
TOTAL		86	+86			71	+157

COMPUTED BY W.R. Klassen

CHECKED BY R.P. Helfrick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME BARE CREEK RESERVOIR 1981

STATION NO. 11AB094

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 24	1134.808	998		-		-	
Feb 25-Mar 6	1134.835	1007	+9	-		-	+9
Mar 7-16	1134.860	1015	+8	-		-	+8
Mar 17-27	1134.887	1023	+8	-		-	+8
Mar 28-Apr 6	1134.861	1015	-8	1.1	1134.874	2	-6
Apr 7-16	1134.828	1005	-10	5.7	1134.843	13	+3
Apr 17-26	1134.805	997	-8	5.9	1134.814	13	+5
Apr 27-May 6	1134.824	1003	+6	3.5	1134.811	8	+14
May 7-16	1134.840	1008	+5	-0.9	1134.832	-2	+3
May 17-27	1134.868	1017	+9	6.3	1134.857	14	+23
May 28-Jun 6	1134.863	1016	-1	4.6	1134.866	10	+9
Jun 7-16	1134.859	1015	-1	0.9	1134.861	2	+1
Jun 17-26	1134.818	1001	-14	7.5	1134.852	17	+3
Jun 27-Jul 6	1134.708	967	-34	7.7	1134.763	17	-17
Jul 7-16	1134.595	933	-34	6.1	1134.652	13	-21
Jul 17-27	1134.483	898	-35	8.1	1134.539	17	-18
Jul 28-Aug 6	1134.381	870	-28	7.4	1134.432	15	-13
Aug 7-16	1134.267	838	-32	9.4	1134.324	19	-13
Aug 17-27	1133.291	591	-247	11.0	1133.850	20	-227
Aug 28-Sep 6	1133.085	546	-45	5.9	1133.123	9	-36
Sep 7-16	1133.037	535	-11	8.7	1133.061	13	+2
Sep 17-26	1132.980	523	-12	4.7	1133.008	7	-5
Sep 27-Oct 6	1132.954	517	-6	4.2	1132.967	6	0
Oct 7-16	1132.930	511	-6	0.6	1132.942	1	-5
Oct 17-27	1132.920	509	-2	1.0	1132.925	1	-1
TOTAL		-489	-489			215	-274

COMPUTED BY W.R. Klassen

CHECKED BY L.O. Redick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME CRESSDAY RESERVOIR 1981

STATION NO. 11AB097

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 25	963.356	394		-		-	
Feb 26-Mar 7	963.389	409	+15	-		-	+15
Mar 8-17	963.396	412	+3	-		-	+3
Mar 18-28	963.380	406	-6	-		-	-6
Mar 29-Apr 7	963.353	393	-13	1.1	963.367	3	-10
Apr 8-17	963.321	377	-16	6.3	963.337	16	0
Apr 18-27	963.278	359	-18	6.0	963.300	15	-3
Apr 28-May 7	963.229	347	-12	2.0	963.254	5	-7
May 8-17	963.414	419	+72	0.1	963.225	0	+72
May 18-28	963.625	509	+90	6.6	963.614	21	+111
May 29-Jun 7	963.599	496	-13	4.6	963.612	15	+2
Jun 8-17	963.561	478	-18	0.9	963.580	3	-15
Jun 18-27	963.514	459	-19	7.6	963.538	23	+4
Jun 28-Jul 7	963.471	442	-17	7.8	963.493	23	+6
Jul 8-17	963.417	421	-21	6.0	963.444	17	-4
Jul 18-28	963.351	392	-29	7.5	963.384	20	-9
Jul 29-Aug 7	963.289	362	-30	8.5	963.320	21	-9
Aug 8-17	963.222	346	-16	9.5	963.256	22	+6
Aug 18-28	963.138	325	-21	10.7	963.180	23	+2
Aug 29-Sep 7	963.086	309	-16	5.7	963.112	12	-4
Sep 8-17	963.036	295	-14	8.7	963.061	17	+3
Sep 18-27	962.997	284	-11	4.5	963.017	9	-2
Sep 28-Oct 7	962.970	278	-6	3.9	962.984	7	+1
Oct 8-17	962.956	274	-4	0.9	962.963	2	-2
Oct 18-28	962.943	271	-3	0.7	962.950	1	-2
TOTAL		-123	-123			275	+152

COMPUTED BY W.R. Klassen

CHECKED BY L.O. Redick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME MITCHELL RESERVOIR 1981

STATION NO. 11AB099

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 25	33.043	191	0	-		-	0
Feb 26-Mar 7	33.052	193	+2	-		-	+2
Mar 8-17	33.069	197	+4	-		-	+4
Mar 18-28	33.073	197	0	-		-	0
Mar 29-Apr 7	33.037	190	-7	1.1	33.055	2	-5
Apr 8-17	33.000	182	-8	6.3	33.019	9	+1
Apr 18-27	32.975	177	-5	6.4	32.988	9	+4
Apr 28-May 7	32.992	180	+3	2.0	32.984	3	+6
May 8-17	33.011	184	+4	0.1	33.002	0	+4
May 18-28	33.042	191	+7	6.6	33.029	9	+16
May 29-Jun 7	33.022	187	-4	4.6	33.032	7	+3
Jun 8-17	33.005	183	-4	0.9	33.014	1	-3
Jun 18-27	32.981	178	-5	7.6	32.998	10	+5
Jun 28-Jul 7	32.930	168	-10	7.8	32.956	10	0
Jul 8-17	32.877	159	-9	6.0	32.904	8	-1
Jul 18-28	32.837	152	-7	7.5	32.857	9	+2
Jul 29-Aug 7	32.773	142	-10	8.5	32.805	10	0
Aug 8-17	32.707	132	-10	9.5	32.740	10	0
Aug 18-28	32.645	122	-10	10.7	32.676	11	+1
Aug 29-Sep 7	32.588	114	-8	5.7	32.617	5	-3
Sep 8-17	32.530	108	-6	8.7	32.559	8	+2
Sep 18-27	32.485	102	-6	4.5	32.508	4	-2
Sep 28-Oct 7	32.462	100	-2	3.9	32.474	3	+1
Oct 8-17	32.442	98	-2	0.9	32.452	1	-1
Oct 18-28	32.431	96	-2	0.7	32.437	1	-1
TOTAL		-95	-95			130	+35

COMPUTED BY W.R. Klassen

CHECKED BY R.P. Helfrick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME JAYDOT RESERVOIR 1981

STATION NO. 11AB098

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 26	920.210	230	0	-		-	0
Feb 27-Mar 8	920.185	226	-4	-		-	-4
Mar 9-18	920.166	223	-3	-		-	-3
Mar 19-29	920.149	220	-3	-		-	-3
Mar 30-Apr 8	920.116	215	-5	3.0	920.133	3	-2
Apr 9-18	920.078	208	-7	5.1	920.097	6	-1
Apr 19-28	920.054	205	-3	6.4	920.068	7	+4
Apr 29-May 8	920.035	201	-4	1.3	920.045	1	-3
May 9-18	920.014	198	-3	0.4	920.025	0	-3
May 19-29	919.994	196	-2	6.5	920.004	7	+5
May 30-Jun 8	919.948	187	-9	4.3	919.971	4	-5
Jun 9-18	919.908	183	-4	1.1	919.928	1	-3
Jun 19-28	919.864	176	-7	7.6	919.889	7	0
Jun 29-Jul 8	919.807	169	-7	8.2	919.836	8	+1
Jul 9-18	919.755	163	-6	5.8	919.781	5	-1
Jul 19-29	919.708	156	-7	7.7	919.732	7	0
Jul 30-Aug 8	919.640	148	-8	8.4	919.674	7	-1
Aug 9-18	919.572	140	-8	9.4	919.606	8	0
Aug 19-29	919.505	132	-8	10.9	919.539	9	+1
Aug 30-Sep 8	919.456	126	-6	5.8	919.481	4	-2
Sep 9-18	919.398	121	-5	8.8	919.427	7	+2
Sep 19-28	919.355	117	-4	4.0	919.377	3	-1
Sep 29-Oct 8	919.335	115	-2	3.3	919.345	2	0
Oct 9-18	919.312	112	-3	0.9	919.324	1	-2
Oct 19-29	919.300	111	-1	0.7	919.306	0	-1
TOTAL		-119	-119			97	-22

COMPUTED BY W.R. Klassen

CHECKED BY W. Wyatt

WATER SURVEY OF CANADA
JAN 15 1982 PAGE 23
REGINA, SASK.

MIDDLE CREEK NEAR ALBERTA BOUNDARY

STATION NO. 11AB009

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.091 B	0.007	0.006	0.005	0.002	0.002	0.002	0.002			1
2			0.062 B	0.007	0.006	0.004	0.001	0.002	0.001	0.002			2
3			0.036 B	0.007	0.006	0.003	0.001	0.002	0.002	0.002			3
4			0.034 B	0.007	0.007	0.003	0.001	0.002	0.002	0.002			4
5			0.034 B	0.007	0.007	0.003	0.001	0.002	0.001	0.002			5
6			0.028	0.007	0.010	0.003	0.001	0.002	0.001	0.002			6
7			0.017	0.006	0.017	0.003	0.003	0.002	0.001	0.002			7
8			0.015	0.007	0.015	0.003	0.001	0.001	0.001	0.002			8
9			0.015	0.007	0.011	0.004	0.001	0.001	0.001	0.002			9
10			0.015	0.006	0.010	0.003	0.001	0.002	0.001	0.003			10
11			0.014	0.006	0.007	0.003	0.001	0.002	0.002	0.003			11
12			0.012	0.006	0.006	0.004	0.001	0.002	0.002	0.003			12
13			0.010	0.006	0.006	0.006	0.004	0.002	0.002	0.002			13
14			0.009	0.006	0.007	0.013	0.002	0.002	0.002	0.003			14
15			0.009	0.006	0.010	0.012	0.002	0.002	0.002	0.003			15
16			0.009	0.005	0.050	0.008	0.001	0.002	0.002	0.002			16
17			0.009	0.005	0.036	0.005	0.001	0.002	0.002	0.001			17
18			0.006	0.006	0.020	0.005	0.001	0.001	0.002	0.002			18
19			0.006	0.006	0.015	0.004	0.002	0.002	0.001	0.002			19
20			0.005	0.006	0.012	0.003	0.002	0.002	0.002	0.002			20
21			0.005	0.006	0.008	0.003	0.002	0.002	0.003	0.002			21
22			0.006	0.006	0.007	0.003	0.002	0.002	0.003	0.002			22
23			0.007	0.006	0.007	0.003	0.002	0.002	0.003	0.002			23
24		0.722 B	0.007	0.006	0.007	0.003	0.003	0.002	0.003	0.002			24
25		0.804 B	0.006	0.013	0.006	0.002	0.003	0.002	0.003	0.002			25
26		0.329 B	0.006	0.011	0.006	0.002	0.003	0.002	0.003	0.002			26
27		0.184 B	0.006	0.009	0.006	0.002	0.002	0.002	0.003	0.002			27
28		0.145 B	0.008	0.007	0.005	0.002	0.002	0.001	0.003	0.002 A			28
29			0.008	0.006	0.005	0.002	0.002	0.001	0.002	0.002 E			29
30			0.009	0.006	0.005	0.001	0.002	0.001	0.002	0.002 E			30
31			0.007		0.005		0.002	0.002		0.002 E			31
TOTAL			0.511	0.202	0.331	0.120	0.055	0.056	0.060	0.066			TOTAL
MEAN			0.016	0.007	0.011	0.004	0.002	0.002	0.002	0.002			MEAN
DAM3			44.2	17.5	28.6	10.4	4.75	4.84	5.18	5.70			DAM3
MAX			0.091	0.013	0.050	0.013	0.004	0.002	0.003	0.003			MAX
MIN			0.005	0.005	0.005	0.001	0.001	0.001	0.001	0.001			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.006 M3/S
TOTAL DISCHARGE, 121 DAM3
MAXIMUM DAILY DISCHARGE, 0.091 M3/S ON MAR 1
MINIMUM DAILY DISCHARGE, 0.001 M3/S ON JUN 30

MAXIMUM INSTANTANEOUS DISCHARGE, 1.16 B M3/S AT 0906 CST ON FEB 25

APPROVED
District Chief U.S.G.S.
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME MIDDLE CREEK RESERVOIR 1981

STATION NO. 11AB080

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 25	1028.685	5010					
Feb 26-Mar 7	1028.720	5147	137	0	1028.714	0	137
Mar 8-17	1028.712	5116	-31	0	1028.717	0	-31
Mar 18-28	1028.689	5026	-90	0	1028.700	0	-90
Mar 29-Apr 7	1028.666	4935	-91	1.1	1028.680	30	-61
Apr 8-17	1028.633	4806	-129	6.3	1028.651	171	42
Apr 18-27	1028.558	4514	-292	6.0	1028.607	162	-130
Apr 28-May 7	1028.427	4014	-500	2.0	1028.464	52	-448
May 8-17	1028.278	3470	-544	0.1	1028.373	3	-541
May 18-28	1028.171	3086	-384	6.6	1028.211	163	-221
May 29-Jun 7	1028.143	2987	-99	4.6	1028.152	113	14
Jun 8-17	1028.135	2959	-28	0.9	1028.136	22	- 6
Jun 18-27	1028.074	2747	-212	7.6	1028.106	184	-28
Jun 28-Jul 7	1028.055	2681	-66	7.8	1028.067	188	122
Jul 8-17	1028.014	2540	-141	6.0	1028.038	143	2
Jul 18-28	1027.960	2357	-183	7.5	1027.980	177	- 6
Jul 29-Aug 7	1027.912	1295	-162	8.5	1027.932	198	36
Aug 8-17	1027.858	2016	-179	9.5	1027.888	217	38
Aug 18-28	1027.772	1740	-276	10.7	1027.815	238	-38
Aug 29-Sep 7	1027.732	1616	-124	5.7	1027.748	123	- 1
Sep 8-17	1027.685	1473	-143	8.7	1027.708	183	40
Sep 18-27	1027.651	1372	-101	4.5	1027.667	92	- 9
Sep 28-Oct 7	1027.624	1294	-78	3.9	1027.634	78	0
Oct 8-17	1027.612	1259	-35	0.9	1027.619	18	-17
Oct 18-28	1027.599	1222	-37	0.7	1027.605	14	-23
TOTAL			-3788			2569	-1219

COMPUTED BY G.B.Felton

CHECKED BY F.M. O'NEILL

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
DEC 22 1981 PAGE 6
REGINA, SASK.

MIDDLE CREEK RESERVOIR MAIN OUTLET

STATION NO. 11AB113

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0.660	0	0	0	0	0			1
2			0	0	0.752	0	0	0	0	0			2
3			0	0	0.706	0	0	0	0	0			3
4			0	0	0	0	0	0	0	0			4
5			0	0	0	0	0	0	0	0			5
6			0	0	0	0	0	0	0	0			6
7			0	0	0	0	0	0	0	0			7
8			0	0	0	0	0	0	0	0			8
9			0	0	0	0	0	0	0	0			9
10			0	0	0	0	0	0	0	0			10
11			0	0	0.873	0	0	0	0	0			11
12			0	0	1.49	0	0	0	0	0			12
13			0	0	1.22	0	0	0	0	0			13
14			0	0	0.749	0	0	0	0	0			14
15			0	0	1.37	0	0	0	0	0			15
16			0	0	1.90	0	0	0	0	0			16
17			0	0	1.89	0	0	0	0	0			17
18			0	0	0.974	0	0	0	0	0			18
19			0	0	0.219	0	0	0	0	0			19
20			0	0	0.203	0	0	0	0	0			20
21			0	0	0.405	0	0	0	0	0			21
22			0	0	0.402	0	0	0	0	0			22
23			0	0	0.400	0	0	0	0	0			23
24			0	0	0.399	0	0	0	0	0			24
25			0	0	0.182	0	0	0	0	0			25
26			0	0.066	0	0	0	0	0	0			26
27			0	0.532	0	0	0	0	0	0			27
28			0	0.718	0	0	0	0	0	0			28
29			0	0.822	0	0	0	0	0	0			29
30			0	0.880	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	3.018	14.794	0	0	0	0	0			TOTAL
MEAN			0	0.101	0.477	0	0	0	0	0			MEAN
DAM3			0	261	1280	0	0	0	0	0			DAM3
MAX			0	0.880	1.90	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

WATER SURVEY OF CANADA
DEC 16 1981 PAGE 13
REGINA, SASK.

MIDDLE CREEK RESERVOIR BEDFORD OUTLET

STATION NO. 11AB114

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0	0	0	0	0	0			1
2			0	0	0	0	0	0	0	0			2
3			0	0	0	0	0	0	0	0			3
4			0	0	0	0	0	0	0	0			4
5			0	0	0	0	0	0	0	0			5
6			0	0	0	0	0	0	0	0			6
7			0	0	0	0	0	0	0	0			7
8			0	0	0	0	0	0	0	0			8
9			0	0	0	0	0	0	0	0			9
10			0	0	0	0	0	0	0	0			10
11			0	0	0	0	0	0	0	0			11
12			0	0	0	0	0	0	0	0			12
13			0	0	0	0	0	0	0	0			13
14			0	0	0	0	0	0	0	0			14
15			0	0	0	0	0	0	0	0			15
16			0	0	0	0	0	0	0	0			16
17			0	0	0	0	0	0	0	0			17
18			0	0	0	0	0	0	0	0			18
19			0	0	0	0	0	0	0	0			19
20			0	0	0	0	0	0	0	0			20
21			0	0	0	0	0	0	0	0			21
22			0	0	0	0	0	0	0	0			22
23			0	0	0	0	0	0	0	0			23
24			0	0	0	0	0	0	0	0			24
25			0	0	0	0	0	0	0	0			25
26			0	0	0	0	0	0	0	0			26
27			0	0	0	0	0	0	0	0			27
28			0	0	0	0	0	0	0	0			28
29			0	0	0	0	0	0	0	0			29
30			0	0	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	0	0	0	0	0	0	0			TOTAL
MEAN			0	0	0	0	0	0	0	0			MEAN
DAM3			0	0	0	0	0	0	0	0			DAM3
MAX			0	0	0	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0 M3/S
TOTAL DISCHARGE, 0 DAM3
MAXIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

WATER SURVEY OF CANADA
DEC 16 1981 PAGE 18
REGINA, SASK.

MIDDLE CREEK RESERVOIR FLOOD SPILLWAY

STATION NO. 11AB115

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0	0	0	0	0	0			1
2			0	0	0	0	0	0	0	0			2
3			0	0	0	0	0	0	0	0			3
4			0	0	0	0	0	0	0	0			4
5			0	0	0	0	0	0	0	0			5
6			0	0	0	0	0	0	0	0			6
7			0	0	0	0	0	0	0	0			7
8			0	0	0	0	0	0	0	0			8
9			0	0	0	0	0	0	0	0			9
10			0	0	0	0	0	0	0	0			10
11			0	0	0	0	0	0	0	0			11
12			0	0	0	0	0	0	0	0			12
13			0	0	0	0	0	0	0	0			13
14			0	0	0	0	0	0	0	0			14
15			0	0	0	0	0	0	0	0			15
16			0	0	0	0	0	0	0	0			16
17			0	0	0	0	0	0	0	0			17
18			0	0	0	0	0	0	0	0			18
19			0	0	0	0	0	0	0	0			19
20			0	0	0	0	0	0	0	0			20
21			0	0	0	0	0	0	0	0			21
22			0	0	0	0	0	0	0	0			22
23			0	0	0	0	0	0	0	0			23
24			0	0	0	0	0	0	0	0			24
25			0	0	0	0	0	0	0	0			25
26			0	0	0	0	0	0	0	0			26
27			0	0	0	0	0	0	0	0			27
28			0	0	0	0	0	0	0	0			28
29			0	0	0	0	0	0	0	0			29
30			0	0	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	0	0	0	0	0	0	0			TOTAL
MEAN			0	0	0	0	0	0	0	0			MEAN
DAM3			0	0	0	0	0	0	0	0			DAM3
MAX			0	0	0	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0 M3/S
TOTAL DISCHARGE, 0 DAM3
MAXIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

WATER SURVEY OF CANADA
JAN 05 1982 PAGE 5
REGINA, SASK.

MIDDLE CREEK BELOW MIDDLE CREEK RESERVOIR

STATION NO. 11AB001

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0 B	0	0.257	0	0	0	0	0			1
2			0 B	0	0.210	0	0	0	0	0			2
3			0 B	0	0.234	0	0	0	0	0			3
4			0 B	0	0.221	0	0	0	0	0			4
5			0 B	0	0.204	0	0	0	0	0			5
6			0 B	0	0.050	0	0	0	0	0			6
7			0 B	0	0.044	0	0	0	0	0			7
8			0 B	0	0.019	0	0	0	0	0			8
9			0 B	0	0.006	0	0	0	0	0			9
10			0 B	0	0.001	0	0	0	0	0			10
11			0 B	0	0.007	0	0	0	0	0			11
12			0 B	0	0.876	0	0	0	0	0			12
13			0 B	0	0.867	0	0	0	0	0			13
14			0 B	0	0.510	0	0	0	0	0			14
15			0 B	0	0.418	0	0	0	0	0			15
16			0 B	0	0.410	0	0	0	0	0			16
17			0 B	0	0.447	0	0	0	0	0			17
18			0 B	0	0.359	0	0	0	0	0			18
19			0 B	0	0.326	0	0	0	0	0			19
20			0 B	0	0.736	0	0	0	0	0			20
21			0	0	0.740	0	0	0	0	0			21
22			0	0	0.361	0	0	0	0	0			22
23			0	0	0.311	0	0	0	0	0			23
24			0	0	0.296	0	0	0	0	0			24
25			0	0	0.277	0	0	0	0	0			25
26			0	0	0.064	0	0	0	0	0			26
27			0	0	0.010	0	0	0	0	0			27
28			0	0.073	0.002	0	0	0	0	0			28
29			0	0.063	0	0	0	0	0	0			29
30			0	0.189	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	0.325	8.263	0	0	0	0	0			TOTAL
MEAN			0	0.011	0.267	0	0	0	0	0			MEAN
DAM3			0	28.1	714	0	0	0	0	0			DAM3
MAX			0	0.189	0.876	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.035 M3/S
TOTAL DISCHARGE, 742 DAM3
MAXIMUM DAILY DISCHARGE, 0.876 M3/S ON MAY 12
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

MAXIMUM INSTANTANEOUS DISCHARGE, 1.11 M3/S AT 1236 CST ON MAY 20

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

B-ICE CONDITIONS

Water Survey of Canada

DAILY PAN EVAPORATION & PRECIPITATION IN MILLIMETRES

Station - MANYBERRIES

Year - 1981

APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		Day
Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	
F	0.4	9.6		6.6		7.2	T	9.6		6.4		6.4		1
F		7.6		2.0	3.4	9.0		6.8		5.8		2.2		2
10.8	0.2	5.4		6.6	0.2	9.8		7.2	1.0	6.2		3.4		3
F		2.8	6.4	9.0		11.8		6.2		5.8		F		4
F	0.7	$\bar{5}.6$	12.4	1.0	8.6	11.4	0.6	8.8		5.6		7.2		5
F		$1\bar{5}.0$	19.4	1.4	0.6	$\bar{1}.6$	2.4	9.6		7.2		4.6		6
F		$\bar{7}.6$	9.0	5.2		7.2	2.4	11.4		7.2		2.4	1.2	7
18.8		4.4	0.2	3.4	3.2	9.2		7.6		10.2		F		8
F		3.6	0.2	$\bar{1}.4$	4.4	10.0		8.6		9.6		7.2		9
9.4		4.4		5.2		13.0	0.8	10.2		8.6		$\bar{4}.6$	8.8	10
4.8		4.4		6.4		3.4	2.8	11.0		9.2		$\bar{7}.0$	9.6	11
F	0.8	3.2		$1\bar{5}.6$	18.0	0.0	10.4	10.4		10.4		F		12
F		4.8		$\bar{3}.4$	7.2	2.4	2.0	10.8		7.2		1.6	0.2	13
7.4		5.4	0.4	2.0	0.8	2.8	2.4	7.0	2.0	8.0		2.2	0.2	14
7.2		$1\bar{5}.6$	20.0	3.0	1.0	6.0		8.2	1.2	8.8		2.4		15
9.6		$1\bar{4}.2$	18.6	5.2		8.0		8.6		8.4		2.8		16
6.0		1.8	0.4	5.2	0.2	6.4		11.6		7.2		4.8		17
6.8		7.0		4.6		7.2		7.2		11.4		0.0		18
9.0		4.8		8.4		10.0		10.6		4.8	1.0	0.0	1.3	19
7.2	0.6	5.6	0.4	8.2		9.6		7.2	1.0	5.8		F		20
$\bar{2}.4$	4.0	6.8	2.8	6.4		7.0	0.4	8.6		2.8		F	1.2	21
3.2		4.4	0.2	6.4		7.2		8.8		5.6		F		22
7.0		7.2		7.2	0.6	6.8	1.6	9.6		4.6		F	T	23
9.0		6.4		7.8		4.8		9.6		2.0	2.0	F	2.0	24
8.8		6.8	1.0	10.6		4.8		10.6		1.6	2.2	1.8	0.8	25
3.6		6.2	0.2	10.8	0.2	8.4		13.2		F		1.6		26
7.2		6.4		6.4	0.4	9.4		10.8		4.8	0.6	0.8		27
10.8		5.2	0.2	4.8	0.4	0.0	6.0	9.2		6.0		2.4		28
4.8		5.8		9.6		9.2		8.8		3.2		F		29
7.2		6.6		9.0	2.2	8.8		$\bar{2}.0$	4.8	5.2		4.8		30
		0.6	2.6			7.0		5.8				5.6		31
156.2	6.70	79.2	94.4	142.0	51.4	216.2	31.8	271.6	10.0	189.6	5.8	52.6	25.3	Total

F - Ice on evaporation pan. T - trace of precipitation.

Prepared by W. Klassen

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME ALTAWAN RESERVOIR 1981

STATION NO. 11AB089

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 26	895.531	1763					
Feb 27-Mar 8	895.812	1966	203	0	895.706	0	203
Mar 9-18	895.911	2041	75	0	895.874	0	75
Mar 19-29	895.922	2050	9	0	895.924	0	9
Mar 30-Apr 8	895.906	2037	-13	3.0	895.923	11	3
Apr 9-18	895.863	2003	-34	5.1	895.882	27	- 7
Apr 19-28	895.811	1965	-38	6.4	895.838	34	- 4
Apr 29-May 8	895.783	1945	-20	1.3	895.786	7	-13
May 9-18	895.832	1980	35	0.4	895.780	2	37
May 19-29	894.643	1230	-750	6.5	895.469	30	-720
May 30-Jun 8	893.285	630	-600	4.3	893.913	13	-587
Jun 9-18	893.339	671	41	1.1	893.051	3	44
Jun 19-28	893.482	709	38	7.6	893.474	20	58
Jun 29-Jul 8	893.423	685	-24	8.2	893.457	22	- 2
Jul 9-18	893.402	676	- 9	5.8	893.410	15	6
Jul 19-29	890.317	51	-625	7.7	891.656	9	-616
Jul 30-Aug 8	890.597	74	23	8.4	890.497	5	28
Aug 9-18	890.027	30	-44	9.4	890.247	5	-39
Aug 19-29	890.026	30	0	10.9	890.049	5	5
Aug 30-Sep 8	889.984	28	- 2	5.8	890.003	2	0
Sep 9-18	889.935	26	- 2	8.8	889.959	4	2
Sep 19-28	889.909	25	- 1	4.0	889.920	2	1
Sep 29-Oct 8	889.725	18	- 7	3.3	889.832	1	- 6
Oct 9-18	889.528	10	- 8	0.9	889.626	0	- 8
Oct 19-29	889.322	3	- 7	0.7	889.417	0	- 7
TOTAL			-1760			222	-1538

COMPUTED BY G.B.Felton

CHECKED BY F.M. O'Neill

APPROVED

District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
JAN 05 1982 PAGE 10
REGINA, SASK.

SPANGLER DITCH NEAR GOVENLOCK

STATION NO. 11AB060

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0	0.543	0	0	0	0			1
2			0	0	0	0.553	0	0	0	0			2
3			0	0	0	0.549	0	0	0	0			3
4			0	0	0	0.463	0	0	0	0			4
5			0	0	0	0.412	0	0	0	0			5
6			0	0	0	0.416	0	0	0	0			6
7			0	0	0	0.417	0	0	0	0			7
8			0	0	0	0.364	0	0	0	0			8
9			0	0	0	0.291	0	0	0	0			9
10			0	0	0	0.012	0	0	0	0			10
11			0	0	0	0.119	0	0	0	0			11
12			0	0	0	0.189	0	0	0	0			12
13			0	0	0	0.187	0	0.040	0	0			13
14			0	0	0	0.188	0	0	0	0			14
15			0	0	0	0.186	0	0	0	0			15
16			0	0	0	0.155	0	0	0	0			16
17			0	0	0	0	0	0	0	0			17
18			0	0	0	0	0	0	0	0			18
19			0	0	0	0	0	0	0	0			19
20			0	0	0.025	0	0	0	0	0			20
21			0	0	0.848	0	0	0	0	0			21
22			0	0	0.964	0	0	0	0	0			22
23			0	0	0.985	0	0	0	0	0			23
24			0	0	0.995	0	0	0	0	0			24
25			0	0	1.01	0	0	0	0	0			25
26			0	0	1.02	0	0	0	0	0			26
27			0	0	1.02	0	0	0	0	0			27
28			0	0	1.06	0	0	0	0	0			28
29			0	0	1.09	0	0	0	0	0			29
30			0	0	1.09	0	0	0	0	0			30
31			0		0.856		0	0		0			31
TOTAL			0	0	10.963	5.044	0	0.040	0	0			TOTAL
MEAN			0	0	0.354	0.168	0	0.001	0	0			MEAN
DAM3			0	0	947	436	0	3.46	0	0			DAM3
MAX			0	0	1.09	0.553	0	0.040	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.065 M3/S
TOTAL DISCHARGE, 1390 DAM3
MAXIMUM DAILY DISCHARGE, 1.09 M3/S ON MAY 29
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
DEC 18 1981 PAGE 19
REGINA, SASK.

SQUAW COULEE NEAR WILLOW CREEK

STATION NO. 11AB103

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.001 B	0	0	0	0	0	0	0			1
2			0.001 B	0	0	0	0	0	0	0			2
3			0 B	0	0	0	0	0	0	0			3
4			0 B	0	0	0	0	0	0	0			4
5			0 B	0	0	0	0	0	0	0			5
6			0 B	0	0	0	0	0	0	0			6
7			0 B	0	0	0	0	0	0	0			7
8			0 B	0	0	0	0	0	0	0			8
9			0 B	0	0	0	0	0	0	0			9
10			0 B	0	0	0	0	0	0	0			10
11			0 B	0	0	0	0	0	0	0			11
12			0 B	0	0	0	0	0	0	0			12
13			0 B	0	0	0	0	0	0	0			13
14			0 B	0	0	0	0	0	0	0			14
15			0 B	0	0	0	0	0	0	0			15
16			0 B	0	0	0	0	0	0	0			16
17			0 B	0	0	0	0	0	0	0			17
18			0 B	0	0	0	0	0	0	0			18
19			0 B	0	0	0	0	0	0	0			19
20			0 B	0	0	0	0	0	0	0			20
21			0 B	0	0	0	0	0	0	0			21
22			0 B	0	0	0	0	0	0	0			22
23			0 B	0	0	0	0	0	0	0			23
24			0 B	0	0	0	0	0	0	0			24
25		0.010 B	0 B	0	0	0	0	0	0	0			25
26		0.006 B	0	0	0	0	0	0	0	0			26
27		0.004 B	0	0	0	0	0	0	0	0			27
28		0.002 B	0	0	0	0	0	0	0	0			28
29			0	0	0	0	0	0	0	0			29
30			0	0	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0.002	0	0	0	0	0	0	0			TOTAL
MEAN			0	0	0	0	0	0	0	0			MEAN
DAM3			0.173	0	0	0	0	0	0	0			DAM3
MAX			0.001	0	0	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0 M3/S
TOTAL DISCHARGE,0.173 DAM3
MAXIMUM DAILY DISCHARGE,0.001 M3/S ON MAR 1
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 3

B-ICE CONDITIONS

MAXIMUM INSTANTANEOUS DISCHARGE, 0.010 B M3/S AT 1555 CST ON FEB 25

MISCELLANEOUS DIVERSIONS

LODGE CREEK BASIN (ALTA)
1981

Name	Land Location	Address	Diversion dam^3
FLYING R RANCH		Lodge Creek	0
GOOD, D.		Middle Creek	0[E]
SMITH, K.		Lodge Creek	100[E]
WALBURGER, B.J.	E½36, NE25-3-1-4	Lodge Creek	6
YEAST, P.A.	SE10-6-34	Lodge Creek	50
TOTAL			156

Data obtained by personal phone calls by G.B. Felton

MISCELLANEOUS DIVERSIONS
LODGE CREEK BASIN (SASK)
1981

Name	Land Location	Address	Diversion dam^3
ALTAWAN GRAZING CO-OP LTD.	SW-25-3-30-3	Senate, Sask.	0
BATTLE CREEK RANCH LTD.	SE-25-4-30-3	Maple Creek, Sask.	0
BUCHANAN, H.L.	SW-10-3-29-3	Consul, Sask.	0
BUCHANAN, H.L.	NE-4-3-29-3	Consul, Sask.	268
BUCHANAN, G.A.	SE-36-1-30-3	Consul, Sask.	0
EREMENKO, D.	SW10-2-29-3	Consul, Sask.	1
HALLADAY, F.J.	NW-32-2-28-3	Site, #1, Box 5 Consul, Sask.	0
MIDDLE FORK RANCHING CO.	NE-4-4-29-3	Consul, Sask.	26
MIDDLEFORK RANCHING CO.	NE-32-4-29-3	Consul, Sask.	0
MIDDLEFORK RANCHING CO.	NW-6-4-29-3	Consul, Sask.	0
MIDDLEFORK RANCHING CO.	NE-1-4-30-3	Consul, Sask.	0
MIDDLEFORK RANCHING CO.	NE-4-4-29-3	Consul, Sask.	21
MIDDLEFORK RANCHING CO.	NW-20-4-29-3	Consul, Sask.	22
PARSONAGE, G.W.	SW-32-5-29-3	R.R. #1 Maple Creek, Sask.	0
PEDERSEN, C.	NE-15-2-29-3	Consul, Sask.	0
PEDERSEN, L.	SW-22-2-29-3	Consul, Sask.	0
PEDERSEN, L.	SW-22-2-29-3	Consul, Sask.	0
PEDERSEN, L.	NE-2-2-29-3	Consul, Sask.	0
PIERCE, J.A.	NE-30-3-28-3	Consul, Sask.	0
REYNOLDS, K.	NE-6-3-28-3	Site 1, Box 4, Consul, Sask.	0
REYNOLDS, K.	NW-13-3-29-3	Site 1, Box 4, Consul, Sask.	0
SAVILLE, J.M.	NW-16-3-30-3	Consul, Sask.	12
SAVILLE, J.M.	SE-21-3-30-3	Consul, Sask.	0

MISCELLANEOUS DIVERSIONS
LODGE CREEK BASIN (SASK)
1981

Name	Land Location	Address	Diversion dam^3
SAVILLE, J.M.	NW-9-3-30-3	Consul, Sask.	0
SAVILLE, J.M.	NE-17-3-30-3	Consul, Sask.	0
SAVILLE, J.M.	SW-21-3-30-3	Consul, Sask.	0
SCHAFER, E.D.	NW-23-3-29-3	Consul, Sask.	0
STIRLING, S.	NW-4-4-28-3	Consul, Sask.	0
STOKKE, S.	SE-20-2-29-3	Consul, Sask.	178
TRUMPOUR, D.H.	NW-24-3-29-3	Consul, Sask.	0
TRUMPOUR, D.H.	SW-24-3-29-3	Consul, Sask.	0
TRUMPOUR, D.H.	NW-24-3-29-3	Consul, Sask.	0
TRUMPOUR, D.H.	SW-28-2-29-3	Consul, Sask.	0
WAGNER, D.D.	NW-3-4-28-3	Senate, Sask.	0
WAGNER, R.J.	SW-29-4-29-3	Consul, Sask.	0
WAGNER, R.J.	SW-29-4-29-3	Consul, Sask.	0
WAGNER, R.J.	SW-29-4-29-3	Consul, Sask.	0
WAGNER, M.J.	SW-9-3-28-3	Box 122, Consul, Sask.	0
WAGNER, M.J.	NE-4-3-28-3	Box 122, Consul, Sask.	0
		TOTAL	528

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06149500 BATTLE CREEK AT INTERNATIONAL BOUNDARY 11AB027
DRAINAGE AREA 2411 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDAR YEAR JANUARY 1981 TO DECEMBER 1981
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0.646	0.193	c0.113	0.126	0.155	0.173	0	0		
2			.503	.267	.291	.089	.116	.114	0	0		
3			.462	.203	.218	1.18	.170	.109	0	0		
4			.690	.149	.379	1.21	.229	.114	0	0		
5			.745	.107	c .526	.955	.226	.100	0	0		
6			.676	.071	.446	.604	.226	.095	0	0		
7			.611	.069	.794	.424	.236	.089	0	0		
8			.571	.111	.828	.389	.193	.078	0	0		
9			.591	.129	.863	.370	.134	.063	0	0		
10			.646	.116	.639	.338	.098	.056	0	0		
11			.690	.100	.721	.287	.073	.044	0	0		
12			.729	.107	.485	.308	.082	.034	0	0		
13			.625	.098	.399	.347	.152	.023	0	0		
14			.375	.093	.399	.394	.222	.016	0	0		
15			.247	.085	.503	.394	.283	.010	0	0		
16			.226	.066	.578	.394	.491	.008	0	0		
17			.321	.082	.545	.409	.394	.006	0	0		
18			.370	.247	.828	.394	.706	.005	0	0		
19			.203	.251	2.05	.514	.552	.003	0	0		
20			.287	.190	1.69	1.20	.676	.001	0	0		
21			.190	.126	1.55	.828	.713	.001	0	0		
22			.296	.100	1.72	.618	.571	0	0	0		
23			.300	.098	1.66	.451	.399	0	0	0		
24			.200	.143	1.40	.409	.316	0	0	0		
25			.186	.102	1.16	.308	.296	0	0	0		
26			.255	.073	1.07	.226	.226	0	0	0		
27			.296	c .065	.899	.271	.316	0	0	0		
28		0.632	.218	.074	.508	.263	.300	0	0	0		
29		---	.161	.082	.312	.244	.275	0	0	0		
30			.203	c .089	.211	.200	.218	0	0	0		
31			.226	---	.155	---	.211	0		0		
TOTAL			12.745	3.686	23.940	14.144	9.255	1.142	0	0		
MEAN			.4111	.1229	.7723	.4715	.2985	.0368	0	0		
MAX			.745	.267	2.05	1.21	.713	.173	0	0		
MIN			.161	.065	.113	.089	.073	0	0	0		
DAM^3			1101	318	2068	1222	800	98.7	0	0		

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 5806 DAM^3
MAX DISCH, 2.30 M^3/S AT 1000 HRS ON MAY 19 (G.H. 1.222 M).
MIN DISCH, NO FLOW ON MANY DAYS.

c--BACKWATER FROM BEAVER DAM.

APPROVED: DISTRICT CHIEF, U.S.G.S.

REGIONAL CHIEF, W.S.C.

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME REESOR RESERVOIR 1981

STATION NO. 11AB090

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 22	1225.930	1382		0			
Feb 23-Mar 8	1225.922	1378	- 4	0			- 4
Mar 9-19	1225.918	1376	- 2	0			- 2
Mar 20-29	1225.910	1372	- 4	0			- 4
Mar 30-Apr 8	1225.898	1366	- 6	0			- 6
Apr 9-18	1225.886	1360	- 6	0			- 6
Apr 19-28	1225.875	1355	- 5	4.0	1225.880	+14	+ 9
Apr 29-May 8	1225.885	1360	+ 5	3.4	1225.874	+12	+17
May 9-19	1225.900	1367	+ 7	1.6	1225.893	+ 6	+13
May 20-29	1225.900	1367	0	5.4	1225.900	+19	+19
May 30-Jun 8	1225.925	1380	+13	4.1	1225.913	+14	+27
Jun 9-18	1226.010	1422	+42	0.5	1225.969	+ 2	+44
Jun 19-28	1226.025	1430	+ 8	7.0	1226.018	+24	+32
Jun 29-Jul 8	1226.029	1432	+ 2	8.1	1226.027	+28	+30
Jul 9-19	1226.062	1448	+16	7.0	1226.047	+25	+41
Jul 20-29	1226.065	1450	+ 2	6.7	1226.064	+24	+26
Jul 30-Aug 8	1226.001	1418	-32	8.5	1226.033	+30	- 2
Aug 9-19	1225.933	1384	-34	7.7	1225.967	+27	- 7
Aug 20-29	1225.875	1355	-29	8.5	1225.904	+29	0
Aug 30-Sep 8	1225.825	1331	-24	5.8	1225.850	+20	- 4
Sep 9-18	1225.775	1307	-24	8.2	1225.800	+28	+ 4
Sep 19-28	1225.725	1283	-24	3.0	1225.750	+10	-14
Sep 29-Oct 8	1225.725	1283	0	3.2	1225.725	+11	+11
Oct 9-19	1225.840	1339	+56	0.9	1225.783	+ 3	+59
Oct 20-25	1225.870	1353	+14	0.2	1225.855	+ 1	+15
TOTAL			-29			327	298

COMPUTED BY G.B. Felton

CHECKED BY R.P. Helfrick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME ADAMS LAKE 1981

STATION NO. 11AB095

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 23	1186.380	164					
Feb 24-Mar 9	1186.540	196	32	0			+32
Mar 10-20	1186.950	324	128	0			+128
Mar 21-30	1187.000	344	20	0			+20
Mar 31-Apr 9	1186.790	265	-79	0			-79
Apr 10-19	1186.590	208	-57	0			-57
Apr 20-29	1186.400	168	-40	4.6			-40
Apr 30-May 9	1186.640	220	52	3.1	1186.479	+ 5	57
May 10-20	1186.910	308	88	2.1	1186.754	5	93
May 21-30	1186.900	304	-4	4.7	1186.905	13	9
May 31-Jun 9	1186.970	332	28	3.7	1186.935	10	38
Jun 10-19	1187.450	545	213	2.1	1187.217	7	220
Jun 20-29	1187.426	534	-11	6.7	1187.438	+23	+12
Jun 30-Jul 9	1187.414	528	-6	8.2	1187.420	+28	+22
Jul 10-20	1187.400	522	-6	6.9	1187.407	+23	+17
Jul 21-30	1187.370	507	-15	6.6	1187.385	+22	+7
Jul 31-Aug 9	1187.296	473	-34	8.5	1187.333	+28	-6
Aug 10-20	1187.220	438	-35	7.3	1187.258	+23	-12
Aug 21-30	1187.140	403	-35	7.8	1187.180	+24	-11
Aug 31-Sep 9	1187.060	369	-34	7.0	1187.100	+21	-13
Sep 10-19	1186.980	336	-33	7.8	1187.020	+23	-10
Sep 20-29	1186.904	306	-30	2.6	1186.942	+7	-23
Sep 30-Oct 9	1186.900	304	-2	3.7	1186.902	+10	+8
Oct 10-20	1186.894	302	-2	0.2	1186.897	+1	-1
Oct 21-26	1186.890	301	-1	0.4	1186.892	+1	0
TOTAL			137			274	411

COMPUTED BY G.B. Felton

CHECKED BY R.P. Helfrick

GAFF DITCH NEAR MERRYFLAT

STATION NO. 11AB102

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0.004	0.172	0.023	0.184	0.040	0	0.054			1
2			0	0.002	0.024	0.023	0.113	0.021	0	0.055			2
3			0	0.002	0.017	0.019	0.104	0.009	0.059	0.051			3
4			0	0.002	0.015	0.016	0.077	0.009	0.079	0.049			4
5			0	0.095	0.008	0.012	0.064	0.007	0.067	0.045			5
6			0	0.152	0.006	0.017	0.043	0.005	0.029	0.034			6
7			0	0.147	0.006	0.006	0.032	0.003	0.022	0.016			7
8			0	0.140	0.006	0.004	0.021	0.001	0.014	0.006			8
9			0	0.136	0.006	0.004	0.019	0.001	0	0.002			9
10			0	0.126	0.006	0.005	0.012	0.001	0	0			10
11			0	0.292	0.287	0.004	0.012	0.001	0	0			11
12			0	0.423	0.448	0.003	0.012	0.001	0	0			12
13			0	0.404	0.391	0.002	0.014	0.001	0	0			13
14			0	0.368	0.350	0.003	0.020	0.001	0	0			14
15			0	0.387	0.354	0.009	0.016	0.001	0	0			15
16			0	0.395	0.364	0.008	0.009	0.001	0	0			16
17			0	0.469	0.172	0.007	0.015	0.003	0	0			17
18			0	0.516	0.137	0.005	0.014	0.001	0	0			18
19			0	0.498	0.008	0.004	0.013	0	0	0			19
20			0	0.476	0.004	0.003	0.012	0	0	0			20
21			0 E	0.461	0.004	0.005	0.016	0	0	0			21
22			0 E	0.501	0.003	0.006	0.017	0	0	0			22
23			0 E	0.516	0.171	0.006	0.018	0	0.004	0			23
24			0.001 E	0.504	0.414	0.007	0.017	0	0.068	0			24
25			0.002 E	0.500	0.388	0.007	0.015	0	0.071	0			25
26			0.002 E	0.480	0.369	0.007	0.014	0	0.075	0			26
27			0.003 E	0.446	0.335	0.007	0.012	0	0.074	0			27
28			0.003 E	0.398	0.304	0.009	0.012	0	0.074	0			28
29			0.004 E	0.379	0.246	0.009	0.010	0	0.070	0			29
30			0.004 E	0.370	0.220	0.110	0.040	0	0.064	0			30
31			0.004 E		0.082		0.054	0		0			31
TOTAL			0.023	9.589	5.317	0.350	1.031	0.107	0.770	0.312			TOTAL
MEAN			0.001	0.320	0.172	0.012	0.033	0.003	0.026	0.010			MEAN
DAM3			1.99	828	459	30.2	89.1	9.24	66.5	27.0			DAM3
MAX			0.004	0.516	0.448	0.110	0.184	0.040	0.079	0.055			MAX
MIN			0	0.002	0.003	0.002	0.009	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE,0.071 M3/S
TOTAL DISCHARGE, 1510 DAM3
MAXIMUM DAILY DISCHARGE,0.516 M3/S ON APR 18
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

E-ESTIMATED

WATER SURVEY OF CANADA
DEC 03 1981 PAGE 37
REGINA, SASK.

CYPRESS LAKE WEST INFLOW CANAL

STATION NO. 11AB078

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.001 B	0.001	0	0	0	0	0	0			1
2			0.003 B	0	0	0	0	0	0	0			2
3			0.006 B	0	0	0	0	0	0	0			3
4			0.016 B	0	0	0	0	0	0	0			4
5			0.046 B	0	0	0	0	0	0	0			5
6			0.026 B	0	0	0	0	0	0	0			6
7			0.023 B	0	0	0	0	0	0	0			7
8			0.028	0	0.033	0	0	0	0	0			8
9			0.028	0	0.405	0	0	0	0	0			9
10			0.027	0	0.419	0	0	0	0	0			10
11			0.044	0	0.294	0	0	0	0	0			11
12			0.057	0	0.012	0	0	0	0	0			12
13			0.042	0	0.001	0	0	0	0	0			13
14			0.032	0	0	0	0	0	0	0			14
15			0.031	0	0	1.61	0	0	0	0			15
16			0.020	0	0.033	4.29	0	0	0	0			16
17			0.022	0	0.096	2.08	0	0	0	0			17
18			0.009	0	0.994	1.49	0	0	0	0			18
19			0.005	0	0.654	1.06	0	0	0	0			19
20			0.003	0	0.579	0.849	0	0	0	0			20
21			0.002	0	0.607	0.463	0	0	0	0			21
22			0.002 A	0	0.621	0.410	0	0	0	0			22
23			0.002 E	0	0.617	0.363	0	0	0	0			23
24			0.002 A	0	0.623	0.368	0	0	0	0			24
25			0.001	0	0.592	0.374	0	0	0	0			25
26		0 B	0.001	0	0.485	0.307	0	0	0	0			26
27		0 B	0.001	0	0.265	0.036	0	0	0	0			27
28		0 B	0.001	0	0.165	0.016	0	0	0	0			28
29			0.001	0	0.013	0.008	0	0	0	0			29
30			0.003	0	0	0.003	0	0	0	0			30
31			0.004		0		0	0		0			31
TOTAL			0.489	0.001	7.508	13.727	0	0	0	0			TOTAL
MEAN			0.016	0	0.242	0.458	0	0	0	0			MEAN
DAM3			42.2	0.086	649	1190	0	0	0	0			DAM3
MAX			0.057	0.001	0.994	4.29	0	0	0	0			MAX
MIN			0.001	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.089 M3/S
TOTAL DISCHARGE, 1880 DAM3
MAXIMUM DAILY DISCHARGE, 4.29 M3/S ON JUN 16
MINIMUM DAILY DISCHARGE, 0 M3/S ON APR 2

APPROVED
District Chief U.S.G.S.
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

WATER SURVEY OF CANADA
DEC 29 1981 PAGE 7
REGINA, SASK.

CYPRESS LAKE WEST OUTFLOW CANAL

STATION NO. 11AB077

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0 B	0.001	2.63	1.23	0.001	0.005	0	0.024			1
2			0.001 B	0.001	2.44	0.019	0.001	0.005	0	0.023			2
3			0.001 B	0.001	2.43	0.006	0.001	0.010	0	0.023			3
4			0.002 B	0.001	2.70	0.005	0.001	0.037	0	0.029			4
5			0.010 B	0.001	2.73	0.003	0.001	0.019	0	0.027			5
6			0.005	0.001	2.76	0.003	0.061	0.003	0	0.029			6
7			0.003	0.001	2.51	0.003	0.113	0.001	0	0.027			7
8			0.003	0.001	2.38	0.003	0.040	0	0	0.020			8
9			0.003	0	2.29	0.006	0.245	0	0	0.009			9
10			0.003	0	2.18	0.004	0.542	0	0	0.007			10
11			0.003	0	2.25	0.002	0.258	0	0	0.045			11
12			0.003	0.001	2.11	0.003	0.265	0	0	0.022			12
13			0.002	0	2.05	0.007	0.763	0	0	0.005			13
14			0.002	0	2.08	0.012	0.372	0	0	0.019			14
15			0.002	0	2.49	0.005	0.232	0	0	0.028			15
16			0.002	0	2.50	0.003	0.386	0	0	0.027			16
17			0.002	0	2.38	0.002	0.227	0	0	0.021			17
18			0.002	0.001	2.10	0.002	0.031	0	0	0.011			18
19			0.001	0.001	2.08	0.002	0.027	0	0	0.020			19
20			0.001	0.001	1.97	0.001	0.229	0	0	0.011			20
21			0.001	0.001	1.86	0.001	0.226	0	0	0.009			21
22			0.001	0.001	1.97	0.002	0.182	0	0.028	0.013			22
23			0.001	0.001	2.02	0.002	0.161	0	0.036	0.013			23
24			0.001	0.001	1.92	0.003	0.095	0	0.041	0.011			24
25			0.001	0.001	1.98	0.002	0.014	0	0.041	0.021			25
26		0 B	0.001	0.926	1.87	0.001	0.011	0	0.030	0.022			26
27		0 B	0.001	2.91	1.70	0.002	0.010	0	0.052	0.035 A			27
28		0 B	0.001	2.39	0.898	0.004	0.010	0	0.050	0.035 E			28
29			0.001	2.73	1.61	0.003	0.010	0	0.021	0.035 E			29
30			0.003	2.82	1.72	0.002	0.007	0	0.019	0.035 E			30
31			0.003		1.69		0.007	0		0.035 E			31
TOTAL			0.066	11.793	66.298	1.343	4.529	0.080	0.318	0.691			TOTAL
MEAN			0.002	0.393	2.14	0.045	0.146	0.003	0.011	0.022			MEAN
DAM3			5.70	1020	5730	116	391	6.91	27.5	59.7			DAM3
MAX			0.010	2.91	2.76	1.23	0.763	0.037	0.052	0.045			MAX
MIN			0	0	0.898	0.001	0.001	0	0	0.005			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.347 M3/S
TOTAL DISCHARGE, 7360 DAM3
MAXIMUM DAILY DISCHARGE, 2.91 M3/S ON APR 27
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.
Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

FINAL LISTING

WATER SURVEY OF CANADA
DEC 04 1981 PAGE 27
REGINA, SASK.

CYPRESS LAKE WEST INFLOW CANAL DRAIN

STATION NO. 11AB085

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.001 B	0	0	0.001	0.002	0	0	0			1
2			0.003 B	0	0	0.001	0.002	0	0	0			2
3			0.006 B	0	0	0.001	0.001	0	0	0			3
4			0.016 B	0	0	0.001	0.001	0	0	0			4
5			0.046 B	0	0	0.001	0.001	0	0	0			5
6			0.026 E	0	0	0.001	0.001	0	0	0			6
7			0.023 E	0	0	0.001	0.001	0	0	0			7
8			0.028 E	0	0	0.001	0.001	0	0	0			8
9			0.028 E	0	0.003	0.001	0.001	0	0	0			9
10			0.027 E	0	0.003	0.001	0.001	0	0	0			10
11			0.044 E	0	0.002	0	0.001	0	0	0			11
12			0.057 E	0	0.001	0	0.001	0	0	0			12
13			0.042 E	0	0.001	0	0.001	0	0	0			13
14			0.032 E	0	0.001	0	0.001	0	0	0			14
15			0.031 E	0	0.001	0.002	0.001	0	0	0			15
16			0.020 E	0	0.001	0.005	0	0	0	0			16
17			0.022 E	0	0.001	0.003	0	0	0	0			17
18			0.009 E	0	0.002	0.003	0	0	0	0			18
19			0.005 E	0	0.002	0.003	0	0	0	0			19
20			0.003 E	0	0.002	0.003	0	0	0	0			20
21			0.002 E	0	0.002	0.002	0	0	0	0			21
22			0 A	0	0.002	0.002	0	0	0	0			22
23			0	0	0.002	0.002	0	0	0	0			23
24			0	0	0.002	0.002	0	0	0	0			24
25			0	0	0.003	0.002	0	0	0	0			25
26			0	0	0.003	0.002	0	0	0	0			26
27			0	0	0.002	0.002	0	0	0	0			27
28			0	0	0.002	0.002	0	0	0	0			28
29			0	0	0.002	0.002	0	0	0	0			29
30			0	0	0.001	0.002	0	0	0	0			30
31			0		0.001		0	0		0			31
TOTAL			0.471	0	0.042	0.049	0.017	0	0	0			TOTAL
MEAN			0.015	0	0.001	0.002	0.001	0	0	0			MEAN
DAM3			40.7	0	3.63	4.23	1.47	0	0	0			DAM3
MAX			0.057	0	0.003	0.005	0.002	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE,0.002 M3/S
TOTAL DISCHARGE,50.0 DAM3
MAXIMUM DAILY DISCHARGE,0.057 M3/S ON MAR 12
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 22

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

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DEC 01 1981 PAGE 33
REGINA, SASK.

VIDORA DITCH NEAR CONSUL

STATION NO. 11AB084

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0	0.305	0	0	0	0			1
2			0	0	0	0	0	0	0	0			2
3			0	0	0	0	0	0	0	0			3
4			0	0	0	0	0	0	0	0			4
5			0	0	0	0	0	0	0	0			5
6			0	0	0	0	0.001 E	0	0	0			6
7			0	0	0	0	0.002 A	0	0	0			7
8			0	0	0	0	0	0	0	0			8
9			0	0	0.207	0	0	0	0	0			9
10			0	0	0.653	0	0	0	0	0			10
11			0	0	1.13	0	0	0	0	0			11
12			0	0	1.13	0	0.002	0	0	0			12
13			0	0	1.10	0	0.001	0	0	0			13
14			0	0	1.14	0	0	0	0	0			14
15			0	0	1.37	0	0	0	0	0			15
16			0	0	1.49	0	0	0	0	0			16
17			0	0	1.70	0	0	0	0	0			17
18			0	0	1.76	0	0	0	0	0			18
19			0	0	1.73	0	0	0	0	0			19
20			0	0	1.66	0	0.001	0	0	0			20
21			0	0	1.53	0	0.004	0	0	0			21
22			0	0	1.67	0	0.002	0	0	0			22
23			0	0	1.74	0	0	0	0	0			23
24			0	0	1.65	0	0	0	0	0			24
25			0	0	1.70	0	0	0	0	0			25
26			0	0	1.62	0	0	0	0	0			26
27			0	0	1.39	0	0	0	0	0			27
28			0	0	0.792	0	0	0	0	0			28
29			0	0	0.709	0	0	0	0	0			29
30			0	0	0.604	0	0	0	0	0			30
31			0		0.614		0	0		0			31
TOTAL			0	0	29.089	0.305	0.013	0	0	0			TOTAL
MEAN			0	0	0.938	0.010	0	0	0	0			MEAN
DAM3			0	0	2510	26.4	1.12	0	0	0			DAM3
MAX			0	0	1.76	0.305	0.004	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.120 M3/S
TOTAL DISCHARGE, 2540 DAM3
MAXIMUM DAILY DISCHARGE, 1.76 M3/S ON MAY 18
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

A-MANUAL GAUGE

E-ESTIMATED

Regional Chief W.S.C.

WATER SURVEY OF CANADA
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REGINA, SASK.

RICHARDSON DITCH NEAR CONSUL

STATION NO. 11AB058

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	1.23	0.002	0.001	0.002	0.001	0			1
2			0	0	1.19	0.003	0.001	0.002	0.001	0			2
3			0	0	1.14	0.002	0.001	0.002	0.001	0			3
4			0	0	1.06	0.001	0.001	0.002	0	0			4
5			0	0	1.08	0.001	0.001	0.002	0	0			5
6			0	0	1.05	0.002	0.001	0.001	0	0			6
7			0	0	0.924	0.002	0.002	0.001	0	0			7
8			0	0	0.913	0.002	0.002	0.002	0	0			8
9			0	0	0.887	0.001	0.002	0.002	0	0			9
10			0	0	0.842	0.001	0.002	0.002	0	0			10
11			0	0.001 E	0.814	0.001	0.003	0.002	0	0			11
12			0	0.001 E	0.814	0.001	0.003	0.002	0	0			12
13			0	0.001 E	0.757	0.002	0.003	0.002	0	0			13
14			0	0.001 E	0.610	0.002	0.003	0.002	0	0			14
15			0	0.001 E	0.372	0.002	0.003	0.002	0	0			15
16			0	0.002 E	0.241	0.003	0.003	0.002	0	0			16
17			0	0.002 E	0.154	0.003	0.003	0.002	0	0			17
18			0	0.002 E	0.216	0.002	0.003	0.002	0	0			18
19			0	0.002 E	0.044	0.002	0.002 A	0.002	0	0			19
20			0	0.002 E	0.005	0.002	0.002 E	0.002	0	0			20
21			0	0.002 A	0.004	0.001	0.002 A	0.002	0	0			21
22			0	0.002	0.001	0.001	0.002	0.002	0	0			22
23			0	0.002	0.002	0.001	0.002	0.002	0	0			23
24			0	0.002	0.002	0.001	0.002	0.002	0	0			24
25			0	0.002	0.002	0.001	0.002	0.003	0	0			25
26			0	0.002	0.002	0	0.001	0.003	0	0			26
27			0	0.895	0.002	0.001	0.002	0.002	0	0			27
28			0	1.19	0.001	0.001	0.003	0.002	0	0			28
29			0	1.17	0.002	0.001	0.002	0.002	0	0			29
30			0	1.22	0.002	0.001	0.002	0.001	0	0			30
31			0		0.002		0.002	0.001		0			31
TOTAL			0	4.502	14.365	0.046	0.064	0.060	0.003	0			TOTAL
MEAN			0	0.150	0.463	0.002	0.002	0.002	0	0			MEAN
DAM3			0	389	1240	3.97	5.53	5.18	0.259	0			DAM3
MAX			0	1.22	1.23	0.003	0.003	0.003	0.001	0			MAX
MIN			0	0	0.001	0	0.001	0.001	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.078 M3/S
TOTAL DISCHARGE, 1640 DAM3
MAXIMUM DAILY DISCHARGE, 1.23 M3/S ON MAY 1
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

A-MANUAL GAUGE

E-ESTIMATED

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REGINA, SASK.

MCKINNON DITCH NEAR CONSUL

STATION NO. 11AB044

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	1.22	0	0	0	0	0			1
2			0	0	1.20	0	0	0	0	0			2
3			0	0	1.22	0	0	0	0	0			3
4			0	0	1.26	0	0	0	0	0			4
5			0	0	1.29	0	0	0	0	0			5
6			0	0	1.32	0	0	0	0	0			6
7			0	0	1.32	0	0	0	0	0			7
8			0	0	1.32	0	0	0	0	0			8
9			0	0	0.705	0	0	0	0	0			9
10			0	0	0.500	0	0	0	0	0			10
11			0	0	0.500	0	0	0	0	0			11
12			0	0	0.500	0	0	0	0	0			12
13			0	0	0.761	0	0	0	0	0			13
14			0	0	0.217	0	0	0	0	0			14
15			0	0	0	0	0	0	0	0			15
16			0	0	0	0	0	0	0	0			16
17			0	0	0	0	0	0	0	0			17
18			0	0	0	0	0	0	0	0			18
19			0	0	0	0	0	0	0	0			19
20			0	0	0	0	0	0	0	0			20
21			0	0	0	0	0	0	0	0			21
22			0	0	0	0	0	0	0	0			22
23			0	0	0	0	0	0	0	0			23
24			0	0	0	0	0	0	0	0			24
25			0	0	0	0	0	0	0	0			25
26			0	0	0	0	0	0	0	0			26
27			0	0	0	0	0	0	0	0			27
28			0	0.788 E	0	0	0	0	0	0			28
29			0	0.995 A	0	0	0	0	0	0			29
30			0	1.16	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	2.943	13.333	0	0	0	0	0			TOTAL
MEAN			0	0.098	0.430	0	0	0	0	0			MEAN
DAM3			0	254	1150	0	0	0	0	0			DAM3
MAX			0	1.16	1.32	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE,0.066 M3/S
TOTAL DISCHARGE, 1400 DAM3
MAXIMUM DAILY DISCHARGE, 1.32 M3/S ON MAY 6
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

A-MANUAL GAUGE

E-ESTIMATED

Regional Chief W.S.C.

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REGINA, SASK.

NASHLYN CANAL NEAR CONSUL

STATION NO. 11AB018

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0.344	0.247	0.003	0	0	0	0			1
2			0	0.304	0.136	0.005	0	0	0	0			2
3			0	0.279	0.130	0.002	0	0	0	0			3
4			0	0.297	0.132	0.002	0	0	0	0			4
5			0	0.329	0.190	0.002	0	0	0	0			5
6			0	0.329	0.536	0.001	0	0	0	0			6
7			0	0.289	0.638	0.001	0	0	0	0			7
8			0	0.258	0.902	0	0	0	0	0			8
9			0	0.241	0.935	0	0	0	0	0			9
10			0	0.216	0.870	0	0	0	0	0			10
11			0.437	0.163	0.493	0	0	0	0	0			11
12			0.515	0.126	0.317	0	0	0	0	0			12
13			0.579	0.123	0.313	0	0	0	0	0			13
14			0.617	0.122	0.319	0	0	0	0	0			14
15			0.587	0.108	0.325	0	0	0	0	0			15
16			0.619	0.103	0.378	0	0	0	0	0			16
17			0.632	0.096	0.564	0	0	0	0	0			17
18			0.623	0.094	0.035	0	0	0	0	0			18
19			0.637	0.095	0.002	0	0	0	0	0			19
20			0.608	0.100	0	0	0	0	0	0			20
21			0.533 A	0.023	0	0	0	0	0	0			21
22			0.289 E	0.003	0	0	0	0	0	0			22
23			0.278 E	0	0.001	0	0	0	0	0			23
24			0.321 A	0	0.001	0	0	0	0	0			24
25			0.418	0.002	0	0	0	0	0	0			25
26			0.386	0.163	0.358	0	0	0	0	0			26
27			0.412	0.250	0.647	0	0	0	0	0			27
28			0.400	0.772	0.816	0	0	0	0	0			28
29			0.310	0.936	0.839	0	0	0	0	0			29
30			0.326	0.335	0.699	0	0	0	0	0			30
31			0.361		0.087		0	0		0			31
TOTAL			9.888	6.500	10.910	0.016	0	0	0	0			TOTAL
MEAN			0.319	0.217	0.352	0.001	0	0	0	0			MEAN
DAM3			854	562	943	1.38	0	0	0	0			DAM3
MAX			0.637	0.936	0.935	0.005	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.111 M3/S
TOTAL DISCHARGE, 2360 DAM3
MAXIMUM DAILY DISCHARGE, 0.936 M3/S ON APR 29
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

A-MANUAL GAUGE

E-ESTIMATED

Regional Chief W.S.C.

MISCELLANEOUS DIVERSIONS

BATTLE CREEK
1981

Name	Land Location	Diverting From	Diversion dam^3
AGAR, R.B.	NW25-5-29-3	A Coulee	19
BACKMAN, L.	SE-15-5-26-3	A Coulee	0
BATTLE CREEK RANCH	NE9-6-29-3	Battle Creek	0
BEHRMAN, W.	SW23-4-26-3	A Slough	0
BEHRMAN, W.	SE22-4-26-3	Bushy Coulee	0
BLACK, J.R.	NE6-7-28-3	Six Mile Coulee	100
BLACK, J.R.	NW3-7-28-3	Halfway Coulee	0
BLACK, J.R.	NE3-7-28-3	Menin Coulee	6
DEMCHENKO, S.	NW8-7-28-3	A Coulee	21
ECCLES, J.E.	SE15-4-27-3	A Coulee	0
ECCLES, J.E.	SW23-4-27-3		0
FRANK, J.	SW2-3-27-3	Battle Coulee	0
FRANK, J.	NW34-2-27-3	A Coulee	0
FUNK, B.	NE6-3-26-3	Stenhouse Coulee	0
FUNK, B.	NE4-3-26-3	A Coulee	0
GAFF RANCH LTD.	SW27-5-29-3	A Coulee	0
GLAGAU, E.	SW23-3-27-3	A Coulee	0
GLAGAU, E.	NW15-3-27-3	Battle Creek	49
GLAGAU, E.	SW20-3-27-3	A Coulee	0
GLAGAU, O.	NE1-5-27-3	A Coulee	0
GODICH, J.	NE22-3-27-3		2
GODICH, J.	NW22-3-27-3		2
HALYUNG, P.	NE5-3-25-3	Fothergill Coulee	0

MISCELLANEOUS DIVERSIONS

BATTLE CREEK
1981

Name	Land Location	Diverting From	Diversion dam^3
HARMON, P.	NE 19-2-25-3	A Coulee	0
HARMON, P.	SE 20-2-25-3	Bellamy Coulee	0
HEGLUND, L.	NW 14-4-26-3	A Coulee	0
HUERY, J.	SW 33-2-25-3	A Coulee	0
HUERY, J.	NW 34-2-25-3	Battle Creek	0
JOHNSON, M.	SW 5-5-25-3	A Coulee	0
KISELL, J.	NW 15-3-27-3	Battle Creek	0
KISELL, J.	SE16-3-27-3	Kompan Coulee	0
KISSELL, J.	SW 16-3-27-3	Kisell Coulee	0
LESLIE, J.	SW 12-8-29-3	Six Mile Coulee	0
MCCONNELL, J.	NE 25-5-26-3	A Coulee	0
MCCONNELL, J.	SE 26-5-26-3	A Coulee	0
MCCUAIG, D.	SE 3-4-27-3	A Coulee	0
MCCUAIG, D.	SW 2-4-27-3	A Coulee	0
MACKIE, A.	SW 29-5-28-3	Battle Creek	31
MACKIE, A.	NW 34-5-28-3	Halfway Coulee	0
NEITZ, P.	SW 18-6-27-3	Rough Coulee	19
NEITZ, P.	NE 4-6-27-3	Rough Coulee	0
NEITZ, P.	NW 4-6-27-3	Battle Creek	28
NOTUKEU GRAZING COOP	NE 28-3-27-3	Battle Creek	4
NUTTALL, R.	SE 22-7-29-3		0
NUTTAL, R.	NW 23-7-29-3	Battle Creek	0
OLSON, H.	NW 10-5-25-3	A Coulee	0

MISCELLANEOUS DIVERSIONS
BATTLE CREEK
1981

Name	Land Location	Diverting From	Diversion dam^3
PALMER, J.	NE 26-4-26-3	A Coulee	0
PARSONAGE RANCH CO	NW 34-5-28-3	Battle Creek	86
PARSONAGE RANCH CO	SW 33-6-29-3	Battle Creek	19
PARSONAGE, G.	NW 33-5-29-3	Battle Creek	0
PARSONAGE, G.	SE 4-6-29-3	Battle Creek	152
PARSONAGE, R.	NW 11-7-29-3	Mull Creek	2
PEDERSON, W.	SE 25-5-26-3		0
PEDERSON, W.	SW 13-5-26-3	A Coulee	0
PEDERSON, W.	SW 24-5-26-3	A Coulee	0
PENNER, G.	NW 18-4-25-3	A Coulee	0
PETTYJOHN, G.	SW 18-6-28-3	A Coulee	0
PRIDMORE, J.	NW 28-5-27-3	A Coulee	0
PRIDMORE, J.	SE 33-5-27-3	Battle Creek	0
PRIDMORE, J.	NE 28-5-27-3		0
RABE, M.	NW 31-4-25-3	A Coulee	0
RABE, R.	NE 36-4-26-3	A Coulee	0
REAMER, G.	NE 16-3-26-3	A Coulee	0
REAMER, M.	NE 21-3-26-3	A Coulee	0
REESOR, D.	SE 8-4-26-3	A Coulee	0
REYNOLDS, K.	NE 35-3-28-3	A Coulee	0
REYNOLDS, K.	SE 35-3-28-3		0
SANDERSON, S.	NE 1-4-27-3	A Coulee	0
SCHMIDT, D.	SE 5-3-26-3	A Coulee	0

MISCELLANEOUS DIVERSIONS

BATTLE CREEK
1981

Name	Land Location	Diverting From	Diversion dam^3
SCHMIDT, D.	NW 31-2-26-3	Stenhouse Coulee	0
SCHMIDT, D.	SE 31-2-26-3	Battle Creek	0
SCHMIDT, D.	NW 25-2-27-3		0
SCHMIDT, D.	SE 32-2-26-3	A Coulee	0
SHEPHERD DITCH		Battle Creek	788
SMITH, C.	NE 34-4-27-3	A Coulee	0
STETAR, L.	SE 21-3-27-3	A Coulee	0
STETAR, L.	NE 16-3-27-3	Kompan Coulee	0
STIRLING, R.	NW 23-3-27-3	A Coulee	0
STOVKA, G.	SW 14-3-26-3		0
SVEUND, E.	SE 9-5-25-3	A Coulee	0
SVEUND, E.	SW 9-5-25-3	A Coulee	0
SWIHART, J.	SE 17-3-26-3	A Coulee	0
TEIGAN, G.	NW 17-5-25-3	A Coulee	0
TITTLE, A.	NW 30-2-26-3	A Coulee	0
WILSON, W.	SE 14-6-28-3	A Coulee	0
WORTHY GRAZING COOP	NE 36-2-28-3	A Coulee	0
Sub-Total			1328
Domestic Projects	20% of 1328		266
TOTAL			1594

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06164000 FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY 11AC041
DRAINAGE AREA 5954 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDAR YEAR JANUARY 1981 TO DECEMBER 1981
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			b0.818	0.006	1.67	2.10	e0.005	0.756	0	0		
2			.818	.003	.818	1.86	.004	.351	0	0		
3			.657	e .002	.286	1.69	.003	.171	0	0		
4			.649	e .001	.444	1.63	.002	.096	0	0		
5			.747	.028	.485	1.45	.001	.060	0	0		
6			1.17	.082	.201	1.34	e .001	.036	0	0		
7			.864	.060	.762	1.30	0	.017	0	0		
8			.511	.121	1.17	1.27	0	.009	0	0		
9			.460	.054	1.21	1.27	0	.007	0	0		
10			.334	.025	1.35	1.27	0	.002	0	0		
11			.296	.016	.922	1.26	0	e .001	0	0		
12			.271	.016	1.00	1.27	0	e .001	0	0		
13			.257	.020	1.17	1.37	1.27	0	0	0		
14			.243	.016	1.11	1.27	1.64	0	0	0		
15			.230	.012	1.01	1.41	.932	0	0	0		
16			.226	.007	1.17	1.51	.773	0	0	0		
17			.209	.008	1.02	1.19	.722	0	0	0		
18			.190	.009	1.31	1.11	.713	0	0	0		
19			.179	.007	.932	1.08	.738	0	0	0		
20			b .171	.007	.722	.764	.782	0	0	0		
21			.171	.009	.800	.369	.730	0	0	0		
22			.171	.026	.713	.213	.809	0	0	0		
23			.168	.520	.406	.118	.836	0	0	0		
24			.158	1.29	.266	.075	.912	0	0	0		
25			.168	1.49	.197	.052	.962	0	0	0		
26		e 2.00	.085	1.47	.190	.027	1.00	0	0	0		
27		b 1.17	.029	1.46	.239	.018	.992	0	0	0		
28		b 1.00	.014	1.45	.560	.013	.952	0	0	0		
29		---	.010	1.69	1.60	.007	.942	0	0	0		
30			.008	1.79	1.51	e .006	.893	0	0	0		
31			.007	---	1.55	---	.922	0	---	0		
TOTAL			10.289	11.695	26.793	28.312	17.536	1.507	0	0		
MEAN			.3319	.3898	.8643	.9437	.5657	.0486	0	0		
MAX			1.17	1.79	1.67	2.10	1.64	.756	0	0		
MIN			.007	.001	.190	.006	0	0	0	0		
DAM^3			889	1010	2315	2446	1515	130	0	0		

FOR THE SEASON, MARCH TO OCTOBER:
TOTAL DISCHARGE, 8306 DAM^3
MAX DISCH, 3.19 M^3/S AT 1700 HRS ON JUNE 1 (G.H. 1.337 M).
MIN DISCH, NO FLOW ON MANY DAYS.

b--STAGE-DISCHARGE RELATION AFFECTED BY ICE.
e--DISCHARGE ESTIMATED.

APPROVED: DISTRICT CHIEF, U.S.G.S.

REGIONAL CHIEF, W.S.C.

WATER SURVEY OF CANADA
JAN 06 1982 PAGE 7
REGINA, SASK.

BELANGER CREEK DIVERSION TO CYPRESS LAKE

STATION NO. 11AC064

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0 B	0.059	0	0	0	0	0	0			1
2			0.001 B	0.058	0	0	0	0	0	0			2
3			0 B	0.040	0	0	0	0	0	0			3
4			0 B	0.003	0	0	0	0	0	0			4
5			0.011 B	0	0	0	0	0	0	0			5
6			0.014 B	0	0	0	0	0	0	0			6
7			0.001 B	0	0	0	0	0	0	0			7
8			0 B	0	0	0	0	0	0	0			8
9			0 B	0	0	0	0	0	0	0			9
10			0 B	0	0	0	0	0	0	0			10
11			0 B	0	0	0	0	0	0	0			11
12			0.057 B	0	0	0	0.004	0	0.010	0			12
13			0.229 B	0	0	0	0	0	0.026	0			13
14			0.006 B	0	0	0	0	0	0.028	0			14
15			0.002 B	0	0	1.82	0	0	0.034	0			15
16			0.001 A	0	0.002	1.12	0	0	0.020	0			16
17			0	0	0.002	0.412	0	0	0.001 A	0			17
18			0	0	0	0.060	0	0	0	0			18
19		0.001 B	0.002	0	0	0	0	0	0	0			19
20		0.100 B	0	0	0	0	0	0	0	0			20
21		0.200 B	0.001	0	0	0	0	0	0	0			21
22		0.400 B	0	0	0	0	0	0	0	0			22
23		0.630 B	0	0	0	0	0	0	0	0			23
24		0.606 B	0	0	0	0	0	0	0	0			24
25		0.155 B	0	0	0	0	0	0	0	0			25
26		0.030 B	0	0	0	0	0	0	0	0			26
27		0.039 B	0.017	0	0	0	0	0	0	0			27
28		0.004 B	0.047	0	0	0	0	0	0	0			28
29			0.048	0	0	0	0	0	0	0			29
30			0.072	0	0	0	0	0	0	0			30
31			0.079		0		0	0		0			31
TOTAL			0.588	0.160	0.004	3.412	0.004	0	0.119	0			TOTAL
MEAN			0.019	0.005	0	0.114	0	0	0.004	0			MEAN
DAM3			50.8	13.8	0.346	295	0.346	0	10.3	0			DAM3
MAX			0.229	0.059	0.002	1.82	0.004	0	0.034	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.017 M3/S
TOTAL DISCHARGE, 371 DAM3
MAXIMUM DAILY DISCHARGE, 1.82 M3/S ON JUN 15
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS

WATER SURVEY OF CANADA
JAN 05 1982 PAGE 7
REGINA, SASK.

CYPRESS LAKE EAST OUTFLOW CANAL

STATION NO. 11AC060

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.030 B	0.031	0.012	0.010	0.091	0.010	0	0.001			1
2			0.030 B	0.030	0.011	0.009	0.066	0.009	0	0.002			2
3			0.030 B	0.029	0.011	0.009	0.044	0.009	0	0.003			3
4			0.030 B	0.028	0.011	0.009	0.034	0.008	0	0.004			4
5			0.030 B	0.027	0.014	0.008	0.028	0.008	0	0.004			5
6			0.030 B	0.022	0.026	0.009	0.025	0.006	0	0.004			6
7			0.030 B	0.021	0.032	0.008	0.026	0.006	0	0.004			7
8			0.030 B	0.021	0.032	0.009	0.024	0.005	0	0.004			8
9			0.033 B	0.020	0.032	0.009	0.022	0.005	0	0.004			9
10			0.037 B	0.017	0.033	0.008	0.022	0.004	0	0.004			10
11			0.040 B	0.017	0.030	0.008	0.023	0.004	0	0.004			11
12			0.043 B	0.017	0.030	0.008	0.027	0.003	0	0.004			12
13			0.047 B	0.016	0.035	0.010	0.376	0.003	0	0.004			13
14			0.050 B	0.016	0.039	0.014	0.461	0.002	0	0.004			14
15			0.053 B	0.017	0.024	0.013	0.108	0.002	0	0.004			15
16			0.057 B	0.015	0.027	0.046	0.050	0.002	0	0.005			16
17			0.060 B	0.015	0.020	0.100	0.032	0.001	0	0.008			17
18			0.056 B	0.014	0.015	0.087	0.025	0.001	0	0.009			18
19			0.052 B	0.015	0.013	0.068	0.021	0	0	0.010			19
20		0.030 B	0.048 B	0.015	0.012	0.035	0.018	0	0	0.010			20
21		0.030 B	0.044 B	0.015	0.012	0.017	0.016	0	0	0.010			21
22		0.030 B	0.040 B	0.015	0.012	0.011	0.018	0	0	0.008			22
23		0.030 B	0.036 E	0.014	0.012	0.212	0.016	0	0	0.008			23
24		0.030 B	0.035	0.014	0.011	0.404	0.015	0	0	0.009			24
25		0.030 B	0.034	0.012	0.010	0.374	0.014	0	0	0.007			25
26		0.030 B	0.032	0.012	0.011	0.385	0.014	0	0	0.006			26
27		0.030 B	0.030	0.012	0.010	0.267	0.013	0	0	0.008			27
28		0.030 B	0.028	0.012	0.011	0.206	0.012	0	0	0.010 A			28
29			0.029	0.011	0.010	0.148	0.012	0	0	0.010 E			29
30			0.034	0.012	0.009	0.107	0.011	0	0	0.010 E			30
31			0.033		0.009		0.010	0		0.010 E			31
TOTAL			1.191	0.532	0.576	2.608	1.674	0.088	0	0.192			TOTAL
MEAN			0.038	0.018	0.019	0.087	0.054	0.003	0	0.006			MEAN
DAM3			103	46.0	49.8	225	145	7.60	0	16.6			DAM3
MAX			0.060	0.031	0.039	0.404	0.461	0.010	0	0.010			MAX
MIN			0.028	0.011	0.009	0.008	0.010	0	0	0.001			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.028 M3/S
TOTAL DISCHARGE, 593 DAM3
MAXIMUM DAILY DISCHARGE, 0.461 M3/S ON JUL 14
MINIMUM DAILY DISCHARGE, 0 M3/S ON AUG 19

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS
E-ESTIMATED

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME CYPRESS LAKE 1981

STATION NO. 11AC037

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 19	972.400E	49648					
Feb 20-Mar 1	972.418	50016	+368	0.0	972.409	0	+368
Mar 2-11	972.431	50282	+266	0.0	972.423	0	+266
Mar 12-22	972.432	50303	+21	0.0	972.435	0	+21
Mar 23-Apr 1	972.438	50426	+123	2.1	972.434	298	+421
Apr 2-11	972.408	49812	-614	3.7	972.421	525	-89
Apr 12-21	972.391	49464	-348	5.7	972.397	809	+461
Apr 22-May 1	972.305	47707	-1757	5.8	972.355	824	-933
May 2-11	972.185	45302	-2405	2.8	972.234	392	-2013
May 12-22	972.105	43700	-1602	2.5	972.142	350	-1252
May 23-Jun 1	972.033	42257	-1443	3.9	972.065	542	-901
Jun 2-11	972.003	41658	-599	4.2	972.024	580	-19
Jun 12-21	972.064	42878	+1220	2.3	972.041	317	+1537
Jun 22-Jul 1	972.022	42037	-841	7.1	972.045	980	+139
Jul 2-11	971.967	40956	-1081	8.2	971.998	1132	+51
Jul 12-22	971.991	41424	+468	6.7	972.006	925	+1393
Jul 23-Aug 1	971.935	40332	-1092	7.0	971.957	959	-133
Aug 2-11	971.882	39298	-1034	8.1	971.906	1110	+76
Aug 12-22	971.854	38751	-547	7.1	971.868	966	+419
Aug 23-Sep 1	971.800	37698	-1053	7.8	971.830	1061	+8
Sep 2-11	971.740	36527	-1171	7.6	971.771	1026	-145
Sep 12-21	971.685	35465	-1062	6.5	971.711	871	-191
Sep 22-Oct 1	971.638	34575	-890	3.1	971.662	415	-475
Oct 2-11	971.615	34139	-436	1.5	971.621	200	-236
Oct 12-22	971.626	34347	+208	1.4	971.621	186	+394
TOTAL			-15301			14468	-833

COMPUTED BY L.O. Redick

CHECKED BY

Approved

District Chief U.S.G.S.

Regional Chief WS of Canada

CYPRESS LAKE NATURAL OVERFLOW

DAM^3

1	2	3	4	5	6	7	8	9	10	11	12
Period	Contents of Reservoir	Net Diversion to Storage				Diverted Carryover	Natural Contents of Reservoir	Natural Inflow	Natural Storage in Reservoir Previous Period + Natural Inflow for Current Period	Natural Overflow for Period	Natural Storage in Reservoir at end of Period
		From Battle Creek Basin	From Frenchman River Basin	Total	Cumulated						
				3+4	Σ 5		2-6-7	Computed from 8	Computed from 9 & 12	From 10 and R.T.	10+11
Mar 1	50016	0	161	161	161	50016	(-161)0				
11	50282	-3	-26	-29	132	50016	+134				
22	50303	-2	-22	-24	108	50016	+179				
Apr 1	50426	0	0	0	108	50016	+302				
11	49812	-1	-11	-12	96	50016	(-300)0	Maximum Natural Storage			
21	49464	0	-13	-13	83	50016	(-635)0	for the year was less			
May 1	47707	-1245	-11	-1256	-1173	50016	(-1136)0	than 40247 Dam^3			
11	45302	-2033	-20	-2053	-3226	50016	(-1488)0	the point at which			
22	43700	-1728	-21	-1749	-4975	50016	(-1341)0	natural overflow			
Jun 1	42257	-1202	-9	-1211	-6186	50016	(-1573)0	would occur.			
11	41658	-6	-7	-13	-6199	50016	(-2159)0				
21	42878	1018	261	757	-5442	50016	(-1696)0	There was no natural			
Jul 1	42037	159	-191	-32	-5474	50016	(-2505)0	overflow in			
11	40956	-110	-27	-137	-5611	50016	(-3449)0	1981			
22	41424	-254	-100	-354	-5965	50016	(-2627)0				
Aug 1	40332	-29	-11	-40	-6005	50016	(-3679)0				
11	39298	-6	-6	-12	-6017	50016	(-4701)0				
22	38751	0	-1	-1	-6018	50016	(-5247)0				
Sep 1	37698	0	0	0	-6018	50016	(-6300)0				
11	36527	0	0	0	-6018	50016	(-7471)0				
21	35465	0	10	10	-6008	50016	(-8543)0	Total storage on Oct 31/80			48338
Oct 1	34575	-30	0	-30	-6038	50016	(-9403)0	Natural storage on Oct 31/80			+1678
11	34139	-21	-3	-24	-6062	50016	(-9815)0	Diverted carryover to 1981			50016
22	34347	-16	-7	-23	-6085	50016	(-9584)0				
31	34556	-21	-7	-28	-6113	50016	(-9347)0				
Total											

Computed by L.O. Redick

Checked by D. Johnson

Approved by _____ for Canada

_____ for United States

Water Survey of Canada

DAILY PAN EVAPORATION & PRECIPITATION IN MILLIMETRES

Station - CONSUL

Year - 1981

MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		Day
Evap	Prec	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	
0.0		4.8		6.4		4.4	0.2	7.2	T	9.6		6.4		7.2		1
0.0		3.0		6.4		4.4	2.2	9.0		6.8		5.8		2.5		2
0.0		3.0	T	7.0		6.2	0.4	9.8		7.2	1.0	6.2		3.4		3
0.0		2.4	T	9.0		6.6	0.4	11.8		6.2		5.8		F		4
0.0		4.8	2.2	0.0	6.2	4.4	3.4	11.4	0.6	8.8		5.6		7.2		5
0.0		6.0		-11.0	12.8	7.2	0.2	-1.6	2.4	9.6		7.2		4.6		6
0.0		3.4		0.0	1.4	4.8	0.2	5.0	5.2	11.4		7.2		2.4	1.2	7
0.0		3.4		4.8	T	2.4	3.4	10.4		7.6		10.2		F		8
0.0		7.2		3.2	0.6	-3.0	9.2	10.4		8.6		9.6		7.2		9
0.0		3.4		4.4		3.0	T	13.0		7.2		8.6		-4.6	8.8	10
0.0		2.2	3.2	4.8		7.2		3.4		7.2		9.2		-7.0	9.6	11
0.0		F		4.1		-6.4	12.5	0.0	15.3	7.4		10.4		F	2.4	12
0.0		F	T	2.3		-6.4	14.0	4.6	9.6	7.6		7.2		1.6	0.2	13
0.0		13.0		5.4		-7.0	0.2	4.8	0.4	6.0		8.4		2.2	0.2	14
0.0		7.2		7.5	11.4	6.0		4.9	T	6.2		7.2		2.4		15
0.0		8.4		-10.0	21.0	6.0		5.2	T	6.2		4.8		2.8		16
0.0		4.8		4.4		4.8		6.4		7.2	1.4	7.2		4.8		17
0.0		8.4		6.6		7.2		7.2		7.2		9.6		0.0		18
0.0		8.4		3.8		5.6		10.0		7.2	2.2	5.8	1.6	0.0	1.3	19
0.0		7.2	2.2	4.4		5.6		9.6		4.8	2.4	4.8		F		20
0.0		1.0	0.6	8.0	0.2	5.6		7.0	0.4	5.8		0.0	0.2	F	1.2	21
0.0		3.0		4.8		7.2		7.2		5.8		7.2		F		22
0.0		5.6	T	4.8		7.2	T	6.8	1.6	5.8		4.8		F	T	23
1.0		8.4		4.8		7.4		4.8		8.6	T	-2.4	3.6	F	2.0	24
1.0		8.4		4.8	1.6	9.0		4.8		10.6		-1.4	2.2	1.8	0.2	25
1.0		2.4		4.8	1.8	7.8		8.4		13.2		0.0		1.6		26
2.0		5.8	0.6	7.2	0.4	4.4		9.4		10.8		4.8	0.8	0.8		27
2.0		7.2	T	5.6		3.4		0.0	6.0	9.2		4.8		2.4		28
3.0		5.8		0.8		9.6		9.2		8.8		2.4		F		29
3.0		5.6	T	0.8		9.0	2.2	8.8		2.0	4.8	3.2		4.8		30
3.0				0.8	8.2			7.6		5.8				5.6	0.4	31
																Total

* Observations from Manyberries Alta.

Prepared by: G.B. Felton
Checked by: L.O. Redick

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME EASTEND RESERVOIR 1981

STATION NO. 11AC055

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 21	915.600	251					
Feb 22-Mar 3	915.583	245	-6	0	915.591	0	-6
Mar 4-13	917.227	1352	1107	0	916.545	0	1107
Mar 14-24	917.774	1997	645	0.1	917.563	1	646
Mar 25-Apr 3	918.189	2621	624	2.6	917.941	27	651
Apr 4-13	918.429	3029	408	3.1	918.328	38	446
Apr 14-23	918.524	3206	177	6.6	918.530	86	263
Apr 24-May 3	918.460	3086	-120	6.2	918.558	82	-38
May 4-13	917.602	1779	-1307	2.1	918.054	22	-1285
May 14-24	917.180	1302	-477	2.9	917.305	22	-455
May 25-Jun 3	917.609	1788	486	3.9	917.361	30	516
Jun 4-13	917.816	2058	270	2.0	917.709	18	288
Jun 14-23	918.369	2917	859	4.9	918.274	58	917
Jun 24-Jul 3	918.304	2809	-108	7.6	918.334	92	-16
Jul 4-13	918.450	3068	259	6.8	918.266	80	339
Jul 14-24	917.938	2234	-834	7.4	918.301	88	-746
Jul 25-Aug 3	916.892	1031	-1203	7.2	917.411	57	-1146
Aug 4-13	915.249	146	-885	8.2	916.178	33	-852
Aug 14-24	915.320	162	16	7.1	915.395	15	31
Aug 25-Sep 3	912.970	0	-162	7.5	914.319	3	-159
Sep 4-13	912.605	0	0	8.1	912.697	0	0
Sep 14-23	912.505	0	0	6.0	912.555	0	0
Sep 24-Oct 3	914.860	71	71	2.5	913.308	0	71
Oct 4-13	915.466	208	137	1.1	915.184	2	139
Oct 14-24	915.465	208	0	1.2	915.468	3	3
TOTAL			-43			757	714

COMPUTED BY L.O. Redick

CHECKED BY D. Johnson

Approved
District Chief U.S.G.S.

Regional Chief WS of Canada

WATER SURVEY OF CANADA
JAN 05 1982 PAGE 5
REGINA, SASK.

EASTEND CANAL NEAR EASTEND

STATION NO. 11AC052

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	1.25	0	0	1.31	0	0			1
2			0	0	1.72	0	0	1.16	0	0			2
3			0	0	1.86	0	0	1.09	0	0			3
4			0	0	1.95	0	0	1.03	0	0			4
5			0	0	2.05	0	0	0.995	0	0			5
6			0	0	2.13	0	0	0.960	0	0			6
7			0	0	2.19	0	0	0.956	0	0			7
8			0	0	2.15	0	0	0.950	0	0			8
9			0	0	2.11	0	0	0.914	0	0			9
10			0	0	2.07	0	0.090	0.867	0	0			10
11			0	0	2.03	0	0.079	0.813	0	0			11
12			0	0	1.98	0	0.104	0.733	0	0			12
13			0	0	1.93	0	0.257	0.482	0	0			13
14			0	0	1.92	0	0.268	0.116	0	0			14
15			0	0	1.81	0	0.266	0.086	0	0			15
16			0	0	1.54	0	0.256	0.063	0	0			16
17			0	0	1.34	0	0.242	0.041	0	0			17
18			0	0	1.15	0	0.232	0.023	0	0			18
19			0	0	1.05	0	0.222	0	0	0			19
20			0	0	1.05	0	1.14	0	0	0			20
21			0	0	0.985	0	1.76	0	0	0			21
22			0	0	0.917	0	1.79	0	0	0			22
23			0	0	0.823	0	1.74	0	0	0			23
24			0	0	0.527	0	1.72	0	0	0			24
25			0	0	0.284	0	1.70	0	0	0			25
26			0	0	0.259	0	1.67	0	0	0			26
27			0	0	0	0	1.72	0	0	0			27
28			0	0	0	0	1.72	0	0	0			28
29			0	0	0	0	1.61	0	0	0			29
30			0	0	0	0	1.52	0	0	0			30
31			0		0		1.39	0		0			31
TOTAL			0	0	39.075	0	21.496	12.589	0	0			TOTAL
MEAN			0	0	1.26	0	0.693	0.406	0	0			MEAN
DAM3			0	0	3380	0	1860	1090	0	0			DAM3
MAX			0	0	2.19	0	1.79	1.31	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.299 M3/S
TOTAL DISCHARGE, 6330 DAM3
MAXIMUM DAILY DISCHARGE, 2.19 M3/S ON MAY 7
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
JAN 4 1982 PAGE 37
REGINA, SASK.

FRENCHMAN RIVER BELOW EASTEND RESERVOIR

STATION NO. 11AC001

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			2.68 B	0.192	0.156	0.193	0.397	0.113	0.080	0.144	0.263		1
2			2.20 B	0.182	0.139	0.189	0.404	0.120	0.077	0.146	0.269		2
3			2.19 B	0.180	0.123	0.190	0.408	0.117	0.070	0.143	0.265 A		3
4			2.05 B	0.182	0.115	0.185	0.419	0.118	0.064	0.147			4
5			1.81 B	0.177	0.115	0.168	0.419	0.117	0.059	0.153			5
6			0.273	0.178	0.115	0.169	0.305	0.118	0.034	0.152			6
7			0.298	0.164	0.115	0.163	0.229	0.113	0.024	0.154			7
8			0.314	0.163	0.115	0.163	0.170	0.108	0.023	0.159			8
9			0.318	0.164	0.108	0.164	0.133	0.104	0.043	0.162			9
10			0.313	0.156	0.106	0.161	0.126	0.100	0.045	0.165			10
11			0.315	0.154	0.104	0.163	0.128	0.096	0.040	0.172			11
12			0.315	0.158	0.102	0.168	0.130	0.089	0.027	0.209			12
13			0.318	0.155	0.099	0.179	0.138	0.091	0.020	0.236			13
14			0.320	0.153	0.096	0.183	0.719	0.096	0.040	0.245			14
15			0.291	0.160	0.095	0.171	1.25	0.099	0.031	0.252			15
16			0.273	0.232	0.096	0.171	1.14	0.103	0.014	0.261			16
17			0.265	0.607	0.091	0.172	0.977	0.106	0.009	0.271			17
18			0.254	0.854	0.089	0.176	0.377	0.127	0.003	0.266			18
19		7.00 B	0.250	0.776	0.083	0.401	0.267	0.113	0	0.256			19
20		8.20 B	0.251	0.526	0.086	0.668	0.181	0.104	0	0.258			20
21		12.5 B	0.245	0.263	0.103	0.682	0.188	0.113	0	0.231			21
22		9.98 B	0.246	0.173	0.122	0.677	0.182	0.107	0	0.238			22
23		8.37 B	0.248	0.155	0.128	0.571	0.171	0.110	0	0.231			23
24		6.39 B	0.247	0.164	0.130	0.502	0.168	0.104	0	0.263			24
25		3.57 B	0.236	0.143	0.134	0.427	0.163	0.105	0.014	0.247			25
26		2.84 B	0.229	0.139	0.140	0.392	0.155	0.100	0.120	0.269			26
27		3.37 B	0.230	0.145	0.145	0.393	0.150	0.097	0.143	0.258			27
28		3.81 B	0.230	0.175	0.146	0.394	0.144	0.094	0.150	0.266			28
29			0.224	0.147	0.147	0.400	0.138	0.092	0.147	0.272			29
30			0.203	0.147	0.150	0.390	0.121	0.088	0.142	0.268			30
31			0.197		0.195		0.112	0.086		0.266			31
TOTAL			17.833	7.164	3.688	9.025	10.009	3.248	1.419	6.760			TOTAL
MEAN			0.575	0.239	0.119	0.301	0.323	0.105	0.047	0.218			MEAN
DAM3			1540	619	319	780	865	281	123	584			DAM3
MAX			2.68	0.854	0.195	0.682	1.25	0.127	0.150	0.272			MAX
MIN			0.197	0.139	0.083	0.161	0.112	0.086	0	0.143			MIN

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

A-MANUAL GAUGE
B-ICE CONDITIONS

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.241 M3/S
TOTAL DISCHARGE, 5110 DAM3
MAXIMUM DAILY DISCHARGE, 2.68 M3/S ON MAR 1
MINIMUM DAILY DISCHARGE, 0 M3/S ON SEP 19

MAXIMUM INSTANTANEOUS DISCHARGE, 13.5 M3/S AT 0630 CST ON February 21

Water Survey of Canada

DAILY PAN EVAPORATION & PRECIPITATION IN MILLIMETRES

Station - VAL MARIE

Year - 1981

MARCH			APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		Day
Temp		Evap	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	Evap.	Prec.	
		0.0E	4.8		8.2	T	-8.8	9.2	7.2	T	8.6			10.8	0.8	6.2	1
		0.0E	3.0		8.4	T	7.2	0.2	9.6		6.0		5.6		6.6	T	2
		0.0E	3.0	T	6.0		-4.8	6.2	12.0		6.0	T	5.8		1.6	0.8	3
		0.0E	2.4	T	7.2		6.0	0.8	12.0		4.8	T	8.4		F	1.6	4
		0.0E	4.8	2.2	3.8	5.8	4.8	2.2	16.8		6.8		3.6		1.8		5
		0.0E	6.0		3.4	3.2	6.2	0.8	7.2	0.2	7.2		5.2		4.6		6
		0.0E	3.4		-3.2	8.6	4.0	2.8	12.0	0.2	9.0		7.2		2.4		7
		0.0E	3.4		4.8		4.0	3.0	12.0		8.4	T	8.2		2.4		8
		0.0E	7.2		4.0	1.4	3.4	T	9.6		6.4		11.6		4.8	T	9
		0.0E	3.4		4.0		6.0	1.0	14.0	0.2	8.2		8.0		-4.6*	8.8*	10
		0.0E	2.2	3.2	4.0	T	6.0		8.2		8.6		10.4		-7.0*	9.6*	11
		0.0E	F		4.8	T	-4.8	6.0	-10.6	20.0	7.2		9.6		F	4.6	12
		0.0E	F	T	4.8		-12.0	15.0	6.0	0.4	8.8		8.4		1.6*	0.2*	13
Hi	Lo	0.0E	13.0		5.8	T	-0.8	2.3	9.6		11.0	T	6.2		2.2*	0.2*	14
		0.0E	7.2		-9.0	13.8	7.2	T	7.2	T	6.4		6.4		2.4*		15
		0.0E	8.4		-1.4	4.8	7.2		5.4	T	8.8		8.2		2.8*		16
		0.0E	4.8		3.6	T	1.4	3.6	8.4		9.6	1.4	8.2		4.8*		17
9	-1	0.0E	8.4		12.0		4.4	1.2	7.2		7.2		8.4		0.0*		18
3.5	-12	0.0E	8.4		7.2		4.8	T	7.7	T	11.0		12.0	1.2	0.0*	1.3*	19
6	-5.5	0.0E	7.2	2.2	7.2		3.6	6.0	7.7		10.6		4.0		F*		20
2	-18	0.0E	1.0	0.6	9.6		3.6	1.8	9.6	T	7.2		3.4	0.2	F*	1.2*	21
0	-13	0.0E	5.8		8.4		4.8	0.2	8.4		5.4		6.2		F*		22
3.5	-7.5	0.0E	6.2		8.4		2.4	5.2	3.6		5.4	0.6	5.8		F*	T*	23
12	-12	1.0E	9.6		6.6		6.0	0.2	3.6	5.2	6.4		2.0*		F*	2.0*	24
12.5	-11	1.0E	8.4		7.2		10.4		6.0		8.0		-3.0	9.6	1.8*	0.8*	25
11	-5	1.0E	4.8		4.8	T	7.2	0.2	7.2		8.6		3.8		1.6*		26
12.5	0	2.0E	6.4	0.6	6.6		5.6	1.2	9.1		12.0		1.2	2.2	0.8*		27
8	-9.5	2.0E	9.6	T	2.4	3.4	2.4	2.8	9.1	0.6	11.4		4.6		2.4*		28
16.5	-2	3.0E	4.8		6.0	T	12.0		4.8	3.2	6.8		1.2		F*		29
7.5	-2	3.0E	9.6	T	7.2	T	11.0		8.6		6.8	T	2.4		4.8*		30
13	-2	3.0E			16.8	18.6			5.8		7.2				5.6*		31
			167.2	8.8	136.0	59.6	110.4	71.9	244.8	30.0	245.8	2.0	183.8	13.2	49.6	31.1	Total

* Manyberries Data T - Trace F - Frozen

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME HUFF LAKE 1981

STATION NO. 11AC063

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 25	815.717	4291					
Feb 26-Mar 7	815.143	3102	-1189	0	815.442	0	-1189
Mar 8-17	815.473	3777	675	0	815.356	0	675
Mar 18-28	815.550	3937	160	0.7	815.520	10	170
Mar 29-Apr 7	815.555	3947	10	3.6	815.553	53	63
Apr 8-17	815.521	3877	-70	4.8	815.537	71	1
Apr 18-27	815.670	4189	312	6.5	815.567	97	409
Apr 28-May 7	815.294	3405	-784	5.8	815.547	86	-698
May 8-17	814.751	2358	-1047	2.7	815.015	36	-1011
May 18-28	814.064	1280	-1078	8.0	814.378	88	-990
May 29-Jun 7	814.238	1520	240	1.0	814.128	10	250
Jun 8-17	814.420	1797	277	1.6	814.316	17	294
Jun 18-27	814.641	2165	368	5.3	814.495	61	429
Jun 28-Jul 7	814.908	2643	478	10.2	814.818	129	607
Jul 8-17	815.084	2984	341	6.9	814.998	92	433
Jul 18-28	814.669	2214	-770	8.0	814.843	102	-668
Jul 29-Aug 7	814.681	2235	21	6.9	814.663	84	105
Aug 8-17	814.635	2154	-81	8.3	814.658	101	20
Aug 18-28	814.567	2037	-117	9.2	814.606	110	-7
Aug 29-Sep 7	814.490	1909	-128	6.8	814.523	79	-49
Sep 8-17	814.410	1781	-128	8.4	814.453	95	-33
Sep 18-27	814.255	1545	-236	4.3	814.349	46	-190
Sep 28-Oct 7	814.172	1425	-120	3.2	814.204	32	-88
Oct 8-17	814.003	1202	-223	0.9	814.111	9	-214
Oct 18-28	813.658	845	-357	0.7	813.771	5	-352
TOTAL			-3446			1413	-2033

COMPUTED BY G.B. Felton

CHECKED BY D. Johnson

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

STORAGE FACTORS AND EVAPORATION LOSSES

STATION NAME NEWTON LAKE 1981

STATION NO. 11AC056

PERIOD	ELEVATION AT END OF PERIOD metres	CONTENTS IN dam^3	CHANGE IN CONTENTS DUR.PERIOD	PAN EVAPOR -ATION cm	MEAN ELEVATION FOR PERIOD metres	EVAPOR -ATION LOSS	TOTAL CHANGE STORED + RELEASED-
Feb 25	801.385	3623					
Feb 26-Mar 7	802.490	7457	3834	0	802.032	0	3834
Mar 8-17	802.589	7870	413	0	802.540	0	413
Mar 18-28	802.653	8146	276	0.7	802.617	21	297
Mar 29-Apr 7	802.695	8329	183	3.6	802.687	112	295
Apr 8-17	802.697	8339	10	4.8	802.696	149	159
Apr 18-27	802.433	7226	-1113	6.5	802.602	195	-918
Apr 28-May 7	801.888	5202	-2024	5.8	802.131	149	-1875
May 8-17	801.479	3894	-1308	2.7	801.662	60	-1248
May 18-28	801.222	3180	-714	8.0	801.365	157	-557
May 29-Jun 7	800.757	2116	-1064	1.0	801.007	16	-1048
Jun 8-17	800.239	1251	-865	1.6	800.469	18	-847
Jun 18-27	800.222	1226	-25	5.3	800.223	53	28
Jun 28-Jul 7	800.096	1052	-174	10.2	800.212	101	-73
Jul 8-17	799.730	627	-425	6.9	799.719	49	-376
Jul 18-28	800.294	1330	703	8.0	800.230	80	783
Jul 29-Aug 7	800.193	1185	-145	6.9	800.242	69	-76
Aug 8-17	800.051	995	-190	8.3	800.127	78	-112
Aug 18-28	799.935	856	-139	9.2	799.992	79	-60
Aug 29-Sep 7	799.851	761	-95	6.8	799.889	55	-40
Sep 8-17	799.752	650	-111	8.4	799.796	64	-47
Sep 18-27	799.731	628	-22	4.3	799.724	31	9
Sep 28-Oct 7	799.693	591	-37	3.2	799.730	23	-14
Oct 8-17	799.664	563	-28	0.9	799.686	6	-22
Oct 18-28	799.744	642	79	0.7	799.675	5	84
TOTAL			-2981			1570	-1411

COMPUTED BY G.B. Felton

CHECKED BY D. Johnson

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
SEP 30 1981 PAGE 10
REGINA, SASK.

HUFF LAKE GRAVITY CANAL

STATION NO. 11AC065

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0.603	0	0	0	0	0			1
2			0	0	0.797	0	0	0	0	0			2
3			0	0	0.778	0	0	0	0	0			3
4			0	0	0.871	0	0	0	0	0			4
5			0	0	0.904	0	0	0	0	0			5
6			0	0	0.773	0	0	0	0	0			6
7			0	0	0.712	0	0	0	0	0			7
8			0	0	0.691	0	0	0	0	0			8
9			0	0	0.680	0	0	0	0	0			9
10			0	0	0.680	0	0	0	0	0			10
11			0	0	0.667	0	0	0	0	0			11
12			0	0	0.723	0	0	0	0	0			12
13			0	0	0.797	0	0	0	0	0			13
14			0	0	0.813	0	0	0	0	0			14
15			0	0	0.788	0	0	0	0	0			15
16			0	0	0.913	0	0	0	0	0			16
17			0	0	0.991	0	0	0	0	0			17
18			0	0	0.863	0	0	0	0	0			18
19			0	0	0.911	0	0	0	0	0			19
20			0	0	0.853	0	0	0	0	0			20
21			0	0	0.747	0	0	0	0	0			21
22			0	0	0.596	0	0	0	0	0			22
23			0	0	0.482	0	0	0	0	0			23
24			0	0	0.563	0	0	0	0	0			24
25			0	0	0.780	0	0	0	0	0			25
26			0	0	0.829	0	0	0	0	0			26
27			0	0	0.696	0	0	0	0	0			27
28			0	0	0.639	0	0	0	0	0			28
29			0	0	0.484	0	0	0	0	0			29
30			0	0.158	0.367	0	0	0	0	0			30
31			0		0.122		0	0		0			31
TOTAL			0	0.158	22.113	0	0	0	0	0			TOTAL
MEAN			0	0.005	0.713	0	0	0	0	0			MEAN
DAM3			0	13.7	1910	0	0	0	0	0			DAM3
MAX			0	0.158	0.991	0	0	0	0	0			MAX
MIN			0	0	0.122	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE,0.091 M3/S
TOTAL DISCHARGE, 1920 DAM3
MAXIMUM DAILY DISCHARGE,0.991 M3/S ON MAY 17
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

WATER SURVEY OF CANADA
DEC 18 1981 PAGE 2
REGINA, SASK.

HUFF LAKE PUMPING CANAL

STATION NO. 11AC066

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0.365	0	0	0	0	0			1
2			0	0	0.413	0	0	0	0	0			2
3			0	0	0.412	0	0	0	0	0			3
4			0	0	0.473	0	0	0	0	0			4
5			0	0	0.657	0	0	0	0	0			5
6			0	0	0.793	0	0	0	0	0			6
7			0	0	0.791	0	0	0	0	0			7
8			0	0	0.759	0	0	0	0	0			8
9			0	0	0.793	0	0	0	0	0			9
10			0	0	0.794	0	0	0	0	0			10
11			0	0	0.763	0	0	0	0	0			11
12			0	0	0.797	0	0	0	0	0			12
13			0	0	0.764	0	0	0	0	0			13
14			0	0	0.800	0	0	0	0	0			14
15			0	0	0.800	0	0	0	0	0			15
16			0	0	0.586	0	0	0	0	0			16
17			0	0	0.432	0	0	0	0	0			17
18			0	0	0.464	0	0	0	0	0			18
19			0	0	0.807	0	0	0	0	0			19
20			0	0	0.791	0	0	0	0	0			20
21			0	0	0.792	0	0	0	0	0			21
22			0	0	0.572	0	0	0	0	0			22
23			0	0	0.724	0	0	0	0	0			23
24			0	0	0.514	0	0	0	0	0			24
25			0	0	0.071	0	0	0	0	0			25
26			0	0	0.213	0	0	0	0	0			26
27			0	0	0.142	0	0	0	0	0			27
28			0	0	0	0	0	0	0	0			28
29			0	0	0.124	0	0	0	0	0			29
30			0	0	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	0	16.406	0	0	0	0	0			TOTAL
MEAN			0	0	0.529	0	0	0	0	0			MEAN
DAM3			0	0	1420	0	0	0	0	0			DAM3
MAX			0	0	0.807	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
JAN 11 1982 PAGE 4
REGINA, SASK.

VAL MARIE PUMP NO. 1

STATION NO. 11AC068

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	0	0	0	0	0	0			1
2			0	0	0	0	0	0	0	0			2
3			0	0	0	0	0	0	0	0			3
4			0	0	0	0	0	0	0	0			4
5			0	0	0.109	0	0	0	0	0			5
6			0	0	0.225	0	0	0	0	0			6
7			0	0	0.153	0	0	0	0	0			7
8			0	0	0	0	0	0	0	0			8
9			0	0	0	0	0	0	0	0			9
10			0	0	0	0	0	0	0	0			10
11			0	0	0	0	0	0	0	0			11
12			0	0	0	0	0	0	0	0			12
13			0	0	0	0	0	0	0	0			13
14			0	0	0	0	0	0	0	0			14
15			0	0	0	0	0	0	0	0			15
16			0	0	0	0	0	0	0	0			16
17			0	0	0	0	0	0	0	0			17
18			0	0	0.136	0	0	0	0	0			18
19			0	0	0.296	0	0	0	0	0			19
20			0	0	0.194	0	0	0	0	0			20
21			0	0	0.148	0	0	0	0	0			21
22			0	0	0.247	0	0	0	0	0			22
23			0	0	0.299	0	0	0	0	0			23
24			0	0	0.309	0	0	0	0	0			24
25			0	0	0.169	0	0	0	0	0			25
26			0	0	0	0	0	0	0	0			26
27			0	0	0	0	0	0	0	0			27
28			0	0	0	0	0	0	0	0			28
29			0	0	0	0	0	0	0	0			29
30			0	0	0	0	0	0	0	0			30
31			0		0		0	0		0			31
TOTAL			0	0	2.285	0	0	0	0	0			TOTAL
MEAN			0	0	0.074	0	0	0	0	0			MEAN
DAM3			0	0	197	0	0	0	0	0			DAM3
MAX			0	0	0.309	0	0	0	0	0			MAX
MIN			0	0	0	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE,0.009 M3/S
TOTAL DISCHARGE, 197 DAM3
MAXIMUM DAILY DISCHARGE,0.309 M3/S ON MAY 24
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

WATER SURVEY OF CANADA
AUG 25 1981 PAGE 10
REGINA, SASK.

NEWTON LAKE MAIN CANAL

STATION NO. 11AC054

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0	0	2.53	0.174	0	0	0	0			1
2			0	0	2.51	0	0	0	0	0			2
3			0	0	2.47	0	0	0	0	0			3
4			0	0	2.48	0	0	0	0	0			4
5			0	0	2.50	0	0	0	0	0			5
6			0	0	2.47	0	0	0	0	0			6
7			0	0	2.45	0	0	0	0	0			7
8			0	0	2.58	0	0	0	0	0			8
9			0	0	2.63	0	0	0	0	0			9
10			0	0	2.60	0	0	0	0	0			10
11			0	0	2.55	0	0	0	0	0			11
12			0	0	2.51	0	0	0	0	0			12
13			0	0	2.47	0	0	0	0	0			13
14			0	0	2.43	0	0	0	0	0			14
15			0	0	2.12	0	0	0	0	0			15
16			0	0	1.76	0	0	0	0	0			16
17			0	0	1.68	0	0	0	0	0			17
18			0	0	1.66	0	0	0	0	0			18
19			0	0	1.36	0	0	0	0	0			19
20			0	0	1.16	0	0	0	0	0			20
21			0	0	1.13	0	0	0	0	0			21
22			0	0	0.909	0	0	0	0	0			22
23			0	0	0.850	0	0	0	0	0			23
24			0	0	0.829	0	0	0	0	0			24
25			0	0	0.654	0	0	0	0	0			25
26			0	0	0.592	0	0	0	0	0			26
27			0	0.570	0.361	0	0	0	0	0			27
28			0	1.36	0.332	0	0	0	0	0			28
29			0	2.08	0.332	0	0	0	0	0			29
30			0	2.17	0.324	0	0	0	0	0			30
31			0		0.318		0	0		0			31
TOTAL			0	6.180	51.551	0.174	0	0	0	0			TOTAL
MEAN			0	0.206	1.66	0.006	0	0	0	0			MEAN
DAM3			0	534	4450	15.0	0	0	0	0			DAM3
MAX			0	2.17	2.63	0.174	0	0	0	0			MAX
MIN			0	0	0.318	0	0	0	0	0			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.236 M3/S
TOTAL DISCHARGE, 5000 DAM3
MAXIMUM DAILY DISCHARGE, 2.63 M3/S ON MAY 9
MINIMUM DAILY DISCHARGE, 0 M3/S ON MAR 1

APPROVED
District Chief U.S.G.S.

Regional Chief W.S.C.

WATER SURVEY OF CANADA
JAN 06 1982 PAGE 21
REGINA, SASK.

FRENCHMAN RIVER BELOW NEWTON LAKE

STATION NO. 11AC062

DAILY DISCHARGE IN CUBIC METRES PER SECOND FOR 1981

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DAY
1			0.432	0.105	0.085	1.40	0	0.250	0.070	0.120	0.146		1
2			0.685	0.105	0.091	1.39	0	0.254	0.044	0.114	0.145 A		2
3			1.26	0.099	0.089	1.37	0	0.247	0.036	0.114			3
4			1.08	0.107	0.067	1.35	0	0.252	0.036	0.117			4
5			0.447	0.102	0.060	1.35	0	0.241	0.036	0.126			5
6			0.320	0.135	0.052	1.33	0.610	0.258	0.039	0.117			6
7			0.212	0.108	0.049	1.30	1.18	0.240	0.039	0.099			7
8			0.198	0.102	0.047	1.30	1.16	0.242	0.043	0.091			8
9			0.177	0.110	0.047	1.24	1.12	0.240	0.045	0.114			9
10			0.170	0.099	0.046	1.22	1.10	0.249	0.043	0.159			10
11			0.169	0.092	0.045	1.21	1.07	0.248	0.044	0.151			11
12			0.166	0.102	0.045	1.18	1.05	0.255	0.045	0.123			12
13			0.164	0.089	0.045	1.17	1.00	0.258	0.046	0.065			13
14			0.164	0.087	0.046	1.15	0.966	0.244	0.046	0.073			14
15			0.167	0.083	0.046	1.13	0.928	0.264	0.047	0.388			15
16			0.166	0.101	0.047	1.13	0.916	0.273	0.061	0.602			16
17			0.164	0.073	0.051	0.438	0.981	0.275	0.066	0.574			17
18			0.158	0.066	0.050	0.002	1.00	0.192	0.061	0.572			18
19			0.143	0.067	0.051	0.001	1.07	0.138	0.046	0.525			19
20			0.157	0.995	0.053	0.001	1.08	0.133	0.032	0.497			20
21			0.162	1.57	0.051	0.001	1.08	0.137	0.030	0.392			21
22			0.158	1.56	0.049	0.001	1.11	0.126	0.029	0.481			22
23			0.167	1.53	0.052	0.001	1.15	0.111	0.092	0.467			23
24		0.314 A	0.170	1.53	0.053	0.001	1.16	0.114	0.138	0.294			24
25		0.335	0.176	1.51	0.202	0.001	1.17	0.114	0.146	0.156			25
26		0.356	0.173	1.50	1.52	0.001	1.19	0.097	0.135	0.156			26
27		0.381	0.155	1.51	1.48	0.001	1.23	0.094	0.104	0.147			27
28		0.407	0.143	1.53	1.47	0.001	1.22	0.088	0.105	0.149			28
29			0.133	1.18	1.43	0.001	0.630	0.087	0.108	0.157			29
30			0.120	0.093	1.46	0	0.250	0.077	0.115	0.154			30
31			0.107		1.42		0.251	0.073		0.156			31
TOTAL			8.263	16.340	10.299	20.671	25.672	5.871	1.927	7.450			TOTAL
MEAN			0.267	0.545	0.332	0.689	0.828	0.189	0.064	0.240			MEAN
DAM3			714	1410	890	1790	2220	507	166	644			DAM3
MAX			1.26	1.57	1.52	1.40	1.23	0.275	0.146	0.602			MAX
MIN			0.107	0.066	0.045	0	0	0.073	0.029	0.065			MIN

SUMMARY FOR THE MONTHS MAR TO OCT
MEAN DISCHARGE, 0.394 M3/S
TOTAL DISCHARGE, 8340 DAM3
MAXIMUM DAILY DISCHARGE, 1.57 M3/S ON APR 21
MINIMUM DAILY DISCHARGE, 0 M3/S ON JUN 30

MAXIMUM INSTANTANEOUS DISCHARGE, 1.83 M3/S AT 1130 CST ON March 4

APPROVED
District Chief U.S.G.S.

A-MANUAL GAUGE

Regional Chief W.S.C.

MISCELLANEOUS DIVERSIONS
FRENCHMAN RIVER
1981

Ditch Owner	Location	Diverting From	Approximate dam^3 Diverted
AGAR, Roland	NW 20-7-24-3	A Coulee	0
ALEXANDER, Keith W.	SE 2-7-23-3	N br. Frenchman R.	27
ARMSTRONG, John C.	NW 32-7-24-3	A Coulee	49
ARMSTRONG, John C.	NW 9-8-24-3	A Coulee	9
ARMSTRONG, John C.	SE 31-7-24-3		0
ARMSTRONG, Martin	NE 34-6-21-3		0[E]
ARMSTRONG, Samuel L.	NW 2-8-24-3	Coulee No. 1	37
ARMSTRONG, Samuel L.	NW 9-8-24-3	Armstrong Cr.	56
ARENDT, Wallace	NE 3-7-24-3	A Coulee	0
ARNAL, Clifford	SE 30-7-23-3	Blacktail Cr	0
BELZA, Carl L.	SW 19-2-12-3		0
BOWLES, Donald E.A.	SE 29-8-24-3		0
BRYAN, G.H.	SE 22-8-26-3	A Coulee	0
BRYAN, G.H.	SW 27-7-26-3		51
BRYAN, G.H.	NE 28-7-26-3	A Coulee	21
CATON, John W.	SW 31-6-24-3	Fairwell Creek	356
CLARKE FARMS LTD.	SW 31-4-18-3	Frenchman River	31
CURRIE, William M.	NE 2-5-22-3		0
CYPRESS CATTLE CO	SW 30-6-25-3	Belanger Creek	329
CYPRESS CATTLE CO.	NW-NE-29-6-25-3	Davis Creek	83
DAWSON, Joseph	NW 4-7-21-3		15
DAVID, Stanley	NE 20-7-23-3	Blacktail Creek	1
DIXON, Clifford G.	NW 8-6-12-3	A Coulee	25
DIXON, Bruce N.	NW 34-1-11-3		0
DUKE, Fred & Glen	NE 32-6-20-3		5
DUKE, Fred & Glen	SE 32-6-20-3	A Coulee	6

MISCELLANEOUS DIVERSIONS
FRENCHMAN RIVER
1981

Ditch Owner	Location	Diverting From	Approximate dam^3 Diverted
DUKE, Fred & Glen	SE 36-6-21-3		0
DUKE, Glen F.	SW 31-6-20-3	A Coulee	0
DUQUETTE, Claude	NW 24-3-13-3		0
FORDICE, L.E.	SE 24-7-26-3	A Coulee	0
FORDICE, L.E.	NW 19-7-25-3		0
FORDICE, L.E.	NW 18-7-25-3	Belanger Creek	0
FORDICE, L.E.	SE 12-7-26-3	A Coulee	0
FREEL, Raymond	NW 24-6-23-3	Frenchman River	25
GARISSERE, Jean	SW 30-8-25-3	A Coulee	0
GILLESPIE, Donald T	NW 10-1-10-3	Molstead Creek	0
GIRARD, Richard B	SW 26-5-21-3	Eastbrook Coulee	0
GILLESPIE, Donald T.	NW 9-1-10-3	Frenchman River	0
GILLESPIE, Donald T.	NW 3-1-10-3	Frenchman River	7
GRANT, Duncan S.	SE 4-4-13-3		0
GRANT, Ian N.	NW 19-5-13-3		0
GREENLAY, Michael	NE 33-4-17-3	A Coulee	21
HANSON RANCHES LTD	NW 16-8-22-3	N. br. Frenchman River	0
HANSON, Glennis	SW 15-6-20-3	A Coulee	0
HANSON, Sidney	SW 23-8-23-3	A Coulee	11
HAYES, George J.	NW 28-4-12-3	A Coulee	9
JENSEN, Homer C.	SE 32-4-17-3	Frenchman River	83
LARSON, W.C. Est.	NW 34-2-13-3	Little Pinto Creek	5^E
LARSON, W.C. Est.	SW 4-3-12-3	A Creek	6^E
LARSON, W.C. Est.	NE 35-2-12-3	A Creek	3^E
LARSON, W.C. Est.	NE 34-2-12-3	A Coulee	6^E
MC CUAIG, Duncan	NE 13-5-21-3	A Coulee	0^E

MISCELLANEOUS DIVERSIONS
FRENCHMAN RIVER
1981

Ditch Owner	Location	Diverting From	Approximate dam^3 Diverted
MILLIONS, Mary E.	NW 15-7-22-3		15[E]
MORVIK, Kathryn	SE 27-6-22-3	Frenchman River	54
NADEAU, Edgar	SW 36-3-13-3	A Coulee	3[E]
NADEAU, Edgar	NW 2-4-13-3	E. br. Denniel Creek	4[E]
OLMSTEAD, William D.	NE 11-6-25-3		0
OLSON, Stanley A.	NW 24-6-21-3		0
OLSON, Kalvin E.	SW 16-4-12-3		0
OLSON, Mrs. Alma	SE 7-4-12-3	A Coulee	0
OLSON, Clifford G.	SW 5-4-12-3	A Coulee	0
OLSON, F.E.	NE 16-4-12-3	A Coulee	0
OLSON, F.E.	NE 17-4-12-3	A Coulee	0
OLSON, F.E.	NW 16-4-12-3	E. Br. Denniel Creek	0
OLSON, F.E.	NW 17-4-12-3	A Coulee	0
PEACOCK, Calvin W.	SW 4-6-20-3		25
PEACOCK, Calvin W.	NW 27-5-20-3		0
PEACOCK, Calvin W.	SE 34-5-20-3		0
PEARSON, A. Est.	SE 15-6-23-3	A Coulee	0
PEARSON, Donald D.	NE 22-6-23-3	Frenchman River	28
PEARSON, Donald J.	NW 22-6-23-3	Frenchman River	12
PEARSON, Donald J.	NE 10-6-23-3	A Coulee	0
PERRIN, Stanley M.	NW 2-8-25-3	A Coulee	1
PERRIN, Stanley, M.	NE 3-8-25-3	Willow Creek	4
PIOT, Erwin	NE 16-7-21-3		27
RUTTLE, Clarence	NE 9-5-19-3		41
SAVILLE, William G.	NW 10-7-24-3	A Coulee	0

MISCELLANEOUS DIVERSIONS
FRENCHMAN RIVER
1981

Ditch Owner	Location	Diverting From	Approximate dam^3 Diverted
SAVILLE, William G.	NW 2-7-24-3	A Coulee	0
SHUFLETOSKI, Lewis	SW 1-8-24-3	Belanger Creek	2
SMITH, C.W.	SW 8-4-10-3	A Coulee	0
TOPHAM, Gary	SE 17-7-22-3	N. Br. Frenchman R.	62
T.T. RANCH CO.	NE 24-6-24-3		21
T.T. RANCH CO.	NE 23-6-24-3		0
T.T. RANCH CO.	NE 16-6-24-3		1
T.T. RANCH CO.	SW 23-6-24-3		6
T.T. RANCH CO.	NE 19-6-23-3		0
T.T. RANCH CO.	SE 25-6-24-3		37
WALKER RANCH LTD.	NE 8-1-10-3 NE 22-1-11-3		0
WALKER RANCH LTD.	SE 25-1-11-3 NW 26-1-11-3		0
WALKER RANCH LTD	SE 27-1-11-3	Frenchman River	0
WALKER RANCH LTD	E1/2 24-1-11-3	A Coulee	0
WALKER, Ural W.	NE 1-5-12-3	A Coulee	0
WHITE, Fred T.	NE 20-5-17-3	Horse Camp Creek	0
WHITE, Fred T.	SE 15-6-18-3	A Coulee	0
WHITE, Fred T.	SW 36-5-17-3	McDonald Creek	0
WHITE, Fred T.	SW 23-5-17-3	Frenchman River	0
WHITE, Fred T.	NW 33-5-17-3		46
WHITE, Pansy	NE 19-6-25-3		39
WHITE, Raymond	SE 5-8-22-3	Calf Creek	80
WHITNEY, Jack A.	NE 28-7-26-3	Lone Pine Creek	41
WILLIAMSON, Fred J.	NE 1-6-21-3	Eastbank Coulee	0

MISCELLANEOUS DIVERSIONS
FRENCHMAN RIVER
1981

Ditch Owner	Location	Diverting From	Approximate dam^3 Diverted
WRANESCK, George	NE 30-6-13-3	A Coulee ·	9
ZIEGLER, Jack G.	SW 18-7-24-3		0
Sub-Total			1835
Domestic Projects (45% of	1835		826
TOTAL			2661

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

06151000 LYONS CREEK AT INTERNATIONAL BOUNDARY 11AB075

DRAINAGE AREA 173 SQ KM

DISCHARGE, IN CUBIC METERS PER SECOND, CALENDER YEAR JANUARY 1981 TO DECEMBER 1981

MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0	0	0	0	0	0	0	0		
2			0	0	0	0	0	0	0	0		
3			0	0	0	0	0	0	0	0		
4			0	0	0	0	0	0	0	0		
5			0	0	0	0	0	0	0	0		
6			0	0	0	0	0	0	0	0		
7			0	0	0	0	0	0	0	0		
8			0	0	0	0	0	0	0	0		
9			0	0	0	0	0	0	0	0		
10			0	0	0	0	0	0	0	0		
11			0	0	0	0	0	0	0	0		
12			0	0	0	0	0	0	0	0		
13			0	0	0	0	0	0	0	0		
14			0	0	0	0	0	0	0	0		
15			0	0	0	0	0	0	0	0		
16			0	0	0	0	0	0	0	0		
17			0	0	0	0	0	0	0	0		
18			0	0	0	0	0	0	0	0		
19			0	0	0	0	0	0	0	0		
20			0	0	0	0	0	0	0	0		
21			0	0	0	0	0	0	0	0		
22			0	0	0	0	0	0	0	0		
23			0	0	0	0	0	0	0	0		
24			0	0	0	0	0	0	0	0		
25			0	0	0	0	0	0	0	0		
26			0	0	0	0	0	0	0	0		
27			0	0	0	0	0	0	0	0		
28			0	0	0	0	0	0	0	0		
29			0	0	0	0	0	0	0	0		
30			0	0	0	0	0	0	0	0		
31			0	---	0	---	0	0	---	0		
TOTAL			0	0	0	0	0	0	0	0		
MEAN			0	0	0	0	0	0	0	0		
MAX			0	0	0	0	0	0	0	0		
MIN			0	0	0	0	0	0	0	0		
DAM^3			0	0	0	0	0	0	0	0		

FOR THE SEASON, MARCH TO OCTOBER
NO FLOW

APPROVED: DISTRICT CHIEF, U.S.G.S.

REGIONAL CHIEF, W.S.C.

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