

BEAR RIVER COMMISSION

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REPORT NO. 21

Report on

CHAPMAN CANAL AND NEPONSET RESERVOIR

(Revised)

Supersedes Report

BEAR RIVER COMMISSION

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Supersedes Aug 8, 1951 (Aug 22) Report -

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Prepared By

W. V. Iorns, Project Engineer
U. S. Geological Survey

January 8, 1952

FOREWORD

Under date of August 22, 1951 a report on "Chapman Canal and Neponset Reservoir" was made to the Bear River Compact Engineering Committee. Additional inspection of lands in the field and comparison of mapped areas on Bureau of Reclamation Land Use Maps, which were used in previous irrigated acreage determination; with Hydrographic Survey Maps of the State Engineer's Office of Utah, prepared in connection with Water Adjudications in Rich County; has necessitated some revisions in the before mentioned report. This revised report, which is dated January 8, 1952, supercedes the report dated August 8, 1951.

*Dan Fred
Milo Marsden
Dave Robinson*

CHAPMAN CANAL

The State of Wyoming "Tabulation of Adjudicated Water Rights in Water Division No. 4" dated July 1, 1944, lists the following rights for irrigation of lands in Utah under the Chapman Canal.

<u>Appropriator</u>	<u>Map</u>	<u>Priority</u>	<u>Use</u>	<u>C.F.S.</u>	<u>Acres</u>
Neponset Land & Livestock Co.	50-1	8-13-86	I,S	148.28	10,380 / 7800
David Rees	50-1	8-13-86	I,S	40.85	2,860 "
Deseret Land & Livestock Co.	50-2	5-3-12	I	3.43(a)	239.8(b) 2597E
do	50-3	5-21-12	I	<u>11.39</u>	<u>796.3</u> 2593E
Totals				203.95	14,276.10

- (a) Amount should be 4.15 c.f.s. instead of 3.43 c.f.s.
- (b) Erroneously given in adjudication as 239.8 acres, but correct total should be 290.8 acres.

When the tabulations shown in "Water Rights in Bear River Basin" dated December 15, 1950 were being prepared, it was determined by examination of Bureau of Reclamation Land Use Maps and field reconnaissance that only about 7,821 acres were then being irrigated. An examination of canal discharge records collected at the gaging station Chapman Canal near Wyoming-Utah State line, indicated the maximum capacity of the canal in the vicinity of the State line was about 120 second-feet.

During the summer of 1951, the lands under the Chapman Canal were examined in company with representatives of the Deseret Land and Livestock Company. Later, in the fall of 1951, additional field reconnaissance was made. The State Engineer of Utah has made available Hydrographic Survey Maps of Rich County, which, together with aerial photographs, has made possible a more accurate determination of lands classified as being under irrigation. The Hydrographic Survey Maps of Utah included the areas in Sections 13, 24, 25, 26, 35, and 36, Township 8 North, Range 7 East, on which there

had been some question.

In this revised determination, the same general rules have been applied as were used in checking irrigated acreages in other parts of the basin. One general rule was to include Willow land and grass-brush land under the canal. Another was to include lands which had been irrigated but were temporarily out of production because of failure of water supply or for other reasons except permanent abandonment.

It must be kept in mind that the acreage determined from the land use maps cannot be termed as highly accurate and absolutely conclusive, because of the method of mapping and measurement of acreage. However, the total acreage is believed to be fairly accurate.

The State Engineer of Wyoming has furnished this office with a transcript of land descriptions covering the various water adjudications. Copies of this transcript are shown on Plates 1 to 5.

Shown on Plates 6 to ~~8~~⁸ are revised figures for acreage determined from land use maps, which are now being irrigated or have been classified as having been irrigated and are temporarily out of production. Brush-grass areas under canal are included in these determinations.

The following tabulation shows a comparison of the acreage included in the Utah proposed adjudication for Rich County, which includes only actually cropped land, determination made by this office from land use maps and a recommended figure to be used for the right of the Chapman Canal for Utah Lands.

Red - 5-21-12
 Blue - 5-3-12

Tsp. & R.	Sec.	Priority	Utah Adj.	W.V.I. 1-8-52	Acreage Recom.	Remarks	
8N 7E	1	8-13-86	145	160	160	(a)	
	2	"	17	17	17		
	3	"	397	404	404		
	4	"	408	510	510	(a)	
	8	"	186	191	191	(a)	
	8	5-21-12	{	8	8		
	9	"	{	26	26		
	9	8-13-86	{	405	435	435	(a)
	10	"	{	289	249	249	
	10	5-3-12	{	56	56		
	11	8-13-86		79	79	79	
	12	5-21-12		171	172	172	
	13	8-13-86		140	138	140	
	15	8-13-86		4	5	5	
	16	"	{	277	281	281	
	16	5-21-12	{	1	1	1	
	17	8-13-86		619	605	619	
	18	"		174	31	31	
	18	5-21-12	{	140	143	143	
	19	"		194	201	194	
	20	"	{	20	20	20	
	20	8-13-86	{	505	479	479	
	21	5-21-12		6	6	6	
	24	5-3-12		171	173	173	
	25	8-13-86		194	192	194	
	26	5-3-12		56	53	56	
	29	8-13-86	{	218	201	201	
	29	5-21-12	{	19	19	19	
	30	8-13-86		306	317	317	
	31	8-13-86	{	139	79	79	
	31	5-21-12	{	76	76	76	
	32	"	{	128	24	24	
	32	8-13-86	{	115	115	115	Utah determination in error (planimeter)
	35	"	{	98	98	98	
	35	5-21-12	{	11	11	11	
	36	"		12	12	12	
9N 7E	23	8-13-86	134	181	181	(a)	
	26	"	244	351	351	(a)	
	27	"	394	616	616	(a)	
	33	"	0	0	0		
	34	"	208	240	240	(a)	
	35	"	511	572	572	(a)	
	36	"	72	64	72		
	Totals		6,975	7,608	7,633		

5-21-12 = 712
 5-3-12 = 285

(a) Includes greasewood and salt grass areas.

+ 256 - Murphy Hollow
 7,689 - Compact

226
233
763
785

The following tabulation shows a comparison of the acreages as determined.

SUMMARY

Date of Priority	Acreage described in Wyo. Adj.	Acreage in Water Rights Tabulation	Acreage in Utah Proposed Adj.	Acreage on Land Use Maps 1-8-52	Acreage Recom. 1-8-52
8-13-86	13,240 ^{Some} Brush	6,676 (a)		6,610 ₂₅₆	6,636 ₂₅₆ + 256
5-3-12	290.8	285 (b)		282	285 ₂₈₂
5-21-12	796.3	860 (c)		716	712
Totals	14,327.1	7,821	6,975	7,608	7,633 _{+ 262} ^{Murphy Hollis}

(a) Actual determination. In the report, 6,785 acres was given which included 109 acres surplus found in the other two rights.

7,895
+ 256

7,889

(b) Actual determination. In the report, 45 acres was deducted and added to the 1886 right.

(c) Actual determination. In the report, 64 acres was deducted and added to the 1886 right.

The Utah Proposed Adjudication and Hydrographic Survey lists 256 acres under the Chapman Canal, which is claimed to have been irrigated, but temporarily taken out of production due to failure of water supply. An examination of these lands shows evidence of once having been irrigated but not used for many years. These lands possibly should be added to the lands listed for the Aug. 13, 1886 water right. The description of these lands are as follows: 14 acres Sec. 35; 149 acres Sec. 36, T. 8 N., R. 7 E.; 80 acres Sec. 31, T. 8 N., R. 8 E.; 13 acres Sec. 6 T. 7 N., R. 8 E.

Murphy
Hollis

14
149
80
6

249
+ 7

254

158 S.F.
50 | 7889 -
 50
 288
 250
 389

112 1/2
70 | 7889
 70
 88
 70
 189
 149
 4

DISCHARGE OF CHAPMAN CANAL AT DIVIDE
near
WYOMING-UTAH STATE LINE

A gaging station was installed on the Chapman Canal at the Highway Bridge near the Wyoming-Utah State line on April 1, 1942. From April 1, 1942 to October 10, 1946, once daily staff gage readings were obtained. On October 11, 1946 a continuous water stage recorder was placed in operation. On Plates 9 to 17 are shown the mean daily discharges at this gaging station.

In the following table are shown the maximum discharges observed or recorded at the gaging station. In 1947 and 1950 the momentary peak and maximum mean daily did not occur on the same date.

Water Year ending Sept. 30	Date	Maximum Discharge	
		Peak Discharge	Mean for Day
1942	May 30	-	121 *
1943	June 2	-	119 *
1944	June 27	-	95 *
1945	Apr. 9	-	115 *
1946	Apr. 14	-	129 *
1947	June 12	132	127
	June 17	134	86
1948	May 17	118	99
1949	May 11, 12	131	121
1950	Apr. 18	83	58
	May 23	78	69

* Once daily staff gage reading.

*
5

NEPONSET RESERVOIR

State of Wyoming Permit No. 283 En. dated August 28, 1905 for enlargement of the Chapman Canal, contains data relative to the then proposed Neponset Reservoir, which was partially constructed shortly thereafter. The original reservoir design specified a reservoir with a capacity of 8701.56 acre-feet and a total water surface at full capacity of 1043.36 acres. The dam was never completed to its full original designed height and in 1922, repair work was started on the dam which was completed in 1924. In this new construction the dam was built to its present height and the reservoir contents limited to 6,000 acre-feet. It was reported in 1924, the high water marks in the reservoir area indicated that the maximum storage prior to that time was about 3,450 acre-feet.

The Bureau of Reclamation, in its Bear River Project Investigations in 1938, made a contour survey of the reservoir. The capacity table prepared from this survey showed the reservoir to have a content of 6,000 acre-feet between elevation 6400.8 feet (bottom of outlet) and elevation 6,419 feet (maximum water surface).

For a number of years a parapet of sandbags ^{has} ~~have~~ been maintained across the inlet to the spillway - (see photograph on Page 7). This parapet raises the elevation of the spillway about one foot. Levels taken from the Bureau of Reclamation bench marks on the dam on November 6, 1951, showed average elevation of top of sandbags to be 6419.8 feet, which ^{would} ~~could~~ equal a reservoir content of 6,900 acre-feet. The elevation of the spillway at the bottom of the sandbags was 6418.6 feet, which would equal a reservoir content of 5,850 acre-feet.



TABULATION OF ADJUDICATED WATER RIGHTS ON BEAR RIVER

W. J. Young
S. J. Engle

Tshp	Range	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Total
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
S.L.B. & M.			Chapman Canal, Neponset Land & Livestock Co., Terr. Aug. 13, 1886 - 148.28 c.f.s.																
			for irrigation & stock purposes - H.G. Sec. 36 - 16 - 121 (For the irrigation of lands in Utah)																
8 N	7 E	10	40	40	40	40	40			40	40						40		
8 N	7 E	15	40			40		40								40			
8 N	7 E	11	40	40	40	40	40			40	40			40	40	40	40	40	
8 N	7 E	3	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8 N	7 E	4	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8 N	7 E	5	40			40								40				40	
8 N	7 E	1		40	40		40	40	40	40	40	40	40			40	40		
8 N	7 E	9		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8 N	7 E	8	40	40	40	40								40	40	40	40	40	
8 N	7 E	13	40	40	40	40	40	40	40	40	40	40	40			40	40		
8 N	7 E	16		40	40		40	40	40	40	40	40							
8 N	7 E	17	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8 N	7 E	18	40			30													
8 N	7 E	20	40	40	40	40	40	20	40	40	40	40	40	40	20	40	20	40	
8 N	7 E	27												15			30	5	
8 N	7 E	29					35	40	40	25			40	40					
8 N	7 E	30	40	40	40	40									40	35	30	40	
8 N	7 E	31	40							40									
8 N	7 E	32						40	40				40						
8 N	7 E	34	30	40	40	40	25	5	20	35	40	30	30	40	40	40	40	40	
8 N	7 E	23	40																
8 N	7 E	25	40	40	40	40	40			40	40	40	40	40	40	40	40	40	
8 N	7 E	35	40	40	40	40			20		25	40	40	40					
8 N	8 E	19	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8 N	8 E	29	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	

TABULATION OF ADJUDICATED WATER RIGHTS ON BEAR RIVER

Tshp	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
S.L.E. & M.			Chapman Canal, David Rees, Terr. Aug. 13, 1886 - 40.35 c.f.s. for Irrigation and Stock Purposes - H. G. Sec. 36 - 16 - 121 (For the irrigation of Lands in Utah)																
9 N	7 E	23	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
9 N	7 E	25	40	40			40	40	40	40									
9 N	7 E	27	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
9 N	7 E	35	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
9 N	7 E	26					40	40	40	40	40	40	40						
9 N	7 E	34												40	40	10	10		
9 N	8 E	19										40	40				40		
9 N	8 E	29										40	40						
9 N	8 E	31										40	40						
																		2860	

TABULATION OF ADJUDICATED WATER RIGHTS ON BEAR RIVER

Tshp	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total				
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$					
			Enl. Chapman Canal - Deseret Live Stock Co. Permit No. 2577 E.																				
			May 3, 1912 - 3.43 c.f.s. - H. G. Sec. 25 - 16 - 121																				
			(Total erroneously given in adjudication as 239.8 Ac. Amount of																				
			appropriation should be 4.15 c.f.s. instead of 3.43 c.f.s. (Lands in Utah)																				
8 N	7 E	10					10	12.8									22.6		1.1	46.5			
8 N	7 E	24	2.9	16.8	19.4	22.3		4.8		0.2	0.6						17.4	11	35	40	12.9	183.3 ✓	
8 N	7 E	26				2													22		2	35	61
																							239.8
																							290.8 ✓

TABLETION OF ADJUDICATED WATER RIGHTS ON BEAR RIVER

Tshp	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
			Enl. Chaoman Canal, Desert Live Stock Co., Permit No. 2593 E.																
			May 21, 1912 - 11.39 c.f.s. - H.G. Sec. 25 - 16 - 121 (Lands in Utah)																
S.L. B. & M.																			
8 N	7 E	8																	
8 N	7 E	9	26.7																
8 N	7 E	12			1.8		4.3	27.7	16.8	31.4	35	11.1	8.5	33.1		0.3			
8 N	7 E	16												0.7					
8 N	7 E	18			2.4										40	32.6	30	40	
8 N	7 E	19	40	12.9	0.5	38.5									40	11.6	19.8	40	
8 N	7 E	20					20												
8 N	7 E	21					5.2												
8 N	7 E	29								11.2				8.3					
8 N	7 E	31		21.8	5.6										34	4.6		11.3	
8 N	7 E	32				2.4				3.2	0.9		16.5						
8 N	7 E	35													10.5	0.6			
8 N	7 E	36					11.6	7.6		19.5	32	11.1	0.9			1.3			
																		796.3	

Tshp	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
50-1																			
Irrigated lands under Chapman Canal in Utah recommended by W.K. Earns to be included under Aug 13, 1886 date of priority.																			
BN	7E	35	39	15	16	28													98
BN	7E	25	1	25	3		27		16	36	11	40	33						192
BN	7E	13			2		31	2		39	28		1	32			3		138
BN	7E	1					12	23	36	21	20	17	25	6					160
BN	7E	2	5					7	5										17
BN	7E	3	22	25	7	10	27	27	40	33	20	40	23	40	21	4	40	25	404
BN	7E	4	29	28	40	40	7		10	38	40	38	40	40	40	40	40	40	510
BN	7E	8									14			17	40	40	40	40	191
BN	7E	9		40	37	2	40	40	40	40	40	40	40	40		21	15		435
BN	7E	10	16	40	38	5	40	3	1	39	40	8			19				249
BN	7E	15					5												5
BN	7E	16		9	9		40	40	40	40	31	40	32						281
BN	7E	17	40	40	40	40	31	14	40	40	40	40	40	40	40	40	40	40	605
BN	7E	18	1		2	28													31
BN	7E	20	39	40	40	21	40	20	40	40	40	40	40	37	2	34	6		479
BN	7E	29					26	40	40	15		40	40						201
BN	7E	30	40	37	40	40	3			2	2				40	40	33	40	317
BN	7E	32						36	40			39							115
7N	7E	23						14	38	2	17	40	40	30					181
7N	7E	26		2	6		40	40	40	40	40	40	40	40		15	8		351
7N	7E	27	40	40	40	40	40	33	35	40	40	35	33	40	40	40	40	40	616
7N	7E	34	40			40									40	40	40	40	240
7N	7E	35	9	38	40	35	40	40	40	40	40	40	38	22	40	40	30	40	572
7N	7E	36							1			22	39	2					64
8N	7E	11												40			28	11	79
8N	7E	31	40			39													79

6,610

Tshp	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
50-3																			
Irrigated lands under Sherman Canal in Utah recommended by W.V. Jones to be included under 11th 21, 1912 date of priority.																			
8N	7E	8									8								8
8N	7E	9	26																26
8N	7E	12			3		5	26	17	33	35	11	7	35					172
8N	7E	16												1					1
8N	7E	18			2										40	28	30	40	140
8N	7E	19	40	12	1	38									40	10	20	40	201
8N	7E	20					20												20
8N	7E	21					6												6
8N	7E	29									12	7							19
8N	7E	31		23	6										34	5		8	76
8N	7E	32					2				5	1		16					24
8N	7E	35													7	4			11
8N	7E	36					12												12
																	<u>693</u> Total		
																	716		

Daily discharge, in second-feet, of Chapman Canal at Wyoming-Utah State Line, for the year ending September 30, 1942

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	0	84	22		
2							0	0	85	18		
3							0	0	85	14		
4							0	0	96	22		
5							0	0	84	21		
6							0	0	89	34		
7							0	0	98	14		
8							.5	0	88	14		
9							.5	0	94	13		
10							.5	0	99	11		
11							.5	0	98	7.8		
12							38.	12.	88	6.2		
13							76	12	80	4.0		
14							76	12	87	.7		
15							65	8.8	89	0		
16							60	8.8	85	0		
17							32	11	84	0		
18							0	8.8	80	0		
19							0	8.8	96	0		
20							0	8.0	82	0		
21							0	7.5	68	0		
22							0	51	53	0		
23							0	66	41	0		
24							0	84	38	0		
25							0	101	36	0		
26							0	88	38	0		
27							0	90	38	0		
28							0	77	35	0		
29							0	81	30	0		
30							0	90	25	0		
31								81		0		
							349.0	906.7	2178	201.7	0	0
EAN							11.6	29.2	72.4	6.51	0	0
CRE- SET							692	1800	4310	400	0	0

Daily discharge, in second-feet, of

Chapman Canal at Wyoming-Utah State Line

, for the year ending September 30, 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								50	113	55		
2								60	119	44		
3								30	112	39		
4								18	94	32		
5								16	77	27		
6								14	70	22		
7								12	66	39		
8								10	66	40		
9								8	62	37		
10								10	72	26		
11								7.0	77	13		
12								6.7	76	15		
13								6.2	72	20		
14								.4	76	12		
15								.0	69	6.7		
16								0	65	6.2		
17								46	63	7.2		
18								52	71	3.8		
19								48	76	1.1		
20								41	87	0		
21								40	85	0		
22								32	84	0		
23								36	81	40		
24								46	75	20		
25								52	73	0		
26								60	65	0		
27								82	64	0		
28								84	54	0		
29								96	81	0		
30								108	65	0		
31								97		0		

1168.3 2310 506.0 0 0

Σ								87.7	77.0	16.3	0	0
Σ								2320	4580	1000	0	0

Daily discharge, in second-feet, of Chapman Canal at Wyoming-Utah State Line, for the year ending September 30, 19 44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						On March 10, 1944, gage read 1.60 at 11:00 a.m. March 10, 1944 gage read 2.08 at 3:30 p.m. Large increase due to melting snow on side hill above canal.	45	2	63	72	0	0
2					63				71	0	0	
3							53	3	62	67	0	0
4					63				58	0	0	
5							53	4.9	47	50	0	0
6							45		33	0	0	
7								7	49	29	0	0
8									60	22	0	0
9								2	55	19	0	0
10									61	16	0	0
11							10	62	12	0	0	
12								82	8.0	0	0	
13							5	93	7.0	0	0	
14								92	6.0	0	0	
15							5	91	1.0	0	0	
16								78	0	0	0	
17							5	77	0	0	0	
18								73	0	0	0	
19							5	74	0	0	0	
20								75	0	0	0	
21							5	76	0	0	0	
22								78	0	0	0	
23							5	71	0	0	0	
24								75	0	0	0	
25							5	83	0	0	0	
26								93	0	0	0	
27							5	95	0	0	0	
28								85	0	0	0	
29							5	74	1.0	0	0	
30								78	1.0	0	0	
31							63	0	0	0		
							291	361.9	2172	472.0	0	0

IN						9.70	11.7	72.4	15.2	0	0
FE-						577	718	4310	936	0	0
T											

Daily discharge, in second-feet, of Chapman Canal at Utah-Wyoming State Line, for the year ending September 30, 1945

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	15	5	0	0	10	60	.6	57	36	4.2	1.5
2	0	20	0	0	0	11	53	.7	49	44	4.7	.8
3	0	20	0	0	0	12	33	1.1	49	41	4.0	.6
4	0	20	0	0	0	13	38	1.5	95	36	34	.6
5	0	20	0	0	0	14	26	1.8	95	56	22	.6
6	0	20	0	0	0	17	26	1.8	95	53	16	.8
7	0	20	0	0	0	20	44	1.9	64	46	12	1.2
8	0	20	0	0	0	22	78	1.8	54	44	15	.9
9	0	20	0	0	0	25	115	1.8	45	42	18	0
10	0	20	0	0	0	40	75	10	58	39	12	0
11	2.0	20	0	0	0	80	38	18	70	44	13	0
12	2.0	20	0	0	0	100	34	26	55	50	14	0
13	3.0	20	0	0	0	100	32	50	60	38	26	0
14	3.0	20	0	0	0	80	26	53	65	25	21	0
15	3.0	26	0	0	0	50	24	42	60	8.5	15	0
16	3.0	22	0	0	0	40	23	31	56	13	9.1	0
17	3.0	22	0	0	0	35	23	30	53	9.1	6.7	0
18	7.5	23	0	0	.1	25	34	29	50	7.2	4.9	0
19	8.0	23	0	0	.2	25	50	47	47	7.2	8.5	0
20	8.5	20	0	0	.2	25	50	47	56	13	11	1.4
21	9.0	20	0	0	.2	25	6.5	47	68	12	7.0	3.6
22	9.0	20	0	0	.2	30	6.2	48	77	11	6.0	4.2
23	9.0	10	0	0	.2	40	6.0	48	86	11	20	4.7
24	9.0	5	0	0	2	40	2.6	42	85	9.7	3.6	6.5
25	9.0	5	0	0	5	45	1.3	35	84	8.8	2.1	7.0
26	9.0	5	0	0	5	45	0	41	80	10	2.1	3.6
27	9.0	5	0	0	5	45	.3	41	71	6.0	2.4	2.4
28	9.0	5	0	0	10	45	.6	41	74	8.8	1.8	1.2
29	9.0	5	0	0		45	.6	49	66	8.0	.8	.9
30	9.0	5	0	0		45	.5	57	44	4.9	.9	.9
31	9.0		0	0		50		57		3.8	1.9	
	142.0	496	5.0	0	28.1	1,199	901.6	902.0	1,968	746.0	319.7	43.4
AN	4.58	16.5	.16	0	1.00	38.7	30.1	29.1	65.6	24.1	10.3	1.45
E-T	282	984	9.9	0	56	2,378	1,788	1,789	3,903	1,480	634	86

Daily discharge, in second-feet, of

Chapman Canal at State line near Evanston, Wyoming

for the year ending September 30, 1946

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	8.3				0	59	48	38	.9		
2	.6	8.8				0	56	45	41	.2		
3	.5	8.8				0	59	45	38	.1		
4	.6	8.5				0	61	52	56	.1		
5	0	9.1				0	62	52	73	.1		
6	0	8.8				0	64	53	75	.1		
7	0	9.4				0	66	48	78	.1		
8	.4	10				0	63	44	77	.1		
9	.6	8.0				0	64	45	74	.1		
10	.4	8.0				0	75	49	71	.1		
11	.6	1.1				0	79	44	69	.1		
12	.6	.6				0	109	36	57	0		
13	.8	0				0	116	33	54	0		
14	1.1	0				0	129	35	52	0		
15	1.6	0				6	73	36	50	0		
16	1.8	0				6	77	38	48	0		
17	1.9	0				6	75	41	48	0		
18	1.6	0				6	78	47	48	0		
19	1.1	0				4	84	50	48	0		
20	.8	0				2	86	51	43	0		
21	.8	0				1	99	55	42	0		
22	1.6	0				0	87	60	36	0		
23	3.6	0				0	85	65	33	0		
24	4.0	0				0	78	66	31	0		
25	3.6	0				0	87	58	30	0		
26	3.6	0				0	84	49	26	0		
27	3.5	0				0	63	48	19	0		
28	4.0	0				0	59	49	9.1	0		
29	2.6	0				0	60	53	1.8	0		
30	3.3	0				1.9	55	52	1.8	0		
31	4.4					56		47		0		
	50.6	89.4	0	0	0	88.9	2,292	1,494	1,367.7	2.0	0	0

Y	1.63	2.98	0	0	0	2.87	76.4	48.2	45.6	.06	0	0
3-	100	177	0	0	0	176	4,550	2,960	2,710	3.9	0	0

GOVERNMENT PRINTING OFFICE 16-7139

YEAR 1946
 MEAN 14.8
 PERIOD 10,680
 ACRE-FOOT

PLATE 13

Daily discharge, in second-feet, of Chapman Canal at State line Near Evanston, Wyoming, for the year ending September 30, 19 47

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.2	22			0	23	24	6.5	61		0	0
2	.4	22			0	23	23	8.3	63		0	2.1
3	.6	22			0	23	24	10	60		0	0.4
4	1.4	10			0	24	22	27	67		0	0.7
5	1.9	0			0	24	19	78	48		0	0.4
6	5.3	0			0	24	18	65	47		0	0.2
7	8.3	0			0	24	17	64	50		0	0.1
8	10	0			0	24	16	62	73		0	0
9	12	0			0	24	18	64	107		0	0
10	14	0			0	24	18	54	120		0	0.1
11	7.5	0			0	24	18	47	118		0	0
12	9.1	2.9			0	24	17	39	127		1.0	0.2
13	9.4	3.8			0	23	17	69	124		2.1	0.5
14	10	6.0			0	22	20	118	97		1.6	0.6
15	11	6.7			0	20	22	97	86		1.5	0
16	8.0	4.4			0	19	23	87	77		1.4	0
17	13	1.4			0	17	22	90	86		1.2	0
18	14	0			0	16	21	63	101		.7	0
19	15	0			0	24	22	71	90		.2	1.6
20	14	0			0	56	20	72	95		0	2.4
21	17	0			0	47	22	74	92		1.4	2.4
22	20	0			0	45	44	79	15		3.3	2.2
23	21	0			10	48	45	80	17		2.4	0.7
24	21	0			23	36	42	76	16		2.1	0.6
25	20	0			23	27	35	70	17		1.5	0
26	21	0			23	24	32	75	15		0.9	0
27	22	0			23	22	33	76	11		0.8	0
28	25	0			23	23	32	84	6.0		0.1	0
29	27	0				26	8.8	80	2.1		0	0
30	24	0				29	7.2	61	0.5		0	0
31	21					30		60			0	

404.1 101.2 0 0 125 839 702.0 2,006.8 1,888.6 0 22.2 15.2

MEAN	13.0	3.37	0	0	4.5	27.1	23.4	64.7	63.0	0	.72	.51
RE- ET	802	201	0	0	248	1,660	1,390	3,980	3,750	0	44	30

9-211c 9-211c

Daily discharge, in second-feet, of **Chapman Canal at State line near Evanston, Wyoming**, for the year ending September 30, 19**48**

Day	Day
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.4	19			0	32	3.3	52	5.5		
2	0	1.5	21			0	44	3.1	61	1.3		
3	0	1.8	22			0	58	2.6	85	0		
4	0	1.6	22			0	54	2.2	82	0		
5	0	1.5	22			0	40	2.2	64	1.2		
6	0	1.6	16			0	36	2.4	58	.5		
7	0	1.5	0			0	29	2.4	59	.2		
8	0	17	0			0	26	2.6	65	0		
9	0	22	0			0	27	14	58	0		
10	0	13	0			0	44	24	44	0		
11	.5	24	0			0	41	27	46	0		
12	.5	27	0			0	35	26	41	0		
13	1.0	19	0			10	31	26	37	0		
14	1.0	20	0			15	38	30	30	0		
15	1.4	22	0			20	46	38	26	0		
16	1.4	28	0			20	63	57	26	0		
17	1.5	22	0			20	48	99	27	0		
18	1.5	27	0			20	76	94	27	0		
19	1.6	29	0			20	60	84	20	0		
20	1.6	23	0			23	57	79	13	0		
21	1.8	22	0			27	69	72	16	0		
22	1.8	22	0			30	77	66	48	0		
23	1.8	24	0			35	41	58	51	0		
24	1.6	24	0			40	20	59	52	0		
25	1.6	22	0			35	34	67	41	0		
26	1.8	23	0			32	44	62	29	0		
27	1.6	23	0			30	30	53	19	0		
28	1.4	24	0			42	16	48	17	0		
29	1.4	22	0			56	12	51	16	0		
30	1.2	21	0			23	3.8	58	9.7	0		
31	1.2		0			12		52		0		

29.2 530.9 122 0 0 510 1,231.8 1,264.8 1,219.7 8.7 0 0

AN	.94	17.7	3.94	0	0	16.5	41.1	40.8	40.7	.28	0	0
MEAN	58	1,050	242	0	0	1,010	2,440	2,510	2,420	17	0	0

MEAN
ACRE-
FEET

YEAR
OF
MEAN
ACRE-FEET 13.4
9,750

PLATE 15

Daily discharge, in second-feet, of Chapman Canal at State line near Evanston, Wyoming, for the year ending September 30, 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.4	} 3.5				0	85	90	32	1.6	
2	0	4.7					0	79	94	26	.9	
3	0	4.2					0	76	90	27	.7	
4	0	6.0					0	84	91	35	.6	
5	0	2.9					0	96	94	44	.2	
6	0	3.1	} 3.0				0	92	86	27	0	
7	0	1.6					0	88	90	16	0	
8	0	1.6					0	95	88	13	0	
9	0	3.3					0	82	96	12	0	
10	0	4.4					0	88	100	12	0	
11	0	8.5	} 2.5				0	121	106	11	0	
12	0	6.7					0	121	100	12	2.8	
13	0	5.5					0	119	74	12	3.5	
14	.5	4.7					0	115	61	10	2.1	
15	1.0	5.5					0	116	54	7.5	0	
16	2.1	4.4	} 2.0				0	121	54	4.7	0	
17	2.1	3.6					0	119	48	3.1	0	
18	1.5	.2					1.9	118	51	6.7	0	
19	1.9	0					.2	108	55	7.2	0	
20	1.2	.5					0	99	54	6.2	0	
21	.2	1.0	} 0				0	89	55	4.9	0	
22	.4	2.0					0	80	55	4.2	0	
23	0	2.5					6.0	69	57	3.8	0	
24	.1	3.0					30	0	61	3.1	0	
25	0	3.0					83	30	52	2.6	0	
26	.1	2.5				82	75	50	1.4	0		
27	1.6	2.5				83	80	52	.6	0		
28	2.9	2.5				83	81	48	.2	0		
29	4.0	3.0				88	94	41	.6	0		
30	4.4	3.0				92	101	36	2.6	0		
31	4.4						94		1.5	0		
	28.4	100.8	55.0	0	0	0	549.1	2,815	2,083	349.9	12.4	0

MEAN	.92	3.36	1.77	0	0	0	18.3	90.8	69.4	11.3	.40	0
CRE-EST	56	200	109	0	0	0	1,090	5,580	4,130	694	25	0

Daily discharge, in second-feet, of Chapman Canal at State Line near Evanston, Wyoming, for the year ending September 30, 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	20	0				0	5.8	62	34	6.0	0
2	0	20	0				0	5.8	58	36	4.4	0
3	0	20	.1				0	6.2	59	36	3.3	0
4	0	19	0				0	6.2	48	34	1.5	0
5	0	19	0				0	6.0	37	32	0	0
6	0	19	0				5.7	5.5	45	29	0	0
7	0	19	.9				12	5.5	56	30	0	0
8	0	18	.6				31	5.3	58	28	0	0
9	0	20	.5				48	5.1	38	30	0	0
10	0	20	.2				55	4.9	23	35	0	0
11	0	20	0				54	4.4	22	37	0	0
12	7.8	22	0				61	4.2	29	35	0	0
13	15	24	0				60	4.0	34	32	0	2.4
14	19	28	0				66	4.2	30	27	0	2.1
15	17	30	0				60	4.9	35	18	0	1.9
16	17	17	0				57	14	38	7.0	0	2.7
17	17	1.4	0				59	48	33	6.7	0	3.1
18	18	.9	0				58	62	30	4.7	0	1.1
19	23	.8	0				48	55	29	3.1	0	.6
20	27	.6	0				36	47	30	2.7	0	.9
21	26	.4	0				18	63	30	5.5	0	.6
22	26	.2	0				16	59	32	3.8	0	0
23	25	.5	0				12	69	30	2.1	0	0
24	27	.7	0				10	62	28	4.7	0	0
25	26	.8	0				8.5	69	27	5.3	0	0
26	26	.7	0				6.7	61	27	10	0	0
27	26	.7	0				6.5	49	28	8.3	0	0
28	24	.6	0				6.7	54	28	8.3	0	0
29	24	.2	0				6.7	66	28	9.1	0	0
30	22	.1	0				6.2	57	28	13	0	0
31	22		0					65		8.0	0	

434.8 343.6 2.3 0 0 0 808.0 978.0 1,080.0 575.3 15.2 15.4

MEAN	14.0	11.5	.07	0	0	0	26.9	31.5	36.0	18.6	.49	.51
ACRE- FEET	862	682	5	0	0	0	1,600	1,940	2,140	1,140	30	31

State of Wyoming



STATE ENGINEER'S OFFICE

Cheyenne

January 3, 1952

Mr. W. V. Iorns, Project Engineer
Geological Survey, Geological Survey
Water Resources Division,
Surface Water Branch, P.O. Box 413
Logan, Utah

Dear Mr. Iorns:

This is in reply to your letter of December 28, 1951, with reference to the Neponset Reservoir.

I have searched our files here and have not been able to find a copy of the report you mention entitled "Report to Bear River Compact Engineering Committee on Chapman Canal and Neponset Reservoir", dated August 22, 1951. I will very much appreciate having you prepare another copy for me.

I have examined the record of Permit No. 18 Enl., which is recorded in Book 1, Page 18 of Enlargements, and find no mention in same with reference to the Neponset Reservoir. There is a notation on this permit that it was canceled on the report of the Water Division Superintendent.

Permit No. 283 Enl. to which you refer is recorded in Book 2 on Page 156 of Enlargements. This permit is also endorsed "Canceled R.S.", and there is no mention in it of the Neponset Reservoir.

Permit No. 2577 Enl. is recorded in Book 10 of Enlargements on Page 93, and bears this endorsement:

"Approved so far as the jurisdiction of the State Engineer of Wyoming, extends, so as to protect the applicant, by making the diversion a matter of record, that there may be no question as to rights of the applicant when an Interstate Adjudication is had. The State Engineer of Wyoming recognizes the right of the applicant to divert the waters of Bear River in Wyoming for the irrigation of Utah lands, provided the proposed diversion is approved by the State Engineers of both States",

this as you will note in no manner infers that some of the water is to be stored in Neponset Reservoir. This permit has a priority of May 3, 1912, and is in good standing for lands irrigated prior to 1927.

No. 2573 Enl. includes the change

Mr. W. V. Iorns
Logan, Utah

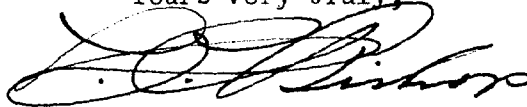
-2-

1-3-52

The map filed with Permit No. 2577 Enl. shows Neponset Reservoir with capacity of 8702 acre feet. However, the lands covered in the basin are shown as irrigable. We do not recognize this as an application for a permit.

If you would like to have copies of these permits, we will be glad to furnish them and the same pertains to the maps that accompany them.

Yours very truly,

A handwritten signature in cursive script, appearing to read "L. C. Bishop".

L. C. BISHOP
State Engineer

LCB:IC

Water Resources Division
Surface Water Branch
P. O. Box 413
Logan, Utah
Dec. 28, 1951

Mr. L. C. Bishop
State Engineer
Cheyenne, Wyoming

Dear Mr. Bishop:

With reference to the Neponset Reservoir, I furnished you at the Salt Lake City meeting of the Engineering Committee on Aug. 28, 1951, a report titled "Report to Bear River Compact Engineering Committee on Chapman Canal and Neponset Reservoir" dated Aug. 22, 1951. If you do not have a copy of this report, please inform me and I will have another one prepared for you.

On Page 5 of that report, there is the following statement: "State of Wyoming Permit No. 283 En dated Aug. 28, 1905 for enlargement of the Chapman Canal, contains data relative to the then proposed Neponset Reservoir, which was partially constructed shortly thereafter." If you could locate this old Permit, I believe it would bring to light some of the data you need in regards to the Neponset Reservoir rights.

Sincerely yours,

W. V. Iorns
Project Engineer

CHAPMAN CANAL LANDS

<u>Twn. & Rng.</u>	<u>Sec.</u>	<u>W.V.I. Report 8-22-51</u>	<u>Utah Adj.</u>	<u>Proposed to use for Wyoming Adj.</u>
8 N 7 E	36	12	12	12
	35	81	122	122
	32	152	128	152
	31	76*	139	139
	30	317	306	317
	29	247	218	247
	26	32	56	56
	25	219	194	194
	24	199	171	171
	21	23	6	23
	20	535	505	535
	19	201	194	201
	18	171	174	171
	17	605	619	605
	16	300	277	300
	15	5	4	5
	13	199	140	140
	12	176	171	171
	11	79	79	79
	10	315	289	315
9	461	405	405	
8	157	186	186	
4	509	408	408	
3	404	397	404	
2	17	17	17	
1	160	145	160	
9 N 7 E	36	64	72	64
	35	572	511	572
	34	208**	208	208
	33	0**	0	
	27	616	394	616
	26	351	294	351
	23	181	134	181
		<u>7,644</u> 7723	<u>6,975</u>	<u>7,527</u> 9543

* ~~Figure apparently wrong.~~

** Figures changed to conform to Utah Adjudication because Deseret L. & L. Co., does not own all lands included in original determination.

	Use Ac.	Bishop's original determination Ac.
Aug. 13	1886	6,467 1488
May 3	1912	297
May 21	1912	763
	<u>7,527</u> 1886	<u>6,227</u>
		<u>845</u> lands missed.
		7,062

Murphy Hollow in 7N 7E, 256 Ac. of ~~1,686~~ 1886 allowed in Utah Adjudication, but not included in these tabulations.