

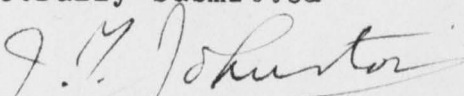
REPORT TO
THE INTERNATIONAL JOINT COMMISSION
1929.

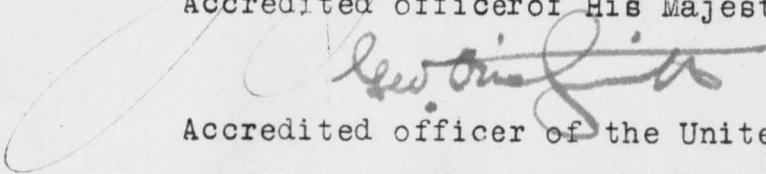
The Honourable, The International Joint Commission,
Washington, D.C., and Ottawa, Ontario.

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 1929.

Respectfully submitted


Accredited officer of His Majesty


Accredited officer of the United States.

April 1st, 1930.

Introduction.

The field work incidental to the division and administration of the waters of the St. Mary and Milk Rivers in Alberta, Saskatchewan and Montana was conducted during the irrigation season of 1929 by the same engineers as in previous years.

Dr. G. Otis Smith, Director of the United States Geological Survey, as accredited officer for the United States, was represented in the field by Mr. W. A. Lamb, District Engineer, Helena, Montana, Mr. J. T. Johnston, Director, Dominion Water Power and Reclamation Service, as accredited officer of 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 4th day of October, 1921.

The hydrometric data, on which this report is based, were obtained in Montana, by engineers of the United States Geological Survey under the personal supervision of Mr. Lamb; while those from streams and ditches in Canada were collected under the supervision of the Commissioner of Irrigation, Calgary, Alberta. The joint international gauging stations were visited frequently by the representatives of both countries.

As the natural flow of the St. Mary river fell below the combined capacity of the two canals diverting therefrom, and as the demand for water in each country was equivalent to or in excess of its share of the flow of St. Mary river from early July to late October, the field engineers were compelled to keep

constantly informed as to the natural flow of the river, the water stored or released from storage and the amount diverted by each country. Any discrepancy in the division was therefore quickly discovered and adjustments made to allow each country its proper share. Weekly statements showing the daily division of the water were prepared and forwarded to the Superintendent, Lethbridge section, Canadian Pacific Irrigation System and to the Project Manager, United States Bureau of Reclamation.

Water from Swiftcurrent creek was stored in Sherburne Reservoir until early July when it was released to augment the diversion from St. Mary river to Milk river for use on the lands in the Lower Milk river valley in Montana.

Division of Water.

The headgates of the United States St. Mary canal were first opened this year on April 23rd, and closed for the season on November 4th. As the loss in the canal by seepage between the intake and the crossing of the St. Mary river, which was this year 14% of the water diverted at the headgates, is assumed to return directly to the river channel and eventually become available to Canada. The discharge of 103,300 acre-feet passing in the canal at St. Mary river crossing is considered as the actual quantity diverted from the St. Mary river by the United States. Of this quantity 101,000 acre-feet were delivered to the Milk river and made available for irrigation in Montana. The loss in the canal between St. Mary

Crossing and Hudson Bay Divide at the end of the canal was nearly balanced by the natural inflow along the canal.

During the winter months and from the break-up early in May until the first week of July a portion of the daily flow of Swiftcurrent creek was stored in Sherburne Reservoir. In early July it was found that the share of the natural flow of St. Mary due the United States was insufficient to satisfy the demands on the canal consequently stored water was released to augment this share.

As only 27 acre-feet were diverted from the Milk river basin in Canada during this season, the natural flow of the river is considered as being delivered to the United States. The total diversion for irrigation from Milk river in Montana was 204,403 ac-ft

The total recorded flow crossing the International Boundary from the northern tributaries of Milk river was only 79,300 acre-feet which is only 32% of the flow recorded in 1928.

The Canadian Pacific Railway canal at Kimball, Alberta, diverted 102,000 acre-feet from the St. Mary river during the period of operation from May 4th to October 29th, to irrigate lands in the Lethbridge and Taber sections. There was no diversion from Rolph Creek.

Only 2,247 acre-feet were diverted from the northern tributaries of Milk river in Canada; 503 being from Lodge Creek, 886 from Battle Creek and 858 from Frenchman River. No water was diverted from the other northern tributaries of Milk River.

Any question as to the proper share of St. Mary river being delivered to either country was decided in the following manner. Current meter measurements were made of Swiftcurrent Creek at Many Glacier and Canyon Creek near Many Glacier, but the flow of the other small creeks entering Swiftcurrent above the Sherburne dam were estimated. The total flow of these creeks gave the inflow into Sherburne Reservoir. The evaporation and losses from the Reservoir were considered when estimating the flow from other small streams. A current meter measurement of the outflow from the reservoir was made at the gauging station below the dam. The difference between the inflow and outflow showed the quantity of water being stored or released from storage. A measurement of the United States St. Mary Canal at St. Mary Crossing was made to find the water being diverted by the United States, and a measurement of the St. Mary River at Kimball to determine the water being delivered to Canada.

If water was being stored in Sherburne Reservoir the natural flow of St. Mary River at the Boundary was obtained by adding the water stored to that diverted by the St. Mary Canal and that received by Canada, a two day lag was allowed for the stored water to reach the Boundary. If stored water was being released, the quantity released was deducted from the combined flow of the St. Mary Canal and that in the river at Kimball to determine the natural flow.

The natural flow having been determined, the share to which each country was entitled was calculated on the following

basis:-

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

(2) When the natural flow of St. Mary river 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 was entitled to the remainder.

No actual division was made of the waters of Milk river and its northern tributaries.

Water Supply.

The precipitation on the drainage basins of St. Mary and Milk rivers during the winter 1928-29 was much below normal. On the prairies, forming most of the drainage basin of Milk river and its tributaries, there was very little snow and as a result the spring run-off from the basin during March and April was almost at a minimum. The inflow to Milk river during the open water period of 1929 from its northern tributaries was about 35% of the twenty-year average open water flow.

The annual international survey of snow conditions on the headwaters of Swiftcurrent Creek, an area considered typical of the headwaters of the St. Mary river, indicated that the run-off from the area during May, June and July would be 68% of the

average for the past eight years. This estimate was less than 4% in excess of the actual recorded run-off of 56,400 acre feet for these months. Heavy rains in Southern Alberta during May and June so lessened the demand for water that a large reserve could be stored in Sherburne Reservoir.

The almost total absence of precipitation during July and August greatly increased the demand for irrigation water which was only fulfilled by careful conservation and rotation.

The twenty-three 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 as in previous years on international streams and canals diverting therefrom in Canada and from the records obtained at these stations may be determined the use made of the international waters.

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 1929.

Description of Tables.

The tables following have been prepared to summarize the data on the division and use made of the waters in the St. Mary and Milk river basins.

Table No. 1 shows the method used to determine the natural flow of the St. Mary river during the irrigation season of 1929,

the water available for use and used by the United States and the water available for use and used by Canada. In this table there are four pages for each month from April to October inclusive.

Page 1 (water stored or released from Sherburne reservoir) shows the daily inflow to and the outflow from Sherburne reservoir. The difference gives the quantity of water stored or released from storage. On this sheet the unrecorded inflow is determined by comparison with the recorded flows in Swiftcurrent and Canyon Creeks and 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 "unrecorded inflow."

Page 2 (determination of the natural flow of St. Mary river) shows the actual flow of St. Mary river at Kimball near the boundary, the quantity of water diverted, stored or released from storage by the United States and the computed natural flow of St. Mary river or that flow which would have crossed the international boundary had there been no interference. It has been estimated that two days are required for stored water released from Sherburne reservoir to influence the flow at the international boundary, consequently a two day lag has been applied to the stored or released water.

Page 3 (water available for use and used by the United States) shows the water available for use by the United States under the ruling of the Order of October 4th, 1921, the water diverted and stored and the excess or deficit in the quantity used over the quantity available.

Page 4 (water available for use and used by Canada) shows the natural flow of St. Mary river at the international boundary, Canada's share by the ruling of the Commission, the actual discharge of St. Mary river at Kimball, which is the quantity available for use by Canada, the quantity used by Canada and the excess or deficit of the quantity received by Canada as compared with the share.

Table 2 is a statement showing the quantity in acre-feet taken in each month by each country and the quantity there-of applied to the land, the quantity diverted from St. Mary river, the loss or waste from the canals, and the diversions from Milk river in the United States.

Table 3 gives a summarization of the available data on the diversions in Canada from the northern tributaries of Milk river and the quantity which crossed the boundary into the United States.

Table 4 gives the diversions from the northern tributaries of Milk river in the United States.

TABLE 1
DIVISION OF ST. MARY RIVER
1929.

Division of St. Mary River

Table 2.

Canada

Water Available in Acre-Feet

1929.

Month	St. Mary R. at Kimball.	Rolph Cr.	Pothole Cr.	Combined Flow
April	17,400		5,120	23,520
May	96,500	1,080	2,140	100,720
June	127,000	982	2,330	130,312
July	50,700	461	271	51,432
August	23,700	271	-	23,971
September	14,400	208	-	14,608
October	14,000	228	55	14,283
Total	343,700	3,230 ^a	9,920 ^b	358,800 ^c

Disposition

Month	Diverted A.R. & I. Co.	Gain or Loss	Wasted by A.R. & I. Co.	Applied to Land	St. Mary R. Lethbridge.
April	-	+ 3,470	8,840		34,200
May	14,900	+ 1,914	5,395	12,209	94,100
June	12,000	+ 536	10,701	3,633	148,000
July	29,100	- 10	3,933	24,160	31,200
August	21,000	- 570	30	19,810	3,810
September	13,300	- 56	30	12,951	2,330
October	11,300	- 177	1,549	10,396	--
Total	102,000 ^d	+ 4,107 ^e	30,478 ^f	83,159 ^g	^x

a - Includes seepage losses from U.S. St. Mary Canal.

b - Natural flow only.

c - Computed.

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

e - Gain over loss between Kimball & Spring Coulee.

f - Wasted in Pinepound and Pothole Creeks.

g - Flow in canal at Magrath plus lateral diversion and natural increase between Spring Coulee & Magrath.

x - Below all points of diversion.

DIVISION OF ST. MARY RIVER

UNITED STATES

Water Available in Acre-feet

1929

Month	St. Mary River				Unused Milk River Eastern Crossing	Total flow	
	U.S. Share.	Sherburne Res. Stored.	Res. Released.	Total avail- able for diversion			
March						27,100	
April	4,670	512		4,158	783	3,375	40,800
May	46,200	13,010		33,190	3,570	29,620	41,000
June	66,100	4,340		61,760	20,600	41,160	54,400
July	28,900		500	29,400	28,100	1,300	29,800
Aug.	7,620		20,800	28,420	27,500	920	25,800
Sept.	4,340		12,900	17,240	15,800	1,440	18,600
Oct.	4,430		1,832	6,262	5,660	602	10,500
Total	162,260			180,430	102,013	78,417	248,000

5600

DIVERSIONS FROM MILK RIVER IN THE

UNITED STATES

(Quantities in acre-feet)

Month	Ft. Belknap Canal	Paradise Canal	Harlem Canal	Agency Canal	Dodson North Canal	Dodson South Canal	Vandalia Canal	Total
March				486		1,204		1,690
April	3,190	1,280	1,870	3,290	1,086	12,019	2,868	25,603
May	4,870	3,910	2,520	2,460	1,377	20,730	5,119	40,986
June	3,760	3,870	1,440	1,820	1,440	11,448	2,562	26,340
July	11,800	5,120	4,650	2,410	3,768	8,301	4,915	40,964
Aug.	6,820	4,110	2,550	932	2,173	6,932	3,917	27,439
Sept.	2,713	2,933	1,480	714	1,292	8,658	2,500	20,290
Oct.	1,960	2,150	1,270		374	6,510	3,572	15,836
Nov.	861	208	691			669	2,826	5,255
Total	35,974	23,581	16,471	12,112	11,515	76,471	28,279	204,403

Table 3.

Disposition of the Waters of the Northern Tributaries
of MILK RIVER in Canada

1929

Quantities in Acre-Feet.

Irrigator	April	May	June	July	Aug.	Sept.	Oct.	Total
<u>Lodge Creek</u>								
Mitchell, Upper								150
" Lower								15
Clark, North								10
" South								6
Read								20
Hartt								40
Hartt, South								25
Mitchell, Bros.								65
Spangler								102
English								70
Total recorded as diverted in Canada								503
Flow at the Boundary	8,390	7,010	232	3	-	-	-	15,635
<u>Battle Creek</u>								
J.M. Spangler	-	-	54	26	-	-	-	80
Lindner Bros.	-	-	-	56	-	-	-	56
Marshall & Gaff	-	160	42	74	98	3	-	377
J. McKinnon	-	-	-	1	-	-	-	1
Stirling & Nash	12	160	200	-	-	-	-	372
Total recorded as diverted in Canada	12	320	296	157	98	3	-	886
Flow at the Boundary	10,400	7,190	3,510	928	6	-	615	22,649
<u>Frenchman River</u>								
D.J. Wylie	-							192
Gilchrist Bros								133
A.E. Bate								6
Pearse			79	55				134
Balingbroke			18	9				27
T.A. Drury		49	184	25				258
E.E. Gross			79	29				108
Total recorded as diverted in Canada		49	360	118				858
Flow at the Boundary	14,300	9,530	5,120	1,740	240	24	652	31,606

Table 4.

DIVERSIONS FROM THE NORTHERN TRIBUTARIES
OF MILK RIVER IN THE UNITED STATES

1929

(Quantities in acre-feet)

Irrigator	:April:	May	:June:	July:	August:	Sept.:	Oct.:	Total
N. Chinook Canal	1,760	1,760	<u>Lodge Creek</u>					3,817
			297					
Matheson Canal	254	38	<u>Battle Creek</u>					292
Frenchman Canal	124	339	<u>Frenchman River</u>					1,683
			451	509	260			

Note:- No diversions in the United States from
other northern tributaries.

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
 WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
 APRIL - 1929

Day	INFLOW TO SHERBURNE RESERVOIR				Outflow	Stored	Released
	Recorded Inflow:	Un-	Total	Swiftcurrent:	in	from	
	Swift-	Canyon:	recorded:	Inflow:	Creek at	Reservoir:	Reservoir
	current	Creek :	Inflow :		Sherburne	Sec.ft.	Sec.ft.
	Creek	:	Estimated:				
	:	:	:	:	:	:	:
1						3	
2						3	
3						3	
4						3	
5						3	
6						3	
7						3	
8						3	
9						3	
10						3	
11						3	
12						3	
13						3	
14						3	
15						3	
16						3	
17						3	
18	No record available	No record available	No record available	No record available		3	
19						3	
20						3	
21						3	
22					20	3	
23					291	3	
24					291	61	
25					291	61	
26					336	-	
27					336	61	
28					336	-	
29					360	-	
30					360	-	
Total					2621	252	
Mean				(22-30)	291	8.4	
Ac.ft.					5190	450	

No stored water released

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
 APRIL - 1929

Day	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in sec.ft.	Stored water Released	Natural Flow St. Mary River
1	175	-	3	178		178
2	181	-	3	184		184
3	190	-	3	193		193
4	213	-	3	216		216
5	238	-	3	241		241
6	234	-	3	237		237
7	227	-	3	230		230
8	220	-	3	223		223
9	220	-	3	223		223
10	253	-	3	256		256
11	226	-	3	229		229
12	264	-	3	267		267
13	284	-	3	287		287
14	336	-	3	339		339
15	350	-	3	353		353
16	292	-	3	295		295
17	313	-	3	316		316
18	304	-	3	307		307
19	296	-	3	299		299
20	274	-	3	277		277
21	277	-	3	280		280
22	294	-	3	297		297
23	291	-	3	294		294
24	304	-	3	307		307
25	332	-	3	335		335
26	398	45	61	504		504
27	470	46	61	577		577
28	502	51	-	553		553
29	398	114	61	573		573
30	414	141	-	555		555
Total						
Sec.ft.	8770	397	258	9425		9425
Mean	292(26.30)79		8.6	314		314
Ac.ft.	17400	783	512	18700		18700

no stored water released

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
April - 1929

Day	Natural Flow	St. Mary River	U.S. Share	AVAILABLE FOR USE BY U.S.A.	Released Storage	Total Available	Diverted	USED BY U.S.A.	Stored	Total Used	Excess	Deficit
1	178	44		44	-	44	-	3	3	-	-	41
2	184	46		46	-	46	-	3	3	-	-	43
3	193	48		48	-	48	-	3	3	-	-	45
4	216	54		54	-	54	-	3	3	-	-	51
5	241	60		60	-	60	-	3	3	-	-	57
6	237	59		59	-	59	-	3	3	-	-	56
7	230	58		58	-	58	-	3	3	-	-	55
8	223	56		56	-	56	-	3	3	-	-	53
9	223	56		56	-	56	-	3	3	-	-	53
10	256	64		64	-	64	-	3	3	-	-	61
11	229	57		57	-	57	-	3	3	-	-	54
12	267	67		67	-	67	-	3	3	-	-	64
13	287	72		72	-	72	-	3	3	-	-	69
14	339	85		85	-	85	-	3	3	-	-	82
15	353	88		88	-	88	-	3	3	-	-	85
16	295	74		74	-	74	-	3	3	-	-	71
17	316	79		79	-	79	-	3	3	-	-	76
18	307	77		77	-	77	-	3	3	-	-	74
19	299	75		75	-	75	-	3	3	-	-	72
20	277	69		69	-	69	-	3	3	-	-	66
21	280	70		70	-	70	-	3	3	-	-	67
22	297	74		74	-	74	-	3	3	-	-	71
23	294	73		73	-	73	-	3	3	-	-	70
24	307	77		77	-	77	-	3	3	-	-	74
25	335	84		84	-	84	-	3	3	-	-	81
26	504	126		126	45	126	45	61	106	-	-	20
27	577	144		144	46	144	46	61	107	-	-	37
28	553	138		138	51	138	51	-	51	-	-	87
29	573	143		143	114	143	114	61	175	32	-	-
30	555	139		139	141	139	141	-	141	2	-	-
Total												
Sec.ft.	9425	2356	-	2356	397	2356	397	258	655	34	-	1735
Mean	314	78.5	-	78.5	79	78.5	79	8.6	21.8	1.1	-	58
Ac.ft.	18700	4670	-	4670	783	4670	783	512	1300	65	-	3440

No stored water released.

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
APRIL - 1929

Day	Natural flow St. Mary R. at Kimb-:all.	Canada's Share Available	St. Mary R. at Kimball delivered:	Diverted by Canada Used	Excess - Deficit of share delivered
1	178	134	175		-
2	184	138	181		-
3	193	145	190		-
4	216	162	213		-
5	241	181	238		-
6	237	178	234		-
7	230	172	227		-
8	223	167	220		-
9	223	167	220		-
10	256	192	253		-
11	229	172	226		-
12	267	200	264		-
13	287	215	284		-
14	339	254	336		-
15	353	265	350		-
16	295	221	292		-
17	316	237	313		-
18	307	230	304		-
19	299	224	296		-
20	277	208	274		-
21	280	210	277		-
22	297	223	294		-
23	294	221	291		-
24	307	230	304		-
25	335	251	332		-
26	504	378	398		-
27	577	433	470		-
28	553	415	502		-
29	573	430	398		32
30	555	416	414		2
Total					
Sec.ft.	9425	7069	8770	-	1735 34
Mean	314	236	292	-	58 1.1
Ac.ft.	18700	14000	17400	-	3450 65

no water diverted by Canada

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
MAY - 1929

Day	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in sec.ft.	Stored Water Released	Natural flow St. Mary River
1	522	138	-	660	-	660
2	621	98	-	719	-	719
3	657	98	-	755	69	686
4	708	89	-	797	53	744
5	782	28	-	810	30	780
6	797	28	38	863	-	863
7	804	23	18	845	-	845
8	863	23	2	888	-	888
9	959	24	-	983	44	939
10	1040	27	-	1067	63	1004
11	1070	29	49	1148	-	1148
12	1000	27	214	1241	-	1241
13	974	25	254	1253	-	1253
14	1070	28	397	1495	-	1495
15	1170	28	592	1790	-	1790
16	1230	26	841	2097	-	2097
17	1250	22	729	2001	-	2001
18	1260	22	549	1831	-	1831
19	1300	21	455	1776	-	1776
20	1400	20	474	1894	-	1894
21	1570	19	604	2193	-	2193
22	1860	20	820	2700	-	2700
23	2270	23	848	3141	-	3141
24	2940	13	1030	3983	-	3983
25	3570	5	684	4259	-	4259
26	3610	2	226	3838	-	3838
27	3430	26	-	3456	84	3372
28	3110	190	-	3300	520	2780
29	2680	194	-	2874	699	2175
30	2180	244	-	2424	507	1917
31	1870	253	-	2123	192	1931
Total						
Sec.ft.	48567	1813	8824	59204	2261	56943
Mean	1567	58	285	1910	73	1837
Ac.ft.	96500	3570	17500	117400	4490	113000

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
May - 1929

Day:	Natural Flow	St. Mary River	U.S. Share	Released Storage	Total Available	Diverted	Used BY U.S.A. Stored	Total Used	Ex-cess	Deficit
1	660	165	-	-	165	138	-	138	-	27
2	719	193	-	-	193	98	-	98	-	95
3	686	176	69	-	245	98	-	98	-	147
4	744	205	53	-	258	89	-	89	-	169
5	780	223	30	-	253	28	-	28	-	225
6	863	264	-	-	264	28	38	66	-	198
7	845	256	-	-	256	23	18	41	-	215
8	888	277	-	-	277	23	2	25	-	252
9	939	302	44	-	346	24	-	24	-	322
10	1004	335	63	-	398	27	-	27	-	371
11	1148	407	-	-	407	29	49	78	-	329
12	1241	454	-	-	454	27	214	241	-	213
13	1253	460	-	-	460	25	254	279	-	181
14	1495	581	-	-	581	28	397	425	-	156
15	1790	728	-	-	728	28	592	620	-	108
16	2097	882	-	-	882	26	841	867	-	15
17	2001	834	-	-	834	22	729	751	-	83
18	1831	749	-	-	749	22	549	571	-	178
19	1776	721	-	-	721	21	455	476	-	245
20	1894	780	-	-	780	20	474	494	-	286
21	2193	930	-	-	930	19	604	623	-	307
22	2700	1183	-	-	1183	20	820	840	-	343
23	3141	1404	-	-	1404	23	848	871	-	533
24	3983	1825	-	-	1825	13	1030	1043	-	782
25	4259	1963	-	-	1963	5	684	689	-	1274
26	3838	1752	-	-	1752	2	226	228	-	1524
27	3372	1519	84	-	1603	26	-	26	-	1577
28	2780	1223	520	-	1743	190	-	190	-	1553
29	2175	921	699	-	1620	194	-	194	-	1426
30	1917	792	507	-	1299	244	-	244	-	1055
31	1931	799	192	-	991	253	-	253	-	738
Total	56943	23303	2261	-	25564	1813	8824	10637	-	14927
Mean	1837	752	73	-	825	58	285	343	-	482
Ac.ft.	113000	46200	4490	-	50700	3570	17500	21100	-	29600

No excess of share used

DIVISION OF WATER OF ST. MARY RIVER
 WATER AVAILABLE FOR USE AND USED BY CANADA
 May - 1929

Day	Natural flow St. Mary R. at Kimball	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess - Deficit of share delivered
1	660	495	522	-	27
2	719	526	621	-	95
3	686	510	657	-	147
4	744	539	708	78	169
5	780	557	732	94	225
6	863	599	797	228	198
7	845	589	804	317	215
8	888	611	863	338	252
9	939	637	959	380	322
10	1004	669	1040	310	371
11	1148	741	1070	249	329
12	1241	787	1000	252	213
13	1253	993	974	270	181
14	1495	914	1070	341	156
15	1790	1062	1170	310	108
16	2097	1215	1230	276	15
17	2001	1167	1250	223	83
18	1831	1032	1260	236	178
19	1776	1055	1300	247	245
20	1894	1114	1400	244	286
21	2193	1263	1570	239	307
22	2700	1517	1860	263	343
23	3141	1737	2270	270	533
24	3983	2158	2940	332	782
25	4259	2296	3570	298	1274
26	3838	2086	3610	295	1524
27	3372	1853	3430	270	1577
28	2780	1557	3110	260	1553
29	2175	1254	2680	257	1426
30	1917	1125	2180	271	1055
31	1931	1132	1370	344	738
Total					
Sec.ft.	56943	33640	48567	7542	14927
Mean	1837	1085	1567	269	482
Ac.ft.	113000	66700	96500	14900	29600

no deficit in share delivered

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
June - 1929

Day	INFLOW TO SHERBURNE RESERVOIR			Outflow		Stored	Released
	Recorded Inflow	Un- : Swift- : current : Creek	Un- : Canyon : Creek : Inflow : Estimated	Total : Inflow	Swift : Creek at : Sherburne	in : Reservoir : Sec.ft.	from : Reservoir : Reservoir : Sec.ft.
1	625	104	91	820	162	658	-
2	734	120	107	961	219	742	-
3	549	83	79	711	552	159	-
4	419	68	61	548	834	-	286
5	416	65	60	541	925	-	384
6	489	76	58	623	720	-	97
7	528	79	63	670	562	108	-
8	553	83	66	702	562	140	-
9	596	88	71	755	565	190	-
10	585	80	69	734	670	64	-
11	538	76	49	663	774	-	111
12	517	76	48	641	763	-	122
13	503	79	47	629	652	-	23
14	520	102	50	672	600	72	-
15	506	100	49	655	614	41	-
16	458	85	33	576	618	-	42
17	399	70	28	497	618	-	121
18	355	55	25	445	618	-	173
19	317	40	21	378	618	-	240
20	252	34	17	303	426	-	123
21	193	35	13	241	324	-	83
22	190	37	13	240	223	17	-
23	205	39	13	257	116	141	-
24	214	42	14	270	93	177	-
25	239	47	15	301	95	206	-
26	287	52	17	356	122	234	-
27	284	48	17	349	184	165	-
28	284	49	17	350	184	166	-
29	302	50	18	370	201	169	-
30	287	47	17	351	238	113	-
Total							
Sec. ft.	12354	2009	1246	15609	13852	3562	1805
Mean	412	67	41.5	520	462	119	60
Ac. ft.	24500	3990	2470	30900	27500	7080	3570

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
JUNE - 1929

Day	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in Sec.ft.	Stored Water Released	Natural Flow St. Mary River
1	1900	318	248	2466	-	2466
2	2540	375	474	3389	-	3389
3	2730	402	658	3790	-	3790
4	2770	394	742	3906	-	3906
5	2790	396	159	3345	-	3345
6	2770	406	--	3176	286	2890
7	2600	409	-	3009	384	2625
8	2540	419	-	2959	97	2862
9	2580	425	108	3113	-	3113
10	2660	423	140	3223	-	3223
11	2790	423	190	3403	-	3403
12	2830	423	64	3317	-	3317
13	2940	266	-	3206	111	3095
14	2960	163	-	3123	122	3001
15	2960	158	-	3118	23	3095
16	2920	116	72	3108	-	3108
17	2790	111	41	2942	-	2942
18	2490	290	-	2780	42	2738
19	2300	292	-	2592	121	2471
20	2030	316	-	2346	173	2173
21	1650	327	-	1977	240	1737
22	1390	361	-	1751	123	1628
23	1220	392	-	1612	83	1529
24	1090	390	17	1497	-	1497
25	1000	387	141	1528	-	1528
26	959	387	177	1523	-	1523
27	952	406	206	1564	-	1564
28	982	408	234	1624	-	1624
29	1000	404	165	1569	-	1569
30	1030	396	166	1592	-	1592
Total						
Sec.ft.	64163	10383	4002	78548	1805	76743
Mean	2140	346	133	2619	60	2559
Ac.ft.	127000	20600	7900	15600	3570	152 152,000

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
June - 1929

Day	Natural Flow	AVAILABLE FOR USE BY U.S.A.			USED BY U.S.A.			Excess	Deficit
		St. Mary River Share	U.S. Released Storage	Total Available	Diverted	Stored	Total Used		
1	2466	1066	-	1066	318	248	566		500
2	3389	1528	-	1528	375	474	849		679
3	3790	1728	-	1728	402	658	1060		668
4	3906	1786	-	1786	394	742	1136		650
5	3345	1506	-	1506	396	159	555		951
6	2890	1278	286	1564	406	-	406		1158
7	2625	1146	384	1530	409	-	409		1121
8	2862	1264	97	1361	419	-	419		942
9	3113	1390	-	1390	425	108	533		857
10	3223	1445	-	1445	423	140	563		882
11	3403	1535	-	1535	423	190	613		922
12	3317	1492	-	1492	423	64	487		1005
13	3095	1381	111	1492	266	-	266		1226
14	3001	1334	122	1456	163	-	163		1293
15	3095	1381	23	1404	158	-	158		1246
16	3108	1387	-	1387	116	72	188		1199
17	2942	1304	-	1304	111	41	152		1152
18	2738	1202	42	1244	290	-	290		954
19	2471	1069	121	1190	292	-	292		898
20	2173	920	173	1093	316	-	316		777
21	1737	702	240	942	327	-	327		615
22	1628	647	123	770	361	-	361		409
23	1529	598	83	681	392	-	392		289
24	1497	582	-	582	390	17	407		175
25	1528	597	-	597	387	141	528		69
26	1523	595	-	595	387	177	564		31
27	1564	615	-	615	406	206	612		3
28	1624	645	-	645	408	234	642		3
29	1569	613	-	618	404	165	569		49
30	1592	629	-	629	396	166	562		67
Total									
Sec.ft.	76743	33370	1805	35175	10383	4002	14385	-	20790
Mean	2559	1112	60	1172	346	133	479	-	693
Ac.Ft.	152000	66100	3570	69700	20600	7910	28500	-	41200

No excess of share used

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
June - 1929

Day	Natural flow St. Mary R. at Kimball	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess - Deficit of share delivered	
1	2466	1400	1900	358	500	
2	3339	1861	2540	228	679	
3	3790	2062	2730	55	668	
4	3906	2120	2770	44	650	
5	3345	1839	2790	29	951	
6	2890	1612	2770	24	1158	
7	2625	1479	2600	25	1121	
8	2062	1598	2540	28	942	
9	3113	1723	2580	32	857	
10	3223	1773	2660	54	882	
11	3403	1863	2790	94	922	
12	3317	1825	2830	95	1005	
13	3095	1714	2940	118	1226	
14	3001	1667	2960	122	1293	
15	3095	1714	2960	122	1246	
16	3108	1721	2920	124	1199	
17	2942	1638	2790	120	1152	
18	2733	1536	2490	106	954	
19	2471	1402	2300	115	898	
20	2173	1253	2030	182	777	
21	1737	1035	1650	193	615	
22	1628	981	1390	201	409	
23	1529	931	1220	225	289	
24	1497	915	1090	268	175	
25	1523	931	1000	396	69	
26	1523	928	959	522	31	
27	1564	949	952	520	3	
28	1624	979	982	540	3	
29	1569	951	1000	560	49	
30	1592	963	1030	544	67	
Total						
Sec.ft.	76743	43373	64163	6044	20790	-
Mean	2559	1447	2140	201	693	-
Ac.ft.	152000	36100	127000	12000	41200	-

no deficit in share delivered

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
July - 1929

Day	INFLOW TO SHERBURNE RESERVOIR			Total Inflow	Outflow	Stored in Reservoir	Released from Reservoir
	Recorded Inflow	Un- recorded Inflow	Estimated		Swiftcurrent Creek at Sherburne	Sec.ft.	Sec.ft.
1	259	42	75	376	230	146	-
2	248	43	73	364	191	173	-
3	256	43	74	373	210	163	-
4	245	40	71	356	212	144	-
5	220	36	64	320	217	103	-
6	200	36	59	295	223	72	-
7	245	45	73	363	491	-	128
8	262	46	77	385	491	-	106
9	251	49	75	375	491	-	116
10	242	46	72	360	491	-	131
11	225	39	66	330	338	-	8
12	195	37	58	290	221	69	-
13	184	36	55	275	198	77	-
14	189	36	56	281	198	83	-
15	214	37	38	289	201	88	-
16	211	36	37	284	203	81	-
17	200	33	35	268	212	56	-
18	189	32	33	254	259	-	5
19	187	32	33	252	291	-	39
20	195	31	34	260	291	-	31
21	179	27	31	237	291	-	54
22	152	24	27	203	291	-	88
23	141	24	25	190	306	-	116
24	141	23	25	189	331	-	142
25	141	24	25	190	331	-	141
26	147	23	26	196	341	-	145
27	136	22	24	182	355	-	173
28	129	19	22	170	355	-	185
29	126	19	20	165	353	-	188
30	129	19	18	166	353	-	187
31	131	19	16	166	358	-	192
Total	5969	1018	1417	8404	9324	1255	2175
Mean	193	32.8	45.7	271	301	40.5	70
Ac.ft.	11900	2020	2810	16700	18500	2490	4300

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
 JULY - 1929

	: :St. Mary Day:River at :Kimball	: :Diverted : by :U.S.B.R.	: :Stored : by :U.S.B.R.	: :Total in :Sec.ft.	: :Stored Water : Released	: :Natural Flow :St. Mary River
1	1060	409	169	1638	-	1638
2	1060	415	113	1588	-	1588
3	1030	423	146	1599	-	1599
4	1020	423	173	1616	-	1616
5	989	428	163	1580	-	1580
6	959	455	144	1558	-	1558
7	1140	463	103	1706	-	1706
8	1250	461	72	1783	-	1783
9	1240	472	-	1712	128	1584
10	1220	484	-	1704	106	1598
11	1160	480	-	1640	116	1524
12	1050	474	-	1524	131	1393
13	930	470	-	1400	8	1392
14	848	470	69	1387	-	1387
15	789	468	77	1334	-	1334
16	760	464	83	1307	-	1307
17	723	463	88	1274	-	1274
18	708	463	81	1252	-	1252
19	701	463	56	1220	-	1220
20	701	466	-	1167	5	1162
21	679	455	-	1134	39	1095
22	650	463	-	1113	31	1082
23	621	461	-	1082	54	1028
24	599	461	-	1060	88	972
25	578	459	-	1037	116	921
26	564	459	-	1023	142	881
27	556	459	-	995	141	854
28	522	457	-	979	145	834
29	509	457	-	966	173	793
30	477	453	-	930	185	745
31	464	455	-	919	188	731
Total						
Sec.ft.	25537	14153	1537	41227	1796	39431
Mean	824	457	50	1330	58	1272
Ac.ft.	50700	28100	3070	81800	3570	78,200

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
July - 1929

Day:	Natural Flow	St. Mary River	U.S. Share	Released Storage	Total Avail-able	Divert- ed	Stored	Total Used	Ex-cess	Deficit
	FOR USE BY U.S.A.	U.S. Share	Storage	Avail-able	BY U.S.A.			Used	Of Share	Used
1	1638	652	-	652	409	169	578	-	74	
2	1588	627	-	627	415	113	528	-	99	
3	1599	633	-	633	423	146	569	-	64	
4	1616	641	-	641	423	173	596	-	45	
5	1580	623	-	623	428	163	591	-	32	
6	1558	612	-	612	455	144	599	-	13	
7	1706	686	-	686	463	103	566	-	120	
8	1783	725	-	725	461	72	533	-	192	
9	1584	625	128	753	472	-	472	-	281	
10	1598	632	106	738	484	-	484	-	254	
11	1524	595	116	711	480	-	480	-	231	
12	1393	530	131	611	474	-	474	-	187	
13	1392	529	8	537	470	-	470	-	67	
14	1387	527	-	527	470	69	539	12	-	
15	1334	500	-	500	468	77	545	45	-	
16	1307	487	-	487	464	83	547	60	-	
17	1274	470	-	470	463	88	551	81	-	
18	1252	459	-	459	463	81	544	85	-	
19	1220	443	-	443	463	56	519	76	-	
20	1162	414	5	419	466	-	466	47	-	
21	1095	381	39	420	455	-	455	35	-	
22	1082	374	31	405	463	-	463	58	-	
23	1028	347	54	401	461	-	461	60	-	
24	972	319	88	407	461	-	461	54	-	
25	921	294	116	410	459	-	459	49	-	
26	881	274	142	416	459	-	459	43	-	
27	854	260	141	401	459	-	459	58	-	
28	834	250	145	395	457	-	457	62	-	
29	793	230	173	403	457	-	457	54	-	
30	745	206	185	391	453	-	453	62	-	
31	731	199	188	387	455	-	455	68	-	
Total										
Sec.ft.	39431	14544	1796	16340	14153	1537	15690	1009	1659	
Mean	1272	470	58	528	457	50	507	32.6	54.0	
Ac.ft.	78200	28900	3570	32500	28100	3070	31200	2000	3290	

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
JULY - 1929

Day:	Natural flow Mary R. at Kimb- all.	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess - Deficit of share delivered
1	1638	986	1060	542	74 -
2	1588	961	1060	520	99 -
3	1599	966	1030	488	64 -
4	1616	975	1020	478	45 -
5	1580	957	989	606	32 -
6	1558	946	959	554	13 -
7	1706	1020	1140	405	120 -
8	1783	1058	1250	511	192 -
9	1584	959	1240	533	281 -
10	1598	966	1220	531	254 -
11	1524	929	1160	527	231 -
12	1393	863	1050	478	187 -
13	1392	863	930	498	67 -
14	1387	860	848	488	- 12
15	1334	834	789	522	- 45
16	1307	820	760	516	- 60
17	1274	804	723	492	- 81
18	1252	793	708	480	- 85
19	1220	777	701	475	- 76
20	1162	748	701	484	- 47
21	1095	714	679	459	- 35
22	1082	708	650	444	- 58
23	1028	681	621	422	- 60
24	972	653	599	416	- 54
25	921	627	578	413	- 49
26	881	607	564	411	- 43
27	854	594	536	411	- 58
28	834	584	522	416	- 62
29	793	563	509	403	- 54
30	745	539	477	394	- 62
31	731	532	464	384	- 68
Total					
Sec.ft.	39431	24887	25537	14701	1659 1009
Mean	1272	802	824	474	54 32.6
Ac.ft.	78200	49300	50700	29100	3290 2000

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
August - 1929

Day	INFLOW TO SHERBURNE RESERVOIR			Total Inflow	Outflow	Stored in Reservoir	Released from Reservoir
	Recorded Inflow	Un- recorded Inflow	Estimated		Swiftcurrent Creek at Sherburne	Sec.ft.	Sec.ft.
1	131	20	14	165	397		232
2	126	20	12	158	400		242
3	121	19	11	151	429		278
4	126	18	9	153	460		307
5	124	18	8	150	456		306
6	117	18	8	143	456		313
7	114	17	8	139	453		314
8	112	16	8	136	450		314
9	112	16	8	136	447		311
10	112	16	8	136	447		311
11	112	16	8	136	469		333
12	109	16	8	133	475		342
13	107	15	7	129	481		352
14	103	14	7	124	494		370
15	98	13	7	118	501		382
16	96	13	7	116	494		378
17	89	13	6	108	497		389
18	85	13	6	104	497		393
19	83	12	6	101	494		393
20	77	11	5	93	491		398
21	70	10	4	84	501		417
22	68	10	4	82	501		419
23	68	10	4	82	488		406
24	66	10	4	80	478		398
25	64	10	4	78	472		394
26	66	11	4	81	466		385
27	66	11	4	81	447		366
28	70	12	4	86	438		352
29	76	13	4	93	432		339
30	83	14	5	102	429		327
31	92	14	5	111	403		292
Total							
Sec.ft.	2943	439	207	3589	14343		10754
Mean	95	14.2	6.7	116	463		347
Ac.ft.	5840	870	420	7130	28500		21300

No water stored during August .

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
AUGUST - 1929

Day	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in Sec.ft.	Stored Water Released	Natural Flow St. Mary River
1	446	457		903	187	716
2	457	457		914	192	722
3	457	457		914	232	682
4	470	459		929	242	687
5	470	457		927	278	649
6	489	457		946	307	639
7	483	455		938	306	632
8	470	446		916	313	603
9	451	453		904	314	590
10	430	455		885	314	571
11	409	455		864	311	553
12	409	453		862	311	551
13	414	455		869	333	536
14	414	455		869	342	527
15	398	459		857	352	505
16	384	464		848	370	478
17	375	470		845	383	462
18	370	466		836	378	458
19	370	464		834	389	445
20	352	453		805	393	412
21	336	455		791	393	398
22	327	453		780	398	382
23	315	455		770	417	353
24	308	447		755	419	336
25	287	446		733	406	327
26	294	447		741	398	343
27	319	411		730	394	336
28	308	406		714	385	329
29	301	406		707	366	341
30	294	402		696	352	344
31	332	368		700	339	361
Total						
Sec.ft.	11939	13843		25782	10514	15168
Mean	385	447		832	339	489
Ac.ft.	23700	27500		51200	20800	30100

no water stored during August

493 489
30100

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
August - 1929

Day:	Natural Flow	St. Mary River	U.S. Share	Released Storage	Total Available	Diverted	Used BY U.S.A.	Stored	Total Used	Excess	Deficit
1	716	191	187	378	457	457	457	79	-		
2	722	194	192	386	457	457	457	71	-		
3	682	174	232	406	457	459	459	51	-		
4	687	177	242	419	459	459	459	40	-		
5	649	162	278	440	457	457	457	17	-		
6	639	160	307	467	457	457	457	-	10		
7	632	158	306	464	455	455	455	-	9		
8	603	151	313	464	446	446	446	-	18		
9	590	148	314	462	453	453	453	-	9		
10	571	143	314	457	455	455	455	-	2		
11	553	138	311	449	455	455	455	6	-		
12	551	138	311	449	453	453	453	4	-		
13	536	134	333	467	455	455	455	-	12		
14	527	132	342	474	455	455	455	-	19		
15	505	127	352	479	459	459	459	-	20		
16	478	119	370	489	464	464	464	-	25		
17	462	116	383	499	470	470	470	-	29		
18	458	115	378	493	466	466	466	-	27		
19	445	111	389	500	464	464	464	-	36		
20	412	103	393	496	453	453	453	-	43		
21	398	99	393	492	455	455	455	-	37		
22	382	96	398	494	453	453	453	-	41		
23	353	88	417	505	455	455	455	-	50		
24	336	84	419	503	447	447	447	-	56		
25	327	82	406	488	446	446	446	-	42		
26	343	86	398	484	447	447	447	-	37		
27	336	84	394	478	411	411	411	-	67		
28	329	82	385	467	406	406	406	-	61		
29	341	85	366	451	406	406	406	-	45		
30	344	86	352	438	402	402	402	-	36		
31	361	90	339	429	368	368	368	-	61		
Total	15768	3853	10514	14367	13843	13843	13843	268	792		
Mean	489	124	339	463	447	447	447	8.6	25.5		
Ac.ft.	30100	7620	20800	28500	27500	27500	27500	530	1570		

No water stored during August

2
+93

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
AUGUST - 1929

Day	Natural flow St. Mary R. at Kimb- all.	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess - Deficit of share delivered	
1	716	525	446	377	- 79	
2	722	528	457	380	- 71	
3	682	508	457	384	- 51	
4	687	510	470	398	- 40	
5	649	487	470	396	- 17	
6	639	479	489	398	10 -	
7	632	474	483	396	9 -	
8	603	452	470	386	18 -	
9	590	442	451	371	9 -	
10	571	428	430	367	2 -	
11	553	415	409	348	- 6	
12	551	413	409	346	- 4	
13	536	402	414	355	12 -	
14	527	395	414	353	19 -	
15	505	378	398	342	20 -	
16	478	359	384	337	25 -	
17	462	346	375	332	29 -	
18	458	343	370	327	27 -	
19	445	334	370	326	36 -	
20	412	309	352	314	43 -	
21	398	299	336	326	37 -	
22	382	286	327	326	41 -	
23	353	265	315	312	50 -	
24	336	252	308	303	56 -	
25	327	245	287	282	42 -	
26	343	257	294	282	37 -	
27	336	252	319	308	67 -	
28	329	247	308	300	61 -	
29	341	256	301	294	45 -	
30	344	258	294	296	36 -	
31	361	271	332	320	61 -	
Total	15168 ²	11415	11939	10572	792	268
Mean	489 ²¹³	368	385	341	25.5	8.6
Ac. ft.	30100	22600	23700	21000	1570	530

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
September - 1929

Day	Recorded Inflow: Swift-Creek Creek	Un- Canyon recorded Inflow Estimated	Total Inflow	Swift Creek at Sherburne	Outflow current: Creek	Stored in Reservoir: Sec.ft.	Released from Reservoir: Sec.ft.
1	94	14	6	114	392		278
2	87	15	6	108	389		281
3	76	14	6	96	386		290
4	59	11	5	75	383		308
5	50	10	4	64	378		314
6	41	9	4	54	368		314
7	35	8	3	46	353		307
8	34	8	3	45	336		291
9	32	6	3	41	327		286
10	30	5	2	37	302		265
11	28	5	2	35	298		263
12	28	5	2	35	295		260
13	34	5	2	41	291		250
14	38	6	3	47	287		240
15	41	6	3	50	284		234
16	41	6	3	50	287		237
17	44	6	4	54	267		213
18	40	6	3	49	245		196
19	35	7	3	45	191		146
20	56	7	4	67	144		77
21	56	7	4	67	148		81
22	56	6	4	66	148		82
23	46	6	3	55	151		96
24	42	6	3	51	162		111
25	42	6	3	51	162		111
26	37	6	2	45	160		115
27	34	6	2	42	160		118
28	31	6	3	40	148		108
29	28	5	2	35	137		102
30	28	4	3	35	136		101
Total	1323	217	100	1640	7715		6075
Mean	44.1	7.2	3.3	55	257		202
Ac. ft.	2620	428	196	3270	15300		12000

No water stored during September

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
SEPTEMBER - 1929

Day:	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in Sec.ft.	Stored Water Released	Natural Flow St. Mary River
1	323	368		691	327	364
2	332	361		693	292	401
3	344	361		705	278	427
4	327	357		684	231	403
5	327	354		681	290	391
6	340	325		665	308	357
7	319	325		644	314	330
8	297	325		622	314	308
9	280	325		605	307	298
10	267	325		592	291	301
11	245	321		566	286	280
12	220	323		543	265	278
13	217	321		538	263	275
14	194	320		514	260	254
15	191	321		512	250	262
16	183	320		503	240	263
17	191	278		469	234	235
18	277	198		475	237	238
19	267	194		461	213	248
20	242	192		434	196	238
21	212	191		403	146	257
22	189	191		380	77	303
23	176	190		366	81	285
24	170	190		360	82	278
25	174	190		364	96	268
26	180	191		371	111	260
27	176	191		367	111	256
28	172	169		341	115	226
29	217	124		341	118	223
30	214	120		334	108	226
Total						
Sec.ft.	7263	7961	-	15224	6491	8733
Mean	242	265	-	507	216	291
Ac.ft.	14400	15800	-	30200	12900	17300

no water stored during September

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
September - 1929.

Day	Natural Flow	St. Mary River Share	U.S. Released Storage	Total Available	U.S.A. Used	Diverted	Stored	Total Used	Excess	Deficit
1	364	91	327	418	368		368	-	50	
2	401	100	292	392	361		361	-	31	
3	427	107	278	385	361		361	-	24	
4	403	101	281	382	357		357	-	25	
5	391	98	290	388	354		354	-	34	
6	357	89	308	397	325		325	-	72	
7	330	82	314	396	325		325	-	71	
8	308	77	314	391	325		325	-	66	
9	298	74	307	381	325		325	-	56	
10	301	75	291	366	325		325	-	41	
11	280	70	286	356	321		321	-	35	
12	278	69	265	334	323		323	-	11	
13	275	69	263	332	321		321	-	11	
14	254	64	260	324	320		320	-	4	
15	262	66	250	316	321		321	5	-	
16	263	66	240	306	320		320	14	-	
17	235	59	234	293	278		278	-	15	
18	238	60	237	297	198		198	-	99	
19	248	62	213	275	194		194	-	81	
20	238	60	196	256	192		192	-	64	
21	257	64	146	210	191		191	-	19	
22	303	76	77	153	191		191	38	-	
23	285	71	81	152	190		190	38	-	
24	278	70	82	152	190		190	38	-	
25	268	67	96	163	190		190	27	-	
26	260	65	111	176	191		191	15	-	
27	256	64	111	175	191		191	16	-	
28	226	56	115	171	169		169	-	2	
29	223	56	118	174	124		124	-	50	
30	226	56	108	164	120		120	-	44	
Total	8733	2184	6491	8675	7961	-	7961	191	905	
Mean	291	73	216	289	265	-	265	6.4	30.2	
Ac.ft.	17300	4340	12900	17200	15800	-	15800	380	1800	

No water stored during September

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
SEPTEMBER - 1929

Day	Natural flow St. Mary R. at Kimb- all.	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess - of share	Deficit delivered
1	364	273	323	310	50	-
2	401	301	332	314	31	-
3	427	320	344	322	24	-
4	403	302	327	312	25	-
5	391	293	327	310	34	-
6	357	268	340	320	72	-
7	330	248	319	300	71	-
8	308	231	297	281	66	-
9	298	224	280	265	56	-
10	301	226	267	254	41	-
11	280	210	245	231	35	-
12	278	209	220	207	11	-
13	275	206	217	184	11	-
14	254	190	194	170	4	-
15	262	196	191	167	-	5
16	263	197	183	162	-	14
17	235	176	191	160	15	-
18	238	178	277	225	99	-
19	248	186	267	260	81	-
20	238	178	242	240	64	-
21	257	193	212	199	19	-
22	303	227	189	176	-	38
23	285	214	176	161	-	38
24	278	208	170	154	-	38
25	268	201	174	158	-	27
26	260	195	180	162	-	15
27	256	192	176	156	-	16
28	226	170	172	158	2	-
29	223	167	217	204	50	-
30	226	170	214	193	44	-
Total						
Sec.ft.	8735	6549	7263	6715	905	191
Mean	291	218	242	224	30.2	6.4
Ac.ft.	17300	13000	14400	13300	1800	380

DETERMINATION OF NATURAL FLOW OF ST. MARY RIVER
WATER STORED OR RELEASED FROM SHERBURNE RESERVOIR
October - 1929

Day	INFLOW TO SHERBURNE RESERVOIR			Total Inflow	Outflow	Stored in Reservoir	Released from Reservoir
	Recorded inflow	Un- recorded Creek	Un- recorded Creek	Inflow	Swift Creek at Sherburne	Sec.ft.	Sec.ft.
1	31	5	5	39	136	-	97
2	31	5	5	39	127	-	88
3	31	5	5	39	119	-	80
4	26	5	1	32	116	-	84
5	36	18	4	58	116	-	58
6	107	17	9	133	116	17	-
7	103	16	42	161	116	45	-
8	89	16	37	142	116	26	-
9	81	15	34	130	115	15	-
10	70	14	29	113	117	-	4
11	66	13	20	99	118	-	19
12	56	12	17	85	115	-	30
13	46	12	13	71	113	-	42
14	46	11	14	71	112	-	41
15	40	10	12	62	112	-	50
16	40	10	9	59	107	-	48
17	36	9	10	55	95	-	40
18	36	9	9	54	90	-	36
19	31	8	8	47	88	-	41
20	31	7	7	45	73	-	28
21	31	7	5	43	57	-	14
22	31	6	5	42	50	-	8
23	31	6	3	40	14	26	-
24	31	6	4	41	5	36	-
25	31	5	4	40	20	20	-
26	26	4	2	32	59	-	27
27	28	7	3	38	59	-	21
28	28	6	4	38	60	-	22
29	28	6	3	37	50	-	13
30	26	5	4	35	39	-	4
31	26	5	4	35	40	-	5
Total	1350	280	331	1955	2670	185	900
Mean	43.5	9	10.7	63	86	6.0	29
Ac.ft.	26700	553	658	3870	5290	368	1780

DETERMINATION OF NATURAL FLOW ST. MARY RIVER
OCTOBER - 1929

Day	St. Mary River at Kimball	Diverted by U.S.B.R.	Stored by U.S.B.R.	Total in Sec.ft.	Stored Water Released	Natural Flow St. Mary River at Boundary
1	207	119	-	326	102	224
2	196	116	-	312	101	211
3	191	119	-	310	97	213
4	185	120	-	303	38	215
5	191	121	-	312	30	232
6	220	122	-	342	84	258
7	234	122	-	356	58	298
8	242	122	17	331	-	361
9	255	123	45	423	-	423
10	264	109	26	419	-	419
11	327	63	15	410	-	410
12	319	71	-	390	44	366
13	234	100	-	334	19	365
14	245	123	-	368	50	338
15	231	123	-	356	42	314
16	225	124	-	349	41	308
17	214	124	-	338	50	288
18	209	122	-	331	48	283
19	225	102	-	327	40	287
20	217	94	-	311	36	275
21	239	66	-	305	41	264
22	228	64	-	292	28	264
23	223	62	-	285	14	271
24	207	57	-	264	3	256
25	201	50	26	277	-	277
26	191	47	36	274	-	274
27	204	49	20	273	-	273
28	207	50	-	257	27	230
29	214	50	-	264	21	243
30	214	50	-	264	22	242
31	201	52	-	253	13	240
Total	7023	2643	185	10056	1110	8923
Mean	227	92	6	325	35.8	283
Ac.ft.	14000	5560	363	20000	2200	17700

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY UNITED STATES
October - 1929.

Day:	Natural Flow	St. Mary River	U.S. Share	Released Storage	Total Avail-able	Divert- ed	Stored	Total Used	Ex-cess	Deficit
1	224	56	102	158	119	-	119	-	-	39
2	211	53	101	154	116	-	116	-	-	38
3	213	53	97	150	119	-	119	-	-	31
4	215	54	88	142	120	-	120	-	-	22
5	232	58	80	138	121	-	121	-	-	17
6	258	64	84	148	122	-	122	-	-	26
7	298	74	58	132	122	-	122	-	-	10
8	381	95	-	95	122	17	139	44	-	-
9	423	106	-	106	123	45	168	62	-	-
10	419	105	-	105	109	26	135	30	-	-
11	410	102	-	102	68	15	83	-	-	19
12	386	96	4	100	71	-	71	-	-	29
13	365	91	19	110	100	-	100	-	-	10
14	338	84	30	114	123	-	123	9	-	-
15	314	78	42	120	125	-	125	5	-	-
16	308	77	41	118	124	-	124	6	-	-
17	288	72	50	122	124	-	124	2	-	-
18	283	71	48	119	122	-	122	3	-	-
19	287	72	40	112	102	-	102	-	-	10
20	275	69	36	105	94	-	94	-	-	11
21	264	66	41	107	66	-	66	-	-	41
22	264	66	28	94	64	-	64	-	-	30
23	271	68	14	82	62	-	62	-	-	20
24	256	64	8	72	57	-	57	-	-	15
25	277	69	-	69	50	26	76	7	-	-
26	274	68	-	68	47	36	83	15	-	-
27	273	68	-	68	49	20	69	1	-	-
28	230	58	27	85	50	-	50	-	-	35
29	243	61	21	82	50	-	50	-	-	32
30	242	60	22	82	50	-	50	-	-	32
31	240	60	13	73	52	-	52	-	-	21
Total	8962	2238	1110	3332	2843	185	3028	184	-	488
Mean	288	72	35.8	108	92	6	98	6	-	15.8
Ac.ft.	17700	4430	2200	6640	5660	368	6030	368	-	972

DIVISION OF WATER OF ST. MARY RIVER
WATER AVAILABLE FOR USE AND USED BY CANADA
OCTOBER - 1929

Day	Natural flow St. Mary R. at Kimball	Canada's Share Available	St. Mary R. at Kimball delivered	Diverted by Canada Used	Excess of share	Deficit delivered
1	224	168	207	180	39	-
2	211	158	196	173	38	-
3	213	160	191	170	31	-
4	215	161	183	156	22	-
5	232	174	191	172	17	-
6	258	194	220	202	26	-
7	298	224	234	215	10	-
8	381	286	242	226	-	44
9	423	317	255	241	-	62
10	419	314	284	263	-	30
11	410	308	327	314	19	-
12	306	290	319	307	29	-
13	365	274	284	271	10	-
14	338	254	245	234	-	9
15	314	236	231	218	-	5
16	308	231	225	212	-	6
17	288	216	214	196	-	2
18	283	212	209	188	-	3
19	287	215	225	204	10	-
20	275	206	217	196	11	-
21	264	198	239	218	41	-
22	264	198	228	207	30	-
23	271	203	223	201	20	-
24	256	192	207	185	15	-
25	277	208	201	178	-	7
26	274	206	191	166	-	15
27	273	205	204	160	-	1
28	230	172	207	39	35	-
29	243	182	214	9	32	-
30	242	182	214	-	32	-
31	240	180	201	-	21	-
Total						
Sec.ft.	8926	6724	7028	5701	488	184
Mean	288	216	227	197	15.8	6
Ac.ft.	17700	13300	14000	11300	972	368