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ST. MARY AND MILK RIVERS

WATER SURVEY OF CANADA
CALGARY DISTRICT OFFICE

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R E P O R T T O

THE INTERNATIONAL JOINT COMMISSION

1984

The Honourable, the International Joint Commission,
Washington, D.C. and Ottawa, Canada.

Gentlemen,-

In compliance with the provisions of
Clause 10 of your order of the 4th of October, 1921,
directing the division of the waters of St. Mary and
Milk rivers between the United States and Canada, we
are transmitting herewith a report on the operations
during the irrigation season of 1924.

Respectfully submitted,

Accredited Irrigation Officer of His Majesty.

Accredited Reclamation Officer of the United States.

Date: 6th April, 1925.

REPORT TO THE INTERNATIONAL JOINT COMMISSION

on

THE DIVISION AND USE MADE OF THE WATERS OF

ST. MARY AND MILK RIVERS

by

MR. J. T. JOHNSTON

representing Canada

and

Dr. ELWOOD MEAD

representing the United States

INTRODUCTION

The field work in the division and administration of the waters of the St. Mary and Milk rivers in Alberta, Saskatchewan and Montana, during the irrigation season of 1924, was conducted by the same engineers as in previous years. Mr. Elwood Mead, Commissioner of the United States Bureau of Reclamation, as accredited officer for the United States, was represented in the field by members of his staff stationed at Malta, Montana. Mr. J.F. Johnston, Director, Dominion Water Power and Reclamation Service, as accredited officer for His Majesty, was represented by Mr. S.G. Dawson. The water of the two rivers was divided between the two countries in accordance with the order of the Commission dated in Ottawa, Canada, on the 6th day of October, 1921.

The hydrometric data were obtained in Montana by engineers of the United States Geological Survey under the direct personal supervision of Mr. W.A. Lamb, District Engineer; while those from

streams in Canada and Canadian ditches were collected under the supervision of the Commissioner of Irrigation, Dominion Water Power and Reclamation Service. International gauging stations were visited frequently by representatives of both countries.

A table showing the daily use made of the waters of the St. Mary river was forwarded, weekly, to the manager of the United States Milk River project, to the Superintendent, Lethbridge Section, Canadian Pacific Railway Irrigation System, and to the Director, Dominion Water Power and Reclamation Service. As this table showed a computed natural flow of the St. Mary river at the boundary and the share of this flow to which each country was entitled, the engineers in the field kept constantly in touch with the conditions relative to the flow of the different streams affected by the Treaty, the amount of water stored or released from storage, and the amounts diverted by each country.

A further study of the flow of the Northern tributaries was made to determine the loss due to seepage and evaporation in their course through Canada.

DIVISION OF WATER

The United States St. Mary Canal diverted 91,280 acre-feet of water from the St. Mary river during the period of its operation from the opening of the headgates on the 2nd of May to their closing for the season on the 1st September.

During the season 49,000 acre-feet of the flow of Swiftcurrent creek was stored in Oberburne Reservoir and used to augment the flow of St. Mary river during the period of low discharge.

As there was no appreciable diversion from Milk river in Canada, the total natural flow, estimated as 89,800 acre-feet during the irrigation season, was delivered to the United States at Eastern Crossing. 4441 acre-feet of the flow of Lodge creek, 9,441 acre-feet of Battle creek, and 32,179 acre-feet of Frenchman river crossed the international boundary into Montana.

The Alberta Railway and Irrigation Company's canal at Kimball diverted 185,324 acre-feet from the St. Mary river during the period of operation from 26th April to 23rd October.

In the Lodge creek basin the total diversion by Canadian irrigators was very small due to the short

duration and very low flow in the basin. From Battle creek 1,667 acre-feet were recorded as diverted in Canada and 685 acre-feet from Frenchman river.

There were no diversions made in Canada from Rock or Whitewater creeks.

The proper share of the St. Mary river was delivered to each country except for a short period when the Canadian share was purposely reduced to facilitate the construction of the diversion dam at Kimball, while at this time the St. Mary canal diverted in excess of the United States' share to test the present actual carrying capacity of the canal.

The proper share was determined by making current meter measurements of the discharge of the headwaters of the St. Mary river computing the inflow to and measuring the outflow from the Sherburne reservoir, the amount diverted by the St. Mary canal, and the amount delivered to Canada at the boundary. From these measurements and calculations the natural flow of St. Mary river was computed and the share to which each country was entitled determined on the following basis:-

- (1) When the natural flow of St. Mary river was less than 666 cubic feet per second, Canada was entitled to three-quarters of that flow and the United States, one-quarter.

- (2) When the natural flow was greater than 666 cubic feet per second, Canada was entitled to 500 cubic feet per second, plus one-half of the increase over 666 cubic feet per second and the United States entitled to the remainder.

WATER SUPPLY

The precipitation on the drainage basins of St. Mary and Milk rivers during the winter 1923-24 was one of the lowest on record. In the spring of 1924 the snow accumulated in the mountains at the head of St. Mary river was below the average, and on the prairies, forming most of the drainage basin of Milk river there was a very light fall. As a result the seasonal flow of these streams was much below the average run-off. The discharge of St. Mary river for the period November 1923 to October 1924 was 562,000 acre-feet, which is the third lowest in 22 years of record. During the irrigation season the flow was 90% of the average.

The inflow to the Milk river from the northern tributaries was the lowest on record and practically ceased after the first week of July.

In the Lodge creek basin the season's flow of 4,500 acre-feet was the lowest of the 13 year record. In Battle creek the flow was one-quarter of the average for 8 years, while the flow of Frenchman

river was the lowest recorded in 10 years.

The flow of Swiftcurrent, Canyon and other creeks above Sherburne was impounded in Sherburne reservoir from May 9th to July 2nd, and used to augment the natural flow of St. Mary river during the low flow in the latter part of the season.

All international gauging stations previously used in the determination of the daily flow of the streams in the St. Mary and Milk river basins were maintained and operated under the joint supervision of the field engineers.

Canada maintained the same stations on international waters and canals diverting therefrom, with the addition of a number of seven day recorders which were installed in the Battle Creek area in connection with the study to determine the losses due to seepage.

An appendix to this report gives the results of current meter measurements, the daily gauge heights and discharge at all the gauging stations operated in the two drainage basins during 1924.

DESCRIPTION OF TABLES

The tables following have been prepared summarizing the data on the division and use of the waters of the two basins.

Table No. 1 shows the method of determining the natural flow of the St. Mary river during the

irrigation season, the water available for use and diverted by the United States and the water available for use and diverted by Canada.

There are four sheets for each month in this table. Sheet No.1 shows the daily inflow and outflow of Sherburne reservoir, the difference gives the amount of water stored or released from storage. On this sheet the inflow from unrecorded streams is determined by comparison with the recorded flows of Swiftcurrent and Canyon creeks, and by the use of the storage curve of Sherburne reservoir to give the gain or loss in storage. This estimate is put in the column headed "other streams".

Sheet No.2 shows the amount of water diverted, stored or released from storage by the United States and the natural flow of the St.Mary river which would cross the international boundary if undisturbed. Two days has been estimated as the time for stored water released at Sherburne to reach the boundary and this lag has been applied on this sheet.

Sheet No.3 shows the water available for use by the United States, the water diverted and the excess or deficiency of this quantity over the amount available.

Sheet No.4 shows the natural flow of St.Mary river at Kimball, Canada's share under the order of the Commission, the actual discharge of the river at Kimball

which is the amount available for use by Canada, the amount used by Canada and the excess or deficiency of the quantity received by Canada as compared with her share.

An examination of Table No.1 shows that except for a short period each country received the share to which it was entitled.

Table No.2 is the statement showing the quantity of water taken in each month by each country and the amount thereof applied to the land; the quantity of water diverted from the St.Mary river and stored or held back by either country. This table also shows the water available, diverted, stored or wasted and the loss in canals and reservoirs.

Table No.3 gives the available data on diversions from the principal northern tributaries of Milk river and the amount which crossed the boundary into the United States.

TABLE NO. 1

DIVISION OF WATER OF ST. MARY RIVER

1924

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
April - 1924.

:St. Mary River:Diverted by:Stored by:Total In:Stored Water:Natural Flow
Day : at Kimball : U.S.R.S. : U.S.R.S.:Sec.-ft.: Released :St. Mary River

Day	St. Mary River	Diverted by U.S.R.S.	Stored by U.S.R.S.	Total In Sec.-ft.	Stored Water Released	Natural Flow St. Mary River
1	251	0	0	251	0	251
2	300			300		300
3	353			353		353
4	400			400		400
5	400			400		400
6	560			560		560
7	722			722		722
8	649			649		649
9	617			617		617
10	437			437		437
11	437			437		437
12	410			410		410
13	410			410		410
14	357			357		357
15	383			383		383
16	311			311		311
17	311			311		311
18	316			316		316
19	320			320		320
20	326			326		326
21	323			323		323
22	444			444		444
23	352			352		352
24	441			441		441
25	337			337		337
26	330			330		330
27	326			326		326
28	352			352		352
29	384			384		384
30	410			410		410
Total	11801	0	0	11801	0	11801
Mean	393	0	0	393	0	393
Total Ac.-ft.	23385	0	0	23385	0	23385

no diversion during April

no water stored during April

no stored water released during April

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
APRIL - 1924

Day:	St. Mary R. at Finball	U.S. Share	U.S. stored water Released	total	Diverted	stored	total	Excess	Deficiency
1	252	63	0	63	0	0	0	0	63
2	309	75	0	75	0	0	0	0	75
3	373	88	0	88	0	0	0	0	88
4	400	100	0	100	0	0	0	0	100
5	400	100	0	100	0	0	0	0	100
6	560	140	0	140	0	0	0	0	140
7	722	194	0	194	0	0	0	0	194
8	640	162	0	162	0	0	0	0	162
9	617	154	0	154	0	0	0	0	154
10	437	109	0	109	0	0	0	0	109
11	437	109	0	109	0	0	0	0	109
12	410	102	0	102	0	0	0	0	102
13	410	102	0	102	0	0	0	0	102
14	377	89	0	89	0	0	0	0	89
15	353	86	0	86	0	0	0	0	86
16	337	81	0	81	0	0	0	0	81
17	337	81	0	81	0	0	0	0	81
18	337	79	0	79	0	0	0	0	79
19	337	80	0	80	0	0	0	0	80
20	337	81	0	81	0	0	0	0	81
21	337	81	0	81	0	0	0	0	81
22	337	86	0	86	0	0	0	0	86
23	337	88	0	88	0	0	0	0	88
24	341	85	0	85	0	0	0	0	85
25	337	84	0	84	0	0	0	0	84
26	337	82	0	82	0	0	0	0	82
27	337	81	0	81	0	0	0	0	81
28	337	88	0	88	0	0	0	0	88
29	334	96	0	96	0	0	0	0	96
30	410	102	0	102	0	0	0	0	102
Total Acc.-ft.	11801	2960	0	2960	0	0	0	0	2960
Mean	393	98.7	0	98.7	0	0	0	0	98.7
Total Ac.-ft.	23385	5873	0	5873	0	0	0	0	5873

no water released in April

no water diverted during April

no water stored in April

no water used in April

no excess used in April

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
MAY - 1924

Day	INFLOW INTO SHERBURNE RESERVOIR				Total	:Creek below : Sherburne	:Stored	:Released
	:Swiftcurrent :at Many Glacier	:Canyon	:Other Creeks	:Creek below : Sherburne				
1	85				168	168		0
2	146				213	213		
3	229				307	307		
4	368				400	400		
5	321				397	397		
6	265	31		79	375	375		
7	223	31		102	356	356		
8	226	34		84	344	344		
9	301	38		34	373	333	40	
10	347	47		39	433	331	102	
11	455	64		95	614	344	270	
12	541	72		104	717	414	303	
13	555	70		116	741	523	218	
14	555	69		116	740	571	169	
15	591	79		125	795	590	205	
16	771	80		213	1064	593	471	
17	753	55		202	1010	668	342	
18	609	56		179	844	738	106	
19	523	55		144	722	388	334	
20	430	55		122	607	58	549	
21	396	55		113	564	50	514	
22	434	54		122	610	38	572	
23	444	55		125	624	31	593	
24	430	55		121	605	20	585	
25	519	56		144	719	13	706	
26	483	56		135	674	12	662	
27	382	57		110	549	11	538	
28	311	50		90	451	12	439	
29	262	42		76	380	13	367	
30	248	40		70	358	12	346	
31	270	45		80	403	12	391	
Total Sec.-ft.	12481	1401	2940		17158	8333	8823	0
Mean	403				554	269	285	0
Total Ac.-ft.	24780	2779	5829		34039	16540	17499	0

no stored water released in May

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
MAY - 1924

St. Mary River: Diverted by: Stored by: Total in: Stored Water: Natural Flow
Day : at Kimball : U.S.R.S. : U.S.R.S.: Sec.-ft.: Released. : St. Mary River.

Day	at Kimball	U.S.R.S.	U.S.R.S.	Sec.-ft.	Released.	St. Mary River
1	421	0	0	421	0	421
2	427	11		438		438
3	503	38		541		541
4	657	41		698		698
5	818	41		859		859
6	958	42		1000		1000
7	1070	41		1111		1111
8	1140	42		1182		1182
9	1160	66		1226		1226
10	1100	162		1262		1262
11	1230	204	40	1474		1474
12	1410	242	102	1754		1754
13	1660	250	270	2180		2180
14	1890	257	303	2450		2450
15	2070	292	218	2580		2580
16	2340	289	169	2798		2798
17	2620	309	205	3134		3134
18	2740	354	471	3565		3565
19	2810	386	342	3538		3538
20	2450	195	106	2951		2951
21	2100	401	314	2835		2835
22	1940	399	549	2888		2888
23	1890	399	514	2803		2803
24	1770	407	572	2749		2749
25	1770	407	593	2770		2770
26	1810	410	586	2806		2806
27	1740	418	706	2864		2864
28	1630	407	662	2699		2699
29	1590	401	538	2529		2529
30	1440	195	439	2274		2274
31	1340	391	357	2098		2098
Total Sec.-ft.	48499	7897	8006	64482	0	64482
Mean	1564	263	261	2080		2080
Total Ac.-ft.	96167	15650	16067	127894		127894

no stored water released in May

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
MAY - 1924

Day:	at St. Mary R.:	U.S.:	Stored water:	Total:	Diverted:	Stored:	Total:	Access:	Defici-
:	at Kimball:	Share:	Released:	:	:	:	:	OF Share Used:	ency
1	421	105	0	105	0	0	0	0	105
2	438	109	0	109	11	0	11	0	98
3	546	136	0	136	38	0	38	0	98
4	698	182	0	182	41	0	41	0	141
5	859	262	0	262	41	0	41	0	221
6	1000	333	0	333	42	0	42	0	291
7	1111	388	0	388	41	0	41	0	347
8	1182	424	0	424	42	0	42	0	382
9	1226	446	0	446	66	0	66	0	380
10	1262	464	0	464	162	0	162	0	302
11	1474	570	0	570	204	40	244	0	326
12	1754	710	0	710	242	102	344	0	366
13	2180	923	0	923	250	270	520	0	403
14	2450	1058	0	1058	257	303	560	0	493
15	2580	1123	0	1123	292	218	510	0	613
16	2790	1232	0	1232	289	169	458	0	774
17	3134	1400	0	1400	309	205	514	0	886
18	3565	1616	0	1616	354	471	825	0	791
19	3733	1602	0	1602	306	342	728	0	874
20	2951	1308	0	1308	395	106	501	0	807
21	2835	1250	0	1250	401	334	735	0	515
22	2823	1277	0	1277	399	549	948	0	329
23	2803	1234	0	1234	399	514	913	0	321
24	2749	1208	0	1208	407	572	979	0	229
25	2770	1218	0	1218	407	593	1000	0	218
26	2806	1236	0	1236	410	586	996	0	240
27	2864	1265	0	1265	418	706	1124	0	141
28	2699	1182	0	1182	407	562	1069	0	113
29	2529	1098	0	1098	401	538	939	0	159
30	2274	970	0	970	395	439	834	0	136
31	2098	882	0	882	391	367	758	0	124
Total Sec.-ft.	64482	27211	0	27211	7897	8086	15983	0	11228
Less	2000	878	0	878	263	261		0	362
Total Ac.-ft.	127894	53973	0	53973	15660	16067	31727	0	22256

no stored water released in May

no excess used in May

DIVISION OF WATER OF ST. MARY RIVER
 WATER AVAILABLE FOR USE AND USED BY CANADA
 MAY - 1924

Day	Natural flow of : St. Mary River at: Kimball	Canada's : Share	St. Mary River : at Kimball	Diverted : by Canada	Excess : Of Share Delivered	Deficiency
1	421	316	421	179	105	0
2	638	329	427	128	58	0
3	546	410	508	218	58	0
4	698	516	657	233	141	0
5	859	597	618	259	221	0
6	1000	667	958	276	291	0
7	1111	723	1370	326	347	0
8	1182	758	1140	344	382	0
9	1226	780	1160	343	380	0
10	1262	798	1100	356	302	0
11	1474	904	1230	391	326	0
12	1754	1044	1410	381	366	0
13	2180	1257	1660	423	403	0
14	2450	1392	1890	444	498	0
15	2580	1457	2070	452	613	0
16	2798	1566	2340	504	774	0
17	3134	1734	2620	504	886	0
18	3565	1949	2740	496	791	0
19	3538	1936	2810	522	874	0
20	2951	1643	2450	522	807	0
21	2835	1585	2100	636	515	0
22	2858	1611	1940	636	329	0
23	2803	1569	1890	696	321	0
24	2749	1541	1770	708	220	0
25	2770	1552	1770	703	218	0
26	2806	1570	1810	742	240	0
27	2864	1599	1740	735	141	0
28	2699	1517	1630	735	113	0
29	2529	1431	1590	737	159	0
30	2274	2304	1440	737	136	0
31	2098	1216	1340	728	124	0
Total Sec.-ft.	64482	37271	48499	15164	11228	0
Mean	2080	1202	1564	489	362	0
Total Ac.-ft.	127894	73911	96167	30067	22256	0

no deficiency in May

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURN'S RESERVOIR
JUNE - 1924

Day	INFLOW INTO SHERBURN RESERVOIR				Total	Swift current Creek below Sherburne	Stored	Released
	Swift current at Many Glacier	Cr. Canyon	Other Creeks	Creek				
1	344	57	100	501	11.6	489	0	
2	427	62	122	611	11.9	599		
3	399	65	120	584	12.2	572		
4	402	66	120	588	12.2	576		
5	399	53	115	567	12.6	554		
6	375	57	90	522	12.9	509		
7	319	76	120	715	21.6	693		
8	312	64	120	696	20.4	676		
9	361	54	83	498	18.4	480		
10	354	72	85	511	17.4	494		
11	424	86	130	640	16.7	623		
12	541	102	165	808	16.4	792		
13	587	123	180	890	15.8	874		
14	631	130	190	951	15.1	936		
15	652	138	200	990	15.8	974		
16	645	131	150	926	15.4	911		
17	591	118	140	849	13.0	796		
18	533	94	125	752	13.0	613		
19	424	73	110	677	15.0	525		
20	515	68	116	699	17.8	521		
21	494	69	113	676	18.0	495		
22	344	70	83	497	18.0	315		
23	318	69	77	464	18.0	282		
24	288	61	67	416	19.0	222		
25	288	62	72	432	21.0	216		
26	288	62	72	432	21.0	216		
27	321	75	79	475	21.0	259		
28	374	83	87	524	21.0	308		
29	388	70	92	550	29.0	257		
30	347	61	82	490	44.0	47		
31	361	64	85	510	44.0	67		
Total Sec.-ft.	13218	2373	3418	19009	3334.4	15675	0	
Mean	441	79.1	114	634	111	523	0	
Total Ac.-ft.	26241	4707	6783	37731	6605	31126	0	

No stored water released in June

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
JUNE - 1924.

Day	St. Mary River: Diverted by: at Kimball : U.S.A.S.	St. Mary River: Diverted by: U.S.A.S.				
	ft.	ft.	ft.	ft.	ft.	ft.
1	1280	390	346	2016	0	2016
2	1280	391	391	2052	0	2052
3	1370	391	489	2250	0	2250
4	1570	390	599	2559	0	2559
5	1630	391	572	2593	0	2593
6	1680	407	576	2683	0	2683
7	2660	282	554	3596	0	3596
8	2920	270	509	3699	0	3699
9	2890	260	693	3843	0	3843
10	2660	245	676	3581	0	3581
11	2440	239	480	3156	0	3156
12	2440	236	494	3172	0	3172
13	2510	230	623	3372	0	3372
14	2600	299	792	3691	0	3691
15	2790	304	874	3958	0	3958
16	2930	306	936	4172	0	4172
17	2980	299	974	4253	0	4253
18	2950	299	911	4160	0	4160
19	2950	302	796	4048	0	4048
20	2760	300	613	3672	0	3672
21	2630	299	525	3454	0	3454
22	2580	302	521	3403	0	3403
23	2450	297	495	3242	0	3242
24	2230	294	315	2839	0	2839
25	2070	290	282	2642	0	2642
26	1970	289	222	2481	0	2481
27	1930	287	216	2433	0	2433
28	1930	287	259	2476	0	2476
29	1960	287	308	2555	0	2555
30	1960	286	257	2503	0	2503
Total Sec.-ft.	69000	9260	16298	94558	0	94558
Keen	2300	309	543	3152	0	3152
Total Ac.-ft.	136860	18387	32310	187557	0	187557

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
JUNE - 1924

Day:	Natural Flow: at Kimball	AVAILABLE FOR USE BY U.S.A.: U.S. Share:	U.S. Stored Water: Released	USED BY U.S.A.: Total	Excess: : Of Share Used	Defici- : tency			
1	2016	841	0	841	390	736	0	105	
2	2062	864		864	391	782		82	
3	2250	958		958	391	880		78	
4	2559	1112		1112	390	989		123	
5	2593	1130		1130	391	963		167	
6	2663	1165		1165	407	983		182	
7	3596	1631		1631	382	936		695	
8	3699	1682		1682	270	779		903	
9	3843	1754		1754	260	953		801	
10	3581	1624		1624	245	921		703	
11	3159	1412		1412	239	719		693	
12	3172	1419		1419	238	732		687	
13	3372	1519		1519	239	862		657	
14	3691	1678		1678	299	792		587	
15	3968	1817		1817	304	1178		639	
16	4172	1919		1919	306	1242		677	
17	4253	1960		1960	299	1273		687	
18	4160	1913		1913	299	1210		703	
19	4048	1857		1857	302	1098		759	
20	3673	1670		1670	300	913		757	
21	3454	1560		1560	299	824		736	
22	3403	1534		1534	302	823		711	
23	3242	1454		1454	297	792		662	
24	2839	1253		1253	294	609		644	
25	2642	1154		1154	290	572		582	
26	2481	1074		1074	289	222		563	
27	2433	1050		1050	287	503		547	
28	2476	1071		1071	287	546		525	
29	2555	1110		1110	287	595		515	
30	2503	1084		1084	286	543		541	
Total Sec.-ft.	94558	42269	0	42269	9260	16298	25558	0	16711
Mean	3152	1409	0	1409	309	543	852	0	557
Total Ac.ft.	187557	83841	0	83841	18387	32311	50698	0	33143

no stored water released in June

no excess used in June

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
JUNE - 1924

Day	Natural Flow of St. Mary River at Kimball	Canada's Share	St. Mary River at Kimball	Diverted by Canada	Excess Of Share Delivered	Deficiency
1	2016	1175	1280	749	105	0
2	2062	1198	1280	749	82	
3	2250	1292	1370	778	78	
4	2559	1447	1570	824	123	
5	2593	1463	1630	843	167	
6	2663	1498	1680	821	182	
7	3596	1965	2660	759	695	
8	3699	2017	2920	644	903	
9	3843	2089	2890	653	801	
10	3581	1957	2660	667	703	
11	3159	1747	2440	679	693	
12	3172	1753	2440	679	687	
13	3372	1853	2510	688	657	
14	3691	2013	2600	702	587	
15	3968	2151	2790	700	639	
16	4172	2253	2930	700	677	
17	4253	2293	2980	689	687	
18	4160	2247	2950	684	703	
19	4048	2191	2950	684	759	
20	3673	2003	2760	679	757	
21	3454	1894	2630	684	736	
22	3403	1869	2580	689	711	
23	3242	1788	2450	672	662	
24	2839	1586	2230	679	644	
25	2642	1488	2070	658	582	
26	2481	1407	1970	568	563	
27	2433	1383	1930	526	547	
28	2476	1405	1930	524	525	
29	2555	1445	1960	546	515	
30	2503	1419	1960	566	541	
Total Sec.-ft.	94558	52289	69000	20483	16711	0
Mean	3152	1743	2300	683	557	0
Total Ac.-ft.	187557	103716	136860	40641	33143	0

no deficiency in June

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
JULY - 1924.

Day	INFLOW INTO SHERBURNE RESERVOIR				Total	SWIFT CURRENT		Released
	at Many Glacier	Creek	Other Creeks	Canyon		at Many Glacier	Sherburne	
1	375	68	70	513	419	94		
2	424	77	70	571	419	152		
3	434	80	60	574	624		50	
4	450	80	60	620	746		126	
5	472	73	60	605	742		137	
6	456	65	55	586	738		152	
7	462	55	50	567	742		172	
8	262	44	30	336	738		402	
9	248	41	20	315	738		423	
10	248	35	20	303	735		427	
11	281	44	20	345	749		409	
12	248	35	20	303	774		466	
13	216	35	20	276	774		498	
14	216	34	20	275	770		495	
15	216	35	20	271	767		496	
16	201	22	20	254	738		484	
17	189	28	20	238	704		466	
18	163	27	20	210	785		575	
19	163	25	20	209	857		648	
20	149	24	20	193	814		621	
21	140	24	20	184	810		626	
22	163	29	20	213	835		622	
23	140	27	20	187	846		659	
24	130	26	20	176	846		670	
25	135	27	20	183	846		663	
26	163	29	20	213	846		633	
27	180	32	20	233	806		573	
28	177	31	20	229	633		404	
29	177	31	20	226	568		342	
30	157	25	20	202	435		233	
31	146	23	20	190	414		224	
Total Sec.-ft.	7621	1237.0	947	9895	22258	246	12699	
Mean	246	39.9	30.5	316.3	718		409.7	
Total Ac.-ft.	15126	2453	1869	19448	44148	488	25188	

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
JULY - 1924.

St. Mary River: Diverted by: Stored by: Total in: Stored water: Natural flow
Day : at Kimball : U.S.R.S. : U.S.R.S.: Sec.-ft.: Released. St. Mary River.

Day	at Kimball	U.S.R.S.	U.S.R.S.	Sec.-ft.	Released	St. Mary River
1	1970	284	47	2301	0	2301
2	1970	284	67	2321		2321
3	2110	286	94	2690		2490
4	2270	289	152	2711		2711
5	2340	289		2620	50	2570
6	2390	293		2680	136	2554
7	2290	290		2580	137	2443
8	2190	287		2477	152	2325
9	2060	287		2347	175	2172
10	1940	284		2224	402	1822
11	1880	282		2162	423	1739
12	1760	295		2055	427	1628
13	1630	365		1995	409	1586
14	1570	397		1967	466	1501
15	1480	408		1883	498	1390
16	1440	420		1869	495	1365
17	1370	435		1805	406	1309
18	1300	449		1749	434	1265
19	1240	479		1722	466	1273
20	1190	507		1697	575	1122
21	1104	535		1625	648	977
22	1130	517		1667	621	1046
23	1140	533		1673	626	1047
24	1140	495		1635	622	1013
25	1090	477		1567	659	908
26	1040	469		1509	670	839
27	967	467		1434	663	771
28	915	469		1384	633	751
29	810	467		1277	573	704
30	750	467		1217	404	813
31	678	467		1145	342	803
Total Sec.-ft.	47170	12286	360	59010	12242	47568
Mean	1522	396	11.6	1929	395	1534
Total Ac.-ft.	93585	24349	713	118647	24288	94359

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
JULY - 1924

Day:	Natural flow: at Kimball	AVAILABLE FOR USE BY U.S.A.: U.S. Share:	USED BY U.S.A.: Stored water: Released	Total	Diverted:	Stored:	Total:	Excess: Of Share Used	Defi- ciency
1	2301	984	0	984	284	47	331	0	653
2	2321	994		994	284	67	351		643
3	2490	1078		1078	286	94	380		698
4	2711	1188		1188	289	152	441		747
5	2579	1178	50	1168	289		289		879
6	2554	1110	126	1236	290		290		946
7	2443	1054	137	1191	290		290		901
8	2325	996	152	1148	287		287		861
9	2172	919	175	1094	287		287		807
10	1822	744	402	1146	284		284		862
11	1739	702	423	1125	282		282		843
12	1628	647	427	1074	295		295		779
13	1586	626	409	1035	365		365		670
14	1501	584	466	1050	397		397		653
15	1390	528	498	1026	408		408		618
16	1365	516	495	1011	420		420		591
17	1309	488	496	984	435		435		549
18	1265	466	484	950	449		449		501
19	1273	470	466	936	479		479		457
20	1122	394	575	969	507		507		462
21	977	322	648	970	525		525		445
22	1046	356	621	977	537		537		440
23	1047	356	626	982	533		533		449
24	1013	340	622	962	495		495		467
25	908	287	659	946	477		477		469
26	839	252	670	922	469		469		453
27	771	218	663	881	467		467		414
28	751	208	633	841	469		469		372
29	704	185	573	758	467		467		291
30	813	240	404	644	467		467		177
31	803	234	342	576	467		467		109
▼ Total Sec.-ft.	47568	18604	12242	30846	12280	360	12640	0	18206
Mean	1534	600	395	995	396		408	0	587
Total Ac.-ft.	94359	36892	24288	61180	24349	738	25087	0	36093

no excess used in July

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
JULY - 1924

Day	Natural Flow of St. Mary River at Kimball	Canada's Share	St. Mary River at Kimball	Diverted by Canada	Excess of Share Delivered	Deficiency
1	2301	1317	1970	564	653	0
2	2321	1327	1970	571	643	
3	2490	1412	2110	585	698	
4	2711	1523	2270	594	747	
5	2579	1451	2340	596	879	
6	2554	1444	2390	596	946	
7	2443	1389	2290	590	901	
8	2325	1329	2190	631	861	
9	2172	1253	2060	732	807	
10	1822	1078	1940	816	862	
11	1739	1037	1880	852	843	
12	1628	981	1760	874	779	
13	1586	960	1630	860	670	
14	1501	917	1570	874	653	
15	1390	862	1480	869	618	
16	1365	849	1440	881	591	
17	1309	821	1370	944	549	
18	1265	799	1300	927	501	
19	1273	803	1260	948	457	
20	1122	728	1190	946	462	
21	977	655	1100	915	445	
22	1046	690	1130	908	440	
23	1047	691	1140	920	449	
24	1013	673	1140	922	467	
25	908	621	1090	915	469	
26	839	587	1040	912	453	
27	771	553	967	908	474	
28	751	543	915	872	372	
29	704	519	810	812	291	
30	813	573	750	737	177	
31	803	569	678	649	109	
Total Sec.-ft.	47568	28954	47170	24720	18206	0
Mean	1534	934	1522	797	587	0
Total Ac.-ft.	94359	57467	93585	49006	36093	0

no deficiency in July

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
AUGUST - 1924

Day	INFLOW INTO SHERBURNE RESERVOIR				OUTFLOW FROM SHERBURNE RESERVOIR		
	Swiftcurrent Cr. at Mary Glacier	Canyon Creek	Other Creeks	Total	Creek below Sherburne	Stored	Released
1	135	21.1	19.9	179	432	0	254
2	130	23.5	19.5	172	454		269
3	127	21.8	20.2	169	538		69
4	135	21.8	20.2	177	482		65
5	120	20.5	19.5	160	443		203
6	102	18.4	19.6	140	457		147
7	109	17.3	19.7	137	485		48
8	135	20.7	20.3	184	494		60
9	135	22.6	20.4	188	480		60
10	135	27.9	20.1	183	482		60
11	135	23.8	20.2	179	477		60
12	132	23.1	19.9	175	480		305
13	130	23.0	20.0	173	482		100
14	130	23.0	20.0	173	491		18
15	151	24.0	19.8	194	491		297
16	146	23.0	19.0	190	482		292
17	154	23.8	19.2	199	474		275
18	145	24.5	18.5	189	508		319
19	140	23.1	18.9	182	559		77
20	151	22.5	19.5	193	587		94
21	163	22.5	19.5	205	590		85
22	146	21.2	18.8	186	574		200
23	135	20.0	19.0	174	493		229
24	127	18.4	18.6	164	245		81
25	124	17.8	19.2	161	197		36
26	124	17.8	16.2	158	266		108
27	127	17.0	16.0	160	322		162
28	132	17.0	16.0	165	320		155
29	122	16.0	16.0	154	320		166
30	100	16.0	16.0	132	315		183
31	85	15.0	16.0	116	311		195
Total Sec.-ft.	4054	671.1	584.9	5310	13649	0	8339
Mean	131	21.6	18.8	171	440	0	269
Total Ac.-ft.	8060	1330	1124	10514	27054	0	16540

no water stored in August

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
AUGUST - 1924

St. Mary River: Diverted by: Stored by: Total In: Stored Water: Natural Flow
Day: at Kimball: U.S.R.S.: U.S.R.S.: Sec.-ft.: Released: St. Mary River

Day	at Kimball	U.S.R.S.	U.S.R.S.	Sec.-ft.	Released	St. Mary River
1	604	495	0	1099	213	866
2	555	499	0	1054	224	830
3	557	501	0	1058	274	814
4	637	499	0	1136	202	854
5	624	477	0	1101	260	732
6	592	467	0	1059	205	754
7	555	467	0	1022	205	739
8	564	471	0	1135	217	818
9	699	469	0	1168	248	820
10	627	465	0	1122	210	812
11	604	465	0	1069	200	769
12	579	463	0	1042	239	743
13	555	461	0	1016	298	718
14	561	461	0	1022	305	717
15	618	463	0	1081	300	772
16	618	461	0	1079	213	761
17	590	459	0	1057	297	760
18	561	465	0	1026	292	734
19	502	495	0	997	275	722
20	592	525	0	1027	319	708
21	484	517	0	1021	377	644
22	457	517	0	1024	394	630
23	490	517	0	1049	385	664
24	513	513	0	1026	388	638
25	461	420	0	881	259	652
26	392	393	0	785	81	704
27	370	386	0	756	36	720
28	410	365	0	775	108	667
29	456	328	0	784	162	622
30	467	295	0	762	155	607
31	484	268	0	752	166	586

no water stored in August

Total Sec.-ft.	16846	14149	0	30995	3418	22577
Mean	543	456	0	1000	272	728
Total Ac.-ft.	33412	28063	0	61475	16697	44770

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
AUGUST - 1924

Day:	Natural flow: at Kimbell	AVAILABLE FOR USE BY U.S.A.: U.S. Share:	USED BY U.S.A.: Released	Stored water: total	Diverted:	Stored:	Total:	Excess: Of Share Used	Defici- ency
1	866	266	233	499	495	0	495		04
2	830	248	224	472	499		499	27	
3	814	240	254	494	501		501	7	
4	854	260	282	542	499		499		43
5	732	199	369	568	477		477		91
6	754	210	305	515	467		467		48
7	739	202	285	485	467		467		18
8	818	242	317	559	471		471		88
9	820	243	348	591	469		469		122
10	812	239	310	549	465		465		84
11	769	218	300	518	465		465		53
12	743	204	299	503	463		463		40
13	718	192	298	490	461		461		29
14	717	191	305	495	461		461		35
15	772	219	309	528	463		463		65
16	761	214	318	532	461		461		71
17	760	213	297	510	459		459		51
18	734	200	292	492	465		465		27
19	722	194	275	469	495		495	26	
20	708	187	319	505	525		525	19	
21	644	161	377	538	537		537		1
22	630	158	394	552	557		557	5	
23	664	166	385	551	559		559	8	
24	638	160	388	548	513		513		35
25	652	163	229	392	420		420	28	
26	704	185	81	266	393		393	127	
27	720	193	36	229	386		386	157	
28	667	167	108	275	365		365	90	
29	622	156	162	318	328		328	10	
30	607	152	155	307	295		295		12
31	586	146	166	312	268		268		44
Total Sec.-ft.	22577	6188	8418	14606	14149	0	14149	504	961
Mean	728	199.6	272	471	456	0	456	16.2	31
Total Ac.-ft.	44778	12273	16697	28970	28063	0	28063	999	1906

No water stored in August

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
AUGUST - 1924

Day	Natural Flow of St. Mary River at Kimball	Canada's Share	St. Mary River at Kimball	Diverted by Canada	Excess Of Share	Deficiency Delivered
1	866	600	604	559	4	
2	830	582	555	515		27
3	814	574	567	513		7
4	854	594	637	585	43	
5	732	533	624	568	91	
6	754	544	592	535	48	
7	739	537	555	513	18	
8	618	576	664	594	68	
9	820	577	699	559	122	
10	812	573	657	526	84	
11	769	551	604	548	53	
12	743	539	579	531	40	
13	718	526	555	515	29	
14	717	526	561	528	35	
15	772	553	618	568	65	
16	761	547	618	564	71	
17	760	547	598	567	51	
18	734	534	561	531	27	
19	722	528	502	496		26
20	708	521	502	484		19
21	644	483	484	467	1	
22	630	472	467	460		5
23	664	498	490	465		8
24	638	478	513	482	35	
25	652	489	461	454		28
26	704	519	392	381		127
27	720	527	379	359		157
28	667	500	410	385		90
29	622	466	456	431		10
30	607	455	467	435	12	
31	586	440	484	446	44	
Total Sec.-ft.	22577	16389	16846	15564	961	504
Mean	728	528 ³	543	502	31	16.2
Total Ac.-ft.	44778	32505	33413	30867	1996	999

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURN RESERVOIR
SEPTEMBER - 1924

Day	INLET INTO SHERBURN RESERVOIR				OUTLET FROM SHERBURN RESERVOIR		
	Swift current at Mary Glacier	Canyon	Other Creeks	Total	Swift current Creek below Sherburne	Stored	Released
1	71.0	15.0	16	102	304	0	202
2	71.0	14.0	16	101	298		197
3	72.0	14.0	16	101	292		191
4	76.0	13.0	15	105	292		187
5	80.0	13.0	16	109	280		171
6	82.0	13.0	20	125	266		141
7	85.0	13.0	20	128	221		93
8	85.0	13.0	20	118	161		63
9	80.0	13.0	18	111	179		68
10	80.0	11.4	17.6	110	135		25
11	69.0	11.0	16.0	96	88	8	
12	35.0	10.0	16.0	61	87		6
13	31.0	9.0	16.0	76	87		11
14	31.0	8.5	16.5	76	86		10
15	33.0	8.8	16.2	78	87		9
16	35.0	9.1	15.9	80	87		7
17	35.0	9.4	15.6	80	87		7
18	31.0	9.0	16.2	77	88		11
19	30.0	9.4	15.6	75	88		13
20	46.0	9.1	15.9	71	88		17
21	37.0	9.0	16.2	63	88		25
22	21.0	9.0	16.2	57	86		29
23	27.0	9.4	15.6	52	86		24
24	25.4	9.1	15.5	50	87		27
25	23.0	8.8	16.4	49	86		27
26	21.0	8.0	16.0	55	85		20
27	27.0	8.0	16.0	51	86		25
28	27.0	8.0	16.0	51	85		24
29	26.2	8.0	13.8	48	85		27
30	26.2	8.0	11.8	46	84		28
Total Sec.-ft.	1618.6	314.0	489.0	2422	4179	8	1765
Mean	54.0	10.5	16.3	80.7	139		58.8
Total Ac.-ft.	3210	625	970	4805	8270	16	3481

ESTIMATION OF NATURAL FLOW OF ST. MARY RIVER
SEPTEMBER - 1924

Day	St. Mary River at Kimball	Diverted by U.S.R.S.	Stored by U.S.R.S.	Total In- Stored water Sec.-ft.	Natural flow Released	St. Mary River
1	456	265.0	0	721	183	538
2	427	263.0		690	195	495
3	392	260.0		652	202	450
4	370	258.0		628	197	431
5	362	257.0		619	191	428
6	352	256.0		608	187	421
7	379	221.0		600	171	429
8	397	178.0		575	141	434
9	359	171.0		530	93	437
10	401	131.0		532	63	469
11	397	99.0		496	68	428
12	392	94.0		486	25	461
13	461	31.6	8	501		501
14	444	10.0		454	6	448
15	427	8.8		436	11	425
16	416	2.0		418	10	408
17	401			401	9	392
18	406			406	7	399
19	406			406	7	399
20	392			392	11	381
21	379			379	13	366
22	375			375	17	358
23	362			362	25	337
24	352			352	29	323
25	334			334	34	300
26	337			337	37	300
27	334			334	37	297
28	323			323	30	293
29	312			312	35	277
30	309			309	34	275
Total Rec.-ft.	11454	2505.4	8	13968	2068	11900
Mean	382	157		466	69	397
Total Ac.-ft.	22700	4980	16	27729	4106	23623

DIVISION OF WATER OF ST. MARY RIVER
WATER USED BY UNITED STATES
SEPTEMBER - 1924

: Natural flow:	AVAILABLE FOR USE BY U.S.A.:			USED BY U.S.A.			: excess:	: Defici-
: day:	: St. Mary R.:	: U.S.:	: Stored water:	: Total:	: Diverted:	: Stored:	: Total:	: cency
: :	: at Kimball:	: Share:	: Released:	: :	: :	: :	: :	: Of Share Used

1	538	134	183	317	265.0		265	0	52
2	495	124	195	319	263.0		263		56
3	450	112	202	314	260.0		260		54
4	431	108	197	305	258.0		258		47
5	428	107	191	298	257.0		257		41
6	421	105	187	292	256.0		256		36
7	429	107	171	278	221.0		221		57
8	434	108	141	249	178.0		178		71
9	437	109	93	202	171.0		171		31
10	469	117	63	180	131.0		131		49
11	428	107	68	175	99.0		99		76
12	461	115	25	140	94.0		94		46
13	501	125		125	31.6	8	40		85
14	448	112	6	118	10.0		10		108
15	425	106	11	117	8.8		9		108
16	408	102	10	112	2.0		2		110
17	322	98	9	107					107
18	369	100	7	107					107
19	399	100	7	107					107
20	351	95	11	103					106
21	366	91	13	104					104
22	358	89	17	106					106
23	337	84	25	109					109
24	323	81	29	110					110
25	300	75	34	109					109
26	300	75	37	112					112
27	297	74	37	111					111
28	293	73	30	103					103
29	277	69	35	104					104
30	275	69	34	103					103
Total Sec.-ft.	11900	2971	2068	5039	2506	8	2514	0	2525
Mean	397	99 ⁶	69	168	83.5		83.8	0	84.1
Total Ac.-ft.	23623	5891	4106	9997	4980	16	4996	0	5001

no excess used in September

DIVISION OF WATER OF ST. MARY RIVER
 WATER AVAILABLE FOR USE AND USED BY CANADA
 SEPTEMBER - 1924

Day	Natural flow of : St. Mary River at : Kimball	Canada's : Share	St. Mary River : at Kimball	Diverted : by Canada	Excess : Of Share Delivered	Deficiency
1	538	404	456	429	52	0
2	495	371	427	406	56	
3	456	338	392	377	54	
4	431	323	370	363	47	
5	428	321	362	356	41	
6	421	316	352	344	36	
7	429	322	379	359	57	
8	434	326	397	391	71	
9	437	328	359	358	31	
10	469	352	401	383	49	
11	428	321	397	387	76	
12	461	346	392	356	46	
13	501	376	461	423	85	
14	448	336	444	410	108	
15	425	319	427	389	108	
16	408	306	416	387	110	
17	392	294	401	377	107	
18	399	299	406	375	107	
19	399	299	406	371	107	
20	381	286	392	367	106	
21	366	275	379	350	104	
22	358	269	375	339	106	
23	337	253	362	332	109	
24	323	242	352	314	110	
25	300	225	334	305	109	
26	300	225	337	305	112	
27	297	223	334	307	111	
28	293	220	323	297	103	
29	277	208	312	286	104	
30	275	206	309	278	103	
Total Sec.-ft.	11900	8929	11454	10721	2525	0
Mean	397	298	382	357	84.1	0
Total Ac.-ft.	23623	17732	22700	21243	5001	0

no deficiency in September

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
OCTOBER - 1924

Day	INFLOW INTO SHERBURNE RESERVOIR				Total	Swift current at Mary Glacier	Creek below Sherburne	stored	released
	Swift current Cr.	Canyon	Other Creeks	Creek					
1	31.0	0	0	47	84			37	
2	24.2			61	65			24	
3	73.0			91	84				
4	66.0			100	84				
5	73.0			92	84				
6	62.0			93	84				
7	51.0			83	84				
8	42.4			86	84				
9	40.6			86	84				
10	40.6			86	84				
11	40.6			86	84				
12	35.0			81	84				
13	31.0			76	84				
14	31.0			76	84				
15	31.0			76	84				
16	31.0			76	84				
17	31.0			76	84				
18	31.0			76	84				
19	31.0			76	84				
20	31.0			76	84				
21	31.0			76	84				
22	31.0			76	84				
23	40.6			86	84				
24	37.0			83	84				
25	35.0			81	84				
26	40.6			86	84				
27	44.0			92	84				
28	47.0			95	84				
29	55.0			109	84				
30	51.0			102	84				
31	51.0			102	84				
Total Sec.-ft.	1355.6						32	824	
Mean	43.7							26.6	
Total Ac.-ft.	2687						61	1636	

records not available

records not available

records not available

records not available

no storage after October 6th

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
OCTOBER - 1924

Day	at Kimball	U.S.R.S.	U.S.R.S.	Sec.-ft.	Released.	St. Mary River
1	320	0	0	320	37	283
2	316			316	38	278
3	324			324	37	297
4	317			317	24	313
5	311			311		348
6	311			357		357
7	317			346		346
8	314			334		328
9	310			310	6	313
10	306			306	0	296
11	300			300	0	300
12	304			304	0	299
13	300			304	0	304
14	300			300	0	293
15	300			300	0	287
16	300			300	0	284
17	300			300	0	284
18	300			300	0	297
19	300			300	0	289
20	300			300	0	293
21	300			300	0	293
22	304			304	0	297
23	300			300	0	295
24	304			304	0	297
25	300			300	0	290
26	300			300	0	295
27	300			300	0	293
28	300			300	0	299
29	306			306	0	298
30	323			323	24	299
31	316			316	16	300
Total Sec.-ft.	10221	0	32	10253	899	9354
Mean	330	0		331	29	302
Total Ac.Ft.	20291	0	61	20352	1783	18569

DIVISION OF WATER OF ST. MARY RIVER
 WATER USED BY UNITED STATES
 OCTOBER - 1924

Day:	: Natural Flow: AVAILABLE FOR USE BY U.S.A.:			USED BY U.S.A.			: excess: Defici-		
	St. Mary R. :	U.S. : stored water:	Total :	Diverted:	Stored:	Total:	: ency		
:	at Kinball :	Share:	Released :	:	:	:	: Of Share Used		
1	283	71	37	108	0	0	0	108	
2	276	70	38	108				108	
3	297	74	37	111				111	
4	313	78	24	102				102	
5	348	87		87				80	
6	357	89		89				73	
7	346	87		87		15	7	78	
8	328	82	6	88		9		88	
9	313	78	17	95				95	
10	296	74	30	104				104	
11	300	75	30	105				105	
12	299	75	31	106				106	
13	304	76	30	106				106	
14	293	73	37	110				110	
15	287	72	43	115				115	
16	284	71	42	113				113	
17	284	71	42	113				113	
18	297	74	33	107				107	
19	289	72	37	109				109	
20	293	73	37	110				110	
21	293	73	37	110				110	
22	297	74	37	111				111	
23	295	74	35	109				109	
24	297	74	37	111				111	
25	299	75	31	106				106	
26	295	74	35	109				109	
27	293	73	37	110				110	
28	299	75	31	106				106	
29	298	75	28	103				103	
30	299	75	24	99				99	
31	300	75	16	91				91	
Total Sec.-ft.	9354	2339	899	3238	0	32	32	0	3206
Mean	302	75.5	29	104.5	0	0	0	0	103.4
Total Ac.-ft.	18569	4639	1783	6422	0	61	61	0	6361

no diversion in October

no storage after October 6th

no excess of share used

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
OCTOBER - 1924

Day	Natural flow of St. Mary River at Kimball	Canada's Share	St. Mary River at Kimball	Diverted by Canada	Excess of Share Delivered	Deficiency
1	283	212	320	295	108	0
2	278	208	316	281	108	
3	297	223	334	295	111	
4	313	235	337	300	102	
5	348	261	341	305	80	
6	357	268	341	310	73	
7	346	259	337	310	78	
8	28	246	334	303	88	
9	213	215	330	298	95	
10	296	222	326	298	104	
11	300	225	330	295	105	
12	299	224	330	297	106	
13	304	228	334	293	105	
14	293	220	330	292	110	
15	287	215	330	290	115	
16	284	213	326	283	113	
17	284	213	326	281	113	
18	297	223	329	276	107	
19	289	217	326	273	109	
20	293	220	330	268	110	
21	293	220	330	265	110	
22	297	223	334	257	111	
23	295	221	330	25	109	
24	297	223	334		111	
25	299	224	330		106	
26	295	221	330		109	
27	293	220	330		110	
28	299	224	330		106	
29	298	223	326		103	
30	299	224	323		99	
31	300	225	316		91	
Total Sec.-ft.	9354	7015	10221	6256	3206	0
Mean	302	226.5 ³	330.0	272	103.4	0
Total Ac.-ft.	18569	13930	20291	12409	6361	0

No deficiency in October

DIVISION OF ST. MARY RIVER
CANADA

Table - 2

WATER AVAILABLE - IN ACRE FEET

Month	St. Mary River: at Kimball	Holpa Cr.	Lee Cr.	Pothole Cr.	Combined Flow
April	23400	500	2719	1624	28243
May	95900	228	7747	68	103943
June	137000	732	13864	732	152328
July	93500	184	4427	326	98437
August	33400	369	3443	--	37212
September	22700	161	916	--	23777
October	20300	61	900 ^c	--	21261
TOTAL	426200	2232^a	34016	2750^b	465201^c

DISPOSITION

Month	Diverted by A.R. & I. Co.	Wasted by A.R. & I. Co.	Losses A.R. & I. Co.	Stored in Chin Res.	St. Mary River Lethbridge
April	1091	3973	--	--	30407
May	30067	4263	2444	--	76060
June	40641	15155	304	--	130492
July	49086	5195	2762	--	62041
August	30867	1433	1949	--	9961
September	21243	893	1655	--	3451
October	12409	1300	217	--	?
TOTAL	185324^d	32292^e	9331^f		x

a - includes seepage losses from U.S.R.S. St. Mary Canal

b - natural flow only

c - computed

d - diverted by A.R. & I. Co. at Kimball

e - wasted in Pinepound and Pothole wasteways

f - evaporation and seepage losses between Kimball and Eagrath

x - below all points of diversion

DISPOSITION OF THE WATERS OF LODGE CREEK1924QUANTITIES IN ACRES FEET

Irrigator	April	May	June	July	Total
J. English	A small amount diverted in April				
J. F. Hart	No diversion during season				
J. Read	"	"	"	"	
B. A. John	"	"	"	"	
W. B. Gregg	"	"	"	"	
M. M. Spangler	"	"	"	"	
TOTAL	A very small amount was diverted in Canada				
FLOW AT THE BOUNDARY	2450	94	1890	7	4441

No flow after July 10th

DISPOSITION OF THE WATERS OF BATTLE CREEK1924QUANTITIES IN ACRE FEET

Irrigator	April	May	June	July	August	October	Total
J. Louie	No diversion						
J. B. Spangler	7	14	21	--	--	--	42
Wood & Anderson	--	7	4	1	--	--	12
Lindner Bros.	--	18	36	25	--	--	79
W. C. Patterson	--	--	--	8	12	13	33
Marshall & Gaff	--	48	104	36	15	--	203
J. A. Gaff	--	7	49	24	--	--	80
Shepherd Bros.	--	74	51	--	--	75	200
Wilkes Bros.	--	35	27	5	--	--	67
Jas. McKinnon	--	51	184	22	--	--	257
Stirling & Nash	67	381	232	14	--	--	694
TOTAL	74	635	708	135	27	88	1667

FLOW AT THE
BOUNDARY

5950

1570

1370

472

28

51

9441

DISPOSITION OF THE WATERS OF FRENCHMAN RIVER1924QUANTITIES IN ACRES IRRIGATED

Irrigator	April	May	June	July	August	September	October	Total
D.J.Wylie	--	86	66	24	--	--	--	176
Drury	A small amount in May							
S.Pearse	--	21	52	37	--	--	--	110
Bolingbroke	--	--	6	--	--	--	--	6
V.J.Bull	--	73	13	--	--	--	--	86
A.H.Cross	--	92	44	--	--	--	--	136
P.Cross	--	--	94	67	--	--	--	161
A.E.Bate	--	--	--	5	3	2	--	10
TOTAL RECORDED AS USED BY CANADA	--	272	275	133	3	2	--	685

FLOW AT THE BOUNDARY	16200	4960	5220	1430	1170	169	3030	32179
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HD
1694
.A2
R424
1924

Report to the International Joint
Commission on the division and use
of the waters of the St. Mary and
Milk Rivers...

DATE DUE

BORROWER'S NAME

HD
1694
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1924

Report to the International Joint
Commission on the division and use
of the waters of the St. Mary and
Milk Rivers...