

Eleventh  
Annual Report

ARKANSAS RIVER COMPACT  
ADMINISTRATION  
(1959)

For the Report-Year November 1, 1958, to October 31, 1959

LAMAR, COLORADO

December 8, 1959

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THE ADMINISTRATION

CARL G. PAULSEN, *Chairman and Representative of the United States*  
HACKET SMARTT, *Secretary and Treasurer*

FELIX L. SPARKS, DAVID JENKINS AND HACKET SMARTT  
*for Colorado*

R. V. SMRHA, LOGAN N. GREEN AND CARL E. BENTRUP  
*for Kansas*

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Annual Report of  
ARKANSAS RIVER COMPACT ADMINISTRATION  
(1959)

Report-Year November 1, 1958 to October 31, 1959

TO: THE PRESIDENT OF THE UNITED STATES AND THE  
GOVERNORS OF THE STATES OF COLORADO AND  
KANSAS.

Sirs:

Pursuant to Article VIII of the Arkansas River Compact, the Arkansas River Compact Administration submits its report for the report-year November 1, 1958, through October 31, 1959 as follows:

*1. Members of the Administration*

Representative of the United States:

Carl G. Paulsen

Colorado Representatives:

Felix L. Sparks, Denver, Colorado

David Jenkins, Las Animas, Colorado

Hacket Smartt, Lamar, Colorado

Kansas Representatives:

Carl E. Bentrup, Deerfield, Kansas

Logan N. Green, Garden City, Kansas

R. V. Smrha, Topeka, Kansas

*2. Officers of the Administration*

Chairman:

Carl G. Paulsen

Vice-Chairman:

Logan N. Green of Garden City, Kansas

Secretary:

Hacket Smartt of Lamar, Colorado

Treasurer:

Hacket Smartt of Lamar, Colorado

### 3. *Standing Committees*

Administrative and Legal Committees:

Logan N. Green of Kansas (Chairman)

David Jenkins of Colorado

Engineering Committee:

R. V. Smrha of Kansas (Chairman)

Felix L. Sparks of Colorado

Operations Committee:

Carl E. Bentrup of Kansas (Chairman)

Hacket Smartt of Colorado

Carl G. Paulsen, Representative of the United States, is ex-officio member of all standing committees.

### 4. *Meetings*

|                   |                 |                    |
|-------------------|-----------------|--------------------|
| December 9, 1958  | Lamar, Colorado | Annual Meeting     |
| March 24, 1959    | Lamar, Colorado | Regular Meeting    |
| July 28, 1959     | Lamar, Colorado | Regular Meeting    |
| September 4, 1959 |                 | Telephonic Meeting |
| October 6, 1959   | Lamar, Colorado | Special Meeting    |

### 5. *Fiscal*

(a) Balance on Hand October 31, 1958, Auditor's Report..\$4,512.86

(b) Receipts

State of Colorado, September 10, 1959.....\$2,400.00

State of Kansas, September 23, 1959..... 1,600.00

4,000.00

\$8,512.86

(c) Disbursements by the Administration—November 1, 1958 to October 31, 1959:

| Voucher No.               | Date     | Payee and Purpose                                  | Amount            |
|---------------------------|----------|----------------------------------------------------|-------------------|
| 258                       | 1- 1-59  | R. W. Rollins, Audit and Service.....              | \$ 65.00          |
| 259                       |          | Treasurer of U. S., Deposits by States.....        | 9.00              |
| 260                       |          | Secretary Salary, Nov. & Dec.....                  | 195.50            |
| 261                       |          | Mtn. States T & T. Co., Nov. & Dec. Service.....   | 26.03             |
| 262                       | 3- 5-59  | Mtn. States T. & T. Co., Jan. & Feb. Service.....  | 23.60             |
| 263                       |          | U. S. Geological Survey, Cooperative Agreement.... | 375.00            |
| 264                       | 3-25-59  | Peerless Printing .....                            | 648.00            |
| 265                       | 4- 6-59  | Treasurer of U. S., Deposits by States.....        | 15.00             |
| 266                       | 4- 5-59  | Secretary Salary, Jan., Feb., & March.....         | 292.50            |
| 267                       | 5- 2-59  | Mtn. States T. & T. Co., Mar. & Apr. Service.....  | 24.85             |
| 268                       |          | U. S. Geological Survey, Cooperative Agreement.... | 250.00            |
| 269                       | 6-30-59  | Secretary Salary, Apr., May, & June.....           | 292.50            |
| 270                       |          | Treasurer of U. S., Deposits by States.....        | 15.00             |
| 271                       |          | Mtn. States T. & T. Co., May & June Service.....   | 34.75             |
| 272                       | 8- 3-59  | U. S. Geological Survey, Cooperative Agreement.... | 250.00            |
| 273                       |          | Mtn. States T. & T. Co., July & Aug. Service.....  | 39.15             |
| 274                       | 9-30-59  | Lamar Daily News, Letterheads & envelopes.....     | 18.67             |
| 275                       |          | Secretary Salary, July, Aug. & Sept.....           | 292.50            |
| 276                       |          | Treasurer of U. S., Deposits by States.....        | 15.00             |
| 277                       |          | Valley Agency, Treasurer's Bond.....               | 25.00             |
| 278                       | 10-31-59 | Mtn. States T. & T. Co., Sept. & Oct. Service..... | 45.85             |
| 279                       |          | Secretary Salary, Oct. ....                        | 97.50             |
| 280                       |          | U. S. Geological Survey, Cooperative Agreement.... | 725.00            |
| 281                       |          | Secretary-Mileage, Postage, Mail & Typing.....     | 126.52            |
| Total Disbursements ..... |          |                                                    | <u>\$3,901.92</u> |

(d) Balance on hand October 31, 1959.....\$4,610.94

(e) At its regular meeting July 28, 1959 the Administration approved a budget for the fiscal year July 1, 1960 to June 30, 1961 to be transmitted to the Governor of Colorado and the Governor of Kansas in accordance with Article VIII-E (2) of the Compact and By-laws as follows:



|                                                      |            |          |
|------------------------------------------------------|------------|----------|
| Personal Services .....                              | \$2,825.00 |          |
| Secretary Salary .....                               | \$1,200.00 |          |
| Social Security .....                                | 50.00      |          |
| Gage Reports .....                                   | 1,500.00   |          |
| Professional Services (Audit<br>of Accounts) .....   | 75.00      |          |
| Capital Outlay .....                                 |            | 300.00   |
| Maintenance and Operation.....                       |            | 1,675.00 |
| Bond, Treasurer .....                                | 25.00      |          |
| Printing .....                                       | 600.00     |          |
| Official Publications .....                          | 100.00     |          |
| Travel Expense - Secretary &<br>Employees .....      | 150.00     |          |
| Typing and Mailing.....                              | 200.00     |          |
| Investigation and Inspection.....                    | 150.00     |          |
| Telephone and Telegraph.....                         | 300.00     |          |
| Office Supplies .....                                | 150.00     |          |
| <hr/>                                                |            |          |
| Total Proposed Budget, 1960-1961.....                | \$4,800.00 |          |
| Estimated Carry-over as of June 30, 1960.....        | 0          |          |
| Total to be appropriated by Colorado and Kansas..... | 4,800.00   |          |
| To be appropriated by Colorado (60%).....            | 2,880.00   |          |
| To be appropriated by Kansas (40%).....              | 1,920.00   |          |

- (f) Pursuant to provisions of the Compact, (Article VIII-E (3)) and of the By-Laws of the Administration (Article VII (5)), the receipts and disbursements of the Administration have been audited for the period commencing November 1, 1958 through October 31, 1959, the end of the Report-year. The report of such audit is hereto attached as Appendix "A".

## 6. Cooperative Studies and Activities

- (a) Article VIII G (1) of the Arkansas River Compact requires the Administration to cooperate with the Chief Official of each of the States of Colorado and Kansas charged with the administration of water rights in their respective States, and with the Federal agencies in systematically determining and correlating the facts pertaining to the flow and diversion of the waters of the Arkansas River and to the operation and siltation of John Martin Reservoir and other related structures. Article VIII-G (2) requests the Director of the United States Geological Survey, the Commissioner of the United States Bureau of Reclamation, and the Chief of Engineers, United States Army, to cooperate and collaborate with the Administration and with appropriate State officials in such determinations and correlations of streamflow and related data. Under the By-Laws of the

Administration, these cooperative studies and activities are assigned to the Engineering Committee of the Administration.

- (b) During the year covered by this report, the Administration has received excellent cooperation from all agencies referred to in the foregoing provisions of the Compact. The Corps of Engineers has continued to operate John Martin Reservoir in accordance with the provisions of the Compact. The latest capacity table of John Martin Reservoir, adopted as of June 1, 1958, provided by the Corps of Engineers as a result of its resurvey of the sediment contents of the reservoir by sonic methods in 1957, has been in use since that time, but a complete analysis and report of this resurvey and study has not yet been made. However, it is expected that this analysis and report will be completed in the near future. The United States Geological Survey has continued the operation of the Compact gaging stations and the analyses and compilation of hydrologic data presented in this report and used in the administration of the Compact. To assist that agency in defraying the costs of operating the Compact gaging stations, for rehabilitation of gaging stations, and performing other hydrologic work required in the administration of the Compact, the Administration entered into a cooperative agreement with the Geological Survey for the fiscal year ending June 30, 1960. Under the terms of this agreement, \$2,900 was provided by the Administration and an equal amount by the Geological Survey for the above purposes. The Stevens telemark recording gage furnished by the Geological Survey in 1958 at the gaging station below John Martin Dam, which provides an instantaneous record at the dam of the river stages at the gaging station, has greatly facilitated the operation of the reservoir when changes in water releases from the reservoir are required in accordance with requests by the Administration. The Geological Survey has also made improvements to some of the other Compact gaging stations during the current year. The bubbler recording gage installed in 1958 by the Geological Survey at the gaging station on the Arkansas River at Las Animas above the reservoir, has proved to be advantageous at this station because of its insurance of obtaining a continuous gage height record, especially at times when the intake pipe of the conventional type of recorder structure formerly in use would have been covered by mud and silt, thus preventing the recording of actual water stages in the river.

## *7. Water Supply, Reservoir Operations and Hydrologic Data*

On November 1, 1958, the beginning of the Compact year, John Martin Reservoir contained 230,999 acre feet of water. This was the largest holdover storage since the reservoir was placed in operation in



January 1943. During the winter storage period, November 1, 1958, to March 31, 1959, inflow to the reservoir totalled 24,680 acre feet of which 2,340 acre feet was passed through the reservoir. At the start of the irrigation season on April 1, 1959, reservoir storage totalled 256,358 acre feet. This was about 22,400 acre feet less than on the same date in 1958. While the gain in storage during the winter was less than one-half that of the previous winter, it was the third largest winter gain since 1949-1950, the first full year of operation under the Compact.

The first release of stored water was made at 8:30 a.m. on April 1, 1959, upon the demand of Colorado. With the exception of the period from 7:00 p.m. on April 9, 1959, to 8:30 a.m. on April 13, 1959, releases were made continuously throughout the irrigation season to meet the demands for water by the State of Colorado.

Stateline flows met the Kansas requirements until 8:30 a.m. on April 20, 1959. At this time releases from the reservoir were increased to meet Kansas demands which, with the exception of May 9-11, May 21 to June 9, June 23, and the first two days in July, continued until the reservoir was declared empty at 8:45 a.m. on September 14, 1959.

River flow was passed through the reservoir from 8:45 a.m. on September 14, 1959, to 8:30 a.m. on October 31, 1959, when the gates were closed. By midnight of the latter date water in storage totalled 930 acre feet.

The emptying of John Martin Reservoir during the past year was due not only to increased downstream diversions but to an unusually dry summer storage period. The reservoir inflow from April 1 to October 31 totalled only 18,750 acre feet of which 3,900 acre feet was passed through after the reservoir was declared empty. This was the least inflow of any irrigation season since 1949-1950 and was only 11% of the ten-year average of irrigation-season inflows.

Diversions downstream from John Martin Reservoir during the irrigation season were about 37% greater than the ten-year average. It is of interest to note the downstream diversions in 1959 were only 19% greater than those in 1957, the year of record irrigation-season inflow. Total diversions April 1, 1959, to October 31, 1959, by the ditches in Colorado W. D. No. 67 were 221,610 acre feet while ditch diversions in Kansas for the same period amounted to 123,110 acre feet or 80% of the water crossing the stateline in that time.

Total reservoir releases April 1 to October 31 were 269,260 acre feet, some 75,460 acre feet less than the total diversions. Local runoff from areas below the reservoir and return flows provided about 22% of the water diverted April 1 to October 31.

River flow was passed through the reservoir averaging:

7.8 c.f.s. from November 1, 1958, to March 31, 1959.

81 c.f.s. from September 15, 1959, to October 31, 1959.

Stateline flow for corresponding periods averaged 154 c.f.s. and 320 c.f.s. respectively.

The total discharge for the year at Garden City was 83,740 acre feet of which winter flows made up 50,210 acre feet. Rains that began late in September, after the reservoir was empty, and continued into October accounted for an additional discharge of 18,460 acre feet. The remaining discharge past Garden City for the year was 14,570 acre feet or an average discharge of 43 c.f.s.

#### 8. *Gaging Stations*

Stream-flow records were collected at all the Compact gaging stations. During the year emphasis was placed on performing additional field work and providing provisional discharge data on a current basis to Administration and State Officials.

At the March 24, 1959 meeting the U. S. Geological Survey was requested to furnish an estimate to the Colorado Water Conservation Board for the cost of installation of a gaging station on the Arkansas River at Lamar, Colorado. The total cost was estimated at \$800 and a supplemental cooperative agreement between the two agencies in the amount of \$400 from each was completed. The station was placed in operation on April 1, 1959. The U. S. Geological Survey also agreed at the meeting to make miscellaneous discharge measurements of the Arkansas River at Holly to supplement those made by the State of Kansas officials.

At the July 28, 1959 meeting the U. S. Geological Survey presented their proposed budget for Fiscal Year 1960 as follows:

|                                                              | <i>Arkansas River</i> |                 |              |
|--------------------------------------------------------------|-----------------------|-----------------|--------------|
|                                                              | <i>Comp't Adm.</i>    | <i>U.S.G.S.</i> | <i>Total</i> |
| 1. Partial support of Compact gaging stations .....          | \$1,000               | \$1,000         | \$2,000      |
| a. Arkansas River at Las Animas                              |                       |                 |              |
| b. Purgatoire River near Las Animas                          |                       |                 |              |
| c. Arkansas River below John Martin Reservoir                |                       |                 |              |
| d. Arkansas River near Coolidge, Kansas                      |                       |                 |              |
| e. Frontier Ditch near Coolidge, Kansas                      |                       |                 |              |
| 2. Installation of cableways.....                            | 1,400                 | 1,400           | 2,800        |
| a. Purgatoire River at Las Animas                            |                       |                 |              |
| b. Arkansas River near Coolidge, Kansas                      |                       |                 |              |
| 3. Operation of gaging station, Arkansas River at Lamar..... | 500                   | 500             | 1,000        |
| Totals .....                                                 | \$2,900               | \$2,900         | \$5,800      |



The proposed budget was approved by the Administration and soon thereafter orders were placed with the lowest bidder for A-frames and cables for both cableways. The A-frames were delivered on November 3, 1959, but due to circumstances beyond the control of the Geological Survey, delivery of the cables is not expected before February 1960. Both cableways are expected to be completed shortly after the cables are delivered.

**9. Findings of fact by the Administration**

(a) In accordance with Article IV, Section 3 (b) of the By-Laws of the Arkansas River Compact Administration, the Administration gave consideration by telephone on September 4, 1959 to the condition of the Reservoir in the expectation that it would be emptied of stored water on September 14, 1959, and that notice be sent to the State Engineer of Colorado that his office assume responsibility of the distribution of decreed water rights of the river on a priority basis commencing on that date.

As a result of this action by the Administration, the State Engineer of Colorado was notified that he should take full responsibility for the administration of the water rights in accordance with State law commencing on September 14, 1959, unless a change in the reservoir contents necessitated cancellation or modification of the notice. As there was no change in the reservoir situation, the State Engineer of Colorado took over the administration of the decreed water rights of the river on that date in accordance with Article V, F of the Arkansas River Compact.

The Reservoir was emptied at 8:45 A.M. on September 14, 1959.

(b) The gates at John Martin Reservoir remained open for the passing of river flow until 8:30 A.M. October 31, 1959 when they were closed by the consent of the water users below the dam.

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION  
BY:

CARL G. PAULSEN,  
Representative of the United States and  
Chairman of the Administration

FELIX L. SPARKS

DAVID JENKINS

HACKET SMARTT

Colorado Members of the Administration

R. V. SMRHA

LOGAN N. GREEN

CARL E. BENTRUP

Kansas Members of the Administration

Lamar, Colorado  
December 8, 1959

## APPENDICES

for

### Annual Report of the Arkansas River Compact Administration

For the Report-Year November 1, 1958 to October 31, 1959

- APPENDIX "A" —Auditor's Report.
- APPENDIX "B-1" —Daily Discharges, Arkansas River near Pueblo, Colorado.
- APPENDIX "B-2" —Daily Discharges, Arkansas River at Las Animas, Colorado.
- APPENDIX "B-3" —Daily Discharges, Purgatoire River near Las Animas, Colorado.
- APPENDIX "B-4" —Inflow into John Martin Reservoir.
- APPENDIX "B-5" —Daily Contents, John Martin Reservoir.
- APPENDIX "B-6" —Outflow from John Martin Reservoir.
- APPENDIX "B-7" —Daily Discharges, Arkansas River at Colorado-Kansas Stateline.
- APPENDIX "B-8" —Daily Discharges, Arkansas River at Garden City, Kansas.
- APPENDIX "B-9" —Demands by Colorado for Water.
- APPENDIX "B-10" —Demands by Kansas for Water.
- APPENDIX "B-11" —Stateline Flow on Days of Kansas Demand.
- APPENDIX "B-12" —Divisions by Ditches in Colorado Water Districts 14 and 17.
- APPENDIX "B-13" —Divisions by Ditches in Colorado Water District 67.
- APPENDIX "B-14" —Divisions by Ditches in Kansas, Stateline to Garden City.
- APPENDIX "B-15" —Summary Tabulation.
- PLATE I —Graphs showing inflow, outflow and storage at John Martin Reservoir and Stateline Flow for Report-Year.



APPENDIX "A"

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AUDITOR'S REPORT

ROBERT W. ROLLINS

\* \* \* \*

Certified Public Accountant

La Junta, Colorado

December 4, 1959

To the Representatives  
Arkansas River Compact Administration  
Lamar, Colorado

Gentlemen:

In accordance with your request, an examination has been made of the financial transactions of the Arkansas River Compact Administration for its "Report-Year" November 1, 1958 to October 31, 1959. The results of the audit are expressed in the attached statement of cash receipts and disbursements, Schedule I, Page No. 17. The remarks which follow are offered as additional information and tend to describe the extent of the audit work performed.

General Comments

Schedule I, reflects the beginning balance of cash in bank, revenue assessments received from the States of Colorado and Kansas, expenditures by classification and the ending balance of cash in bank.

As provided for in the budget of the Administration's meeting of July 8, 1958 and to comply with action taken by the Board at its July 28, 1959 meeting, funds due from Colorado (60% share) of \$2,400.00 and Kansas (40% share) of \$1,600.00 were received for the budget year ending June 30, 1960 and placed on deposit with the First National Bank in Lamar, Colorado, on the respective dates of September 10th, 1959 and September 23, 1959.

All disbursements were made by checks drawn on the Administration's account at the First National Bank in Lamar, Colorado. The individual checks were examined for amount, signature, and endorsement. Amounts so expended were substantiated by verification to payees' statements, authorization of payment as evidenced in minutes of the Compact's meetings, or other supporting documents.

Consistent with prior years' practices, the Secretary's salary for the current year of \$1,200.00 has been reduced by the Old-Age and Survivor's Insurance deductions amounting to \$29.50. It will be noticed on Schedule I, that only \$27.00 of this amount together with the Administration's related contribution, are shown under the classification of taxes. The October 1959 payroll deduction of \$2.50 will be remitted in the subsequent period.



Travel expense of the Secretary for the fiscal year ending October 31, 1959 amounted to \$101.52 or 1269 miles at \$0.08 per mile.

Payments made to the U. S. Treasurer totaling \$54.00 during the year were accompanied by related returns reflecting the Old Age and Survivor's Insurance information on the Secretary.

Expenditures to the U. S. Geological Survey for the year under review totaled \$1,600.00 and consisted of:

|                                                                    |          |                   |
|--------------------------------------------------------------------|----------|-------------------|
| March 5, 1959 (Period 7/1/58-12/31/58)                             |          |                   |
| Original agreement-second quarter based on \$500.00 per annum..... | \$125.00 |                   |
| Supplemental agreement—first and second quarters.....              | 250.00   | \$ 375.00         |
| May 2, 1959 (Period 1/1/59-3/31/59)                                |          |                   |
| Agreement based on \$1,000.00 per annum....                        |          | 250.00            |
| August 3, 1959 (Period 4/1/59-6/30/59)                             |          |                   |
| Agreement based on \$1,000.00 per annum....                        |          | 250.00            |
| October 31, 1959 (Period 7/1/59-9/30/59)                           |          |                   |
| Agreement based on \$2,900.00 per annum....                        |          | 725.00            |
| <b>TOTAL</b> .....                                                 |          | <b>\$1,600.00</b> |

Cash in bank at October 31, 1959, per Schedule I, amounting to \$4,610.94 was reconciled to the amount directly confirmed by the First National Bank in Lamar, Colorado. Notation (1) on Schedule I, shows an amount held in trust, arising from the payroll deduction on the Secretary's salary for the month of October 1959 of \$2.50, leaving a balance of \$4,608.44 available for general use of the New Year.

The following summary compares the Administration's financial position at October 31, 1959 with that of a year ago.

#### ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado

#### COMPARATIVE BALANCE SHEET

##### ASSETS

|                                           | Oct. 31,<br>1959  | Oct. 31,<br>1958  | Increase<br>(Decrease) |
|-------------------------------------------|-------------------|-------------------|------------------------|
| Cash in bank.....                         | \$4,610.94        | \$4,512.86        | \$98.08                |
| Equipment (Portable typewriter).....      | 92.50             | 92.50             | —0—                    |
| <b>Total Assets</b> .....                 | <b>\$4,703.44</b> | <b>\$4,605.36</b> | <b>\$98.08</b>         |
| <b>CAPITAL</b>                            |                   |                   |                        |
| Unexpended fund balance.....              | \$4,610.94        | \$4,512.86        | \$98.08                |
| Expended fund balance for equipment ..... | 92.50             | 92.50             | —0—                    |
| <b>TOTAL CAPITAL</b> .....                | <b>\$4,703.44</b> | <b>\$4,605.36</b> | <b>\$98.08</b>         |

Because the "Budget Year" covers the period July 1, 1958 to June 30, 1959, it has been necessary to combine related months of the last two "Report Years", in order to compare actual expenditures with the related budgeted items. Such a comparison is set forth for year review in the following summary.

COMPARISON OF DISBURSEMENTS WITH BUDGET  
Budget Year July 1, 1958 to June 30, 1959

| Classification                                   | Disbursements     | Budget            |
|--------------------------------------------------|-------------------|-------------------|
| PERSONAL SERVICES                                |                   |                   |
| Secretary's salary .....                         | \$1,400.00(*)     | \$1,200.00        |
| Taxes—O.A. and S.I.—Administration's share ..... | 37.50(*)          | 50.00             |
| Gage Reports .....                               | 875.00(**)        | 500.00            |
| Professional services (audit of accounts) ..     | 65.00             | 75.00             |
| CAPITAL OUTLAY .....                             | —0—               | 300.00            |
| MAINTENANCE AND OPERATION                        |                   |                   |
| Bond—Treasurer .....                             | 25.00             | 25.00             |
| Printing .....                                   | 648.00            | 600.00            |
| Official publications .....                      | —0—               | 100.00            |
| Travel expense—Secretary .....                   | 34.72             | 150.00            |
| Typing and mailing.....                          | 20.00             | 200.00            |
| Investigation and inspection.....                | —0—               | 150.00            |
| Telephone and telegraph.....                     | 208.19            | 300.00            |
| Office supplies .....                            | —0—               | 150.00            |
| TOTALS .....                                     | <u>\$3,313.41</u> | <u>\$3,800.00</u> |

NOTES

(\*) It will be remembered, Secretary's salary for May and June of 1958, totaling \$200.00 was paid in July 1958. This in turn caused an increase in the Administration's share of O.A. and S.I. tax during the "Budget Year".

(\*\*) \$125.00 of this amount is applicable to the prior "Budget Year".

As anticipated by the Administration, as evidenced in the Meeting of July 8, 1958, sufficient funds were on hand at June 30, 1959 to provide a carry over of \$1,800.00. This amount together with the \$4,000.00 received from the States of Colorado (60%), Kansas (40%), in September 1959, will insure the \$5,800.00 estimated expenditures for the Budget Year—July 1, 1959 to June 30, 1960.

Respectfully submitted,  
ROBERT W. ROLLINS,  
Certified Public Accountant

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS  
NOVEMBER 1, 1958 TO OCTOBER 31, 1959  
(Refer to comments in text of audit)

CASH IN BANK AT NOVEMBER 1, 1958 (per audit).....\$4,512.86

RECEIPTS

Revenue from assessments  
Colorado portion 60%.....\$2,400.00  
Kansas portion 40%.....1,600.00

TOTAL RECEIPTS .....4,000.00

TOTAL AVAILABLE FUNDS.....8,512.86

DISBURSEMENTS

Salary of secretary.....\$1,200.00  
Less: O.A. and S.I. deduc-  
tions .....29.50(1)

Sub-total .....1,170.50

Printing—Annual report .....648.00  
Telephone and telegraph.....194.23  
Travel expense of secretary.....101.52  
Audit fee (Fiscal year ended 10/31/58)....65.00  
Premium on treasurer's bond.....25.00  
Typing and mailing.....25.00  
Office supplies, stationery, etc.....18.67

Taxes—O.A. and S.I. payments  
Deductions from em-  
ployees .....27.00(1)  
Administration's portion 27.00 .....54.00

Surface water investigations by the  
U. S. Geological Survey.....1,600.00

TOTAL DISBURSEMENTS .....3,901.92

CASH IN BANK AT OCTOBER 31, 1959.....\$4,610.94

Consisting of:

Amount held in trust—Payroll de-  
duction on secretary's salary  
for month of October 1959.....\$ 2.50(1)  
Cash available for expending in  
subsequent period .....4,608.44

TOTAL .....\$4,610.94



CASH ON DEPOSIT AT FIRST NATIONAL BANK, LAMAR, COLORADO

Per direct confirmation at October 31, 1959 \$5,603.81

Less: Outstanding checks of:

|                                              |          |        |
|----------------------------------------------|----------|--------|
| No. 278 Mountain States<br>Tel. and Tel. Co. | \$ 45.85 |        |
| 279 Hacket Smartt—Sal-<br>ary                | 97.50    |        |
| 280 U. S. Geological<br>Survey               | 725.00   |        |
| 281 Hacket Smartt—<br>Mileage, etc.          | 126.52   | 994.87 |

ADJUSTED CASH ON DEPOSIT AT BANK.....

\$4,610.94

SCHEDULE I

## APPENDIX "B-1"

## ARKANSAS RIVER NEAR PUEBLO, COLORADO

## ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year Ending October 31, 1959

U S G S Records—Provisional, subject to revision

| DAY         | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1           | 267   | 347   | 377   | 278   | 265   | 128   | 417   | 774   | 997   | 887   | 125   | 486   |
| 2           | 250   | 327   | 350   | 288   | 271   | 123   | 441   | 886   | 997   | 978   | 109   | 542   |
| 3           | 254   | 323   | 222   | 298   | 271   | 115   | 267   | 1080  | 876   | 947   | 109   | 527   |
| 4           | 238   | 337   | 176   | 316   | 253   | 104   | 243   | 1210  | 785   | 887   | 89    | 632   |
| 5           | 218   | 344   | 290   | 285   | 225   | 117   | 204   | 1170  | 1010  | 876   | 87    | 659   |
| 6           | 213   | 360   | 459   | 311   | 199   | 145   | 199   | 1210  | 1180  | 937   | 71    | 713   |
| 7           | 221   | 360   | 421   | 272   | 183   | 185   | 176   | 1460  | 1100  | 1100  | 88    | 743   |
| 8           | 226   | 324   | 407   | 290   | 192   | 266   | 240   | 1690  | 997   | 1130  | 85    | 711   |
| 9           | 237   | 353   | 365   | 301   | 200   | 320   | 260   | 1930  | 957   | 1110  | 88    | 628   |
| 10          | 234   | 346   | 350   | 302   | 194   | 253   | 233   | 2010  | 987   | 1010  | 79    | 609   |
| 11          | 250   | 325   | 350   | 271   | 186   | 225   | 185   | 2110  | 917   | 864   | 209   | 645   |
| 12          | 251   | 325   | 345   | 277   | 168   | 204   | 133   | 2010  | 877   | 823   | 386   | 689   |
| 13          | 240   | 340   | 340   | 289   | 147   | 208   | 126   | 1890  | 897   | 791   | 418   | 889   |
| 14          | 219   | 361   | 327   | 296   | 149   | 235   | 127   | 1570  | 847   | 730   | 429   | 939   |
| 15          | 195   | 311   | 334   | 278   | 166   | 268   | 176   | 1830  | 847   | 832   | 422   | 808   |
| 16          | 172   | 325   | 319   | 271   | 180   | 327   | 264   | 2230  | 968   | 792   | 425   | 698   |
| 17          | 185   | 340   | 305   | 271   | 172   | 334   | 449   | 2470  | 939   | 612   | 478   | 626   |
| 18          | 218   | 354   | 296   | 265   | 193   | 397   | 600   | 2270  | 870   | 585   | 544   | 653   |
| 19          | 214   | 361   | 302   | 283   | 199   | 404   | 490   | 1900  | 780   | 548   | 595   | 668   |
| 20          | 244   | 368   | 318   | 265   | 221   | 425   | 461   | 1720  | 790   | 530   | 353   | 578   |
| 21          | 250   | 368   | 333   | 236   | 190   | 517   | 648   | 2040  | 820   | 489   | 242   | 533   |
| 22          | 256   | 353   | 239   | 225   | 158   | 506   | 780   | 2160  | 730   | 490   | 185   | 524   |
| 23          | 256   | 340   | 298   | 225   | 145   | 464   | 657   | 1800  | 701   | 458   | 166   | 514   |
| 24          | 243   | 340   | 360   | 241   | 134   | 448   | 601   | 1520  | 665   | 424   | 163   | 490   |
| 25          | 266   | 325   | 336   | 247   | 165   | 342   | 572   | 1470  | 673   | 306   | 174   | 458   |
| 26          | 284   | 290   | 336   | 247   | 178   | 328   | 599   | 1470  | 692   | 218   | 155   | 432   |
| 27          | 356   | 300   | 316   | 253   | 145   | 335   | 581   | 1220  | 801   | 184   | 143   | 458   |
| 28          | 516   | 287   | 296   | 259   | 138   | 419   | 497   | 1060  | 702   | 169   | 162   | 466   |
| 29          | 466   | 334   | 284   |       | 148   | 433   | 460   | 1070  | 658   | 151   | 262   | 432   |
| 30          | 399   | 362   | 278   |       | 145   | 418   | 439   | 1060  | 677   | 143   | 404   | 525   |
| 31          |       | 363   | 266   |       | 131   |       | 560   |       | 774   | 143   |       | 556   |
| TOTAL       |       |       |       |       |       |       |       |       |       |       |       |       |
| sec. ft.    | 7838  | 10493 | 9995  | 7640  | 5711  | 8993  | 12085 | 48290 | 26511 | 20144 | 7245  | 18831 |
| ac. ft.     | 15550 | 20810 | 19820 | 15150 | 11330 | 17840 | 23970 | 95780 | 52580 | 39960 | 14370 | 37350 |
| (a) ac. ft. | 0     | 1280  | 0     | 0     | 0     | 4250  | 1550  | 0     | 16860 | 17280 | 5300  | 0     |
| (b) ac. ft. | 15550 | 19530 | 19820 | 15150 | 11330 | 13590 | 22420 | 95780 | 35720 | 22680 | 9070  | 37350 |

(a) Less upstream reservoir and transmountain water.

(b) Corrected total Ac. Ft.

THE YEAR 364,500 Acre Feet

CORRECTED 317,980 Acre Feet

# APPENDIX "B-2"

## ARKANSAS RIVER AT LAS ANIMAS, COLORADO

### ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report-Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

| DAY     | NOV. | DEC. | JAN. | FEB. | MAR. | APR.  | MAY   | JUNE                      | JULY  | AUG.  | SEPT. | OCT. |
|---------|------|------|------|------|------|-------|-------|---------------------------|-------|-------|-------|------|
| 1       | 18   | 67   | 45   | 63   | 66   | 11    | 8.4   | 13                        | 11    | 14    | 6.0   | 15   |
| 2       | 19   | 48   | 44   | 43   | 74   | 8.4   | 8.4   | 11                        | 17    | 7.2   | 6.6   | 14   |
| 3       | 20   | 32   | 40   | 42   | 82   | 7.8   | 7.8   | 11                        | 22    | 8.4   | 6.0   | 95   |
| 4       | 26   | 30   | 37   | 57   | 66   | 7.8   | 7.8   | 12                        | 19    | 11    | 5.4   | 186  |
| 5       | 25   | 29   | 30   | 61   | 66   | 6.6   | 15    | 10                        | 16    | 12    | 4.2   | 186  |
| 6       | 18   | 28   | 34   | 52   | 89   | 7.2   | 14    | 12                        | 16    | 14    | 4.2   | 201  |
| 7       | 18   | 31   | 36   | 54   | 68   | 11    | 12    | 13                        | 16    | 11    | 4.2   | 193  |
| 8       | 20   | 30   | 38   | 57   | 54   | 13    | 16    | 15                        | 12    | 9.0   | 4.2   | 158  |
| 9       | 18   | 28   | 37   | 59   | 64   | 18    | 18    | 16                        | 14    | 9.0   | 4.2   | 105  |
| 10      | 18   | 29   | 34   | 64   | 62   | 19    | 16    | 16                        | 13    | 7.8   | 4.8   | 52   |
| 11      | 16   | 28   | 32   | 68   | 35   | 16    | 16    | 15                        | 11    | 7.8   | 6.0   | 40   |
| 12      | 14   | 28   | 46   | 74   | 24   | 15    | 17    | 14                        | 10    | 7.8   | 7.2   | 32   |
| 13      | 15   | 52   | 50   | 84   | 24   | 15    | 16    | 13                        | 9.0   | 7.8   | 7.8   | 33   |
| 14      | 13   | 68   | 46   | 63   | 66   | 14    | 16    | 15                        | 13    | 8.4   | 7.8   | 32   |
| 15      | 15   | 64   | 52   | 74   | 88   | 12    | 16    | 45                        | 14    | 9.0   | 6.6   | 22   |
| 16      | 15   | 68   | 54   | 251  | 52   | 11    | 14    | 16                        | 15    | 7.8   | 6.0   | 17   |
| 17      | 11   | 68   | 56   | 190  | 24   | 12    | 12    | 11                        | 13    | 7.8   | 6.0   | 14   |
| 18      | 48   | 43   | 58   | 194  | 25   | 13    | 12    | 13                        | 11    | 8.4   | 6.0   | 17   |
| 19      | 48   | 38   | 59   | 174  | 21   | 13    | 12    | 11                        | 11    | 8.4   | 6.0   | 24   |
| 20      | 49   | 35   | 63   | 171  | 15   | 13    | 13    | 22                        | 9.0   | 8.4   | 6.0   | 21   |
| 21      | 65   | 64   | 60   | 141  | 12   | 13    | 27    | 29                        | 7.2   | 8.4   | 6.0   | 16   |
| 22      | 61   | 42   | 58   | 91   | 11   | 13    | 40    | 17                        | 6.0   | 9.0   | 6.0   | 16   |
| 23      | 45   | 30   | 64   | 82   | 13   | 11    | 52    | 19                        | 6.6   | 22    | 6.6   | 16   |
| 24      | 32   | 26   | 72   | 78   | 14   | 11    | 35    | 14                        | 7.2   | 4.2   | 10    | 15   |
| 25      | 19   | 42   | 84   | 68   | 13   | 12    | 32    | 9.0                       | 6.6   | 4.2   | 16    | 13   |
| 26      | 26   | 46   | 80   | 63   | 13   | 13    | 27    | 9.0                       | 7.8   | 6.0   | 11    | 14   |
| 27      | 29   | 43   | 93   | 59   | 13   | 13    | 18    | 16                        | 7.8   | 6.6   | 7.2   | 15   |
| 28      | 44   | 54   | 59   | 61   | 14   | 13    | 14    | 9.0                       | 9.0   | 6.6   | 6.6   | 17   |
| 29      | 42   | 54   | 50   | 35   | 35   | 11    | 11    | 9.0                       | 8.4   | 6.0   | 9.0   | 29   |
| 30      | 36   | 54   | 49   | 30   | 30   | 9.0   | 10    | 8.4                       | 9.0   | 5.4   | 12    | 64   |
| 31      |      | 43   | 46   | 14   | 14   |       | 11    |                           | 10    | 6.0   |       | 90   |
| TOTAL   |      |      |      |      |      |       |       |                           |       |       |       |      |
| sec. ft | 843  | 1342 | 1606 | 2538 | 1247 | 362.8 | 544.4 | 443.4                     | 357.6 | 269.4 | 205.6 | 1762 |
| ac. ft  | 1670 | 2660 | 3190 | 5030 | 2470 | 720   | 1080  | 879                       | 709   | 534   | 408   | 3490 |
|         |      |      |      |      |      |       |       | THE YEAR 22,840 Acre Feet |       |       |       |      |



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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report-Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

| DAY                       | NOV. | DEC. | JAN.  | FEB. | MAR. | APR.  | MAY    | JUNE   | JULY   | AUG.  | SEPT. | OCT.  |
|---------------------------|------|------|-------|------|------|-------|--------|--------|--------|-------|-------|-------|
| 1                         | 28   | 32   | 18    | 29   | 17   | 22    | 11     | 11     | 706    | 1.5   | 0.6   | 3.8   |
| 2                         | 22   | 36   | 10    | 28   | 16   | 16    | 9.8    | 33     | 126    | 1.7   | .7    | 8.5   |
| 3                         | 24   | 44   | 7.0   | 33   | 21   | 15    | 9.8    | 29     | 53     | 1.5   | .8    | 12    |
| 4                         | 22   | 47   | 5.0   | 40   | 21   | 15    | 9.0    | 33     | 41     | 1.7   | .8    | 3.3   |
| 5                         | 20   | 53   | 6.6   | 38   | 19   | 15    | 15     | 40     | 13     | 2.0   | .8    | 3.0   |
| 6                         | 26   | 55   | 10    | 40   | 22   | 15    | 15     | 27     | 6.4    | 2.5   | .8    | 2.8   |
| 7                         | 20   | 55   | 15    | 42   | 30   | 12    | 9.0    | 27     | 4.3    | 6.9   | 1.0   | 3.3   |
| 8                         | 15   | 54   | 25    | 44   | 54   | 12    | 17     | 17     | 11     | 3.8   | .9    | 5.4   |
| 9                         | 19   | 50   | 30    | 44   | 47   | 23    | 29     | 8.0    | 5.9    | 3.5   | .9    | 3.0   |
| 10                        | 15   | 46   | 35    | 44   | 44   | 70    | 194    | 11     | 5.4    | 2.8   | 1.0   | 5.9   |
| 11                        | 14   | 46   | 40    | 46   | 45   | 86    | 150    | 6.9    | 2.2    | 1.1   | 1.1   | 3.8   |
| 12                        | 14   | 50   | 42    | 50   | 54   | 77    | 92     | 6.9    | 1.2    | 1.1   | 1.1   | 1.7   |
| 13                        | 14   | 30   | 42    | 54   | 45   | 62    | 54     | 7.4    | 1.5    | 1.1   | 1.1   | 3.0   |
| 14                        | 14   | 20   | 41    | 56   | 30   | 59    | 29     | 21     | 1.5    | 1.7   | 1.1   | 3.0   |
| 15                        | 14   | 19   | 27    | 56   | 26   | 32    | 15     | 35     | 1.2    | 6.9   | 1.2   | 3.8   |
| 16                        | 20   | 20   | 24    | 58   | 33   | 17    | 11     | 7.4    | 2.0    | 190   | 1.2   | 3.0   |
| 17                        | 33   | 21   | 26    | 59   | 45   | 6.9   | 6.9    | 3.8    | 718    | 53    | 1.2   | 5.9   |
| 18                        | 31   | 38   | 28    | 50   | 35   | 11    | 6.9    | 3.8    | 88     | 11    | 1.2   | 5.9   |
| 19                        | 28   | 40   | 28    | 46   | 23   | 53    | 6.9    | 9.0    | 22     | 5.9   | 1.2   | 5.9   |
| 20                        | 30   | 34   | 20    | 47   | 30   | 62    | 6.9    | 4.3    | 9.0    | 2.8   | 1.2   | 4.8   |
| 21                        | 32   | 24   | 8.0   | 54   | 59   | 53    | 9.0    | 9.0    | 6.4    | 1.5   | 1.2   | 5.9   |
| 22                        | 29   | 20   | 12    | 44   | 54   | 44    | 19     | 3.5    | 5.4    | 1.2   | 1.2   | 3.8   |
| 23                        | 36   | 23   | 25    | 35   | 40   | 37    | 49     | 4.3    | 26     | 15    | 1.5   | 3.8   |
| 24                        | 42   | 32   | 32    | 33   | 33   | 37    | 45     | 362    | 2.8    | 20    | 2.5   | 3.0   |
| 25                        | 40   | 23   | 36    | 32   | 33   | 24    | 42     | 101    | 2.0    | 9.8   | 2.0   | 3.8   |
| 26                        | 40   | 24   | 36    | 27   | 32   | 11    | 42     | 120    | 1.7    | 3.3   | 1.2   | 7.4   |
| 27                        | 33   | 23   | 36    | 23   | 35   | 22    | 38     | 115    | 1.7    | 1.1   | 8.5   | 1.1   |
| 28                        | 32   | 22   | 38    | 20   | 44   | 26    | 34     | 27     | 1.5    | 1.5   | 1.1   | 4.8   |
| 29                        | 38   | 22   | 40    | 27   | 27   | 21    | 15     | 4.8    | 1.5    | 1.1   | 2.0   | 6.9   |
| 30                        | 46   | 18   | 36    | 23   | 23   | 21    | 9.0    | 2.8    | 1.5    | 1.0   | 2.5   | 17    |
| 31                        | 31   | 17   | 32    | 22   | 22   | 21    | 9.0    | 1.5    | 1.5    | .8    | 17    | 17    |
| TOTAL                     |      |      |       |      |      |       |        |        |        |       |       |       |
| sec. ft                   | 791  | 1038 | 810.6 | 1172 | 1059 | 976.9 | 1008.2 | 1085.9 | 1870.6 | 359.4 | 36.2  | 173.7 |
| ac. ft.                   | 1570 | 2060 | 1610  | 2320 | 2100 | 1940  | 2000   | 2150   | 3710   | 713   | 72    | 345   |
| THE YEAR 20,590 Acre Feet |      |      |       |      |      |       |        |        |        |       |       |       |

\* \* \* \*

## INFLOW INTO JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

| DAY      | NOV. | DEC. | JAN. | FEB. | MAR. | APR. | MAY  | JUNE                       | JULY   | AUG.  | SEPT. | OCT. |
|----------|------|------|------|------|------|------|------|----------------------------|--------|-------|-------|------|
| 1        | 46   | 99   | 63   | 92   | 83   | 33   | 19   | 24                         | 717    | 16    | 6.6   | 19   |
| 2        | 41   | 84   | 54   | 71   | 90   | 24   | 18   | 44                         | 143    | 8.9   | 7.3   | 22   |
| 3        | 44   | 76   | 47   | 75   | 103  | 23   | 18   | 40                         | 75     | 9.9   | 6.8   | 107  |
| 4        | 48   | 77   | 42   | 97   | 87   | 23   | 17   | 45                         | 60     | 13    | 6.2   | 189  |
| 5        | 45   | 82   | 37   | 99   | 85   | 22   | 30   | 50                         | 29     | 14    | 5.0   | 189  |
| 6        | 44   | 83   | 44   | 92   | 111  | 22   | 29   | 34                         | 22     | 16    | 5.0   | 204  |
| 7        | 38   | 86   | 51   | 96   | 98   | 23   | 21   | 40                         | 20     | 18    | 5.2   | 196  |
| 8        | 35   | 84   | 63   | 101  | 108  | 25   | 33   | 32                         | 23     | 13    | 5.1   | 163  |
| 9        | 37   | 78   | 67   | 103  | 111  | 41   | 47   | 24                         | 20     | 12    | 5.1   | 108  |
| 10       | 33   | 75   | 69   | 108  | 106  | 89   | 210  | 27                         | 18     | 11    | 5.8   | 58   |
| 11       | 30   | 74   | 72   | 114  | 80   | 102  | 166  | 22                         | 13     | 8.9   | 7.1   | 34   |
| 12       | 28   | 78   | 88   | 124  | 78   | 92   | 109  | 21                         | 11     | 8.9   | 8.3   | 34   |
| 13       | 29   | 82   | 92   | 138  | 69   | 77   | 70   | 20                         | 10     | 8.9   | 8.9   | 36   |
| 14       | 27   | 88   | 87   | 119  | 96   | 73   | 45   | 36                         | 14     | 10    | 8.9   | 35   |
| 15       | 29   | 83   | 79   | 130  | 114  | 44   | 31   | 80                         | 15     | 16    | 7.8   | 26   |
| 16       | 35   | 88   | 78   | 309  | 85   | 28   | 25   | 23                         | 17     | 198   | 7.2   | 20   |
| 17       | 44   | 89   | 82   | 249  | 69   | 19   | 19   | 15                         | 731    | 61    | 7.2   | 20   |
| 18       | 79   | 81   | 86   | 244  | 60   | 24   | 19   | 17                         | 99     | 19    | 7.2   | 23   |
| 19       | 76   | 78   | 87   | 220  | 44   | 66   | 19   | 20                         | 33     | 14    | 7.2   | 30   |
| 20       | 79   | 69   | 83   | 218  | 45   | 75   | 20   | 26                         | 18     | 11    | 7.2   | 26   |
| 21       | 97   | 88   | 68   | 195  | 71   | 66   | 36   | 38                         | 14     | 9.9   | 7.2   | 22   |
| 22       | 90   | 62   | 70   | 135  | 65   | 57   | 59   | 20                         | 11     | 10    | 7.2   | 20   |
| 23       | 81   | 53   | 89   | 117  | 53   | 48   | 101  | 23                         | 33     | 37    | 8.1   | 20   |
| 24       | 74   | 58   | 104  | 111  | 47   | 48   | 80   | 376                        | 10     | 24    | 12    | 18   |
| 25       | 65   | 65   | 120  | 100  | 46   | 36   | 74   | 110                        | 8.6    | 14    | 18    | 17   |
| 26       | 66   | 70   | 116  | 90   | 45   | 24   | 69   | 129                        | 9.5    | 9.3   | 12    | 21   |
| 27       | 62   | 66   | 129  | 82   | 48   | 35   | 56   | 131                        | 9.5    | 8.3   | 8.3   | 24   |
| 28       | 76   | 76   | 97   | 81   | 58   | 39   | 48   | 36                         | 10     | 8.1   | 7.7   | 22   |
| 29       | 80   | 76   | 90   | 80   | 62   | 32   | 26   | 14                         | 9.9    | 7.1   | 11    | 36   |
| 30       | 32   | 72   | 85   | 53   | 53   | 30   | 19   | 11                         | 10     | 6.4   | 14    | 81   |
| 31       | 31   | 60   | 78   | 36   | 36   | 20   | 20   | 12                         | 6.8    | 6.8   | 107   | 107  |
| TOTAL    | 1634 | 2380 | 2417 | 3710 | 2306 | 1340 | 1553 | 1528                       | 2225.5 | 628.4 | 240.6 | 1937 |
| sec. ft. | 3240 | 4720 | 4790 | 7360 | 4570 | 2660 | 3080 | 3030                       | 4410   | 1250  | 477   | 3840 |
| ac. ft.  |      |      |      |      |      |      |      | THE YEAR 43,430 Acre Feet. |        |       |       |      |

## CONTENTS OF JOHN MARTIN RESERVOIR

## CONTENTS OF JOHN MARTIN RESERVOIR

Report-Year Ending October 31, 1959

Corps of Engineers records—Provisional, subject to revision  
Midnight contents in Acre Feet from capacity table dated June 1, 1958

| DAY | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY   | AUG.  | SEPT. | OCT. |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|------|
| 1   | 231090 | 233634 | 238812 | 244463 | 252927 | 255977 | 223814 | 184426 | 142012 | 82135 | 26232 | 0    |
| 2   | 231181 | 233906 | 238903 | 244835 | 252927 | 255405 | 221606 | 183960 | 141362 | 79997 | 24293 | 0    |
| 3   | 231272 | 234088 | 238994 | 245021 | 253118 | 254833 | 219272 | 183417 | 139997 | 77763 | 22100 | 0    |
| 4   | 231272 | 234179 | 239085 | 245207 | 253308 | 254071 | 216939 | 183029 | 138573 | 75535 | 20074 | 0    |
| 5   | 231272 | 234452 | 239175 | 245393 | 253308 | 253404 | 214951 | 182175 | 136747 | 73216 | 18204 | 0    |
| 6   | 231272 | 234633 | 239266 | 245672 | 253404 | 252736 | 212634 | 181322 | 134857 | 70841 | 16227 | 0    |
| 7   | 231272 | 234815 | 239357 | 245952 | 253499 | 251783 | 210328 | 180102 | 133094 | 68767 | 14360 | 0    |
| 8   | 231363 | 234997 | 239448 | 246138 | 253594 | 250544 | 208759 | 179197 | 130940 | 67264 | 12430 | 0    |
| 9   | 231363 | 235178 | 239629 | 246510 | 253594 | 250544 | 207749 | 178291 | 128622 | 65652 | 10483 | 0    |
| 10  | 231363 | 235269 | 239811 | 246789 | 253880 | 250735 | 206991 | 176783 | 126130 | 63887 | 8526  | 0    |
| 11  | 231363 | 235360 | 239997 | 247068 | 253975 | 251021 | 206317 | 175124 | 123770 | 61884 | 6446  | 0    |
| 12  | 231453 | 235541 | 240183 | 247254 | 254071 | 251116 | 204801 | 173167 | 121411 | 60035 | 4211  | 0    |
| 13  | 231453 | 235723 | 240369 | 247440 | 254261 | 250830 | 202997 | 171116 | 119099 | 58251 | 2104  | 0    |
| 14  | 231453 | 235814 | 240741 | 247720 | 254356 | 250068 | 201192 | 169210 | 117046 | 56646 | 0     | 0    |
| 15  | 231453 | 235995 | 241113 | 247999 | 254452 | 249401 | 199060 | 166719 | 114765 | 55020 | 0     | 0    |
| 16  | 231453 | 236177 | 241300 | 248336 | 254547 | 248557 | 197091 | 164990 | 112893 | 53366 | 0     | 0    |
| 17  | 231635 | 236359 | 241486 | 249306 | 254642 | 247626 | 195322 | 163140 | 111129 | 51957 | 0     | 0    |
| 18  | 231726 | 236541 | 241672 | 249687 | 254738 | 246417 | 193406 | 161504 | 109257 | 50626 | 0     | 0    |
| 19  | 231908 | 236722 | 241858 | 250068 | 254833 | 245393 | 191810 | 159796 | 107343 | 49050 | 0     | 0    |
| 20  | 232180 | 236904 | 242230 | 250259 | 255024 | 244277 | 190053 | 158180 | 105322 | 47116 | 0     | 0    |
| 21  | 232362 | 237086 | 242416 | 250735 | 255310 | 243161 | 188617 | 156346 | 104045 | 45033 | 0     | 0    |
| 22  | 232635 | 237268 | 242602 | 251116 | 255500 | 241672 | 188229 | 154450 | 102604 | 43344 | 0     | 0    |
| 23  | 232816 | 237449 | 242695 | 251402 | 255786 | 240090 | 187841 | 153069 | 101167 | 42132 | 0     | 0    |
| 24  | 232998 | 237631 | 242788 | 251593 | 255786 | 238176 | 187375 | 151762 | 99472  | 40314 | 0     | 0    |
| 25  | 232998 | 237812 | 242974 | 251783 | 255977 | 236541 | 187143 | 150220 | 97318  | 38556 | 0     | 0    |
| 26  | 232998 | 237994 | 243161 | 252165 | 255977 | 234815 | 186832 | 148612 | 95187  | 36818 | 0     | 0    |
| 27  | 232998 | 238176 | 243533 | 252450 | 255977 | 232726 | 186444 | 147406 | 92892  | 35064 | 0     | 0    |
| 28  | 233089 | 238358 | 243719 | 252641 | 255977 | 230461 | 186134 | 145931 | 90597  | 33383 | 0     | 0    |
| 29  | 233180 | 238448 | 243905 | 252617 | 256167 | 228423 | 185668 | 144481 | 88466  | 31570 | 0     | 0    |
| 30  | 233452 | 238539 | 244091 | 252626 | 226296 | 185280 | 142986 | 86481  | 86481  | 29843 | 0     | 0    |
| 31  |        | 238630 | 244277 | 256358 |        | 184891 |        | 84450  |        | 28064 |       | 930  |



## APPENDIX "B-6"

## OUTFLOW FROM JOHN MARTIN RESERVOIR

## OUTFLOW FROM JOHN MARTIN RESERVOIR

Report-Year Ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

| DAY      | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE                       | JULY  | AUG.  | SEPT. | OCT. |
|----------|-------|-------|-------|-------|-------|-------|-------|----------------------------|-------|-------|-------|------|
| 1        | 22    | 4.8   | 5.4   | 7.8   | 6.0   | 196   | 1120  | 268                        | 670   | 1130  | 920   | 114  |
| 2        | 12    | 6.0   | 5.4   | 7.8   | 6.0   | 340   | 1150  | 288                        | 598   | 1140  | 1080  | 99   |
| 3        | 10    | 6.0   | 6.0   | 7.8   | 6.9   | 340   | 1130  | 292                        | 586   | 1130  | 1120  | 64   |
| 4        | 10    | 7.8   | 5.4   | 7.8   | 6.9   | 328   | 1120  | 304                        | 754   | 1140  | 1050  | 107  |
| 5        | 11    | 7.8   | 5.4   | 8.7   | 6.0   | 328   | 1110  | 392                        | 873   | 1170  | 960   | 181  |
| 6        | 12    | 7.8   | 5.4   | 7.8   | 6.9   | 352   | 1110  | 510                        | 912   | 1160  | 944   | 178  |
| 7        | 13    | 7.8   | 5.4   | 7.8   | 6.9   | 425   | 1110  | 520                        | 984   | 1030  | 952   | 208  |
| 8        | 13    | 7.8   | 7.8   | 7.8   | 6.0   | 525   | 984   | 520                        | 992   | 888   | 960   | 167  |
| 9        | 12    | 7.8   | 10    | 8.7   | 6.9   | 469   | 535   | 505                        | 1100  | 873   | 968   | 175  |
| 10       | 11    | 7.8   | 9.6   | 7.8   | 6.9   | 46    | 535   | 740                        | 1160  | 904   | 976   | 136  |
| 11       | 10    | 7.8   | 9.6   | 6.9   | 6.9   | 37    | 540   | 896                        | 1150  | 920   | 968   | 103  |
| 12       | 10    | 7.8   | 9.6   | 7.8   | 6.9   | 33    | 768   | 912                        | 1150  | 912   | 984   | 97   |
| 13       | 10    | 6.9   | 11    | 6.9   | 6.9   | 261   | 952   | 1010                       | 1150  | 888   | 1020  | 103  |
| 14       | 10    | 6.0   | 11    | 6.9   | 6.9   | 405   | 968   | 1050                       | 1150  | 873   | 422   | 80   |
| 15       | 9.6   | 6.9   | 11    | 6.9   | 6.9   | 430   | 952   | 992                        | 1140  | 845   | 18    | 80   |
| 16       | 8.7   | 6.9   | 10    | 6.9   | 6.9   | 495   | 944   | 896                        | 1080  | 803   | 12    | 78   |
| 17       | 9.6   | 6.9   | 10    | 6.9   | 6.0   | 525   | 896   | 852                        | 1030  | 796   | 16    | 71   |
| 18       | 8.7   | 6.9   | 10    | 6.9   | 5.4   | 562   | 859   | 824                        | 1040  | 761   | 15    | 73   |
| 19       | 8.7   | 6.9   | 10    | 7.8   | 5.4   | 556   | 859   | 852                        | 1050  | 775   | 15    | 69   |
| 20       | 7.8   | 6.9   | 10    | 6.9   | 6.9   | 670   | 817   | 888                        | 1050  | 976   | 11    | 76   |
| 21       | 7.8   | 6.0   | 10    | 6.9   | 6.0   | 761   | 712   | 888                        | 775   | 1060  | 11    | 66   |
| 22       | 7.8   | 6.0   | 9.6   | 6.9   | 6.0   | 775   | 490   | 859                        | 705   | 936   | 11    | 64   |
| 23       | 7.8   | 6.0   | 9.6   | 7.8   | 6.0   | 775   | 340   | 658                        | 719   | 580   | 72    | 63   |
| 24       | 7.8   | 6.0   | 9.6   | 7.8   | 6.9   | 838   | 280   | 628                        | 866   | 920   | 34    | 52   |
| 25       | 6.9   | 6.0   | 9.6   | 7.8   | 6.9   | 789   | 226   | 845                        | 1040  | 936   | 337   | 52   |
| 26       | 7.8   | 6.0   | 8.7   | 7.8   | 7.8   | 873   | 196   | 866                        | 1040  | 866   | 99    | 58   |
| 27       | 6.9   | 6.0   | 7.8   | 6.9   | 6.9   | 960   | 222   | 803                        | 1100  | 852   | 40    | 41   |
| 28       | 6.0   | 6.9   | 7.8   | 6.0   | 6.9   | 1140  | 236   | 768                        | 1140  | 852   | 28    | 54   |
| 29       | 5.4   | 6.9   | 8.7   | 6.9   | 6.9   | 1080  | 264   | 768                        | 1140  | 852   | 33    | 95   |
| 30       | 5.4   | 6.0   | 8.7   | 6.9   | 6.9   | 1050  | 268   | 768                        | 1090  | 838   | 50    | 156  |
| 31       |       | 6.0   | 8.7   |       | 6.9   |       | 264   |                            | 1070  | 845   |       | 42   |
| TOTAL    | 288.7 | 209.1 | 266.8 | 208.5 | 203.7 | 16364 | 21957 | 21362                      | 30304 | 28651 | 14126 | 3002 |
| sec. ft. | 573   | 415   | 529   | 414   | 404   | 32460 | 43550 | 42370                      | 60110 | 56830 | 28020 | 5950 |
| ac. ft.  |       |       |       |       |       |       |       | THE YEAR 271,600 Acre Feet |       |       |       |      |

## APPENDIX "B-7"

ARKANSAS RIVER AT THE COLORADO-KANSAS  
STATELINE

## ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report-Year Ending October 31, 1959

U S G S Record—Provisional, Subject to Revision

| DAY      | NOV.  | DEC.  | JAN. | FEB. | MAR. | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  |
|----------|-------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1        | 357   | 265   | 140  | 90   | 143  | 110   | 430   | 175   | 304   | 424   | 359   | 350   |
| 2        | 350   | 198   | 166  | 71   | 148  | 106   | 505   | 166   | 281   | 437   | 368   | 378   |
| 3        | 250   | 182   | 110  | 90   | 157  | 117   | 554   | 169   | 186   | 470   | 475   | 315   |
| 4        | 227   | 171   | 87   | 110  | 166  | 176   | 506   | 152   | 131   | 471   | 518   | 340   |
| 5        | 204   | 157   | 80   | 130  | 157  | 204   | 504   | 130   | 100   | 470   | 533   | 406   |
| 6        | 166   | 157   | 82   | 150  | 130  | 162   | 558   | 121   | 179   | 483   | 511   | 310   |
| 7        | 153   | 157   | 120  | 160  | 143  | 134   | 562   | 110   | 238   | 641   | 485   | 316   |
| 8        | 148   | 157   | 155  | 148  | 157  | 148   | 541   | 136   | 276   | 780   | 463   | 311   |
| 9        | 143   | 120   | 175  | 148  | 157  | 232   | 443   | 135   | 308   | 519   | 431   | 324   |
| 10       | 139   | 140   | 175  | 148  | 157  | 305   | 290   | 121   | 377   | 500   | 455   | 334   |
| 11       | 139   | 170   | 170  | 153  | 153  | 305   | 204   | 155   | 421   | 464   | 476   | 282   |
| 12       | 125   | 176   | 176  | 160  | 148  | 198   | 204   | 225   | 468   | 441   | 472   | 260   |
| 13       | 125   | 180   | 157  | 171  | 157  | 143   | 140   | 239   | 463   | 457   | 502   | 254   |
| 14       | 110   | 187   | 157  | 171  | 157  | 114   | 290   | 374   | 460   | 498   | 470   | 248   |
| 15       | 114   | 193   | 162  | 171  | 134  | 110   | 385   | 357   | 576   | 517   | 306   | 237   |
| 16       | 121   | 176   | 171  | 162  | 130  | 106   | 441   | 357   | 538   | 508   | 260   | 215   |
| 17       | 95    | 162   | 166  | 166  | 125  | 87    | 467   | 369   | 413   | 466   | 218   | 210   |
| 18       | 117   | 171   | 162  | 166  | 125  | 87    | 491   | 363   | 437   | 421   | 198   | 204   |
| 19       | 148   | 166   | 176  | 153  | 130  | 102   | 427   | 291   | 500   | 369   | 164   | 176   |
| 20       | 171   | 162   | 135  | 143  | 153  | 121   | 401   | 284   | 1030  | 384   | 142   | 166   |
| 21       | 182   | 162   | 110  | 148  | 134  | 143   | 485   | 317   | 663   | 577   | 134   | 171   |
| 22       | 166   | 162   | 120  | 148  | 134  | 204   | 604   | 564   | 744   | 1380  | 136   | 182   |
| 23       | 176   | 162   | 130  | 139  | 134  | 232   | 553   | 1190  | 433   | 484   | 269   | 182   |
| 24       | 166   | 171   | 150  | 143  | 134  | 264   | 496   | 503   | 335   | 359   | 2270  | 176   |
| 25       | 166   | 176   | 175  | 148  | 134  | 282   | 460   | 343   | 374   | 836   | 970   | 166   |
| 26       | 162   | 182   | 170  | 148  | 139  | 349   | 379   | 339   | 422   | 400   | 570   | 166   |
| 27       | 130   | 182   | 180  | 143  | 125  | 345   | 301   | 402   | 371   | 394   | 412   | 198   |
| 28       | 150   | 148   | 193  | 143  | 134  | 380   | 218   | 371   | 420   | 367   | 309   | 198   |
| 29       | 190   | 121   | 193  | 121  | 121  | 513   | 217   | 310   | 495   | 374   | 301   | 204   |
| 30       | 220   | 125   | 171  | 117  | 117  | 515   | 187   | 294   | 504   | 374   | 301   | 204   |
| 31       |       | 125   | 135  | 117  | 117  |       | 175   |       | 477   | 388   |       | 210   |
| TOTAL    |       |       |      |      |      |       |       |       |       |       |       |       |
| sec. ft. | 5110  | 5163  | 4633 | 4027 | 4355 | 6236  | 12806 | 8836  | 12836 | 15847 | 13628 | 7794  |
| ac. ft.  | 10140 | 10240 | 9190 | 7990 | 8640 | 12370 | 25400 | 17530 | 25460 | 31430 | 27030 | 15460 |

THE YEAR 200,900 Acre Feet  
The daily discharges shown are the sum of the flows of the Arkansas River near Coolidge, Kansas, and the Frontier Ditch.

APPENDIX "B-8"

ARKANSAS RIVER AT GARDEN CITY, KANSAS

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report-Year Ending October 31, 1959

U S G S Records—Provisional, subject to revision

| DAY      | NOV.   | DEC.  | JAN.  | FEB.  | MAR.  | APR. | MAY  | JUNE                      | JULY  | AUG.  | SEPT.  | OCT.  |
|----------|--------|-------|-------|-------|-------|------|------|---------------------------|-------|-------|--------|-------|
| 1        | 19     | 178   | 196   | 70    | 190   | 181  | 33   | 136                       | 9.4   | 17    | 6.7    | 116   |
| 2        | 19     | 210   | 192   | 44    | 190   | 174  | 38   | 116                       | 9.1   | 13    | 8.3    | 139   |
| 3        | 19     | 227   | 34    | 81    | 194   | 142  | 18   | 113                       | 11    | 12    | 11     | 123   |
| 4        | 13     | 241   | 36    | 132   | 194   | 107  | 20   | 98                        | 16    | 10    | 7.5    | 110   |
| 5        | 11     | 241   | 62    | 199   | 190   | 95   | 23   | 101                       | 14    | 9.5   | 6.7    | 148   |
| 6        | 16     | 227   | 75    | 240   | 187   | 95   | 31   | 83                        | 12    | 10    | 6.3    | 326   |
| 7        | 15     | 230   | 106   | 319   | 181   | 92   | 38   | 58                        | 17    | 9.1   | 6.9    | 434   |
| 8        | 23     | 227   | 129   | 296   | 181   | 89   | 42   | 42                        | 11    | 12    | 7.1    | 320   |
| 9        | 13     | 205   | 147   | 266   | 184   | 86   | 64   | 33                        | 5.9   | 16    | 7.1    | 309   |
| 10       | 16     | 213   | 160   | 256   | 187   | 98   | 49   | 31                        | 4.3   | 53    | 4.0    | 299   |
| 11       | 10     | 216   | 192   | 227   | 190   | 155  | 31   | 31                        | 7.9   | 27    | 3.1    | 313   |
| 12       | 13     | 238   | 210   | 220   | 184   | 187  | 25   | 27                        | 5.9   | 13    | 4.4    | 322   |
| 13       | 17     | 125   | 241   | 256   | 184   | 230  | 25   | 25                        | 6.7   | 21    | 3.1    | 322   |
| 14       | 13     | 89    | 276   | 263   | 184   | 224  | 23   | 16                        | 6.7   | 14    | 3.1    | 313   |
| 15       | 18     | 138   | 276   | 243   | 184   | 174  | 35   | 21                        | 5.9   | 14    | 4.4    | 306   |
| 16       | 12     | 196   | 255   | 230   | 187   | 116  | 28   | 21                        | 7.4   | 20    | 8.3    | 290   |
| 17       | 4.0    | 241   | 210   | 224   | 181   | 98   | 31   | 23                        | 5.4   | 20    | 24     | 283   |
| 18       | 10     | 262   | 202   | 217   | 181   | 92   | 24   | 17                        | 12    | 27    | 56     | 273   |
| 19       | 40     | 241   | 227   | 214   | 177   | 86   | 28   | 16                        | 20    | 25    | 35     | 266   |
| 20       | 75     | 230   | 234   | 210   | 190   | 80   | 40   | 15                        | 16    | 14    | 40     | 256   |
| 21       | 117    | 220   | 55    | 200   | 197   | 56   | 28   | 17                        | 54    | 11    | 21     | 253   |
| 22       | 154    | 220   | 46    | 204   | 197   | 38   | 33   | 24                        | 36    | 23    | 16     | 250   |
| 23       | 182    | 216   | 89    | 200   | 197   | 33   | 69   | 42                        | 42    | 19    | 14     | 237   |
| 24       | 188    | 216   | 117   | 200   | 194   | 35   | 75   | 92                        | 16    | 51    | 16     | 230   |
| 25       | 192    | 216   | 144   | 197   | 197   | 33   | 104  | 80                        | 16    | 66    | 30     | 233   |
| 26       | 188    | 213   | 168   | 197   | 207   | 28   | 110  | 27                        | 12    | 18    | 134    | 224   |
| 27       | 185    | 216   | 196   | 194   | 197   | 28   | 126  | 16                        | 16    | 14    | 638    | 224   |
| 28       | 100    | 216   | 238   | 190   | 194   | 33   | 171  | 9.6                       | 16    | 53    | 362    | 220   |
| 29       | 120    | 216   | 276   |       | 187   | 25   | 155  | 20                        | 35    | 33    | 194    | 227   |
| 30       | 138    | 196   | 272   |       | 190   | 23   | 142  | 15                        | 21    | 14    | 116    | 237   |
| 31       |        | 168   | 171   |       | 187   |      | 142  |                           | 14    | 8.3   |        | 256   |
| TOTAL    | 1940.0 | 6488  | 5232  | 5789  | 5864  | 2933 | 1801 | 1365.6                    | 481.6 | 666.9 | 1794.0 | 7859  |
| sec. ft. | 3850   | 12870 | 10380 | 11480 | 11630 | 5820 | 3570 | 2710                      | 995   | 1320  | 3560   | 15590 |
| ac. ft.  |        |       |       |       |       |      |      | THE YEAR 83,740 Acre Feet |       |       |        |       |



\* \* \* \*

\* \* \* \*

## Report-Year Ending October 31, 1959

Report-Year Ending October 31, 1959

(Arkansas River Compact Administration Records)

[illegible]

\* \* \* \*

DEMANDS BY KANSAS FOR WATER

[illegible]

## APPENDIX "B-11"

## STATELINE FLOW ON DAYS OF KANSAS DEMAND

## STATELINE FLOW ON DAYS OF KANSAS DEMAND\*

Report-Year Ending October 31, 1959

U S G S Records—Provisional, subject to revision

| DAY      | NOV. | DEC. | JAN. | FEB. | MAR. | APR. | MAY   | JUNE     | JULY    | AUG.      | SEPT. | OCT. |
|----------|------|------|------|------|------|------|-------|----------|---------|-----------|-------|------|
| 1        |      |      |      |      |      |      | 430   |          | 304     | 424       | 359   |      |
| 2        |      |      |      |      |      |      | 505   |          | 281     | 437       | 368   |      |
| 3        |      |      |      |      |      |      | 554   |          | 186     | 470       | 475   |      |
| 4        |      |      |      |      |      |      | 506   |          | 131     | 471       | 518   |      |
| 5        |      |      |      |      |      |      | 504   |          |         | 470       | 533   |      |
| 6        |      |      |      |      |      |      | 558   |          | 238     | 483       | 511   |      |
| 7        |      |      |      |      |      |      | 562   |          | 276     | 485       | 485   |      |
| 8        |      |      |      |      |      |      | 541   |          | 283     | 780       | 463   |      |
| 9        |      |      |      |      |      |      | 592   |          | 308     | 568       | 451   |      |
| 10       |      |      |      |      |      |      | 443   |          | 377     | 519       | 431   |      |
| 11       |      |      |      |      |      |      | 290   |          | 421     | 500       | 455   |      |
| 12       |      |      |      |      |      |      |       | 225      | 468     | 464       | 476   |      |
| 13       |      |      |      |      |      |      |       | 239      | 463     | 441       | 472   |      |
| 14       |      |      |      |      |      |      |       | 374      | 460     | 457       | 502   |      |
| 15       |      |      |      |      |      |      | 385   | 374      | 460     | 498       | 470   |      |
| 16       |      |      |      |      |      |      | 441   | 357      | 576     | 517       | 306   |      |
| 17       |      |      |      |      |      |      | 467   | 369      | 538     | 508       | 260   |      |
| 18       |      |      |      |      |      |      | 491   | 363      | 413     | 466       |       |      |
| 19       |      |      |      |      |      |      | 427   | 291      | 437     | 421       |       |      |
| 20       |      |      |      |      |      |      | 401   | 284      | 500     | 369       |       |      |
| 21       |      |      |      |      |      |      | 485   | 317      | 1030    | 384       |       |      |
| 22       |      |      |      |      |      |      | 604   | 564      | 663     | 577       |       |      |
| 23       |      |      |      |      |      | 232  | 553   | 1190     | 744     | 1380      |       |      |
| 24       |      |      |      |      |      | 264  | 496   | 503      | 433     | 484       |       |      |
| 25       |      |      |      |      |      | 282  | 460   | 343      | 335     | 359       |       |      |
| 26       |      |      |      |      |      | 439  |       | 339      | 374     | 836       |       |      |
| 27       |      |      |      |      |      | 345  |       | 402      | 422     | 400       |       |      |
| 28       |      |      |      |      |      | 380  |       | 371      | 420     | 394       |       |      |
| 29       |      |      |      |      |      | 513  |       | 310      | 495     | 367       |       |      |
| 30       |      |      |      |      |      | 515  |       | 294      | 504     | 374       |       |      |
| 31       |      |      |      |      |      |      |       |          | 477     | 388       |       |      |
| TOTAL    |      |      |      |      |      | 2970 | 10695 | 7135     | 12557   | 15847     | 7535  |      |
| sec. ft. |      |      |      |      |      | 5890 | 21210 | 14150    | 24910   | 31430     | 14950 |      |
| ac. ft.  |      |      |      |      |      |      |       | THE YEAR | 112,500 | Acre Feet |       |      |

\*Three days' time is allowed for water released from John Martin Reservoir to reach Stateline.



# APPENDIX "B-12"

\* \* \* \*

## DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report-Year Ending October 31, 1959

Source of Information, A.V.D.A. Reports—Reservoir Water is that from Upstream Reservoirs above Pueblo  
(Acre Feet)

|                                | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE    | JULY   | AUG.   | SEPT.  | OCT.   | THE<br>YEAR |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|-------------|
| Bessemer (River) .....         | 3,713  | 958    | 0      | 321    | 3,289  | 4,225  | 4,366  | 14,727  | 4,366  | 4,366  | 3,398  | 6,390  | 50,119      |
| Res. or Imported .....         | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       | 1,269  | 0      | 0      | 0      | 1,269       |
| Total .....                    | 3,713  | 958    | 0      | 321    | 3,289  | 4,225  | 4,366  | 14,727  | 5,635  | 4,366  | 3,398  | 6,390  | 51,388      |
| West Pueblo (River) .....      | 30     | 0      | 0      | 0      | 52     | 178    | 184    | 367     | 184    | 184    | 141    | 180    | 1,500       |
| Booth-Orchard Gr. (Riv.) ..... | 859    | 0      | 0      | 0      | 809    | 1,071  | 1,107  | 1,115   | 1,107  | 1,107  | 1,002  | 902    | 9,079       |
| Excelsior (River) .....        | 738    | 1,230  | 131    | 0      | 0      | 0      | 0      | 1,089   | 0      | 0      | 0      | 690    | 3,878       |
| Collier (River) .....          | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 494     | 0      | 0      | 0      | 0      | 494         |
| Colorado Canal (Riv.) .....    | 0      | 0      | 14,608 | 10,982 | 0      | 0      | 0      | 3,866   | 0      | 0      | 0      | 0      | 29,456      |
| Res. or Imported .....         | 0      | 1,263  | 0      | 0      | 0      | 4,185  | 1,525  | 0       | 15,235 | 14,789 | 5,199  | 0      | 42,196      |
| Total .....                    | 0      | 1,263  | 14,608 | 10,982 | 0      | 4,185  | 1,525  | 3,866   | 15,235 | 14,789 | 5,199  | 0      | 71,652      |
| Highline (River) .....         | 4,633  | 5,651  | 3,330  | 3,269  | 5,470  | 4,578  | 4,967  | 15,951  | 4,225  | 3,648  | 3,392  | 5,450  | 64,564      |
| Res. or Imported .....         | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       | 1,301  | 1,440  | 0      | 0      | 2,741       |
| Total .....                    | 4,633  | 5,651  | 3,330  | 3,269  | 5,470  | 4,578  | 4,967  | 15,951  | 5,526  | 5,088  | 3,392  | 5,450  | 67,305      |
| Oxford Canal (Riv.) .....      | 938    | 524    | 434    | 454    | 1,095  | 2,061  | 2,793  | 6,520   | 2,275  | 968    | 791    | 2,142  | 20,995      |
| Otero Canal (River) .....      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 781     | 0      | 0      | 0      | 0      | 781         |
| Catlin Canal (River) .....     | 6,077  | 3,707  | 1,129  | 2,144  | 8,186  | 9,568  | 12,383 | 17,236  | 9,023  | 3,243  | 133    | 6,590  | 79,419      |
| Res. or Imported .....         | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       | 0      | 716    | 0      | 0      | 716         |
| Total .....                    | 6,077  | 3,707  | 1,129  | 2,144  | 8,186  | 9,568  | 12,383 | 17,236  | 9,023  | 3,959  | 133    | 6,590  | 80,135      |
| Holbrook (River) .....         | 0      | 3,529  | 3,525  | 5,816  | 1,325  | 0      | 0      | 5,766   | 0      | 0      | 0      | 595    | 20,556      |
| Rocky Ford (River) .....       | 3,402  | 1,791  | 1,188  | 149    | 2,662  | 4,136  | 5,022  | 6,091   | 6,345  | 5,679  | 2,688  | 3,600  | 42,753      |
| Ft. Lyon Storage (River) ..... | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       | 0      | 0      | 0      | 0      | 0           |
| Ft. Lyon Canal (River) .....   | 17,496 | 24,218 | 14,910 | 9,431  | 16,064 | 16,568 | 17,532 | 42,908  | 13,565 | 5,633  | 1,075  | 30,216 | 209,616     |
| Las Animas Cons. (River) ..... | 1,628  | 748    | 325    | 0      | 1,684  | 2,719  | 3,201  | 5,984   | 2,442  | 1,121  | 420    | 2,848  | 23,120      |
| Las Animas Town (River) .....  | 371    | 0      | 0      | 0      | 317    | 774    | 1,349  | 1,630   | 1,779  | 1,670  | 702    | 994    | 9,586       |
| TOTAL .....                    |        |        |        |        |        |        |        |         |        |        |        |        |             |
| River .....                    | 39,885 | 42,356 | 39,580 | 32,566 | 40,953 | 45,878 | 52,904 | 124,525 | 45,311 | 27,619 | 13,742 | 60,597 | 565,916     |
| Res. or Imported .....         | 0      | 1,263  | 0      | 0      | 0      | 4,185  | 1,525  | 0       | 17,805 | 16,945 | 5,199  | 0      | 46,922      |
| Total .....                    | 39,885 | 43,619 | 39,580 | 32,566 | 40,953 | 50,063 | 54,429 | 124,525 | 63,116 | 44,564 | 18,941 | 60,597 | 612,838     |

# APPENDIX "B-13"

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## DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report-Year Ending October 31, 1959

Source of Information A.V.D.A. Reports

(Acre Feet)

|                          | NOV.  | DEC.  | JAN. | FEB. | MAR. | APR.   | MAY    | JUNE   | JULY   | AUG.   | SEPT.  | OCT.  | THE YEAR |
|--------------------------|-------|-------|------|------|------|--------|--------|--------|--------|--------|--------|-------|----------|
| Ft. Bent Canal.....      | 0     | 0     | 0    | 0    | 0    | 1,884  | 3,525  | 4,259  | 5,256  | 4,683  | 2,225  | 498   | 22,330   |
| Keesee Ditch .....       | 0     | 0     | 0    | 0    | 0    | 307    | 928    | 589    | 1,027  | 1,043  | 613    | 0     | 4,507    |
| Amity Canal .....        | 417   | 0     | 0    | 0    | 0    | 14,908 | 17,992 | 18,105 | 22,151 | 22,151 | 9,909  | 3,858 | 109,491  |
| Lamar Canal .....        | 2,202 | 972   | 0    | 0    | 0    | 5,417  | 8,212  | 8,461  | 9,650  | 8,283  | 5,478  | 1,535 | 50,210   |
| Hyde Ditch .....         | 127   | 0     | 0    | 0    | 0    | 288    | 534    | 583    | 561    | 460    | 294    | 48    | 2,895    |
| Manvel Canal .....       | 248   | 0     | 0    | 0    | 0    | 625    | 1,537  | 922    | 1,349  | 1,353  | 684    | 0     | 6,718    |
| X.Y. & Graham Canals.... | 476   | 0     | 0    | 0    | 0    | 934    | 2,700  | 2,414  | 3,062  | 2,985  | 1,809  | 0     | 14,380   |
| Buffalo Canal .....      | 1,458 | 87    | 0    | 0    | 0    | 1,043  | 2,971  | 2,920  | 3,055  | 3,033  | 2,178  | 321   | 17,066   |
| Sisson Canal .....       | 0     | 0     | 0    | 0    | 0    | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0        |
| TOTAL .....              | 4,928 | 1,059 | 0    | 0    | 0    | 25,406 | 38,399 | 38,253 | 46,111 | 43,991 | 23,190 | 6,260 | 227,597  |

# APPENDIX "B-14"

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## DIVERSIONS BY DITCHES IN KANSAS

Report-Year Ending October 31, 1959

(Acre Feet)

Frontier Ditch, U.S.G.S. Records

Other Ditches, Kansas Division of Water Resources Records

|                           | NOV.  | DEC. | JAN. | FEB. | MAR. | APR.  | MAY    | JUNE   | JULY   | AUG.   | SEPT.  | OCT.  | THE YEAR |
|---------------------------|-------|------|------|------|------|-------|--------|--------|--------|--------|--------|-------|----------|
| Frontier Ditch .....      | 22    | 0    | 0    | 0    | 0    | 573   | 2,850  | 1,690  | 2,490  | 2,530  | 1,860  | 355   | 12,370   |
| Alamo Ditch .....         | 0     | 0    | 0    | 0    | 206  | 419   | 262    | 28     | 837    | 571    | 462    | 0     | 2,785    |
| Ft. Aubrey Canal .....    | 131   | 0    | 0    | 0    | 0    | 127   | 1,600  | 1,250  | 1,850  | 1,920  | 1,130  | 0     | 8,008    |
| Total Stateline           |       |      |      |      |      |       |        |        |        |        |        |       |          |
| to Syracuse .....         | 153   | 0    | 0    | 0    | 206  | 1,119 | 4,712  | 2,968  | 5,177  | 5,021  | 3,452  | 355   | 23,163   |
| Amazon Canal .....        | 1,310 | 0    | 0    | 0    | 0    | 3,080 | 4,440  | 4,460  | 2,870  | 5,150  | 3,420  | 0     | 24,730   |
| Great Eastern Canal ..... | 3,190 | 0    | 0    | 0    | 0    | 2,020 | 4,710  | 3,210  | 5,400  | 5,060  | 7,870  | 2,230 | 33,690   |
| South Side Ditch .....    | 1,570 | 0    | 0    | 0    | 0    | 175   | 3,990  | 3,490  | 2,120  | 4,150  | 2,680  | 3,700 | 21,875   |
| Farmers Ditch .....       | 1,580 | 0    | 0    | 0    | 0    | 752   | 6,750  | 1,540  | 5,310  | 5,800  | 2,420  | 0     | 24,152   |
| Garden City Canal .....   | 432   | 0    | 0    | 0    | 0    | 0     | 1,300  | 601    | 285    | 872    | 448    | 0     | 3,938    |
| Total Syracuse            |       |      |      |      |      |       |        |        |        |        |        |       |          |
| to Garden City .....      | 8,082 | 0    | 0    | 0    | 0    | 6,027 | 21,190 | 13,301 | 15,985 | 21,032 | 16,838 | 5,930 | 108,385  |
| Total Stateline           |       |      |      |      |      |       |        |        |        |        |        |       |          |
| to Garden City .....      | 8,235 | 0    | 0    | 0    | 206  | 7,146 | 25,902 | 16,269 | 21,162 | 26,053 | 20,290 | 6,285 | 131,548  |



# APPENDIX "B-15"

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## SUMMARY TABULATION

(Acre-Feet)

|                                                | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY   | AUG.   | SEPT.  | OCT.  | YEAR    | FROM<br>APP.<br>NO. |
|------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|---------------------|
| Arkansas River at<br>Las Animas, Colo.....     | 1670   | 2660   | 3190   | 5030   | 2470   | 720    | 1080   | 879    | 709    | 534    | 408    | 3490  | 22840   | B- 2                |
| Purgatoire River near<br>Las Animas, Colo..... | 1570   | 2060   | 1610   | 2320   | 2100   | 1940   | 2000   | 2150   | 3710   | 713    | 72     | 345   | 20590   | B- 3                |
| Inflow to John Martin Reservoir                | 3240   | 4720   | 4790   | 7360   | 4570   | 2660   | 3080   | 3030   | 4410   | 1250   | 477    | 3840  | 43430   | B- 4*               |
| Reservoir contents at<br>end of month.....     | 233452 | 238630 | 244277 | 252641 | 256358 | 226296 | 184891 | 142986 | 84450  | 28064  | 0      | 930   | 930     | B- 5                |
| Net change in reservoir storage                | +2453  | +5178  | +5647  | +8364  | +3717  | -30062 | -41405 | -41905 | -58536 | -56386 | -28064 | +930  | -230069 | B- 5                |
| Outflow from John Martin<br>Reservoir .....    | 573    | 415    | 529    | 414    | 404    | 32460  | 43550  | 42370  | 60110  | 56830  | 28020  | 5950  | 271600  | B- 6                |
| Diversions in District 67, Colo.               | 4928   | 1059   | 0      | 0      | 0      | 25406  | 38399  | 38253  | 46111  | 43991  | 23190  | 6260  | 227597  | B-13                |
| Flow at Colorado-Kansas<br>Stateline .....     | 10140  | 10240  | 9190   | 7990   | 8640   | 12370  | 25400  | 17530  | 25460  | 31430  | 27030  | 15460 | 200900  | B- 7                |
| Diversions in Kansas.....                      | 8235   | 0      | 0      | 0      | 206    | 7146   | 25902  | 16269  | 21162  | 26053  | 20290  | 6285  | 131548  | B-14                |
| Arkansas River at<br>Garden City, Kansas.....  | 3850   | 12870  | 10380  | 11480  | 11630  | 5820   | 3570   | 2710   | 995    | 1320   | 3560   | 15590 | 83740   | B- 8                |

\*Because of computation rules, figures in B-4 are not necessarily the exact sum of B-2 and B-3.

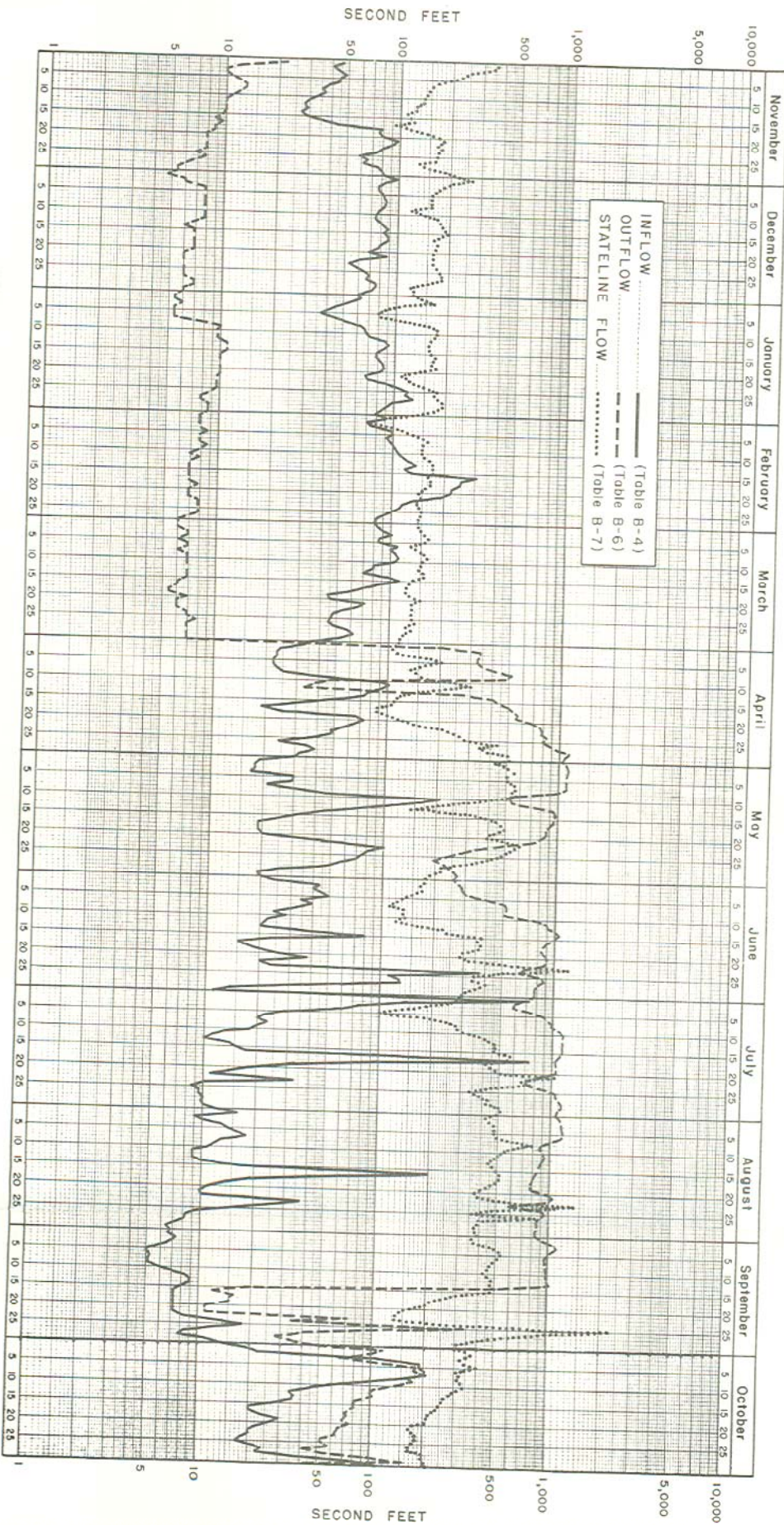
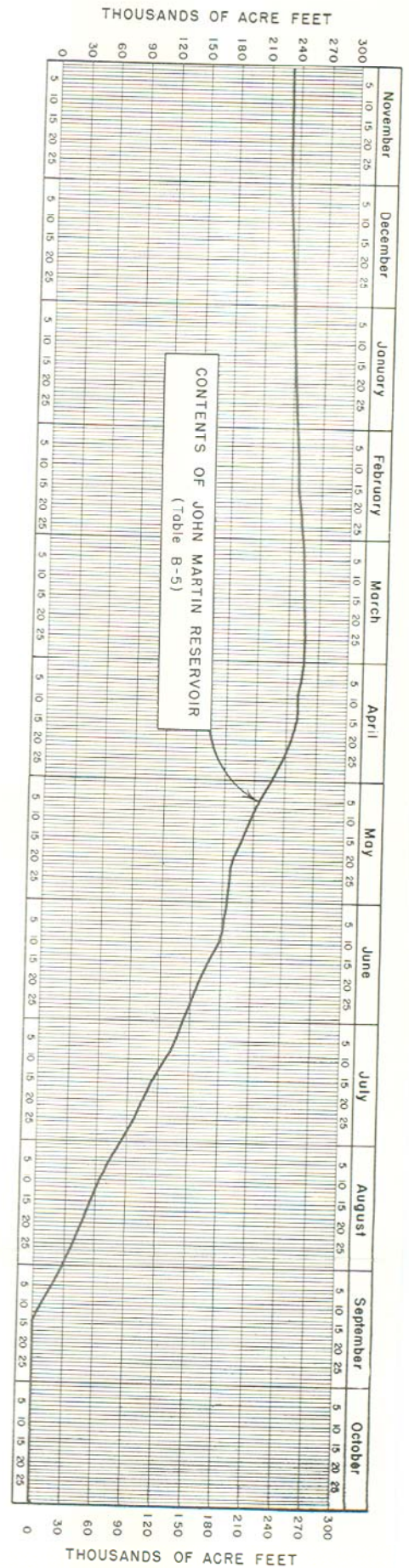












INFLOW, OUTFLOW AND CONTENTS OF JOHN MARTIN RESERVOIR AND STATELINE FLOW

Report Year, November 1, 1958 - October 31, 1959



