

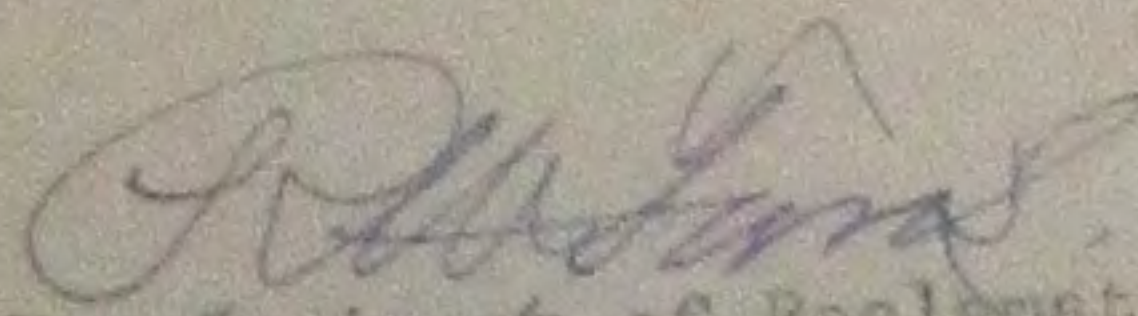
STATE OF IDAHO)
 (ss
COUNTY OF ADA)

I, R. W. FARIS, do hereby certify that I am the duly appointed, acting, and qualified Commissioner of Reclamation of the State of Idaho, and that as such Commissioner I am the legal custodian of the records of the said Department of Reclamation of the State of Idaho; and I FURTHER CERTIFY, That the foregoing is a full, true, and correct copy of:

REPORT ON WATER DISTRIBUTION AND HYDROMETRIC
WORK, DISTRICT No. 36, 1928, by G. CLYDE
BALDWIN, DEPUTY

as the same appears of record in the Department of Reclamation of the State of Idaho.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Reclamation of the State of Idaho at Boise-Idaho, this 27th day of January, 1932.


Commissioner of Reclamation

State of Idaho
H. C. BALDRIDGE, GOVERNOR
DEPARTMENT OF RECLAMATION
GEO. N. CARTER, COMMISSIONER

BOISE
April 20, 1929

TO HIS EXCELLENCY
H. C. BALDRIDGE
GOVERNOR OF IDAHO

Sir:

Following a policy now well established, the annual report of G. Clyde Baldwin, Watermaster of Water District No. 36, Snake river and Special Deputy, is transmitted to you. This is the tenth annual report for the water district which embraces the agricultural area watered by Snake river - some 900,000 acres of most productive land.

Idaho may well be proud of the system and methods developed for distribution of its waters within this watershed. A study of the report will disclose the character of the organization and the methods by which it functions.

Obviously, a very valuable service is being rendered to the people of that part of the state by Mr. Baldwin and his assistants and in all sincerity I bespeak for him and them the appreciation justly due.

Very respectfully,

GEO. N. CARTER
Commissioner of Reclamation



BALDRIDGE, GOVERNOR

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

GEORGE N. CARTER, COMMISSIONER
G. CLYDE BALDWIN, DEPUTY

WATER DISTRICT NO. 36

IDAHO FALLS, IDAHO.

April 9, 1929

Mr. George N. Carter,
Commissioner of Reclamation,
Boise, Idaho.

Dear Sir:

Again I have the pleasure of submitting an annual technical report covering regular water distribution and hydrometric operations in District No. 36 - the tenth consecutive one for which I have been responsible.

The 1928 irrigation season, to which this report pertains, was one of ample water supply. The yield of certain crops was slightly curtailed by unfavorable weather conditions at critical development periods but, in general, the harvest results were very satisfactory.

River administration involved no unusual difficulties and, except for differences of opinion between upper and lower valley users concerning the use of Jackson Lake storage, harmony prevailed throughout the District.

U. S. Geological Survey methods have been used as a standard for the collection and compilation of the hydrometric data which are presented herein. In this, in the recomputation of records since the close of the irrigation season and in other respects, the report is consistent with those which have been issued for the nine preceding years. In order to make this individual report reasonably complete in itself, some repetition of previous explanations has been unavoidable. References have been substituted, however, wherever practicable.

The so-called Normal Flow Fund was continued as a means of financing that portion of the work eventually paid for under the annual Water Master Bill. This fund was maintained during the past year through the advance of money by the Water Users Protector Association of the North Fork of Snake River and Tributaries, the Upper Snake River Water Users Protective Union, the Twin Falls Canal Company and the North Side Canal Company, Ltd.

Special acknowledgments are due to the North Fork Reservoir Company, the Idaho, Snake River Valley and New Sweden Irrigation Districts and the Aberdeen-Springfield Canal Company for gage readings and to the U. S. Bureau of Reclamation, the Twin Falls Canal Company and the North Side Canal Company, Ltd. for gage readings, results of current meter measurements and other data which were furnished without charge.

Work in the American Falls Reservoir basin was facilitated and duplication of effort avoided by reason of the careful planning of Thomas R. Newell.

Appreciation should again be accorded to you and to the members of the Water Users Committee of Nine of District No. 36 for continued cooperation and for advice and assistance which were freely given whenever required.

The conscientious service of the hydrographers, deputy water masters and other members of the regular organization must also be recognized and full credit be given for their part in the success of the year's operations.

C. A. McClelland, H. S. Kollenborn and Miss Helen George assisted materially in the preparation of this report and their work in this connection is gratefully acknowledged.

Respectfully yours,

Deputy.

WATER DISTRIBUTION AND HYDROMETRIC WORK

In District No. 36

1928

By G. Clyde Baldwin

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INTRODUCTION

At the annual meeting and election of Water District No. 36, which was held at Idaho Falls, Idaho on March 5, 1928, G. Clyde Baldwin was again elected to the position of Water Master and F. A. Miller, Ephraim Ricks, John W. Hart, W. O. Cotton, John E. Kelley, E. V. Berg, E. B. Darlington, T. M. Baird and R. E. Shepherd were selected as members of the Committee of Nine for the ensuing year.

Forty-eight canals entitled to 132,053 votes were represented in person or by proxy at this meeting. Harmony prevailed and the following report of the Resolutions Committee was unanimously adopted as the program or plan for 1928 river operation:

"Your committee have to recommend for the year 1928, water administration of Snake River, Water District No. 36, be had as follows:

I.

That from Jackson Lake (Moran) to Heise storage water shall be charged a transmission loss of $2\frac{1}{2}\%$, and in an attempt to establish conditions at Heise as nearly as practicable to pre-reservoir times, that storage water shall be charged a reasonable amount to cover lag and other causes of loss in return flow. Said amount to be repaid and returned to storage water interests before the close of the irrigation season, or before the storage water interests shall have exhausted their rights. It is understood that when a decreed right shall have been cut under river regulations that right shall not be reinstated until such time as its proportion of this amount shall have been repaid.

II.

That from Heise to Lorenzo Bridge a loss of 4.4% be charged storage water, it being understood that a measuring station will be maintained at or near Lorenzo.

III.

That from Lorenzo to Woodville a loss of 0.5% be charged storage water.

IV.

That from Woodville to Blackfoot a loss of 6% be charged to storage water.

V.

That there be a committee of three to carry on, during the year 1928, the study and investigation of the American Falls Reservoir and other questions growing out of the delivery of stored water below Blackfoot. The scope and extent of such study and investigation shall be fixed and determined by said committee and the entire expense of said work shall be paid by the American Falls Reservoir interests as apportioned by said committee. The membership of this committee shall consist of one member to be selected by the Minidoka Project, one member by the Twin Falls Canal Company and one member by the North Side Canal Company.

VI.

That the salary of the Water Master for the year 1928 be fixed at the same rate and paid him in the same manner as finally allowed for the year 1927 and that said Water Master shall select such assistants and in the same manner as practiced during 1927, and that the total expenditure for river administration be kept within the total expended for like services and administration as that of 1926. That the Water Master's bond be fixed at \$500.00 and his bond as Treasurer of the Normal Flow Fund be fixed at \$4,500.00.

VII.

As to further investigation of conditions on Snake River your committee feels that it should be empowered to take such action as in its judgment may be warranted and incur the necessary expense."

The following special resolutions likewise received unanimous approval:

I.

"WHEREAS, the people of Fremont and Madison counties on the North Fork of Snake River are seriously in need of an auxiliary water supply and for a number of years have diligently sought to secure permission to erect within the Yellowstone National Park a reservoir for the impounding of water to meet their needs, or to have eliminated from its boundary what is known as the Fall River Basin for the purpose of erecting such storage works, and

WHEREAS, investigation and surveys conducted for the purpose conclusively show that the needs of these people can be supplied from no other source, and

WHEREAS, there is a probability that action may be secured in the immediate future, and particularly so should the boundary lines of the said Park be changed, as it is understood that the same may, to conform to the natural boundaries,

NOW, THEREFORE, we the water users of District No. 36, Idaho, which comprises upward of four hundred miles in length along Snake River, in annual meeting assembled at Idaho Falls, Idaho, this 5th day of March, 1928, do hereby unanimously endorse the action and cause of the said citizens of Fremont and Madison counties, and do recommend that they be granted the right to either build a reservoir within the limits of said Yellowstone National Park in what is known as the Fall River Basin, or that the said area, the Fall River Basin, be eliminated from said Park boundary.

We further urge upon our members in Congress to use every available and consistent means to secure such permit or the elimination asked by the said people of Fremont and Madison counties.

And we do further request that the Chairman and Secretary of this meeting cause copies of this resolution to be prepared and forwarded to our members in Congress and to such officers and departments of Government as are charged with affairs of this character.

II.

WHEREAS, it has been reliably reported and appears as a fact that the Snake River between Heise and Lorenzo, in Idaho, threatens to leave its present channel and establish a new course across highly improved property and to wash out a new channel which would carry the waters of the stream east and south of Rigby, Idaho to a juncture with the main stream some eight or ten miles above Idaho Falls, and

WHEREAS, such a change in the course of the stream would leave canals upon the north side of the present river channel without a water supply, would destroy the usefulness of many costly irrigation structures, and otherwise cause great property damage and would even endanger the life and safety of many local residents.

NOW, THEREFORE, the water users of District No. 36 of the State of Idaho in annual meeting here assembled, authorize and direct the chairman of said meeting to appoint a special committee to investigate this condition and to prepare data that the matter may be properly presented and further direct that a resolution and

petition be thereupon drafted and endorsed by the chairman of this meeting as its act and deed for the purpose of (1) adequately presenting the facts (2) requesting the Federal Government to make immediate investigation and appropriation of funds to insure the protection from such threatened flood conditions, of property (including highways, irrigation systems, farms, etc.) and of the lives of people located within this menaced district."

The latter was followed by the appointment of J. H. Heath, N. A. Anderson, Wm. Meppen, J. E. Kelley, E. V. Berg, F. A. Miller, R. E. Shepherd, E. B. Darlington, and J. R. Bothwell as members of the Special Flood Prevention Committee.

Immediately after the adjournment of the general meeting the Committee of Nine organized for the year by reelecting John W. Hart as Chairman and John Lee as Secretary. Action to further the flood prevention work was also taken as indicated by the following quotation from the minutes:

"Moved by R. E. Shepherd and seconded by E. V. Berg that the matter of securing and assembling necessary data for the use of the special flood control committee be placed in the hands of the Upper Snake River Farmers Protective Union with cooperation from Water Master Baldwin and that the expense of this work up to a maximum of \$200.00 be paid by Water District No. 36.

Motion carried."

On March 31, 1928 the Committee of Nine met at Idaho Falls, considered the annual Water Master budget and approved same in the amount of \$14,705.40 as the estimated cost of all regular work properly chargeable against normal flow water users.

Other business of importance transacted at this time is summarized in the following extracts from the minutes of the meeting:

"Moved by W. O. Cotton and seconded by R. E. Shepherd that for the year ending March 31, 1929 each District No. 36 employee operating a car upon a mileage compensation basis be required at his own expense to carry both property damage and liability insurance on said car and that the latter shall provide for \$10,000 damage to one person or \$20,000 for one accident. Motion carried.

General discussion of the distribution of expense, as between the different classes of water users, followed. This involved, not only the segregation of costs between stored water and normal flow users, but also the methods adopted for subdividing the former between the different reservoirs and the advisability of providing for a cost analysis to afford a basis for more equitable future apportionments.

Moved by John E. Kelley and seconded by E. V. Berg that for the coming year \$510 and \$45 (based upon approximate average amounts paid during the five preceding years) be charged respectively against the Henrys Lake and Utah-Idaho Sugar Company reservoirs as their portion of stored water costs.

Moved by T. M. Baird and seconded by W. O. Cotton that for the year ending March 31, 1929 segregation of costs be made in the manner provided or indicated in the previously approved budget.* Motion carried."

On the afternoon of March 31, 1928, most of the members of the Committee of Nine went with the Special Flood Prevention Committee, Engineer J. H. Wilson, Water Master Baldwin and a few others to inspect conditions in the vicinity of the Lowder Slough heading and on April 21, 1928 a general meeting was held at Idaho Falls to discuss plans for preventing the threatened river channel change and resultant flood damages. The latter meeting seemed to favor control by Federal and State agencies with which the O. S. L. R. R., canal companies and others could cooperate.

*40% payable by stored and 60% by normal flow water users, except for those items chargeable in their entirety to State, Federal or American Falls Reservoir accounts.

Arrangements were later made for the continuance of the special study of gains and losses in the American Falls Reservoir Basin during 1928. A report describing this work in detail and summarizing the results thereof has just been completed by Thos. R. Newell, the engineer who conducted the investigation. To avoid unnecessary repetition, this report will only be referred to herein to the extent required to adequately explain the 1928 water segregation and distribution.

The general plan of work was almost identical with that of 1927. Preceding reports* afford detailed descriptions and should be read by those who desire information concerning the gradual evolution of the present system.

Funds for securing hydrometric data of a wide-spread interest character were again provided by the State of Idaho and the U. S. Geological Survey, while operations conducted primarily in connection with water distribution were sustained at the expense of normal flow and stored water users of the district.

Aside from the consolidation of the offices of Water Master and Special Deputy, first effected at the beginning of the 1923 season, the organization and division of work has changed but little since the cooperative, central office at Idaho Falls was initiated on a permanent basis in May, 1919.

*Water Distribution and Hydrometric Work in District No. 36, 1919; 1920; 1921; 1922; 1923; 1924; 1925; 1926 and 1927 by G. Clyde Baldwin.

Actual water deliveries, storage transmission via natural stream channels and other phases of river operation have been conducted each year in accordance with certain regulations and schedules usually adopted by the water users at the annual March election meeting. These regulations cover points on which the statutes and decrees are not sufficiently definite or concerning which available data are too incomplete to afford satisfactory basis for a single fixed method of procedure. Occasionally also, when unanimous consent has been secured, certain departures from statutory methods prescribed for water distribution have been authorized. The former reports of the Deputy State Commissioner of Reclamation, already referred to, should be consulted for further details or information concerning the changes in these regulations which were in force during former years.

Beginning in April and to an increasing extent during May, the hydrographers were engaged in the reestablishment of gaging stations on both canals and natural streams, the making of necessary minor repairs to station equipment and in securing measurements for the purpose of defining changes in rating which had occurred since the last previous records were secured. River riders and deputy water masters began work for the season on June 1, in accordance with the usual custom during all except deficient water supply years.

PERSONNEL

The personnel engaged in the work of distribution during the season of 1928 was as follows:

G. Clyde Baldwin	Deputy State Commissioner of Reclamation, Special Deputy in charge of Jackson Lake, Twin Lakes, Market Lake and American Falls Stored Water Delivery and Water Master of District No. 36.
Thos. R. Newell	Engineer, American Falls Reservoir investigation.
C. A. McClelland	Hydrographer.
H. S. Kollenborn	Hydrographer, Special Deputy in charge of Henry's Lake Stored Water Delivery and Deputy Water Master in charge of branch office at St. Anthony, Idaho.
Leo K. Homer	Hydrographer.
Leslie Bowen	Hydrographer.
R. F. Blanks	Hydrographer, American Falls Reservoir Basin.
Helen George	Clerk and office assistant, Idaho Falls Office.
Zella Hunter	" " " " , St. Anthony "
Bruno Albert	Deputy Water Master, Upper Fall River division.
T. W. Luetjen	" " " St. Anthony division.
David I. Gardner	" " " and hydrographer Teton River division.
Wm. Burton	" " " Swan Valley canals.
W. J. Kremar	" " " Heise division.
Wm. Sauer	" " " Rigby division.
J. W. Ensign	" " " Idaho Falls division.
E. E. Bingham	" " " Blackfoot division.
T. E. Culley	" " " Minidoka Dam.
W. N. McConnel	" " " and hydrographer at Milner Dam.
J. M. McGinn	Gate Tender, Henry's Lake Dam.
Joseph Markham	Superintendent, Jackson Lake Dam.
Frances W. Herre	Forwarding Agent, Ashton, Idaho.
Dana Templin	Resident Engineer, American Falls Dam.

Mrs. John Keppner, Harold Fuqua, Mrs. Irwin Siefert, W. H. Kremar, Mrs. Eva Frasure, J. A. Clough, A. J. Ayers and H. B. McComel, Gage Readers.

DESCRIPTIVE OUTLINE OF 1928 DISTRIBUTION

The monthly surveys of the snow accumulated on the area tributary to Jackson Lake, which have been made by Joseph Markham each winter beginning with 1920, indicated that the 1928 water supply would be about normal and probably ample to fill practically all irrigation demands.

MAP OF WATER DISTRICT No. 36

SHOWING PRINCIPAL STREAMS AND GAGING STATIONS



Scale 1 Inch = 24 Statute Miles.



REGULAR STATIONS

- 1 Jackson Lake at Moran Wyo.
- 2 Snake River near Moran Wyo.
- 3 Snake River near Heise Ida.
- 4 Great Feeder Canal near Ririe Ida.
- 5 Snake River at Lorange Ida.
- 6 Snake River near Shelley Ida.
- 7 Snake River near Blackfoot Ida. (Blackfoot Bridge)
- 8 Snake River at Clough's Ranch (formerly listed as near Blackfoot)
- 9 Snake River at Neeley Ida.
- 10 Lake Walcott near Minidoka Ida.
- 11 Snake River near Minidoka Ida.
- 12 North Side Minidoka Canal near Minidoka Ida.
- 13 South Side Minidoka Canal near Minidoka Ida.
- 14 Lake Milner at Milner Ida.
- 15 North Side Twin Falls Canal at Milner Ida.
- 16 South Side Twin Falls Canal at Milner Ida.
- 17 Snake River at Milner Ida.
- 18 Henrys Lake Reservoir near Lake Ida.
- 19 Henrys Fork near Lake Ida.
- 20 Henrys Fork near Ashton Ida.
- 21 Henrys Fork at St. Anthony Ida.
- 22 Henrys Fork near Rexburg Ida.
- 23 Fall River near Squirrel Ida.
- 24 Fall River near Chester Ida.
- 25 Teton River near St. Anthony Ida.
- 26 Blackfoot River near Blackfoot
- 27 American Falls Reservoir at American Falls Ida.
- 28 Snake River at American Falls Ida.

AUXILIARY STATIONS

- A Snake River at South Boundary Yellowstone Park.
- B Henrys Fork at Warm River Ida.
- C Warm River at Warm River Ida.
- D Robinson Creek at Warm River Ida.
- E Portneuf River at Pocatello Ida.
- F Snake River at Robertson Ranch.



Run-off during April was somewhat retarded by cool weather but increased rapidly with the higher temperatures noted during May. Peak stages for the year were reached on the larger streams about the end of the latter month. In fact had the unusual hot weather continued for a slightly longer time, considerable flood damage would undoubtedly have resulted in a number of localities.

With the largest hold-overs of record in both Jackson Lake and American Falls Reservoirs at the close of the 1927 season there was early assurance that each could easily be filled to capacity in advance of the 1928 draft period. Large quantities of storable run-off were therefore wasted during the winter and spring months and both reservoirs were operated in such a way as to very materially reduce the peak discharges at lower river points.

The normal stream flow sufficed to fill the demands for water until July 10 when all canals were ordered cut to record rights and the first storage was released.

Diversions under permit and license rights as well as under some of the youngest decrees ceased on July 13.

Thereafter rights were regulated in accordance with the following schedule:

July 24	Out off rights having a priority date subsequent to	Mar. 26, 1903
" 31	" " " " " " " " " " " "	Oct. 11, 1900
Aug. 4	" " " " " " " " " " " "	Apr. 15, 1898
" 12	" " " " " " " " " " " "	July 9, 1896
" 13	" " " " " " " " " " " "	June 14, 1895
" 15	" " " " " " " " " " " "	Feb. 6, 1895
" 29	Reinstated rights having a priority date earlier than	June 14, 1895
" 30	" " " " " " " " " " " "	Apr. 15, 1898
" 31	" " " " " " " " " " " "	Oct. 11, 1900
Sept. 1	General regulation terminated for the season.	

Attention should be called to the fact that both cuts and reinstatements, as previously listed, apply particularly to upper valley canals. These, as a rule, were regulated slightly later than canals below American Falls, due largely to the attempt which was made to make some allowance for the so-called lag as provided in Paragraph 1 of the 1928 river operation program (See page 1).

The Committee of Nine was again called together at Idaho Falls on August 23, 1928. The following quotations from the minutes of this meeting serve to outline conditions pertaining at that time together with the plans agreed upon for terminating the season's work:

"Mr. Baldwin stated that following the receipt of replies to his letter describing the damage to the Lorenzo and Blackfoot Bridge gaging stations by reason of 1928 high water, the cable equipment at the former had been salvaged and stored. The Blackfoot Bridge station was being operated during the low water period when measurements could be secured by wading but was not suitable for other use. After some discussion it was deemed advisable to postpone action concerning possible reestablishment of these or substitute river gaging stations, pending the availability of additional ground water information or more urgent need.

Chairman Hart stated that the principal purpose of the meeting was to arrange for the termination of river regulation and the corresponding reduction of field work and expense. At his request Mr. Baldwin outlined the situation briefly and recommended that the services of most of the deputy water masters be ended on August 31. He explained that while it had been necessary to cut off normal flow rights having a priority date subsequent to February 6, 1895, the demands of practically all of the canals were being supplied either from normal flow or from storage and no appreciable increase in diversions was to be anticipated should regulation cease. Stored water supplies seemed to be ample for all requirements including hold-overs. Upper valley canals had ordered from 300 to more than 500 second-feet of Jackson Lake storage, which they did not expect to divert, simply for the purpose of holding up the river stage. With the continued release of enough stored water (about 2,000 second-feet at present) to maintain a flow of a few hundred second-feet past

Blackfoot he thought all requirements could be met without lowering Jackson Lake below a capacity of 500,000 acre-feet and without damage to lower valley interests. Likewise the proposed reduction in personnel would result in lessening total expenditures by about \$1500.00.

Moved by F. A. Miller and seconded by E. V. Berg that the proposal to discontinue 1928 regulation after August 31 and to continue river operation for the balance of the season under the plan outlined by the water master be approved. Motion carried."

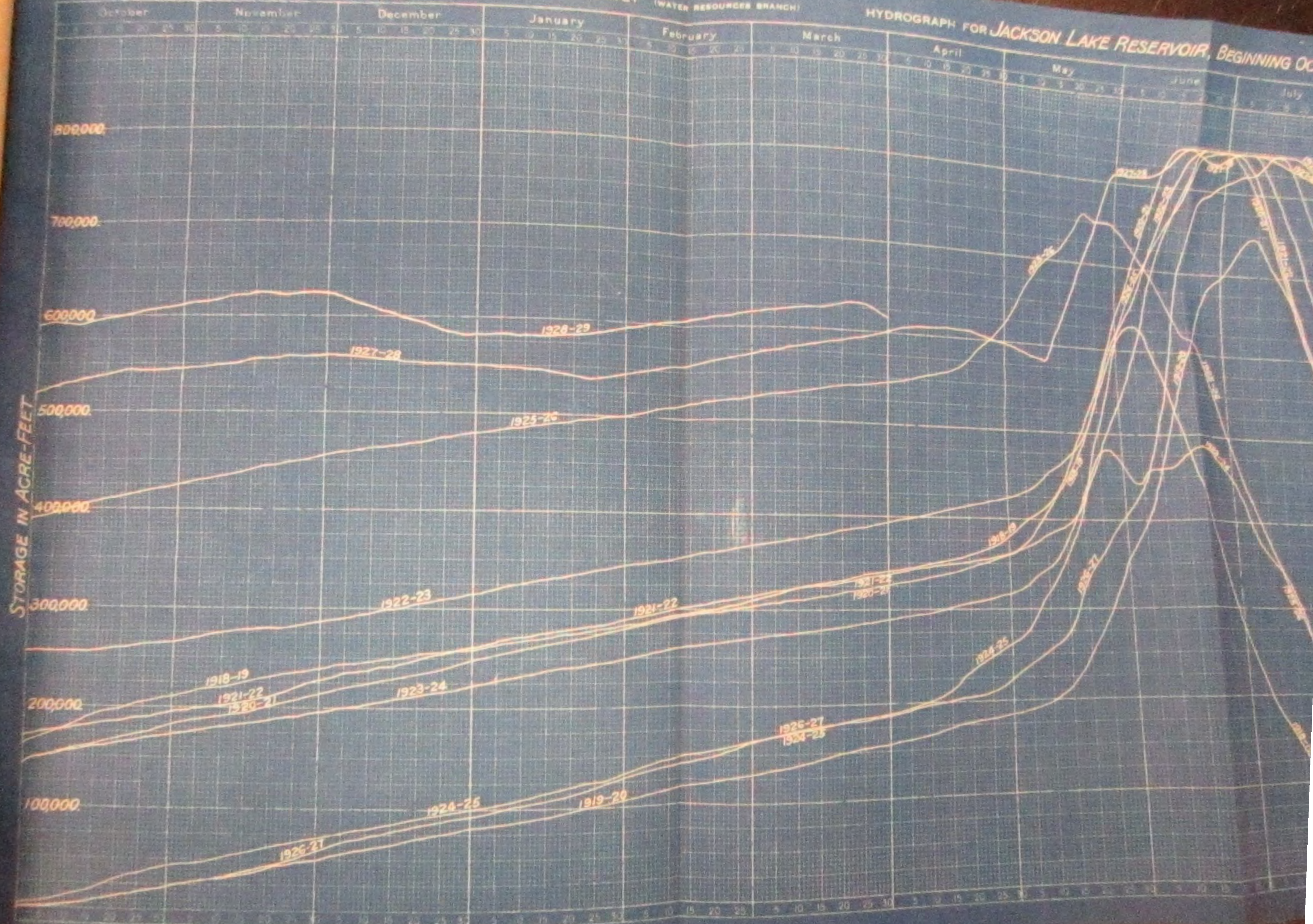
While the execution of this plan undoubtedly resulted in the unauthorized diversion of a small amount of storage in the upper valley section during September, the loss was immaterial because of the large hold-overs remaining in all principal reservoirs at the end of the month.

Draft upon Jackson Lake Reservoir ceased on September 27 with 588,610 acre-feet of stored water still impounded. This amount exceeds the former record hold-over of September, 1927 by 85,290 acre-feet and is more than past history indicates to be necessary to insure the filling of the reservoir to capacity in advance of the next year's demand.

Plate II illustrates graphically the manner in which Jackson Lake was filled and drawn down during the period from October 1, 1918 to March 31, 1929. All graphs are plotted on the basis of 1919 capacity tables. (See 1925 and earlier reports for similar graphs covering the period from November 15, 1914 to September 30, 1918).

Because of the fact that all Lower Valley canals asked to have their 1928 storage requirements filled primarily from the American Falls Reservoir, a much larger draw down was noted here than in 1927 and the hold-over at the end of the season was proportionately less.

HYDROGRAPH FOR JACKSON LAKE RESERVOIR, BEGINNING OCT



HYDROGRAPH FOR JACKSON LAKE RESERVOIR, BEGINNING OCT. 1-1918



October 1 was the last day on which it was necessary to release stored water at American Falls in order to supply these canals but the Idaho Power Company, beginning September 18, demanded water under their primary right and when this was exhausted continued draft under their secondary right during October and part of November.

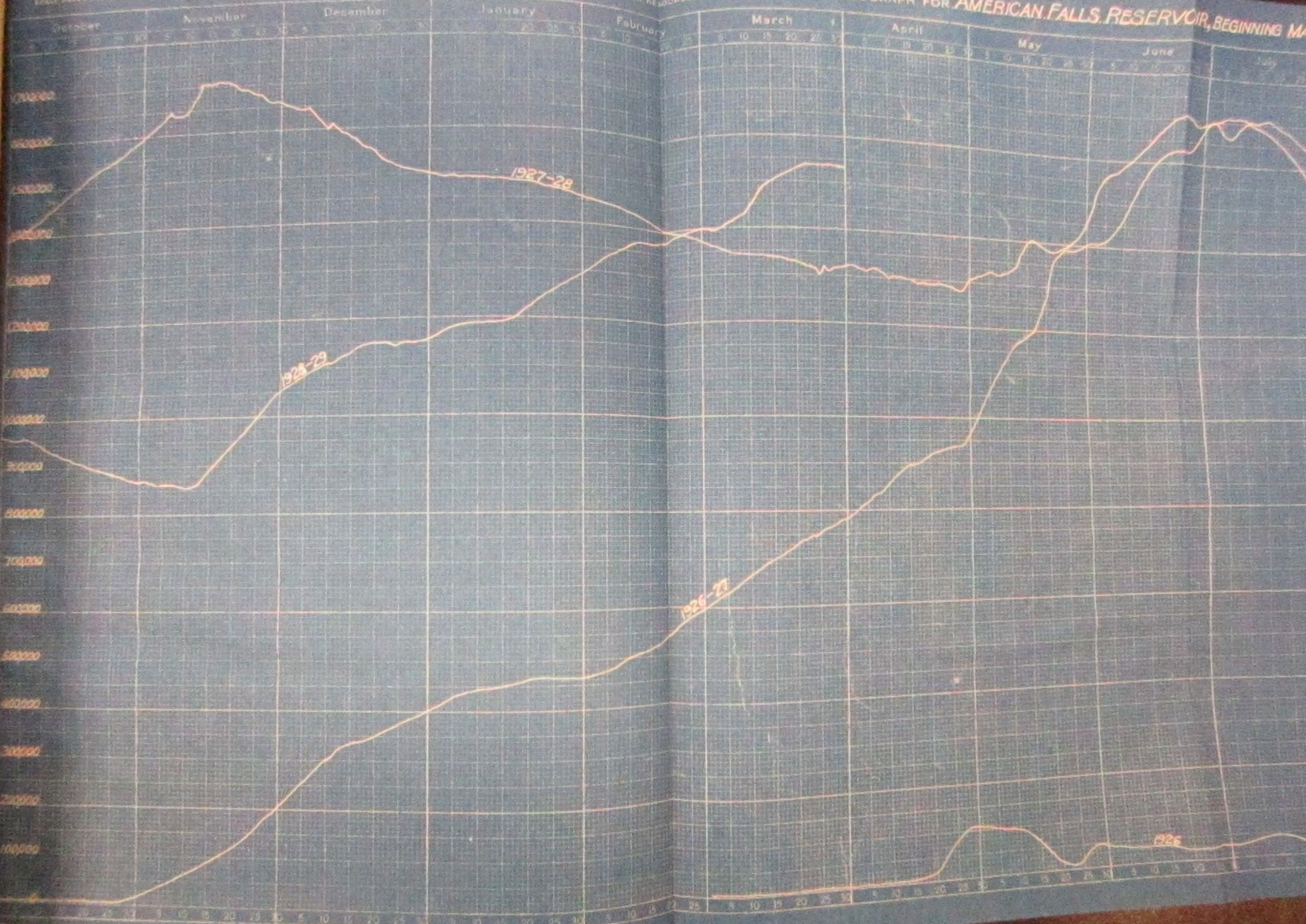
Plate III shows graphs for the American Falls Reservoir covering the period from March 1, 1926 to March 31, 1929, which are similar to those for Jackson Lake which have already been explained.

WATER SUPPLY

If the comparison of annual run-off at the Moran and Neeley gaging stations which has been included in the eight preceding reports, is extended to include the year ending September 30, 1928 the data may be summarized as follows:

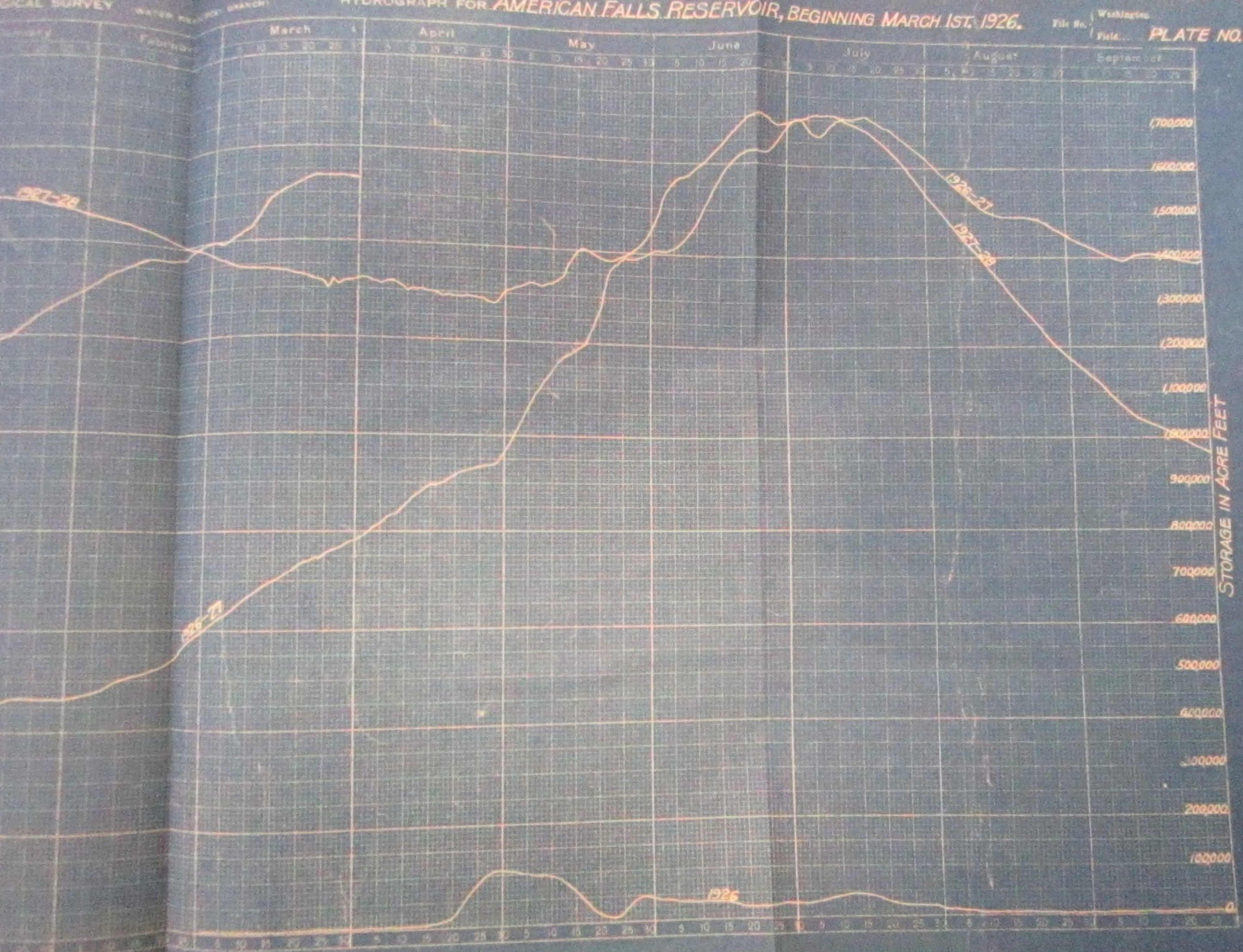
Station	Mean annual run-off for 25 years ending September 30, 1928	Run-off for year ending September 30, 1928	% of Mean
Moran	1,116,000	1,331,000	119.3
Neeley	6,531,000	6,743,000	103.2

In this tabulation all Moran records beginning with the year 1910 have been corrected to take account of the storage in Jackson Lake which has been held over from one climatic year to another. Neeley records, on the other hand, represent actual totals measured at the gaging station except during the last three years of the period when adjustments have been made to take into account the American Falls Reservoir hold-overs. Variations in the amount diverted for irrigation, as well as in the quantity of inflow entering between the two stations, also affect the Neeley comparisons. If dependable corrections could be



HYDROGRAPH FOR AMERICAN FALLS RESERVOIR, BEGINNING MARCH 1ST, 1926.

Washington, D.C. File No. ... Field No. ... **PLATE NO. III**



computed to cover all these different factors, their application to the Neeley data would undoubtedly make the records at the latter station more consistent with those at Moran. This has not been attempted because the development of such corrections from the data available would be difficult, if not almost impossible, and for the further reason that total annual run-off is often not a true measure of summer water supply.

Additional information concerning the latter together with comparisons showing the relative normal flow supply and use by months will be found in a subsequent portion of this report and in the tables on Plate XV.

Attention is directed to the fact that whereas the total annual run-off at the Moran station was about six per cent less than that of the preceding year, at Neeley it was about four per cent greater. During both of these years the Neeley records, when compared to the 24 or 25 year average, show materially lower run-off than do those for Moran. Since the American Falls Reservoir was filled to capacity for the first time in 1927 and since it was maintained at fairly high stage during most of the year ending September 30, 1928 it appears reasonable to assume that part of these apparent discrepancies can be attributed to (1) ground storage in areas adjacent to the reservoir in 1927 (2) increased evaporation losses during both years attributable to the materially larger exposed water surfaces. No attempt will be made in this discussion to show the quantitative effect of these items but the reader is referred to the reports of Thos. R. Newell* for further data.

*Segregation of Water Resources, American Falls Reservoir Basin, 1927 and 1928.

STORAGE VERSUS FLOOD WATER DIVERSIONS

No appreciable conflict between the right to store water under State permits and the direct flow use under prescriptive or non-record rights occurred during the 1928 season.

DOMESTIC WATER

The practice first inaugurated in 1920 of making no allowance of water for domestic or culinary use to canals whose entire rights had become invalidated, was again continued.

The available stored water supply was more than sufficient to make up all deficiencies and was obtainable upon a seasonal purchase basis at very reasonable terms. One sale of 2,000 acre-feet at \$0.10 per acre-foot and a few of smaller amounts at unknown prices constituted the total of such transactions for the year.

TRANSFERS AND EXCHANGES

The written protest against the temporary transfer of water or the exchange of normal flow for storage which was filed on March 7, 1927 by the Fall River Irrigation Company and others was orally renewed for the 1928 season and in consequence neither of these practices was permitted. (See page 13 of the 1927 report for ruling by the State Commissioner of Reclamation).

The low river stages resulting from the failure of lower valley canals to draw upon their Jackson Lake storage to any great extent brought about rather acute situations for a number of canals having poor river headings. In a few of these cases where crops were endangered by reason of inability to divert a full quota of water from the river,

authority was granted under Section 5563 of the Idaho Compiled Statutes to utilize surplus capacity in neighboring canals to effect a more complete usage of valid rights. In no instance, however, was permission given to use water so diverted upon any land to which it was not legally appurtenant.

In accordance with the practice of previous years diversion of normal flow from Fall River in lieu of storage released from Henry's Lake and Jackson Lake Reservoirs was again allowed as provided for in Section 5560 of the Idaho Compiled Statutes. Under present conditions it is only through substitutions of this character that stored water can be delivered to any canal heading in Fall River and similar procedure must be followed to effect delivery of Jackson Lake water to canals heading in Henry's Fork or Teton River. In neither instance can such substitutions be permitted unless the normal flow balances at critical points are in excess of the desired delivery, for if this were not true, intervening canals would be deprived of water to which they were legally entitled. During 1928, for example, the normal flow right of the Enterprise Irrigation District whose supply canal heads in Fall River, became invalid at a time when Henry's Fork was practically dry below the Consolidated Farmers canal heading. The Jackson Lake storage owned by this District could not be delivered under these circumstances, hence it was necessary to arrange for a temporary supply from Henry's Lake and later to repay this loan to the owner canals at a time when the normal flow balance at the Consolidated Farmers heading was large enough to permit its exchange for Jackson Lake storage.

LITIGATION

On November 1, 1928 a decision was rendered by the Supreme Court of the State of Idaho sustaining the validity of the transfer of 40 second-feet of water from the Long Island to the Farmers Friend canal. This transfer was originally granted on March 14, 1925 over protests from a number of different canal companies. Thereafter, in an action entitled Twin Falls North Side Canal Company et al versus Cora B. Shippen et al, cancellation or annulment of the transfer was sought. On July 9, 1925 the case was tried in the Court of the Ninth Judicial District at Rigby, Idaho where the transfer was affirmed. The recent decision was on the appeal from the action of the lower court. This case has generally been considered as a test of the legality of all similar water transfers but as it appears to have been contested rather more upon the theory of abandonment of the right than upon the question of injury to other water users, the final decision is perhaps not as conclusive as might be desired.

During the past year the case of the Twin Falls Canal Company versus George N. Carter, et al has been remanded to the jurisdiction of the State courts and a complaint in intervention has been filed on behalf of Guy Dixon and others similarly situated (settlers on the first segregation of the Twin Falls North Side Land and Water Company which is now included in the Hillsdale Irrigation District). In addition to various demurrers, a motion for change of venue has recently been filed by the defendants and argued before the court. On February 26, 1929 Judge Wm. A. Babcock of the Eleventh Judicial District, before whom the case was being tried, ruled that he was disqualified, hence did not hand

down any decision on the latter motion. (See page 14 of the 1927 report for the earlier history of this case).

Further progress is understood to have been made toward the settlement, by stipulated agreement, of the Woodville or "High Water Decree" case.

With these exceptions there has been practically no change in the status of such pending litigation as pertains to the administration of Water District No. 36 and no new proceedings of general interest have been initiated during the year.

CANAL DELIVERIES

The amount of water diverted daily through each canal heading in Snake River* during the period from June 1 to September 30, 1928 is shown on Plates IV, V, VI and VII.

Following the practice inaugurated in the 1919 report, except for a few of the smaller canals where estimates were used, all data were recomputed prior to their presentation herein. This practice affords opportunity to more thoroughly analyze the records at each station than is possible in the limited time available during the field season. Wherever changes in rating have been noted, either because of the growth of vegetation, variation of checks or for any other reason, all meter measurements, notes and other information have been carefully reviewed to the end that the final computed data may represent the most reasonable interpretation of these changes.

*By a decision of the Board of Geographic Names the stream known locally as South Fork of Snake River is considered to be the upper portion of the main stream and given no other designation than Snake River.

DAILY DATESABLE IN SECOND FEET OF CANALS DIVERTING FROM SNAKE RIVER FOR JULY 1928.

Table with columns for canal names and 30 daily measurements (1-30) and a TOTAL column. Rows include various canal names such as WILSON, BUCKLEY, and MINIDOKA CANALS, along with summary rows for different regions like BUTTE & MARKET LAKE and TWIN FALLS CANALS.

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM SNAKE RIVER FOR AUGUST 1928.

Table with columns for canal names and 31 numbered columns representing daily discharge in second feet. Rows include various canal names such as WILSON, BUTTE & MARKEY LAKE, and MINIDOKA CANALS, ending with a TOTAL row for each group.

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM CHURCH RIVER FOR SEPTEMBER 1928

Table with columns for canal names and daily discharge values from 1st to 30th, plus a total column. Rows include various canal names like 'RESERVATION', 'BLACKFOOT', 'SMITH-MAZWELL', etc.

particularly as regards time. On days when more than one stage has been observed mean discharges have been recorded. Daily summaries showing the total diversions between river gaging stations have also been included.

River riders were employed continuously from June 1 to August 31 and for this period records are based upon daily gage readings at each station. September discharges depend upon less regular and generally less frequent readings with data for intervening dates supplied through interpolation or by estimates.

No river water passed the dam or barrier near the head of the slough from which the Morgan and Rostan canals divert after June 15, 1928, hence these two small diversions were neither measured nor regulated during the remainder of the season.

Laterals which divert from several of the canals above the main gaging stations are, in these tables, in each case included with the flow in the main canal.

The canals are listed by divisions, each of which represents the territory covered by a deputy water master or river rider. The canals of each division, in general, are shown in down stream order.

Attention should perhaps be directed to the fact that the Aberdeen-Springfield has, in former reports, been usually designated as the American Falls Canal. Some water was diverted through this system (according to the manager, nearly ten per cent of the measured totals during August and September) for the benefit of land normally supplied by the Peoples canal. Likewise the Riverside quantities include a

portion of the Trego rights. These variations from the ordinary procedure have already been explained on Pages 14-15 of this report.

RIVER DATA

The extensive tables found on Plates VIII and IX summarize data in regard to total flow, normal and stored water segregation, diversions, losses and gains for each section of the river between Jackson Lake and Milner.

These tables are prepared upon the following time interval

basis:

Time from Jackson Lake In Hours	Gaging Station	Period used for comparable daily means.
0	Jackson Lake and Moran	Day ending at 4 a. m.
24	Heise	Day ending at 4 a. m. 1st day following
28	Lorenzo and Rexburg	Day ending at 8 a. m. 1st day following
42	Woodville	Day ending at 10 p. m. 1st day following
50	Blackfoot Bridge	Day ending at 6 a. m. 2nd day following
54	Blackfoot (Cloughs)	Day ending at 10 a. m. 2nd day following
66½	American Falls	Day ending at 10:30 p. m. 2nd day following
68	Neeley	Day ending at 12 midnight 2nd day following
92	Minidoka	Day ending at 12 midnight 3rd day following
116	Milner	Day ending at 12 midnight 4th day following.

This schedule is the same as the one adopted for the nine preceding years except that for American Falls 66 hours was used as the time from Jackson Lake during 1926. While not exactly correct for all stages of the river, the intervals listed are believed to be

Table with columns: DATE, JACKSON LAKE (GAGE, CAPAC ACFT, DRAFT ACFT), MORAN (GAGE, DISCH, STOR, NOR), DATE 1928, HEISE (GAGE, DISCH, RILEY, STD, NOR), MORAN-HEISE (Tot. Gn., Loss STD, GAIN NOR), LORENZO STORED, HEISE TO LORENZO LOSS STD, REXBURG (GAGE, DISCH, REXBURG), HEISE RILEY, REXBURG, DATE 1928, DIV HEISE-WOOD (TOTAL, STD, NO). Rows are numbered 1-30 for each month from May to October.

R GAGING STATIONS FROM JACKSON LAKE, WYOMING TO MILNER, IDAHO.

RIV.	BL. BR. CLOUGH THER. BAL.	CLOUGHS				BL. BR. CLOUGH GAIN	WOOD BLACK RIVER	DIVERS WOOD CLOUGH	WOOD-CL.		DATE	AMERICAN FALLS				MEAS. INFLOW CL-N.	COMP. INFLOW CL-N.	NEELEY				CLOUGH NEELEY GAIN	DATE	LAKE WALCO	
		GAGE	DISCH.	STOR.	NOR.				THER. BL. CLOUGH	TOTAL GAIN		GAGE	CAPAC. AC. FT.	DRAFT AC. FT.	DRAFT SEC. FT.			GAGE	DISCH.	STOR.	NOR.			GAGE	CAPAC. AC. FT.
1E		1228	32190		32190		34832	2643	32187		JUN 2	35119	1519240	-25830	13023	1376	2675	8.92	20940		20940	1773		4518	97350
9		1177	29790		29790		33269	2630	30589	-799	3	5157	1539470	-20230	10199	1377	2676	8.92	20940		20940	1349		4520	97350
7		1074	25070		25070		28447	2765	25682	-612	4	5182	1552780	-13310	6710	1400	2707	8.69	19810		19810	1450		4518	97350
95		1009	22170		22170		25885	3011	22874	-704	5	5200	1562360	-9580	4830	1395	2700	8.46	18710		18710	1370		4518	97350
160		926	18610		18610		22790	3182	19608	-998	6	5211	1568340	-5980	3015	1385	2687	8.07	16900		16900	1305		4510	96390
86		847	15380		15380		19206	3256	15950	-570	7	5216	1571050	-2710	1366	1348	2637	7.71	15300		15300	1286		4512	96450
49		841	15150		15150		18499	3231	15268	-118	8	5231	1579210	-8160	4114	1341	2628	7.04	12500		12500	1464		4510	96390
5		806	13790		13790		17405	2740	14665	-875	9	5248	1588440	-9230	4653	1332	2616	6.57	10670		10670	1593		4514	96650
29		774	12590		12590		15819	2759	13060	-470	10	5263	1596590	-8150	4109	1343	2631	6.57	10670		10670	2189		4518	96370
126		762	12150		12150		15546	2860	12686	-536	11	5280	1605830	-9240	4659	1384	2685	6.40	10030		10030	2539		4521	97350
182		734	11160		11160		14002	2675	11327	-167	12	5294	1613440	-7610	3837	1478	2811	6.25	9490		9490	2167		4521	97720
295		732	11790		11790		14195	2540	11655	135	13	5312	1623330	-9890	4936	1531	2881	6.25	9450		9450	2646		4518	96370
406		795	13380		13380		15386	2468	12918	462	14	5335	1636040	-12710	6408	1598	2971	6.26	9450		9450	2478		4521	97720
370		799	13530		13530		15880	2343	13537	-7	15	5357	1648200	-12160	6131	1637	3023	6.26	9420		9420	2021		4521	97720
419		765	12260		12260		14759	2350	12409	-149	16	5376	1658710	-10510	5299	1619	2999	6.26	9380		9380	2419		4521	97720
372		744	11510		11510		13522	2406	11116	394	17	5395	1669210	-10500	5294	1614	2992	6.27	9380		9380	3164		4521	98000
352		763	12330		12330		14332	2403	11929	401	18	5414	1679820	-10610	5349	1640	3027	6.27	9380		9380	2899		4521	98500
509		809	14020		14020		15929	2357	13572	448	19	5435	1691590	-11770	5934	1635	3020	6.43	10140		10140	2054		4521	98500
574		817	14410		14410		16494	2198	14296	114	20	5448	1698880	-7290	3675	1607	2983	7.23	13070		13070	2335		4521	98500
618		829	14910		14910		17148	2154	14394	-84	21	5456	1703360	-4480	2259	1578	2944	7.63	14740		14740	2089		4521	97240
607		845	15580		15580		17347	1905	15442	138	22	5461	1706160	-2800	1412	1594	2965	7.93	16050		16050	1882		4521	97370
385		854	16020		16020		17535	1814	15721	299	23	5461	1706160	0	0	1565	2927	8.37	18050		18050	2030		4514	96270
303		869	16660		16660		18413	1857	16556	104	24	5458	1704480	1630	347	1507	2849	8.63	19480		19480	1973		4518	96750
234		871	16820		16820		19564	1903	17661	-841	25	5450	1700000	4480	2259	1468	2797	9.04	21240		21240	2161		4509	96630
113		850	15970		15970		18643	2292	16351	-381	26	5435	1691590	8410	4240	1428	2744	9.23	22200		22200	1990		4502	96270
23		801	14040		14040		17173	2758	14415	-375	27	5425	1685990	5600	2823	1406	2715	8.48	18520		18520	1657		4500	96430
9		769	12830		12830		16209	3103	13106	-276	28	5428	1687670	-1680	847	1381	2681	7.33	13440		13440	1457		4507	96030
66		740	11780		11780		15366	3413	11948	-168	29	5435	1691590	-3920	1976	1388	2691	6.75	11120		11120	1316		4518	96990
89		683	9840		9840		13509	3513	9996	-156	30	5438	1693270	-1680	847	1397	2703	6.62	10590		10590	1597	JUL 1	4513	96750
110		678	9680		9680		12170	2793	9377	303	1	5443	1696080	-2810	1417	1414	2725	6.62	10590		10590	2327		4513	96750
194		683	9840		9840		11984	2446	9538	302	2	5447	1698320	-2240	1129	1400	2707	6.62	10590		10590	1879		4512	96630
305		679	9710		9710		11905	2364	9541	169	3	5450	1700000	-1680	847	1388	2691	6.63	10630		10630	1767		4511	96510
324		698	10330		10330		12194	2150	10044	286	4	5455	1702800	-2800	1412	1405	2713	6.63	10630		10630	1712		4508	96750
352		714	10880		10880		13312	2698	10614	266	5	5464	1707840	-5040	2541	1418	2731	6.46	9990		9990	1651		4503	97960
257		666	9290		9290		12707	3151	9556	-266	6	5470	1711200	-3360	1694	1488	2824	6.42	9850		9850	2254		4509	96480
170		622	7960		7960		11280	3140	8140	-180	7	5469	1710640	560	283	1490	2827	6.47	10030		10030	1787		4502	97040
174		632	8250		8250		11474	3492	7982	268	8	5469	1710640	0	0	1433	2751	6.47	10030		10030	1780		4500	96030
249		638	8430		8430		11969	3595	8374	56	9	5471	1711760	-1120	565	1473	2804	6.42	9850		9850	1985		4514	96280
270		592	7120		7120		10820	3630	7190	-70	10	5471	1711760	0	0	1442	2763	6.34	9560		9560	2440		4509	97280
46		528	5540	-143	5683		9026	3402	5624	-84	11	5461	1706160	5600	2823	1415	2727	6.33	9530	1120	3410	1167		4504	10800
9		492	4750	-362	5112		8229	3356	4873	-123	12	5452	1701120	5040	2541	1397	2703	6.32	9490	1675	7315	2199		4503	99740
8		502	4960	232	4728		8468	3402	5066	-106	13	5444	1696640	4480	2259	1400	2707	6.32	9490	2055	7435	2271		4506	99540
16		515	5250	163	5087		8826	3432	5394	-144	14	5437	1692710	3930	1981	1407	2716	6.32	9490	1687	7803	2259		4506	99540
17		504	5010	121	4889		8477	3293	5184	-174	15	5429	1688230	4480	2259	1398	2704	6.32	9490	1897	7593	2221		4504	99240
18		505	5030	234	4796		8438	3354	5084	-54	16	5421	1683750	4480	2259	1395	2700	6.31	9450	1954	7496	2161		4501	98740
41		488	4670	131	4539		8191	3402	4789	-119	17	5413	1679260	4490	2264	1386	2688	6.29	9380	2153	7227	2446		4501	98740
15		453	3970	88	3882		7365	3362	4003	-33	18	5401	1672540	6720	3380	1363	2657	6.28	9350	2811	6539	2000		4500	98400
9		433	3590	26	3564		7029	3426	3603	-13	19	5388	1665340	7200	3630	1370	2667	6.27	9310	3079	6231	2090		4501	98400
9		417	3300	296	3004		6769	3424	3345	-45	20	5375	1658160	7180	3620	1391	2695	6.27	9310	3611	5699	2390		4504	98740
4		395	2920	362	2558		6334	3393	2941	-21	21	5360	1649860	8300	4185	1379	2679	6.26	9280	4043	5237	2175		4502	97240
4		360	2360	189	2171		5494	3130	2364	-4	22	5344	1641020	8840	4457	1360	2653	6.25	9240	4416	4824	2423		4502	97240
15		340	2070	290	1780		4885	2752	2133	-63	23	5326	1631070	9950	5016	1360	2653	6.24	9200	4767	4433	2114		4505	96740
13		308	1650	155	1495		4383	2613	1770	-120	24	5307	1620560	10510	5299	1371	2668	6.24	9200	5037	4163	2251		4501	96740
4		285	1380	411	969		3984	2468	1516	-136	25	5287	1609640	10920	5505	1371	2668	6.24	9200	5563	3637	2315		4500	96740
6		268	1200	0	1200		3846	2465	1381	-181	26	5266	1598220	11420	5758	1368	2664	6.23	9170	5306					

LAKE WALCOTT				NS MIN CAN.		SS MIN CAN.		NS+SS MIN CAN.		MINID. THEO. BAL.	MINIDOKA				NEELEY MINID. LOSS	DATE 1928	LAKE MINID. GAGE	PA LAT.		NSTF CAN.		PAT NSTF CAN.		S.S.T.F. CA.				
	GAGE	CAPAC. AGFT	DRAFT SEIFT	GAGE	DISCH.	GAGE	DISCH.	TOTAL	STD.	NOR.		GAGE	DISCH.	STOR.	NOR.			GAGE	DISCH.	GAGE	DISCH.	TOTAL	STD.	NOR.	GAGE	DISCH.	STOR.	
28	4518	97350	-181	984	1620	581	1040	2660		2660	18099	1038	18430		18430	-331	JUN 4	1088	196	57	874	3100	3167		3167	1027	3540	
4	4520	97590	-121	982	1620	581	1040	2660		2660	18159	1018	17650		17650	509	8	1098	196	57	878	3100	3177		3177	1029	3540	
5	4518	97350	121	982	1620	581	1040	2660		2660	17271	989	16530		16530	741	6	1094	196	57	875	3100	3167		3167	1027	3540	
6	4512	96630	363	979	1610	582	1040	2650		2650	16423	950	15060		15060	1363	7	1099	196	57	880	3130	3167		3167	1027	3540	
7	4510	96390	121	979	1610	584	1040	2650		2650	14371	891	12940		12940	1431	8	1099	195	57	878	3120	3177		3177	1027	3540	
8	4510	96390	0	980	1610	584	1040	2650		2650	12650	H.O.	11480		11480	1170	9	1098	195	57	878	3120	3177		3177	1027	3540	
9	4512	96630	-121	982	1620	584	1040	2660		2660	9719	731	7770		7770	1949	10	1097	195	57	877	3110	3167		3167	1023	3510	
10	4514	96870	-121	981	1610	579	1030	2640		2640	7909	732	7800		7800	109	11	1102	195	57	881	3140	3127		3127	1024	3400	
11	4518	97350	-242	933	1490	570	1000	2490		2490	7938	730	7740		7740	198	12	1099	195	57	876	3110	3147		3147	982	3260	
12	4521	97720	-187	897	1390	563	986	2376		2376	7467	713	7250		7250	217	13	1096	195	57	879	3120	3177		3177	996	3350	
13	4521	97720	0	863	1310	557	969	2279		2279	7211	710	7160		7160	51	14	1097	195	57	878	3120	3177		3177	1002	3330	
14	4513	96750	489	812	1180	545	937	2117		2117	7822	711	7190		7190	682	15	1093	195	57	877	3110	3167		3167	1008	3420	
15	4520	97590	-424	790	1130	534	907	2037		2037	6989	708	7110		7110	-121	16	1101	194	56	872	3090	3146		3146	1018	3480	
16	4519	97470	61	792	1130	530	897	2027		2027	7454	716	7340		7340	114	17	1096	194	56	872	3090	3146		3146	1022	3510	
17	4525	98200	-368	792	1130	514	855	1985		1985	7027	717	7370		7370	-343	18	1098	194	56	872	3090	3146		3146	1026	3530	
18	4529	98680	-242	793	1140	505	832	1972		1972	7166	731	7770		7770	-604	19	1096	194	56	871	3080	3136		3136	1018	3460	
19	4528	98560	61	792	1130	506	835	1965		1965	7476	749	8310		8310	-834	20	1100	193	56	873	3080	3146		3146	1016	3470	
20	4524	98080	242	792	1130	506	835	1965		1965	8417	846	11390		11390	-2973	21	1102	193	56	874	3100	3156		3156	1031	3560	
21	4522	97840	121	791	1130	506	835	1965		1965	11226	894	13040		13040	-1814	22	1096	193	56	870	3080	3136		3136	1024	3520	
22	4520	97590	126	790	1130	523	879	2009		2009	12857	936	14550		14550	-1693	23	1102	193	56	873	3090	3146		3146	1029	3430	
23	4514	96870	363	796	1140	544	934	2074		2074	14339	992	16650		16650	-2311	24	1102	193	56	H.O.	2380	2386		2386	1028	3420	
24	4513	96750	61	812	1180	550	950	2130		2130	15981	1025	17920		17920	-1939	25	1082	H.O.	51	H.O.	767	818		818	1006	3410	
25	4512	96630	61	839	1250	556	967	2217		2217	17324	1048	18820		18820	-1496	26	1100	DRY	0	865	3090	3090		3090	1009	3430	
26	4509	96270	181	900	1400	568	999	2399		2399	19022	1086	20340		20340	-1318	27	1100	H.O.	0	863	3080	3089		3089	1008	3420	
27	4502	95430	424	949	1530	573	1010	2540		2540	20084	1029	18080		18080	2004	28	1094	194	56	868	3080	3136		3136	1020	3490	
28	4500	95180	126	972	1590	574	1020	2610		2610	16036	860	11870		11870	4166	29	1102	195	57	863	3080	3137		3137	1027	3540	
29	4507	96030	-429	978	1600	578	1030	2630		2630	10381	749	8310		8310	2071	30	1102	195	57	864	3080	3137		3137	1028	3540	
30	4510	96390	-181	979	1610	587	1050	2660		2660	8279	737	7950		7950	329	JUL 1	1103	194	56	866	3090	3146		3146	1029	3550	
31	4513	96750	-182	980	1610	589	1060	2670		2670	7738	742	8100		8100	-362	2	1099	194	56	864	3080	3136		3136	1027	3540	
2	4513	96750	0	978	1600	590	1060	2660		2660	7930	745	8190		8190	-260	3	1100	195	57	864	3080	3137		3137	1028	3540	
3	4512	96630	61	976	1600	589	1060	2660		2660	7991	741	8070		8070	-79	4	1101	195	57	866	3090	3147		3147	1029	3550	
4	4511	96510	61	978	1600	591	1060	2660		2660	8031	739	8010		8010	21	5	1100	194	56	862	3070	3126		3126	1028	3540	
5	4513	96750	-121	978	1600	587	1050	2650		2650	7859	710	7160		7160	699	6	1080	194	56	848	3070	3126		3126	1018	3480	
6	4523	97960	-610	975	1600	583	1040	2640		2640	6740	695	6740		6740	0	7	1106	195	57	869	3180	3237		3237	1030	3560	
7	4529	98680	-363	977	1600	584	1040	2640		2640	6847	711	7190		7190	-343	8	1102	194	56	867	3170	3226		3226	1029	3550	
8	4532	99040	-181	H.O.	1160	582	1040	2200		2200	7649	726	7630		7630	19	9	1104	195	57	869	3180	3237		3237	1032	3570	
9	4530	98800	121	906	1420	580	1030	2450		2450	7701	725	7600		7600	101	10	1100	194	56	868	3180	3236		3236	1033	3580	
10	4534	99280	-242	935	1490	582	1040	2530		2530	7078	690	6600		6600	478	11	1102	194	56	868	3180	3236		3236	1040	3620	
11	4539	99880	-302	974	1590	586	1050	2640		2640	6618	693	6680		6680	-62	12	1105	194	56	868	3180	3236		3236	1039	3610	
12	4540	100010	-66	978	1600	588	1060	2660	250	2410	6804	695	6740	740	6000	64	13	1100	194	56	867	3160	3216	216	3000	1039	3610	
13	4538	99760	126	977	1600	589	1060	2660	845	1815	6956	695	6740	740	6000	216	14	1103	194	56	866	3150	3206	206	3000	1038	3610	
14	4536	99520	121	977	1600	590	1060	2660	934	1726	6951	695	6740	1031	5709	211	15	1102	194	56	864	3120	3176	467	2709	1036	3590	
15	4536	99520	0	976	1600	590	1060	2660	857	1803	6830	695	6740	740	6000	90	16	1102	193	55	867	3130	3185	185	3000	1037	3600	
16	4534	99280	121	976	1600	590	1060	2660	934	1726	6951	696	6770	903	5867	181	17	1106	194	56	867	3120	3176	309	2867	1038	3610	
17	4531	98920	181	977	1600	591	1060	2660	934	1726	6971	696	6770	1000	5770	201	18	1094	194	56	860	3090	3136	346	2770	1033	3580	
18	4531	98920	0	975	1600	590	1060	2660	934	1726	6720	692	6660	1159	5501	60	19	1096	194	56	861	3090	3146	645	2501	1034	3580	
19	4530	98800	61	976	1600	590	1070	2670	944	1726	6741	695	6740	1927	4813	1	20	1098	194	56	863	3100	3156	1343	1813	1036	3590	
20	4527	98440	181	975	1600	593	1080	2680	954	1726	6811	696	6770	2265	4505	41	21	1106	194	56	871	3140	3196	1691	1505	1040	3620	
21	4524	98080	181	976	1600	594	1090	2690	964	1726	6801	692	6660	2687	3973	141	22	1104	194	56	867	3120	3176	2203	973	1041	3630	
22	4522	97840	121	977	1600	584	1070	2670	944	1726	6731	692	6660	3149	3511	71	23	1101	194	56	862	3090	3146	2635	511	1038	3610	
23	4520	97590	126	976	1600	585	1070	2670	1246																			

DATE	LAKE INST. CAN.				S.S.T.F. CANAL				MILNER L.L. CAN.				MILNER				MINI MILNER GAIN	
	GAGE	VAL	STD.	NOR.	GAGE	DISCH.	STOR.	NOR.	GAGE	DISCH.	STOR.	NOR.	MILNER THEO. BAL.	GAGE	DISCH.	STOR.		NOR.
28	4518	57		3157	1027	3540		3540	243	108		108	11625	1440	10970		10970	- 656
1/3	4520	57		3177	1029	3550		3550	243	108		108	10815	1365	9840		9840	- 975
4	4518	57		3157	1027	3540		3540	243	108		108	9700	1288	8840		8840	- 860
5	4512	57		3187	1030	3560		3540	271	133		133	8171	1038	6040		6040	- 2131
6	4510	57		3177	1027	3540		3540	281	142		142	6087	1027	5920		5920	- 167
7	4510	57		3177	1025	3530		3540	274	136		136	4634	694	2510		2510	- 2124
8	4512	57		3167	1023	3510		3530	278	139		139	950	594	1600		1600	- 650
9	4514	57		3197	1004	3400		3510	282	143		143	1060	644	2050		2050	- 990
10	4518	57		3167	982	3260		3400	282	143		143	1176	625	1870		1870	- 694
11	4521	77		3177	996	3350		3260	276	137		137	582	587	1540		1540	- 958
12	4521	77		3177	1002	3380		3350	280	141		141	473	582	1500		1500	- 1027
13	4513	67		3167	1008	3420		3380	268	130		130	474	504	924		924	- 450
14	4520	66		3146	1018	3480		3420	274	129		129	374	579	1480		1480	- 1106
15	4519	66		3146	1022	3510		3480	260	110		110	574	554	1280		1280	- 706
16	4525	76		3146	1026	3530		3510	261	110		110	582	642	2030		2030	- 1448
17	4529	86		3136	1015	3460		3530	263	112		112	1060	664	2230		2230	- 1170
18	4528	76		3146	1016	3470		3460	265	114		114	1584	867	4220		4220	- 2636
19	4524	56		3156	1031	3560		3470	260	110		110	4557	1047	6140		6140	- 1583
20	4522	36		3136	1024	3520		3560	268	117		117	6267	1164	7430		7430	- 1163
21	4520	46		3146	1009	3430		3520	268	117		117	7857	1325	9310		9310	- 1453
22	4514	86		2386	1008	3420		3430	267	116		116	10728	H.D.	12190		12190	- 1462
23	4513	18		818	1006	3410		3420	266	115		115	13577	1608	14070		14070	- 493
24	4512	90		3090	1009	3430		3410	264	120		120	12180	1596	13830		13830	- 1650
25	4509	89		3089	1008	3420		3430	278	139		139	13692	1550	12940		12940	- 752
26	4502	36		3136	1020	3490		3420	279	140		140	11314	1068	6380		6380	- 4934
27	4500	37		3137	1027	3540		3490	279	140		140	5054	750	3050		3050	- 2004
28	4507	37		3137	1028	3540		3540	279	140		140	1493	452	625		625	- 868
29	4510	46		3146	1029	3550		3540	199	70		70	1184	600	1650		1650	- 466
30	4513	36		3136	1027	3540		3540	282	139		139	1285	609	1730		1730	- 445
1/1	4513	37		3137	1028	3540		3540	276	134		134	1379	593	1590		1590	- 211
2	4512	47		3147	1029	3550		3540	276	134		134	1239	603	1680		1680	- 441
3	4511	26		3126	1028	3540		3540	276	134		134	1210	553	1270		1270	- 60
4	4513	26		3126	1018	3480		3480	276	134		134	420	301	143		143	- 277
5	4523	37		3237	1030	3560		3560	276	134		134	- 191	392	369		369	- 560
6	4529	26		3226	1029	3550		3560	275	133		133	281	502	912		912	- 631
7	4532	37		3237	1032	3570		3570	276	134		134	689	575	1440		1440	- 751
8	4530	36		3236	1033	3580		3580	276	134		134	650	364	281		281	- 369
9	4534	36		3236	1040	3620		3620	276	134		134	- 390	215	43		43	- 433
10	4539	36		3236	1039	3610		3610	273	131		131	- 297	208	38		38	- 335
11	4540	16	216	3000	1039	3610	610	3000	280	136	136	0	- 222	222	48	48	0	270
12	4538	06	206	3000	1038	3610	610	3000	284	137	137	0	- 213	204	35	35	0	248
13	4536	76	467	2709	1036	3590	590	3000	284	137	137	0	- 163	198	32	32	0	195
14	4536	85	185	3000	1037	3600	600	3000	285	138	138	0	- 183	200	33	33	0	216
15	4534	76	309	2867	1038	3610	610	3000	284	137	137	0	- 153	415	455	455	0	608
16	4531	36	366	2770	1033	3580	580	3000	285	138	138	0	- 84	178	23	23	0	107
17	4531	146	645	2501	1034	3580	580	3000	285	138	138	0	- 204	172	20	20	0	224
18	4530	156	1343	1813	1036	3590	590	3000	284	137	137	0	- 143	168	19	19	0	162
19	4527	126	1691	1505	1040	3620	620	3000	284	137	137	0	- 183	182	24	24	0	207
20	4524	176	2203	973	1041	3630	630	3000	287	140	140	0	- 286	182	24	24	0	310
21	4522	146	2635	511	1038	3610	610	3000	286	139	139	0	- 235	H.D.	203	203	0	438
22	4520	146	2746	400	1039	3610	610	3000	280	134	134	0	- 210	179	23	23	0	233
23	4515	156	2756	400	1039	3610	610	3000	290	136	136	0	- 242	179	23	23	0	265
24	4512	156	2756	400	1040	3610	610	3000	294	134	134	0	- 330	182	24	24	0	354
25	4509	166	2766	400	1040	3610	610	3000	294	134	134	0	- 310	180	23	23	0	333
26	4502	166	2766	400	1039	3600	600	3000	295	135	135	0	- 221	H.D.	230	230	0	451
27	4496	146	2746	400	1038	3590	590	3000	294	134	134	0	- 270	190	28	28	0	298
28	4491	126	2726	400	1034	3560	560	3000	295	135	135	0	- 281	182	24	24	0	305
29	4488	166	2782	384	1037	3580	703	2877	296	136	136	0	- 282	190	28	28	0	310
30	4479	026	2648	378	1027	3510	672	2838	294	134	134	0	- 100	180	23	23	0	123
31	4484	085	2718	367	1041	3590	838	2752	294	134	134	0	- 129		209	209	0	338
1/1	4487	085	2738	347	1040	3580	980	2600	H.D.	89	89	0	- 154		265	265	0	419
2	4483	085	2748	337	1040	3580	1051	2529	DRY	0	0	0	- 95		88	88	0	183

DAILY SUMMARY OF DATA AT AND BETWEEN SNAKE RIVER

Table with columns: GAGE, DISCH, RILEY, DATE, DIV. HEISE-WOOD, WOODVILLE, LOR-WOOD, HEISE-WOODVILLE, DIV. WOOD-BL BR., BLACKFOOT BR., WOOD-BL BR., CUM. LOSS. Includes data for 1928 and 1929.

GAGING STATIONS FROM JACKSON LAKE, WYOMING TO MILNER IDAHO.

NO. - BL. BR.	L. STD.	G. N. NO.	CUM. LOSS STD.	CORR. APPL. STD.	SMITH MAX. GAN.	BLACK RIV.		CLOUGHS				BL. BR. CLOUGH THER. BAL.	WOOD BL. BR. RIV.	DIVERS WOOD. CLOUGH	WOOD-CLOUGH		DATE 1928	AMERICAN FALLS				MEAS. INFLOW CL-N.	COMP. INFLOW CL-N.	GAGE	
						GAGE	DISCH.	DISCH.	STOR.	NOR.	THEO. CL.				TOTAL GAIN	GAGE		CAPAC. AC.FT.	DRAFT AC.FT.	DRAFT SEC.FT.					
3	27	86			0	5.17	63	372	2.01	638	425	213	129	3763	3078	625	- 47	AUG 3	355078	1497600	12380	6342	1377	2676	6.24
3	33	70	79	79	0	5.45	106	352	2.06	672	446	226	226	3676	3021	666	17	4	5055	1435560	12640	6070	1372	2669	6.25
7	27	48	71	8	0	5.47	110	535	2.01	638	425	213	129	3643	3078	565	107	5	5032	1473520	12040	6070	1396	2701	6.22
7	24	61	- 37	108	0	5.54	123	602	2.06	672	479	193	193	3643	3073	733	101	6	5008	1460950	12570	6337	1384	2685	6.29
7	17	44	- 297	260	0	6.10	236	760	2.28	834	524	193	193	3643	3078	565	107	7	4935	1449050	11900	6000	1387	2659	6.22
8	19	137	- 543	246	0	5.98	211	750	2.20	772	539	233	233	3711	3079	632	140	8	4942	1437220	11330	5964	1400	2707	6.20
8	22	55	- 666	123	0	5.71	156	618	2.05	665	462	203	203	3576	2991	525	80	9	4941	1426420	10800	5446	1416	2726	6.05
1	21	52	- 721	55	0	5.13	59	437	1.84	533	378	155	155	3329	2923	406	127	10	4917	1414080	12340	6221	1411	2721	6.16
7	25	18	- 613	- 108	0	4.52	13	294	1.62	416	281	135	135	3083	2782	301	115	11	4893	1401810	12270	6186	1396	2701	6.18
9	16	- 55	- 475	- 62	0	5.21	66	263	1.47	347	197	150	150	2954	2729	225	144	12	4868	1389200	12610	6358	1386	2688	6.15
3	37	- 66	- 88	- 387	0	5.64	136	322	1.61	411	186	225	225	2966	2632	334	13	13	4843	1376390	12610	6358	1401	2708	6.20
3	43	- 40	426	- 514	0	5.41	94	253	1.51	365	159	206	206	3076	2651	425	- 14	14	4818	1363390	12600	6362	1415	2727	6.21
6	11	- 65	426	0	0	5.52	113	288	1.47	347	175	172	172	3084	2748	336	29	15	4793	1351440	12550	6327	1436	2755	6.19
0	15	- 65	426	0	0	5.87	182	419	1.65	431	237	194	194	3223	2859	364	- 17	16	4767	1338570	12870	6489	1428	2744	6.22
3	23	- 40	426	0	0	5.73	154	508	1.80	510	354	156	156	3432	2933	499	- 68	17	4742	1326200	12370	6237	1404	2712	6.21
3	29	- 64	426	0	0	5.53	115	570	1.92	581	455	126	126	3444	2873	571	- 61	18	4717	1313820	12380	6242	1393	2697	6.22
3	31	- 72	426	0	0	5.44	99	588	1.97	612	489	123	123	3445	2782	663	- 82	19	4692	1301510	12310	6206	1398	2704	6.22
5	32	- 33	426	0	0	5.31	78	572	1.97	612	494	118	118	3449	2758	691	- 79	20	4668	1289230	11680	5889	1393	2697	6.15
7	23	- 78	426	0	0	5.37	87	450	1.84	533	363	170	170	3428	2791	637	- 25	21	4644	1278140	11690	5824	1409	2719	6.17
3	17	- 116	426	0	0	5.06	48	314	1.58	337	266	131	131	3417	2866	551	- 18	22	4619	1265960	12180	6141	1399	2705	6.22
6	15	- 91	426	0	0	4.85	31	270	1.51	365	239	126	126	3318	2871	447	- 50	23	4594	1253330	12130	6116	1391	2695	6.22
6	15	- 81	426	0	0	5.02	44	275	1.47	347	231	116	116	3241	2865	376	- 11	24	4568	1241360	12470	6287	1428	2744	6.25
10	25	- 35	426	0	0	5.41	94	484	1.78	499	390	109	109	3384	2843	371	- 24	25	4542	1228890	12470	6287	1460	2787	6.28
12	40	72	426	0	0	5.79	166	794	2.27	827	628	199	199	3606	2844	762	- 65	26	4518	1217380	11510	5803	1497	2836	6.25
13	42	65	20	406	0	6.65	345	1404	2.92	1450	1059	391	391	4045	2664	1381	69	27	4496	1206870	10510	5299	1550	2907	6.20
20	28	8	- 864	884	0	6.73	362	1691	3.18	1770	1329	441	441	4242	2531	1711	59	28	4474	1196510	10360	5223	1562	2923	6.27
3	21	- 104	- 2060	1196	0	6.57	328	1847	3.35	2000	1519	481	481	4548	2576	1972	28	29	4453	1186620	9890	4986	1522	2869	6.30
7	47	- 114	- 2981	921	0	6.43	299	1953	3.47	2170	1684	516	516	4719	2605	2114	56	30	4434	1177670	8950	4512	1519	2865	6.26
6	53	- 63	- 3669	688	0	6.40	293	1893	3.36	2010	1600	410	410	4563	2544	2019	- 9	31	4416	1169190	8480	4275	1524	2872	6.25
6	40	- 86	- 4449	780	0	5.86	180	1581	3.12	1700	1401	299	299	4230	2523	1707	- 7	SEPT 1	434397	1160280	8910	4492	1513	2857	6.24
6	33	- 68	- 5040	591	0	5.70	148	1337	2.92	1450	1189	261	261	3968	2525	1443	7	2	4378	1151520	8760	4417	1492	2829	6.13
3	38	- 55	- 5505	465	0	5.43	97	1163	2.74	1260	1066	194	194	3777	2521	1256	4	3	4359	1142760	8760	4417	1490	2827	6.06
4	38	- 86	- 5803	298	0	4.62	16	912	2.51	1030	896	134	134	3566	2530	1036	- 6	4	4338	1133080	9680	4880	1443	2764	6.08
3	38	- 45	- 5945	142	0	Est.	4	743	2.28	834	739	95	95	3354	2528	826	8	5	4317	1123400	9680	4880	1420	2733	6.02
2	38	16	- 5863	- 82	0	Est.	2	519	2.02	645	517	128	128	3052	2511	541	104	6	4296	1113760	9640	4860	1413	2724	5.92
7	45	- 112	- 6474	- 389	0	Est.	7	320	1.73	472	313	159	159	2967	2490	477	- 5	7	4274	1103840	9920	5001	1400	2707	5.89
10	52	42	- 4976	- 498	0	4.65	18	333	1.63	421	315	106	106	2828	2485	343	78	8	4252	1093320	9920	5001	1410	2720	5.89
24	52	106	- 4454	- 522	0	4.68	20	309	1.62	416	289	127	127	2720	2465	255	161	9	4231	1084450	9470	4774	1413	2724	5.86
27	58	25	- 3832	- 622	0	5.25	70	354	1.67	441	284	157	157	2790	2463	327	114	10	4210	1074980	9470	4774	1418	2731	5.81
29	72	43	- 3617	- 815	0	5.36	86	391	1.72	467	305	162	162	2856	2436	420	47	11	4189	1065630	9350	4714	1432	2749	5.80
29	71	62	- 2270	- 747	0	5.29	75	448	1.82	522	373	149	149	2865	2408	457	65	12	4170	1057260	8370	4220	1463	2791	5.73
24	71	47	- 1645	- 625	0	5.50	110	601	2.08	685	491	194	194	2970	2345	625	60	13	4153	1049780	7480	3771	1496	2835	5.58
24	72	106	- 1146	- 499	0	6.10	230	852	2.42	951	622	329	329	3190	2372	818	133	14	4139	1043620	6760	3106	1502	2843	5.40
28	71	99	- 780	- 366	0	6.28	268	1021	2.64	1160	753	407	407	3358	2365	993	167	15	4128	1038780	4940	2440	1544	2899	5.28
31	71	92	- 448	- 332	0	6.16	242	1028	2.71	1230	786	444	444	3452	2445	1007	223	16	4119	1034810	3970	2002	1555	2913	5.27
32	71	49	- 164	- 284	0	6.05	219	1042	2.74	1260	823	437	437	3489	2425	1064	196	17	4110	1030850	3960	1997	1550	2907	5.26
30	50	0	- 218	54	0	5.74	156	1001	2.72	1240	845	395	395	3446	2395	1051	189	18	4101	1026890	3960	1997	1532	2883	5.26
39	56	175	- 164	- 54	0	5.61	130	959	2.58	1100	829	271	271	3180	2340	840	260	19	4089	1021730	3160	2602	1561	2921	5.26
4	56	170	- 124	- 40	0	5.37	87	926	2.52	1040	839	201	201	3077	2265	812	228	20	4076	1016150	5580	2813	1584	2912	5.44
13	56	149	- 70	- 54	0	5.31	78	906	2.49	1010	828	182	182	3058	2245	813	197	21	4063	1010570	5580	2813	1560	2920	5.43
41	56	137	- 1	- 69	0	5.30	77	890	2.47	995	813	182	182	3037	2228	809	186	22	4050	1004990	5580	2813	1563	2924	5.43
44	56	150	39	- 90	0	5.39	91	876	2.46	986	785	201	201	2991	2209	782	204	23	4037	999410	5580	2813	1562	2923	5.46
45	56	151	201	- 112	0	5.50	110	874	2.43	959	764	207	207	2970	2191	779	180	24	4024	993830	5580	2813	1563	2924	5.26
13	49	92	249	- 48	0	5.48	106	824	2.39	925	718	207	207	2946	2165	781	144	25	4012						

NEELEY

NEELEY			CLOUGH NEELEY GAIN	DATE 1928	LAKE WALCOTT			NS MIN.G.		SS MIN.G.		NS+SS MIN CAN.			MINIDOKA				NEELEY MINID LOSS	DATE 1928	LAKE MILWA GAGE	PALATER.		NOTE CAN.	TOTAL	STOR.	NO.	
NSCH.	STOR.	NOR.			GAGE	CAPAC. ACFT.	DRAFT SECF.	GAGE	DISCH.	GAGE	DISCH.	TOTAL	STD.	NOR.	MINID THEO. BAL.	GAGE	DISCH.	STD.				NOR.	GAGE					DISCH.
200	6311	2389	2220	AUG 4	4489	93900	-353	891	1380	585	1070	2350	2450	0	6397	643	6320	3431	2889	77	AUG 5	1096	194	55	810	3080	2743	3
240	6345	2395	2423	5	4493	94370	-237	870	1330	582	1060	2390	2390	0	6613	692	6670	3635	2889	23	6	1106	194	55	810	3108	2763	3
200	6286	2914	2492	6	4496	94780	-176	858	1300	582	1060	2340	2340	0	6684	698	6600	3686	2914	84	7	1106	194	55	810	3108	2763	3
170	6292	2878	2161	7	4498	94950	-116	849	1270	572	1040	2280	2280	0	6774	692	6570	3692	2878	204	8	1106	194	55	810	3108	2763	3
140	6141	2999	2306	8	4498	94950	0	850	1280	563	1040	2330	2330	0	7022	692	6570	3630	2999	220	9	1108	194	55	810	3108	2763	3
1060	6120	2940	2324	9	4493	94370	292	900	1400	563	1010	2380	2380	0	6350	694	6630	3631	2940	432	10	1100	194	55	810	3108	2763	3
2540	5609	2931	2430	10	4484	93320	529	900	1400	563	1010	2380	2380	0	6774	692	6570	3692	2931	204	8	1106	194	55	810	3108	2763	3
1920	6044	2876	2166	11	4480	92860	232	925	1470	567	1020	2410	2410	0	6659	688	6460	3529	2876	199	11	1029	194	55	810	3108	2763	3
1000	6164	2836	2398	12	4477	92510	176	940	1510	580	1060	2490	2490	0	6662	689	6490	3614	2836	172	12	1096	194	55	810	3108	2763	3
1890	6037	2853	2163	13	4473	92040	237	938	1500	580	1060	2570	2570	0	6606	692	6570	3734	2853	36	13	1100	194	55	810	3108	2763	3
1060	6202	2858	2355	14	4469	91570	237	939	1500	580	1060	2560	2560	0	6567	693	6600	3747	2858	-33	14	1108	194	55	810	3108	2763	3
1100	6148	2952	2337	15	4464	90990	292	950	1530	583	1070	2560	2560	0	6737	691	6540	3682	2952	197	15	1097	194	55	810	3108	2763	3
2030	6069	2961	2938	16	4461	90640	176	972	1590	587	1030	2600	2600	0	6792	697	6710	3758	2961	82	16	1102	194	55	810	3108	2763	3
1140	6224	2916	2304	17	4458	90290	176	978	1600	587	1030	2670	2670	0	6536	696	6680	3719	2916	-144	17	1106	194	55	810	3108	2763	3
1100	6194	2906	2432	18	4454	89830	232	977	1600	589	1030	2680	2680	0	6636	694	6630	3714	2906	6	18	1100	194	55	810	3108	2763	3
1140	6287	2853	2388	19	4449	89250	292	976	1600	590	1030	2680	2680	0	6652	690	6520	3614	2853	132	19	1095	194	55	810	3108	2763	3
1140	6310	2830	2353	20	4443	88550	353	977	1600	589	1030	2680	2680	0	6752	693	6600	3747	2830	152	20	1106	194	55	810	3108	2763	3
2890	6070	2820	2389	21	4419	85750	1412	977	1600	589	1030	2680	2680	0	6813	693	6600	3770	2820	213	21	1108	194	55	810	3108	2763	3
2960	6123	2837	2454	22	4430	87030	-645	975	1600	589	1030	2680	2680	0	7622	688	6460	3640	2837	1162	22	1090	194	55	810	3108	2763	3
1140	6265	2875	2466	23	4436	87730	-353	972	1590	592	1030	2670	2670	0	6717	683	6320	3445	2875	-935	23	1107	194	55	810	3108	2763	3
1140	6314	2826	2627	24	4438	87960	-116	952	1540	593	1030	2620	2620	0	6404	687	6430	3604	2826	-203	24	1102	194	55	810	3108	2763	3
240	6370	2870	2588	25	4439	88080	-60	938	1500	593	1030	2580	2580	0	6600	692	6570	3700	2870	-26	25	1100	194	55	810	3108	2763	3
2350	6447	2903	2716	26	4444	88660	-292	899	1400	592	1030	2480	2480	0	6578	692	6570	3667	2903	30	26	1103	194	55	810	3108	2763	3
240	6295	2945	2938	27	4445	88780	-60	898	1400	591	1070	2470	2470	0	6710	693	6600	3655	2945	8	27	1110	194	55	810	3108	2763	3
1060	5954	3106	2934	28	4450	89360	-292	897	1390	591	1070	2470	2470	0	6308	691	6540	3434	3106	110	28	1094	194	55	810	3108	2763	3
310	5996	3314	2637	29	4458	90290	-469	901	1400	592	1070	2460	2460	0	6371	683	6460	3196	3314	-232	29	1106	194	55	810	3108	2763	3
320	6110	3310	2664	30	4467	91340	-529	904	1410	592	1070	2470	2470	0	6411	683	6320	3010	3310	-89	30	1106	194	55	810	3108	2763	3
280	5934	3346	2768	31	4473	92040	-353	903	1410	592	1070	2480	2480	0	6447	681	6270	2924	3346	91	31	1102	194	55	810	3108	2763	3
240	5852	3388	2795	SEP 1	4481	92970	-469	900	1400	587	1050	2460	2460	0	6321	678	6190	2802	3388	177	SEP 1	1102	194	55	810	3108	2763	3
200	5933	3267	2698	2	4485	93440	-237	902	1410	582	1040	2450	2450	0	6513	668	6920	2653	3267	131	2	1098	194	55	810	3108	2763	3
220	5692	3128	2703	3	4487	93670	-116	902	1410	579	1030	2440	2440	0	6264	668	6920	2792	3128	593	3	1091	194	55	810	3108	2763	3
580	5492	3088	2713	4	4489	93900	-116	902	1410	570	999	2409	2409	0	6055	672	6030	2942	3088	344	4	1084	194	55	810	3108	2763	3
640	5682	2958	2500	5	4487	93670	116	902	1410	576	1030	2409	2409	0	6326	668	6920	2962	2958	25	5	1053	194	55	810	3108	2763	3
440	5573	2867	2530	6	4484	93320	176	901	1400	581	1030	2430	2430	0	6326	668	6920	2962	2867	406	6	1076	194	55	810	3108	2763	3
1100	5281	2819	2406	7	4482	93090	116	900	1400	582	1030	2430	2430	0	6186	661	6740	2873	2819	446	7	1072	194	55	810	3108	2763	3
1000	5165	2835	2354	8	4480	92860	116	898	1400	581	1020	2420	2420	0	5786	653	6540	2721	2835	246	8	1058	194	55	810	3108	2763	3
1000	5121	2879	2527	9	4477	92510	176	896	1390	580	1020	2410	2410	0	5696	657	6440	2805	2879	56	9	1059	194	55	810	3108	2763	3
1300	5070	2880	2705	10	4477	92510	0	887	1370	574	1000	2370	2370	0	5530	651	6480	2650	2880	286	10	1064	194	55	810	3108	2763	3
1730	4872	2858	2540	11	4464	90990	766	858	1300	566	978	2278	2278	0	6218	652	6510	2652	2858	50	11	1070	194	55	810	3108	2763	3
1700	4794	2906	2545	12	4466	91230	-121	815	1190	555	948	2138	2138	0	5441	647	6380	2474	2906	708	12	1049	194	55	810	3108	2763	3
1470	4517	2953	2783	13	4470	91690	-232	788	1130	532	884	2014	1971	43	5224	639	6180	2270	2953	61	13	1070	194	55	810	3108	2763	3
1990	4006	2984	2697	14	4470	91690	0	768	1080	512	832	1912	1618	294	5078	612	6540	1850	2697	44	14	1074	194	55	810	3108	2763	3
1430	3393	3037	2639	15	4473	92040	-176	753	1040	490	774	1814	1387	427	4440	587	6990	1380	3037	538	15	1043	194	55	810	3108	2763	3
1070	2842	3228	2679	16	4481	92970	-469	742	1020	490	772	1792	1134	658	3809	576	6760	1190	3228	450	16	1027	194	55	726	2480	2505	215
1040	2720	3320	2878	17	4485	93440	-237	735	1000	492	777	1777	1007	770	4026	578	6800	1250	2878	49	17	1011	194	55	726	2480	2505	215
1010	2659	3351	2783	18	4478	92620	413	718	960	486	760	1720	939	781	4703	596	6190	1620	2783	226	18	1001	194	55	726	2480	2505	215
1010	2690	3320	2753	19	4472	91920	353	716	956	470	719	1675	915	760	4688	649	6440	2880	2753	513	19	1004	194	55	726	2480	2505	215
1620	3304	3316	2778	20	4470	91690	116	700	919	469	716	1635	799	836	5101	644	6310	2830	2778	-752	20	1005	194	55	726	2480	2505	215
1560	3377	3183	2647																									

EELSTFCAN.			PA+NSTFCAN.			SSTFCAN.				MILNER LL CAN.				MILNER THEO. BAL.	MILNER LATE NO. JK				
DISCH.	SE	DISCH.	TOTAL	STOR.	NOR	GAGE	DISCH.	STOR.	NOR	GAGE	DISCH.	STOR.	NOR		GAGE	DISCH.	STOR.	NOR	MINI MILNER GAIN
200	64	3030	3085	2745	340	10.40	3680	1031	2349	HD	69	91	0	-410	149	149	0	0	359
270	68	3050	3105	2764	341	10.42	3590	1036	2554	246	91	91	0	-216	125	125	0	0	347
200	58	3050	3105	2762	343	10.39	3570	999	2571	147	31	31	0	-151	280	280	0	0	386
170	68	3050	3105	2766	339	10.39	3570	1031	2539	HD	46	46	0	-187	220	260	260	0	0
140	69	3060	3115	2762	353	10.39	3570	924	2646	292	132	132	0	-189	47	47	0	0	411
060	64	3030	3085	2739	346	10.35	3540	946	2594	294	134	134	0	-234	130	130	0	0	234
2540	57	2990	3045	2700	345	10.29	3510	924	2586	300	139	139	0	-221	130	23	23	0	0
2920	61	3010	3065	2727	338	10.30	3510	972	2538	297	136	136	0	-155	160	16	16	0	0
2000	65	3030	3085	2751	334	10.33	3530	1028	2502	267	110	110	0	-193	162	17	17	0	0
2890	67	3050	3105	2769	336	10.36	3530	1033	2517	299	138	138	0	-263	165	18	18	0	0
2060	64	3030	3085	2749	336	10.41	3580	1058	2522	299	138	138	0	-112	160	16	16	0	0
2100	70	3010	3065	2718	347	10.47	3620	1015	2605	292	137	137	0	-159	165	18	18	0	0
2030	72	3020	3075	2727	348	10.48	3630	1017	2613	290	134	134	0	-80	165	18	18	0	0
2140	65	2980	3035	2692	343	10.34	3540	967	2573	288	135	135	0	-180	150	160	0	0	177
2100	66	2990	3045	2703	342	10.31	3520	956	2564	288	135	135	0	-180	165	18	18	0	0
2140	75	3030	3085	2749	336	10.37	3560	1043	2517	288	135	135	0	-180	160	160	0	0	198
2140	74	3030	3085	2752	333	10.38	3560	1063	2497	288	135	135	0	-135	179	23	23	0	0
2890	56	2930	2985	2653	332	10.23	3480	992	2488	283	130	130	0	-208	160	16	16	0	0
2960	75	3030	3085	2751	334	10.38	3560	1057	2503	286	133	133	0	-416	185	25	25	0	0
2140	71	3010	3065	2727	338	10.34	3540	1003	2537	285	131	131	0	-297	165	18	18	0	0
2140	71	3010	3065	2733	332	10.33	3530	1036	2494	287	132	132	0	-197	200	200	0	0	497
2240	76	3040	3095	2757	338	10.35	3540	1008	2532	288	132	132	0	-236	180	23	23	0	0
2350	80	3060	3115	2773	342	10.38	3560	999	2561	287	131	131	0	-105	168	19	19	0	0
2240	69	3000	3055	2709	346	10.31	3520	921	2599	287	130	130	0	-256	310	158	158	0	0
2060	78	3050	3105	2740	365	10.37	3560	819	2741	289	131	131	0	-335	168	19	19	0	0
2310	78	3050	3105	2715	390	10.37	3560	636	2924	289	130	130	0	-427	168	19	19	0	0
2420	76	3020	3075	2686	389	10.35	3540	619	2921	292	132	132	0	-420	165	18	18	0	0
2280	75	3010	3065	2671	394	10.35	3540	588	2952	229	85	85	0	-490	162	17	17	0	0
2240	74	2990	3045	2646	399	10.34	3540	551	2989	241	95	95	0	-490	168	19	19	0	0
2200	55	2920	2975	2591	384	10.27	3490	607	2883	272	123	123	0	-603	165	18	18	0	0
2820	58	2870	2925	2557	368	10.25	3480	720	2760	267	118	118	0	-472	160	16	16	0	0
2580	59	2870	2925	2562	363	10.22	3460	735	2725	265	117	117	0	-382	160	16	16	0	0
2640	52	2810	2865	2517	348	10.02	3320	710	2610	265	117	117	0	-432	160	16	16	0	0
2440	39	2800	2855	2518	337	9.84	3200	670	2530	265	117	117	0	-443	160	16	16	0	0
2100	36	2730	2785	2453	332	9.57	3080	593	2487	266	118	118	0	-362	160	16	16	0	0
2000	37	2740	2795	2461	334	9.71	3090	589	2501	265	117	117	0	-451	160	16	16	0	0
2000	38	2740	2795	2456	339	9.62	3020	480	2540	264	116	116	0	-438	160	16	16	0	0
2900	46	2780	2835	2502	333	9.59	2990	493	2497	230	93	93	0	-146	162	17	17	0	0
2730	32	2710	2765	2429	336	9.26	2800	278	2522	227	91	91	0	-197	161	17	17	0	0
2700	34	2770	2825	2483	342	9.00	2660	96	2564	228	92	92	0	-268	163	17	17	0	0
2470	37	2790	2845	2445	400	8.74	2510	0	2510	230	93	93	0	-499	HD	81	81	0	0
2990	40	2600	2655	2255	400	8.32	2290	0	2290	231	94	94	0	-249	HD	404	404	0	0
2430	36	2480	2535	2135	400	8.15	2210	0	2210	231	94	94	0	-952	164	18	18	0	0
2070	33	2410	2465	2065	400	8.07	2170	0	2170	210	77	77	0	-858	160	16	16	0	0
2040	36	2380	2435	2035	400	8.03	2150	0	2150	206	73	73	0	-506	352	201	201	0	0
2010	39	2390	2445	2045	400	8.08	2170	0	2170	215	81	81	0	750	410	435	435	0	0
2620	31	2350	2405	2005	400	8.06	2160	0	2160	220	85	85	0	740	367	290	290	0	0
2560	50	2350	2405	2005	400	7.89	1900	0	1900	225	84	84	0	671	598	1640	1640	0	0
2530	31	2350	2405	2005	400	7.82	1900	0	1900	225	84	84	0	662	595	1610	1610	0	0
2620	31	2350	2405	2005	400	7.85	1820	0	1820	230	83	83	0	664	592	1500	1500	0	0
2530	32	2310	2365	1965	400	7.83	1810	0	1810	228	81	81	0	752	590	1570	1570	0	0
2620	39	2300	2347	1947	400	7.73	1810	0	1810	228	81	81	0	816	592	1580	1580	0	0
2620	43	2270	2312	1912	400	7.73	1810	0	1810	229	82	82	0	776	608	1720	1720	0	0
2370	32	2210	2252	1852	400	7.26	1780	0	1780	240	92	92	0	861	616	1790	1790	0	0
2370	32	2120	2162	1762	400	7.20	1750	0	1750	246	97	97	0	911	611	1750	1750	0	0
2950	35	1990	2032	1632	400	7.21	1760	0	1760	246	97	97	0	1081	606	1710	1710	0	0
2800	43	1820	1862	1462	400	7.21	1760	0	1760	246	97	97	0	1590	612	1760	1760	0	0
2620	37	1360	1360	918	442	7.18	1740	0	1740	DRY	0	0	0	1650	688	2400	2400	0	0
2300	30	1330	1330	338	992	7.23	1770	0	1770	DRY	0	0	0	1560	643	2220	2220	0	0
20370	5	35727	35777	185645	172072	392950	48307	347645	0	1640	DRY	0	0	1560	841	2020	2020	0	0
2300	110	1250	1250	0	1250	645	1640	0	1380	DRY	0	0	0	1300	595	1610	1555	55	340
2300	98	1210	1210	0	1210	682	1580	0	1380	DRY	0	0	0	350	481	781	285	500	238

fairly representative of average conditions and in consequence have been used throughout the entire period of record.

The dates given on these two plates are those which agree most nearly with the midday hour, but the discharges for all river stations have been computed from recording gage records and agree exactly with the schedule. The summaries of diversions or canal totals are for the dates indicated on the tables.

Only stored water quantities have been tabulated for the Lorenzo station where no discharge measurements were secured subsequent to the May high water period. Even in former years when discharge records were available the same procedure was followed, for the reason that complete segregation of flow at this point could not be shown satisfactorily without taking into consideration the water by-passed through the Great Feeder.

Storage released from the small Emma Matilda and Two Ocean Lake Reservoirs is shown under the Twin Lakes heading.

The outlet from the so-called Market Lake Springs was affected by back water from the river during the early portion of the season and for this reason as well as because of the very small quantity of water involved (usually not in excess of 5 second-feet) no attempt has been made to list the gain from this source. Enough measurements were secured, however, to make certain that this supply was sufficient to fill all storage requirements of the Sheppard canal.

Because of channel changes and damage to the measuring equipment during the 1926 high water period the Blackfoot Bridge records were unsatisfactory except during the latter part of the

season when it was possible to secure current meter measurements by wading. Only those data which are considered reliable have therefore been included herein.

Jackson Lake water was not released quite soon enough to reach some of the upper valley canals when first required, hence, to avoid a double regulation, 537 second-feet of normal flow were delivered to them as storage and were thereafter repaid. This accounts for the minus quantities shown in the storage column at the Woodville, Blackfoot Bridge and Clough stations during the first two days of the stored water delivery period.

The American Falls Reservoir statistics, the measured and computed inflow between the Clough and Neeley gaging stations are all identical with these quantities as listed in the special report of Thos. R. Newell, to which reference has previously been made, and will be discussed in more detail in connection with the storage deliveries to lower valley canals.

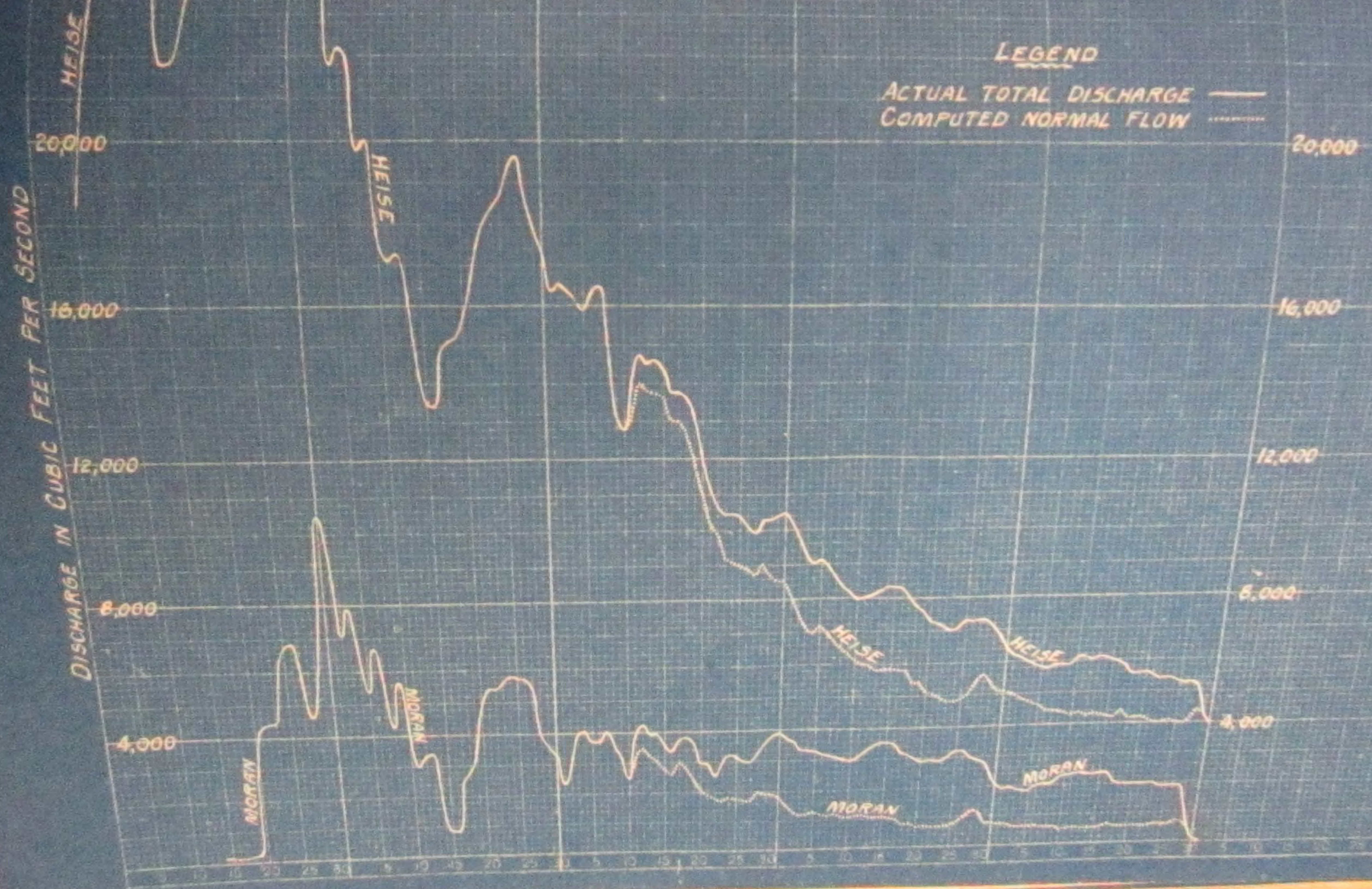
In most other respects the river data presented herein conform and are consistent with the similar tables contained in former reports.

SEGREGATION OF FLOW

Plate X shows graphically both the total discharge and the computed normal flow past the Moran and Heise gaging stations during the season of 1928. The difference between the total and normal flow graphs on any date, of course, indicates storage.

These graphs are plotted from the special day discharges with the time interval adjusted to make them coincide with the nearest regular day at Heise. For example, the Heise data shown for July 20 really represent

HYDROGRAPHS SHOWING TOTAL AND NORMAL FLOW AT THE MORAN AND HEISE STATIONS
 1928 DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. X



LEGEND

ACTUAL TOTAL DISCHARGE ———
 COMPUTED NORMAL FLOW ······

mean quantities for the 24 hour period ending at 4 a. m. on July 21 while the indicated Moran data for July 20 are means for the 24 hour period ending at 4 a. m. on July 20.

While these diagrams are merely a graphical representation of some of the numerical quantities contained in the tables of Plates VIII and IX, they will be of interest and perhaps of assistance in connection with the explanations and discussions which have preceded as well as those which follow.

The peak mean daily discharge for the year at the Heise station was noted on May 27 and amounted to 35,400 second-feet.

The increase in normal flow shown on August 28 is attributable to rains which were fairly general as to distribution over the upper portions of the drainage area. Aside from this one short period, storms occurring from the latter half of July to the end of September were either of insufficient magnitude or were too much localized to materially affect stream discharge.

Doubtless because of the fairly uniform stages which were maintained, there is little evidence in the comparative hydrographs of the irregularities sometimes noted and attributed to the inapplicability of a single time interval under all conditions of river flow. (See page 24 of the 1926 report for more complete discussion).

STORAGE DELIVERIES FROM JACKSON LAKE, TWIN LAKES AND AMERICAN FALLS RESERVOIRS

The amount of stored water released each day from Jackson Lake was determined from the reservoir capacity tables by noting the quantity corresponding to the daily decrease in stage indicated by the

lake gage readings. Occasional irregularities in the latter, attributable to wind effect, were largely eliminated by short period interpolations or adjustments. The difference between this amount and the total discharge at the outlet (as measured at the Moran gaging station) is then considered to be the normal stream flow.

While this method of segregation has now been used for more than ten years, the balancing of certain comparatively unknown factors which it assumes should not be overlooked, viz., that natural lake storage and evaporation loss from the excess area of the present reservoir which are properly creditable to normal flow are exactly offset by the bank or ground storage return which might otherwise be claimed as additional stored water.

An investigation was conducted during 1924 by Thos. R. Newell for the purpose of checking the fairness of the above described plan of operation and also to obtain data from which a more accurate but still workable method might possibly be derived. The data thus secured indicated that although the method in use was not strictly applicable under all conditions of river flow and reservoir operation, it was nevertheless reasonably equitable under certain specific conditions of rapid and fairly complete draw down immediately following the beginning of the normal flow deficiency period, provided further allowance or concession was made to younger rights to compensate for the old natural lake storage benefits.

Draft upon Jackson Lake storage during 1928 was neither rapid nor complete and because of the small amount of stored water released it did not seem practicable to make large early season allowances for lag.

Notwithstanding these changed conditions which began in 1927 when the American Falls Reservoir was first filled to capacity, the use of the above described method of segregation has been continued. While any irregularities of distribution attributable to this source have been relatively unimportant during the last two years of ample water supply, some consideration should undoubtedly be given to this problem if fairness to all rights is to be preserved under the changed operation conditions now in evidence.

The storage transmission loss schedule agreed upon for 1928 provided for flat percentage deductions of 2.5 between Moran and Heise, 4.4 between Heise and Lorenzo, 0.5 between Lorenzo and Woodville and 6.0 between Woodville and Blackfoot Bridge. The loss of 4.4 per cent used between Heise and Lorenzo represents the average actually applied on this section for the four preceding years and takes the place of the variable rates heretofore determined under the "two day mean method" described on page 23 of the 1927 report.

Transmission deductions for all storage delivered to canals diverting above the Blackfoot Bridge gaging station were computed upon the basis of losses to Woodville, as specified in the purchase contracts. Obviously it would be impracticable to calculate losses to the heading of each individual canal and this group method was doubtless originally adopted to avoid the necessity for such procedure. Since more than half the Jackson Lake storage owned in the upper valley is diverted above the Woodville station and the balance within a distance of about twenty miles below that point, this plan would seem to be at least reasonably fair to all concerned.

On the basis of the 1928 schedule of losses, these upper valley canals received at their headgates 92.74395 per cent of the stored water turned out for them at Moran.

All lower valley canals were charged an additional 5.0 per cent, making their headgate deliveries amount to 87.179313 per cent of the amounts released for their benefit at the outlet of the upper reservoir.

Plate XI shows 1928 daily and total storage deliveries from Jackson Lake, Twin Lakes and American Falls Reservoirs together with summaries of stored water rights. The latter will probably be changed somewhat when the final total cost of the American Falls Reservoir is announced and prorated.

In order to afford comparison between season use and storage available, all upper valley totals have been shown upon a Jackson Lake basis while those of the lower valley have all been reduced to American Falls equivalents.

Notes have been added to explain deliveries under seasonal purchases or in any other manner than upon a strict ownership basis.

A little more than sixty thousand acre-feet of the total released for the use of upper valley canals were not actually needed to replace invalid normal flow rights but were ordered to maintain the flow of the river at a higher stage than would otherwise have been possible. All such orders were charged in the same manner as ordinary deliveries, hence have not been aggregated in any way in this summary.

Twin Lakes storage was all credited to the Utah-Idaho Sugar Company but was pooled with Jackson Lake water for headgate delivery. This plan made it possible to release the water in variable amounts without the necessity for making similar changes in the daily deliveries to the Osgood canal.

1928 DISTRIBUTION WATER DISTRICT NO 36.

	JULY	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5
POPLAR IRRIGATION DIST.																												
PROGRESSIVE IRRIG DIST.																												
FARMERS FRIEND CANAL CO.	52	117	108	93	125	122	148	202	194	192	186	192	214	219	218	219	208	216	238	225	232	230	219	240	240	240	240	240
ENTERPRISE CANAL CO.											42	57	48	4	41	53	45	47	55	55	54	53	24	21	21	21		
HARRISON CANAL & IRRIG CO.	22	33	33	75	72	88	76	71	86	79	73	71	96	91	76	81	81	61	99	101	99	101	96	100	100	100	100	
IDAHO IRRIGATION DISTRICT			39	33	44	28	22	17	72	59	67	52	51	49	67	69	85	84	113	107	103	101	98	120	120	120	120	
RUDY CANAL CO.																												
BURGESS CANAL & IRRIG CO.	41	106	107	94	79	82	78	79	78	67	70	62	63	58	67	62	78	75	66	55	70	70	55	62	63	62	6	
LOWDER CANAL CO.																												
SUNNYDELL IRRIG DIST.																												
LENROOT CANAL CO.																							45	93	88	83	81	7
REID CANAL CO.																44	75	69	63	67	56	58	43	23	20	20	58	5
ENTERPRISE IRRIG DIST.																	19	19		6	4							
DILTS CANAL CO.																												
BUTTE & MARKET LAKE CAN. CO.																												
UTAH-IDAHO SUGAR CO.																												
K M NANDORFF (BEAR ISLAND)																												
C.D. SMITH																												
J.D. KENNEDY																												
NEW SWEDEN IRRIG. DIST.	18	60	110	130	134	131	122	129	128	122	121	107	90	80	74	72	59	57	59	59	56	52	51	50	39	32		
MARTIN CANAL CO.				15	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	26	26	
WOODVILLE CANAL CO.																												
CITY OF IDAHO FALLS.																												
SNAKE RIVER VALLEY IRRIG DIST.	19	69	84	86	80	80	69	69	76	67	57	32	17			42	95	91	83	83	85	93	95	97	184	184	142	
TOTAL DIVERS. HEISE-WOODVILLE	152	385	481	538	586	584	566	617	687	639	666	631	640	556	746	888	875	819	937	894	910	935	925	1084	1050	1050		
BLACKFOOT IRRIGATION DIST.																												
PEOPLES CANAL & IRRIG CO.								10																				
ABERDEEN-SPRINGFIELD CAN. CO.													20						421	426	360	246	289	500	500	500	500	500
CORBETT SLOUGH DITCH CO.																												
TREGO DITCH CO.																												
TOTAL DIVERS. WOODVILLE-BLACK.	0	0	0	0	0	0	10	0	0	0	20	0	0	0	0	421	426	360	246	289	500	500	500	500	500	500		
MINIDOKA PROJECT CANALS			250	845	934	857	934	934	934	944	954	964	944	1246	1657	1927	2453	2226	2462	2629	2700	2700	240	2610	2670			
NORTH SIDE CANAL CO.				238	222	482	200	749	376	654	1352	1702	2214	2825	2756	2766	2767	2776	2982	2759	2757	2795	2658	2915	2990			
TWIN FALLS CANAL CO.				636	629	607	618	625	593	591	600	633	643	623	623	623	623	623	614	605	573	718	685	850	993			
MILNER LOW LIFT IRRIG. DIST.				136	137	137	138	137	138	138	137	137	140	139	134	136	134	134	134	135	134	135	134	134	134	89		
IDAHO POWER COMPANY																												
U.S. NEW DIVISIONS																												
AM FALLS RES. DIST. (UNASSIGNED)																												
TOTAL LOWER VALLEY	0	0	250	1855	1922	2083	1890	2445	2041	2327	3043	3436	3941	4833	5170	5452	5977	5759	6193	6127	6145	6345	6117	6509	664			

DAILY STORAGE TABULATION & SUMMARY

	AUG	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	SEPT	1	2	3	4	5	6	7						
L	24	28	27	26	25	25	26	25	24	24	24	23	23	23	22	22	21	20	19	19	19	19	14	14	14	14	13	13	12	13	18														
L	219	240	240	240	240	170	104	95	96	90	95	114	68	24	22																														
L	24	21	21	21	21	21	21	21	21	21	21	21	21	21	21																														
L	96	100	100	100	100	100	100	80	60	62	60	60	60	60	60	90	151	149	147	148	147	151	147	149	152	155	153	152	34	19															
L	98	120	120	120	120	120	120	120	60														1	1	1																				
L	84	84	97	91	89	89	89	89	89	94	90	92	92	93	21																														
L	55	62	63	62	66	71	62	63	62	62	63	62	63	62	120																														
L	93	88	83	81	78	78	76	76	76	76	64	64	64	64	64	64	60	60	60	57	57	57	48	23	23	23	31	23	19	36	30	19													
L	23	20	20	58	96	96	96	86	76	76	81	83	76	77	77	76	76	76	76	76	83	76	96	96	110	98	96	96	96	44															
E					7	78	140	137	137	135	135	135	163	307	384	351	344	139	114	115	117	118	115	116	116	119	119	120	106	89	88	82													
L	6	7	7	1																																									
E																																													
L			45	89	88	87	88	88	86	86	85	84	85	86	86	86	86	85	82	87	87	89	90	90	132	132	136	136	135																
K																																													
C	1	1		1	1	1								1	3								6	3																					
L																																													
Y	51	50	39	32	29	21	15																																						
A	30	28	26	26	26	26	26	24	11																																				
V																																													
C			2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
S	97	184	184	142	100	100	100	100	100	100	100	234	335	335	339	342	342	339	340	339	333	329	327	327	331	331	335	342	348																
T	925	1054	1050	1053	1097	1094	1068	1010	905	830	823	977	1055	1181	1260	1296	1282	1073	1041	1033	989	937	920	937	944	974	968	855	758	316	126	82													
B																																													
F																		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
A	500	500	500	500	500	500	500	500	500	500	500	200	200	752	642	533	358	463	221	405	555	601	588	513	328	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
G																			98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98
T																		2	12	7	8	7	11	16	23	13	8	7	8	7	8	7	8	7	8	7	8	7	8	7	8	7	8	7	
T	500	500	500	500	500	500	500	500	500	500	660	660	360	360	912	802	693	558	665	531	710	861	906	897	827	649	511	506	505	506	505	506	505	506	505	506	505	506	505	506	505	506	505	506	
N	2640	2610	2570	2450	2390	2340	2280	2290	2330	2410	2490	2570	2560	2560	2600	2670	2680	2680	2680	2680	2680	2680	2680	2670	2620	2580	2480	2470	2460	2470	2480	2480	2450	2450	2440	2409	2430	2430	2430	2430	2430	2430	2430		
N	2658	2915	2990	2824	2881	2877	3029	3014	2796	2857	2710	2734	2759	2777	2756	2726	2735	2832	2711	2898	2763	2660	2762	2735	2922	2768	2920	2718	2791	2812	2694	2679	2655	2809	2564	2569	2625	2625	2625	2625	2625	2625	2625		
T	685	850	993	1063	1044	1048	1012	1043	937	958	937	981	1037	1043	1067	1025	1027	977	966	1054	1075	1001	1071	1013	1047	1020	1010	931	829	646	629	597	561	67	729	744	718	718	718	718	718	718			
N	134	134	89	66	91	31	46	132	134	139	136	110	138	138	137	134	135	135	135	135	130	133	131	132	132	131	130	131	130	132	85	95	123	118	117	117	117	117	117	117	117	117			
L																																													
U																																													
A																																													
T	6117	6509	6442	6402	6406	6296	6367	6479	6197	6361	6273	6395	6494	6518	6560	6555	6577	6624	6492	6767	6648	6474	6634	6500	6681	6399	6530	6240	6220	6070	5885	5821	5789	5714	5819	5860	5790	5790	5790	5790	5790	5790			

SPECIAL SEC FT	TOTAL SEC FT	TOTAL AC FT	JACKSON LAKE EQUIVALENT AC FT	JACKSON LAKE RIGHT AC FT	J LAKE EQUIV AMER RLS AC FT	TOTAL SEC FT JACKSON RLS AC FT	PLATE NO 21	NOTES
3	0	633	1256	1354	1200	789	1989	2000 ACRE FEET SOLD BY ENTERPRISE CANAL CO TO RUDY CANAL COMPANY FOR 1928 SEASON.
	121	6007	11915	12847	0	14418	14418	
	89	853	1692	1824	2000	0	2000	
	0	2463	4885	5267	4100	10429	14529	
	333	2836	5625	6065	5000	11900	16900	INCLUDES 5 SEC FT DIVERTED BY NELSON CANAL.
	452	2270	4713	5082	0	26774	26774	INCLUDES 10 SECOND FEET DEDUCTED FOR YELLOWSTONE CANAL, ONLY PART OF WHICH WAS ACTUALLY DIVERTED.
	40	1922	3812	4110	4000	0	4000	INCLUDES DIVERSIONS BY OTHER HENRY'S FORK CANALS AS FOLLOWS:- DEWEY 196 SEC FT, LAST CHANCE 264 SEC FT, INDEPENDENT 636 SEC FT.
	253	4417	8761	9447	5120	7437	12557	INCLUDES 71 SEC FT DIVERTED BY FARMERS OWN AND 150 SEC FT BY MARYSVILLE CANAL.
	68	1800	3570	3849	4000	0	4000	CITY OF IDAHO FALLS STORAGE INCLUDED IN ACRE FT TOTAL OF IDAHO IRRIGATION DISTRICT.
	232	2787	5528	5961	3000	4469	7469	TWIN LAKES STORAGE TO THE AMOUNT OF 1486 AC FT, ALSO RELEASED DURING 1928 AND SHOULD BE ADDED TO THIS QUANTITY TO GIVE THE TOTAL JACKSON LAKE EQUIVALENT AVAILABLE FOR THE USE OF THE OSGOOD CANAL.
	0	48	95	102	0	2980	2980	
	0	4126	8184	8824	0	12000	12000	
	0	100	198	214	0	1023	1023	
	0	0	0	0	0	2980	2980	
	0	2536	5030	5424	0	14900	14900	
	0	13	26	28	0	223	223	
	0	16	32	35	0	79	79	
	0	2207	4377	4719	5000	28451	33451	
	0	778	1543	1664	1500	2314	3814	
	0	106	214	214	0	9256	9256	
	1009	8727	17310	18664	15000	27147	42147	
	2647	44645	88552	95480	51315	177569	228884	
40	1720	1720	3412	3679	0	14921	14921	
60	8000	8010	15888	17131	8000	22347	30347	INCLUDES STORAGE OF HILLSDALE IRRIGATION DIST, WHICH IS DIVERTED THROUGH NORTH SIDE CANAL CO SYSTEM.
700	15942	21921	43480	46882	42685	40250	82935	
98	2940	2940	5831	6287	0	6000	6000	
8	308	347	688	742	0	1443	1443	
506	28910	34938	69299	74721	50685	84961	135646	
44		150002	297525				62470	
595		190341	377536				322007	
617		49224	97634				97183	
118		9107	18063				0	
		25174	49932				0	
							810	
							0	
774		423848	840690				482470	
							420614	
							1700000	
							2120648	

Previous experience has shown that segregation of stored water deliveries to lower valley canals between the different sources of supply is not practicable except under more or less arbitrary assumptions, hence such a division has not been attempted.

In only four instances did the storage charges against individual canals come within 10 per cent of their respective total available rights, but total stored water usage was nearly double that of the preceding year.

Deliveries or charges listed are all upon a headgate basis except those to the Idaho Power Company which were measured at the river gaging station immediately below Milner Dam. These latter account for 25,174 second-feet of the 30,787 second-feet total which was wasted past this point during the entire 1928 storage delivery period. Of the remaining 5,613 second-feet, 1,682 were classed as ordinary or unavoidable waste and were prorated 5/11 against the North Side Canal Company and 6/11 against the Twin Falls Canal Company in accordance with the practice of former years or the relative interest of the two companies in Milner Dam. The remaining 3,931 second-feet were charged against the North Side Canal Company because of the high stage at which Lake Milner was maintained to enable continued maximum diversion through their canal.

These items of waste have been included in the daily deliveries as listed on Plate XI and account for the differences noted in comparison with the stored water diversions shown on Plates VIII and IX.

All water diverted by the Sheppard Canal after July 13 was supplied from the Market Lake Springs and should be classed as storage.

To avoid unnecessary confusion, however, as well as because of the small quantities involved, it has only been tabulated on Plates V, VI and VII.

Actual storage available at the American Falls Reservoir when draft for the season began amounted to 1,711,760 acre-feet. The excess over the normal capacity of 1,700,000 acre-feet was credited to the reservoir gain and loss account and was not prorated to individual owner canals.

Segregation of stored water from normal flow at the outlet of the American Falls Reservoir was accomplished in exactly the same manner as that used in preparing the final data for the preceding year, (see pages 27-29 of the 1927 report) and these quantities, as listed herein, are identical with those contained in the 1928 report entitled "Segregation of Water Resources in the American Falls Basin" by Thos. R. Newell. His formula,

Normal Flow at Neeley = Normal Flow at Cloughs + $\frac{4}{3}$ (measured gain Cloughs - Neeley) + 840 second-feet

gave consistent and apparently reasonable results throughout the 1928 range of reservoir stages.

RIVER LOSSES AND GAINS

Losses and gains throughout different sections of Snake River are included in the data contained on Plates VIII and IX but the changes in the quantities and the relation which these changes have to the discharge of the river at different points are much more readily noted when indicated graphically.

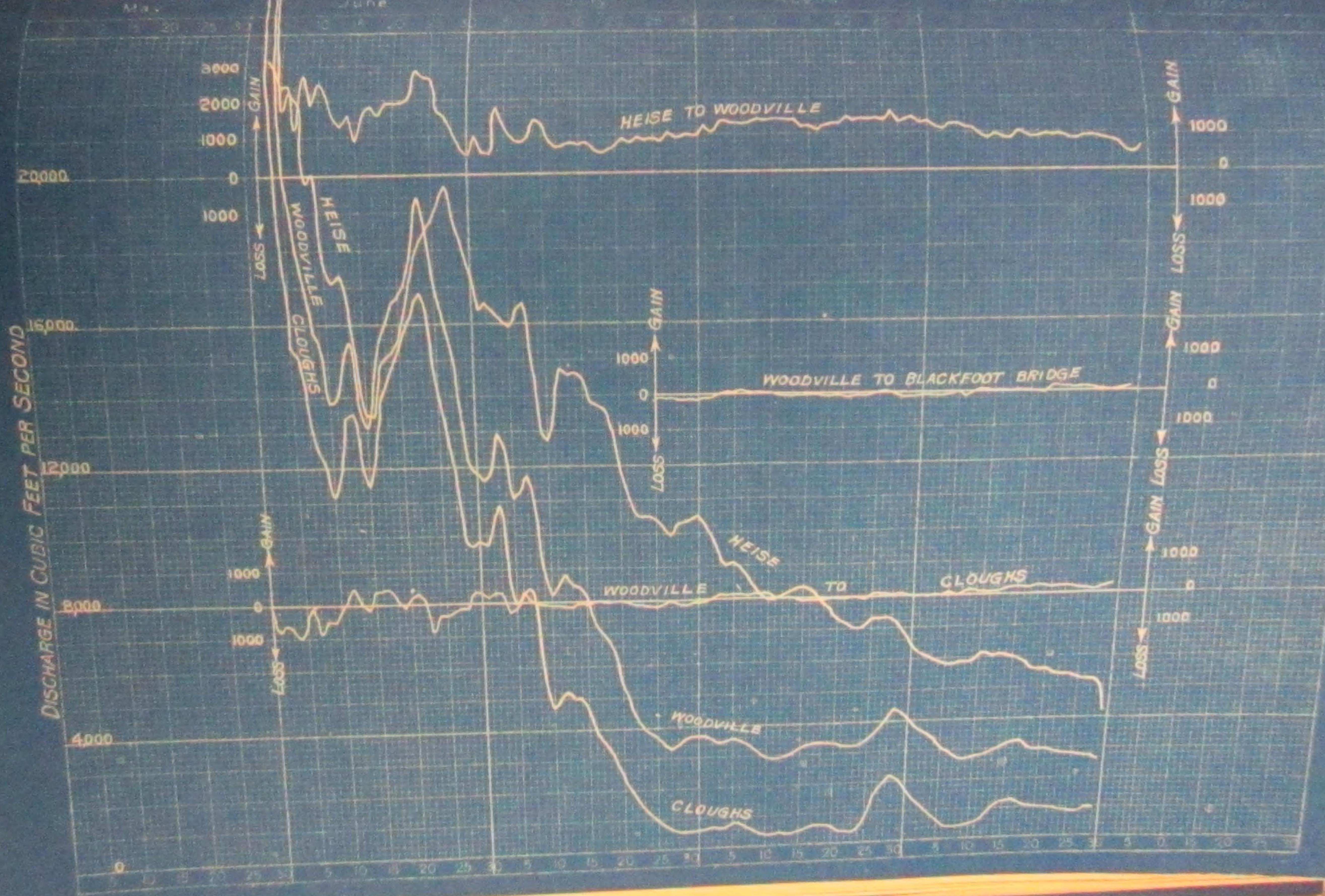
plate XII contains hydrographs of the total flow passing the Heise, Woodville and Clough gaging stations, together with graphs showing the net losses and gains in the two intervening sections and also in the section from Blackfoot Bridge to Clough's. The latter, of course, only covers that portion of the season during which the Blackfoot Bridge records were dependable. All are plotted to the same scale and with a time interval allowance to make them coincide with Heise dates.

The general characteristics of these curves are not materially different from those of former years. The gain and loss curves are most irregular during periods of high discharge and rapid change of stage but from July 15 to September 30 are especially consistent with those for 1927.

No additional surface waste and return flow measurements were obtained during 1928. Eleven sets of these measurements have been secured during former years for the river section between the Woodville and Clough gaging stations, all of which have been summarized in previous reports. While such short period investigations afford rough checks upon the reasonableness of the applied transmission loss deductions, they are by no means conclusive. Results vary over rather a wide range, especially when reduced to percentages of river flow, and seem to depend largely upon preceding conditions as well as those pertaining at the time the special measurements are secured.

Therefore, since the data already available indicate the 6 per cent loss now being applied to be a reasonable one for the

HYDROGRAPHS ILLUSTRATING NET LOSSES AND GAINS BETWEEN HEISE AND CLOUGHS GAGING STATIONS
 1928 DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. XII



ordinary storage delivery period, further expenditures on work of the same character did not appear warranted.

To arrive at really dependable average percentage losses these special measurements should be continuous over a considerable period of time and recording gage records should be procured for all important wasteways.

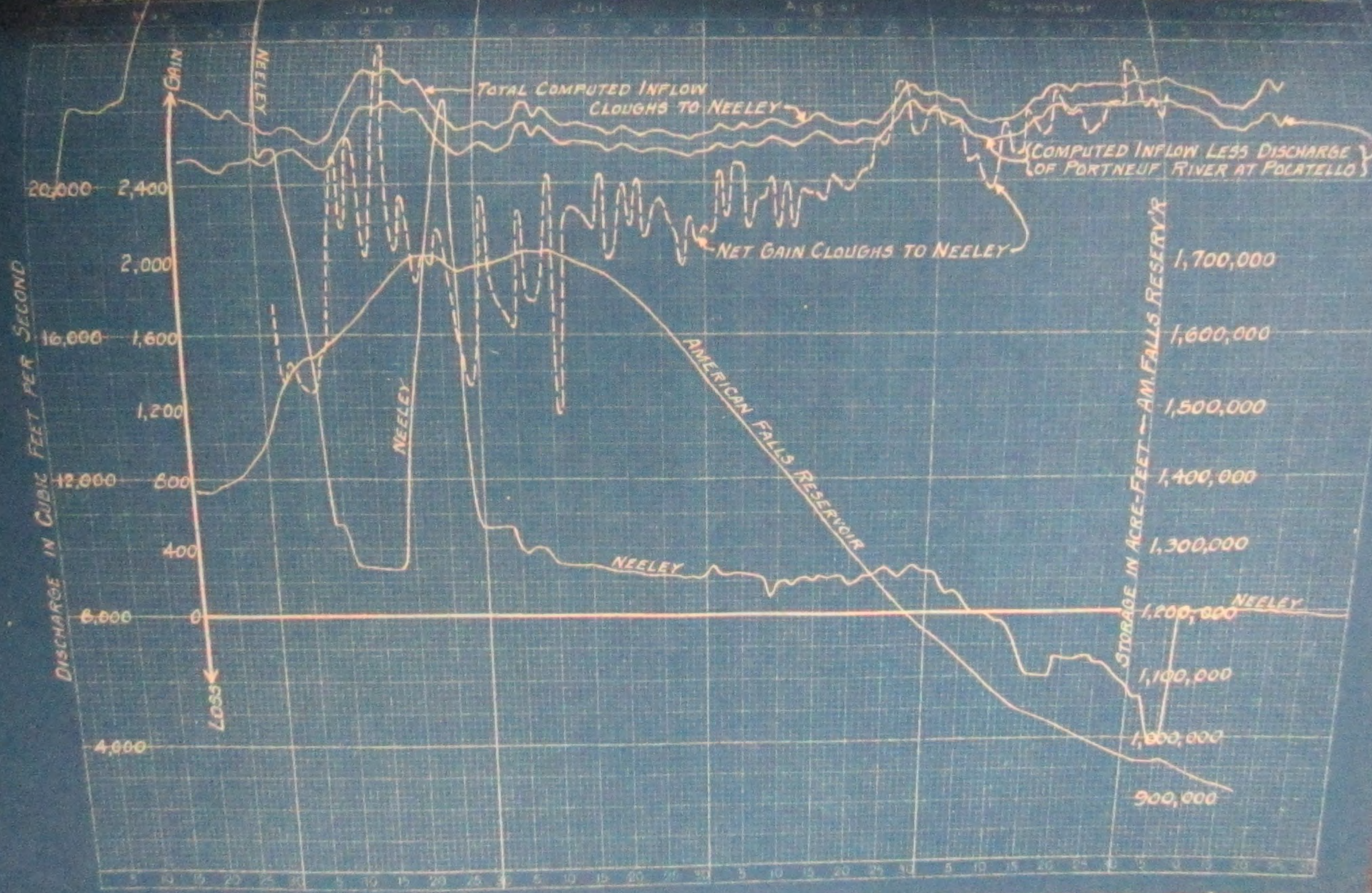
No records were secured at the Robertson station during 1928. Its value proved to be limited and in consequence the equipment was removed and the station was definitely discontinued after the close of the 1927 irrigation season.

Plate XIII affords a graphical study of the inflow between the Clough and Neeley gaging stations and its relation to changes in the amount of storage impounded in the American Falls Reservoir. The Neeley total discharge hydrograph has been added for the convenience of those who may desire to make comparisons of reservoir inflow and outflow.

The graph showing the net gain between the Clough and Neeley stations introduces the reservoir factors and, as might be expected, is decidedly irregular. The difference between it and the total computed inflow represents the over-all or net loss through the reservoir, most of which is accounted for by the heavy evaporation. The fact that the losses are generally heavier on a rising than on a falling reservoir stage and are largest during mid-summer when the reservoir was practically full should be noted.

The small over-all reservoir loss evident during the latter part of the season is indicative of the increased bank storage return to be expected at low reservoir stages following continuous rapid draw down periods.

HYDROGRAPHS ILLUSTRATING COMPUTED AND NET GAINS BETWEEN CLOUGH AND NEELEY STATIONS
 AND DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. XIII



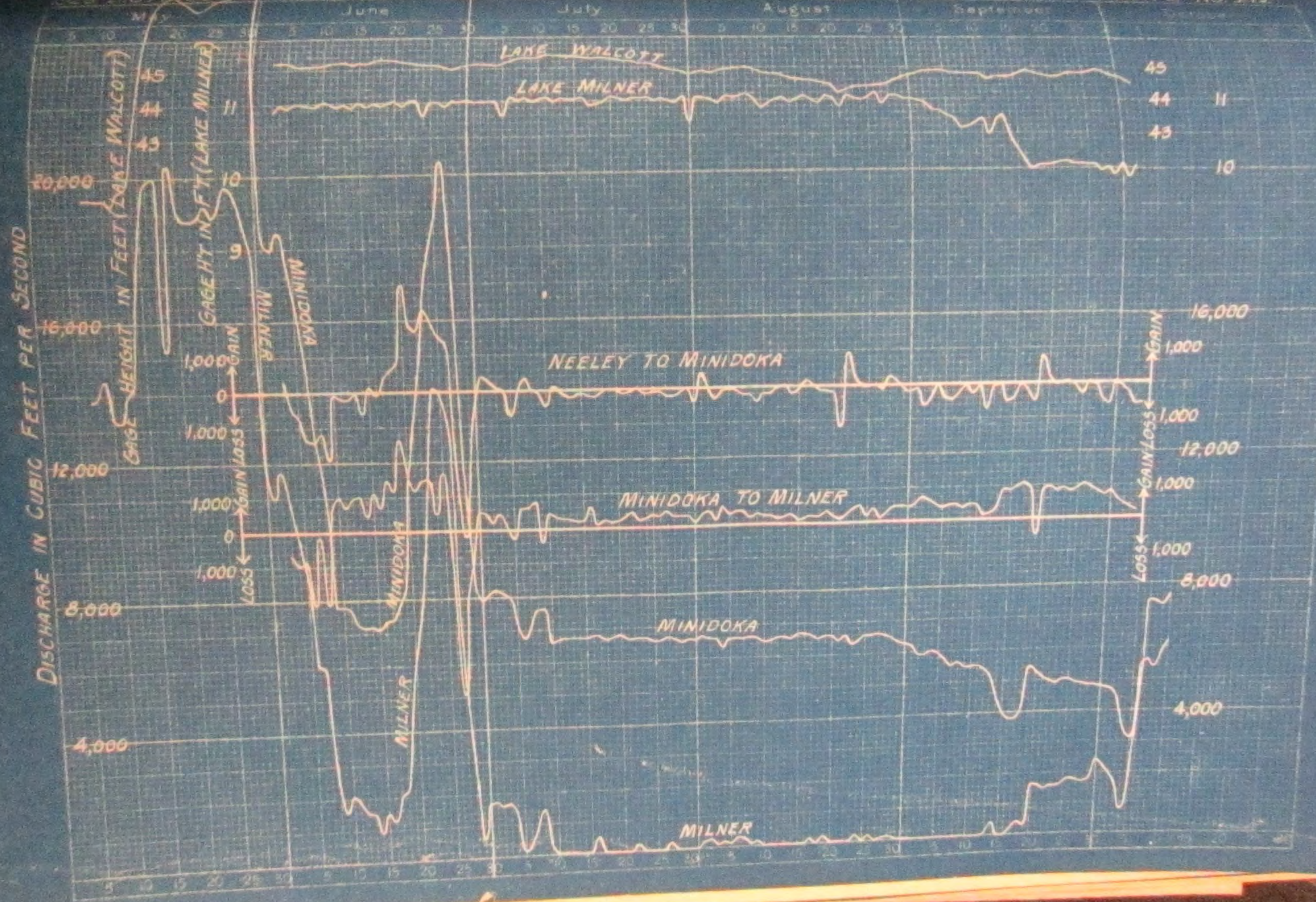
The average June to September daily computed inflow between the Clough and Neeley gaging stations (with the flow of Portneuf River at Pocatello deducted) amounted to 2,662 second-feet in 1928 in comparison with 2,693 second-feet for the same period in 1927 and a ten year mean of 2,515 second-feet.

For further data concerning American Falls Reservoir gains and losses the reader is again referred to the report of Thos. R. Newell covering the period from May 21 to October 17, 1928 and to the previous report of the same author for the 1927 season.

Plate XIV shows net gain or loss graphs for the two sections between the Neeley and Minidoka and the Minidoka and Milner gaging stations respectively. It also includes curves showing the fluctuations in water surface elevation at both Lake Walcott and Lake Milner, together with hydrographs for the river stations below the Minidoka and Milner dams. All these are plotted to coincide with Lake Walcott or Minidoka dates.

Extreme irregularity of the gain and loss curves during the early part of the season is no doubt chiefly due to the fact that the time intervals used are too long for the high river discharges then experienced. With uniform stage changes of small magnitude a considerable error in time interval would have only a slight effect upon these graphs but when these variations are both sudden and large in amount the indicated gains and losses are bound to fluctuate over a much wider range.

HYDROGRAPHS ILLUSTRATING NET LOSSES AND GAINS BETWEEN NEELEY AND MILNER STATIONS
 DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. XIV



The average net loss for the entire season for the section from Neeley to Minidoka amounted to 111 second-feet while for the corresponding period the average net gain recorded between Minidoka and Milner was 353 second-feet. The following table summarizes these average daily losses and gains for the last ten seasons:

Year	Summer	Summer	Summer
	Average Daily Loss Neeley - Minidoka	Average Daily Gain Minidoka - Milner	Average Daily Gain Neeley - Milner
1919	145	249	104
1920	301	323	22
1921	254	296	42
1922	248	344	96
1923	210	366	156
1924	46	206	160
1925	188	355	167
1926	197	230	33
1927	347	348	1
1928	111	353	242
Mean for 10 year period	205	307	102

Study of these figures indicates certain fairly well defined relationships which are itemized as follows:

(1) Loss between Neeley and Minidoka depends very largely upon the stages maintained in Lake Walcott during and prior to the particular season under consideration. Rapid draw downs over wide range of stage, such as those noted during the latter part of the 1919 and 1924 seasons, result in material bank storage return to the river which offsets or nullifies in part, at least, the earlier period losses. Long continued, low, pre-irrigation season lake levels of the character experienced during the winter of 1926-7 so deplete the adjacent ground storage that after the water surface is again raised, increased

channel losses must be expected until the ground reservoir is sufficiently replenished to once more establish a condition of equilibrium. The heavy loss of 1927 is probably accounted for in this way.

(2) Gain between Minidoka and Milner may be expected to vary more or less directly with the general water supply for the particular season. In deficient supply years such as 1919, 1924 and 1926 less water was delivered to Minidoka Project lands and the water applied was more carefully conserved than in such years as 1925, 1927 and 1928. Hence in the former both the ground return and the surface waste were undoubtedly smaller in amount than in other seasons when the available supply was in excess of all requirements.

(3) Gain from Neeley through to Milner is an algebraic combination of the quantities listed for the other two sections and for this reason the seasonal variations are harder to analyze than those for the shorter intervening sections.

Small percentage errors in river data would appear relatively large in the preceding table of losses and for this reason too much weight should not be given to the results secured during any one season. With this fact in mind, attention is called to the small loss noted between Neeley and Minidoka for 1928 and to the possibility that this may be attributable to a rise in the adjacent ground water table which in turn may be due to the higher water levels in the American Falls Reservoir which have pertained during the past two years.

NORMAL FLOW COMPARISON

The purpose of Plate XV is to afford a condensed comparison of the normal flow water supply available during the respective irrigation seasons 1919-1928 for the so-called Idaho Falls area. It consists of a table showing by months the principal component parts which make up the normal flow of Snake River and the extent to which water of this character is used in the territory between the Heise and Rexburg gaging stations at the upper end and the Blackfoot or Clough station at the lower end of this section.

The quantities listed are all summarized from the more extensive river data tables contained in District No. 36 Water Distribution Reports. Time intervals have been adjusted to correspond as nearly as practicable to Heise dates.*

The following brief explanation which is almost identical with that contained in the 1927 report is included for the convenience of the reader:

Columns 1-4 Sufficiently described by headings.

Column 5 Net gain in the section. To be complete it should probably have added to it the quantities contained in the same lines in Column 6.

Column 6 If the storage transmission loss is correctly determined, any indicated normal flow gain from that source is really additional return flow. The quantities shown in this column reflect changes in transmission loss schedules which should be taken into account in comparing the data for different years.

Column 7 The algebraic sum of the quantities listed in the five preceding columns.

*1922 and 1923 reports erroneously state that these records have been adjusted to correspond with actual canal diversion dates.

SUMMARY BY MONTHS OF NORMAL FLOW
 CONDITIONS BETWEEN THE HEISE-REXBURG
 AND BLACKFOOT GAGING STATIONS
 IRRIGATION SEASONS 1919-1928.

PLATE NO. IV

IRRIGATION WATER DISTRICT NO. 36.

YEAR	HEISE NOR. FLOW	REXBURG	BLACKFOOT RIVER	RETURN FLOW HEISE TO BLACKFOOT	NORMAL FLOW GAINS FROM STORED LOSS	TOTAL NORMAL FLOW SUPPLY	TOTAL DIVERSIONS HEISE TO BLACKFOOT	STORED DIVERSIONS HEISE TO BLACKFOOT	NORMAL FLOW DIVERS. HEISE TO BLACKFOOT	BALANCE AT BLACKFOOT STA.	NOR. FLOW PASSING BLACKFOOT STA.
JUNE											
1919	241439	22477	400	-18994	16728	262050	264752	10433	254319	7731	7731
1920	552010	84910	3205	-14579	0	625546	310026	0	310026	315520	315520
1921	683677	153110	5039	-33854	0	807972	277462	0	277462	530510	530510
1922	595489	113110	8190	-2304	0	714485	331545	0	331545	382940	382940
1923	482579	90200	11597	23918	0	608294	262414	0	262414	345880	345880
1924	303207	16476	201	10631	4577	334092	233547	-66484	300031	34061	34061
1925	499874	123010	4830	25290	0	653004	314594	0	314594	338410	338410
1926	273756	24483	78	12507	14003	324827	271980	-29310	301290	23537	23537
1927	769629	222720	3547	22579	0	1018475	302135	0	302135	716340	716340
1928	535941	92550	6787	53258	0	688536	275266	0	275266	413270	413270
JULY											
1919	121226	21652	14	-4693	12321	150520	180218	35521	144697	5823	5823
1920	353997	31670	4810	8812	6048	405337	317285	7089	310196	95141	95141
1921	302767	30480	3213	5651	7803	355914	323826	11031	312795	43119	43119
1922	297375	31066	6471	25067	10796	370775	321988	4681	317307	53468	53468
1923	365108	28661	5864	22459	10881	432973	328971	4020	324951	108022	108022
1924	171278	17345	655	23098	9853	222229	255842	39689	216153	6076	6076
1925	431518	82730	4470	38754	7175	564647	331306	3577	327729	236918	236918
1926	161280	28155	54	18374	14360	222223	243236	24417	218819	3404	3404
1927	500607	98850	3160	41057	2171	645845	357867	9368	348499	297346	297346
1928	384962	41538	2428	26015	1332	456335	343880	18929	324951	131384	131384
AUGUST											
1919	98839	19894	78	3938	5123	127872	129054	2217	126837	1035	1035
1920	177244	24553	5266	34866	6390	248319	259201	25851	233350	14969	14969
1921	182975	35843	8209	29756	5620	262403	260670	10608	250062	12341	12341
1922	192659	34222	6897	37086	7071	277935	252849	15156	237693	40242	40242
1923	178904	28569	5979	35700	11008	260250	265384	23833	241551	18699	18699
1924	101953	25686	16	13484	6060	147199	210169	67074	143095	4104	4104
1925	213661	45400	5963	32383	15047	312454	281504	3753	277751	34703	34703
1926	127966	28940	134	14822	5264	177126	198605	23454	175151	1975	1975
1927	218894	43590	7688	45871	8748	324791	292973	10018	282955	41836	41836
1928	182608	32339	4405	41405	4002	264759	300983	47578	253405	11354	11354
SEPTEMBER											
1919	87115	22501	345	2234	0	112195	107517	0	107517	4678	4678
1920	66389	21130	2290	10585	521	100915	71638	0	71638	29277	29277
1921	129235	50960	4525	26655	184	211559	149132	0	149132	62427	62427
1922	133751	39758	1996	15950	0	191455	142769	0	142769	48686	48686
1923	120623	30825	3798	23299	5571	184116	194718	22851	171867	12249	12249
1924	87479	24983	503	15364	1890	130219	141596	15613	125983	4236	4236
1925	142414	56000	9268	23884	2280	233846	150283	0	150283	83563	83563
1926	95080	29468	1064	10731	2172	138515	142137	4869	137268	1247	1247
1927	161014	53890	5027	30407	5566	255904	188009	885	187124	68780	68780
1928	125524	40930	3006	29996	3413	202869	213109	13076	200033	2836	2836

NOTES - ALL DISCHARGE QUANTITIES LISTED IN SECOND FEET.
 * THEORETICAL; SEE TEXT FOR EXPLANATION.
 * INCLUDES EMMA MATILDA AND TWO OCLAN LAKE STORAGE.
 * RECORDS FOR SEPTEMBER 1-15 (INCLUSIVE) ONLY.
 * RECORDS FOR SEPTEMBER 1-28 (INCLUSIVE) ONLY.

Columns 8-10 Headings afford sufficient explanation.

Column 11 "Total Normal Flow Supply" less "Normal Flow Diversions Heise to Blackfoot".

Column 12 Equivalent to column 11 on which it affords a check, as the results here given for all years except 1924, 1925, 1926, 1927 and 1928 were taken direct from the river data sheets. Because of the use of the Blackfoot Bridge instead of the older Blackfoot or Clough station as an adjustment point, theoretical rather than actual totals must be used for the latter point in these five years if a check on column 11 is to be secured.

The 1924 and 1926 segregations of diversions as between stored water and normal flow are complicated by the exchanges which were made. For example, the minus storage shown as being diverted during June of these years represents the excess of the normal flow accepted for exchange over actual storage diversions while the normal flow shown as diverted in the same month very evidently is a theoretical rather than an actual quantity.

The analysis of 1928 conditions to be derived from this summary emphasizes certain more or less pronounced peculiarities, some of which have already been mentioned.

(1) The return flow entering between Heise and Blackfoot was the largest during June, the next to the largest during August and September and the largest with only two exceptions during July recorded for these respective months during the entire ten year period. The size of the June total is believed to be accounted for by rainy weather and surface waste rather than unusual ground storage return.

(2) Only in 1927 was the total normal flow supply of water consistently greater than that of 1928 during each of the four summer months but in both 1921 and 1925 materially larger season totals were noted, while in 1922 the two months of June and August show an excess over corresponding periods in 1928.

(3) More water was diverted between Heise and Blackfoot during August and September and, with the single exception of 1927, during the whole four months than in any other year listed.

(4) During June and July more normal flow passed Blackfoot than in the same months of seven of the other nine years tabulated while during August and September only three and one years respectively show smaller amounts in this column.

GROUND WATER

During May, 1928 arrangements were made for the prosecution of a comprehensive study of ground water conditions covering most of that part of Snake River Valley included within Water District No. 36. Harold T. Stearns, Associate Geologist, U. S. Geological Survey was placed in charge of this work which was financed through the following initial contributions:

U. S. Geological Survey	\$2,200.00
State of Idaho Department of Reclamation	1,000.00
State of Idaho Bureau of Mines and Geology	2,000.00
Idaho Power Company	1,000.00
North Side Canal Company, Ltd.	1,200.00
Minidoka Irrigation District	500.00
Burley Irrigation District	500.00

The Twin Falls Canal Company also made available a large amount of data collected at their own expense, while W. G. Steward and others of this company together with Lynn Crandall, Water Commissioner

for the Federal Court in the Big Lost River section, assisted in compiling records and preparing manuscript for the report which is soon to be forthcoming.

Occasional readings of water level at wells located within the triangular area extending in a general northwesterly direction from an apex at the Heise gaging station were made as a part of the investigation. In consequence, the brief discussion on ground water in this area which has been included in several previous District No. 36 reports, has now been omitted.

WATER DISTRIBUTION AND HYDROMETRIC WORK
IN THE HENRYS FORK - FALL RIVER - TETON AREA

H. S. Kollenborn filled the position of hydrographer and deputy water master in direct charge of hydrometric work and water distribution in the so-called North Fork section during 1928. All other deputies and assistants working in this area reported to and received their instructions from him, while he, in turn, worked under general orders issued from the office at Idaho Falls.

Through the courtesy of the Fremont County Commissioners, the jury room at the Court House, St. Anthony, Idaho, was again made available for use as summer headquarters.

The following abstract from a report prepared by Mr. Kollenborn affords a brief general summary of the work in this part of District No. 36.

The early part of May was spent in the reestablishment of river and canal gaging stations and in becoming familiar with the territory and work to be done (Note Mr. Kollenborn had not previously had any experience in this area). The securing of check measurements and gage readings together with the making of minor repairs to station equipment began at the same time. David I. Gardner reported for duty

on May 15 and assisted with this work throughout the balance of the month, following which he filled the combined position of hydrographer and deputy water master on the Teton River Division until August 31.

Regular daily gage readings and reports began June 1 and continued for three full months. During this period Zella Hunter was employed upon a half time basis to act as clerk in the St. Anthony office, while Bruno Albert and T. W. Luetjen served respectively as deputy water masters in the Upper Fall River and Henry's Fork sections. The latter was retained as general assistant and hydrographer throughout the month of September when Mr. Gardner was transferred to other work in the vicinity of Idaho Falls.

Practically all streams in this area reached their peak season discharges during the month of May but the flow continued to be fairly well sustained and ample to fill all demands until about the time regulation began on July 10. Thereafter the flow decreased quite rapidly to a stage which made it difficult for some of the canals to divert their full quotas. The diversion dams for the Independent and Consolidated Farmers canals were tightened during the period from July 19 to 23 and on July 24 it became necessary to cut rights in this section in advance of the main river schedule in order to supply the latter system. This situation continued until August 4, by which time the cuts had proceeded to a point where enough of the younger rights were invalidated to insure a normal flow balance passing all Henry's Fork canals to fill those with an older priority farther downstream.

During this period it was impossible to deliver the Jackson Lake storage owned by the Enterprise Irrigation District through the usual substitution method, hence arrangements were made for furnishing a temporary supply by the release of water stored at Henry's Lake, all of which was later repaid from the first mentioned rights.

More water was impounded in the Henry's Lake Reservoir than at any previous time since the completion of the outlet dam (75,192 acre-feet). Because of this fact it became necessary to charge evaporation losses to avoid unreasonable depletion of normal flow. Actual stored water usage was not especially heavy, however, and in consequence an unused carry-over of 56,910 acre-feet remained in the reservoir on September 30. This amount would have been larger still had the gates been shut down promptly when the company was first notified that storage was no longer needed and had the unusually large leakage noted after the gates were closed been immediately reduced.

A few canals without storage rights experienced some shortage in their water supply during August but no material crop reduction is believed to have resulted. Had the need been great enough to justify the expenditure, these deficiencies might have been relieved by the purchase of storage.

Conditions on Teton River were similar to those already described. High water during May was especially noticeable and almost reached a stage which would have resulted in serious damage. During most of August the river channels were practically dry below both the Teton Island Feeder and the Rexburg Irrigation Company diversion dams but the return flow sufficed to fill all valid rights farther down the stream. No appreciable crop damage resulting from insufficient water supply was reported.

During September the recording gage shelters at several of the river stations were repaired, cable anchorages were inspected and a new concrete anchorage was installed at the north end of the Fall River near Squirrel cable. This work was in addition to the more routine measurements and gage readings which were continued to the extent permitted by the reduced personnel.

Some irregularities in river flow resulted from inadequate regulation at the Ashton Dam of the Utah Power and Light Company and the installation of a long distance water stage recorder at a new station below the power plant has been recommended to facilitate better control.

No serious difficulties were experienced and the season was considered a very satisfactory one in-so-far as water supply and distribution were concerned.

Actual deliveries to the canals diverting from Henry's Fork, Fall and Teton Rivers are shown on Plates XVI, XVII, XVIII and XIX. These are based upon daily gage readings except during September when, because of personnel depletion, the readings were obtained at less frequent intervals. Discharges for days when no observations were made have been supplied by interpolation or by estimate.

In the matter of recomputation of data, as well as in other respects, the records here presented correspond and are consistent with those contained on Plates IV, V, VI and VII.

Plates XX and XXI summarize data in regard to the flow of the three principal streams, diversions therefrom, losses and gains throughout different sections, in-so-far as it is practicable to show all these facts in such tables.

DISTRICT WATER DISTRICT NO. 36

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM HENRYS FORK AND TRIBUTARIES FOR JUNE-1928.

FALL RIVER CANALS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL						
DAY OF MONTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
YELLOWSTONE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
HARRISFIELD	59	73	73	90	102	127	127	128	132	132	136	0	143	159	160	172	170	170	135	140	141	135	133	128	130	148	140	149	181	179	3892						
MARYSVILLE	59	73	73	90	102	127	127	128	132	132	136	0	143	159	160	172	170	170	135	140	141	135	133	128	130	148	140	149	181	179	3892						
TOTAL DIVERS ABOVE SQUIRREL	59	73	73	90	102	127	127	128	132	132	136	0	143	159	160	172	170	170	135	140	141	135	133	128	130	148	140	149	181	179	1052						
FARMERS OWN	35	34	33	33	35	36	37	36	35	35	33	37	36	36	36	36	36	35	35	34	36	30	39	34	34	32	35	34	34	39	64						
ALMY	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	129						
ENTERPRISE	154	154	152	151	151	152	149	153	153	152	156	157	152	153	150	149	150	149	132	134	130	133	132	133	132	130	133	132	130	129	4317						
BELL	4	9	9	9	7	7	7	7	7	7	7	4	5	4	4	4	4	3	3	2	2	2	3	3	3	3	3	3	4	3	2	235					
FALL RIVER	404	390	428	419	415	375	373	375	395	386	371	377	397	390	340	319	328	254	246	246	240	244	254	254	254	258	290	288	338	332	7980						
MEBEE	10	9	9	6	5	5	5	5	5	5	5	8	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	8	9	8	9	7	8	1939		
CHESTER	10	9	9	6	5	5	5	5	5	5	5	8	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	9	8	9	7	8	1939		
SILKEY	71	74	66	68	66	64	62	63	61	61	58	58	58	58	47	48	46	46	47	47	47	61	74	78	76	80	80	80	79	77	83	1939					
CURR	24	23	23	19	19	17	16	15	14	13	14	8	8	8	8	9	10	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
WHITE	30	30	30	28	27	28	29	29	28	27	29	30	30	30	29	31	29	28	28	29	28	28	29	28	27	28	28	28	28	28	28	28	28	28	28	28	
TOTAL DIVERS SQUIRREL TO CHESTER	736	727	754	737	733	690	684	689	704	692	675	683	698	691	628	607	619	539	614	613	517	540	555	546	551	552	589	584	668	675	19090						

HENRYS FORK CANALS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL	
DAY OF MONTH	20	19	22	21	19	18	20	20	19	20	19	19	19	20	20	20	20	20	20	20	19	19	19	20	20	19	19	19	20	16	16	581
DEWEY	74	73	87	85	82	65	85	83	83	77	71	71	67	12	12	9	40	75	76	76	14	66	68	66	64	63	67	66	58	56	1891	
LAST CHANCE	503	560	571	438	441	429	477	461	456	450	384	339	259	261	263	235	240	232	229	229	261	263	261	256	324	348	416	443	476	499	11004	
ST ANTHONY UNION	215	213	216	155	155	153	157	155	144	136	107	105	77	76	78	80	79	20	20	22	20	20	50	94	103	135	190	195	204	199	3573	
FARMERS FRIEND	149	152	153	153	142	141	138	141	140	138	86	87	83	77	84	82	77	61	60	59	58	58	60	66	65	67	138	140	139	138	3132	
TWIN GROVES	237	234	227	244	243	240	240	239	240	241	172	176	131	131	80	81	79	62	60	58	52	57	57	59	87	198	205	202	229	229	4790	
SALEM UNION	237	234	227	244	243	240	240	239	240	241	172	176	131	131	80	81	79	62	60	58	52	57	57	59	87	198	205	202	229	229	4790	
TOTAL DIVERS ASHTON TO ST ANTH'Y	1198	1251	1276	1096	1082	1046	1117	1099	1082	1062	839	797	636	577	537	507	535	470	465	463	424	483	516	561	662	830	1035	1066	1122	1137	24971	
EGIN	335	330	333	330	328	329	304	306	303	306	242	213	216	219	221	170	167	164	167	229	232	235	234	229	229	227	258	280	282	274	7672	
ST ANTHONY UNION FEEDER	102	102	82	82	74	74	76	77	75	74	62	39	39	41	41	18	20	20	17	18	23	32	30	32	32	50	73	72	72	84	1633	
INDEPENDENT	335	332	363	330	318	314	327	325	318	316	243	208	206	221	219	134	137	132	134	166	167	167	164	197	204	212	265	263	265	256	7238	
CONSOLIDATED FARMERS	273	269	268	255	246	241	228	228	230	226	221	221	214	178	178	180	172	161	155	156	146	138	141	151	151	161	143	184	201	212	5928	
TOTAL DIVERS STANTH'Y TO REXBURG	1045	1033	1046	997	966	938	935	936	926	922	768	681	675	659	659	502	496	477	473	569	568	572	569	609	616	650	739	799	820	826	22471	

TETON RIVER CANALS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL				
DAY OF MONTH	8	8	9	14	10	13	12	16	22	23	23	23	23	22	22	21	18	16	15	14	13	16	15	15	16	16	17	16	15	16	487				
SIDOWAY	183	176	174	168	166	164	161	161	165	161	160	85	83	84	84	84	83	83	84	84	84	84	84	85	96	100	101	101	174	173	168	166	3843		
WILFORD	0	0	0	0	0	0	35	38	40	31	37	45	42	36	37	33	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TETON IRRIGATION	19	17	23	22	21	19	19	20	19	19	19	19	21	20	20	19	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOOD LUCK	20	25	21	26	31	25	27	20	16	29	29	17	21	22	21	21	21	22	25	3	31	22	4	6	35	38	33	33	33	33	13	690			
PIONEER	55	53	52	48	41	39	52	50	50	39	38	52	49	47	0	0	0	0	0	0	18	14	5	2	2	5	6	21	19	35	18	810			
STEWART	18	17	18	14	3	3	0	0	15	12	14	17	17	15	15	14	18	15	15	15	14	20	19	19	19	21	24	27	26	23	24	468			
PINCOCK BYINGTON	3	3	3	39	26	27	21	19	28	26	26	26	29	26	9	7	6	8	8	7	15	16	13	16	16	18	17	22	24	24	510				
PINCOCK GARNER	371	371	333	333	381	428	424	397	366	345	345	378	320	308	308	233	230	233	241	236	230	244	194	188	238	249	275	275	246	302	3041				
TETON ISLAND FEEDER	42	35	34	34	19	13	10	6	6	4	8	12	12	11	14	17	18	18	20	18	14	18	29	28	19	28	23	20	20	19	8	348			
NORTH SALEM	27	15	22	21	13	8	11	4	3	3	9	17	20	19	7	8	9	10	11	11	10	10	15	13	11	10	9	10	9	8	629				
ROXANA	74	50	21	20	15	27	13	8	32	32	34	36	8	9	15	10	11	16	25	17	15	15	22	20	19	17	7	6	25	10	629				
ISLAND WARD	60	53	49	40	54	50	49	47	41	41	42	47	45	44	46	44	45	48	49	48	47	51	50	49	52	55	55	52	51	51	1855				
WOODMANGEE JOHNSON	69	65	64	62	59	55	73	70	66	66	66	74	71	72	64	64	66	67	68	63	62	63	63	63	63	63	63	70	70	70	1978				
CITY OF REXBURG	210	194	188	247	233	234	239	245	260	250	250	263	268	244	211	207	211	211	213	208	205	207	212	208	211	214	240	239	236	237	6789				
REXBURG IRRIGATION	210	194	188	247	233	234	239	245	260	250	250	263	268	244	211	207	211	211	213	208	205	207	212	208	211	214	240	239	236	237	6789				
TOTAL DIVERS TETON RIVER	1154	1082	1011	1080	1072	1105	1146	1101	1128	1081	1100	1114	1028	979	87																				

TETON RIVER CANALS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																				
152	151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
152	151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM HENRY'S FORK AND TRIBUTARIES FOR JULY-1928.

FALL RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
YELLOWSTONE	0	0	0	0	0	0	0	0	0	2	2	2	3	6	6	6	7	6	6	6	6	6	6	6	6	6	7	7	7	6	6	121
HARRISFIELD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MARYSVILLE	177	187	158	156	158	177	173	176	177	175	186	190	187	195	170	170	177	186	181	181	182	182	183	182	180	174	178	62	176	166	166	5368
TOTAL DIVERS ABOVE SQUIRREL	177	187	158	156	158	177	173	176	177	177	188	192	190	201	176	176	184	192	187	187	188	188	183	188	186	180	185	69	183	172	172	5489
FARMERS OWN	16	42	39	39	41	42	33	33	35	34	36	38	34	35	36	35	33	39	36	36	36	38	34	33	33	33	33	34	34	34	34	1119
ALMY	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	1	2	2	3	3	3	3	2	2	22
ENTERPRISE	127	130	126	128	129	144	140	135	140	130	139	137	140	139	137	137	139	137	137	137	136	136	138	138	146	0	109	110	105	109	118	3715
BELL	2	3	2	2	2	2	1	0	0	0	0	0	3	2	1	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	0	29
FALL RIVER	328	311	334	332	332	355	336	328	330	322	328	332	332	353	349	340	338	362	351	345	340	340	349	368	355	353	340	357	349	336	342	10547
MSBEE	7	6	7	8	6	7	4	4	4	3	3	3	4	3	2	2	3	3	7	6	6	6	10	9	12	12	10	9	9	9	9	196
CHESTER	82	88	80	78	79	81	68	67	62	62	69	58	63	58	57	50	54	47	46	44	43	36	36	39	46	45	44	44	38	32	31	1709
SILKEY	4	13	13	13	13	16	11	9	9	9	9	10	10	22	21	19	13	13	12	8	8	10	28	24	26	26	24	26	24	2	2	473
CURR	89	68	26	26	26	27	25	25	24	23	24	25	24	23	22	25	26	26	25	25	25	31	29	36	35	32	34	32	33	32	23	925
WHITE	1	1	0	0	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	0	1	0	0	0	0	0	1	0	0	1	0	23
TOTAL DIVERS-SQUIRREL TO CHESTER	668	642	628	627	629	678	620	596	606	585	600	603	613	638	628	606	606	630	621	603	599	589	624	551	511	507	597	619	826	581	570	18785

HENRY'S FORK CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
DEWEY	14	15	19	19	20	14	14	16	14	14	14	14	16	15	15	14	14	15	15	15	16	16	16	16	16	17	17	18	18	17	16	689
LAST CHANGE	53	55	57	56	56	53	52	46	47	46	45	42	46	44	39	37	39	48	46	47	70	64	64	71	72	74	70	70	66	64	61	1700
ST. ANTHONY UNION	517	481	411	409	375	368	362	323	328	328	326	416	411	494	501	441	422	409	411	510	508	506	506	503	506	393	399	387	445	443	470	13295
FARMERS FRIEND	201	198	129	126	114	140	137	110	37	66	79	111	115	132	153	167	175	172	164	154	153	167	147	137	62	44	83	131	129	128	42	3883
TWIN GROVES	189	152	122	122	123	132	141	129	83	90	95	117	99	111	124	122	119	124	136	130	131	129	128	135	130	119	122	124	118	114	89	3759
SALEM UNION	222	212	190	191	138	143	148	121	119	122	122	178	192	172	142	138	192	194	241	234	236	232	232	234	229	230	184	194	167	178	176	5699
TOTAL DIVERS-ASHTON TO STANTHY	1156	1113	929	923	826	850	854	745	624	666	681	878	879	968	974	919	961	962	1013	1030	1114	1036	1093	1036	1015	877	865	924	943	940	854	28825
EDIN	277	280	274	272	245	238	235	234	237	216	244	282	282	254	256	242	262	258	256	254	254	219	254	266	284	294	287	286	269	274	280	8087
ST. ANTHONY UNION FEEDER	64	64	38	37	38	56	64	65	65	64	62	66	88	75	75	84	77	71	74	79	64	60	64	64	73	73	66	67	70	68	71	2050
INDEPENDENT	263	265	265	249	256	252	247	247	254	219	225	227	256	208	263	279	241	219	225	214	221	272	279	270	263	281	270	274	270	268	277	7819
CONSOLIDATED FARMERS	221	230	229	226	194	182	180	180	178	175	175	197	215	199	182	221	253	233	219	131	129	70	56	82	199	278	15	130	230	226	224	5649
TOTAL DIVERS-STANTHY TO REXBURG	827	841	846	784	733	728	726	734	674	708	772	841	736	776	846	833	781	774	679	668	621	653	682	819	926	638	757	839	836	852	23625	

TETON RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
SIDDOWAY	14	16	12	11	13	10	14	12	11	10	10	15	1	1	0	0	6	21	19	24	22	21	21	21	21	20	20	20	18	16	15	433
WILFORD	163	165	161	157	156	158	151	141	140	137	134	132	131	130	127	125	122	120	117	120	122	117	115	116	113	112	146	147	144	140	137	4196
TETON IRRIGATION	60	71	81	74	82	81	84	46	0	60	61	69	86	61	59	68	80	78	82	90	88	86	88	92	82	90	90	93	94	96	99	2871
GOOD LUCK	28	27	24	29	24	25	24	20	20	19	8	7	7	18	18	16	35	37	36	36	34	34	34	34	34	33	31	29	29	27	780	
PIONEER	13	12	28	34	31	32	30	23	22	21	20	28	27	27	26	29	27	27	25	26	22	21	21	25	3	22	23	23	22	21	756	
STEWART	37	34	32	36	45	46	45	44	41	37	29	28	29	29	31	28	29	30	29	25	26	25	29	25	25	23	25	26	21	21	957	
PINCOCK BYINGTON	22	24	24	23	22	23	22	19	17	16	15	14	0	0	0	0	0	14	12	10	23	22	20	26	17	19	18	21	19	16	456	
PINCOCK GARNER	22	22	17	18	24	22	26	22	18	26	21	21	22	19	18	17	14	14	12	3	23	19	20	19	17	19	16	17	16	15	583	
TETON ISLAND FEEDER	287	296	290	227	249	264	244	244	244	236	236	336	336	339	330	377	305	302	281	269	283	272	311	314	308	302	308	284	290	275	244	8005
NORTH SALEM	15	16	21	17	17	13	12	11	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129
BOXANA	10	11	11	11	10	7	6	4	5	5	4	17	10	9	10	17	9	9	13	12	10	21	19	16	16	18	15	16	16	16	371	
ISLAND WARD	44	53	26	11	18	45	45	44	43	41	40	13	40	39	37	36	34	34	27	27	19	22	32	40	55	53	44	46	53	54	1187	
WOODMANSEE JOHNSON	44	50	43	42	42	43	40	34	33	29	27	25	25	31	30	29	30	31	28	28	34	32	26	24	24	24	24	33	33	32	31	1021
CITY OF REXBURG	70	69	67	64	63	60	61	60	58	58	48	48	51	52	52	49	47	50	9	52	59	58	57	50	50	47	52	44	51	46	1670	
REXBURG IRRIGATION	233	241	233	224	224	228	231	191	74	223	212	213	210	207	196	195	192	194	199	183	172	167	167	152	160	168	172	165	166	154	5812	
TOTAL DIVERS-TETON RIVER	1085	1133	1010	976	1042	1029	1055	921	738	916	870	964	974	954	833	936	913	970	893	916	928	922	953	930	927	954	987	964	940	944	22627	

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM HENRY'S FORK AND TRIBUTARIES FOR AUGUST-1928.

FALL RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL		
YELLOWSTONE	6	10	10	10	12	12	12	11	13	13	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	184
NARRAGETTD	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
MARYSVILLE	170	158	158	154	118	101	98	89	89	89	88	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
TOTAL DIVERS ABOVE SQUIRREL	176	172	177	164	130	113	110	100	102	102	103	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1614
FARMERS OWN	34	34	33	36	33	35	33	28	28	28	27	26	0	0	0	0	0	0	0	7	7	7	7	7	22	22	21	21	20	21	20	0	557	
ALMY	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
ENTERPRISE	129	120	121	122	122	123	119	120	119	120	119	119	120	120	120	120	117	114	115	117	118	115	116	116	119	119	120	106	89	88	82	3575		
BELL	0	0	0	3	3	4	5	4	4	4	4	4	6	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	3	3	120		
FALL RIVER	353	349	351	355	357	364	353	351	349	349	349	349	349	355	355	353	353	353	353	328	324	326	322	326	326	322	290	286	207	207	207	10169		
MEBEE	7	7	6	7	7	8	8	8	7	7	7	6	6	9	7	7	7	6	7	7	7	6	6	6	6	6	6	6	7	8	7	212		
CHESTER	29	28	28	28	29	31	34	34	34	34	31	30	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	387	
SILKEY	1	8	4	13	14	9	1	2	2	4	4	3	2	3	14	12	14	14	14	1	1	1	7	6	7	6	7	7	1	1	1	184		
CURR	31	31	31	31	32	32	32	31	31	31	31	31	31	32	33	32	32	33	33	33	33	33	33	33	33	33	33	33	34	16	16	264		
WHITE	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	18	
TOTAL DIVERS-SQUIRREL TO CHESTER	577	579	576	597	595	607	586	579	575	578	570	569	528	525	535	530	529	526	528	499	496	491	495	498	517	512	481	463	362	346	338	16193		

HENRY'S FORK CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
DEWEY	16	15	15	15	18	17	18	17	16	15	16	15	14	15	14	14	16	0	18	20	20	20	18	19	20	20	20	18	17	17	16	508
LAST CHANGE	65	64	66	64	66	66	68	64	68	68	58	58	59	58	60	60	57	67	65	66	68	70	69	52	52	52	51	50	50	51	48	1774
ST ANTHONY UNION	479	481	50	50	355	359	362	351	357	425	443	441	443	447	447	447	463	398	359	290	355	353	351	350	355	299	153	158	174	174	229	10396
FARMERS FRIEND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TWIN GROVES	92	93	92	92	90	87	89	100	100	94	91	89	90	85	81	78	0	6	71	82	80	84	82	79	79	79	80	79	80	79	78	2481
SALEM UNION	172	161	159	163	165	164	167	168	177	159	156	164	156	190	188	192	89	141	162	162	144	143	139	154	151	146	147	133	96	95	92	4638
TOTAL DIVERS-ASHTON TO ST ANTH'Y	828	814	382	384	694	693	654	680	698	751	764	748	761	791	790	784	635	610	656	602	669	669	642	654	657	596	451	438	417	416	463	19797
EGIN	269	261	262	266	226	203	203	218	238	246	240	238	240	254	272	275	284	296	294	270	266	267	262	262	203	205	181	176	158	140	140	7889
ST ANTHONY UNION FEEDER	71	69	68	73	67	68	68	64	64	78	76	73	75	83	79	78	85	95	96	83	81	83	81	82	86	58	61	41	44	40	54	2226
INDEPENDENT	258	212	214	204	204	202	202	238	232	225	223	230	189	157	153	157	157	157	155	157	160	121	121	119	121	121	121	121	121	119	119	5376
CONSOLIDATED FARMERS	230	233	217	205	206	219	212	205	208	208	206	206	196	187	189	185	178	173	177	177	175	172	170	160	160	156	141	126	126	127	127	5657
TOTAL DIVERS-ST ANTH'Y TO REXBURG	828	775	761	748	703	694	685	689	748	764	747	740	761	713	697	691	704	721	724	687	679	682	634	605	568	540	504	464	441	429	340	20546

TETON RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
SIDDONAY	19	18	18	17	17	17	16	15	14	14	13	12	12	13	13	13	12	0	0	12	12	12	13	12	13	13	13	13	12	12	403	
WILFORD	135	133	82	83	131	130	126	123	121	120	118	118	64	67	67	67	68	68	68	68	68	71	65	68	68	68	68	60	59	59	58	2662
TETON IRRIGATION	89	68	73	84	90	93	90	86	86	87	83	0	38	32	52	56	77	0	0	29	58	65	65	28	0	0	0	0	33	34	78	1624
GOOD LUCK	27	25	28	27	26	26	26	26	26	27	28	18	7	9	9	7	9	9	8	10	7	14	9	9	9	9	9	8	8	8	8	416
PIONEER	21	20	21	21	21	21	21	20	21	20	20	15	11	9	9	9	9	9	11	13	7	10	10	10	10	10	12	10	6	6	8	436
STEWART	22	22	23	23	21	22	21	21	18	18	16	12	11	14	10	10	10	9	10	10	3	3	3	16	10	10	14	11	12	12	12	436
PINCOCK BYINGTON	16	16	16	16	16	16	16	0	0	0	0	21	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	370
PINCOCK GARNER	13	12	14	14	13	13	12	11	11	16	16	16	18	15	13	11	11	12	11	11	11	11	11	10	9	9	10	11	9	9	9	370
TETON ISLAND FEEDER	265	264	264	264	246	252	244	252	246	244	219	246	252	249	252	252	249	252	249	249	249	227	227	230	225	230	252	352	69	123	119	7148
NORTH SALEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BOYANA	17	16	16	11	11	13	13	13	12	10	10	12	9	9	9	10	11	10	10	11	11	11	13	13	17	17	17	17	17	17	17	396
ISLAND WARD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WOODMANSEL JOHNSON	4	4	30	27	23	26	3	34	27	19	20	28	15	15	13	12	10	18	16	14	10	9	10	11	9	11	11	12	16	14	14	639
CITY OF REXBURG	51	51	52	49	46	38	31	33	29	37	37	44	42	28	26	25	26	26	30	26	26	26	24	28	24	26	26	26	28	28	28	1024
REXBURG IRRIGATION	180	181	144	145	137	133	134	141	133	128	139	167	131	140	126	121	119	128	151	130	129	124	126	122	127	129	129	129	130	130	130	6220
TOTAL DIVERS-TETON RIVER	657	612	781	781	798	800	781	766	738	740	740	708	616	608	605	599	617	644	564	571	576	588	580	634	636	623	670	371	439	443	19837	

DAILY DISCHARGE IN SECOND FEET OF CANALS DIVERTING FROM HENRY'S FORK AND TRIBUTARIES FOR SEPTEMBER-1928

FALL RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL		
YELLOWSTONE	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	95
HARRIGFELD	4	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	8	8	204	
MARYSVILLE	33	34	34	35	36	37	38	38	39	40	39	39	38	38	38	37	37	36	37	38	40	41	42	43	44	45	47	48	49	49	1189		
TOTAL DIVERS ABOVE SQUIRREL	41	45	45	46	47	47	48	48	49	50	49	49	48	47	47	46	46	45	47	48	50	51	52	53	54	55	57	58	60	60	1488		
FARMERS OWN	20	20	20	20	20	19	19	19	19	19	18	16	15	14	12	11	9	8	9	10	11	12	13	13	14	15	16	17	18	18	464		
ALMY	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21		
ENTERPRISE	85	88	91	94	97	97	97	97	97	97	96	96	96	96	96	96	96	96	96	96	96	96	97	97	97	97	97	97	97	97	2847		
BELL	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	79		
FALL RIVER	206	205	205	204	203	203	203	203	203	203	202	202	202	202	202	202	201	201	201	201	201	201	201	201	201	201	200	199	198	6059			
MERCE	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	174			
CHESTER	2	2	1	1	1	4	6	9	11	14	16	19	22	24	27	29	32	33	33	34	34	34	34	35	35	35	36	34	32	662			
SILKEY	1	1	0	0	0	1	1	2	2	3	3	3	3	4	5	5	6	7	7	7	7	8	8	8	8	8	8	9	10	11	146		
CURR	15	15	15	15	14	13	13	13	13	13	13	13	13	13	13	12	13	13	14	15	15	16	17	17	18	19	19	20	20	443			
WHITE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL DIVERS SQUIRREL TO CHESTER	339	341	342	344	345	346	348	352	355	359	358	359	362	363	365	366	366	367	368	370	373	374	376	378	380	382	384	386	386	384	10918		

HENRY'S FORK CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL
DEWEY	16	15	15	15	15	15	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	428
LAST CHANCE	48	48	48	47	47	46	45	45	44	43	43	42	41	41	41	41	41	41	41	41	41	41	41	41	40	36	32	28	24	20	1218
ST ANTHONY UNION	246	244	241	239	237	234	232	230	228	224	220	196	196	196	196	196	198	200	196	193	189	186	183	179	176	172	169	167	164	6443	
FARMERS FRIEND	28	30	32	34	34	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	1392
TWIN GROVES	72	66	59	53	54	55	55	56	57	58	58	59	60	59	58	56	55	54	52	51	50	49	47	46	45	47	50	52	55	57	1645
SALEM UNION	92	92	92	92	89	86	84	81	78	76	73	70	70	64	58	52	52	52	52	53	53	53	53	52	52	54	56	58	60	62	2011
TOTAL DIVERS ASHTON TO ST ANTHY	502	535	547	540	536	531	533	535	537	518	498	478	439	433	428	421	412	406	399	387	382	377	372	367	360	338	335	332	331	328	13127
EGIN	146	152	158	140	133	126	127	127	128	128	128	129	118	116	114	111	109	107	105	102	100	98	100	103	105	108	110	107	103	100	3538
ST ANTHONY UNION FEEDER	64	73	83	88	82	76	70	64	57	51	45	39	27	29	31	33	35	38	40	42	44	46	45	45	46	44	43	42	41	40	1501
INDEPENDENT	119	119	119	118	118	118	118	118	118	118	118	118	140	141	141	142	142	143	143	144	144	145	140	135	131	126	121	119	118	116	3850
CONSOLIDATED FARMERS	127	127	127	124	126	129	127	126	127	126	127	129	124	126	126	129	129	129	129	127	127	127	127	127	126	124	121	122	126	3792	
TOTAL DIVERS ST ANTH TO REXBURG	456	471	487	470	459	449	442	435	430	423	418	415	409	412	412	415	417	415	415	415	415	416	412	410	406	404	398	389	384	382	12681

TETON RIVER CANALS

DAY OF MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL	
SIDDEWAY	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	342	
WILFORD	57	58	58	58	58	59	59	59	60	70	79	88	98	96	93	91	88	86	89	93	96	96	96	96	96	96	95	95	95	94	2851	
TETON IRRIGATION	28	28	27	27	28	28	28	29	29	30	32	35	38	40	41	42	43	44	45	46	47	48	48	48	48	48	48	48	48	48	1393	
GOOD LUCK	7	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	129	
PIONEER	5	5	6	6	6	6	5	5	5	5	5	5	5	5	5	12	14	17	19	15	12	8	9	10	10	11	12	13	14	15	158	
STEWART	13	15	16	17	17	17	17	17	17	18	18	18	17	17	17	16	16	16	15	15	15	15	14	14	14	14	14	14	14	14	14	438
PINCOCK BYINGTON	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	111	
PINCOCK GARNER	11	14	16	19	21	21	20	20	20	20	20	19	19	19	19	18	18	17	17	17	16	16	15	15	14	14	14	14	14	14	14	520
TETON ISLAND FEEDER	120	120	120	120	121	130	140	149	155	160	166	165	164	162	161	168	175	182	189	197	204	211	218	225	223	227	240	246	248	242	6206	
NORTH SALEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ROKAM	16	16	16	16	15	15	15	14	14	14	15	15	14	12	11	9	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6	186
ISLAND WARD	15	25	25	26	26	27	27	28	27	27	27	26	26	26	27	27	27	28	28	29	29	30	30	31	30	29	29	28	27	26	158	
WOODMANSEE JOHNSON	19	12	11	10	10	11	11	10	10	9	8	7	6	6	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	158
CITY OF REXBURG	26	28	27	27	27	27	27	26	26	26	26	26	26	26	26	27	27	27	26	26	25	25	24	24	23	24	24	23	23	22	21	616
REXBURG IRRIGATION	129	129	129	129	128	128	128	128	127	126	126	125	126	126	127	127	128	127	125	124	122	121	120	118	117	118	119	120	121	122	3346	
TOTAL DIVERS TO TETON RIVER	459	473	478	477	479	491	498	505	510	524	541	548	558	552	557	567	569	574	579	586	591	594	599	598	592	588	583	584	587	584	580	16456

The time interval basis used therein for the presentation of river records is as follows:

Time from Henrys Lake in hours	Gaging Station	Period used for comparable daily means
0	Henrys Lake Outlet near Lake	Day ending at 2 p. m.
40	Henrys Fork at Warm River	Day ending at 6 a. m. 2nd day following
50	Henrys Fork near Ashton	Day ending at 4 p. m. 2nd day following
	Fall River near Squirrel	*Day ending at 10 a. m. 2nd day following
	Fall River near Chester	Day ending at 5 p. m. 2nd day following
54	Henrys Fork at St. Anthony	Day ending at 8 p. m. 2nd day following
	Teton River near St. Anthony	Day ending at 6 p. m. 2nd day following
66	Henrys Fork near Rexburg	Day ending at 8 a. m. 3rd day following.

This schedule is arranged to make the river records correspond as regards time with those on Plates VIII and IX. The dates indicated on the tables are for the nearest midnight to midnight or calendar days.

Actual continuous measurement of the water wasting past the last diversion dams on Henry's Fork and Teton River is not considered practicable and for that reason the "Est. Bal. below Diversions" columns are blank except for days when either personal inspection was made or other reliable information was secured. Waste and return flow from adjacent irrigated lands enter the lower portions of both streams and comprise the total discharge measured at the Rexburg station at times when all available water is diverted at the upper points.

*Approximate means used. No recording gage records available.

1928 DISTRIBUTION WATER DISTRICT NO. 36
HENRYS LAKE RESERVOIR

DAILY SUMMARY OF DATA AT AND BETWEEN C

DATE	HENRYS LAKE RESERVOIR				LAKE HENRYS FORK				WARM RIVER				ASHTON				SQUIRREL			CANALS ABOVE STATION	WARRER PLUS CANALS ABOVE	DIVERS					
	GAGE	CAPAC. AC. FT.	TOTAL DRAFT AC. FT.	STORAGE NET DR. LOSSES AC. FT.	GAGE	DISCH.	STOR'D	NORM.	DATE	GAGE	DISCH.	STOR'D	NORM.	DATE	GAGE	DISCH.	STOR'D	NORM.	DATE			GAGE	DISCH.	DATE	TOTAL		
MAY 30					0.80																						
31	3376	71565			0.81	23			23	4.91	1230		1230	JUNE 1	1.15	1890		1890	MAY 31	4.42	3210	51	1261	JUNE 1	7.95		
1	3378	71689			0.80	23			23	4.87	1266		1266	2	1.15	1890		1890	JUNE 1	4.15	2830	55	2885	2	800		
2	3379	71750			0.79	23			23	4.85	1180		1180	3	1.11	1820		1820	2	4.05	2630	73	2763	3	827		
3	3380	71812			0.83	23			23	4.85	1180		1180	4	1.07	1756		1750	3	3.95	2560	13	2633	4	827		
4	3381	71874			0.83	25			25	4.82	1150		1150	5	1.05	1690		1690	4	3.80	2360	90	2450	5	835		
5	3382	71936			0.84	25			25	4.79	1130		1130	6	1.05	1670		1670	5	3.55	2040	102	2142	6	817		
6	3383	71998			0.85	25			25	4.77	1120		1120	7	0.97	1540		1540	6	3.65	2160	127	2287	7	811		
7	3384	72060			0.84	26			26	4.75	1110		1110	8	0.99	1550		1550	7	3.70	2230	127	2357	8	817		
8	3385	72122			0.84	25			25	4.74	1100		1100	9	0.99	1540		1540	8	3.65	2160	128	2288	9	836		
9	3387	72246			0.85	26			25	4.73	1090		1090	10	0.99	1540		1540	9	3.55	2040	132	2172	10	824		
10	3390	72431			0.86	26			26	4.74	1100		1100	11	1.01	1570		1570	10	3.45	1900	132	2032	11	811		
11	3392	72555			0.87	27			26	4.75	1110		1110	12	1.00	1550		1550	11	3.30	1720	136	1856	12	863		
12	3393	72617			0.87	28			27	4.74	1100		1100	13	1.02	1590		1590	12	3.40	1840	0	1840	13	841		
13	3394	72679			0.88	28			28	4.75	1110		1110	14	1.02	1590		1590	13	3.30	1720	143	1863	14	850		
14	3395	72740			0.90	30			28	4.75	1110		1110	15	1.01	1570		1570	14	3.26	1670	159	1829	15	768		
15	3398	72926			0.90	30			30	4.74	1100		1100	16	1.01	1570		1570	15	3.35	1780	160	1940	16	779		
16	3404	73302			0.91	30			30	4.72	1080		1080	17	1.05	1640		1640	16	3.38	1820	172	1992	17	789		
17	3406	73428			0.92	31			30	4.83	1160		1160	18	1.05	1640		1640	17	3.32	1740	170	1910	18	769		
18	3408	73554			0.93	31			31	4.87	1190		1190	19	1.12	1760		1760	18	3.30	1720	170	1890	19	649		
19	3410	73680			0.93	31			31	4.84	1170		1170	20	1.11	1750		1750	19	3.25	1660	135	1795	20	653		
20	3411	73743			0.94	32			31	4.78	1130		1130	21	1.09	1710		1710	20	3.12	1560	140	1640	21	658		
21	3414	73932			0.95	33			32	4.80	1140		1140	22	1.05	1710		1710	21	3.13	1520	141	1661	22	675		
22	3416	74058			0.96	33			32	4.84	1170		1170	23	1.06	1730		1730	22	3.25	1660	135	1795	23	688		
23	3418	74184			0.96	33			33	4.80	1140		1140	24	1.05	1710		1710	23	3.20	1600	133	1733	24	674		
24	3420	74310			0.98	35			33	4.74	1100		1100	25	1.04	1690		1690	24	3.24	1650	128	1718	25	681		
25	3421	74373			0.98	35			35	4.72	1080		1080	26	0.97	1570		1570	25	3.26	1670	130	1800	26	701		
26	3423	74499			1.00	37			35	4.71	1080		1080	27	0.97	1570		1570	26	3.30	1720	148	1868	27	721		
27	3425	74625			1.01	37			37	4.71	1080		1080	28	0.97	1570		1570	27	3.35	1780	140	1920	28	741		
28	3426	74688			1.02	37			37	4.66	1040		1040	29	0.95	1540		1540	28	3.30	1720	149	1869	29	841		
29	3428	74814			1.02	37			37	4.64	1030		1030	30	0.93	1500		1500	29	3.25	1660	181	1941	30	851		
30	3429	74877			1.03	38			37	4.64	1030		1030	JULY 1	0.96	1550		1550	30	3.15	1540	179	1719	JULY 1	841		
1	3430	74940			1.03	38			37	4.67	1050		1050	2	0.94	1520		1520	JULY 1	3.10	1480	177	1657	2	841		
2	3431	75003			1.02	37			37	4.66	1040		1040	3	1.01	1640		1640	2	3.20	1600	187	1787	3	781		
3	3432	75066			1.03	38			37	4.65	1040		1040	4	0.88	1420		1420	3	3.06	1430	158	1588	4	751		
4	3433	75129			1.05	40			38	4.64	1030		1030	5	0.93	1500		1500	4	3.03	1400	156	1556	5	781		
5	3433	75129			1.06	41			38	4.61	1010		1010	6	0.87	1400		1400	5	3.05	1420	158	1578	6	811		
6	3434	75192			1.06	40			40	4.61	1010		1010	7	0.91	1470		1470	6	3.15	1540	177	1717	7	811		
7	3434	75192			1.08	40			40	4.61	1010		1010	8	0.87	1400		1400	7	2.91	1260	173	1433	8	711		
8	3434	75192			1.09	39			40	4.60	1000		1000	9	0.86	1380		1380	8	2.82	1160	176	1336	9	711		
9	3433	75129			1.06	41			41	4.59	996		996	10	0.88	1420		1420	9	2.84	1180	177	1357	10	711		
10	3433	75129			1.06	40			40	4.57	983		983	11	0.87	1400		1400	10	2.80	1140	177	1317	11	711		
11	3432	75066			1.08	40			40	4.58	990		990	12	0.92	1480		1480	11	2.85	1200	188	1388	12	711		
12	3432	75066			1.10	39			40	4.58	990		990	13	0.92	1480		1480	12	2.90	1250	192	1442	13	811		
13	3432	75066			1.11	38			39	4.58	990		990	14	0.86	1380		1380	13	2.85	1200	190	1390	14	811		
14	3431	75003			1.13	38			39	4.59	996		996	15	0.82	1310		1310	14	2.84	1180	201	1381	15	811		
15	3430	74940			1.15	38			38	4.61	1010		1010	16	0.93	1500		1500	15	2.74	1070	176	1246	16	811		
16	3429	74877			1.19	41			38	4.59	996		996	17	0.92	1480		1480	16	2.65	975	176	1151	17	811		
17	3429	74877			1.33	51			38	4.59	996		996	18	0.92	1480		1480	17	2.56	880	184	1064	18	811		
18	3429	74877			1.34	50			38	4.58	990		990	19	0.90	1450		1450	18	2.64	964	192	1156	19	811		
19	3428	74814			1.38	52			41	4.59	996		996	20	0.91	1470		1470	19	2.54	860	187	1047	20	811		
20	3425	74625			1.37	48			41	4.63	1020		1020	21	0.90	1450		1450	20	2.51	830	187	1017	21	811		
21	3425	74625			1.38	47			51	4.62	1020		1020	22	0.90	1450		1450	21	2.50	820	188	1008	22	811		
22	3423	74499			1.41	48			51	4.61	1010		1010	23	0.90	1450		1450	22	2.48	800	188	988	23	811		
23	3422	74436			1.47	52			52	4.61	1010		1010	24	0.90	1450		1400	23	2.50	820	185	1009	24	811		
24	3420	74310			1.99	106			52	4.58	990		990	25	0.87	1400		1400	24	2.49	810	188	998	25	811		
25	3417	74121	189	110	79				47	4.58	990		990	26	0.87	1400		1400	25	2.45	770	186	956	26	811		
26	3412	73806	315	110	205				48	4.61	1010		1010	27	0.93	1430		1391	26	2.45	770	185	955	27	811		
27	3408	73554	252	110	142				47	4.66	1060	39	1001	28	0.92	1420		1420	27	2.58	942	69	1011	28	811		
28	3403	73239	315	110	203				52	4.69	1060	102	958	29	0.92	1420		1420	28	2.42	810	183	993	29	811		
29	3395	72926	313	110	261				66	4.70	1070	101	959	30	0.92	1420		1420	29	2.42	810	183	993	30	811		
30	3392	72555	371	110	261				44	4.71	1080																

STATIONING STATIONS ON HENRYS FORK & TRIBUTARIES

PLATE NO. XX

HENRYS FORK													TETON RIVER													
THEO. BAL. AT CHESTER	CHESTER		GAIN ABOVE CHESTER	ASHTON PLUS CHESTER	DIVERSTIONS ABOVE ST. ANTHONY			THEO. BAL. AT ST. ANTH.	ST. ANTHONY STATION			GAIN TO ST. ANTH.	DIVERSTIONS BELOW ST. ANTHONY			THEO. BAL. BELOW DIVERS.	EST. BAL. BELOW DIVERS.	ST. ANTH. STATION			THEO. BAL. BELOW DIVERS.	EST. BAL. BELOW DIVERS.	THEO. BAL. HEN. FK. ST. ANTH. PLUS TETON R.	HENRYS FORK NEAR REXB'G	GAIN BELOW SAINT ANTH.	
	GAGE	DISCH.			TOTAL	STOR'D	NORM.		GAGE	DISCH.	STOR'D		NORM.	TOTAL	STOR'D			NORM.	GAGE	DISCH.						DIVERS.
2456	447	2640	174	4530	1198			3332	473	3450		3450	118	1045		1045	2405		429	3030	1154	1876		4281	5490	1209
2089	423	2330	241	4220	1251			2969	442	2750		2750	-219	1033		1033	1717		377	2640	1082	1558		3275	4750	1475
1936	414	2180	244	4000	1276			2724	445	2810		2810	86	1046		1046	1764		350	2440	1011	1429		3193	4080	887
1615	385	1960	174	3730	1096			2634	436	2620		2620	-14	997		997	1623		322	2230	1088	1142		2765	3690	925
1325	378	1710	185	3490	1082			2408	429	2470		2470	62	966		966	1504		287	1970	1072	898		2402	3220	818
1476	383	1770	385	3380	1046			2334	423	2340		2340	6	938		938	1402		264	1800	1105	695		2097	2780	683
1540	380	1730	294	3310	1117			2193	420	2280		2280	87	935		935	1345		260	1770	1146	624		1969	2510	541
1452	367	1570	190	3280	1099			2181	420	2280		2280	99	936		936	1344		255	1740	1101	639		1983	2270	287
1348	362	1510	118	3110	1082			2028	413	2130		2130	102	926		926	1204		244	1660	1128	532		1736	2060	324
1221	342	1290	162	3050	1062			1988	410	2070		2070	82	922		922	1148		220	1490	1081	409		1557	1950	393
1173	345	1320	69	2860	839			2021	405	1970		1970	-51	768		768	1202		212	1440	1100	340		1542	2080	538
999	335	1220	147	2870	797			2073	415	2170		2170	97	681		681	1489		237	1610	1114	496		1985	2620	635
1019	334	1210	221	2810	636			2174	417	2210		2210	36	675		675	1535		238	1620	1028	592		2127	2950	823
1041	342	1290	197	2800	577			2223	420	2280		2280	57	659		659	1621		229	1550	979	572		2192	3180	988
1161	349	1370	249	2860	537			2323	423	2340		2340	17	659		659	1681		224	1520	872	648		2329	3460	1131
1203	346	1340	209	2940	507			2433	432	2530		2530	97	502		502	2028		211	1430	767	663		2691	3740	1049
1261	353	1410	137	2980	535			2445	434	2570		2570	125	496		496	2074		208	1410	768	642		2716	3850	1134
1241	353	1410	209	3050	470			2580	437	2640		2640	60	477		477	2163		215	1460	749	711		2874	4000	1126
1142	338	1250	169	3170	465			2705	446	2840		2840	135	473		473	2367		230	1560	774	786		3153	4170	1017
982	326	1120	108	3000	463			2537	433	2550		2550	13	569		569	1981		223	1510	743	767		2748	3950	1202
986	326	1120	138	2830	424			2406	428	2440		2440	34	568		568	1872		214	1450	746	704		2576	3620	1044
1107	339	1260	214	2970	483			2487	430	2490		2490	3	572		572	1918		239	1620	795	625		2743	3550	807
1059	340	1270	163	3000	516			2484	430	2490		2490	6	569		569	1921		250	1700	768	932		2853	3630	777
1097	337	1240	181	2950	561			2389	424	2360		2360	-29	609		609	1751		239	1620	752	868		2619	3560	941
1160	340	1270	173	2960	662			2298	417	2210		2210	-88	616		616	1594		256	1740	853	887		2481	3440	959
1139	341	1280	180	2850	830			2020	407	2010		2010	-10	650		650	1360		283	1940	887	1053		2413	3050	637
1187	340	1270	131	2840	1035			1805	400	1870		1870	65	739		739	1131		303	2090	1019	1071		2202	2960	758
1020	336	1230	43	2800	1066			1734	391	1700		1700	-34	799		799	901		305	2100	1043	1057		1958	2750	792
987	322	1080	60	2620	1122			1498	378	1480		1480	-18	820		820	660		295	2030	1059	971		1631	2410	779
874	317	1040	53	2540	1137			1403	372	1380		1380	-23	826		826	554		287	1970	1044	926		1480	2270	790
808	310	969	95	2519	1156			1363	370	1350		1350	-13	827		827	523		276	1880	1085	795		1318	2120	802
1001	327	1140	332	2660	1113			1547	382	1540		1540	-7	841		841	699		294	2020	1133	887		1586	2350	764
805	312	988	-13	2628	928			1700	387	1630		1630	-70	816		816	814		273	1860	1010	850		1664	2550	886
769	303	905	100	2325	923			1402	376	1440		1440	38	784		784	656		257	1750	976	774		1430	2350	920
728	302	896	127	2396	826			1570	383	1560		1560	-10	733		733	827		264	1800	1042	758		1585	2340	755
924	303	905	-177	2305	850			1455	378	1490		1490	35	728		728	762		269	1830	1059	711		1533	2240	707
661	295	835	-89	2305	854			1451	376	1460		1460	9	726		726	734		262	1780	1055	725		1459	2270	811
553	280	711	50	2111	745			1366	370	1360		1360	-6	726		726	634		229	1550	921	629		1263	2100	837
595	273	658	105	2038	624			1414	372	1410		1410	-4	734		734	676		212	1440	738	702		1378	2120	742
529	271	643	48	2063	666			1397	373	1430		1430	33	674		674	756		211	1430	916	514		1270	1970	700
583	269	628	59	2028	681			1347	368	1350		1350	3	708		708	642		204	1390	870	520		1162	1770	608
639	269	628	35	2108	878			1230	368	1360		1360	-130	772		772	588		204	1390	966	424		1012	1640	628
551	268	621	-18	2101	879			1222	357	1200		1200	-22	841		841	359		203	1380	974	406		765	1450	685
577	268	621	41	1972	968			1004	343	1010		1010	6	736		736	274		202	1370	954	416		690	1290	600
424	255	592	-46	1841	974			867	334	898		898	31	776		776	122		197	1340	933	407		529	1170	641
361	247	480	16	1980	919			1061	340	970		970	-91	846		846	124		189	1290	936	354		478	1140	662
242	234	403	42	1883	961			922	337	934		934	12	833		833	101		179	1220	913	307		408	1080	672
328	214	298	56	1748	962			786	329	838		838	52	781		781	57		181	1240	970	270		327	994	667
247	206	260	-88	1760	1013			747	328	827		827	80	774		774	53		182	1240	893	347		400	929	529
257	208	269	12	1739	1090			649	316	693		693	44	678		678	15		165	1140	916	224		239	858	619
230	208	269	68	1748	1114			634	312	651		651	17	668		668	-17		150	1060	928	132		115	787	682
231	214	298	57	1738	1094			644	309	620		620	-24	621		621	-1		142	1010	922	88		87	735	648
175	212	288	103	1728	1093			635	307	602		602	-33	653		653	-51		139	995	955	40		-11	685	696
270	210	278	37	1707	1096			611	310	630		630	19	682		682	-52		139	995	959	26		-16	630	646
301	215	307	79	1780	1015			765	323	770		770	5	819		819	-48	5	136	978	927	51		2	600	598
259	230	380	111	1780	877			903	339	958		958	55	926		926	32	30	132	957	956	-1		33	570	537
268	230	380	134	1732	865			867	338	946		946	79	638		638	308		132	957	997	-40		268	600	332
168	215	302	92	1779	924			855	337	934		934	-9	943		943	79		131	951	964					

HENRYS LAKE RESERVOIR

DISTRICT NO. 36

DAILY SUMMARY OF DATA AT AND BETWEEN

DATE	HENRYS LAKE RESERVOIR				LAKE HENRYS FORK				WARM RIVER				ASHTON				SQUIRREL			CANALS ABOVE STATION		FALL RIVER					
	GAGE	CAPAC AC. FT.	TOTAL OB AF. FT.	STORAGE LOSSES AC. FT.	NET DR. AC. FT.	GAGE	DISCH.	STOR'D	NORM.	DATE	GAGE	DISCH.	STOR'D	NORM.	DATE	GAGE	DISCH.	STOR'D	NORM.	DATE	GAGE	DISCH.	DATE	GAGE	DISCH.	DATE	TOTAL
3380	71812	372	110	262	264	182	132	NORM.																			
3374	71441	371	110	261	260	182	132																				
3370	71194	247	110	137	225	174	132	50																			
3367	71068	186	110	76	207	124	69	42																			
3366	70946				150	101	38	55																			
3365	70884				149	43	38	63																			
3363	70760				150	43		43																			
3362	70699				150	43		43																			
3360	70575				152	45		43																			
3359	70513				154	46		45																			
3357	70389				156	48		46																			
3355	70266				158	50		48																			
3353	70142				161	52		50																			
3350	69956	186	95	91	201	77		52																			
3341	69399	557	94	463	359	281	46	31																			
3339	68842	557	92	465	353	269	233	48																			
3332	68223	619	91	528	360	279	234	35																			
3322	67666	557	89	468	367	289	266	13																			
3304	67110	556	88	468	350	260	236	53																			
3293	66436	674	86	588	390	324	236	24																			
3283	65829	607	85	522	372	291	296	28																			
3275	65343	486	83	403	349	252	263	28																			
3267	64857	486	82	404	339	234	204	49																			
3259	64371	486	80	406	335	228	205	30																			
3252	63946	425	79	346	337	231	174	57																			
3244	63459	487	77	410	340	236	207	29																			
3237	63034	425	76	349	345	244	176	68																			
3230	62609	425	74	351	343	240	177	63																			
3229	62223	486	73	413	339	234	206	26																			
3214	61637	486	71	415	341	237	209	28																			
3207	61212	425	70	355	339	234	179	28																			
SEPT 1		479	69	410	338	232	207	25																			
		428	68	360	318	208	182	26																			
2					211	73		73																			
3					211	73		73																			
4					211	73		73																			
5					211	73		73																			
6					210	72		72																			
7					209	71		71																			
8					208	70		70																			
9					208	70		70																			
10					209	71		71																			
11					210	72		72																			
12					211	73		73																			
13					210	72		72																			
14					208	70		70																			
15					206	68		68																			
16					203	65		66																			
17					204	66		67																			
18					205	67		68																			
19					206	68		68																			
20					206	68		68																			
21					206	68		68																			
22					206	68		68																			
23					206	68		68																			
24					204	66		63																			
25					201	63		62																			
26					200	62		62																			
27					200	62		62																			
28					200	62		60																			
29					198	60		59																			
30					197	59		62																			
					200	62		61																			
					199	61																					

BETWEEN GAGING STATIONS ON HENRYS FORK & TRIBUTARIES

FALL RIVER

DORRILL PLUS CANALS ABOVE	DIVERISIONS				THEO. BAL. AT CHESTER	CHESTER		GAIN ABOVE CHESTER	ASHTON PLUS CHESTER	DIVERISIONS ABOVE ST. ANTHONY
	DATE	TOTAL	STOR'D	NORM.		GAGE	DISCH.			
942	AUG 3	753	121	632	189	198	225	36	1655	382
957	4	763	122	641	194	198	225	31	1655	384
936	5	728	62	666	208	207	264	56	1694	694
970	6	720		720	250	215	302	33	1643	693
983	7	696		696	261	213	293	15	1682	654
940	8	679		679	261	213	293	32	1553	680
910	9	677		677	233	209	283	50	1563	698
892	10	680		680	212	208	269	62	1604	751
892	11	676		676	216	207	264	53	1529	754
873	12	670		670	203	207	264	61	1544	748
851	13	528		528	323	211	283	40	1613	761
870	14	525		525	345	230	380	35	1610	797
870	15	535		535	335	228	369	34	1629	790
860	16	530		530	340	229	375	35	1635	788
850	17	529		529	331	229	375	44	1915	635
850	18	526		526	322	229	375	51	1895	610
850	19	528		528	322	230	380	58	1850	656
860	20	499		499	361	229	375	14	1875	602
840	21	496		496	344	230	380	36	1930	669
850	22	491		491	359	229	375	16	1965	669
830	23	495		495	335	229	375	40	1895	642
836	24	498		498	332	229	375	43	1845	654
830	25	544		544	286	228	369	83	1889	657
757	26	539		539	218	212	288	70	1838	596
767	27	513		513	254	227	364	110	1904	451
842	28	495		495	347	232	391	44	1941	438
802	29	394		394	408	248	486	78	2086	417
792	30	379		379	413	246	474	61	2044	416
773	31	374		374	399	245	468	69	1948	463
765	SEPT 1	380		380	386	243	455	69	1925	502
751	2	386		386	365	240	437	72	1957	535
735	3	387		387	348	240	437	89	1957	547
735	4	390		390	345	237	420	75	1960	540
756	5	392		392	364	236	414	50	1794	536
757	6	393		393	364	235	408	44	1768	531
737	7	396		396	341	233	397	56	1777	533
738	8	400		400	338	233	397	59	1747	535
738	9	404		404	334	232	391	57	1751	537
739	10	409		409	330	233	397	67	1757	518
730	11	407		407	323	234	403	80	1803	498
719	12	408		408	311	231	386	75	1766	478
739	13	410		410	329	231	386	57	1746	439
778	14	410		410	368	233	397	29	1767	433
737	15	412		412	325	232	391	66	1771	428
717	16	412		412	305	231	386	81	1766	421
696	17	412		412	284	228	369	85	1719	412
696	18	412		412	284	228	369	85	1719	406
685	19	415		415	270	228	369	99	1699	399
677	20	418		418	259	226	359	104	1809	387
678	21	423		423	255	226	359	104	1779	382
680	22	425		425	255	223	343	88	1763	377
662	23	428		428	234	222	338	104	1758	372
662	24	431		431	232	221	332	106	1762	360
662	25	434		434	221	220	327	106	1707	360
662	26	437		437	228	217	312	84	1672	338
665	27	441		441	207	217	312	105	1642	335
668	28	444		444	206	218	317	111	1667	332
650	29	446		446	282	219	322	40	1682	331
671	30	444		444	266	215	302	36	1652	328

HENRYS FORK

THEO. BAL. AT ST. ANTH.	ST. ANTHONY STATION				GAIN ASHTON TO ST. ANTH.	DIVERISIONS BELOW ST. ANTHONY				THEO. BAL. BELOW DIVERS.	EST. BAL. BELOW DIVERS.	
	GAGE	DISCH.	STOR'D	NORM.		TOTAL	STOR'D	NORM.	STOR'D			NORM.
1273	348	1070	8	1062	-203	761		761	309	111	846	781
1271	361	1260	7	1253	-11	748		748	512	110	841	781
1000	352	1130	6	1124	130	703		703	427	110	841	798
950	344	1020	38	982	10	694		694	321	112	851	800
1028	348	1070		1070	42	685		685	385	109	836	781
873	340	970		970	97	689		689	281	106	821	766
865	339	958		958	93	748		748	210	103	806	738
853	338	946		946	93	764		764	182	100	791	740
765	330	850		850	85	747		747	103	098	781	740
796	332	874		874	78	740		740	134	094	762	706
852	334	896		896	46	741		741	157	092	753	616
813	339	958		958	145	713		713	245	090	743	605
839	334	898		898	59	697		697	201	090	743	605
847	336	922	45	877	75	691		691	231	089	738	599
1280	352	1130	146	984	-150	704	135	569	426	088	734	617
1285	363	1290	164	1126	5	721	157	564	569	086	725	544
1194	360	1240	176	1064	-46	724	157	567	516	083	711	564
1273	361	1260	143	1117	-13	687	155	532	573	081	702	571
1261	364	1300	141	1159	39	679	157	522	621	081	702	576
1296	364	1300	201	1099	4	682	160	522	618	080	697	586
1253	360	1240	188	1052	-13	634	121	513	606	080	697	592
1191	357	1200	128	1072	9	605	121	484	595	081	702	554
1232	361	1260	128	1132	28	568	119	449	692	082	706	536
1242	361	1260	129	1131	-18	540	121	419	720	082	706	573
1453	369	1380	100	1280	-73	504	121	383	876	087	729	670
1503	374	1460	135	1325	-43	464	121	343	996	093	757	371
1669	384	1630	105	1525	-39	441	121	320	1189	092	753	459
1628	379	1540	156	1384	-88	429		429	1111	085	720	452
1485	375	1480	204	1276	-5	440		440	1040	081	702	443
1423	371	1410	205	1205	-13	456		456	954	078	688	459
1422	368	1360	175	1185	-62	471		471	889	076	679	473
1410	369	1380	203	1177	-30	487		487	893	075	675	474
1420	369	1380	178	1262	-40	470		470	910	074	671	477
1258	358	1210		1210	-48	459		459	751	075	675	479
1237	365	1320		1320	-83	449		449	871	067	641	491
1244	358	1210		1210	-34	442		442	768	064	628	498
1212	356	1180		1180	-32	435		435	745	063	624	505
1214	358	1210		1210	-4	430		430	780	068	645	510
1239	357	1200		1200	-39	423		423	777	070	653	524
1305	360	1240		1240	-65	418		418	822	071	657	541
1288	365	1320		1320	-32	415		415	905	070	653	548
1307	362	1270		1270	-37	409		409	861	071	657	558
1324	363	1290		1290	-34	412		412	878	072	662	558
1343	363	1290		1290	-53	412		412	878	070	653	
1345	364	1300		1300	-45	415		415	883	069	649	
1307	366	1330		1330	-23	415		415	915	068	645	
1313	366	1330		1330	17	417		417	913	068	645	
1300	367	1350		1350	-50	415		415	935	067	641	
1422	368	1360		1360	-62	415		415	945	067	641	
1397	367	1350		1350	-47	415		415	935	067	641	
1386	367	1350		1350	-66	416		416	904	067	641	
1395	366	1330		1330	-36	412		412	938	068	645	
1347	366	1330		1330	-65	410		410	920	067	641	
1347	366	1330		1330	-17	406		406	924	067	641	
1334	365	1320		1320	-14	404		404	916	066	637	
1307	364	1300		1300	-7	398		398	902	065	632	
1335	364	1300		1300	-35	389		389	911	066	637	
1351	364	1300		1300	-51	384		384	916	069	649	
1324	362	1270		1270	-54	382		382	888	068	645	

TETON RIV

THEO. BAL. BELOW DIVERS.	ST. ANTH. STATION			THEO. BAL. BELOW DIVERS.
	GAGE	DISCH.	DIVERS.	
111	846	781		
110	841	781		
110	841	798		
112	851	800		
109	836	781		
106	821	766		
103	806	738		
100	791</			

STATIONS ON HENRYS FORK & TRIBUTARIES

PLATE NO. XXI

CHESTER		GAIN ABOVE CHESTER	HENRYS FORK										TETON RIVER					GAIN BELOW SAINT ANTH.						
GAGE	DISCH.		ASHTON PLUS CHESTER	DIVERSIONS ABOVE ST. ANTHONY		THEO. BAL. AT ST. ANTH.	ST. ANTHONY STATION				GAIN TO ST. ANTH.	DIVERSIONS BELOW ST. ANTHONY			EST. BAL. BELOW DIVERS.	ST. ANTH. STATION			THEO. BAL. HEN. FK. ST. ANTH. PLUS TETON R.	HENRYS FORK NEAR REXB'G				
			TOTAL	STOR'D	GAGE		DISCH.	STOR'D	NORM.	TOTAL		STOR'D	NORM.	GAGE		DISCH.	DIVERS.	GAGE			DISCH.	DIVERS.		
198	225	36	1655	382		1273	348	1070	8	1062	-203	761		761	308	1.11	846	781	65	374	802	428.		
198	225	31	1655	384		1271	361	1260	7	1253	-11	748		748	512	1.10	841	781	60	572	1050	478.		
207	225	56	1694	694		1000	352	1130	6	1124	130	703		703	427	1.10	841	798	43	470	994	524.		
211	225	33	1643	693		950	344	1020	38	982	70	694		694	327	1.12	851	800	51	377	907	530.		
215	202	15	1682	654		1028	348	1070		1070	42	685		685	385	1.09	836	781	55	440	912	472.		
213	293	32	1553	680		873	340	970		970	97	689		689	281	1.06	821	766	55	336	885	549.		
211	283	50	1563	698		865	339	958		958	93	748		748	210	1.03	806	738	68	278	814	536.		
209	274	62	1604	751		853	338	946		946	93	764		764	182	1.00	791	740	51	233	780	547.		
208	269	53	1529	764		764	330	850		850	85	747		747	103	0.98	781	740	41	144	730	586.		
207	264	61	1544	748		748	332	874		874	78	740		740	134	0.94	762	708	54	188	685	697.		
211	283	40	1613	761		761	334	896		896	46	741		741	157	0.92	753	616	137	294	675	381.		
230	360	35	1610	797		813	339	958		958	145	713		713	245	0.90	743	605	138	383	720	337.		
228	369	34	1629	790		839	334	898		898	59	697		697	201	0.90	743	605	138	339	755	416.		
229	375	35	1635	788		847	336	922	45	877	75	691		691	231	0.89	738	599	139	370	770	400.		
229	375	44	1915	635	83	552	1280	352	1130	146	984	-150	704	135	569	426	0.88	734	617	117	543	890	347.	
230	380	58	1850	610	65	545	1285	363	1290	164	1126	5	721	157	564	569	0.86	725	544	181	750	1050	300.	
230	375	14	1875	556	84	572	1194	360	1240	176	1064	46	724	157	567	516	0.83	711	564	147	663	1050	387.	
230	380	36	1930	602	88	514	1273	361	1260	143	1117	-13	687	155	532	573	0.81	702	571	131	704	1110	406.	
229	375	16	1965	669	90	579	1261	364	1300	141	1159	39	679	157	522	621	0.81	702	576	126	747	1160	413.	
229	375	40	1895	642	89	580	1296	364	1300	201	1099	4	682	160	522	618	0.80	697	586	109	727	1140	413.	
229	375	43	1845	654	70	572	1253	360	1240	188	1052	-13	634	121	513	606	0.80	697	592	105	711	1140	429.	
228	369	83	1889	657	71	583	1191	357	1200	128	1072	9	605	121	484	595	0.81	702	554	148	54	743	1140	397.
227	288	70	1838	596	72	585	1232	361	1260	128	1132	28	568	119	449	692	0.82	706	536	170	862	1220	358.	
227	364	110	1904	524	72	524	242	361	1260	129	1131	18	540	121	419	720	0.82	706	573	133	853	1310	457.	
232	391	44	1941	451	71	380	1453	369	1380	100	1280	-73	504	121	383	876	0.87	729	670	59	935	1470	535.	
248	486	78	2086	438	68	370	1503	374	1460	135	1325	-43	464	121	343	996	0.93	757	371	386	1382	1640	258.	
246	474	61	2044	417	67	350	1669	384	1630	105	1525	-39	441	121	320	1189	0.92	753	459	294	1483	1830	347.	
245	468	69	1948	416	17	399	1628	379	1540	156	1384	-88	429		429	1111	0.85	720	452	268	1379	1780	401.	
243	455	69	1925	463		463	1485	375	1480	204	1276	-5	440		440	1040	0.81	702	443	259	1299	1680	381.	
240	437	72	1957	502		502	1423	371	1410	205	1205	-13	456		456	954	0.78	688	459	229	1183	1610	427.	
240	437	89	1957	535		535	1422	368	1360	175	1185	-62	471		471	889	0.76	679	473	206	1095	1560	465.	
237	420	75	1960	547		547	1410	369	1380	203	1177	-30	487		487	893	0.75	675	474	201	1094	1550	456.	
236	414	50	1794	540		540	1420	369	1380	178	1202	-40	470		470	910	0.74	671	477	194	1104	1490	386.	
235	408	50	1794	536		536	1258	358	1210		1210	-48	459		459	751	0.75	675	479	196	947	1390	443.	
233	397	44	1768	531		531	1237	365	1320		1320	-83	449		449	871	0.67	641	491	150	1021	1420	399.	
233	397	56	1777	533		533	1244	358	1210		1210	-34	442		442	768	0.64	628	498	130	898	1350	452.	
232	397	59	1747	535		535	1212	356	1180		1180	-32	435		435	745	0.63	624	505	119	664	1320	456.	
232	391	57	1751	537		537	1214	358	1210		1210	-4	430		430	780	0.68	645	510	135	915	1310	395.	
234	403	67	1757	518		518	1239	357	1200		1200	-39	423		423	777	0.70	653	524	129	906	1310	404.	
231	386	80	1803	498		498	1305	360	1240		1240	-65	418		418	822	0.71	657	541	116	938	1310	372.	
231	386	75	1766	478		478	1288	365	1320		1320	-32	415		415	905	0.70	653	548	105	1010	1340	330.	
233	397	57	1746	439		439	1307	362	1270		1270	-37	409		409	861	0.71	657	558	99	960	1380	420.	
232	391	29	1757	433		433	1324	363	1290		1290	-34	412		412	878	0.72	662	552	110	988	1430	442.	
231	391	66	1771	428		428	1343	363	1290		1290	-53	412		412	878	0.70	653	557	96	974	1460	486.	
231	386	81	1766	421		421	1345	364	1300		1300	-45	415		415	885	0.69	649	561	88	973	1450	477.	
231	369	85	1719	412		412	1307	366	1330		1330	23	415		415	915	0.68	645	569	76	991	1450	459.	
231	369	85	1719	406		406	1313	366	1330		1330	17	417		417	913	0.68	645	574	71	984	1420	436.	
231	369	99	1699	399		399	1300	367	1350		1350	50	415		415	935	0.67	641	579	62	997	1430	433.	
231	359	100	1809	387		387	1422	368	1360		1360	-62	415		415	945	0.67	641	586	55	1000	1440	440.	
231	359	104	1779	382		382	1397	367	1350		1350	-47	415		415	935	0.67	641	591	50	985	1430	445.	
231	343	88	1763	377		377	1386	365	1320		1320	-66	416		416	904	0.67	641	596	45	949	1420	471.	
231	338	104	1758	372		372	1386	367	1350		1350	-36	412		412	938	0.68	645	599	46	984	1410	426.	
231	332	100	1762	367		367	1395	366	1330		1330	-65	410		410	920	0.67	641	598	43	963	1420	487.	
231	327	106	1707	360		360	1347	366	1330		1330	-17	406		406	924	0.67	641	594	47	971	1390	419.	
231	312	84	1672	338		338	1334	365	1320		1320	-14	404		404	916	0.66	637	588	49	965	1340	375.	
231	312	105	1642	335		335	1307	364	1300		1300	-7	398		398	902	0.65	632	585	47	949	1340	391.	
231	317	111	1667	332		332	1335	364	1300		1300	-35	389		389	911	0.66	637	584	53	964	1360	396.	
231	322	40	1682	331		331	1351	364	1300		1300	-51	384		384	916	0.69	649	584	65	981	1400	419.	
230	302	36	1652	328		328	1324	362	1270		1270	-54	382		382	888	0.68	645	582	63	951	1400	449.	

Early in July it became evident that the losses from Henry's Lake Reservoir were considerably greater than during any previous season and that when the water level was maintained at a constant elevation most of the normal inflow to the lake was being consumed just to effect an equalization. No thorough investigation affording data upon which to base a proper segregation of flow at the outlet had ever been made, but discharge records were available for three seasons prior to the development of the storage. With these as a foundation, more or less arbitrary losses were charged against the stored water interests throughout the balance of the season as indicated in the special "Storage Loss" column which has not been included in former reports. Undoubtedly some similar charges should have been made in previous years although, because of the lower reservoir stages which then pertained, they would presumably have been smaller in amount.

About half of the indicated losses can probably be accounted for by evaporation from that portion of the water surface area which is in excess of the scope of the original lake but little can be stated concerning the balance attributable to ground losses. A study similar to that which has been in progress in the American Falls Basin during the past two years would be highly desirable in this section, although, because of the smaller quantities involved, it might be more difficult to justify the expense.

In order to avoid unnecessary complications, all stored water quantities shown on Plates XX and XXI represent Henry's Lake water or (in the case of diversions by Fall River canals)

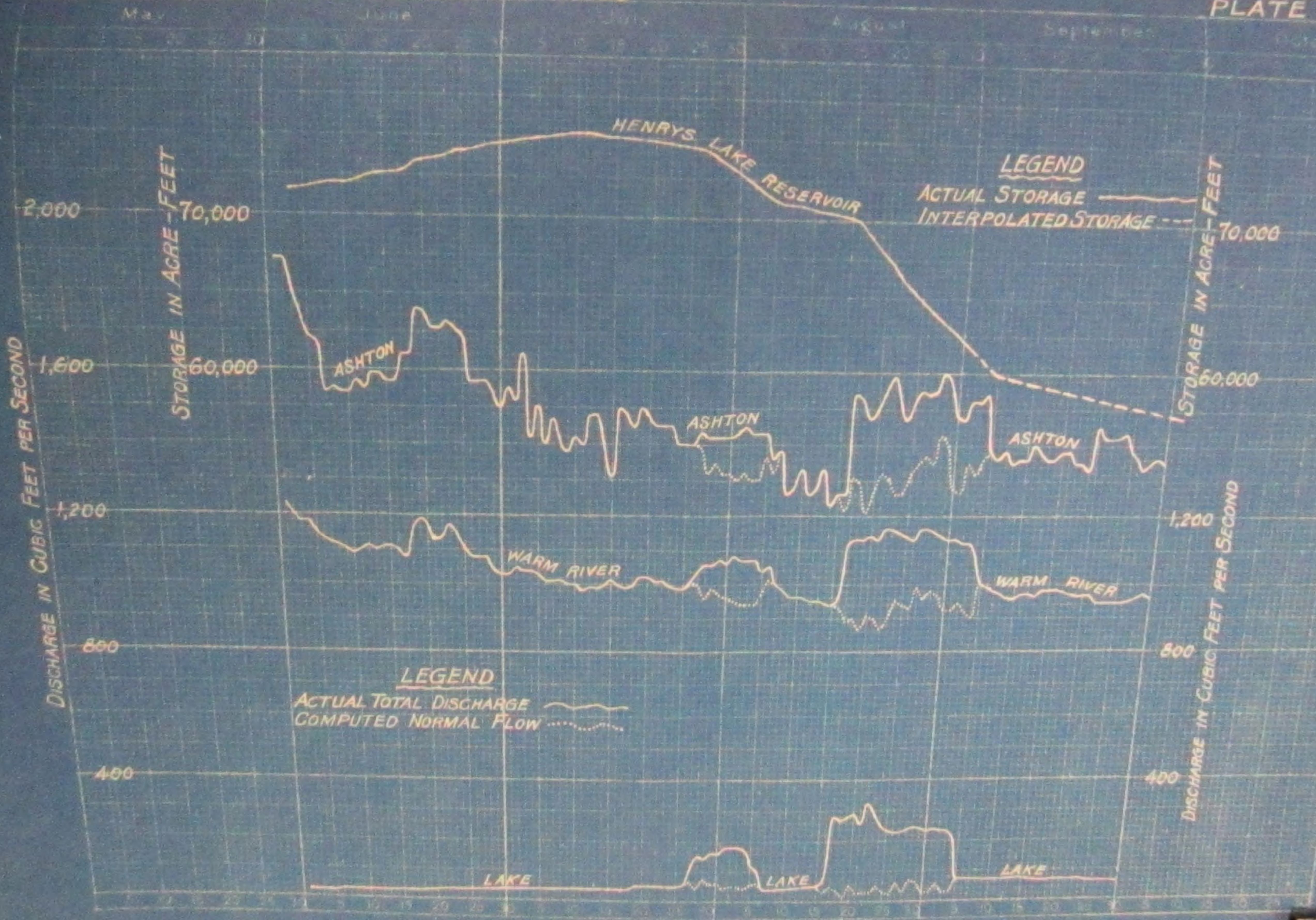
normal flow substituted therefor. Normal flow diversions in lieu of Jackson Lake water are indicated only in connection with deliveries to individual canals. (See Plates XI and XXIII).

Plate XXII contains a curve showing the way in which storage was drawn from Henry's Lake Reservoir together with actual total and computed normal flow hydrographs for Henry's Fork at the Lake, Warm River and Ashton gaging stations. These graphs are all plotted with time interval adjusted to coincide with the nearest calendar day at the Ashton station.

No reservoir gage readings were secured from September 1 to 29 inclusive but the decrease in storage during this period has been estimated or interpolated by the extension of the graph as a dash line. The continued draw down indicated by this line and the fact that the discharge past the Lake station is larger than the preceding calculated normal flow together afford evidence of heavy leakage after the gates at the dam were closed early in September.

Irregularities and apparent inconsistencies at the Ashton station are accounted for by the unsatisfactory regulation secured at the Ashton Dam of the Utah Power and Light Company. Because of the considerable pondage here afforded and the present necessity for the attendant to depend almost entirely upon his reservoir gage as an indication of the control needed, more consistency or greater refinement can perhaps not be expected. It is hoped, however, that a long distance recorder will soon be installed on

TOTAL AND NORMAL FLOW AT THE LAKE, WARM RIVER AND ASHTON STATIONS ON HENRYS FORD
 1928 DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. 10



the stream below the dam which will afford direct indication of stage changes on a dial mounted on the wall inside the power house.

STORAGE DELIVERIES TO
HENRYS FORK AND FALL RIVER CANALS

Plate XXIII summarizes the delivery of normal flow diverted in lieu of storage from Jackson Lake Reservoir. The dates on this sheet correspond with those on which the water entered the respective canal headings and are in each case one day earlier than those for which corresponding charges appear on Plate XI.

The Yellowstone canal was entitled to 10 second-feet of water for one full day August 25-26 from the right of the Idaho Irrigation District. A serious break very soon after the water was turned in interrupted delivery to such an extent that little, if any, water was actually received, hence no charges were made.

Deliveries to the Marysville and Farmers Own canals were from rights of the Utah-Idaho Sugar Company while those to the other four canals listed were all charged against the storage purchased by the Enterprise Irrigation District. As previously explained (page 37) the Enterprise canal borrowed water from Henry's Lake Reservoir from July 27 to August 5 inclusive and this was thereafter repaid to the Dewey, Last Chance and Independent canals in the manner indicated in this table.

Daily deliveries of storage from Henry's Lake (both direct and through the substitution method) are shown on Plate XXIV which also contains a table affording a comparison between the stored

JACKSON LAKE STORAGE DELIVERIES TO HENRY'S FORK AREA CANALS 1928

1928 DISTRIBUTION WATER DISTRICT NO. 36

PLATE NO. XXIII

DATE	YELLOWSTONE CANAL CO.	MARYSVILLE CANAL CO.	FARMERS OWN CANAL CO.	ENTERPRISE IRRIG. DIST.	DEWEY CANAL CO.	LAST CHANCE CANAL CO.	INDEPENDENT CANAL CO.	TOTAL DELIVERY
AUGUST 4								
5					7			7
6				60	18			78
7				123	17			140
8				119	18			137
9				120	17			137
10				119	16			135
11				120	15			135
12				119	16			135
13				119	15	29		163
14				120	14	58	115	307
15				120	15	60	189	384
16				120	14	60	157	351
17				120	14	57	153	344
18				117			22	139
19				114				114
20				115				115
21				117				117
22				118				118
23				115				115
24				116				116
25	*	27	15	116				161
26	*	27	15	116				161
27		32	14	120				166
28		32	14	106				152
29		32	13	89				134
30				88				88
31				82				82
TOTAL		150	71	3030	196	264	636	4347

* - 10 second feet due from Idaho Irrigation District right, but not delivered on account of break in canal.

water actually used and that available. It is not practical to make the last two items coincide at all times but fairly close agreement should be obtained over long periods.

The amount of stored water released from the reservoir each day was determined from the capacity tables by noting the quantity corresponding to the daily decrease in stage indicated by the lake gage readings and thereafter applying an arbitrary deduction for losses as already explained on page 40 and tabulated on Plates XX and XXI.

A transmission loss of 1.5 per cent was charged between Henry's Lake and Warm River and an additional 0.5 per cent was deducted between the latter point and the Ashton station. These losses correspond with the recommendations submitted by Consulting Engineer R. I. Meeker on August 14, 1923 and are identical with those which have been used since that time. They have never been checked or substantiated by any scientific investigation.

The last two columns on Plate XXIV represent Henry's Lake equivalents of the Ashton data listed in the two preceding columns.

Minus unused storage quantities indicate actual storage deliveries in excess of the amounts available for use on the particular days. In other words, they show the amount of normal flow borrowed while the plus quantities in this column represent repayments.

Storage available at the Ashton station from August 31 to September 4 represents waste attributable to the fact that the reservoir outlet gates were not closed when the company officials were first notified that water need no longer be released. If this amount

HENRYS LAKE STORAGE DELIVERIES 1928

1928 DISTRIBUTION WATER DISTRICT No. 36

PLATE No. XXIV

DATE	ENTERPRISE IRRIG. DIST.	DEWEY CANAL Co.	LAST CHANGE CANAL Co.	INDEPENDENT CANAL Co.	TOTAL HEADGATE DELIVERY	AVAILABLE AT ASHTON STATION	UNUSED STORAGE AT HEADGATES	HENRYS LAKE EQUIV-TOTAL DEL.	UNUSED STORAGE HEN LAKE EQUIV.
JULY 27	109								
28	110				109	39	-70	111	-72
29	105				110	101	-9	112	-11
30	109				105	71	-34	107	-36
31	118				109	101	-8	111	-10
AUGUST 1	120				118	100	-18	120	-20
2	120				120	130	10	123	7
3	121				120	129	9	123	6
4	122				121	129	8	123	6
5	62				122	129	7	125	4
6					62	68	6	63	5
7						38	38		38
8									
9									
10									
11									
12									
13									
14									
15									
16						45	45		45
17		16	67	135	218	229	11	222	7
18			65	157	222	229	7	227	2
19		18	66	157	241	260	19	246	14
20		20	68	155	243	231	-12	248	-17
21		20	70	157	247	231	-16	252	-21
22		20	69	160	249	290	41	254	36
23		18	52	121	191	258	67	195	63
24		19	52	121	192	199	7	196	3
25		20	52	119	191	200	9	195	5
26		20	52	121	193	201	8	197	4
27		20	51	121	192	171	-21	196	-25
28		18	50	121	189	203	14	193	10
29		17	50	121	188	172	-16	192	-20
30		17			17	173	156	17	156
31						204	204		204
SEPT. 1						205	205		205
2						175	175		175
3						203	203		203
4						178	178		178
TOTAL SEC FT.	1096	243	764	1766	3869	5092	+1223	3948	+144
TOTAL AC FT.	2174	482	1515	3503	7674	10100	+2426	7831	+2269

is eliminated the total made available at Ashton will be found to exceed the season usage by only 258 second-feet.

The Henry's Lake Reservoir is owned and controlled by the North Fork Reservoir Company whose stock, in turn, is held by seven different canal companies. The latter together with their relative percentage participation are listed as follows: Dewey and Last Chance (combined), 15.3; St. Anthony Union, 6.6; Salem Union, 24.2; Egin, 6.8; Independent, 26.8; and Consolidated Farmers, 20.1. While these percentages define the individual rights, actual diversions upon a disproportionate basis may be sanctioned by mutual agreement.

Plate XXV contains hydrographs for the two gaging stations on Fall River and a graph showing indicated net gains or losses above the lower or Chester station. These are plotted to coincide with the dates at the upper station.

The heavy gains noted during June are probably due to the unmeasured tributary inflow (chiefly from Squirrel Creek) while the irregularities in the gain or loss curve are doubtless largely attributable to the inaccurate daily mean discharges computed for the Squirrel Station at which only staff gage readings were secured.

Hydrographs for the Ashton, St. Anthony and Rexburg gaging stations on Henry's Fork together with curves showing gains or losses in the intermediate sections are included on Plate XXVI. All are plotted to agree with the Rexburg dates.

The large net gains noted between St. Anthony and Rexburg are characteristic of this section and are attributable chiefly to return

NET LOSSES AND GAINS BETWEEN THE SQUIRREL AND CHESTER GAGING STATIONS ON FALL RIVER
 1928 DISTRIBUTION WATER DISTRICT NO. 36
 PLATE NO. XXV



NET LOSSES AND GAINS BETWEEN THE ASHTON AND ST. ANTHONY GAGING STATIONS ON HENRY'S FORK
 1928 DISTRIBUTION WATER DISTRICT NO. 36

PLATE NO. XXVI



flow from the Egin Bench and lower Teton River areas. During the short period when Henry's Fork was practically dry below the Consolidated Farmers dam the flow past the Rexburg station is seen to have been slightly in excess of 500 second-feet.

DISTRIBUTION IN SWAN VALLEY

William Burton was again appointed as deputy water master for the Swan Valley section but his salary and other expenses incident to the work were paid directly by the local water users, in accordance with the custom followed during preceding years. Copies of all instructions regarding cuts and reinstatements were forwarded to him by mail and he was directed to regulate all diversions in accordance with these orders. Aside from the slight delay resulting from the method of communication, regulation in this section was therefore consistent with that in other portions of the district.

No unusual difficulties or controversies with the respective users in this territory were reported.

DISTRIBUTION ON SAND CREEK, FREMONT COUNTY

W. J. Reiman was appointed Water Master for the Sand Creek area for the 1928 season. Because of the fact that this stream is really not a surface tributary of Henry's Fork during the ordinary regulation period, this section was designated as a sub water district and thereafter Mr. Reiman reported directly to the State Commissioner of Reclamation.

CLIMATOLOGICAL DATA

Study of the U. S. Weather Bureau monthly and annual climatological summaries covering the twelve months ending September 30.

1928 affords much information of interest and serves to explain certain phases of the year's water supply which might otherwise be difficult to understand.

The following notes from the Idaho and Wyoming section reports describe the principal monthly peculiarities:

- | | | |
|-----------|------|--|
| October | 1927 | All weather conditions about normal. |
| November | 1927 | A notably warm and wet month. In Idaho total precipitation was the greatest of record for the month. |
| December | 1927 | Unusually cold with slightly more than the average amount of snowfall. |
| January | 1928 | Temperature slightly above and precipitation a little below normal. |
| February | 1928 | With one exception, the driest February of record in Idaho. Less than the usual amount of snow on the Upper Snake area in Wyoming. Unusually cold weather. |
| March | 1928 | Both precipitation and temperature generally above normal. With but three exceptions the wettest March of record in Idaho. |
| April | 1928 | Colder and drier than usual. |
| May | 1928 | Temperature considerably above normal with less than the average amount of rain. |
| June | 1928 | Weather cool. Precipitation above normal at practically all stations in the upper Snake valley. |
| July | 1928 | Nearly normal temperature. Slight deficiency in rainfall except over high areas in Wyoming. |
| August | 1928 | In Idaho the coolest August since 1918 and the driest since 1917. Generally similar conditions in Wyoming. |
| September | 1928 | Another unusually dry month. Temperature a little above normal. |

Cool rainy weather during June had some detrimental effect upon potatoes and beans while a somewhat prolonged hot dry period during the latter part of July was injurious to some of the small seed crops. With these exceptions weather conditions were generally favorable throughout the season and good yields were reported.

The amount and distribution of precipitation at the principal observation points in District No. 36 territory is shown graphically for the irrigation season on Plates XXVII and XXVIII.

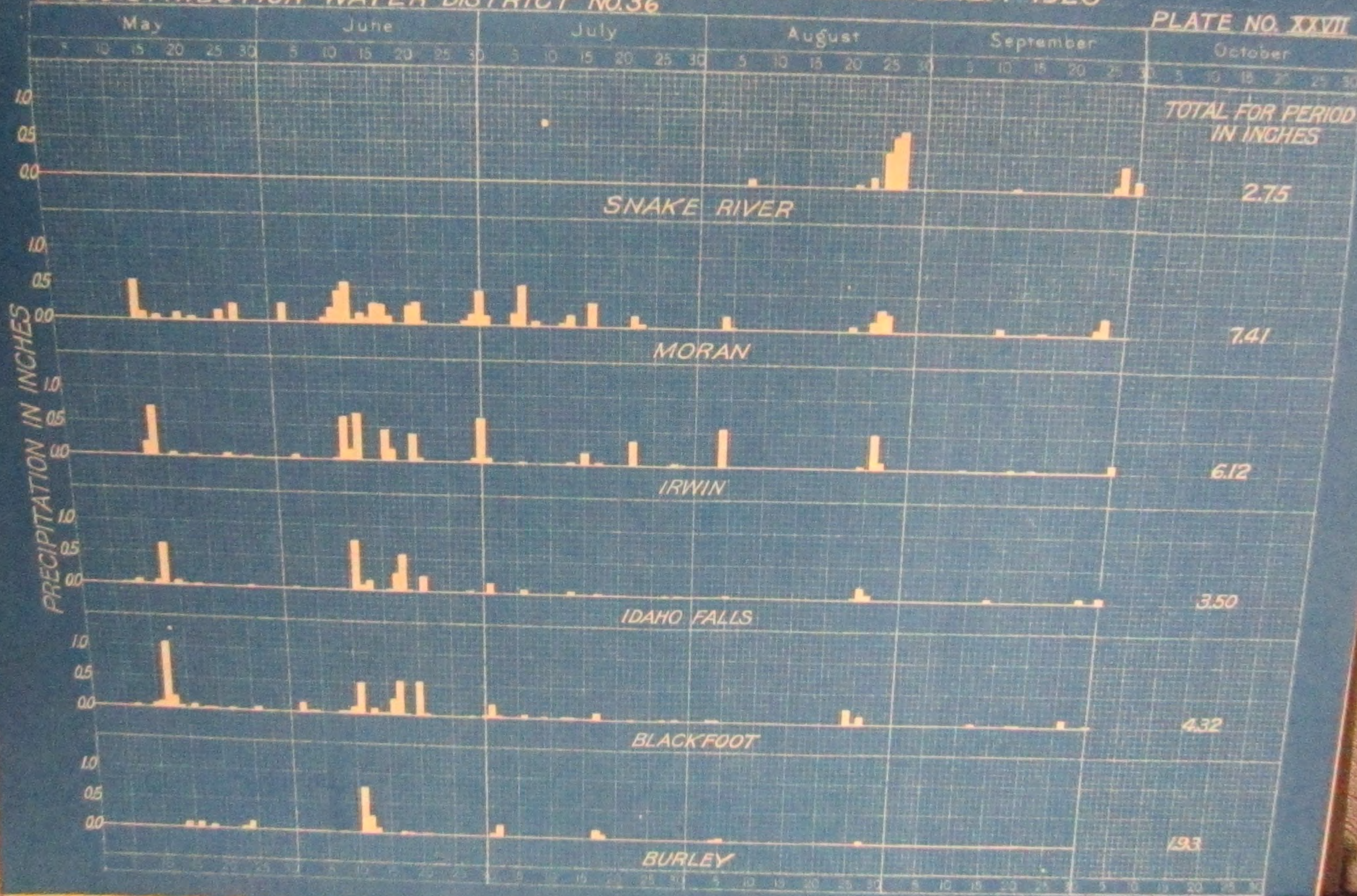
The record at Riverside near the west entrance to Yellowstone National Park is not altogether consistent with those for the other stations but has been included because of its proximity to Henry's Lake. No records were secured at the Snake River station during May and June, while only the total amount for the month of July was listed in U. S. Weather Bureau publications, hence these three months have been omitted in the diagram for this station.

The following table summarizes data for Snake River, Moran, Irwin, Ashton, Idaho Falls, Blackfoot, Pocatello and Twin Falls by months, for the year ending September 30, 1928:

DAILY PRECIPITATION DIAGRAM - SNAKE RIVER AREA - 1928

1928 DISTRIBUTION WATER DISTRICT NO. 36

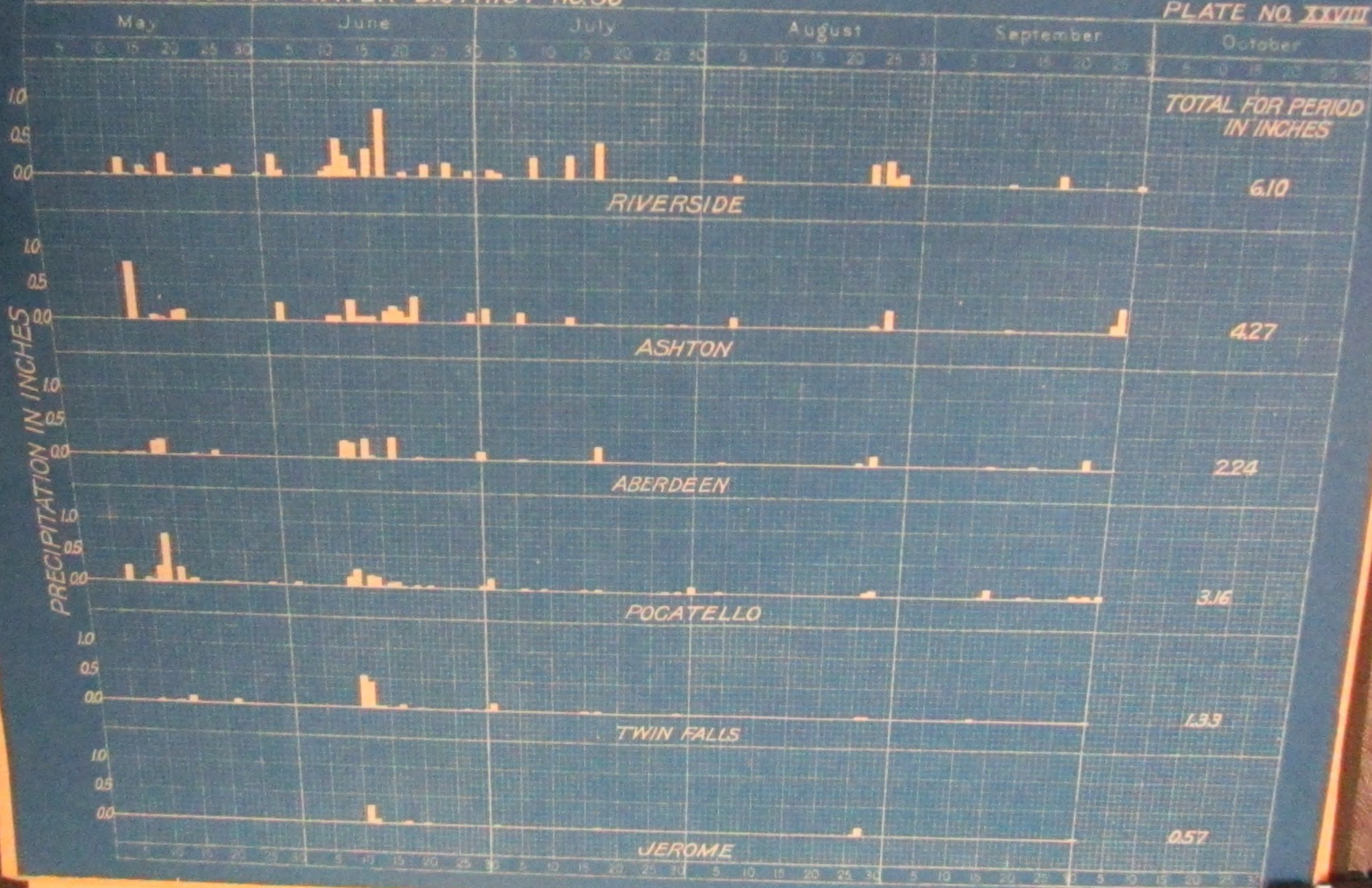
PLATE NO. XXVII



DAILY PRECIPITATION DIAGRAM-SNAKE RIVER AREA-1928

1928 DISTRIBUTION WATER DISTRICT NO. 36

PLATE NO. XXVIII



Month	Total Number of Stations	Number Above Normal	Number Below Normal	Monthly aver. Precip. in Inches for All years of Record	Average Precip. in Inches for Specific Month	Mean departure from Average Amount in Inches.	
1927							
October	8	4	4				
November	8	7	1	1.376	1.304	-0.072	
December	8	6	2	1.275	2.406	+1.131	
1928							
January	8	2	6	1.435	1.736	+0.301	
February	8	0	8	1.825	1.606	-0.220	
March	8	4	4	1.375	0.735	-0.640	
April	8	1	7	1.586	2.019	+0.433	
May	8	1	7	1.739	0.756	-0.583	
June	8	8	0	1.756	1.165	-0.591	
July	8	2	6	1.319	2.447	+1.128	
August	8	2	6	0.916	0.681	-0.235	
September	8	0	8	0.775	0.661	-0.114	
				<u>1,120</u>	<u>0,258</u>	<u>-0,862</u>	
				Total	16.098	15.774	-0.324

This summary corresponds with those contained in the 1926 and 1927 reports with respect to stations included and source of information (monthly and annual Climatological Bulletins of the U. S. Weather Bureau). Totals for the months of January, May and June at the Snake River station were estimated but all other records were complete for the year.

Observations have been continued at these eight stations for periods ranging from 18 to 34 years and for this reason as well as because of their general distribution throughout the upper Snake drainage area, the combined data may be expected to be fairly representative in character when applied to District No. 36. The group totals show that precipitation for the entire twelve months amounted to 98.0 per cent of the average while actual run-off for the same time, as determined from records secured at the river gaging station near Moran, Wyoming, represented 119.3 per cent of a 25 year mean.

This large spread between comparative precipitation and run-off seems to be due chiefly to the preponderance of valley records used for determining the former. For example, if the two Wyoming stations are considered separately, the total for the year ending September 30, 1928 represents 116 per cent of the mean annual precipitation - a figure quite consistent with the run-off.

EVAPORATION

For data concerning evaporation at Southern Idaho points during the 1928 season the reader is referred to the previously mentioned report of Thos. R. Newell which contains records for four different pans (3 standard Weather Bureau type and 1 water installation) situated at different points in the American Falls Reservoir basin and to the publications of the U. S. Weather Bureau which list records for stations located at Milner and Arrowrock Dams.

NEW CONSTRUCTION AND REPAIRS

A new concrete cable anchorage was installed on the north bank of Fall River at the Squirrel station, several recording gage houses were repaired and one or two other cable anchorages were inspected.

The two cables at the Lorenzo river station and the one across the main channel at Blackfoot Bridge were salvaged and stored during the latter part of the season.

With these exceptions, work of this character was limited to minor repairs to gaging station equipment.

EXPENDITURES

A complete summary of expenditures covering the year ending March 31, 1929 follows. This statement includes all general charge items which appeared in the annual water master's bill for the season of 1928, as well as everything pertaining to the work of the Idaho Falls office. No attempt has been made, however, to segregate expense for strictly hydrometric work from that for water distribution, as in many respects these phases are too closely related to warrant more than an arbitrary separation.

Salaries and expenses of Upper Valley members of the Committee of Nine which were not charged against the whole district have been omitted.

Certain expenses (indicated by foot-notes) were, through pre-season agreement, paid in their entirety by the American Falls Reservoir interests. All other general water users charges were prorated on the basis of 60 per cent against normal flow and 40 per cent against stored water. The latter were in turn segregated between the principal reservoirs. During April and May monthly charges of \$2.50 and \$25.00 were assessed respectively against the Utah-Idaho Sugar Company and the North Fork Reservoir Company for "stand-by" service. From June 1, 1928 to March 31, 1929 the monthly payments by these smaller reservoir interests were, by action of the Water Users Committee of Nine (see page 5 of this report), fixed at \$3.75 for the former and \$42.50 for the latter. The balance of these storage costs were then assessed against the Jackson Lake and American Falls Reservoirs.

EXPENDITURES FOR WATER DISTRIBUTION AND HYDROMETRIC WORK

April 1, 1928 to March 31, 1929.

Water Master, Special Deputy and Deputy

G. Clyde Baldwin,	Salary April 1-March 31, 12 mo. @ \$450	\$5400.00(a)
	Expenses do	131.08
	Auto hire do	155.09

Hydrographers

C. A. McClelland,	Salary Apr. 1-June 30, 3 mo. @ \$233.33 1/3	700.00
	July 1-Jan. 10, 6 1/3 mo. @ \$241.66 2/3	1530.56
	Jan. 11-Mar. 31, 2 2/3 mo. @ \$266.66 2/3	711.11
	Expenses do	98.95
	Auto hire	863.98

H. S. Kollenborn,	Salary Apr. 1-June 30, 3 mo. @ \$200.00	600.00
	July 1-Mar. 31, 9 mo. @ \$216.66 2/3	1950.00
	Expenses do	39.45
	Auto hire	771.42

Leo K. Homer,	Salary May 15-Aug. 20, 3 6/30 mo. @ \$150	480.00
	Expenses do	3.40
	Auto hire do	587.73

Leslie Bowen,	Salary May 14(noon)-Aug. 31, 3 16 1/2/30 mo. @ \$150	532.50
	Expenses do	3.75
	Auto hire do	647.27

R. F. Blanks,	Salary May 16-21 & May 26-Oct. 15,	730.00(b)
	4 26/30 mo. @ \$150	901.94(b)
	Auto hire do	29.00(b)
	Labor do	29.55(b)
	Materials do	8.45(b)
	Telephone do	

D. I. Gardner,	Salary May 1-14 & Sept. 1-30, 1 14/30 mo. @ \$150	220.00
	May 15-Aug. 31, 3 16/30 mo. @ \$140	494.67
	Expenses do	0.75
	Auto hire do	987.87

Deputy Water Masters

Bruno Albert,	Salary June 1-Aug. 31, 3 mo. @ \$50	150.00
	Auto hire do	150.00

(a) \$600.00 of this item paid direct by American Falls Reservoir interests.
 (b) Paid direct by American Falls Reservoir interests.

Deputy Water Masters

T. W. Luetjen,	Salary May 1 (noon)-2 & June 1-Sept. 30, 123½ days @ \$4	\$494.00
	Auto hire June 1-Aug. 31, 92 days @ \$3.25 Sept. 1-30	299.00
		86.97
W. J. Kremer,	Salary June 1-Aug. 31, 92 days @ \$4	368.00
	Auto hire do 92 days @ \$4	368.00
Wm. Sauer,	Salary June 1-Aug. 31, 92 days @ \$4	368.00
	Auto hire do 92 days @ \$3.75	345.00
J. W. Ensign,	Salary June 1-Aug. 31, 92 days @ \$4	368.00
	Auto hire do 92 days @ \$3.75	345.00
E. E. Bingham,	Salary June 1-Aug. 31, 92 days @ \$4	368.00
	Auto hire do 92 days @ \$2.75	253.00
W. N. McConnel,	Salary June 1-Sept. 30, 4 mo. @ \$50	200.00

Stenographers

Helen George,	Salary Apr. 1-June 30, 3 mo. @ \$125	375.00
	July 1-Mar. 31, 9 mo. @ \$135	1215.00
Zella Hunter,	Salary June 1-Sept. 7, 3 7/30 mo. @ \$40	129.33

Gage Readers

W. J. Kremer,	Salary May 27-31, 5 days @ \$2.00	10.00
	Apr. 21, 28, May 5 & 12, 4 trips @ \$1.00	4.00
	Salary Apr. 1-May 31 & Sept. 1-30, 3 mo. @ \$5.00	15.00
Harold Fuqua,	Salary June 1-Aug. 31, 3 mo. @ \$12.00	36.00
	Oct. 1-Dec. 31, 3 mo. @ \$5.00	18.00
	Jan. 1-Mar. 31, 3 mo. @ \$8.53 1/3	25.00
	Salary Apr. 1-May 31 & Sept. 1-Mar. 31, 9 mo. @ \$9	81.00
Walter Lenz,	Salary Apr. 1-Mar. 31, 12 mo. @ \$15.00	180.00
Mrs. J. Keppner,	Salary Apr. 1-May 31, 2 mo. @ \$5.00	10.00
Mrs. I. Siepert,	Salary June 1-Sept. 30, 122 days @ \$1.00	122.00
	Oct. 1-Nov. 10, 8 trips @ \$1.00	8.00
	Salary Apr. 1-May 23, 15 trips @ \$1.00	15.00
B. F. Smith,	Salary Oct. 1-Dec. 1 & Mar. 24-31, 11 trips @ \$1.00	11.00
Roy Morgan,	Salary Dec. 2-Mar. 23, 112 days @ 60¢	67.20
	Salary July 10-Aug. 31, 53 days @ \$1.00	53.00
	Salary June 1-Sept. 30, 4 mo. @ \$10.00	40.00
W. H. Kremer,	Salary May 3-31	5.00
E. E. McConnel,	Salary June 1-Sept. 30, 122 days @ \$1.00	122.00
Mrs. E. Frasure,		

Gage Readers

J. A. Clough,	Salary Apr. 1-May 31 & Oct. 1-Mar. 31, 8 mo. @ \$10	\$80.00
	June 1-Sept. 30, 122 days @ \$1.00	122.00
Mrs. A. Anderson,	Salary Apr. 1-May 31, 2 mo. @ \$5.00	10.00
Mrs. J. Johnson,	Salary Apr. 1-May 12, 1 12/30 mo. @ \$5.00	7.00
Lois Holt,	Salary Sept. 1-30, 1 mo. @ \$50.00	50.00
A. J. Ayers,	Salary Oct. 1-May 31, 8 mo. @ \$8.00	64.00(a)
	June 1-Sept. 30, 4 mo. @ \$50.00	200.00(a)

Secretary, Water Users Committee of Nine

John Lee,	Salary Mar. 5-6 & 31 & Aug. 23, 4 days @ \$5.00	20.00(b)
	Expenses do	13.05(b)
	Auto hire do	8.97(b)

Miscellaneous

Snake River Flood Prevention Survey (J. H. Wilson)	200.00
Labor in repair of gaging stations	39.30
Field and office equipment (instruments, etc.)	89.32
Field and office materials and supplies (expendable)	355.92
Telephone and telegraph	381.77
Premiums on official bonds	18.25
Interest on borrowed money	128.18
Employees Compensation insurance	67.44
Total	<u>\$27,168.22</u>

SOURCES OF REVENUE

Normal Flow Fund	\$12,560.71
Normal Flow Users (Direct assessment in 1928 District No. 36 Water Master Bill)	183.61
Jackson Lake and American Falls Stored Water Users (through State of Idaho)	10,075.24
Jackson Lake and American Falls Stored Water Users (credit in 1928 District No. 36 Water Master bill)	202.41
North Fork Reservoir Company (through State of Idaho)	475.00
Utah-Idaho Sugar Company (through State of Idaho)	42.50
Sheppard & Company (through State of Idaho)	22.74
U. S. Geological Survey	908.85
State of Idaho (Cooperative Stream Measurement Fund)	2,697.16
Total	<u>\$27,168.22</u>

(a) Computed for year ending September 30, 1928.
 (b) Computed for 365 day period ending September 30, 1928.

*FUNDS AVAILABLE APRIL 1, 1929

Normal Flow Fund (a)	
Jackson Lake Stored Water Users (a)	\$1,794.10
North Fork Reservoir Company (b)	17.95
Utah-Idaho Sugar Company (b)	85.00
Sheppard & Company (b)	7.50
U. S. Geological Survey (c)	24.09
State of Idaho, Cooperative Stream Measurement Fund (d)	495.89
Total	<u>417.72</u>
	\$2,842.25

* Amounts given in this table represent funds in bank or definitely known to be available after all accounts (except a few outstanding claims which had not yet been presented) were settled and adjusted to and including March 31, 1929.

- (a) Additional funds probably available on or before June 1, 1929.
- (b) Represents unexpended portion of money advanced.
- (c) Represents amount available for expenditure prior to July 1, 1929.
- (d) Amount allotted for expenditure prior to July 1, 1929.
(Subject to slight change).

Two important items are not included in these summaries for the reason that their exact value is not definitely known. These are:

(1) The rent equivalent of the office quarters and furniture in the Federal Building at Idaho Falls. Because of the cooperation with the U. S. Geological Survey this very desirable office space and equipment is made available without charge.

(2) The cost of securing the necessary prints for and the binding of 55 copies of the 1927 report which was paid direct by the State Commissioner of Reclamation.

The total annual expenditure of \$27,168.22 which has been itemized does not include \$4,806.88 expended by the American Falls Reservoir interests on account of the 1928 investigation carried on by Thos. R. Newell but amounts totalling \$1,698.94 representing the salary and expenses of his assistant, R. F. Blanks, have been inserted to make the summary consistent with that of the preceding year and also because of the value of this work

for operation purposes. When allowance is made for this item the balance will be found, as might be expected from the relative water supply, to be very slightly larger than that expended for similar work during 1927.

WATER RIGHTS

A number of small permanent transfers, affecting the water rights of canals diverting from the main channel of Snake River, have been granted during the past two years and, in addition, the American Falls Reservoir storage allotments have been increased by reason of the fact that the unit costs of this development have proved to be less than the original estimates.

These changes have all been shown on Plate XXIX.

The stored water totals will be subject to further revision when the final American Falls Reservoir costs are announced but the decreed rights are believed to be correct as of April 1, 1929.

The plan followed in previous reports of attempting to indicate the size of each right by the length of a triangular block diagram has here been abandoned in favor of actual figures. Exact priority dates are listed chronologically at the right end of the sheet. In the latter table wherever two names appear for a single right the larger letters refer to the canal through which the water is now diverted and the smaller to the source from which the right was obtained.

Since the decrees for canals having their source of supply in Henry's Fork, Fall and Teton Rivers have remained substantially unchanged since they were similarly listed in the 1924 report, it seems unnecessary to again tabulate them at this time.

Numerous changes will result whenever the so-called "Woodville" or "High Water Decree" is finally confirmed by the court.

1928 DISTRIBUTION WATER DISTRICT NO. 36

PARTY OR CANAL	TOTALS.F.	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	
RILEY																					
ANDERSON & ER WILLOW CR.	24																				
FARMERS FRIEND	800.																				
ENTERPRISE	342.83	1.60																			
NELSON	188.																				
MATTSON-CRAIG	475					340.															
ARNSBERGER	20.16						2.83		12.	320.	300.										
HEISE	6.										6.										
BUTLER ISLAND	560																		120.		
ROSS & RAND	5054								4.80	2.40											
STEELE	534																				
HARRISON	904												6.								
CHENEY	45560						50.54														
BOOMER & IDAHO	6.	.43	.65	.65	.64		2.00			3.34											
RUDY	1000.						6.24			2.00											
KITE & NORD	191.26					.64	15.24	.64	2.46	31.62	2.63	0.80									
BURGESS	880										6.	240.							160.		
CLARK & EDWARDS	800.61						7.26	2.00		102.	300.	700.									
LOWDER & JENNINGS	70.										30.										
EAST LABELLE	52.								10.	10.	380.61		8.80								
CONSOLIDATED FEEDER	140.						70.						240.						160.		
LENROOT	184.																				
REID	220.						48.			92.			26.		26.						
TEXAS FEEDER	150.																				
NELSON-COREY	280.					9.	9.				44.										
HILL-PETTINGER	16.80						30.	40.			6.		15.	5.							
LONG ISLAND	1596						48.	50.	38.	38.	38.		14.	14.	14.	14.	12.				
ISLAND	448.73	38.52	58.97	58.97	58.98	58.98		24.	.48	.48			4.80								
RIGBY	286.44						58.97	58.97	43.27	4.76	8.34		1.44								
DILTS	160.																				
WEST LABELLE	28.						10.	10.	20.	120.											
PARKS & LEWISVILLE	109.32																		28.		
NORTH RIGBY	351.12					20.	109.32														
WHITE	50.					50.	100.			211.12											
BRAMWELL	6.98						6.98														
ELLIS	1320										13.20										
INDEPENDENT	480										4.80										
BUTTE & MARKET LAKE	2920					2920															
OSGOOD	36870					230						366.40									
KENNEDY & BURGRAFF	13389					250	3.70					16.70	10.99								
PORTER, GR. WEST 'N & MARTIN	2442	.26	.38	.38	.38	.38	.39	.39	.39	.39	16.88	4.20									
BEAR ISLAND & C.D. SMITH	564.55					15.	.94	127.60	1.54	3.35	16.12		400.							350	
TAYLOR & GOSHEN	350																				
CITY OF IDAHO FALLS	46.																				
WOODVILLE	188.																				
SNAKE RIVER VALLEY	125.50											200.									400.
RESERVATION	710.												600.								
BLACKFOOT	600.											366.80									
NEW LAVA SIDE	366.80					20.						60.	72.						400.		
PEOPLES	152.						7.60			16.60										1250.	
ABERDEEN-SPRINGFIELD	424.20											109.43		130.							
CORBETT SLOUGH	1250.																				
NIELSEN-HANSEN	239.43				15.		10.		90.												
RIVERSIDE	15.																				
DANSKIN	100.												65.41								
TREGO	180.																				
WEARYRICK	6941																				
WATSON SLOUGH	41.20						62.40	1.60		33.40											
PARSONS	97.40						22.						17.80								
SMITH-MAXWELL	22.																				
U.S.R.S. MINIDOKA CANALS	17.80																				
SCHODDE	2726																				
TWIN FALLS CANAL CO.	2																				
TWIN FALLS N.E. L. & W. CO.	3000.																				
MILNER LOW LIFT CANAL CO.	3000.																				
TOTALS FOR YEAR IN SEC.FT.	21002.88	199.21	60.00	60.00	160.00	483.00	681.41	454.20	264.46	1792.43	2028.66	1052.40	1234.80	17500	9950	442.00	1704.00	40350	0.0	0.0	
TOTALS TO DATE IN SEC.FT.		199.	259.	319.	479.	962.	1644.	2098.	2362.	4155.	6183.	7236.	8471.	8646.	8745.	9187.	10891.	11295.	11295.		

SNAKE RIVER WATER RIGHTS

DATE	DEGREE	PARTY OR CANAL	TOTAL	OLDER
AUG. 6	1000.	U.S.B.R. "FOSTER" (MINIDOKA)	2726.	1726.
JUN. 16	350.	T.F. NO. SIDE L. & W. CO. "FOSTER"	3000.	2650.
JUN. 7	2250.	DO	3000.	400.
JUN. 22	36.	RUDY	191.26	155.26
OCT. 1	48.	CITY OF IDAHO FALLS	188.	140.
JUN. 1	110.	SNAKE RIVER VALLEY	710.	600.
JUN. 1	100.	LENROOT	220.	120.
MAR. 26	10.	HILL-PETTINGER	15.96	5.96
JUN. 1	1726.	US.B.R. "FOSTER" (MINIDOKA)	2726.	1726.
JUN. 1	3.	HILL-PETTINGER	15.96	0.
JUN. 1	24.	RILEY	24.	2.96
MAY 1	4.	TREGO	69.41	65.41
APR. 14	5.60	HEISE	5.60	0.
OCT. 11	140.	COSOLIDATED FEEDER	184.	44.
OCT. 11	400.	T.F. NO. SIDE L. & W. CO. "FOSTER"	3000.	0.
JUN. 16	3000.	TWIN FALLS CANAL CO. "FOSTER"	3000.	0.
JUN. 16	46.	TAYLOR & GOSHEN	46.	0.
JUN. 16	100.	OSGOOD (UTAH-IDAHO SUGAR CO.)	133.89	33.89
JUN. 1	40.	WOODVILLE	125.50	85.50
APR. 30	14.	RUDY	191.26	141.26
APR. 30	475.	NELSON	20.16	7.20
APR. 30	12.96	MATTSON-CRAIG (M.E. HOLT & MATTSON)	188.	0.
APR. 20	140.	CITY OF IDAHO FALLS	220.	44.
JUN. 1	76.	LENROOT	188.	120.
APR. 15	68.	ENTERPRISE	710.	200.
JULY 9	400.	SNAKE RIVER VALLEY	350.	0.
JUN. 1	350.	BEAR ISLAND (WEIR)	280.	268.
JUN. 1	12.	TEXAS FEEDER	800.61	640.61
APR. 1	160.	BURGESS	2.	0.
MAR. 22	2.	SCHODDE	188.	0.
FEB. 6	120.	ENTERPRISE	1250.	0.
JAN. 9	1250.	ABERDEEN-SPRINGFIELD (AMERICAN FALLS CANAL CO.)	455.60	295.60
AUG. 18	160.	HARRISON	424.20	242.0
JUN. 1	400.	PEOPLES	28.	0.
JUN. 1	28.	DILTS (DILTS & LABELLE CO.)	280.	254.
JUN. 1	14.	TEXAS FEEDER (TEXAS SLOUGH CO.)	280.	240.
JUN. 1	14.	TEXAS FEEDER	125.50	0.
APR. 30	85.50	WOODVILLE	220.	39.
JUN. 1	5.	LENROOT (G-1-03 AMENDED)	280.	226.
JUN. 1	14.	TEXAS FEEDER (TEXAS SLOUGH CO.)	52.	26.
JUN. 1	26.	LOWDER & JENNINGS	239.43	109.43
MAY 1	130.	CORBETT SLOUGH	600.	0.
DEC. 14	600.	RESERVATION (IDAHO CANAL & IMPROV. CO.)	16.80	12.
JUN. 1	4.80	NELSON-COREY (P.O. CARLSEN)	6.	0.
JUN. 1	6.	ARNSBERGER	15.96	1.52
JUN. 1	1.44	HILL-PETTINGER	220.	24.
JUN. 1	15.	LENROOT (G-1-03 & 99 AMENDED)	286.44	92.88
JUN. 1	193.56	ISLAND	280.	212.
JUN. 1	14.	TEXAS FEEDER (TEXAS SLOUGH CO.)	564.55	164.55
JAN. 24	400.	GREAT WESTERN & PORTER (NEW SWEDEN DIST.)	152.	80.
NOV. 24	72.	NEW LAVA SIDE	368.70	351.70
OCT. 16	17.	BUTTE & MARKET LAKE (LAVINA CUTSHAW)	368.70	2.30
OCT. 16	349.40	BUTTE & MARKET LAKE	133.89	23.29
OCT. 16	10.60	OSGOOD (UTAH IDAHO SUGAR CO.)	455.60	55.60
JULY 12	240.	HARRISON	800.61	400.61
JUN. 10	240.	BURGESS	8.80	0.
JUN. 1	8.80	KITE & NORD (HATFIELD-NORD-PARSONS)	9.04	8.24
JUN. 1	.60	STEELE (HATFIELD)	69.41	0.
JUN. 1	65.41	TREGO	24.42	20.22
JUN. 1	4.20	KENNEDY & BURGRAFF	133.89	22.90
JUN. 1	0.39	OSGOOD (MERRILL-NIBLEY-ET. AL.)	52.	0.
JUN. 1	26.	LOWDER & JENNINGS (G-1-00 ERROR)	17.80	0.
JUN. 1	17.80	SMITH-MAXWELL (SMITH, JARVIS & BRENNON)	366.80	0.
FEB. 21	366.80	BLACK FOOT	133.89	12.29
JULY 10	1061	OSGOOD (UTAH-IDAHO SUGAR CO. 448)	564.55	150.76
JULY 10	1379	OSGOOD (MERRILL-NIBLEY 613)	24.42	11.42
JULY 10	8.80	GREAT WESTERN & PORTER	6.	0.
JUN. 2	6.	KENNEDY & BURGRAFF	564.55	150.09
JUN. 1	.67	CHENEY	564.55	334.83
JUN. 1		GREAT WESTERN & PORTER (LONG ISLAND)	342.83	18.
JUN. 1		FARMERS FRIEND (LONG ISLAND)	220.	18.

DATE	DEGREE	PARTY OR CANAL	TOTAL
1889 JUN. 1	.32	HILL-PETTINGER	15.96
" JUN. 1	30.	RUDY	191.26
" JUN. 1	80.	REID	150.
" JUN. 1	44.	CONSOLIDATED FEEDER (SUNNY DELL-LYMAN)	184.
" JUN. 1	38.	TEXAS FEEDER (LIBERTY PARK CO.)	280.
" JUN. 1	8.34	LONG ISLAND	448.73
" JUN. 1	19.44	ISLAND (LONG ISLAND)	286.44
" JUN. 1	2.63	HARRISON	455.60
" JUN. 1	.26	KENNEDY & BURGRAFF (LONG ISLAND)	24.42
" MAY 1	700.	IDAHO	740.
" MAY 1	109.43	CORBETT SLOUGH	239.43
" MAY 1	6.09	OSGOOD (UTAH IDAHO SUGAR CO. 452-MERRILL-NIBLEY ET)	133.89
" MAY 1	1.66	GREAT WESTERN & PORTER (CORBETT WILLIAMS)	564.55
" MAY 1	2.82	KENNEDY & BURGRAFF	24.42
" APR. 15	300.	ANDERSON & EAGLE R. AND WILLOW CR. 800. (FARMERS PROGRESS)	710.
" APR. 6	200.	SNAKE RIVER VALLEY (CEDAR POINT)	152.
" MAR. 1	60.	NEW LAVA SIDE	24.42
" JAN. 12	5.	KENNEDY & BURGRAFF (W.S. LYLE-AMENDMENT)	191.26
1888 AUG. 13	100.	RUDY	740.
" AUG. 13	40.	IDAHO	260.
" AUG. 13	260.	BOOMER (IDAHO CANAL & IMP. CO.)	97.40
" JULY 15	30.20	WATSON SLOUGH	424.20
" JULY 15	16.60	PEOPLES (WATSON SLOUGH)	41.20
" JULY 15	3.20	WEARY RICK (WATSON SLOUGH)	160.
" JUN. 15	120.	RIGBY	800.61
" JUN. 10	380.	BURGESS	15.96
" JUN. 1	.48	HILL-PETTINGER	800.61
" JUN. 1	.61	BURGESS (LONG ISLAND)	180.
" JUN. 1	80.	DANSKIN	140.
" JUN. 1	92.	EAST LA BELLE	280.
" JUN. 1	38.	TEXAS FEEDER (LIBERTY PARK CO.)	351.12
" JUN. 1	211.12	PARKS & LEWISVILLE	455.60
" JUN. 1	31.62	HARRISON	191.26
" JUN. 1	2.	RUDY (C.E. ROSTAN)	5.34
" JUN. 1	3.34	ROSS & RAND (SUPPLEMENTAL)	9.04
" JUN. 1	2.	STEELE (SUPPLEMENTAL-PROBERT)	448.73
" JUN. 1	4.76	LONG ISLAND	286.44
" JUN. 1	29.16	ISLAND (LONG ISLAND)	564.55
" JUN. 1	2.35	GREAT WESTERN & PORTER	24.42
" JUN. 1	.39	KENNEDY & BURGRAFF (LONG ISLAND)	342.83
" JUN. 1	20.	FARMERS FRIEND (LONG ISLAND)	20.16
" JUN. 1	2.40	MATTSON-CRAIG (SUPPLEMENTAL-RANDS)	13.20
" JUN. 1	13.20	BRAMWELL (SUPPLEMENTAL)	4.80
" JUN. 1	4.80	ELLIS (SUPPLEMENTAL)	97.40
" MAY 13	3.20	WATSON SLOUGH (H.M. PALMER)	564.55
" MAY 1	1.	GREAT WESTERN & PORTER (J.B. MORGAN)	342.83
1887 JAN. 18	300.	FARMERS FRIEND	160.
JUN. 15	20.	RIGBY	800.61
JUN. 10	10.	BURGESS	100.
JUN. 1	90.	RIVERSIDE	15.96
JUN. 1	.48	HILL-PETTINGER	280.
JUN. 1	38.	TEXAS FEEDER (LIBERTY PARK CO.)	16.80
JUN. 1	12.	NELSON-COREY	20.16
JUN. 1	4.80	MATTSON-CRAIG (R.A. CRAIG)	286.44
JUN. 1	29.52	ISLAND	448.73
JUN. 1	43.27	LONG ISLAND	564.55
JUN. 1	1.54	GREAT WESTERN & PORTER	455.60
JUN. 1	2.46	HARRISON (LONG ISLAND)	24.42
JUN. 1	.39	KENNEDY & BURGRAFF (LONG ISLAND)	342.83
JUN. 1	12.	FARMERS FRIEND (LONG ISLAND)	180.
1886 JULY 23	100.	DANSKIN	160.
JUN. 15	10.	RIGBY	800.61
JUN. 10	10.	BURGESS	97.40
JUN. 1	1.60	WATSON SLOUGH (ELIZABETH KRATZER)	286.44
JUN. 1	14.76	ISLAND	280.
JUN. 1	50.	TEXAS FEEDER (TEXAS SLOUGH & LIBERTY PARK)	564.55
JUN. 1	5.60	GREAT WESTERN & PORTER (MATTSON & MARTIN)	2.
JUN. 1	2.	RUDY (ROSTAN)	191.26
JUN. 1	40.	REID	150.
JUN. 1	.24	HILL-PETTINGER	15.96

TER RIGHTS

TOTAL	OLDER
2726	1726
3000	2650
3000	400
191.26	155.26
188	140
710	600
220	120
1596	596
2726	0
1596	296
24	0
69.41	65.41
5.60	0
184	44
3000	0
3000	0
46	0
133.89	33.89
125.50	85.50
191.26	141.26
4.75	0
20.16	7.20
188	0
220	44
188	120
710	200
350	0
280	268
800.61	640.61
2	0
188	0
1250	0
455.60	295.60
424.20	2420
28	0
280	254
280	240
12550	0
220	39
280	226
52	26
239.43	109.43
600	0
16.80	12
6	0
15.96	1.52
220	24
286.44	92.88
280	212
564.55	164.55
152	80
368.70	351.70
368.70	2.30
133.89	23.29
455.60	55.60
300.61	400.61
8.80	0
9.04	8.24
69.41	0
24.42	20.22
33.89	22.90
52	0
17.80	0
66.80	0
33.89	12.29
64.55	150.76
24.42	11.42
6	0
64.55	150.09
42.83	334.83
20	18

DATE	DECREE	PARTY OR CANAL	TOTAL	OLDER
1889 JUN 1	32	HILL-PETTINGER	1596	1.20
" JUN 1	30	RUDY	191.26	111.26
" JUN 1	80	REID	150	70
" JUN 1	44	CONSOLIDATED FEEDER (SUNNYBELL-LYMAN)	184	0
" JUN 1	38	TEXAS FEEDER (LIBERTY PARK CO)	280	174
" JUN 1	8.34	LONG ISLAND	448.73	440.39
" JUN 1	19.44	ISLAND (LONG ISLAND)	286.44	73.44
" JUN 1	2.63	HARRISON	455.60	52.97
" JUN 1	26	KENNEDY & BURGRAFF (LONG ISLAND)	24.42	11.16
" JUN 1	700	IDAHO	740	40
" MAY 11	109.43	CORBETT SLOUGH	239.43	0
" MAY 11	6.09	OSGOOD (TAN IDA, SIG CO, ASE, HERRLI-WIBLEY ET)	133.89	6.20
" MAY 1	1.66	GREAT WESTERN & PORTER (CORBETT WILLIAMS)	564.55	148.43
" MAY 1	2.82	KENNEDY & BURGRAFF	24.42	8.34
" APR 15	300	ANDERSON & EAGLE R. AND WILLOW CR 800 (FARMERS PROGRESS)	710	500
" APR 6	200	SNAKE RIVER VALLEY (CEDAR POINT)	152	0
" MAR 1	60	NEW LAVA SIDE	24.42	20
" JAN 12	5	KENNEDY & BURGRAFF (W.S. LYLE-AMENDMENT)	191.26	3.34
1888 AUG 13	100	RUDY	740	11.26
" AUG 13	40	IDAHO	260	0
" AUG 13	260	BOOMER (IDAHO CANAL & IMP. CO)	97.40	0
" JULY 15	30.20	WATSON SLOUGH	424.20	67.20
" JULY 15	16.60	PEOPLES (WATSON SLOUGH)	41.20	7.60
" JULY 15	3.20	WEARYRICK (WATSON SLOUGH)	160	38
" JUN 15	120	RIGBY	800.61	40
" JUN 10	380	BURGESS	1596	2061
" JUN 1	48	HILL-PETTINGER	800.61	0.72
" JUN 1	61	BURGESS (LONG ISLAND)	180	20
" JUN 1	80	DANSKIN	140	100
" JUN 1	92	EAST LA BELLE	140	48
" JUN 1	38	TEXAS FEEDER (LIBERTY PARK CO)	280	136
" JUN 1	211.12	PARKS & LEWISVILLE	351.12	140
" JUN 1	31.62	HARRISON	455.60	21.35
" JUN 1	2	RUDY (C.E. ROSTAN)	191.26	9.26
" JUN 1	3.34	ROSS & RAND (SUPPLEMENTAL)	5.34	2
" JUN 1	2	STEELE (SUPPLEMENTAL-PROBERT)	9.04	6.24
" JUN 1	4.76	LONG ISLAND	448.73	435.63
" JUN 1	29.16	ISLAND (LONG ISLAND)	286.44	44.28
" JUN 1	2.35	GREAT WESTERN & PORTER	564.55	146.08
" JUN 1	.39	KENNEDY & BURGRAFF (LONG ISLAND)	24.42	2.95
" JUN 1	20	FARMERS FRIEND (LONG ISLAND)	342.83	314.83
" JUN 1	2.40	MATTSON-CRAIG (SUPPLEMENTAL-RANDS)	20.16	4.80
" JUN 1	13.20	BRAMWELL (SUPPLEMENTAL)	13.20	0
" JUN 1	4.80	ELLIS (SUPPLEMENTAL)	4.80	0
" MAY 13	3.20	WATSON SLOUGH (H.M. PALMER)	97.40	64
" MAY 1	1	GREAT WESTERN & PORTER (J.B. MORGAN)	564.55	145.08
1887 JAN 18	300	FARMERS FRIEND	342.83	14.83
" JUN 15	20	RIGBY	160	20
" JUN 10	10	BURGESS	800.61	10
" JUN 1	90	RIVERSIDE	100	10
" JUN 1	.48	HILL-PETTINGER	15.96	.24
" JUN 1	38	TEXAS FEEDER (LIBERTY PARK CO)	280	98
" JUN 1	12	NELSON-COREY	16.80	0
" JUN 1	4.80	MATTSON-CRAIG (R.A. CRAIG)	20.16	0
" JUN 1	29.52	ISLAND	286.44	14.76
" JUN 1	43.27	LONG ISLAND	448.73	392.36
" JUN 1	1.54	GREAT WESTERN & PORTER	564.55	143.54
" JUN 1	2.46	HARRISON (LONG ISLAND)	455.60	18.89
" JUN 1	.39	KENNEDY & BURGRAFF (LONG ISLAND)	24.42	2.56
1886 JULY 23	12	FARMERS FRIEND (LONG ISLAND)	342.83	2.83
" JUN 15	100	DANSKIN	180	0
" JUN 10	10	RIGBY	160	10
" JUN 1	10	BURGESS	800.61	0
" JUN 1	1.60	WATSON SLOUGH (ELIZABETH KRATZER)	97.40	62.40
" JUN 1	14.76	ISLAND	286.44	0
" JUN 1	50	TEXAS FEEDER (TEXAS SLOUGH & LIBERTY PARK)	280	48
" JUN 1	5.60	GREAT WESTERN & PORTER (MATTSON & MARTIN)	564.55	137.94
" JUN 1	2	RUDY (ROSTAN)	191.26	7.26
" JUN 1	40	REID	150	30
" JUN 1	.24	HILL-PETTINGER	15.96	0

DATE	TOTAL	OLDER
1886 JUN	448.73	333.39
" JUN	455.60	18.25
" JUN	24.42	2.17
" MAY	41.20	0
" MAY	564.55	135.94
" JAN	564.55	15.94
1885 JUN 3	22	0
" JUN 1	160	0
" JUN 1	455.60	4.85
" JUN 1	9.04	5.24
" JUN 1	100	0
" JUN 1	280	0
" JUN 1	351.12	40
" JUN 1	140	0
" JUN 1	220	9
" JUN 1	150	0
" JUN 1	109.32	0
" JUN 1	6.98	0
" JUN 1	133.89	2.50
" JUN 1	50.54	0
" JUN 1	9.04	0
" JUN 1	191.26	0
" JUN 1	342.83	0
" JUN 1	5.34	0
" JUN 1	564.55	15
" JUN 1	448.73	274.42
" JUN 1	455.60	3.01
" JUN 1	24.42	1.78
" MAR 1	97.40	0
" MAR 1	424.20	0
" FEB 2	70	0
1884 JUN 1	29.20	0
" JUN 1	368.70	0
" JUN 1	133.89	0
" JUN 1	152	0
" JUN 1	351.12	20
" JUN 1	220	0
" JUN 1	448.73	215.44
" JUN 1	455.60	2.37
" JUN 1	24.42	1.40
" APR 1	DWCR 800	160
1883 JUN 1	50	0
" JUN 1	351.12	0
" JUN 1	15	0
" JUN 1	564.55	0
" JUN 1	448.73	156.46
" JUN 1	455.60	1.73
" JUN 1	24.42	1.02
1882 JUN 1	448.73	97.49
" JUN 1	455.60	1.08
" JUN 1	24.42	.64
1881 JUN 1	448.73	38.52
" JUN 1	455.60	.43
" JUN 1	ISLAND 24.42	.26
1880 AUG 1	DW CR 800	0
" JUN 1	448.73	0
" JUN 1	455.60	0
" JUN 1	24.42	0

Notes:
 (a) Ur
 (b) Ur Power Co. 45,000,
 Atg. Dist. (Fall River) 12,000.