

Ninth
Annual Report
**ARKANSAS RIVER COMPACT
ADMINISTRATION**
(1957)

For the Report-Year November 1, 1956, to October 31, 1957

LAMAR, COLORADO

December 10, 1957

THE ADMINISTRATION

CARL G. PAULSEN, *Chairman and Representative of the United States*
HARRY C. NEVIUS, *Secretary and Treasurer*

IVAN C. CRAWFORD, DAVID JENKINS AND HACKET SMARTT
for Colorado

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

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Plate I: Inflow, Outflow and Contents of John Martin Reservoir
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Annual Report of
ARKANSAS RIVER COMPACT ADMINISTRATION
(1957)

Report - Year November 1, 1956, to October 31, 1957

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, 1956, through October 31, 1957 as follows:

1. *Members of the Administration*

Representative of the United States:

Hans Kramer (Brig. General U.S.A.—Ret.) (Nov. 1, 1956-Feb. 16, 1957)

Carl G. Paulsen (Aug. 14, 1957-Oct. 31, 1957)

Colorado Representatives:

Ivan C. Crawford, Denver, Colorado (Nov. 1, 1956-Oct. 31, 1957)

Harry B. Mendenhall, Rocky Ford, Colorado (Nov. 1, 1956-June 28, 1957)

Harry C. Nevius, Lamar, Colorado (Nov. 1, 1956-June 28, 1957)

David Jenkins, Las Animas, Colorado (July 16, 1957-Oct. 31, 1957)

Hacket Smartt, Lamar, Colorado (July 16, 1957-Oct. 31, 1957)

Kansas Representatives:

William E. Leavitt, Garden City, Kansas (Nov. 1, 1956-June 7, 1957)

Roland H. Tate, Garden City, Kansas (Nov. 1, 1956-June 7, 1957)

Carl E. Bentrup, Deerfield, Kansas (June 7, 1957-Oct. 31, 1957)

Logan N. Green, Garden City, Kansas (June 7, 1957-Oct. 31, 1957)

R. V. Smrha, Topeka, Kansas (Nov. 1, 1956-Oct. 31, 1957)

2. *Officers of the Administration*

Chairman:

Hans Kramer (Brig. General U.S.A.—Ret.) (Nov. 1, 1956-Feb. 16, 1957)

Carl G. Paulsen (Aug. 14, 1957-Oct. 31, 1957)

Vice-Chairman:

Roland H. Tate of Garden City, Kansas, (Nov. 1, 1956-June 7, 1957)

Logan N. Green of Garden City, Kansas (July 23, 1957-Oct. 31, 1957)

Secretary:

Harry C. Nevius of Lamar, Colorado (Nov. 1, 1956-Oct. 31, 1957)

Treasurer:

Harry C. Nevius of Lamar, Colorado (Nov. 1, 1956-Oct. 31, 1957)

3. *Standing Committees*

Administrative and Legal Committee:

Roland H. Tate of Kansas (Chairman) (Nov. 1, 1956-June 7, 1957)

Harry C. Nevius of Colorado (Nov. 1, 1956-June 28, 1957)

Logan N. Green of Kansas (Chairman) (Oct. 22, 1957-Oct. 31, 1957)

David Jenkins of Colorado (Oct. 22, 1957-Oct. 31, 1957)

Engineering Committee:

R. V. Smrha of Kansas, (Chairman) (Nov. 1, 1956-Oct. 31, 1957)

Ivan C. Crawford of Colorado (Nov. 1, 1956-Oct. 31, 1957)

Operations Committee:

Harry B. Mendenhall of Colorado (Chairman) (Nov. 1, 1956-June 28, 1957)

William E. Leavitt of Kansas (Nov. 1, 1956-June 7, 1957)

Hacket Smartt of Colorado (Chairman) (July 23, 1957-Oct. 31, 1957)

Carl E. Bentrup of Kansas (July 23, 1957-Oct. 31, 1957)

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

4. *Meetings*

December 11, 1956	Lamar, Colorado	Annual Meeting
March 29, 1957	Lamar, Colorado	Regular Meeting
April 18, 1957		Telephonic Meeting
May 16, 1957		Telephonic Meeting
July 23, 1957	Lamar, Colorado	Regular Meeting
July 25, 1957		Telephonic Meeting
October 22, 1957	Lamar, Colorado	Special Meeting

5. *Fiscal*

(a) Balance on hand October 31, 1956, Auditor's Report....\$ 971.73

(b) Receipts

Call authorized October 26, 1956 \$3,000.00

Colorado 60% December 19, 1956....\$1,800.00

Kansas 40% January 4, 1957..... 1,200.00

3,000.00

\$3,971.73

(c) Disbursements by the Administration—November 1, 1956 to October 31, 1957:

Voucher No.	Date	Payee and Purpose	Amount
195	12-31-56	Robert W. Rollins, Audit and Service.....	\$ 65.00
196		Secretary Salary, November and December (less \$4.00 F.I.C.A.)	196.00
197		Outwest Printing Co., Printing Vouchers.....	30.39
198		Mtn. States T. & T. Co., November and December Service and Tolls.....	24.40
199		Treasurer of U. S. Deposits by States.....	8.00
201	2-28-57	H. R. Meininger Co., Ozalid Paper.....	4.50
202		Peerless Printing Co., Annual Reports.....	516.00
203		Secretary Salary, January and February (less \$4.50 F.I.C.A.)	195.50
204		Treasurer of U. S. Deposits by States.....	9.00
205		Mtn. States T. & T. Co., January and February Service and Tolls.....	16.90
206	4-30-57	U. S. Geological Survey, Cooperative Stream Gaging	392.81
207		Secretary Salary, March and April (less \$4.50 F.I.C.A.)	195.50
208		Mtn. States T. & T. Co., March and April Service and Tolls	34.80
209		Secretary, Stamps, 10.00; Mileage 37.60.....	47.60
210		Treasurer of U. S. Deposits by States.....	9.00
211	6-30-57	U. S. Geological Survey, Bal. Cooperative-Stream Gaging	107.19
212		Mtn. States T. & T. Co., May and June Service and Tolls	32.85
213		Secretary Salary, May and June (less \$4.50 F.I.C.A.)	195.50
214		Treasurer of U. S. Deposits by States.....	9.00
215	9- 3-57	Nat. Surety Corp. Treasurers Bond.....	25.00
216		Mtn. States T. & T. Co., July Service and Tolls....	26.10
217		Secretary Salary, July and August (less \$4.50 F.I.C.A.)	195.50
218		Treasurer of U. S. Deposits by States.....	9.00
219	9- 4-57	Mtn. States T. & T. Co., August Service and Tolls	33.60
220	10-15-57	Mtn. States T. & T. Co., September Service and Tolls	17.05
221		Secretary, Stamps 11.50; Mileage 35.44; Supplies 5.75	52.69
222		Secretary Salary, September (less \$2.25 F.I.C.A.)..	97.75
223		Treasurer of U. S. Deposits by States.....	4.50
224	10-31-57	Secretary Salary, October (less \$2.25 F.I.C.A.)....	97.75
225		Mtn. States T. & T. Co., October Service and Tolls	19.15
226		Treasurer of U. S. Deposits by States.....	4.50
		Total Disbursements	<u>\$2,672.53</u>

(d) Balance on hand October 31, 1957.....\$1,299.20

(e) On October 22, 1957, the Administration approved a budget for the fiscal year July 1, 1958 to June 30, 1959, for transmittal to the Governor of each of the States of Colorado and Kansas in accordance with Article VII-E (2) of the Compact as follows:

Personal Service		\$1,825.00
Secretary Salary	\$1,200.00	
Social Security	50.00	
Gage Reports	500.00	
Audit of Accounts	75.00	
Capital Outlay		300.00
Maintenance and Operation		1,675.00
Bond	25.00	
Printing	600.00	
Official Publication	100.00	
Travel	150.00	
Typing and Mailing	200.00	
Investigation and Inspection	150.00	
Telephone and Telegraph	300.00	
Office Supplies	150.00	
Total Budget proposed for 1958-59		3,800.00
Estimated Carry-over as of June 30, 1958		800.00
Total to be appropriated by Colorado and Kansas		\$3,000.00
To be appropriated by Colorado (60%)		1,800.00
To be appropriated by Kansas (40%)		1,200.00
		<u>\$3,000.00</u>

- (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, 1956 through October 31, 1957, 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. A resurvey by sonic methods of the sediment contents of the John Martin reservoir has been made by the Corps of Engineers during the past season after the reservoir was filled sufficiently with water to make such

a survey. However, a new capacity table of the reservoir, which is needed, has not yet been made because funds to the Corps have not been provided for completing the analyses of the survey. Because of the annual accumulation of sediment in the reservoir, the survey and revised capacity table of the water contents in the reservoir is needed at least every 5 years. The United States Geological Survey has also continued the operation of the Compact gaging stations and the analysis and compilation of the 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, including the radio stage reporting gages, and performing other hydrologic work required in the administration of the Compact, the Administration entered into cooperative agreements with the Geological Survey for the fiscal years ending June 30, 1957, and June 30, 1958. Under the terms of these agreements, \$500 was provided by the Administration and an equal amount by the Geological Survey for the above purposes, in each of these fiscal years.

7. *Water Supply, Reservoir Operation and Hydrologic Data*

At the beginning of the Compact year on November 1, 1956, John Martin Reservoir was empty. Passage of river flow up to 100 c.f.s. continued until the storage of winter flows was started at 12:00 noon on December 7, 1956. Winter storage continued to the opening of the irrigation season on April 1, 1957, at which time the reservoir contained 3,892 acre feet of water. This was the extreme low winter inflow since administration of the Compact was started and was less than 20% of the mean winter inflow in that time. Rains the first three days of April provided additional inflow. Water in storage totaled 11,855 acre feet on April 13, 1957. The first release of stored water was made at 8:30 a.m. of that date upon the demand of Colorado. Releases were increased to meet the demand of Kansas at 8:45 a.m. on April 17, 1957, and continued for both States until the reservoir was empty at 8:30 p.m. on April 22, 1957.

General rains occurred on May 15, and 16, 1957, averaging 1.5 to 3 inches above the Reservoir and 1 to 1.5 inches below. Flood conditions prevailed and storage began with the gates at John Martin Reservoir being closed at 7:00 a.m. on May 16, 1957. Runoff continued at a rapid rate and by 12:00 p.m. on May 19, 1957, on the basis of the capacity table in effect at that time, an indicated 47,517 acre feet had accumulated in the reservoir. A new capacity table subsequently showed this amount to be 43,325 acre feet. Storage had increased to about 50,500 acre feet when releases of 100 c.f.s. were requested by Colorado at 8:30 a.m. on May 27, 1957. These releases continued to 10:25 a.m. on June 1, 1957. Rains from 1 to 2 inches occurred on May 31 and June 1. The gates were closed at 10:25 a.m. on June 1, 1957, and water in storage increased to nearly 108,000 acre feet by 12:00 p.m. on June 13, 1957. Releases were commenced at 8:45 a.m. on June 14, 1957, to meet demands for water by the State of Colorado, and, with the exception of

three short periods, continued to the end of the irrigation season. Kansas requirements were met by stateline flow until 4:30 p.m. on July 6, 1957. At this time releases from the reservoir were increased to meet Kansas demands which continued to September 15, 1957. Stateline flows met Kansas needs from September 15, 1957, to 8:30 a.m. on October 1 and from October 10, 1957, to the end of the irrigation season. Releases from storage to meet Kansas demands were made from 8:30 a.m. on October 1 to October 10, 1957. Rains occurring below the reservoir necessitated the curtailment of releases many times during the period June 14 to October 31, and, as noted above, caused the gates to be closed from 5:30 p.m. on July 25 to 12:00 noon on July 27, from 7:15 a.m. to 12:00 p.m. on August 1, and from 3:00 p.m. on October 8, to 10:30 a.m. on October 9.

Colorado requested, in addition to releases of stored water, 100 c.f.s. river flow from 5:30 p.m. on July 16, 1957, to 8:30 a.m. on July 17, 1957. On August 7, 1957, Kansas demands were increased to include 250 c.f.s. river flow. At 9:00 a.m. on August 9, 1957, releases were increased from 1200 c.f.s. to 1300 c.f.s. to provide Kansas 50 c.f.s. river flow, at 11:00 p.m. on August 10, 1957, releases were increased from 1300 c.f.s. to 1450 c.f.s. to provide Kansas 150 c.f.s. river flow. At 9:00 a.m. on August 12, 1957, no water was available for Kansas from river flow. At 3:45 p.m. on August 12, 1957, Colorado requested 100 c.f.s. river flow which was reduced to 50 c.f.s. at 11:00 a.m. on August 15, 1957, and reduced to 0 at 12:00 noon on August 16, 1957.

Storage in the reservoir reached a peak of 290,744 acre feet on August 6, and 7, 1957. Releases from the reservoir during the period April 13, to 22, totaled 13,045 acre feet and during the period May 27, to October 31, totaled 185,660 acre feet. Stateline flow during corresponding periods allowing three days for water released from the reservoir to reach the stateline, amounted to 3,370 acre feet and 119,740 acre feet, respectively. At the end of the irrigation season on October 31, 1957, storage in John Martin Reservoir totaled 220,053 acre feet, the greatest holdover storage since the Compact Administration was established and more than 70% greater than the previous maximum on October 31, 1949.

River flow was passed through the reservoir averaging:

25 c.f.s. from November 1, 1956 to December 6, 1956

1.8 c.f.s. from December 7, 1956 to April 12, 1957

443 c.f.s. from April 22, 1957 to May 16, 1957.

Stateline flow for corresponding periods, disregarding local runoff on April 27, and 28, averaged 40 c.f.s., 48 c.f.s., and 143 c.f.s., respectively.

The total discharge for the year at Garden City was 62,200 acre feet. About 45,000 acre feet occurred during the period May 17, thru June 30, and included five storm periods of local runoff. With this exception, the average discharge was about 27 second feet. Total diversions by Kansas ditches during the irrigation season amounted to 118,720 acre feet, 72% of the water which crossed the stateline in this time.

8. Gaging Stations

Stream-flow records of satisfactory accuracy were obtained at all the Compact gaging stations. However, shifting of the channels on the Arkansas and Purgatoire Rivers near Las Animas has increased the difficulty of maintaining current stage-discharge relations for operation. These two sites will be investigated for possible improvement of the unstable conditions.

Although the radio stage reporting equipment operated satisfactorily this year, the equipment is now obsolete as well as seriously worn. The equipment should be replaced in the 1960 fiscal year. No definite action has been taken to install stage reporting equipment at the two inflow gages. This action should be considered again when the old radio equipment is replaced.

The Administration has continued to contribute \$500 annually to assist the U. S. Geological Survey in operating the compact gaging stations.

9. Findings of Fact by the Administration

(a) The Administration, in accordance with Article IV, Section 3 (b) of the By-Laws, considered by telephone on April 18th, 1957, the question of finding the Reservoir empty of winter stored water and giving Notice to the State Engineer of Colorado that priority administration would commence on April 20, 1957. As a result of affirmative action taken this date, the State Engineer of Colorado was notified that, on April 20, 1957, unless a change of conditions justified cancellation or modification of that notice, priority administration should commence, and decreed rights of water users in Colorado would be administered by Colorado under Article V F of the Arkansas River Compact.

The Reservoir was emptied April 22, 1957 at 8:30 p.m.

(b) General rains throughout the Arkansas Valley on May 15th and 16th caused flood conditions in many of the side streams from Pueblo to Lamar. Reports by the Water Commissioner in District No. 17 were to the effect that 24,000 c.f.s. had passed the Oxford Dam. Streams below Caddoa were furnishing water to District No. 67 and to Kansas. The gates on Caddoa Dam were closed at 6:45 a.m., May 16th, 1957.

A special telephonic meeting of the Administration was held on May 16, 1957 in accordance with Article IV, Section 3 (b) of the By-Laws. On this date the Administration found that there was water in the conservation pool available for release to Water District 67 and to Kansas and notice was given to the State Engineer of Colorado as provided for in Article V F of the Arkansas River Compact.

The above Findings and Notifications were in form similar to those published in the Fifth Annual Arkansas River Compact Administration Report of 1953, Appendix C.

10. Changes in Personnel

Hans Kramer, Brig. Gen., U.S.A., Ret., who had served as Chairman of the Compact Commission during the drafting of the Arkansas River Compact, and as Chairman and Representative of the United

States on the Administration since it was organized in 1949, died February 16, 1957.

The sentiments of the Administration were expressed in a Resolution adopted March 29, 1957, which is incorporated in this report, Appendix "C".

The Chairmanship remained vacant until August 14, 1957, when President Eisenhower appointed Carl G. Paulsen, 4000 Cathedral Avenue N. W., Washington, D. C., former chief hydraulic engineer of U. S. Geological Survey to serve as Representative of the United States.

The terms of four members expired during the year, Roland H. Tate and William E. Leavitt representing Kansas and Harry B. Mendenhall and Harry C. Nevius representing Colorado. All four had served since the Administration was organized in 1949 and the first three had also served on the Kansas-Colorado Compact Commission during the drafting of the Compact. The fourth member had served as Administration Secretary from the organization date.

A resolution was adopted October 22, 1957 expressing gratitude for the services of the members of the Administration who retired during the Compact Year, and is included in this report as Appendix "D".

On May 20, 1957, Governor Docking of Kansas appointed Logan N. Green of Garden City to succeed Roland H. Tate and Carl E. Bentrup of Deerfield to succeed William E. Leavitt effective June 7, 1957.

On July 16, 1957, Governor McNichols of Colorado appointed David Jenkins of Las Animas in Water Districts No. 14 and No. 17 to succeed Harry B. Mendenhall and Hacket Smartt of Lamar in Water District No. 67 to succeed Harry C. Nevius.

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

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

IVAN C. CRAWFORD,
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 10, 1957.

APPENDICES

for

Annual Report of the Arkansas River Compact Administration

For the Report-Year November 1, 1956 to October 31, 1957

- 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" —Diversions by Ditches in Colorado Water Districts 14 and 17.
- APPENDIX "B-13" —Diversions by Ditches in Colorado Water District 67.
- APPENDIX "B-14" —Diversions by Ditches in Kansas, Stateline to Garden City.
- APPENDIX "B-15" —Summary Tabulation.
- APPENDIX "C" —Resolution concerning Hans Kramer.
- APPENDIX "D" —Resolution concerning retiring members of the Administration.
- 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 7, 1957

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 8th "Report-Year" November 1, 1956 to October 31, 1957. The results of the audit are expressed in the attached statement of cash receipts and disbursements, Schedule I, Page No. 4. The remarks that 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 October 28, 1955 and authorized for call in the Minutes of the Meeting of October 26, 1956, funds due from Colorado (60% share) of \$1,800.00 and Kansas (40% share) of \$1,200.00 were received for the budget year ending June 30, 1957 and placed on deposit with the First National Bank in Lamar, Colorado, on the respective dates of December 19, 1956 and January 4, 1957.

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 Compacts' meeting, 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 \$26.50. Effective January 1, 1957, the 2% rate was raised to 2.25%, producing an increase of \$2.50 in the amount deducted from the employee. This figure of \$26.50 together with the Administration's contribution of like amount (note

similar increase in rate) are shown under the classification of taxes on Schedule I.

Travel expense of the Secretary for the fiscal year ending October 31, 1957 amounted to \$73.04 or 913 miles at \$0.08 per mile.

Payments made to the U. S. Treasurer totaling \$53.00 during the year were accompanied by related returns referring to Old-Age and Survivor's Insurance information on the Secretary.

Cash in bank at October 31, 1957, per Schedule I, amounting to \$1,299.20 was reconciled to the amount directly confirmed by the First National Bank in Lamar, Colorado.

The following summary compares the Administration's financial position at October 31, 1957 with that of a year ago.

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

COMPARATIVE BALANCE SHEET

	October 31, 1957	October 31, 1956	Increase (Decrease)
ASSETS			
Cash in Bank.....	\$1,299.20	\$ 971.73	\$ 327.47
Equipment (Portable typewriter)....	92.50	92.50	—0—
Total Assets	<u>\$1,391.70</u>	<u>\$1,064.23</u>	<u>\$ 327.47</u>
CAPITAL			
Unexpended fund balance.....	\$1,299.20	\$ 971.73	\$ 327.47
Expended fund balance for equipment	92.50	92.50	—0—
Total Capital	<u>\$1,391.70</u>	<u>\$1,064.23</u>	<u>\$ 327.47</u>

Because the "Budget Year" covers the period July 1, 1956 to June 30, 1957, 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 your review in the following summary.

COMPARISON OF DISBURSEMENTS WITH BUDGET
Budget Year July 1, 1956 to June 30, 1957

Classification	Disbursements	Budget
PERSONAL SERVICES		
Secretary's salary	\$1,200.00	\$1,200.00
Taxes—O.A. and S.I.—Administration's share	25.50	50.00
Gage reports	500.00	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	516.00	600.00
Office publications	—0—	100.00
Travel expense—Secretary	100.00	150.00
Typing and mailing	10.00	200.00
Investigation and inspection	—0—	150.00
Telephone and telegraph	208.35	300.00
Office supplies and repairs	42.71	150.00
Totals	<u>\$2,692.56</u>	<u>\$3,800.00</u>

The Secretary-Treasurer advises the Administration's Budget for the fiscal year July 1, 1957 to June 30, 1958, as approved in the Minutes of the Meeting of October 26, 1956, provides for expenditures totaling \$3,800.00. Of this amount, \$800.00 is to come from the excess of funds at June 30, 1957, supplemented by an appropriation of \$3,000.00 from the States of Colorado and Kansas in the respective amounts of \$1,800.00 and \$1,200.00.

Respectfully submitted,

ROBERT W. ROLLINS,
Certified Public Accountant.

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

NOVEMBER 1, 1956 TO OCTOBER 31, 1957

(Refer to comments in text of audit)

CASH IN BANK AT NOVEMBER 1, 1956 (Per Audit).....\$ 971.73

RECEIPTS

Revenue from assessments	
Colorado portion 60%.....	\$1,800.00
Kansas portion 40%.....	1,200.00
Total Receipts	<u>3,000.00</u>
Total Available Funds.....	<u>\$3,971.73</u>

DISBURSEMENTS

Salary of secretary.....	\$1,200.00
Less: O.A. and S.I. deductions.....	26.50
Sub-total	1,173.50
Printing—Annual report	516.00
Telephone and telegraph.....	204.85
Travel expense of secretary.....	73.04
Audit fee (fiscal year ended October 31, 1956).....	65.00
Taxes—O.A. and S.I. Payments	
Deductions from employees..	\$26.50
Administration's portion	53.00
Premium on secretary-treasurer bond.....	25.00
Typing and mailing.....	21.50
Office supplies, stationery, etc.....	40.64
Stream-gaging expense of U. S. Geological Survey	500.00
Total Disbursements	<u>2,672.53</u>

CASH IN BANK AT OCTOBER 31, 1957.....\$1,299.20

CASH ON DEPOSIT AT THE FIRST NATIONAL BANK IN LAMAR

Per direct confirmation at October 31, 1957....\$1,425.10

Less: Outstanding checks of

No. 223 Treasurer of the U.S...	\$ 4.50
224 Harry C. Nevius.....	97.75
225 Mt. St. T. & T. Co...	19.15
226 Treasurer of the U.S...	4.50
Total outstanding checks.....	<u>125.90</u>
Adjusted bank balance.....	<u>\$1,299.20</u>

APPENDIX "B-1"

* * * *

ARKANSAS RIVER NEAR PUEBLO, COLORADO

ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report-Year Ending October 31, 1957
 U S G S Records—Provisional, subject to revision
 (Colorado State Engineer)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	127	75	70	278	113	89	407	2510	8380	5120	1690	777
2	123	69	61	291	96	273	375	2780	8140	4920	1850	767
3	127	69	73	285	133	332	360	2110	7890	4560	1640	570
4	115	56	73	243	159	276	468	2430	7540	3940	1490	331
5	144	65	75	231	138	209	567	3080	7540	4340	1430	288
6	158	65	55	219	124	240	633	3640	7230	3470	1400	266
7	169	58	126	201	96	290	653	4130	6680	3780	798	288
8	137	43	126	195	52	350	1160	4430	6740	3810	656	851
9	115	66	162	226	42	357	1310	5030	6490	2720	726	452
10	81	125	206	238	40	414	2000	5050	6390	2680	646	433
11	71	159	206	244	42	422	2730	5080	6140	2590	561	467
12	67	151	178	232	22	397	2460	5150	6140	2370	552	408
13	50	131	172	232	29	356	2040	4650	5930	2750	515	383
14	26	114	188	213	34	318	1680	4880	6150	2180	588	434
15	30	118	195	212	32	358	3160	4840	6010	2120	597	408
16	56	98	208	224	43	387	4250	4210	4840	1620	551	400
17	83	103	219	224	36	439	2570	3880	4540	3300	418	451
18	104	102	224	219	44	474	2370	3080	4540	2880	384	461
19	120	87	237	224	51	438	2030	2660	4560	1760	392	460
20	138	90	225	224	35	356	1990	2820	4590	1350	369	523
21	141	98	231	182	35	295	1650	3620	4620	1370	401	496
22	206	79	256	151	37	289	1500	4580	4990	1820	469	460
23	151	98	267	145	59	317	1390	3740	5350	1730	469	468
24	114	91	263	121	79	296	1230	3520	4620	1950	469	468
25	79	138	223	102	35	242	1070	4150	4620	1700	426	460
26	80	147	147	93	23	230	942	5410	4550	1630	409	468
27	101	92	196	88	43	242	877	6680	4550	1730	435	486
28	93	90	242	125	43	359	845	7590	5480	2250	716	451
29	87	98	279	34	34	375	836	8510	4620	1510	757	417
30	86	89	251	29	29	407	1090	8410	4540	1500	757	383
31		84	314	37	37		1310		4660	1570		376
TOTAL												
sec. ft.	3179	2948	5748	5662	1815	9827	45933	132650	179060	81020	22561	14351
ac. ft.	6310	5850	11400	11230	3600	19490	91110	263100	355200	160700	44750	28460
(a) ac. ft.									6910	10900	8740	2400
(b) ac. ft.	4100	6630	1490									
(c) ac. ft.	10410	12480	12890	11230	3600	19490	91110	263100	348290	149800	36010	26060
(a) Less upstream reservoir and transmountain water.												
(b) Plus Bessemer waste below Pueblo gage.												
(c) Corrected total Ac. Ft.												
THE YEAR 1,001,000 Acre Feet												
CORRECTED 984,470 Acre Feet												

APPENDIX "B-2"

* * * *

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report-Year Ending October 31, 1957

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	12	7.9	9.2	10	8.2	8.7	215	350	3,430	3,320	29	7.8
2	9.6	7.9	9.2	11	8.2	622	202	1,280	3,510	2,300	17	17
3	6.9	7.9	9.2	12	8.2	242	198	1,580	4,140	2,280	32	25
4	5.6	7.7	9.2	12	10	19	225	460	4,700	2,650	32	19
5	5.1	7.7	9.2	9.2	9.6	12	275	162	3,320	2,210	25	28
6	4.5	7.4	8.7	9.2	9.6	9.4	312	360	3,170	2,010	25	18
7	4.2	7.9	8.7	8.7	9.2	12	485	887	3,210	910	22	24
8	4.2	7.4	8.7	8.2	9.2	9.4	500	1,750	2,070	650	20	2,130
9	4.5	7.2	8.7	7.9	9.2	8.5	547	2,120	2,700	1,070	17	1,110
10	4.9	7.4	9.2	7.7	8.2	8.5	510	2,310	3,610	1,430	16	125
11	5.1	7.4	9.2	7.7	7.9	11	660	2,360	3,660	532	35	82
12	5.1	7.4	9.2	7.7	7.9	18	510	5,330	2,810	234	24	61
13	5.1	7.4	8.7	7.7	7.9	15	371	3,570	3,230	131	25	93
14	4.9	7.9	8.7	7.7	7.9	14	485	2,210	3,470	63	30	147
15	4.5	7.7	8.7	7.4	7.7	8.5	596	1,780	3,320	96	44	110
16	4.5	7.7	8.7	7.4	7.7	8.2	5,430	1,990	3,260	30	22	74
17	4.2	7.9	9.2	7.4	7.7	8.5	15,700	1,530	2,890	24	34	63
18	4.3	7.7	9.2	7.2	7.4	7.3	2,050	1,090	1,790	85	21	182
19	4.3	7.4	9.2	6.9	7.4	6.8	421	657	1,640	764	4.6	230
20	4.0	7.7	8.2	6.9	7.4	432	432	556	2,750	250	7.0	140
21	4.5	7.7	7.9	7.2	7.4	42	416	526	3,920	113	9.4	110
22	4.5	7.4	7.9	7.2	7.4	328	145	246	3,080	42	14	144
23	4.5	7.4	8.2	7.7	6.6	380	112	310	2,850	44	20	78
24	4.5	7.4	7.9	7.4	5.2	440	94	490	2,900	51	7.4	69
25	4.7	8.2	7.9	7.9	6.6	335	78	158	2,090	20	9.8	59
26	4.9	8.2	7.6	7.7	6.1	252	148	51	2,720	35	24	85
27	5.1	8.2	7.4	7.7	6.4	250	72	480	2,630	52	14	88
28	4.9	8.7	7.0	7.7	6.4	252	30	2,110	2,710	32	16	80
29	4.9	8.7	7.2	7.7	6.1	134	17	2,140	2,850	521	14	88
30	5.2	8.7	8.0	8.7	8.7	222	23	3,030	2,650	276	9.0	104
31		8.7	9.0	11	11	82	82		2,420	38		88
TOTAL												
sec. ft.	155.2	241.9	265.0	230.4	244.4	3,690.7	31,341	41,873	93,500	22,263	619.2	5,678.8
ac. ft.	308	480	526	457	485	7,320	62,160	83,050	185,500	44,160	1,230	11,260
								THE YEAR 396,900 Acre Feet.				

APPENDIX "B-3"

* * * *

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report-Year ending October 31, 1957

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	1.5	2.3	3.9	11	2.9	4.4	365	248	72	468	155	11
2	1.8	2.2	3.8	11	2.7	1,190	332	2,170	48	516	106	11
3	2.0	2.3	3.2	9.0	2.9	1,210	276	1,470	50	330	56	13
4	2.3	2.6	3.1	10	3.8	252	224	631	48	284	34	11
5	2.6	2.7	2.7	10	4.9	135	170	456	40	188	102	11
6	2.9	2.6	2.4	7.0	4.6	36	95	167	67	223	85	13
7	3.4	2.7	2.2	11	3.8	20	48	122	75	275	58	24
8	3.9	2.7	2.6	8.0	3.6	63	36	216	53	330	46	877
9	3.5	2.7	2.4	2.6	3.6	6.0	46	266	56	132	44	181
10	3.4	2.7	2.7	2.4	3.5	6.0	46	390	48	141	42	61
11	3.2	3.4	4.2	2.2	3.4	6.0	34	480	136	146	72	42
12	3.1	3.6	5.5	2.2	2.9	6.0	32	302	380	99	67	32
13	2.9	3.6	5.5	2.2	2.7	5.8	34	370	174	32	64	8.6
14	2.9	3.9	5.6	2.2	2.6	5.8	63	444	136	13	755	9.6
15	3.1	3.9	5.5	2.1	2.3	5.8	71	390	61	78	239	29
16	3.1	3.9	5.0	2.2	2.1	5.8	1,020	160	127	34	102	23
17	3.1	4.1	5.2	2.0	1.8	5.8	1,180	257	340	141	56	20
18	3.1	4.1	5.6	2.0	1.7	5.6	2,130	432	195	18	36	34
19	3.1	4.1	6.4	2.0	2.0	5.6	1,150	370	85	50	27	27
20	3.4	4.2	7.2	2.0	2.2	5.8	458	380	136	132	29	24
21	3.2	4.2	7.2	2.1	2.4	9.6	339	239	540	85	32	102
22	3.2	4.1	6.0	2.2	2.2	29	380	230	1,220	30	30	155
23	3.2	4.2	6.0	2.3	2.3	24	306	330	644	24	36	92
24	3.2	4.2	5.4	2.6	2.3	41	185	230	340	38	17	67
25	3.1	4.6	5.0	2.7	2.3	19	155	113	320	30	14	58
26	2.9	4.1	6.0	2.6	2.3	12	140	92	540	24	19	64
27	2.8	5.8	7.6	2.6	2.3	53	43	99	504	28	30	67
28	2.8	4.2	9.2	2.6	2.9	36	86	96	216	11	61	46
29	2.6	3.9	8.0	2.6	2.9	46	29	75	266	61	67	34
30	2.4	4.7	9.2	2.6	3.8	288	5.1	70	444	181	21	40
31		3.9	9.8	4.6			60		151	202		36
TOTAL												
sec. ft.	87.7	114.2	164.5	123.0	90.9	3,538.0	9,538.1	11,295	7,512	4,344	2,502	2,223.2
ac. ft.	174	227	326	244	180	7,020	18,920	22,400	14,900	8,620	4,960	4,410

THE YEAR 82,380 Acre Feet.

APPENDIX "B-4"

* * * *

INFLOW INTO JOHN MARTIN RESERVOIR

INFLOW INTO JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1957

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	14	10	13	21	11	13	580	598	3,500	3,790	184	19
2	11	10	13	22	11	1,810	534	3,450	3,560	2,820	123	28
3	8.9	10	12	21	11	1,450	474	3,050	4,190	2,610	88	38
4	7.9	10	12	22	14	271	449	1,090	4,750	2,930	66	30
5	7.7	10	12	19	14	147	445	618	3,360	2,400	127	39
6	7.4	10	11	16	14	45	407	527	3,240	2,230	110	31
7	7.6	11	11	20	13	32	533	1,010	3,280	1,180	80	48
8	8.1	10	11	16	13	72	536	1,970	2,120	980	66	3,010
9	8.0	9.9	11	10	13	14	593	2,390	2,760	1,200	61	1,290
10	8.3	10	12	10	12	14	556	2,700	3,660	1,570	58	186
11	8.3	11	13	10	11	17	694	2,840	3,800	678	107	124
12	8.2	13	15	9.9	11	24	542	5,630	3,190	333	91	93
13	8.0	11	14	9.9	11	21	405	3,940	3,400	163	89	102
14	7.8	12	14	9.5	10	20	548	2,650	3,610	76	785	157
15	7.6	12	14	9.5	10	14	667	2,170	3,380	174	283	139
16	7.6	12	14	9.6	9.8	14	6,450	2,150	3,390	64	124	97
17	7.3	12	14	9.4	9.5	14	16,900	1,790	3,230	165	90	83
18	7.4	12	15	9.2	9.1	13	4,180	1,520	1,980	103	57	216
19	7.4	12	16	8.9	9.4	12	1,570	1,030	1,720	814	32	257
20	7.4	12	16	8.9	9.6	13	890	936	2,890	382	36	164
21	7.7	12	15	9.3	9.8	52	755	765	4,460	198	41	212
22	7.7	12	14	9.4	9.6	357	525	476	4,300	72	44	299
23	7.7	12	14	10	8.9	404	418	640	3,490	68	56	170
24	7.7	12	13	10	7.5	481	279	720	3,240	89	24	136
25	7.8	13	13	11	8.9	354	233	271	2,410	50	24	117
26	7.8	12	14	10	8.4	264	288	143	3,260	59	43	149
27	7.9	14	15	10	9.1	303	115	579	3,130	80	44	155
28	7.7	13	16	10	9.3	288	116	2,210	2,930	43	77	126
29	7.5	13	15	10	9.0	180	46	2,220	3,120	582	81	122
30	7.6	13	17	12	12	510	28	3,100	3,090	457	30	144
31		13	19	16	16		142		2,570	240		124
TOTAL	243.0	358.9	428	351.9	334.9	7,223	40,898	53,183	101,010	26,600	3,121	7,905
sec. ft.	482	712	849	698	664	14,330	81,120	105,500	200,400	52,760	6,190	15,680
ac. ft.												
THE YEAR 479,400 Acre Feet.												

* * * *

CONTENTS OF JOHN MARTIN RESERVOIR

CONTENTS OF JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1957
 Corps of Engineers records—Provisional, subject to revision
 Midnight contents in Acre Feet from capacity table dated December 1, 1956 (Nov. 1-May 19)
 and
 Midnight contents in Acre Feet from capacity table dated March 1, 1956 (May 20-Oct. 31)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	0	780	1854	2966	3901	0	51179	145410	277685	246686	223819
2	0	0	827	1903	2999	5555	0	58702	150753	281332	244776	222201
3	0	0	874	1959	3033	9782	0	62930	157632	283956	242875	220589
4	0	0	912	2035	3066	10690	0	65678	166916	286490	240795	218985
5	0	0	959	2098	3099	11005	0	66640	172522	288399	238819	217034
6	0	0	1006	2154	3149	11186	0	68511	177484	290744	236946	215271
7	0	0	1044	2224	3199	11447	0	69502	181368	290744	234896	213517
8	0	40	1078	2273	3232	11624	0	73094	183253	290316	233319	218541
9	0	63	1115	2322	3290	11660	0	77171	186903	289463	231657	222201
10	0	87	1148	2363	3315	11677	0	82982	191414	289250	230737	222291
11	0	148	1176	2391	3348	11749	0	87221	195341	289037	229636	222201
12	0	178	1204	2419	3367	11855	0	98951	198321	287125	228903	221931
13	0	210	1242	2461	3396	11482	0	107657	202092	285010	228173	221842
14	0	230	1277	2482	3416	10806	0	112975	206765	282905	228538	221662
15	0	260	1306	2503	3426	10030	0	117539	210210	280600	228720	221662
16	0	288	1311	2550	3464	9188	9449	122104	213342	277893	228355	221304
17	0	315	1346	2592	3474	7861	32341	125791	215888	275304	228173	221126
18	0	347	1386	2600	3513	6258	44033	127913	216770	273347	227990	221036
19	0	375	1415	2633	3532	4201	47517	129298	217477	272014	227808	221036
20	0	392	1450	2700	3571	2329	46626	129931	220322	269970	227534	221036
21	0	410	1496	2708	3600	582	47675	130503	227079	268037	227352	221215
22	0	435	1530	2725	3620	0	48544	130312	230737	265608	227079	221394
23	0	452	1565	2766	3649	0	49129	130122	234989	263393	226897	221126
24	0	465	1600	2799	3649	0	49817	130249	239100	261089	226715	221036
25	0	510	1617	2849	3678	0	50081	129931	243825	258696	226534	220857
26	0	543	1646	2882	3697	0	50445	129425	249862	256416	226352	220768
27	0	588	1692	2907	3726	0	50611	129298	254937	254053	226170	220589
28	0	647	1727	2949	3755	0	50678	132225	259393	252486	225989	220411
29	0	683	1761	3804	3842	0	50511	135323	264398	251511	225626	220232
30	0	719	1784	3882	3882	0	50511	140977	268138	250056	225083	220143
31	0	745	1807	3891	3891	0	50678	271297	271297	248222	225054	220054

APPENDIX "B-6"

* * * *

OUTFLOW FROM JOHN MARTIN RESERVOIR

OUTFLOW FROM JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1957

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	24	21	2.0	1.1	2.0	1.8	400	138	562	430	976	592
2	28	24	2.0	1.0	2.0	3.2	390	115	623	610	936	775
3	24	22	2.0	1.0	2.0	2.2	358	22	682	1,000	976	796
4	24	22	2.0	1.0	2.0	1.8	362	4.4	701	1,280	1,070	810
5	24	22	2.0	1.6	1.8	1.6	318	2.2	694	1,280	1,040	810
6	26	15	1.8	1.3	1.8	1.6	300	2.0	810	1,010	1,020	810
7	25	5.2	1.8	1.3	1.6	2.2	400	1.8	1,130	880	936	810
8	22	1.6	1.6	1.6	1.6	1.6	490	2.0	1,120	1,220	838	495
9	25	.6	1.5	1.8	1.8	1.6	550	1.8	1,080	1,310	775	163
10	27	1.8	1.3	2.0	1.5	1.6	727	1.8	1,080	1,310	688	322
11	26	2.2	1.3	2.0	1.5	1.8	740	2.0	1,150	740	538	322
12	25	2.0	1.3	2.0	1.5	2.0	694	1.8	1,200	1,240	390	322
13	26	2.0	1.5	2.0	1.5	2.0	430	1.6	1,220	1,370	385	283
14	30	2.0	1.5	2.0	2.0	3.95	446	69	1,220	1,320	243	219
15	31	2.0	1.6	2.0	1.8	420	474	129	1,220	1,260	168	177
16	28	2.0	1.5	2.2	1.8	474	438	115	1,250	1,310	165	174
17	30	2.0	1.3	2.3	1.6	734	5.2	95	1,260	1,280	159	174
18	31	2.3	1.3	2.5	1.5	936	2.8	95	1,250	880	126	174
19	25	3.2	1.5	2.5	1.3	944	2.8	165	1,240	1,050	100	174
20	20	2.8	1.6	2.3	1.3	936	2.8	283	1,240	1,240	100	174
21	28	2.8	1.6	2.3	1.5	936	2.8	400	1,250	1,200	102	174
22	26	2.8	2.0	2.3	1.1	888	2.5	490	1,240	1,180	102	174
23	24	2.8	1.8	2.3	1.1	538	2.3	474	1,250	1,230	102	174
24	26	2.5	1.8	2.3	1.0	520	2.5	435	1,280	1,220	105	180
25	27	2.5	1.8	2.2	1.3	446	2.0	425	366	1,180	105	180
26	28	2.0	1.8	1.8	1.1	385	71	420	12	1,220	105	180
27	31	2.0	1.8	2.0	1.3	372	115	474	202	1,220	105	180
28	28	1.8	2.0	2.0	1.3	336	156	508	610	1,020	123	180
29	24	1.8	2.0	2.0	1.3	304	177	502	720	880	138	180
30	21	1.8	1.5	1.5	1.3	358	165	502	701	1,170	285	180
31		1.8	1.3	1.3	1.3				675	1,080		174
TOTAL	784	182.3	51.8	52.5	47.5	10,165.0	8,228.7	5,800.4	29,038	34,620	12,901	10,532
sec. ft.	1,560	362	103	104	94	20,160	16,320	11,500	57,600	68,670	25,590	20,890
ac. ft.												
THE YEAR 223,000 Acre Feet.												

APPENDIX "B-7"

* * * *

ARKANSAS RIVER AT THE COLORADO-KANSAS
STATELINE

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report-Year ending October 31, 1957
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	24	38	41	50	43	57	141	345	107	714	543	77
2	33	36	41	56	43	73	125	524	89	591	500	77
3	38	35	41	60	43	75	111	503	70	410	501	160
4	40	33	41	54	44	65	115	791	57	440	561	273
5	40	32	41	61	46	57	106	442	52	789	602	315
6	43	33	41	61	52	48	96	298	48	708	621	341
7	43	43	43	64	48	50	86	254	45	989	660	370
8	43	36	48	67	52	48	73	218	114	641	653	411
9	42	33	38	67	50	52	83	320	260	593	610	1170
10	42	33	50	62	48	46	111	242	326	537	640	565
11	38	32	56	57	44	43	202	227	254	1780	839	349
12	42	36	66	57	44	41	186	832	292	581	636	318
13	43	36	59	55	44	41	227	442	347	579	485	310
14	43	35	48	50	46	41	206	246	393	667	452	286
15	43	38	45	52	46	50	147	340	423	605	432	272
16	51	43	47	50	46	53	5100	286	404	565	342	239
17	47	51	51	53	46	41	4300	206	392	570	315	196
18	48	48	46	52	46	39	1100	154	445	646	298	168
19	47	46	42	50	46	80	1000	115	468	654	262	172
20	37	43	40	55	46	180	824	96	529	386	242	173
21	33	41	42	50	52	219	906	80	539	510	214	171
22	36	41	45	37	50	263	486	79	542	500	178	157
23	38	36	43	43	44	372	351	232	496	474	146	137
24	41	35	39	57	65	287	286	303	470	483	126	134
25	43	32	33	50	115	165	251	283	663	536	112	148
26	43	32	35	46	55	138	276	201	2470	509	104	157
27	41	33	35	43	62	1480	266	156	703	512	105	153
28	41	41	36	43	67	414	235	131	357	522	89	160
29	46	41	37	43	70	214	238	130	374	583	81	159
30	38	38	41	62	62	183	330	135	491	405	82	141
31		38	45	60	60		315		606	480		141
TOTAL												
sec. ft.	1227	1168	1356	1502	1629	4915	18279	8611	12826	18959	11431	7900
ac. ft.	2430	2320	2690	2980	3230	9750	36260	17080	25440	37600	22670	15670

The daily discharges shown are the sum of the flows of the Arkansas River near Coolidge, Kansas, and the Frontier Ditch.

THE YEAR

178,100 Acre Feet.

* * * *

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report-Year ending October 31, 1957

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	5.3	5.0	3.3	1.3	4.4	11.8	1.4	6.22	1.95	2.7	4.3	4.2
2	3.0	6.1	3.3	1.4	3.4	11.6	1.4	5.44	1.73	2.7	2.0	3.8
3	3.0	7.1	3.4	1.7	2.7	12.0	1.6	3.44	1.22	3.0	2.3	4.0
4	2.8	7.4	3.5	2.2	3.9	11.3	1.2	1.90	8.8	3.3	2.0	4.8
5	3.6	7.6	3.8	2.6	4.0	11.0	1.0	1.41	7.5	2.9	1.8	4.2
6	3.6	3.7	3.7	3.1	5.1	10.4	9.6	3.84	5.8	2.9	2.5	3.5
7	5.9	3.2	3.8	5.4	5.6	10.8	9.6	4.08	4.3	5.1	3.6	4.2
8	4.2	3.2	4.1	6.8	4.7	10.0	9.3	3.36	3.8	4.3	3.5	4.8
9	5.0	3.2	3.7	5.8	4.9	10.1	1.1	2.72	3.5	3.8	4.1	6.0
10	3.6	3.2	1.1	3.9	3.7	9.6	1.1	2.76	3.2	1.8	4.9	8.2
11	3.3	3.2	1.1	3.1	5.1	9.3	1.2	3.28	3.4	1.2	7.5	7.6
12	3.6	4.4	1.6	2.9	5.1	8.2	1.0	2.90	3.2	8.0	6.7	3.6
13	3.9	9.0	2.2	2.5	4.9	7.1	1.1	3.95	2.5	5.8	15.4	2.6
14	3.9	1.2	1.3	2.0	5.1	5.8	1.1	6.40	1.6	2.5	1.39	5.2
15	3.9	2.0	1.1	1.9	4.9	5.4	1.1	5.05	2.4	1.5	1.48	4.0
16	3.0	2.0	9.3	2.2	4.2	4.2	1.1	3.96	1.9	1.6	9.9	2.5
17	5.6	2.2	9.6	1.8	3.9	4.4	10.00	4.12	1.5	1.2	6.0	2.1
18	4.2	2.2	9.8	1.6	5.3	3.1	3.290	3.40	1.4	1.0	3.5	2.6
19	4.2	2.5	1.3	1.7	5.3	2.4	1.150	3.44	1.3	1.2	2.6	2.0
20	4.5	2.6	1.4	1.8	5.8	2.0	6.60	1.17	2.6	1.2	2.5	3.0
21	4.4	2.9	2.6	1.6	6.0	1.8	5.62	7.5	1.7	1.8	2.1	3.2
22	3.7	2.9	1.7	4.0	4.2	1.8	4.41	6.6	1.8	1.1	1.7	3.2
23	3.9	2.6	1.0	4.2	7.8	1.7	3.84	11.80	1.7	4.0	1.7	2.6
24	4.5	1.7	1.1	2.2	4.2	1.5	2.29	20.80	1.6	1.1	1.4	2.3
25	4.2	2.2	1.0	3.4	1.6	1.9	1.12	6.75	1.0	1.0	9.0	2.4
26	4.5	2.2	9.3	1.7	6.5	1.4	7.8	4.65	3.5	1.2	6.4	2.8
27	3.7	2.6	7.2	1.1	6.0	1.3	6.2	3.44	4.5	1.4	4.0	3.5
28	4.7	3.2	9.8	6.8	6.2	1.1	5.5	2.76	1.19	1.4	5.4	5.8
29	4.7	3.7	1.0	5.1	5.8	5.1	2.12	2.12	6.5	1.5	6.0	7.1
30	4.9	3.6	1.1	7.6	7.6	3.6	2.11	1.95	4.3	6.9	5.0	8.2
31		3.4	1.1	1.20			1.550		2.5	7.6		8.8
TOTAL	123.3	525.3	598.0	672.0	352.5	1826	10030.5	12852	1487	759.0	1242.8	898.7
sec. ft.	245	1040	1190	1330	699	3620	19900	25490	2950	1510	2470	1780
ac. ft.												

THE YEAR 62,220 Ac Feet.

APPENDIX "B-9"

* * * *

DEMANDS BY COLORADO FOR WATER

DEMANDS BY COLORADO FOR WATER

Report-Year Ending October 31, 1957

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1								45	570	50	600	430
2									620	185	570	450
3									670	625	550	450
4									700	700	550	450
5									700	700	490	450
6									715	600	450	450
7									750	640	360	450
8									750	640	350	400
9									750	720	220	300
10									750	720	185	275
11									* 810	520	200	400
12									* 850	730	200	380
13						290			* 850	* 780	190	340
14						450			* 850	* 850	160	290
15						460		50	* 850	* 820	160	200
16						475		80	* 850	* 775	160	180
17						510		80	* 785	750	160	180
18						* 610		80	750	700	130	180
19						* 650		170	750	700	110	180
20						* 650		270	750	700	110	180
21						* 650		430	750	700	110	180
22						* 555		500	750	700	110	180
23								470	750	725	110	180
24								425	750	730	110	180
25								425	20	700	110	180
26								425	0	700	110	180
27							65	425	0	700	110	180
28							100	490	150	650	125	180
29							100	525	250	635	135	180
30							100	525	250	635	300	180
31							100		220	600		165
TOTAL						5,300	465	5,495	18,960	20,380	7,235	8,580
sec. ft.						10,510	920	10,900	37,600	40,420	14,350	17,020
ac. ft.								THE YEAR	131,720	Ac. Ft.		

* River Flow and Stored Water.

APPENDIX "B-10"

* * * *

DEMANDS BY KANSAS FOR WATER

DEMANDS BY KANSAS FOR WATER

Report-Year Ending October 31, 1957

(Arkansas River Compact Administration records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										500	500	225
2										500	500	350
3										500	500	350
4										500	500	350
5										500	500	350
6										500	500	350
7									125	500	500	350
8									400	500	500	350
9									400	* 750	500	350
10									400	* 750	500	350
11									400	* 750	500	350
12									400	* 750	500	350
13									400	* 750	500	350
14									400	* 750	500	100
15									400	500	500	
16									400	500	425	
17									400	500	350	
18									400	500	350	
19									430	500	125	
20						200			500	500		
21						300			500	500		
22						300			500	500		
23						300			500	500		
24						255			500	500		
25									500	500		
26									500	500		
27									500	500		
28									500	500		
29									500	500		
30									500	500		
31									500	500		
TOTAL												
sec. ft.						1,655			11,655	16,500	6,750	3,125
ac. ft.						3,280			23,120	32,730	13,390	6,200
									THE YEAR	78,720 Ac. Ft.		

* River flow and stored water.

APPENDIX "B-11"

* * * *

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

Report-Year ending October 31, 1957

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										714	543	
2										591	500	
3										410	501	
4										440	561	273
5										789	602	315
6										708	621	341
7										989	660	370
8										641	653	411
9									260	593	610	1,170
10									326	537	640	565
11									254	1,780	839	349
12									292	581	636	318
13									347	579	485	310
14									393	667	452	
15									423	605	432	
16									404	565	342	
17									392	570	315	
18									445	646	298	
19									468	654		
20									529	386		
21						180			539	510		
22						219			542	500		
23						263			496	474		
24						372			470	483		
25						287			663	536		
26						165			2,470	509		
27									703	512		
28									357	522		
29									374	583		
30									491	405		
31									606	480		
TOTAL												
sec. ft.						1,486			12,244	18,959	9,690	4,422
ac. ft.						2,950			24,290	37,600	19,220	8,770

THE YEAR 92,830 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, 1957

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 YEAR
Bessemer (River)	8,212	10,687	3,691	1,085	3,334	2,973	8,467	11,165	18,198	17,706	5,177	4,308	95,003
Wasted Below Pueblo Gage	4,104	6,627	1,490	0	0	0	0	0	0	0	0	0	12,221
Net to Bessemer.....	4,108	4,060	2,201	1,085	3,334	2,973	8,467	11,165	18,198	17,706	5,177	4,308	82,782
West Pueblo (River).....	109	0	0	0	95	179	184	179	363	365	179	184	1,837
Booth-Orchard Gr. (Riv.) ..	0	0	0	323	916	926	871	1,063	1,192	1,139	1,071	692	8,193
Excelsior (River)	0	0	0	0	0	0	591	952	1,666	1,418	0	0	4,627
Collier (River)	0	0	0	0	0	0	428	595	599	563	0	0	2,185
Colorado Canal (River) ..	0	0	0	0	0	0	20,543	26,156	26,654	9,501	0	8,340	91,194
Res. or Imported.....	0	0	0	0	0	0	0	0	6,841	10,800	8,652	2,372	28,665
Total	0	0	0	0	0	0	20,543	26,156	33,495	20,301	8,652	10,712	119,859
Highline (River)	2,890	3,505	4,030	3,570	3,505	5,026	14,690	19,067	25,797	18,791	5,768	6,756	113,395
Oxford Canal (River)	833	333	738	764	831	1,057	2,725	2,698	6,387	5,641	4,056	1,995	28,058
Otero (River)	0	0	0	0	0	0	801	5,615	5,625	2,162	0	0	14,203
Catlin (River)	1,738	2,426	2,409	4,725	530	7,664	9,487	11,407	16,919	15,160	10,219	7,636	93,766
Holbrook (River)	0	0	0	192	0	577	21,287	13,394	21,602	14,995	1,448	5,681	79,176
Rocky Ford (River).....	4,665	2,777	837	3,465	4,112	2,257	4,368	4,780	5,900	5,750	4,479	3,064	46,454
Ft. Lyon Storage (River) ..	0	0	0	0	0	0	23,566	93,334	14,164	0	0	534	131,598
Ft. Lyon Canal (River) ..	8,263	10,157	9,610	10,566	7,236	24,089	46,848	62,031	74,926	62,108	28,310	25,492	369,636
Las Animas Cons. (River) ..	474	1,428	873	1,277	924	2,836	3,870	6,182	8,648	7,375	3,566	2,521	39,974
Las Animas Town (River) ..	450	0	0	0	177	676	906	1,123	1,763	1,472	1,232	932	8,731
TOTAL	23,530	26,522	22,308	25,967	21,660	48,260	159,632	259,741	230,403	164,146	65,505	68,135	1,115,809
River	0	0	0	0	0	0	0	0	6,841	10,800	8,652	2,372	28,665
Res. or Imported.....	23,530	26,522	22,308	25,967	21,660	48,260	159,632	259,741	237,244	174,946	74,157	70,507	1,144,474

¹ Includes 893 Ac. Ft. diverted for Holly Sugar Co.

² Includes 922 Ac. Ft. diverted for Holly Sugar Co.

³ Includes 129 Ac. Ft. diverted for Holly Sugar Co.

APPENDIX "B-13"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report-Year Ending October 31, 1957

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.....	651	214	0	0	0	1,281	1,248	1,607	4,124	5,117	2,807	2,100	19,149
Keecee Ditch	10	0	0	0	0	337	321	341	815	801	434	0	3,059
Amity Canal	0	0	0	0	0	9,053	9,267	4,356	17,621	24,970	7,626	11,996	84,889
Lamar Canal	1,055	589	234	0	0	3,074	4,766	3,661	9,239	8,156	4,618	3,201	38,593
Hyde Ditch	119	24	0	0	50	119	347	256	169	300	173	133	1,690
Manvel Canal	63	182	0	0	77	639	337	40	613	809	647	432	3,839
X. Y. & Graham Canal....	492	405	0	0	69	666	589	543	1,734	1,827	1,500	875	8,700
Buffalo Canal	833	712	240	0	401	1,577	1,617	1,884	2,906	3,283	2,214	1,589	17,256
Sisson Canal	0	0	0	0	0	0	0	0	0	218	105	0	323
TOTAL	3,223	2,126	474	0	597	16,746	18,492	12,688	37,221	45,481	20,124	20,326	177,498

APPENDIX "B-14"

* * * *

DIVERSIONS BY DITCHES IN KANSAS

Report-Year Ending October 31, 1957

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

Other Ditches, Kansas Division of Water Resources Records
(Acre-Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Frontier Ditch	1,040	0	0	0	0	345	1,710	454	1,680	2,650	1,030	511	9,420
Alamo Canal	123	28	0	0	0	0	129	0	20	397	97	0	794
Ft. Aubrey Canal	518	12	0	0	0	143	272	0	504	2,030	490	180	4,149
Total Stateline to Syracuse	1,681	40	0	0	0	488	2,111	454	2,204	5,077	1,617	691	14,363
Amazon Canal	0	0	0	36	869	0	853	930	5,640	3,030	5,790	3,630	20,778
South Side Ditch	0	0	0	2,100	1,790	2,120	1,300	3,440	3,590	4,190	4,850	3,550	26,930
Great Eastern Canal	0	0	0	0	113	2,200	12,000	3,120	734	10,210	6,570	4,390	39,337
Farmer's Ditch	0	0	0	63	522	1,470	2,390	1,640	5,580	6,200	1,640	1,640	21,145
Garden City Canal	147	0	0	4	0	0	18	280	1,230	581	1,105	165	3,530
Total Syracuse to Garden City	147	0	0	2,203	3,294	5,790	16,561	9,410	16,774	24,211	19,955	13,375	111,720
Total Stateline to Garden City	1,828	40	0	2,203	3,294	6,278	18,672	9,864	18,978	29,228	21,572	14,066	126,083

APPENDIX "B-15"

* * * *

SUMMARY TABULATION

(Acre-Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE APP. YEAR	FROM APP. NO.
Arkansas River at Las Animas, Colo.....	308	480	526	457	485	7320	62160	83050	185500	44160	1230	11260	396900	B- 2
Purgatoire River near Las Animas, Colo.....	174	227	326	244	180	7020	18920	22400	14900	8620	4960	4410	82380	B- 3
Inflow to John Martin Reservoir	482	712	849	698	664	14330	81120	105500	200400	52760	6190	15680	479400	B- 4*
Reservoir contents at end of month.....	0	745	1807	2949	3891	0	50678	140977	271297	248222	225083	220054	220054	B- 5
Net change in reservoir storage	0	+745	+1062	+1142	+942	-3891	+50678	+90299	+130320	-23075	-23139	-5029	+220054	B- 5
Outflow from John Martin Reservoir	1560	362	103	104	94	20160	16320	11500	57600	68670	25590	20890	223000	B- 6
Diversions in District 67, Colo.	3223	2126	474	0	597	16746	18492	12688	37221	45481	20124	20326	177498	B-13
Flow at Colorado-Kansas Stateline	2430	2320	2690	2980	3230	9750	36260	17080	25440	37600	22670	15670	178100	B- 7
Diversions in Kansas.....	1828	40	0	2203	3294	6278	18672	9864	18978	29288	21572	14066	126083	B-14
Arkansas River at Garden City, Kansas.....	245	1040	1190	1330	699	3620	19900	25490	2950	1510	2470	1780	62220	B- 8

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

APPENDIX "C"

IN MEMORIAM TO HANS KRAMER

We pause this morning to impose in the record a testimonial to our departed colleague, Hans Kramer, Brigadier General, U. S. A. (Ret.), the Representative of the United States, who departed this life February 16, 1957.

Pursuant to Public Law 34, 79th Congress, 1st Session, the President of the United States in 1945 appointed General Kramer as the Representative of the United States to participate in negotiations between the States of Colorado and Kansas for the settlement of the then existing water use controversies relating to the Arkansas River and its tributaries. As a result of such negotiations a compact was entered into between the two states on December 14, 1948, at Denver, Colorado, and thereafter the compact was formally ratified by the legislature of each state and by Congress and was approved by the President. The services of General Kramer throughout the negotiation of the compact and in the drafting thereof, as well as toward securing its ratification, were invaluable. Upon ratification of the compact by Congress in 1950, General Kramer was appointed by the President as the Representative of the United States to serve on this Administration, and he participated as such representative with fidelity and honor until his death.

The attempt to preserve any record in writing of an individual's life is a vain task, for in the final analysis, no written record whatever its substance can accurately depict the life of a man. The true testimonial consists of the intangibles of the heart and mind rather than the inscriptions upon parchment. The brief tribute uttered today can give but inadequate expression to General Kramer's qualities of mind and heart. A memorial to him is written best in the hearts and minds of all who have benefited by their fortunate association with him. We do well to reflect upon the life of one who has enriched our lives so much.

A few sentences cannot do justice to all that General Kramer passed on to us, the benefactors of his personal associations, friendship, sincerity, graciousness and affection. Words do not properly produce the effective note of loss which comes when a friend and colleague has left us. Accordingly, we express our deep sorrow over his death, cherish the memories exemplified by his life, and give grateful recognition to his contributions to this Administration and to each of us individually.

AND, NOW BE IT RESOLVED, That this memorial be entered at length in the minutes of this Administration, and that the Secretary forward a copy hereof to the family of General Kramer.

APPENDIX "D"

RESOLUTION

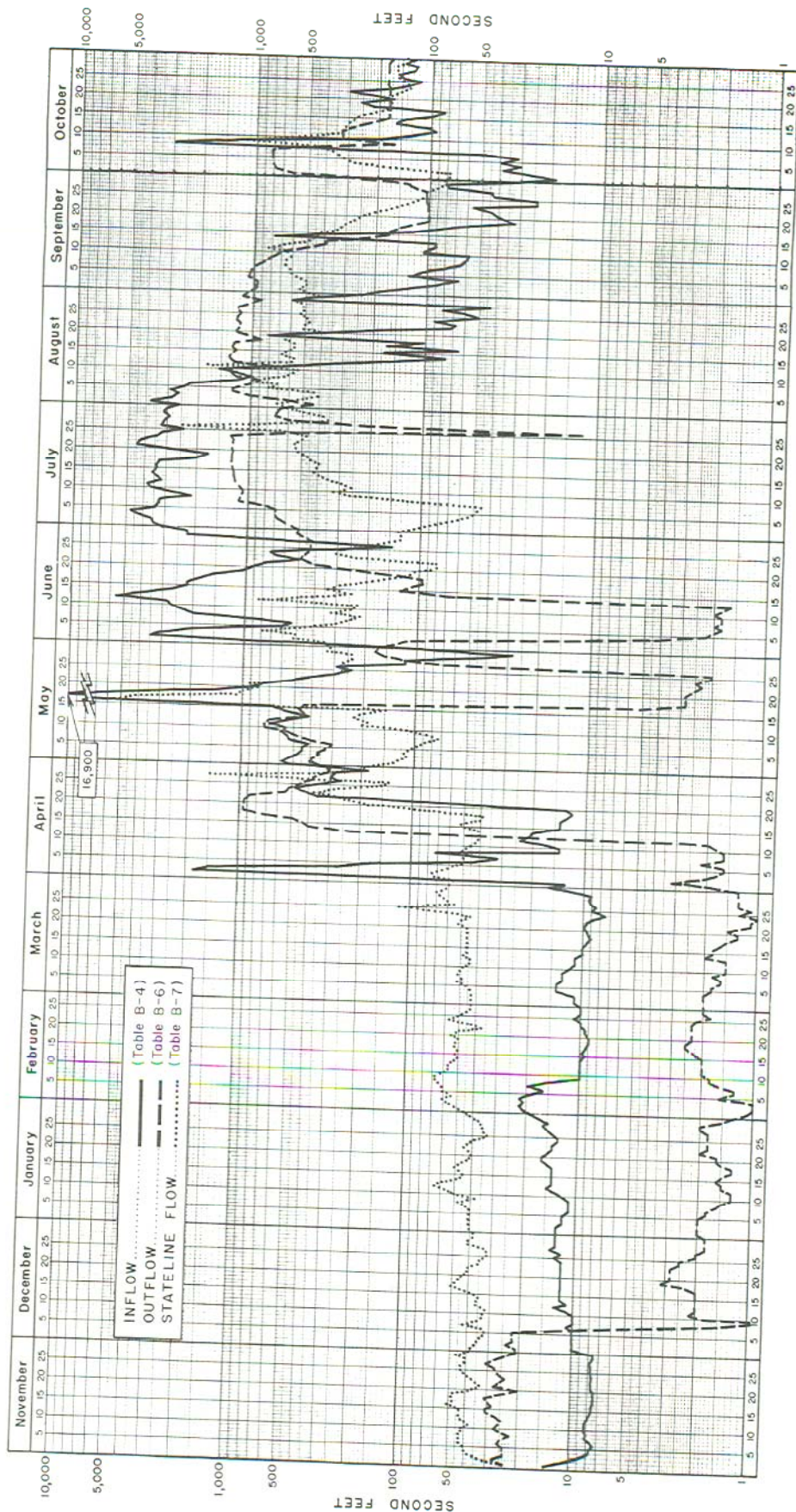
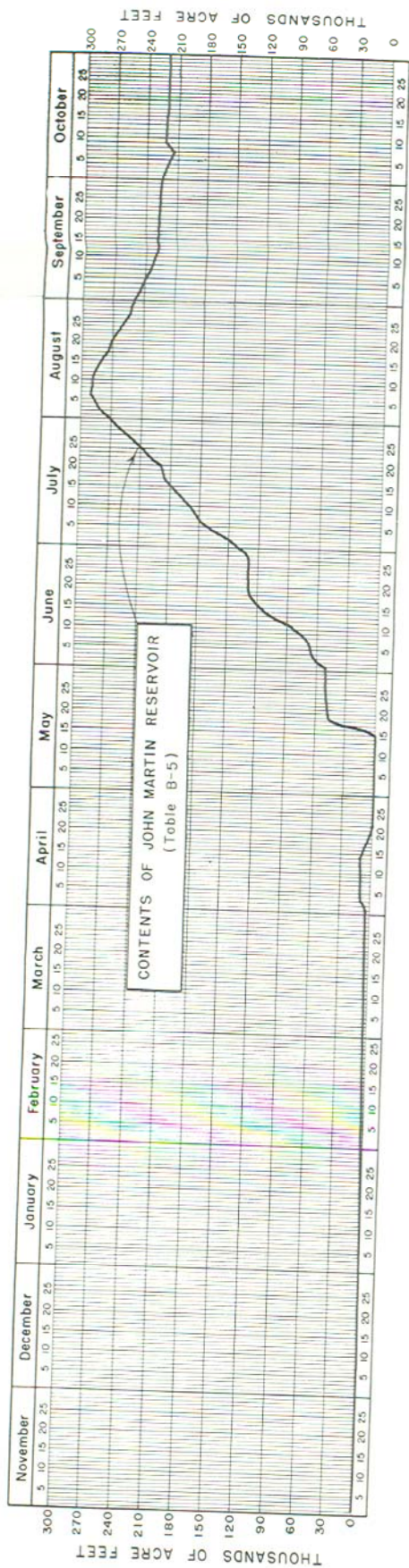
Realizing the gratitude which we, as new members of the Arkansas River Compact Administration, and the public in general should feel toward the members whom we have recently succeeded, it is fitting that we acknowledge the same through the permanent records of our proceedings.

Three of these outgoing members were also members of the Commission which framed the compact. In this connection they have expended freely of their time and talents over a period of many months molding into workable form a compact between the states involved which is a monument to their intellect, perseverance and diplomacy.

All of said members have, since ratification of the compact, pioneered its administration and have worked in harmony and with an unselfish devotion to its success to the end that its fruits have been attained to its highest degree.

BE IT THEREFORE RESOLVED that this administration, in annual meeting assembled, do hereby heartily commend said outgoing members, William E. Leavitt, Garden City, Kansas; Harry C. Nevius, Lamar, Colorado; Harry B. Mendenhall, Rocky Ford, Colorado; and Judge Roland H. Tate, Garden City, Kansas for the fine service which they have so freely rendered.

BE IT FURTHER RESOLVED that this resolution be spread upon the records of this administration and that the secretary be instructed to mail a copy hereof to each of those named herein.



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

Report Year, November 1, 1956 - October 31, 1957