

SEVENTH ANNUAL REPORT

**Arkansas River
Compact
Administration**

(1955)

**For the Report-Year November 1, 1954
To October 31, 1955**

LAMAR, COLORADO

December 13, 1955

Seventh
Annual Report
**ARKANSAS RIVER COMPACT
ADMINISTRATION**

(1955)

For the Report-Year November 1, 1954, to October 31, 1955

LAMAR, COLORADO

December 13, 1955

THE ADMINISTRATION

HANS KRAMER, *Representative of the United States and Chairman*
HARRY C. NEVIUS, *Secretary and Treasurer*

IVAN C. CRAWFORD, HENRY B. MENDENHALL and HARRY C. NEVIUS
for Colorado

WILLIAM E. LEAVITT, R. V. SMRHA and ROLAND H. TATE
for Kansas

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TABLE OF CONTENTS

	Page
Members of the Administration.....	5
Officers of the Administration.....	5
Standing Committees	5
Meetings	6
Fiscal	6
Cooperative Studies and Activities.....	7
Water Supply, Reservoir Operation and Hydrologic Data.....	8
Gaging Stations	10
Findings of Fact by the Administration.....	10
 Appendices:	
Appendix "A"—Auditor's Report	13
Appendix "B-1" —Daily Discharges, Arkansas River near Pueblo, Colorado	17
Appendix "B-2" —Daily Discharges, Arkansas River at Las Animas, Colorado.....	18
Appendix "B-3" —Daily Discharges, Purgatoire River near Las Animas, Colorado.....	19
Appendix "B-4" —Inflow into John Martin Reservoir.....	20
Appendix "B-5" —Daily Contents, John Martin Reservoir.....	21
Appendix "B-6" —Outflow from John Martin Reservoir.....	22
Appendix "B-7" —Daily Discharges, Arkansas River at Colorado-Kansas Stateline	23
Appendix "B-8" —Daily Discharges, Arkansas River at Garden City, Kansas.....	24
Appendix "B-9" —Demands by Colorado for Water.....	25
Appendix "B-10"—Demands by Kansas for Water.....	26
Appendix "B-11"—Stateline Flows on Days of Kansas Demand	27
Appendix "B-12"—Divisions by Ditches in Colorado Water Districts 14 and 17.....	28
Appendix "B-13"—Divisions by Ditches in Colorado Water District 67.....	30
Appendix "B-14"—Divisions by Ditches in Kansas, Stateline to Garden City.....	31
Appendix "B-15"—Summary Tabulation	32
Plate I—Inflow, Outflow and Contents of John Martin Reservoir and Stateline Flow.	

Annual Report of
ARKANSAS RIVER COMPACT ADMINISTRATION
(1955)

Report-Year November 1, 1954, to October 31, 1955

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, 1954, through October 31, 1955 as follows:

1. *Members of the Administration*

Representative of the United States:

Hans Kramer (Brig. General U.S.A.—Ret.)

Colorado Representatives:

Ivan C. Crawford, Denver, Colorado

Harry B. Mendenhall, Rocky Ford, Colorado

Harry C. Nevius, Lamar, Colorado

Kansas Representatives:

William E. Leavitt, Garden City, Kansas

R. V. Smrha, Topeka, Kansas

Roland H. Tate, Garden City, Kansas

2. *Officers of the Administration*

Chairman—Hans Kramer (Brig. General U.S.A.—Ret.)

Vice-Chairman—Roland H. Tate of Garden City, Kansas

Secretary—Harry C. Nevius of Lamar, Colorado

Treasurer—Harry C. Nevius of Lamar, Colorado

3. *Standing Committees*

Administrative and Legal Committees:

Roland H. Tate of Kansas (Chairman) and

Harry C. Nevius of Colorado

Engineering Committee:

R. V. Smrha of Kansas (Chairman) and

Ivan C. Crawford of Colorado

Operations Committee:

Harry B. Mendenhall of Colorado (Chairman) and

William E. Leavitt of Kansas

Hans Kramer, Representative of the United States is ex-officio member of all standing committees.

4. Meetings

December 14, 1954	Lamar, Colorado	Annual Meeting
March 22, 1955	Lamar, Colorado	Regular Meeting
April 9, 1955		Telephonic Meeting
May 19, 1955		Telephonic Meeting
July 12, 1955	Colo. Spgs., Colorado	Regular Meeting
October 28, 1955	Garden City, Kans.	Special Meeting

5. Fiscal

(a) Balance on hand October 31, 1954, Auditor's Report....\$1,514.62

(b) Receipts

Call authorized October 26, 1954	\$2,400.00	
Colorado 60% 12-31-54.....	\$1,440.00	
Kansas 40% 2-16-55.....	960.00	2,400.00
		<u>\$3,914.62</u>

(c) Disbursements by the Administration—Nov. 1, 1954 to Oct. 31, 1955:

Voucher No.	Date	Payee and Purpose	Amount
140	12-31-54	Robert W. Rollins, Audit and Service.....	\$ 65.00
141		Mtn. States T. & T., Nov. & Dec. Service and Tolls	24.10
142		Secretary Salary, Nov. & Dec. (less \$4.00 F.I.C.A.)	196.00
143		Treasurer of U. S., Deposits by States.....	8.00
144	3-10-55	Secretary Salary, Jan. & Feb. (less \$4.00 F.I.C.A.)	196.00
145		Mtn. States T. & T., Jan. & Feb. Service & Tolls....	25.35
146		Peerless Printing Co., Annual Reports.....	476.00
147	4-29-55	Treasurer of U. S., Deposits by States.....	8.00
148		Lamar Daily News, Supplies.....	33.50
149		Mtn. States T. & T., March Service & Tolls.....	19.40
150		Secretary Salary, March & April (less \$4.00 F.I.C.A.)	196.00
151	6-10-55	U. S. Geological Survey, stream gauging, Cooperative agreement	500.00
152		Mtn. States T. & T., April & May Service & Tolls	36.80
153	6-30-55	Secretary Salary, May & June (less \$4.00 F.I.C.A.)	196.00
154		Secretary Mileage, \$71.75; supplies \$6.05; Postage, \$8.00	85.80
155		U. S. Treasurer, Deposit by States.....	12.00
156		Mtn. States T. & T., June Service & Tolls.....	18.85
157	9-30-55	Schoeneth Office Equip. Co., Service & Supplies....	9.89
158		J. L. Wade, Agt., Nat. Surety Co., Treasurers Bond	25.00
159		Mtn. States T. & T., July, Aug., & Sept, Service & Tolls	59.45
160		Secretary Salary, July, Aug. & Sept. (less \$6.00 F.I.C.A.)	294.00
161		Treasurer of U. S., Deposits by States.....	12.00
162	10-31-55	Treasurer of U. S., Deposits by States.....	8.00
163		Secretary Salary, Oct. (less \$2.00 F.I.C.A.).....	98.00
164		Secretary, Mileage	42.70
165		Mtn. States T. & T. Co., Service & Tolls—October	17.15
		Total Disbursements	<u>\$2,662.99</u>

(d) Balance on hand October 31, 1955.....\$1,251.63

- (e) On October 28, 1955, the Administration approved a budget for the fiscal year July 1, 1956, to June 30, 1957, for transmittal to the Governor of each of the States of Colorado and Kansas in accordance with Article VIII 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 1956-57.....		3,800.00
Estimated Carry-over as of June 30, 1956.....		800.00
		<hr/>
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
		<hr/>
		\$3,000.00

- (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, 1954 through October 31, 1955, 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 and with the Federal agencies in a systematic determination and correlation of the facts as to the flow and diversion of the waters of the Arkansas River and as 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 Reclamation, and the Chief of Engineers, United States Army, to collaborate with the Administration and with appropriate State officials in such determination and correlation of stream flow and related data. The carrying out of these cooperative studies and activities is assigned, under the By-Laws of the Administration, to the Engineering Committee.
- (b) During the period covered by this report, the Administration has had the benefit of excellent cooperation from all its agencies

referred to in the above provisions of the Compact. The Corps of Engineers has continued to operate John Martin Reservoir in accordance with the provisions of the Compact. The United States Geological Survey has also continued with the operation of the Compact gaging stations and the compilation of hydrologic data presented in this report and utilized in the administration of the Compact. To assist that agency in defraying the costs of operating the radio stage reporting gages and performing other non-routine work required for the administration of the Compact, the Administration entered into cooperative agreements with the Geological Survey for the fiscal years ending June 30, 1955, and June 30, 1956. Under the terms of these agreements, \$500 was provided by the Administration and a substantially equal amount by the Geological Survey for the above described purposes, in each of these fiscal years.

7. Water Supply, Reservoir Operation and Hydrologic Data

Continuing for the third year in succession, John Martin Reservoir again was empty at the beginning of the Compact year on November 1, 1954. Passage of river flow up to 100 cfs. continued until the storage of winter flows was started at 9:20 A.M. on December 29, 1954; winter storage continued to the opening of the irrigation season on April 1, 1955, at which time the reservoir contained 6,033 acre-feet of water. The sharp downward trend in winter water inflow of the past few years prevailed during this period, receding to 40% of the extreme low which had been experienced in the same season last year. The accumulation of water in storage continued through April 10, 1955, reaching a total volume of 6,178 acre-feet before releases were commenced. Based upon the concurrent demands of both States, releases of water from the Reservoir were made beginning at 8:00 A.M. on April 11, 1955, and continued until the Reservoir was empty at noon on April 17, 1955.

During the week of May 17 to 23, 1955, heavy precipitation occurred over the plains and lower mountains of eastern Colorado and northeastern New Mexico and over the plains of western Kansas. In the Arkansas River basin above John Martin Reservoir total rainfall during the storm period ranged from 2 inches at the dam to 13.59 inches near the headwaters of the Purgatoire River. A large part of the area west of a meridian through Pueblo received in excess of 5 inches of rain. The resulting runoff produced peak discharges at Las Animas of 45,000 cubic feet per second on the Arkansas River and 70,000 cubic feet per second on the Purgatoire River. The gates at John Martin Reservoir were closed at 7:00 A.M. on May 19, 1955, and the total volume of the upstream flood, amounting to 260,000 acre-feet, was collected in storage.

The storm rainfall in that part of the basin between John Martin Dam and the Stateline was generally less than 2 inches north of the river and ranged from 3 to 5 inches on tributaries south of the river. Along the valley from the Stateline to Garden City there was generally about 3½ inches of rain.

The Reservoir outlet gates remained closed until 8:00 A.M. on May 24, 1955, at which time releases were commenced to meet demands for water by the State of Colorado, which continued to the end of the irrigation season. Stateline flows met needs in Kansas until June 24, 1955. Releases from the Reservoir then were increased to meet Kansas' demands, which continued through October 7, 1955. Kansas requirements were met by stateline flows during the remainder of the month.

Storage in the Reservoir reached a peak of 244,493 acre-feet during the first week of June. It was drawn down steadily to 132,275 acre-feet on August 6. During the following week, there was recovery from freshets to a volume of 152,773 acre-feet on August 12. Later in the month another freshet maintained storage in the Reservoir at 138,742 acre-feet for three days. From that point on August 23 there was a constant decline in storage until the end of the irrigation season which closed on October 31 with 47,413 acre-feet of water left in the Reservoir.

The total releases from the Reservoir during the periods April 11 to 17 and May 24 to October 31 amounted to 263,280 acre-feet. Stateline flow during the corresponding periods, allowing three days for water from the Reservoir to reach the Stateline, amounted to 113,240 acre-feet.

River flow was passed through the Reservoir averaging:

22 second-feet from November 1, 1954 to December 29, 1954

5 second-feet from December 29, 1954 to April 10, 1955, and

27 second-feet from April 18, 1955 to May 24, 1955.

Stateline flow for corresponding periods, disregarding local runoff during the week of May 17 to 24, averaged: 41 second-feet, 48 second-feet, and 35 second-feet, respectively.

The total discharge for the year at Garden City was 51,600 acre feet. Approximately one-half of it occurred as local runoff during the storm period in the week of May 19 to 26. With this exception, the average discharge was about 35 cubic feet per second. Total diversions by Kansas ditches during the irrigation season amounted to more than 75% of the water which crossed the Stateline in this time.

The inflow, outflow and storage at the John Martin Reservoir and Stateline flow for the report-year are shown in graphs on Plate I.

Hydrologic data as listed below are presented in Appendix B:

B-1 Daily discharges, Arkansas River near Pueblo, Colorado.
monthly totals corrected for transmountain water.

B-2. Daily discharges, Arkansas River at Las Animas, Colorado.

B-3. Daily discharges Purgatoire River near Las Animas, Colorado.

B-4. Inflow into John Martin Reservoir.

B-5. Daily contents, John Martin Reservoir.

B-6. Outflow from John Martin Reservoir.

B-7. Daily discharges, Arkansas River at the Colorado-Kansas Stateline.

B-8. Daily discharges, Arkansas River at Garden City, Kansas.

B-9. Demands by Colorado for water.

B-10. Demands by Kansas for water.

B-11. Stateline flows on days of Kansas demand.

- B-12. Diversions by ditches in Colorado Water Districts 14 and 17.
- B-13. Diversions by ditches in Colorado Water District 67.
- B-14. Diversions by ditches in Kansas, Stateline to Garden City.
- B-15. Summary tabulation.

8. Gaging Stations

The disastrous May flood on the Purgatoire River near Las Animas destroyed the left end of the highway bridge and the new left bank gaging station which was attached to the bridge. However, the stream bed again shifted to the right bank so a recording gage was installed in the right bank gaging structure with little loss in record. The other Compact stations were continued in operation throughout the year with only minor operating difficulties.

Although not required for administration of the Compact, gaging stations have been established with the cooperation of the City of Trinidad on the Arkansas River at the Hoehne Dam and on San Francisco Creek near Alfalfa. Records from these stations will be useful to the Administration in determining the effect of upstream developments on the water supply for John Martin Reservoir.

4--Arkansas River Compact--7970--

Since the May floods on the Arkansas and Purgatoire Rivers were the most destructive in recent years, the Geological Survey collected information on peak discharge at about forty points on these streams and their tributaries. When checked for accuracy and interpreted these data will form the basis for a complete report on the flood.

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 9, 1955, the question of finding the Reservoir empty of winter stored water on April 17, 1955 and giving notice to the State Engineer of Colorado that priority administration would commence on April 14, 1955. As a result of affirmative action taken on April 9, 1955 the State Engineer of Colorado was notified that, on April 14, 1955, 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 Compact.

The Reservoir was emptied April 17, 1955 at 12 Noon.

(b) General rains throughout the valley on May 18 and 19 caused runoff below the dam in such quantity that the gates were closed on the dam at 7 A.M., May 19, 1955.

On May 19, 1955, the administration in accordance with Article IV Section 3 (b) of the By-Laws, determined that there was in the Conservation Pool, and in the Purgatoire and Arkansas Rivers as recorded at the Las Animas gaging stations, water available at 6 P.M. May 19, 1955 for release to water users in Kansas, and Colorado Water District No. 67 as provided in the compact and notice was given this date to the State Engineer of Colorado under the provisions of 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.

(c) The Administration was afforded opportunity by the Chief of Engineers, U. S. Army, to review and comment on the Corps of Engineers' Review Report on Survey for Flood Control, Purgatoire (Picket Wire) River, Colorado. The Administration's interest in this matter stemmed from the provisions of Article IV-D of the Arkansas River Compact.

At its meeting on December 14, 1954 the Administration adopted the following motion:

"The Administration does not at this time approve the project as proposed by the Corps of Engineers on the Purgatoire River."

At its meeting on July 12, 1955 the Administration, upon reconsideration, adopted the following motion:

"The Arkansas River Compact Administration approves the flood control project on the Purgatoire River subject to an operating procedure to be approved by the affected water users in Colorado and Kansas, the State of Kansas and the Administration."

The Chief of Engineers was duly informed of the above actions.

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

By:

HANS KRAMER,
Representative of the United States and Chairman

IVAN C. CRAWFORD,
HARRY B. MENDENHALL,
HARRY C. NEVIUS,
Colorado Members of the Administration

WILLIAM E. LEAVITT,
R. V. SMRHA,
ROLAND H. TATE,
Kansas Members of the Administration.

Lamar, Colorado
December 13, 1955.

APPENDICES

for

Annual Report of The Arkansas River Compact Administration

For the Report-Year Nov. 1, 1954, to Oct. 31, 1955

- 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.
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- 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.
- PLATE 1 -- Graphs showing inflow, outflow and storage at John Martin Reservoir and Stateline Flow for Report-Year.

APPENDIX "A"

* * * *

AUDITOR'S REPORT

ROBERT W. ROLLINS

* * * *

Certified Public Accountant
La Junta, Colorado

December 9, 1955

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 6th "Report Year"—November 1, 1954 to October 31, 1955. The results of this 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 also tend to describe the extent of the audit work performed.

General Comments

Schedule I, Page No. 4 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 Minutes of the Administration's Meeting of October 27, 1953 and authorized for call in the Minutes of October 26, 1954, funds due from Colorado (60% share) of \$1,440.00 and Kansas (40% share) of \$960.00, were received for the budget year ending June 30, 1955 and deposited in the First National Bank in Lamar, Colorado on the respective dates of December 31, 1954 and February 16th, 1955.

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. It was noticed that checks No. 148, 149 and 150 in the respective amounts of \$8.00, \$33.50 and \$19.40 cleared the bank without the required signature of the Treasurer. This matter was discussed with your Secretary-Treasurer and it is thought it would be more expedient if the Administration advises the First National Bank of these irregularities. The correctness of the amounts disbursed was verified to payees.

statements, authorization of payment as evidenced in the minutes of the Administration's meetings, or other supporting evidence. The completed Minutes of the Special Meeting of October 26, 1954 were reviewed under this assignment.

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 Survivors insurance deductions amounting to \$24.00, or 2% of the gross amount. This \$24.00 figure together with the Administration's similar contributions, are shown under the classification of taxes on Schedule I.

Travel Expense of the Secretary for the fiscal year ending October 31, 1955 amounted to \$114.45, or 1635 miles of business travel at \$0.07 per mile. Payments made to the U. S. Treasurer totaling \$48.00 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, 1955 per Schedule I amounting to \$1,251.63 was reconciled to the amount confirmed by the First National Bank in Lamar. A review of the Administration's bank statement at November 19, 1955 shows that all outstanding checks listed on Schedule I, with the exception of Check No. 162 for \$8.00 to the Treasurer of the U. S., had cleared the bank at that date.

The financial position of the Administration at October 31, 1955 is compared with that of a year ago, in the following summary:

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

COMPARATIVE BALANCE SHEET

	October 31, 1955	October 31, 1954	Increase (Decrease)
ASSETS			
Cash in bank	\$1,251.63	\$1,514.62	\$(262.99)
Equipment (Portable typewriter)	92.50	92.50	-0-
Total Assets	\$1,344.13	\$1,607.12	\$(262.99)
LIABILITIES			
Employees deductions (Held in trust)	-0-	-0-	-0-
CAPITAL			
Unexpended fund balance.....	\$1,251.63	\$1,514.62	\$(262.99)
Expended fund balance for equipment	92.50	92.50	-0-
Total Capital	\$1,344.13	\$1,607.12	\$(262.99)
Total Liabilities and Capital.....	\$1,344.13	\$1,607.12	\$(262.99)

Since the "Budget year" covers the period July 1, 1954 to June 30,

1955, it has been necessary to combine related months of the last two "Report years" in order to compare actual expenditures with related budget items. The following summary reflects such a comparison in detail.

COMPARISON OF DISBURSEMENTS WITH BUDGET
Budget Year July 1, 1954 to June 30, 1955

CLASSIFICATION	<i>Disbursements</i>	<i>Budget</i>
PERSONAL SERVICES		
Secretary's salary	\$1,200.00*	\$1,200.00
Taxes—O.A. and S.I. Administration's share	22.00	25.00
Gage reports	500.00	500.00
Professional services (audit of accounts).....	65.00	100.00
Capital Outley	-0-	300.00
MAINTENANCE AND OPERATION		
Bond-Treasurer	25.00	25.00
Printing	476.00	600.00
Official publications	-0-	100.00
Travel expense—Secretary	127.05	150.00
Typing and mailing.....	21.05	200.00
Investigation and inspection.....	-0-	150.00
Telephone & telegraph.....	226.40	300.00
Office supplies and repairs.....	33.50	150.00
Totals	\$2,696.00	\$3,800.00

* As of June 30, 1955, the Secretary's salary for March 1955 (paid in April) had not yet been shown in the second quarter O.A. and S.I. report, consequently, the related employee's deduction of \$2.00, held in trust, would not show until it was sent to the Treasurer of the U. S. For comparison purposes however, Secretary's salary for the "Budget Year" is reflected at \$1,200.00, since the net amount of the salary for the month of March was paid to Mr. Nevius in the year. Note the Administration's share of the O.A. and S.I. taxes at June 30, 1955 are short by a similar \$2.00 amount. An adjustment was made for this oversight in October 1955 and the Secretary advises said salary will be included in the fourth quarter report.

The Administration's Budget for the fiscal year July 1, 1955 to June 30, 1956, as approved in the Minutes of the Meeting on October 26, 1954, provides for expenditures totaling \$3,800.00. Of this, \$1,400.00 is to come from estimated excess of funds at June 30, 1955 supplemented by an appropriation of \$2400.00 from the States of Colorado and Kansas in the respective amounts of \$1,440.00 and \$960.00.

Respectfully submitted,

ROBERT W. ROLLINS,
Certified Public Accountant.

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

November 1, 1954 to October 31, 1955
(Refer to comments in text of audit)

CASH IN BANK AT NOVEMBER 1, 1954 (Per Audit).....\$1,514.62

RECEIPTS

Revenues from assessments		
Colorado portion 60%.....	\$1,440.00	
Kansas portion 40%.....	960.00	2,400.00
Total Available Funds.....		3,914.62

DISBURSEMENTS

Salary of secretary.....	\$1,200.00	
Less: O.A. and S.I. deductions....	24.00	1,176.00
Printing—Annual Report	476.00	
Telephone and telegraph.....	201.10	
Travel expense of secretary.....	114.45	
Audit fee—Fiscal year ended		
October 31, 1954.....	65.00	
Taxes—O.A. and S.I. payments		
Deductions from employees....	24.00	
Administration's portion	24.00	48.00
Premium on secretary-treasurer's		
bond	25.00	
Typing and mailing.....	14.05	
Office supplies, stationery, etc.....	43.39	
Stream-gaging expense of U.S.		
Geological Survey	500.00	
Total Disbursements		2,662.99

CASH IN BANK AT OCTOBER 31, 1955.....\$1,251.63

CASH ON DEPOSIT AT FIRST NATIONAL BANK IN LAMAR

Per direct confirmation at October			
31, 1955	\$1,417.48		
Less: Outstanding checks of:			
No. 162 Treasurer of the U. S.	8.00		
No. 163 Harry Nevius	98.00		
No. 164 H. C. Nevius.....	42.70		
No. 165 Mt. States Tel. and			
Tel. Co.	17.15	165.85	\$1,251.63

ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year Ending October 31, 1955
 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	111	128	211	204	145	50	151	28	997	686	614	66
2	82	160	218	193	132	50	200	175	933	686	487	66
3	66	191	217	182	129	49	230	358	932	829	480	66
4	65	203	224	183	134	49	249	350	910	1020	507	58
5	67	215	209	183	133	50	167	406	826	979	516	59
6	61	215	194	190	121	38	115	486	775	1510	445	58
7	62	197	186	199	113	42	123	443	694	1200	227	72
8	71	197	184	207	96	53	153	425	694	1890	164	69
9	75	187	189	207	108	50	284	902	646	1130	134	56
10	79	175	185	214	128	56	532	1490	479	409	113	58
11	81	180	194	211	145	116	478	1320	543	1070	113	47
12	67	196	187	214	128	174	416	1320	552	314	110	38
13	62	186	179	224	116	157	358	1500	426	415	105	43
14	60	180	186	229	132	83	373	1380	401	350	97	70
15	73	175	190	230	136	43	350	1390	444	640	93	58
16	80	169	187	226	128	36	440	1380	451	519	79	54
17	77	187	190	224	116	101	629	1140	417	820	93	42
18	78	170	188	186	95	122	5990	862	318	432	105	38
19	66	202	182	186	66	161	5460	1040	318	785	679	34
20	67	176	179	181	62	125	1080	1090	499	1230	204	34
21	61	154	177	178	75	90	414	1020	481	948	154	40
22	74	154	166	196	84	42	229	1260	499	845	180	62
23	70	154	176	230	74	32	231	1350	571	713	185	53
24	63	170	184	215	77	91	208	1400	618	672	180	62
25	65	165	204	220	77	101	105	1460	619	616	289	80
26	69	165	198	226	78	82	114	1500	1130	543	217	76
27	67	169	198	222	77	113	105	1400	1870	781	203	80
28	67	146	203	194	77	161	56	1290	1010	1140	174	95
29	78	150	208		77	172	28	1200	1460	723	127	119
30	85	167	212		43	114	21	1140	868	712	94	128
31		184	210		48		20		691	615		124
TOTAL												
Sec. Ft.	2149	5467	6015	5754	3150	2603	19309	30505	22072	25222	7168	1995
Ac. Ft.	4260	10840	11930	11410	6250	5160	38300	60510	43780	50030	14220	3960
(a) ac. ft.	0	0	0	0	10	730	510	5460	14400	9650	4450	0
(b) ac. ft.	4260	10840	11930	11410	6240	4430	37790	55050	29380	40380	9770	3960
(a) Less upstream res. and transmountain water.										260,650 Ac. Ft.		
(b) Corrected total, acre ft.										225,440 Ac. Ft.		

ARKANSAS RIVER NEAR PUEBLO, COLORADO

APPENDIX "B-1"

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report Year Ending October 31, 1955
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	6.8	6.5	29	11	15	15	8.0	160	15	9.0	18	10
2	6.8	6.5	31	12	11	9.0	9.5	95	15	8.5	11	8.5
3	6.5	7.7	36	12	9.5	8.5	8.0	53	14	9.0	11	8.0
4	6.5	7.7	23	11	9.0	8.0	7.5	48	14	8.5	9.5	7.5
5	6.5	8.0	19	13	9.0	7.5	7.5	48	14	18	8.0	7.5
6	6.5	8.4	17	20	8.5	7.5	8.0	50	12	9.5	8.0	8.0
7	6.2	8.4	16	35	8.0	8.5	7.5	45	12	2050	9.0	8.5
8	6.2	8.0	14	27	7.5	8.5	9.0	40	12	2130	8.5	8.0
9	6.2	8.0	14	18	8.0	8.5	21	35	12	1030	8.5	8.0
10	6.2	8.0	14	14	7.0	8.5	40	30	12	362	8.5	7.5
11	6.2	8.0	13	18	6.5	9.0	26	26	11	814	8.5	8.0
12	6.5	8.0	13	35	6.5	8.5	22	22	11	305	8.0	7.5
13	6.2	7.7	13	40	7.5	12	16	22	12	116	7.5	7.5
14	6.2	8.0	13	34	9.0	10	13	22	12	102	8.0	7.5
15	6.2	8.0	13	18	9.5	9.0	12	102	14	70	11	7.0
16	5.9	7.4	13	14	9.0	9.0	12	45	12	33	14	7.0
17	6.2	7.4	13	13	8.0	9.0	12	17	11	22	14	6.5
18	6.2	7.7	12	11	7.5	9.0	17	45	10	15	14	7.0
19	6.2	7.7	12	10	7.5	9.0	6240	17	11	14	17	7.0
20	6.2	7.7	12	18	8.5	9.0	26000	17	10	11	21	7.0
21	6.2	7.4	12	35	15	9.0	17400	17	9.5	11	11	7.5
22	5.9	7.4	12	45	12	9.0	1990	16	9.5	22	7.5	7.5
23	6.2	7.4	19	45	11	9.5	981	16	9.5	18	8.0	9.0
24	8.4	7.7	90	45	9.5	9.0	772	15	9.0	12	9.0	10
25	6.2	8.0	100	35	9.0	8.5	816	15	8.5	12	11	12
26	5.9	8.4	70	28	9.5	8.0	720	15	10	11	8.5	13
27	5.9	8.0	50	22	12	8.0	560	15	12	10	7.5	14
28	5.9	14	25	19	11	8.0	410	15	100	9.0	9.0	11
29	6.8	29	19		9.0	8.0	375	15	19	10	7.5	9.5
30	6.5	28	15		8.5	8.0	300	15	13	12	10	9.0
31		29	13		11		190		11	36		8.5
TOTAL												
Sec. Ft.	190.3	309.1	765	658	289.5	268.0	57010.0	1093	457.0	7299.5	312.0	264.5
Ac. Ft.	377	613	1520	1310	574	532	113100	2170	906	14480	619	525
								THE YEAR		136,730		

18

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report Year Ending October 31, 1955
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	1.7	2.9	3.5	7.5	8.2	2.7	1.4	528	18	15	296	3.5
2	1.7	3.2	3.6	5.7	6.1	3.4	1.4	506	18	11	181	3.0
3	1.7	2.4	3.7	6.8	4.2	1.4	1.6	473	17	12	125	3.0
4	1.7	2.4	3.8	15	3.7	1.8	1.6	451	17	11	78	3.0
5	1.7	2.3	5.6	30	3.4	1.9	1.6	431	17	11	37	2.0
6	1.7	2.4	6.5	20	3.7	2.4	1.6	290	18	11	24	1.5
7	1.8	3.4	7.5	25	3.7	2.3	1.6	274	16	466	13	1.5
8	1.9	2.2	6.5	30	3.4	2.3	1.6	274	13	1970	10	1.5
9	1.8	1.9	7.0	20	3.2	3.2	1.6	223	11	1990	9.0	1.5
10	1.8	2.3	7.5	25	2.4	2.9	1.6	274	9.6	1760	9.6	1.5
11	1.8	2.0	3.4	30	3.7	2.2	1.6	252	7.8	4980	605	1.0
12	1.8	1.9	3.4	25	4.7	3.2	1.5	320	7.2	1230	235	1.0
13	1.8	1.9	2.7	20	2.9	4.2	1.4	350	7.2	528	80	1.5
14	1.8	1.9	2.3	10	2.2	2.3	1.3	814	7.2	405	36	2.0
15	1.8	1.8	3.4	9.5	2.3	1.8	1.2	178	7.2	454	21	1.5
16	1.8	8.6	2.9	13	2.3	1.4	1.2	150	7.2	268	14	1.5
17	1.7	16	8.0	7.5	3.4	2.0	1.2	142	6.6	359	9.6	1.5
18	1.6	14	11	3.7	3.2	1.6	1.9	142	6.0	227	6.0	1.5
19	1.4	8.6	10	7.0	3.2	4.5	11700	122	7.8	66	3.0	2.0
20	1.4	3.4	10	5.0	3.4	11	46300	119	9.6	33	3.5	2.0
21	1.4	3.2	20	3.8	4.2	4.5	8500	116	11	280	3.5	2.0
22	1.4	3.2	20	4.0	2.9	3.4	4170	101	13	1440	3.5	2.0
23	2.0	3.2	25	8.0	2.4	1.9	2480	110	15	1040	4.0	2.5
24	1.9	2.9	50	12	2.3	1.7	4100	70	16	506	4.0	3.0
25	1.9	3.0	30	17	3.2	1.8	2600	58	20	240	11	2.5
26	1.9	3.2	75	19	4.0	1.6	2440	37	20	142	5.5	2.5
27	1.8	2.7	20	16	3.7	1.4	1490	30	19	119	4.5	2.5
28	1.9	2.9	15	13	2.9	1.4	1080	23	17	543	5.0	2.0
29	2.0	3.0	15		2.7	1.4	652	18	16	287	4.0	2.0
30	2.4	3.2	12		2.9	1.4	495	18	20	307	3.5	1.5
31		3.4	7.9		2.0		528		23	473		1.5
TOTAL												
Sec. Ft.	53.0	119.6	402.2	408.5	106.5	79.0	86579.4	6894	418.4	20184	1844.2	61.5
Ac. Ft.	105	237	798	810	211	157	171700	13670	830	40030	3660	122
								THE YEAR		232,330		

19

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

APPENDIX "B-3"
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INFLOW INTO JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1955
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	8.5	9.4	32	18	23	18	9.4	688	33	14	314	14
2	8.5	9.7	35	18	17	12	11	601	33	20	192	12
3	8.2	10	40	19	14	9.9	9.6	526	31	21	136	11
4	8.2	10	27	26	13	9.8	9.1	499	31	20	88	10
5	8.2	10	25	43	12	9.4	9.1	479	31	29	45	9.5
6	8.2	11	24	40	12	9.9	9.6	340	30	20	32	9.5
7	8.0	12	24	60	12	11	9.1	319	28	2516	22	10
8	8.1	10	20	57	11	11	11	314	25	4100	18	9.5
9	8.0	9.9	21	38	11	12	23	258	23	3020	18	9.5
10	8.0	10	22	39	9.4	11	42	304	22	2122	18	9.0
11	8.0	10	16	48	10	11	28	278	19	5794	614	9.0
12	8.3	9.9	16	60	11	12	24	342	18	1535	243	8.5
13	8.0	9.6	16	60	10	16	17	372	19	644	88	9.0
14	8.0	9.9	15	44	11	12	14	836	19	507	44	9.5
15	8.0	9.8	16	28	12	9.8	13	280	21	524	32	8.5
16	7.7	16	16	27	11	10	13	195	19	301	28	8.5
17	7.9	23	21	20	11	11	13	159	18	381	24	8.0
18	7.8	22	23	15	11	11	36	187	16	242	20	8.5
19	7.6	16	22	17	11	14	17940	139	19	80	20	9.0
20	7.6	11	22	23	12	20	72300	136	20	44	24	9.0
21	7.6	11	32	39	19	14	25900	133	20	291	14	9.5
22	7.3	11	32	49	15	12	6160	117	22	1462	11	9.5
23	8.2	11	44	53	13	11	3461	126	24	1058	12	12
24	10	11	140	57	12	11	4872	85	25	518	13	13
25	8.1	11	130	52	12	10	3416	73	28	252	22	14
26	7.8	12	145	47	14	9.6	3160	52	30	153	14	16
27	7.7	11	70	38	16	9.4	2050	45	31	129	12	16
28	7.8	17	40	32	14	9.4	1490	38	117	552	14	13
29	8.8	32	34		12	9.4	1027	33	35	297	12	12
30	8.9	31	27		11	9.4	795	33	33	319	14	10
31		32	21		13		718		34	509		10
TOTAL												
Sec. Ft.	243.0	429.2	1168	1067	395.4	346.0	143589.9	7987	874	27482	2158	326.0
Ac. Ft.	482	851	2320	2120	784	686	284800	15840	1730	54510	4280	647
								THE YEAR		369,100		

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "B-4"

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DAILY CONTENTS JOHN MARTIN RESERVOIR

(Acre Feet)

Report Year Ending October 31, 1955

Corps of Engineers Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	0	292	2963	5271	6033	0	244493	221575	144077	122323	67185
2	0	0	375	2987	5367	6045	0	244493	219124	141589	119657	66339
3	0	0	483	3035	5439	6045	0	244493	216432	139120	117394	65569
4	0	0	625	3084	5464	6058	0	244493	213672	136860	115403	64840
5	0	0	728	3149	5488	6072	0	244493	211258	134186	113343	64046
6	0	0	802	3199	5537	6085	0	244493	208695	132275	111010	63156
7	0	0	880	3292	5549	6098	0	244493	205993	133630	108832	62442
8	0	0	943	3412	5549	6125	0	244137	203398	141335	106590	62035
9	0	0	1003	3534	5611	6165	0	243781	200750	143437	104090	61596
10	0	0	1047	3623	5611	6178	0	243159	198049	143885	101630	61158
11	0	0	1101	3623	5611	5599	0	242538	195300	151200	99688	60654
12	0	0	1167	3724	5623	4617	0	241828	192580	152773	98245	60219
13	0	0	1215	3872	5686	4034	0	241563	189968	152510	96532	59718
14	0	0	1235	4015	5674	3199	0	243070	187688	151200	94367	59218
15	0	0	1315	4153	5711	2084	0	242183	185280	150285	92322	58654
16	0	0	1367	4232	5724	682	0	241828	182750	148722	90118	58192
17	0	0	1440	4293	5737	0	0	240943	180617	147038	88041	57566
18	0	0	1483	4343	5749	0	0	240325	178215	144976	86443	57009
19	0	0	1751	4385	5749	0	14128	239620	175766	142926	84521	56356
20	0	0	1805	4416	5813	0	109347	238827	173130	140891	82593	55706
21	0	0	1830	4448	5838	0	196474	237862	170592	138742	80699	54994
22	0	0	1830	4532	5864	0	218534	237161	168150	138742	78843	54286
23	0	0	1867	4628	5889	0	227800	236199	165527	138742	76502	53581
24	0	0	1980	4747	5889	0	230900	234803	162997	137173	74647	52816
25	0	0	2130	4857	5889	0	233933	233064	160559	135240	73330	52025
26	0	0	2314	4970	5902	0	237073	231332	158209	133136	72184	51240
27	0	0	2463	5084	5915	0	240237	229606	155744	130807	71128	50493
28	0	0	2609	5177	5967	0	243425	227629	153365	128564	70085	49690
29	0	14	2729		6006	0	243870	225746	150938	127059	69057	48955
30	0	114	2829		6006	0	243959	223698	148787	126222	68115	48165
31		256	2900		6033		244315		146134	124085		47413

21

DAILY CONTENTS JOHN MARTIN RESERVOIR

APPENDIX "B-5"
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OUTFLOW FROM JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1955

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	18	23	3.2	1.8	1.2	8.5	20	130	984	1250	1190	480
2	19	23	2.9	2.0	1.4	8.5	18	140	1140	1220	1240	480
3	19	25	3.2	2.3	1.6	7.5	20	166	1260	1210	1120	456
4	17	25	3.2	2.0	1.6	8.5	20	210	1260	1210	1050	438
5	17	24	3.2	2.0	1.8	9.0	20	203	1240	1260	1040	432
6	17	24	3.2	2.0	1.7	9.0	20	196	1240	1230	1080	432
7	17	25	2.9	2.0	1.3	9.0	20	186	1250	932	1120	315
8	17	26	2.9	2.0	1.6	9.0	19	196	1250	484	1130	242
9	18	20	2.9	1.8	1.2	9.5	22	230	1250	1110	1140	238
10	18	28	2.9	1.8	9.0	9.5	50	242	1250	1230	1140	238
11	18	25	2.3	1.8	9.5	299	54	242	1250	1250	1140	250
12	19	22	2.3	1.8	9.5	496	44	250	1240	888	1120	262
13	19	23	2.3	1.7	9.5	375	40	360	1210	984	1090	262
14	20	24	2.6	1.7	9.5	414	30	498	1200	1190	1100	262
15	20	20	1.8	1.6	9.5	550	28	558	1160	1190	1090	266
16	20	20	1.8	1.6	9.5	586	26	546	1160	1200	1090	266
17	20	10	1.8	1.6	10	345	28	552	1180	1200	976	278
18	20	32	1.8	1.4	9.5	28	38	546	1190	1180	904	282
19	20	35	2.0	1.6	10	24	48	546	1200	1150	904	295
20	22	30	2.0	1.6	11	28	3.5	552	1210	1130	944	335
21	23	24	2.0	1.6	11	36	3.2	534	1220	1110	968	380
22	22	25	2.0	1.4	10	29	2.9	370	1230	1120	968	396
23	23	24	1.7	1.4	10	26	9.5	504	1230	1140	968	402
24	24	23	1.7	1.4	10	26	260	700	1240	1190	952	402
25	24	23	1.7	1.4	11	26	386	833	1240	1190	833	402
26	24	23	1.7	1.4	11	23	466	833	1240	1210	665	396
27	23	16	2.3	1.4	10	22	478	833	1240	1210	516	396
28	23	8.0	2.0	1.2	10	20	448	888	1240	1210	522	396
29	24	9.5	2.0		10	20	305	920	1240	1220	516	396
30	25	4.1	1.8		10	18	270	960	1240	1090	492	396
31		3.2	1.8		10		222		1250	1130		396
TOTAL												
Sec. Ft.	610	666.8	71.9	47.3	269.8	3479	3419.1	13924	37734	35318	29008	10867
Ac. Ft.	1210	1320	143	94	535	6900	6780	27620	74840	70050	57540	21550
								THE YEAR	268,600			

Daily discharges are from gaging station officially designated, Arkansas River below John Martin Reservoir, Colorado

OUTFLOW FROM JOHN MARTIN RESERVOIR

APPENDIX "B-6"

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ARKANSAS RIVER AT THE COLORADO-KANSAS STATE LINE

Report Year Ending October 31, 1955
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	39	43	40	51	51	39	29	187	220	425	541	323
2	43	43	50	51	49	35	29	183	226	437	526	308
3	45	49	67	45	45	43	29	181	235	430	563	297
4	49	47	67	40	43	35	29	165	996	424	557	288
5	53	45	61	40	43	35	29	150	459	436	454	270
6	41	45	64	51	43	32	28	174	469	478	419	254
7	34	45	67	51	45	31	26	167	492	456	411	247
8	41	51	64	49	45	32	26	154	499	533	444	254
9	41	53	58	55	43	43	28	136	518	1690	456	197
10	41	55	47	45	43	35	28	148	644	518	441	158
11	37	51	51	45	43	41	30	166	492	485	459	138
12	35	43	61	45	39	85	29	133	490	1080	497	116
13	37	39	49	50	34	64	25	69	491	637	515	120
14	37	43	49	67	34	80	24	55	492	299	475	121
15	37	39	58	61	37	67	25	53	465	515	459	110
16	39	45	53	58	34	54	25	59	444	514	466	98
17	43	43	51	49	34	107	563	149	413	497	473	103
18	43	43	53	51	34	141	892	139	436	503	447	101
19	37	45	49	40	35	98	4080	171	463	507	439	106
20	34	45	67	45	37	62	5340	143	460	479	445	99
21	28	45	67	50	41	54	1090	115	474	462	422	97
22	28	45	67	55	32	50	394	99	476	451	472	98
23	27	47	70	55	27	45	261	62	462	428	496	106
24	28	51	70	60	28	40	198	63	457	411	551	101
25	31	47	75	65	25	38	136	51	461	461	646	91
26	37	43	79	53	25	34	123	117	447	482	746	94
27	35	41	64	49	30	32	315	199	481	454	594	89
28	37	30	61	53	42	31	385	195	479	450	417	101
29	34	31	61		42	31	343	185	468	473	360	135
30	39	32	58		32	31	331	200	460	625	338	117
31		31	55		34		199		440	622		101
TOTAL												
Sec. Ft.	1130	1355	1853	1429	1169	1545	15089	4068	14509	16662	14529	4838
Ac. Ft.	2240	2690	3680	2830	2320	3060	29930	8070	28780	33050	28820	9600
								THE YEAR	155,070			

APPENDIX "B-7"
 * * * * *
 ARKANSAS RIVER AT THE COLORADO-KANSAS STATE LINE

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

Apr. 1 - Oct 31 = 141,310 Ac Ft.

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report Year Ending October 31, 1955
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	18	44	25	83	102	51	14	73	20	6	13	23
2	18	50	35	86	91	52	7	46	19	6	10	16
3	15	43	54	73	83	38	13	69	17	5	7	13
4	15	45	55	48	74	30	12	66	15	2	2	10
5	17	45	68	39	76	30	10	63	17	2	3	11
6	18	47	60	46	70	22	12	54	24	4	3	11
7	20	49	56	61	75	18	6	56	16	5	5	13
8	22	49	67	66	70	13	9	51	14	5	4	11
9	24	52	76	83	69	15	11	49	13	5	10	9
10	26	49	57	37	59	18	12	36	9	27	11	10
11	23	51	80	20	57	13	11	30	10	663	10	13
12	26	39	49	19	43	16	11	26	18	87	6	15
13	28	38	46	28	44	389	11	26	12	33	2	13
14	26	60	64	54	43	730	10	26	10	39	2	12
15	29	48	50	80	24	97	4	23	5	43	4	11
16	32	57	35	94	20	50	3	71	7	23	4	11
17	32	48	61	97	17	38	3	45	5	18	4	10
18	32	38	49	79	17	30	15	40	4	15	8	11
19	36	48	28	24	17	26	203	44	5	14	6	12
20	36	51	13	14	15	23	3810	39	3	12	3	11
21	35	57	17	20	8	20	5260	32	5	8	3	10
22	39	60	16	33	12	20	1970	31	8	7	11	9
23	38	51	18	37	31	18	873	34	6	8	17	8
24	38	50	32	30	28	27	500	30	4	6	23	7
25	36	54	28	34	8	22	311	29	8	4	19	7
26	39	51	48	76	8	17	221	24	8	7	29	14
27	37	56	74	104	20	15	153	25	4	7	44	14
28	32	38	76	124	35	11	131	24	12	3	101	13
29	36	12	80		22	11	111	21	11	4	101	10
30	52	18	97		22	11	103	17	7	10	42	10
31		15	86		22		91		4	11		13
TOTAL												
Sec. Ft.	875	1413	1600	1589	1282	1871	13911	1200	320	1089	507	361
Ac. Ft.	1740	2800	3170	3150	2540	3710	27590	2380	635	2160	1010	716
							THE YEAR		51,600	Ac. Ft.		

ARKANSAS RIVER AT GARDEN CITY, KANSAS

APPENDIX "B.8"
* * * *

24

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1955

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1								200	650	750	680	250
2								200	710	750	725	250
3								200	750	750	645	220
4								200	750	750	600	200
5								200	750	750	600	200
6								200	750	750	600	200
7								200	750	350	600	235
8								200	750	25	600	250
9								200	750	650	600	250
10								235	750	720	600	250
11						200		250	750	750	600	260
12						300		300	750	395	600	270
13						300		384	750	540	600	270
14						300		528	750	700	600	270
15						370		565	725	700	600	280
16						400		565	735	700	600	305
17						200		565	750	700	505	320
18								536	750	700	450	330
19								515	750	700	450	350
20								515	750	700	475	385
21								515	750	700	490	410
22								361	750	700	490	410
23								515	750	700	465	410
24							250	540	750	705	450	410
25							435	550	750	725	330	410
26							475	550	750	725	250	410
27							475	550	750	725	250	410
28							405	580	750	725	250	410
29							250	600	750	725	250	410
30							250	630	750	630	250	410
31							238		750	650		410
TOTAL												
Sec. Ft.	0	0	0	0	0	2070	2778	12099	23070	20540	15205	9855
Ac. Ft.	0	0	0	0	0	4105	5510	24000	45760	40740	30160	19545
								THE YEAR		169,820	Ac. Ft.	

DEMANDS BY COLORADO FOR WATER

APPENDIX "B-9"

25

DEMANDS BY KANSAS FOR WATER

Report Year Ending October 31, 1955
 (Arkansas River Compact Administration records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1									300	500	500	250
2									435	500	500	250
3									500	500	500	250
4									500	500	500	250
5									500	500	500	250
6									500	500	500	250
7									500	500	500	85
8									500	500	500	
9									500	500	500	
10									500	500	500	
11						133			500	500	500	
12						200			500	500	500	
13						80			500	500	500	
14						130			500	500	500	
15						200			500	500	500	
16						200			500	500	500	
17						100			500	500	500	
18									500	500	500	
19									500	500	500	
20									500	500	500	
21									500	500	500	
22									500	500	500	
23									500	500	500	
24								195	500	500	500	
25								300	500	500	500	
26								300	500	500	390	
27								300	500	500	250	
28								300	500	500	250	
29								300	500	500	250	
30								300	500	500	250	
31									500	500		
TOTAL												
Sec. Ft.	0	0	0	0	0	1043	0	1995	15235	15500	13890	1585
Ac. Ft.	0	0	0	0	0	2070	0	3960	30220	30740	27550	3140
								THE YEAR		97,680	Ac. Ft.	

26

DEMANDS BY KANSAS FOR WATER

APPENDIX "B-10"
 * * * *

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

Report Year Ending October 31, 1955
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1									220	425	541	323
2									226	437	526	308
3									235	430	563	297
4									996	424	557	288
5									459	436	454	270
6									469	478	419	254
7									492	456	411	247
8									499	533	444	254
9									518	1690	456	197
10									644	518	441	158
11									492	485	459	
12									490	1080	497	
13									491	637	515	
14						80			492	299	475	
15						67			465	515	459	
16						54			444	514	466	
17						107			413	497	473	
18						141			436	503	447	
19						98			463	507	439	
20						62			460	479	445	
21									474	462	422	
22									476	451	472	
23									462	428	496	
24									457	411	551	
25									461	461	646	
26									447	482	746	
27								199	481	454	594	
28								195	479	450	417	
29								185	468	473	360	
30								200	460	625	338	
31									440	622		
TOTAL												
Sec. Ft.	0	0	0	0	0	609	0	779	14509	16662	14529	2596
Ac. Ft.	0	0	0	0	0	1210	0	1550	28780	33050	28820	5150
								THE YEAR		98,560		

27

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

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

APPENDIX "B-11"
 * * *

APPENDIX "B-12"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report Year Ending October 31, 1955

(Acre Feet)

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

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Bessemer (River)	4,225	3,820	2,122	1,805	4,366	3,719	9,293	10,649	5,397	6,819	3,858	4,366	60,439
Res. or Imported.....	0	0	0	0	0	0	0	0	635	0	0	0	635
Total	4,225	3,820	2,122	1,805	4,366	3,719	9,293	10,649	6,032	6,819	3,858	4,366	61,074
West Pueblo (River).....	24	0	0	0	46	173	175	228	184	184	179	184	1,377
Booth-Orchard Gr. (Riv.)	833	555	0	0	676	1,043	998	1,214	1,107	1,107	1,016	984	9,533
Excelsior (River)	0	0	0	0	0	0	256	978	179	530	0	0	1,943
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	256	978	179	530	0	0	1,943
Colorado Canal (Riv.)..	0	0	0	549	0	0	16,538	1,565	1,256	843	0	0	20,751
Res. or Imported.....	0	0	0	0	0	0	0	5,355	12,099	9,066	3,808	0	30,328
Total	0	0	0	549	0	0	16,538	6,920	13,355	9,909	3,808	0	51,079
Highline (River)	2,906	2,727	4,536	4,126	3,505	3,392	8,751	7,745	5,215	6,883	3,558	2,753	56,097
Res. or Imported.....	0	0	0	0	6	714	500	0	2,047	395	555	0	4,217
Total	2,906	2,727	4,536	4,126	3,511	4,106	9,251	7,745	7,262	7,278	4,113	2,753	60,314
Oxford Canal (Riv.)....	569	613	224	436	825	807	2,416	5,782	2,382	4,372	817	833	20,076

¹ Run to Ordway Municipal.

(Continued on following page)

APPENDIX "B-12" (Continued)

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Otero (River)	0	0	0	0	0	0	409	748	180	797	0	0	2,134
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	409	748	180	797	0	0	2,134
Catlin (River)	² 645	3,017	4,582	3,493	407	0	1,706	13,656	8,287	7,972	2,757	³ 958	47,480
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	645	3,017	4,582	3,493	407	0	1,706	13,656	8,287	7,972	2,757	958	47,480
Holbrook (River)	0	0	960	1,087	0	0	10,929	3,503	1,400	6,920	0	0	24,799
Rocky Ford (River).....	5,276	2,495	450	843	5,086	4,443	3,437	4,659	6,534	6,073	4,965	4,713	48,974
Ft. Lyon Storage (River)	0	0	0	0	0	0	5,230	0	555	4,556	0	0	10,341
Ft. Lyon Canal (River)..	6,849	9,878	10,824	8,154	7,664	1,297	8,360	34,854	14,210	32,027	8,440	7,997	150,554
Las Animas Cons. (Riv.)	498	1,529	1,680	1,692	736	323	2,483	3,761	2,555	4,225	1,392	569	21,443
Las Animas Town (Riv.)	319	18	0	0	569	1,436	1,087	1,093	1,920	1,507	1,311	335	9,595
TOTAL													
River	22,144	24,652	25,378	22,185	23,880	16,633	72,068	90,435	51,361	84,815	28,293	23,692	485,536
Res. or Imported....	0	0	0	0	6	714	500	5,355	14,781	9,461	4,363	0	35,180
	22,144	24,652	25,378	22,185	23,886	17,347	72,568	95,790	66,142	94,276	32,656	23,692	520,716

² Part Highline and Oxford Canals Water diverted by Catlin for Holly Sugar Company

³ 716 Ac. Ft. of Highline Canal's Water diverted by Catlin for Holly Sugar Company

103 Ac. Ft. of Rocky Ford Ditch Water diverted by Catlin for City of Rocky Ford

139 Ac. Ft. of Catlin Canal Water

APPENDIX "B-13"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year Ending October 31, 1955
(Acre Feet)

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

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Ft. Bent Canal.....	357	365	0	0	63	538	325	2,614	¹ 4,705	² 4,760	³ 3,886	⁴ 2,596	⁵ 20,209
Keesee Ditch	363	0	0	0	268	413	561	77	849	766	706	198	4,201
Amity Canal	0	0	0	0	0	1,922	5,078	14,454	23,000	23,137	19,507	15,322	102,420
Lamar Canal	791	649	496	353	538	1,597	1,884	4,167	9,114	9,267	7,220	2,628	38,704
Hyde Ditch	222	111	0	0	123	115	200	317	446	543	315	139	2,531
Manvel Canal	0	0	0	0	0	262	192	0	797	859	912	0	3,022
X. Y. & Graham Canal....	0	0	0	0	0	149	10	682	2,097	2,023	1,630	0	6,591
Buffalo Canal	811	0	0	0	446	1,920	1,035	2,505	3,372	2,949	2,263	877	16,178
Sisson Canal	--	--	--	--	--	--	--	--	14	494	80	--	588
TOTAL	2,544	1,125	496	353	1,438	6,916	9,285	24,816	44,394	44,798	36,519	21,760	194,444

¹ Includes 137 Ac. Ft. for Keesee² Includes 175 Ac. Ft. for Keesee³ Includes 190 Ac. Ft. for Keesee⁴ Includes 167 Ac. Ft. for Keesee⁵ Includes 669 Ac. Ft. for Keesee

APPENDIX "B-14"

* * * *

DIVERSIONS BY DITCHES IN KANSAS

Report Year Ending October 31, 1955

(Acre Feet)

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

Other Ditches, Kansas Division of Water Resources Records

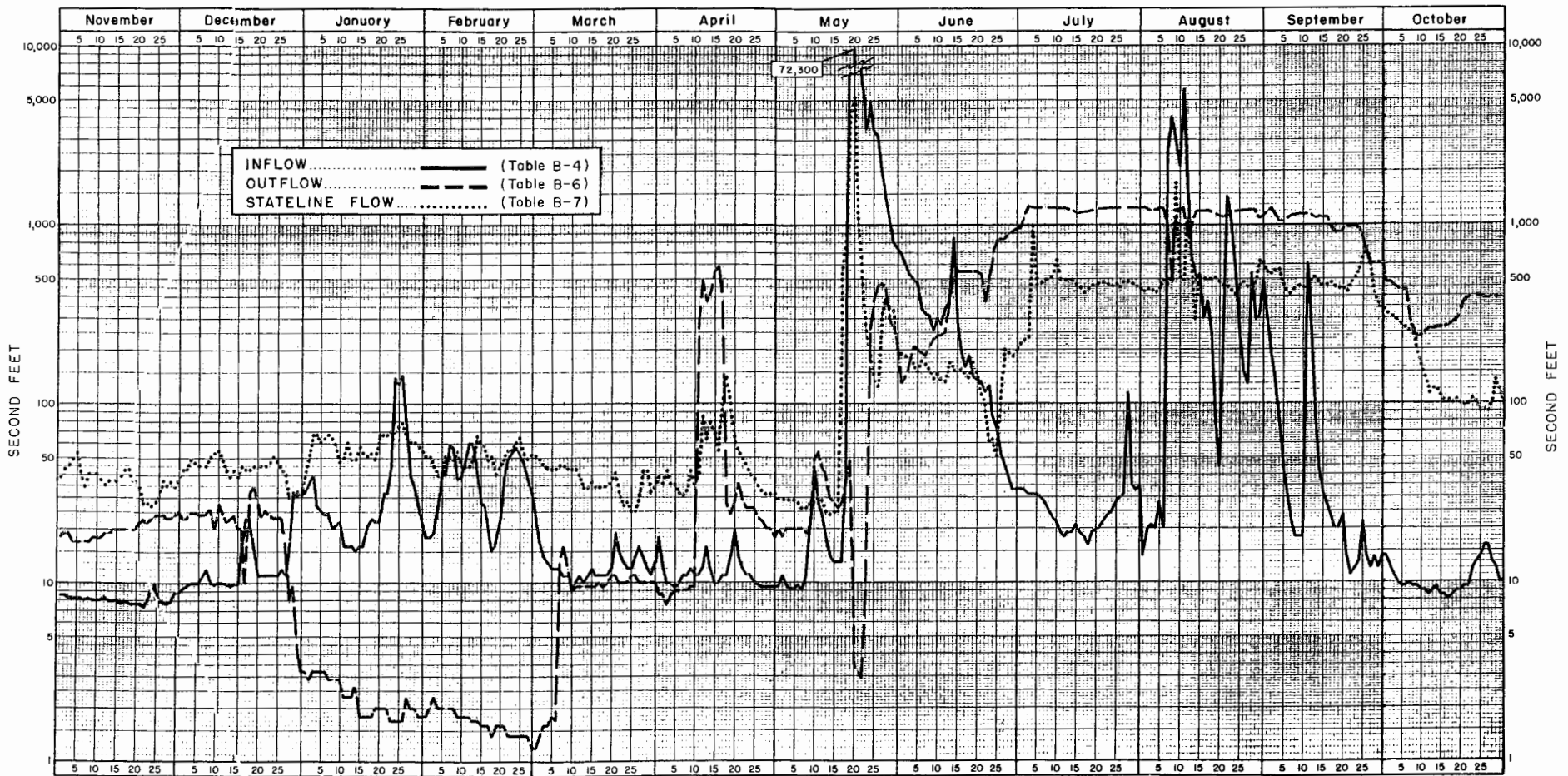
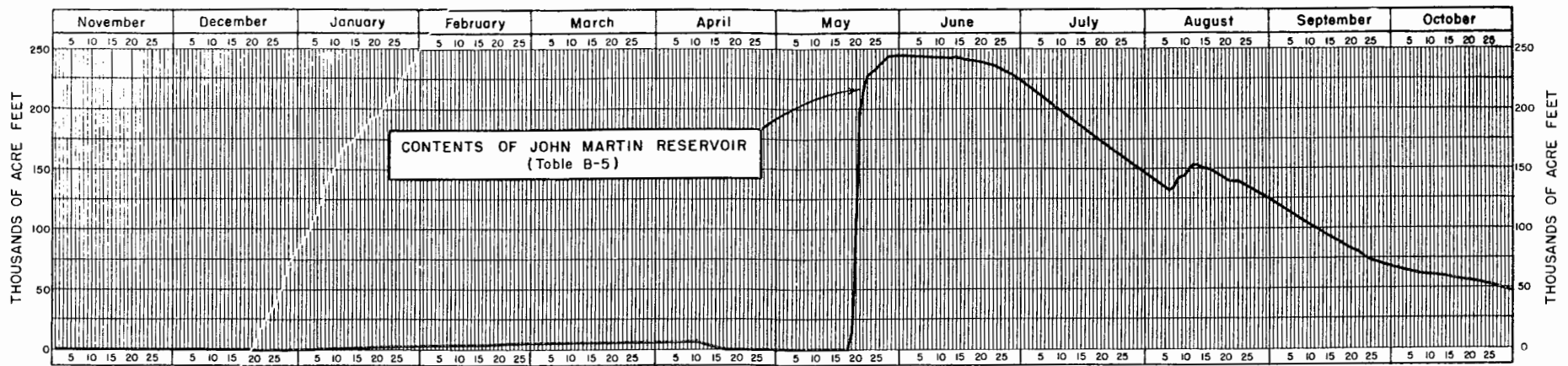
	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Frontier Ditch	0	0	0	0	242	857	1,510	1,390	2,380	2,570	2,070	1,120	12,139
Alamo Canal	85	0	0	0	466	522	325	184	918	337	783	99	3,719
Ft. Aubrey Canal.....	647	65	244	0	369	198	186	875	1,750	524	1,520	696	7,074
Total Stateline to Syracuse	732	65	244	0	1,077	1,577	2,021	2,449	5,048	3,431	4,373	1,915	22,932
Amazon Canal	0	0	0	0	0	0	565	859	3,160	5,560	3,500	4,480	18,124
South Side Ditch.....	0	0	0	0	664	272	619	2	2,550	4,510	3,310	165	12,092
Great Eastern Canal.....	0	0	0	0	0	2,220	7,870	7,100	5,420	4,800	8,240	3,440	39,090
Farmer's Ditch	0	0	0	0	629	1,710	1,530	468	3,910	5,730	2,530	1,070	17,577
Garden City Canal.....	0	0	0	0	0	0	0	0	0	0	1,040	432	1,472
Total Syracuse to Garden City	0	0	0	0	1,293	4,202	10,584	8,429	15,040	20,600	18,620	9,587	88,355
Total Stateline to Garden City	732	65	244	0	2,370	5,779	12,605	10,878	20,088	24,031	22,993	11,502	111,287

1
Apr. 1 - Oct 31 = 107,876 Ac Ft.

APPENDIX "B-15"
* * * *
SUMMARY TABULATION
(in acre-feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE FROM YR. APP.NO.
Arkansas River at Las Animas, Colo.....	377	613	1520	1310	574	532	113100	2170	906	14480	619	525	136730 B-2
Purgatoire River near Las Animas, Colo.	105	237	798	810	211	157	171700	13670	830	40030	3660	122	232330 B-3
Inflow to John Martin Reservoir (1).....	482	851	2320	2120	784	686	284800	15340	1730	54510	4280	647	369100 B-4
Reservoir contents at end of month.....	0	256	2900	5177	6033	0	244315	223698	146134	124085	68115	47413	47413 B-5
Outflow from John Martin Reservoir.....	1210	1320	143	94	535	6900	6780	27620	74840	70050	57540	21550	268600 B-6
Diversions in District 67.....	2544	1125	496	353	1438	6916	9285	24816	44394	44798	36519	21760	194444 B-13
Flow at Colorado-Kansas Stateline.....	2240	2690	3680	2830	2320	3060	29930	8070	28780	33050	28820	9600	155070 B-7
Diversions in Kansas.....	732	65	244	0	2370	5779	12605	10878	20088	24031	22993	11502	111287 B-14
Arkansas River at Garden City, Kansas..	1740	2800	3170	3150	2540	3710	27590	2380	635	2160	1010	716	51600 B-8

(1) Because of computation rules figures in this line are not necessarily the exact sum of those shown above.



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

Report Year, November 1, 1954 - October 31, 1955