

THIRD ANNUAL REPORT

**Arkansas River
Compact
Administration
(1951)**

**For the Report-Year November 1, 1950
to October 31, 1951**

LAMAR, COLORADO

December 11, 1951

Third
Annual Report
**ARKANSAS RIVER COMPACT
ADMINISTRATION**

(1951)

For the Report-Year November 1, 1950 to October 31, 1951

LAMAR, COLORADO

December 11, 1951

THE ADMINISTRATION

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

HARRY B. MENDENHALL, HARRY C. NEVIUS AND CLIFFORD H. STONE
for Colorado.

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

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Plate I—Inflow, Outflow and Contents of John Martin Reservoir and
Stateline Flow.

Annual Report of
ARKANSAS RIVER COMPACT ADMINISTRATION
(1951)

Report-Year November 1, 1950 to October 31, 1951

TO: THE PRESIDENT OF THE UNITED STATES AND TO 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, 1950 through October 31, 1951 as follows:

1. *Members of the Administration*

Representative of the United States:

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

Colorado Representatives:

Harry B. Mendenhall, Rocky Ford, Colorado

Harry C. Nevius, Lamar, Colorado

Clifford H. Stone, Denver, 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.), as required by Article VIII C of the Compact.

Vice-Chairman—William E. Leavitt of Garden City, Kansas.

Secretary—Harry C. Nevius of Lamar, Colorado.

Treasurer—Harry C. Nevius of Lamar, Colorado.

3. *Standing Committees*

Administrative and Legal Committee:

Clifford H. Stone of Colorado and Roland H. Tate of Kansas.

Engineering Committee:

R. V. Smrha of Kansas and Harry C. Nevius of Colorado.

Operations Committee:

Harry B. Mendenhall of Colorado and William E. Leavitt of Kansas.

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

* Succeeded George S. Knapp as of January 1, 1951.

4. **Meetings**

December 12, 1950	Lamar, Colorado	Annual Meeting
March 27, 1951	Lamar, Colorado	Regular Meeting
July 24, 1951	Lamar, Colorado	Regular Meeting
October 30, 1951	La Junta, Colorado	Special Meeting

5. **Fiscal**

(a) Balance on Hand November 1, 1950.....		\$1,386.27
(b) Receipts		
Colorado (60% as provided by Compact)		
June 30, 1951.....	\$ 76.18	
Aug. 20, 1951.....	1,923.82	2,000.00
Kansas (40% as provided by Compact)		
May 22, 1951.....		1,333.33
		<hr/>
Total		\$4,719.60

(c) Expenditures Nov. 1, 1950-Oct. 31, 1951

Voucher No.	Date	Payee and Purpose	Amount
31	12-12-50	Mt. States T & T Co. Nov., Service, Tolls.....	\$ 6.50
32	12-12-50	Lamar Daily News, Office Supplies.....	9.50
33	12-12-50	R. W. Rollins, Audit Administration Records.....	65.00
34	12-12-50	Secretary Salary, Nov.	100.00
35	2-10-51	Mt. States T & T, Dec., Jan., Service, Tolls.....	16.55
36	2-10-51	Secretary Salary, Dec., Jan.....	200.00
37	3-15-51	Mt. States T & T, Feb. Service.....	5.50
38	3-15-51	Secretary Salary, Feb.....	100.00
39	3-15-51	Peerless Printing Co., Print Annual Report.....	440.00
40	5-12-51	Mt. States T & T, March, April Service, Tolls.....	13.90
41	5-12-51	Lamar Daily News, Office Supplies.....	13.20
42	5-12-51	H. C. Nevius, Cash Advance, Office Supplies & Stamps	21.65
43	5-12-51	Secretary Salary, March, April.....	200.00
44	6-30-51	Mt. States T & T, May, June, Service, Tolls.....	37.69
45	6-30-51	Secretary Salary, May & June.....	200.00
46	6-30-51	E. G. Taylor, Service Supplies (Scroll).....	27.00
47	6-30-51	Secretary, Mileage	11.55
48	6-30-51	Kendrick-Bellamy Stationery Co., Supplies.....	4.05
49	9-21-51	Mt. States T & T, July, Aug., Service, Tolls.....	36.05
50	9-21-51	Secretary Salary, July, August.....	200.00
51	10-24-51	J. L. Wade, Agt. Nat'l. Surety Corp. Bond, Secretary-Treasurer	50.00
52	10-24-51	Secretary Salary, September.....	100.00
53	10-24-51	Mt. States T & T, Sept., Service, Tolls.....	11.20
54	10-31-51	Secretary Salary, October.....	100.00
55	10-31-51	Secretary, Cash Advanced, Supplies \$8.00; Expenses \$16.80	24.80
56	10-31-51	Mt. States T & T Service, Oct., Tolls.....	8.05
57	10-31-51	Schoenith Office Equipment Co., Underwood Portable Typewriter	92.50
			<hr/>
		Total Expenditures	\$2,094.69

(d) Balance on hand, October 31, 1951.....\$2,624.91*

* Fiscal year closes June 30, 1952.

- (e) On October 30, 1951, the administration approved a revised budget for the fiscal year July 1, 1952 to June 30, 1953, 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 Services		\$1,800.00
Secretary Salary	\$1,200.00	
Gage Reports	500.00	
Professional Services (Audit of Accounts).....	100.00	
Capital Outlay		300.00
Maintenance and Operation.....		1,700.00
Bond, Treasurer	50.00	
Printing	600.00	
Official Publications	100.00	
Travel Expense—Secretary and Employees	150.00	
Typing and Mailing.....	200.00	
Investigations—Inspections	150.00	
Telephone—Telegraph	300.00	
Office Supplies	150.00	
TOTAL BUDGET		\$3,800.00
Estimated carry-over as of June 30, 1952.....		800.00
Balance to be paid by States for fiscal year 1952-53.....		\$3,000.00
Payable by Colorado under Article VIII E(1) of the Compact (60%)		\$1,800.00
Payable by Kansas under Article VIII E(1) of the Compact (40%).....		\$1,200.00
Total Payable by Colorado and Kansas.....		\$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, 1950 through October 31, 1951, 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 the cooperative studies and activities herein mentioned is as-

signed, 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 agencies and officials referred to in the above provision of the Compact. The United States Geological Survey has proceeded with the establishment and operation of Compact gaging stations, an activity which is covered in detail in Paragraph 8 of this report. The United States Geological Survey has also continued the compilation of hydrologic data which are presented in this report and which have been utilized in the administration of the Compact. The Corps of Engineers has continued to operate John Martin Reservoir in accordance with the provisions of the Compact.

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

On November 1, 1950, the beginning of the Compact year considered in this report, the John Martin Reservoir contained 58,500 acre-feet of water. The winter period, as in the preceding year, again was very dry and there was accumulated in storage only an additional 23,000 acre-feet of water. Thus, at the beginning of the irrigation season on April 1, 1951, the reservoir contained 81,500 acre-feet of water. Throughout the irrigation season from April 1, 1951 to October 31, 1951, inflow into the reservoir as measured in the Arkansas and Purgatoire Rivers near Las Animas amounted to 120,400 acre-feet. The total inflow from these sources during the Compact year was 137,900 acre-feet of which approximately 80% occurred during June, July and August. For the second successive year, the inflow from the Purgatoire River exceeded the inflow from the Arkansas River.

With the exception of the periods from May 15 to 28 and from June 11 to July 5, Colorado made almost constant demands for water from the reservoir throughout the irrigation season. Kansas demands for water began on May 2 and ended on May 15 following intense rains and floods along the river downstream from the reservoir. Demands for delivery to Kansas were resumed on July 28 and continued through September 7. Further demand for delivery of water was made by Kansas for the period October 5 to 18 inclusive. Early in the irrigation season the water stored in the reservoir was rapidly reduced by the middle of May to 36,500 acre-feet. Frequent storms during the summer months produced freshets sufficient to replenish water supply in storage from time to time with recovery to a maximum amount of 79,800 acre-feet on August 26. Steady demands by both states rapidly depleted this supply so that at the close of the irrigation season, on October 31, 1951, the reservoir contained only 22,800 acre-feet of water. The outflow from the reservoir during the Compact year was 192,000 acre-feet of which approximately 98% was released during the irrigation season.

The Stateline flow during the Compact year was 267,200 acre-feet, exceeding the outflow from the reservoir by nearly 40%. More than one-third of the Stateline flow occurred during the month of May

largely as the result of flood discharge originating downstream from the reservoir. Nearly 20% occurred as winter flow during the months of November to March inclusive.

The inflow, outflow and storage at the John Martin Reservoir and Stateline flow for the Compact 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.

8. *Gaging Stations*

In accordance with the original plans of the Administration a gaging station was installed on the Frontier Ditch near Coolidge, Kansas. This station is equipped with a Parshall measuring flume which provides records of high accuracy. It was placed in operation on March 26 prior to the beginning of diversions for the 1951 season.

Since the sum of the records for the stations on the Arkansas River near Coolidge, Kansas and the new station on Frontier Ditch provide accurate measurement of total flow crossing the Colorado-Kansas Stateline, it was possible to discontinue the generally unsatisfactory stations on Holly Drain near Holly and Wild Horse Creek at Holly, records from which had previously been used in conjunction with that of the Arkansas River at Holly for determination of Stateline flow. This latter station was not discontinued, however, since its continuous record of more than 40 years is extremely valuable for flood forecasting and other important purposes.

Shortages of electronic and radio equipment have delayed the completion of the radio stage transmitters, installation of which had been planned for the 1951 irrigation season. However, work on the equipment is proceeding and installation is now planned for February 1952. The stations will broadcast at 4-hour intervals on a frequency of 2652 kilocycles using maximum antenna power of 15 watts. Call letters assigned by the Federal Communications Commission are as follows:

- Arkansas River near Coolidge, Kansas.....KAD-36
- Frontier Ditch near Coolidge, Kansas.....KAD-37

Extensive rehabilitation work was accomplished at two stations. At the outflow station below John Martin Reservoir the timber gage well was completely lined with concrete, and ground-water inflow which in the past has affected the stage-discharge relation was completely shut off. In addition the small timber shelter was removed and replaced with a concrete block shelter of sufficient size to house the radio transmitting equipment. At the inflow station on the Arkansas River at Las Animas extensive bank protection was constructed to prevent further cutting action and possible destruction of the gage and cableway by high water.

As a result of construction and repair work during the year all Compact stations except that on the Purgatoire near Las Animas are in excellent physical condition. Replacement of that station is planned during 1952. Close attention to changing flow conditions and the cooperation of all interested parties in furnishing stage and flood warning reports to the resident engineers of the Geological Survey enabled them to obtain discharge measurements over a wide range of stage at all Compact stations. With this favorable combination of good physical equipment and discharge measurements at frequent and proper intervals, it is believed that the stream-flow records for the Compact year are the most accurate yet obtained.

The work described above was performed by the United States Geological Survey with funds appropriated by the Congress in accordance with and in support of the Compact.

9. Findings of Fact by the Administration

The Administration, on July 24, 1951, considered the report on the Initial Development, Gunnison-Arkansas Project, Colorado, Roaring Fork Diversion (Project Planning Report No. 7-8a.49-1), submitted by the Secretary of the Interior under Section 1 of the Flood Control Act of 1944.

As a result of such consideration, the Administration passed a resolution (attached hereto as Appendix "C") making findings of fact, comments and recommendations relating to the above mentioned report. The Administration found that it is interested in the proposed project to the extent that its construction and operation shall not interfere with or defeat the rights, interests, and obligations of Colorado and Kansas under the Arkansas River Compact. The Administration commented that the interstate compact relations of the two states do not justify any objections to the importation of Colorado River water into the Arkansas River Basin by the proposed project, but that any re-regulation of native waters of the Arkansas River by such project concerns the Arkansas River Compact Administration and both Colorado and Kansas in the matter of complying with the provisions of the Arkansas River Compact. To that end, the Administration recommended to the Governors of Colorado and Kansas that the proposed project development be approved; provided, however, that there shall be no re-regulation of native waters of the Arkansas River as proposed in such report

until a plan of operation, rules, regulations, procedures and agreements in furtherance thereof, including any pertinent agreements between the Corps of Engineers and the Bureau of Reclamation, shall have been submitted to, and approved by, the Arkansas River Compact Administration and the affected water users. The Administration requested the Governors of Colorado and Kansas to submit its findings, comments and recommendations to the Secretary of the Interior with their respective official state comments and recommendations when acting pursuant to Section 1 of the Flood Control Act of 1944. Both states complied with this request.

10. Change in Personnel of Administration

On January 1, 1951, R. V. Smrha replaced George S. Knapp as one of the members of the Administration representing the State of Kansas. This change was made because of the retirement of Mr. Knapp as Chief Engineer, Division of Water Resources, State Board of Agriculture, Kansas, who was succeeded by Mr. Smrha in that capacity. The Administration, at its meeting on July 24, 1951, made appropriate recognition of the services rendered by Mr. Knapp in the negotiation of the Arkansas River Compact and as a member of the Administration. The Administration's resolution commending Mr. Knapp is attached hereto as Appendix D.

11. Correction of Report of the Administration for Report-Year November 1, 1949 to October 31, 1950.

An error in figures appearing in Appendix D-11 of the Second Annual Report of the Administration (November 1, 1949 to October 31, 1950) was discovered after the report was printed. The correction of the report in this respect is as follows:

The report for the Bessemer Canal for the month of September should read:

Bessemer (River)	5,038 instead of 343
Res. or imported.....	179
	5,217 instead of 522

This will make the totals for the year read:

Bessemer (River)	60,926 instead of 56,231
Res. or imported.....	2,847
	63,773 instead of 59,078

Total diversions made in districts 14 and 17 shown on the last three lines of the second page of Appendix "D-11" for the month of September should read:

(River)	45,066 instead of 40,371
Res. or imported.....	6,850
	51,916 instead of 47,221

This will make total diversions for the year in 14 and 17:
 (River)612,382 instead of 607,687
 Res. or imported..... 58,800

 671,182 instead of 666,487

The error resulted from converting the total second-foot-days to acre feet using a total of 263 instead of the correct figure 2630.

* * * * *

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

By:

HANS KRAMER,
 Representative of the United States and Chairman

HARRY B. MENDENHALL
 HARRY C. NEVIUS
 CLIFFORD H. STONE
 Colorado Members of the Administration

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

Lamar, Colorado
 December 11, 1951

APPENDICES

for

Annual Report of the Arkansas River Compact Administration

For the Report-Year Nov. 1, 1950 to Oct. 31, 1951

- 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 Flows on Days of Kansas Demand.
- APPENDIX "B-12"—Divisions by Ditches in Colorado Water Districts 14 and 17.
- APPENDIX "B-13"—Divisions by Ditches in Colorado Water District 67.
- APPENDIX "B-14"—Divisions by Ditches in Kansas, Stateline to Garden City.
- APPENDIX "C" —Gunnison-Arkansas Project Report Resolution.
- APPENDIX "D" —Resolution Concerning George S. Knapp.

* * * * *

PLATE I—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 5, 1951

To the Representatives
Arkansas River Compact Administration
Lamar, Colorado

Gentlemen:

In accordance with your request, I have made an examination of the records of the Arkansas River Compact Administration for its second "Report year"—November 1, 1950 to October 31, 1951. The results of this audit are expressed in Schedule I, page No. 4, together with the following related comments.

General Comments

Schedule I, page No. 4, a Statement of Cash Receipts and Disbursements—November 1, 1950 to October 31, 1951, 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.

The funds due from Kansas (40% share) in the amount of \$1,333.33, was received on May 22, 1951 and deposited in the bank on June 13, 1951. The 60% share from Colorado was received in two portions \$76.18 on June 30, 1951 and \$1,923.82 on August 20, 1951. This revenue called for by the Administration was authorized in the Minutes of the Meeting of March 27, 1951.

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. The correctness of the amounts disbursed were verified to payee's statements, authorization of payment as evidenced in Minutes of the Representatives' Meetings or other supporting evidence.

Premium of \$50.00 paid in October, 1951, for the secretary-treasurer's bond covers the period of twelve months ending September 12, 1952. Bond No. 1203007 carried with National Surety Corporation was examined and provides a \$10,000.00 protection.

As authorized by the Representatives, the related costs of the scroll and frame, presented to Representative George S. Knapp of Kansas in recognition for services performed, amounted to \$31.05.

Secretary's mileage expense of \$28.35 consists of various trips aggregating 405 miles at 7c a mile.

As shown on Schedule I, cash in bank at October 31, 1951 amount-

ing to \$2,624.91 was reconciled to the amount directly confirmed by that depository.

The financial position of the Administration at October 31 for the past two years is expressed in the following schedule:

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

Comparative Balance Sheets

	October 31, 1951	October 31, 1950	Increase
<i>Assets</i>			
Cash in bank.....	\$2,624.91	\$1,386.27	\$1,238.64
Equipment (portable typewriter).....	92.50	.....	92.50
	-----	-----	-----
Total Assets	\$2,717.41	\$1,386.27	\$1,331.14
<i>Capital</i>			
Unexpended fund balance.....	\$2,624.91	\$1,386.27	\$1,238.64
Expended fund balance for equipment..	92.50	.....	92.50
	-----	-----	-----
Total Capital	\$2,717.41	\$1,386.27	\$1,331.14

Special Comments

In view of the \$3,333.33 revenue received from the two States, the approval of the 1951-1952 budget in the Representatives' Meeting of August 4, 1950 (refer to second paragraph on page No. 3 of last year's audit report), it appears said estimate of expenditures amounting to \$5,000.00 was subsequently considered void. Because of the absence of a corrected budget for the fiscal year 1951-1952 (July 1, 1951 to June 30, 1952) the problem of comparing related disbursements with a budget has been discussed at length with the Secretary-Treasurer of the Administration. We have therefore decided to submit herewith for your approval a comparison of expenditures from July 1, 1951 to October 31, 1951 with a related four months portion of the revised budget for the period July 1, 1952 to June 30, 1953, approved by the Representatives in the Meeting of October 30, 1951 (Preliminary draft).

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

Comparison of Disbursements to Related Budget*
For the Period July 1, 1951 to October 31, 1951

Classification	Disbursements	Budget	
		4 Month Period	12 Month Period
Salary of secretary.....	\$400.00	\$400.00 ¹	\$1,200.00
Gage reports .....		.....²	500.00
Auditing expense .....		.....²	100.00
Capital outlay	92.50	92.50 ¹	300.00
Bond treasurer	50.00	50.00 ²	50.00
Printing .....		.....²	600.00
Official publications		33.33 ¹	100.00
Travel expense—Sec'y, etc.....	16.80	50.00 ¹	150.00
Typing and mailing.....	6.00	66.66 ¹	200.00
Investigation and inspection.....		50.00 ¹	150.00
Telephone and telegraph.....	55.30	100.00 ¹	300.00
Office supplies	2.00	50.00 ¹	150.00
Totals	\$622.60	\$892.49	*\$3,800.00

The estimated budgeted amount of \$892.49 for the four months July 1, 1951 to October 31, 1951 is the auditor's attempt to compare actual disbursements with related budgeted amounts. If the disbursements continue for the balance of the "Fiscal year" as they have in the first four months ending October 31, 1951, it is felt there will be the \$800.00 unexpended balance available to be carried forward into the new "Fiscal year".

Respectfully submitted,

ROBERT W. ROLLINS,
Certified Public Accountant.

¹ Items so designated represent four-twelfths of yearly amount.
² Expenses do not occur within this four-month period, consequently nothing shown in related budget.
³ In like manner, bond premium paid in this period, is reflected in budget.
⁴ Only amount expended is reflected in budget at October 31, 1951.
^{*} See following page.
^{*} You are again reminded that the estimate used in this comparison is the budget approved by the Representatives for the future fiscal year ending June 30, 1953. It should also be remembered that in the Administration's Minutes of the Meeting of October 30, 1951, there was considered an "Estimated carry over as of June 30, 1952 of \$800.00". This amount together with the \$3,000.00 to be assessed against the States would provide the \$3,800.00 so budgeted for expenditures.

SCHEDULE I
 ARKANSAS RIVER COMPACT ADMINISTRATION
 Lamar, Colorado

Statement of Cash Receipts and Disbursements
 November 1, 1950 to October 31, 1951

Cash in bank at November 1, 1950 (Per audit).....	\$1,386.27
<i>Receipts</i>	
Revenue from assessments	
Colorado portion 60%.....	\$2,000.00
Kansas portion 40%.....	1,333.33
Total Receipts	3,333.33
Total Available Funds.....	\$4,719.60

Disbursements

Salary of secretary—(November '50 to Oct. '51 inc.)....	1,200.00
Printing—Annual reports	440.00
Telephone and telegraph.....	135.44
Office equipment—Portable typewriter.....	92.50
Audit fee F.Y. October 31, 1950.....	65.00
Premium on sec'y. treas. bond.....	50.00
Office supplies and stationery.....	31.85
Scroll and frame for Rep. G. S. Knapp.....	31.05
Travel expense of sec'y. (Mileage basis).....	28.35
Postage	20.50
Total Disbursements	2,094.69
Cash in bank at October 31, 1951.....	\$2,624.91

Cash on Deposit at First National Bank in Lamar

(per direct confirmation) on October 31, 1951.....	\$2,900.26
Less: Outstanding checks:	
No. 51 James L. Wade, Nat'l Surety Corp. \$	50.00
No. 54 Harry C. Nevius—Oct. Salary.....	100.00
No. 55 Harry C. Nevius—Supplies, etc.....	24.80
No. 56 Mt. States Tel. & Tel. Co.....	8.05
No. 57 Schoenith Office Equip. Co.....	92.50
	275.55
	\$2,624.91

Note: All outstanding checks at October 31, 1951 cleared in November of 1951.

ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year Ending October 31, 1951
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	61	109	210	112	149	60	121	2250	774	1170	319	80
2	53	121	223	120	153	80	89	2220	926	1220	298	80
3	65	121	203	136	137	57	205	1890	1440	3700	290	80
4	73	121	191	166	136	137	364	1310	1690	1420	250	55
5	73	121	196	207	141	144	345	1110	1780	991	224	74
6	77	114	231	167	141	105	392	1120	1980	1420	186	177
7	81	135	207	167	140	89	468	1460	1890	935	180	171
8	85	174	224	242	111	117	476	1470	1810	949	168	146
9	138	198	274	289	105	232	518	1230	1850	738	168	118
10	288	193	286	294	108	225	583	1130	1800	1070	132	63
11	274	196	295	265	145	253	415	1100	1720	489	161	129
12	236	190	274	251	171	240	363	1100	1940	444	547	135
13	287	184	278	265	148	210	362	997	1500	493	491	20
14	204	177	257	269	144	174	422	1170	1280	505	576	103
15	193	179	261	272	143	64	431	1340	1100	433	636	85
16	187	179	266	241	103	84	523	1130	889	469	636	86
17	176	178	248	222	81	104	504	815	986	895	404	109
18	152	166	229	184	140	84	503	1210	842	884	178	103
19	165	143	241	223	127	64	476	1470	914	860	131	103
20	189	154	248	236	96	63	504	2080	1010	872	84	97
21	202	143	253	236	109	84	690	1780	974	1080	136	103
22	177	148	279	216	98	88	821	1530	1060	1310	166	119
23	183	138	240	195	67	115	766	1360	1190	1340	166	103
24	183	148	208	194	75	99	752	1140	1310	1020	131	92
25	173	166	207	198	84	85	868	1310	1180	1120	108	61
26	148	161	213	191	97	99	892	1810	1190	1110	77	102
27	154	166	207	173	89	72	1050	2030	1160	877	68	161
28	148	165	186	154	117	51	1390	2180	1310	549	64	197
29	138	143	168		117	37	1780	1580	1280	447	68	197
30	115	148	158		84	64	2130	926	1260	375	64	197
31		167	138		60		2130		1350	339		303
TOTAL												
Sec. Ft.	4678	4846	7099	5885	3616	3380	21333	43248	41385	29524	7107	3749
Ac. Ft.	9280	9610	14080	11670	7170	6700	42310	85780	82090	58560	14100	7440
(a) ac. ft.	-1600	-0	-0	-0	-0	-190	-4480	-1190	-26100	-19100	-6700	-0
(b) ac. ft.	7680	9610	14080	11670	7170	6510	37830	84590	55990	39460	7400	7440

(a) Less upstream res. and transmountain water.

(b) Corrected Total, acre feet.

THE YEAR 348790 Ac. Ft.
CORRECTED 289430 Ac. Ft.

ARKANSAS RIVER NEAR PUEBLO, COLORADO

APPENDIX "B-1"

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report Year Ending October 31, 1951
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	46	23	32	50	33	20	35	22	113	1170	23	33
2	50	22	30	58	33	18	25	26	166	108	23	25
3	41	23	29	68	33	18	18	30	70	587	22	23
4	27	24	29	68	36	19	21	39	63	2800	22	18
5	21	22	29	70	60	19	21	35	75	272	21	21
6	21	20	29	75	47	21	21	32	40	111	18	22
7	26	20	27	79	70	20	21	33	33	70	18	21
8	27	52	44	72	60	21	21	30	29	340	20	21
9	26	60	79	62	45	20	20	36	30	310	18	20
10	29	67	67	49	40	20	22	81	31	526	16	19
11	29	74	72	60	38	18	22	95	32	591	35	19
12	32	74	74	62	35	18	21	91	30	141	28	18
13	39	44	74	57	33	18	29	125	33	59	18	18
14	35	37	70	59	32	19	25	454	34	45	18	18
15	33	35	86	75	29	18	38	3140	31	39	17	18
16	30	35	100	72	27	18	384	907	25	34	16	18
17	28	34	110	46	27	18	106	420	27	50	16	20
18	27	34	115	39	27	18	91	146	99	32	16	20
19	28	34	95	38	25	18	46	656	39	31	16	20
20	27	49	87	38	27	18	39	310	29	29	15	21
21	27	52	77	38	27	18	35	295	25	29	16	21
22	27	42	74	36	31	18	33	425	29	28	16	21
23	26	40	75	35	29	18	37	143	2790	25	19	20
24	25	38	68	34	29	18	33	106	420	27	21	20
25	25	38	68	33	40	18	28	555	97	25	21	19
26	22	37	67	33	83	21	31	237	75	24	19	21
27	23	36	62	33	39	19	33	83	99	38	18	21
28	24	37	46	32	34	19	36	923	38	27	19	20
29	23	34	41		28	18	24	1200	33	26	18	20
30	22	33	47		26	52	21	178	30	25	18	20
31		32	40		21		21		1690	24		21
TOTAL												
Sec. Ft.	866	1202	1943	1471	1144	596	1358	10853	6355	7643	581	637
Ac. Ft.	1720	2380	3850	2920	2270	1180	2690	21530	12600	15160	1150	1260
									THE YEAR	68710	Ac. Ft.	

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ARKANSAS RIVER AT LAS ANIMAS, COLORADO

APPENDIX "B.2"
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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report Year Ending October 31, 1951
U. S. G. S. Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	3.7	8.3	17	2.6	6.8	6.9	2.9	16	102	816	9.3	1.4
2	8.9	8.0	15	5.0	8.6	5.1	2.9	7.2	60	266	9.3	2.5
3	24	7.1	15	7.0	21	4.5	2.9	5.1	53	762	8.8	2.7
4	9.5	7.4	15	9.0	8.9	5.4	2.9	6.6	39	312	8.4	2.6
5	6.5	6.8	17	11	7.7	6.9	2.7	5.7	831	238	7.2	2.9
6	7.1	8.6	15	14	16	14	3.1	7.2	50	143	6.9	2.7
7	6.8	8.9	15	12	7.1	25	2.9	5.7	23	68	6.9	2.5
8	6.5	9.2	17	19	6.5	22	2.7	10	12	400	6.6	2.3
9	6.3	8.9	17	31	6.5	6	3.2	10	6.0	198	6.3	2.1
10	6.3	9.2	16	59	6.5	5.7	3.2	20	6.3	1270	6.3	2.0
11	8.6	16	12	38	6.5	6.9	2.9	217	6.6	1980	5.1	2.0
12	16	21	12	35	6.5	8.8	2.9	57	2600	97	5.1	2.0
13	20	42	13	25	12	4.5	2.7	30	370	68	4.5	2.0
14	28	26	9.5	25	24	4.3	2.7	21	92	35	4.0	2.0
15	45	24	9.2	25	7.4	4.3	12.0	872	30	25	4.0	2.0
16	32	23	12	20	6.3	3.6	9.3	400	16	20	3.4	1.1
17	18	23	23	33	16	3.4	17	186	12	16	3.1	1.6
18	14	19	35	23	24	4.1	321	883	14	159	3.1	2.2
19	13	17	45	19	22	3.1	74	1170	11	60	3.1	8.4
20	15	16	22	16	12	3.6	57	328	8.4	30	3.1	6.6
21	14	16	16	15	10	4.1	43	217	7.5	3310	3.4	4.8
22	14	16	18	13	7.7	4.1	37	168	11	814	3.4	4.3
23	11	14	20	12	7.7	4.0	19	445	4230	726	3.4	4.1
24	9.2	15	22	10	8.9	3.6	26	139	224	1460	3.4	6.9
25	9.5	15	20	8.9	6.1	3.4	46	224	143	1600	3.4	8.0
26	9.8	16	20	11	7.5	3.6	18	128	77	804	2.7	6.9
27	10	13	14	8.3	4.3	3.4	11	95	79	21	2.2	6.0
28	9.5	14	7.0	7.4	4.3	3.1	8.0	104	58	9.3	1.9	5.1
29	8.9	13	5.0		4.8	2.9	5.1	47	56	9.3	1.5	4.0
30	8.9	14	6.0		4.0	2.7	41	50	28	8.8	1.2	5.7
31		16	3.0		3.8		29		557	8.8		6.6
TOTAL												
Sec. Ft.	400.0	471.4	502.7	514.2	301.4	183.0	814.0	5874.5	9812.8	15734.2	141.0	116.0
Ac. Ft.	793	935	997	1020	598	363	1610	11650	19460	31210	280	230

THE YEAR 69150 Ac. Ft.

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

APPENDIX "B-3"

* * * *

INFLOW INTO JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1951
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	49.7	31.3	49	52.6	39.8	26.9	37.9	38.0	215	1986	32.3	34.4
2	58.9	30.0	45	63	41.6	23.1	27.9	33.2	226	374	32.3	27.5
3	65.0	30.1	44	75	54.0	22.5	20.9	35.1	123	1349	30.8	25.7
4	36.5	31.4	44	77	44.9	24.4	23.9	45.6	102	3112	30.4	20.6
5	27.5	28.8	46	81	67.7	25.9	23.7	40.7	906	510	28.2	23.9
6	28.1	28.6	44	89	63.0	35	24.1	39.2	90	254	24.9	24.7
7	32.8	28.9	42	91	77.1	45	23.9	38.7	56	138	24.9	23.5
8	33.5	61.2	61	91	66.5	43	23.7	40	41	740	26.6	23.3
9	32.3	68.9	96	93	51.5	26	23.2	46	36	508	24.3	22.1
10	35.3	76.2	83	108	46.5	25.7	25.2	101	37.3	1796	22.3	21
11	37.6	90	84	98	44.5	24.9	24.9	312	38.6	2571	40.1	21
12	48	95	86	97	41.5	26.8	23.9	148	2630	238	33.1	20
13	59	86	87	82	45.0	22.5	31.7	155	403	127	22.5	20
14	63	63	79.5	84	56.0	23.3	27.7	475	126	80	22.0	20
15	78	59	95.2	100	36.4	22.3	50.0	4012	61	64	21.0	20
16	62	58	112	92	33.3	21.6	393.3	1307	41	54	19.4	19.1
17	46	57	133	79	43	21.4	123	606	39	66	19.1	21.6
18	41	53	150	62	51	22.1	412	1029	113	191	19.1	22.2
19	41	51	140	57	47	21.1	120	1826	50	91	19.1	28.4
20	42	65	109	54	39	21.6	96	638	37.4	59	18.1	27.6
21	41	68	93	53	37	22.1	78	512	32.5	3339	19.4	25.8
22	41	58	92	49	38.7	22.1	70	593	40	842	19.4	25.3
23	37	54	95	47	36.7	22.0	56	588	7020	751	22.4	24.1
24	34.2	53	90	44	37.9	21.6	59	245	644	1487	24.4	26.9
25	34.5	53	88	41.9	46.1	21.4	74	779	240	1625	24.4	27.0
26	31.8	53	87	44.0	90.5	24.6	49	365	152	828	21.7	27.9
27	33.0	49	76	41.3	43.3	22.4	44	178	178	59	20.2	27.0
28	33.5	51	53	39.4	38.3	22.1	44	1027	96	36.3	20.9	25.1
29	31.9	47	46		32.8	20.9	29.1	1247	89	35.3	19.5	24.0
30	30.9	47	53		30.0	54.7	62	228	58	33.8	19.2	25.7
31		48	43		24.8		50		2247	32.8		27.6
TOTAL												
Sec. Ft.	1266	1673.4	2445.7	1985.2	1445.4	779	2172	16727.5	16167.8	23377.2	722	753
Ac. Ft.	2510	3320	4850	3940	2870	1550	4310	33180	32070	46370	1430	1490
Arkansas River at Las Animas plus Purgatoire River near Las Animas.									THE YEAR 137900 Ac. Ft.			

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INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "B-4"
* * *

DAILY CONTENTS JOHN MARTIN RESERVOIR

(Acre Feet)

Report Year Ending October 31, 1951

Corps of Engineers Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	58500	63300	68000	74300	79500	80800	57000	41000	74100	74500	70100	47700
2	58900	63400	68200	74400	79600	79900	55400	40500	74600	73400	68100	46900
3	59200	63400	68300	74600	79700	79000	53300	40000	74800	73200	66400	46100
4	59300	63600	68400	74600	79700	78100	53000	39600	75100	77700	64900	45400
5	59400	63700	68600	74900	79800	77300	51500	39400	76400	76600	64300	44300
6	59500	63700	68700	75100	79900	76300	50300	39100	76400	75000	63600	41700
7	59700	63800	68800	75300	80100	75400	48900	38800	76100	74500	63000	40600
8	59700	63900	68900	75600	80200	74600	47500	38500	75400	74900	62500	39300
9	59800	64100	69000	75900	80200	73600	45900	38300	74600	75000	62000	38300
10	59900	64200	69200	76200	80500	73500	44200	38100	73800	75400	61600	37300
11	60000	64500	69500	76600	80600	73000	42500	38800	73100	79500	61200	36300
12	60300	64800	69600	76800	80600	72000	39400	39300	74800	79300	60600	35300
13	60500	65000	70000	76900	80700	71300	37800	39700	75600	78900	60200	34500
14	60700	65200	70100	77000	80800	70300	36500	40500	75200	78300	59800	33700
15	61000	65400	70400	77300	80900	69600	36800	44600	74500	77900	59400	32800
16	61200	65600	70800	77600	81000	68800	37700	51100	73400	76900	58800	32000
17	61400	65800	71300	77800	81100	67900	38300	52800	72500	75400	58200	31200
18	61600	65900	71700	78000	81200	67100	39100	53700	71600	74000	57600	30500
19	61800	66100	72100	78200	81300	66200	39700	58100	70500	73100	56900	29800
20	62000	66300	72300	78300	81500	65500	40000	59700	69400	71800	56100	29200
21	62200	66500	72600	78500	81500	64700	40300	61200	68200	76300	55400	28500
22	62300	66700	72800	78600	81500	64000	40500	62700	67900	77700	54700	27900
23	62500	66800	73100	78800	81400	63300	40700	63700	76200	77400	53900	27300
24	62500	67000	73300	78900	81400	62500	40900	64700	79700	78100	53200	26800
25	62700	67100	73500	79100	81400	61700	41100	66600	79400	79200	52600	26200
26	62800	67200	73800	79200	81500	61000	41200	67600	78700	79800	51800	25600
27	62900	67400	73900	79300	81600	60200	41300	68000	77800	79100	51000	25100
28	63000	67500	74000	79400	81600	59400	41500	68800	76100	77400	50100	24500
29	63100	67700	74000		81500	58500	41400	73000	73900	75900	49300	24000
30	63200	67800	74200		81500	57700	41500	73700	72300	73900	48500	23400
31		67900	74300		81500		41300		71400	71900		22800

OUTFLOW FROM JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1951
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	35	35	4.0	4.2	5.3	405	463	173	5.3	1120	962	412
2	32	35	4.0	4.2	4.9	440	622	218	5.3	1140	938	406
3	28	34	4.2	4.5	5.3	440	754	264	5.3	1190	922	406
4	52	29	4.2	4.5	5.7	505	733	254	5.3	1220	768	401
5	52	14	4.2	4.2	5.3	538	712	162	40	1220	350	475
6	57	5.3	4.2	4.2	6.1	531	712	173	162	1170	406	570
7	38	4.9	4.2	4.2	6.1	531	740	201	228	790	380	564
8	35	4.9	4.2	4.2	6.1	524	812	201	336	570	322	570
9	38	4.2	4.5	4.2	6.1	524	850	201	423	512	282	538
10	38	4.5	4.5	4.2	5.7	194	850	189	434	656	250	505
11	16	4.5	4.5	4.2	5.7	270	850	14	445	656	254	475
12	5.0	4.2	4.5	4.2	5.3	463	858	6.9	451	564	250	457
13	12.0	4.0	4.5	4.9	5.3	451	890	5.7	451	475	250	440
14	5.7	4.0	4.2	4.5	5.7	469	882	5.7	451	434	264	434
15	18	4.0	4.5	4.5	7.3	463	225	5.3	451	487	295	434
16	14	4.0	4.5	4.5	12	463	12	5.3	518	518	308	412
17	6.5	4.0	4.5	4.5	18	457	9.2	5.7	564	622	345	380
18	6.5	4.0	4.5	4.5	16	457	7.7	65	609	842	355	375
19	5.7	4.0	4.9	4.5	15	457	7.3	13	628	828	355	370
20	5.7	4.0	4.9	4.5	24	457	5.7	30	622	805	390	365
21	14	4.0	4.9	4.5	41	457	4.5	9.2	635	842	423	345
22	32	4.0	4.9	4.2	43	451	4.5	4.9	165	850	423	340
23	32	4.0	4.9	4.2	45	451	4.5	4.5	451	850	396	326
24	32	4.0	4.9	4.2	45	445	4.5	4.9	642	850	375	322
25	32	4.0	4.9	4.0	45	440	4.5	5.7	670	858	370	326
26	32	4.0	4.9	4.0	45	445	4.9	4.9	691	874	385	336
27	26	4.0	4.5	4.0	45	440	4.9	5.3	705	874	401	336
28	29	4.0	4.5	4.9	47	440	5.3	5.7	946	906	418	336
29	29	4.0	4.5		45	440	17	5.7	1160	938	418	331
30	30	4.0	4.5		45	451	47	5.3	1020	1040	412	331
31		4.0	4.5		29		100		1070	994		331
TOTAL												
Sec. Ft.	788.1	255.5	139.6	121.4	645.9	13499	11196.5	2248.7	14989.2	25695	12667	12649
Ac. Ft.	1560	507	277	241	1280	26770	22210	4460	29730	50970	25120	29090

THE YEAR 192200 Ac. Ft.

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 STATELINE

Report Year Ending October 31, 1951
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	170	165	192	120	170	79	101	252	341	286	496	194
2	276	170	214	130	160	66	97	230	267	354	471	186
3	230	165	181	150	149	79	104	214	230	397	431	167
4	165	176	176	147	149	112	128	214	207	667	444	155
5	165	150	192	160	165	114	222	585	214	641	1440	169
6	149	116	170	148	170	126	251	192	187	551	912	182
7	160	121	160	162	176	136	265	143	192	860	482	217
8	181	160	162	186	176	144	296	138	192	1240	384	300
9	176	185	195	220	165	140	284	143	214	895	369	309
10	130	200	200	214	149	177	352	276	192	633	297	337
11	160	240	207	200	143	258	378	1530	207	476	235	308
12	214	260	176	181	146	160	345	948	222	651	177	290
13	222	222	187	172	134	146	331	570	500	616	164	264
14	200	200	180	170	149	160	477	400	276	353	156	256
15	222	181	194	182	138	145	23400	252	208	271	163	260
16	214	192	214	220	143	135	11000	214	176	240	173	267
17	207	187	230	207	129	130	2510	181	117	238	192	286
18	214	192	230	207	129	121	1130	285	106	220	130	286
19	207	187	207	207	129	107	590	200	95	294	128	267
20	192	187	192	170	143	121	400	1280	92	371	159	276
21	181	181	176	176	134	128	748	2770	96	363	141	276
22	170	187	181	192	124	123	530	1220	255	323	181	237
23	170	170	187	187	124	119	390	800	1310	337	222	237
24	165	176	181	214	106	121	332	600	396	342	214	252
25	176	181	181	222	102	108	390	660	184	318	181	237
26	165	181	192	207	102	102	295	660	133	335	143	207
27	170	187	200	192	101	108	295	580	101	335	140	214
28	181	187	130	187	120	104	260	2990	93	276	149	230
29	160	187	152		106	100	222	1150	83	246	153	195
30	165	181	160		109	88	222	610	192	276	161	206
31		176	136		83		260		322	394		197
TOTAL												
Sec. Ft.	5557	5650	5735	5130	4223	3757	46605	20287	7400	13799	9088	7464
Ac Ft.	11020	11210	11380	10180	8380	7450	92440	40240	14680	27370	18030	14800
THE YEAR 267200 Ac. Ft.												

24

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

Apr. 1 - Oct 31 = 215,016 Ac Ft

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

APPENDIX "B-7"
* * * *

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report Year Ending October 31, 1951
U. S. G. S. Records—Preliminary, Subject to Revision.

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	62	57	198	89	250	61	26	585	1690	48	112	87
2	57	52	212	94	241	55	22	600	1380	50	135	64
3	92	43	229	105	220	53	19	544	1200	50	194	53
4	166	43	201	121	225	55	22	524	992	50	208	35
5	187	37	225	135	220	62	24	516	820	48	259	34
6	194	34	229	180	216	71	22	512	734	48	330	32
7	194	57	205	198	220	62	19	646	632	58	1060	31
8	163	82	124	250	233	59	18	540	553	105	832	31
9	130	102	118	356	216	59	17	493	500	617	646	34
10	89	141	166	435	220	64	14	580	476	743	538	38
11	124	216	205	423	176	71	13	625	441	568	495	75
12	208	287	259	350	150	62	12	952	405	418	435	110
13	273	335	268	187	194	61	22	1440	383	275	378	110
14	287	301	198	121	233	61	172	1250	371	196	330	107
15	278	229	198	160	237	57	1060	1080	405	201	301	127
16	250	176	250	220	225	55	14600	930	353	141	216	110
17	246	160	268	330	208	50	17400	756	313	84	187	68
18	246	141	301	477	160	48	3990	652	313	66	163	80
19	246	112	345	394	112	45	3200	576	294	61	157	130
20	246	115	372	350	87	57	1920	610	281	61	194	163
21	246	124	326	330	80	61	2640	1040	245	115	190	170
22	208	102	287	321	73	59	2740	3010	250	102	173	176
23	190	94	321	301	66	53	2120	2050	190	92	154	170
24	225	92	316	316	66	50	1640	1640	194	94	141	150
25	233	87	306	321	68	50	1390	1480	386	92	132	132
26	241	89	292	296	64	53	1250	1480	173	92	144	130
27	201	118	241	263	57	55	857	1540	119	89	147	135
28	176	198	97	254	87	50	696	1690	92	94	118	130
29	176	237	97		78	38	620	3350	64	94	121	130
30	80	241	84		59	29	580	2500	53	99	99	141
31		246	94		55		630		56	80		208
TOTAL												
Sec. Ft.	5714	4348	7032	7377	4796	1666	57755	34191	14358	4931	8589	3191
Ac. Ft.	11330	8620	13950	14630	9510	3300	114600	67820	28480	9780	17040	6330

THE YEAR 305390 Ac. Ft.

ARKANSAS RIVER AT GARDEN CITY, KANSAS

APPENDIX "B-8"

* * * *

25

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1951

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	25	35	0	0	0	440	480 ✓	215	0	700	650	415
2	35	35	0	0	0	440	465	250	0	685	650	415
3	50	35	0	0	0	440	485	250	0	730	625	415
4	35	25	0	0	0	495	460	240	0	750	600	420
5	50	5	0	0	0	520	460	165	65	750	410	455
6	35	0	0	0	0	520	460	165	200	675	355	445
7	35	0	0	0	0	520	465	190	250	525	360	425
8	35	0	0	0	0	520	465	190	375	520	325	435
9	35	0	0	0	0	520	455	190	450	370	290	435
10	35	0	0	0	0	150	455	170	450	340	260	405
11	10	0	0	0	0	310	455	0	450	320	270	405
12	0	0	0	0	0	480	455	0	450	305	255	405
13	0	0	0	0	0	480	475	0	445	315	255	405
14	5	0	0	0	5	480	475	0	445	280	270	405
15	20	0	0	0	10	480	165	0	445	280	290	390
16	5	0	0	0	10	480	0	0	510	320	300	390
17	0	0	0	0	10	480	0	0	560	320	335	385
18	0	0	0	0	10	480	0	90	600	450	355	390
19	0	0	0	0	10	480	0	0	615	510	355	370
20	0	0	0	0	30	480	0	45	615	530	380	365
21	25	0	0	0	40	480	0	0	635	575	400	350
22	35	0	0	0	40	480	0	0	195	585	385	330
23	35	0	0	0	40	480	0	0	515	585	350	330
24	35	0	0	0	40	460	0	0	630	585	375	330
25	35	0	0	0	40	475	0	0	660	585	375	330
26	35	0	0	0	40	480	0	0	690	625	390	330
27	35	0	0	0	40	480	0	0	705	650	410	330
28	35	0	0	0	40	480	0	0	670	650	415	330
29	35	0	0	0	40	480	30 ✓	0	710	655	425	330
30	35	0	0	0	40	480	55 ✓	0	665	690	425	330
31					20		130 ✓		675	650		330
TOTAL												
Sec. Ft.	750	135	0	0	505	13970	6890	2160	13675	16510	11540	11825
Ac. Ft.	1490	270	0	0	1000	27710	13670	4280	27120	32750	22890	23460

THE YEAR 154640 Ac. Ft.

DEMANDS BY COLORADO FOR WATER

APPENDIX "B-9"

DEMANDS BY KANSAS FOR WATER

Report Year Ending October 31, 1951

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	0	0	0	0	0	0	0	0	450	350	0
2	0	0	0	0	0	0	300	0	0	500	350	0
3	0	0	0	0	0	0	300	0	0	500	350	0
4	0	0	0	0	0	0	300	0	0	500	250	0
5	0	0	0	0	0	0	300	0	0	500	250	250
6	0	0	0	0	0	0	300	0	0	500	250	250
7	0	0	0	0	0	0	300	0	0	350	250	250
8	0	0	0	0	0	0	400	0	0	350	0	250
9	0	0	0	0	0	0	400	0	0	350	0	250
10	0	0	0	0	0	0	400	0	0	350	0	250
11	0	0	0	0	0	0	400	0	0	350	0	250
12	0	0	0	0	0	0	400	0	0	350	0	250
13	0	0	0	0	0	0	400	0	0	350	0	250
14	0	0	0	0	0	0	400	0	0	350	0	250
15	0	0	0	0	0	0	0	0	0	350	0	250
16	0	0	0	0	0	0	0	0	0	350	0	200
17	0	0	0	0	0	0	0	0	0	350	0	200
18	0	0	0	0	0	0	0	0	0	350	0	200
19	0	0	0	0	0	0	0	0	0	350	0	0
20	0	0	0	0	0	0	0	0	0	350	0	0
21	0	0	0	0	0	0	0	0	0	350	0	0
22	0	0	0	0	0	0	0	0	0	350	0	0
23	0	0	0	0	0	0	0	0	0	350	0	0
24	0	0	0	0	0	0	0	0	0	350	0	0
25	0	0	0	0	0	0	0	0	0	350	0	0
26	0	0	0	0	0	0	0	0	0	350	0	0
27	0	0	0	0	0	0	0	0	0	350	0	0
28	0	0	0	0	0	0	0	0	450	350	0	0
29	0	0	0	0	0	0	0	0	450	350	0	0
30	0	0	0	0	0	0	0	0	450	350	0	0
31	0	0	0	0	0	0	0	0	450	350	0	0
TOTAL							4600	0	1800	11700	2050	3350
Sec. Ft.	0	0	0	0	0	0	9120	0	3570	23210	4070	6650
Ac. Ft.	0	0	0	0	0	0						

THE YEAR 46620 Ac. Ft.

DEMANDS BY KANSAS FOR WATER

APPENDIX "B-10"
* * * *

STATELINE FLOWS ON DAYS OF KANSAS DEMAND*

Report Year Ending October 31, 1951
 U S G S Records--Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										286	496	
2										354	471	
3										397	431	
4										667	444	
5							222			641	1440	
6							251			551	912	
7							265			860	482	
8							296			1240	384	300
9							284			895	369	309
10							352			633	297	337
11							378			476		308
12							345			651		290
13							331			616		264
14							477			353		256
15							23400			271		260
16							11000			240		267
17							2510			238		286
18										220		286
19										294		267
20										371		276
21										363		276
22										323		
23										337		
24										342		
25										318		
26										335		
27										335		
28										276		
29										246		
30										276		
31									322	394		
TOTAL												
Sec. Ft.							40111		322	13799	5726	3982
Ac. Ft.							79560		639	27370	11360	7900
										TOTAL 126800 Ac. Ft.		

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STATELINE FLOWS ON DAYS OF KANSAS DEMAND*

APPENDIX "B-11"

* * * *

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

APPENDIX "B-12"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report Year Ending October 31, 1951
(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	4,274	774	1,192	4,362	4,225	6,508	13,581	8,396	6,396	4,227	4,366	62,526
Res. or Imported.....	0	0	0	0	0	0	986	0	1,355	2,218	1,567	0	6,126
Total	4,225	4,274	774	1,192	4,362	4,225	7,494	13,581	9,751	8,614	5,794	4,366	68,652
West Pueblo (River).....	0	0	0	0	99	179	214	436	274	204	171	131	1,708
Booth-Orchard Gr. (Riv.)	419	0	0	155	674	1,031	1,115	1,156	1,142	1,107	956	984	8,739
Excelsior (River)	0	0	0	0	0	0	292	1,488	377	319	111	0	2,587
Res. or Imported.....	0	0	0	0	0	186	0	0	226	407	40	0	859
Total	0	0	0	0	0	186	292	1,488	603	726	151	0	3,446
Colorado Canal (River)..	0	163	5,294	2,670	0	0	865	15,253	1,817	5,490	0	0	31,552
Res. or Imported.....	1,002	0	0	0	0	0	4,391	1,166	21,086	13,948	5,082	0	46,675
Total	1,002	163	5,294	2,670	0	0	5,256	16,419	22,903	19,438	5,082	0	78,227
Highline (River)	3,431	4,963	3,957	4,009	4,159	3,279	6,974	12,982	9,614	9,316	3,590	3,505	69,779
Res. or Imported.....	0	0	0	0	0	0	0	0	1,162	1,916	895	0	3,973
Total	3,431	4,963	3,957	4,009	4,159	3,279	6,974	12,982	10,776	11,232	4,485	3,505	73,752
Oxford (River)	996	1,025	524	391	573	833	3,959	6,962	7,176	6,367	805	805	30,416

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	32	883	700	0	0	349	1,839	87	1,442	0	0	5,332
Res. or Imported.....	0	0	0	0	0	0	0	0	3,124	2,456	555	0	6,135
Total	0	32	883	700	0	0	349	1,839	3,211	3,898	555	0	11,467
Catlin (River)	4,378	7,156	4,294	5,064	6,032	1,426	6,754	9,638	15,285	14,625	1,063	639	76,354
Res. or Imported.....	565	0	0	0	0	0	0	0	0	0	0	0	565
Total	4,943	7,156	4,294	5,064	6,032	1,426	6,754	9,638	15,285	14,625	1,063	639	76,919
Holbrook (River)	0	506	2,947	2,283	0	0	1,432	15,661	3,931	5,802	0	0	32,562
Rocky Ford (River).....	4,451	3,350	1,170	359	3,933	5,050	5,488	3,844	5,952	5,730	5,389	5,310	50,026
Ft. Lyon Storage (River)	0	0	0	0	0	0	0	8,368	1,480	2,824	0	0	12,672
Ft Lyon Canal (River)..	9,957	12,768	11,687	12,994	10,665	8,428	23,101	35,435	37,379	25,974	8,249	9,731	206,368
Las Animas, Cons. (Riv.)	1,985	1,095	381	883	1,787	1,180	2,364	5,042	3,882	4,324	920	1,355	25,198
Las Animas Town (Riv.)	123	127	0	0	63	1,446	1,081	1,321	1,638	1,654	1,228	914	9,595
TOTAL													
River	29,965	35,459	31,911	30,700	32,347	27,077	60,496	133,006	98,430	91,574	26,709	27,740	625,414
Res. or Imported.....	1,567	0	0	0	0	186	5,377	1,166	26,953	20,945	8,139	0	64,333
	31,532	35,459	31,911	30,700	32,347	27,263	65,873	134,172	125,383	112,519	34,848	27,740	689,747

APPENDIX "B-13"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year Ending October 31, 1951
(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.....	1,039	222	0	0	474	3,604	1,573	789	3,187	4,223	2,618	3,818	21,547
Keesee Ditch	448	56	0	0	349	778	428	401	657	861	833	861	5,672
Amity Canal	643	0	0	0	0	14,700	8,640	3,193	17,109	20,374	15,604	16,570	96,833
Lamar Canal	1,845	419	0	0	452	6,603	3,556	1,706	6,117	7,343	5,367	4,177	37,585
Hyde Ditch	119	20	0	0	0	208	397	405	514	507	258	246	2,674
Manvel Canal	0	0	0	0	0	266	385	0	40	575	131	0	1,397
X. Y. & Graham Canal....	0	0	0	0	40	1,775	948	0	978	1,872	2,063	1,974	9,650
Buffalo Canal	2,394	81	0	0	0	2,235	1,093	0	1,214	2,249	1,908	2,031	13,205
TOTAL	6,488	798	0	0	1,315	30,169	17,020	6,494	29,816	38,004	28,782	29,677	188,563

APPENDIX "B-14"

* * * *

DIVERSIONS BY DITCHES IN KANSAS

Report Year Ending October 31, 1951

(Acre Feet)

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

Other Ditches, 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	106	1,330	575	1	538	1,280	1,060	744	5,634
Alamo Canal	0	0	0	0	0	0	160	0	0	0	0	0	160
Ft. Aubrey Canal.....	140	0	0	0	0	1,080	720	0	0	0	0	0	1,940
Total Stateline to Syracuse	140	0	0	0	106	2,410	1,455	1	538	1,280	1,060	744	7,734
Amazon Canal	1,633	1,765	0	0	0	1,969	0	0	106	5,709	1,730	4,048	16,960
South Side Ditch.....	966	1,927	0	0	0	1,068	1,697	0	2,277	2,621	2,093	3,710	16,359
Great Eastern Canal.....	0	636	0	0	2,577	2,391	491	0	0	7,981	3,840	1,691	19,607
Farmers Ditch	434	1,291	0	0	0	179	1,726	0	1,092	3,047	0	1,841	9,610
Garden City Canal.....	263	2	0	0	0	0	155	0	54	887	0	1,007	2,368
Total Syracuse to Garden City	3,296	5,621	0	0	2,577	5,607	4,069	0	3,529	20,245	7,663	12,297	64,904
Total Stateline to Garden City	3,436	5,621	0	0	2,683	8,017	5,524	1	4,067	21,525	8,723	13,041	72,638

Apr 1 - Oct 31 = 60,898

APPENDIX "C"

* * * * *

RESOLUTION ON FRYINGPAN-ARKANSAS
PROJECT REPORT

(Adopted July 24, 1951)

* * * * *

Whereas the Arkansas River Compact Administration, an official interstate body created by the Arkansas River Compact and charged with the administration of such Compact, is interested in the proposed development to the extent that its construction and operation shall not interfere with the rights, interests and obligations of Colorado and Kansas under the Compact:

Now Be It Resolved by the Arkansas River Compact Administration that the following comments and recommendations relating to said report of the Secretary of Interior, to wit:

The Arkansas River Compact Administration submits these comments and recommendations to the Governors of Colorado and Kansas respecting the proposed Initial Development, Gunnison-Arkansas Project, Roaring Fork Diversion, Colorado, namely:

1. The Administration understands that the project plan proposes:
 - (a) The importation by appropriate project works of approximately 70,000 acre-feet of water a year from the Colorado River Basin to the Arkansas River Basin for supplemental irrigation and domestic water supplies in Colorado and for the production of hydroelectric energy.
 - (b) In connection with such importation of water and its regulation in the Arkansas River Valley by project works, the re-regulation of native waters of the Arkansas River (the term 'native waters', as herein used, being those waters covered and defined by Art. III-B of the Arkansas River Compact).
2. The interstate water relations of Colorado and Kansas with respect to the Arkansas River do not justify any objection to the proposed project development for the importation of Colorado River water (described in sub-paragraph (a) above).
3. The re-regulation of native waters of the Arkansas River (native waters being as above mentioned) concerns the Arkansas River Compact Administration and both Colorado and Kansas in complying with the provisions of the Arkansas River Compact and maintaining the benefits and obligations of the two states under that Compact. To that end, it is recommended to the Governors of Colorado and Kansas, and expressed as a policy of the Arkansas River Compact Administration, that the Initial Development, Gunnison-Arkansas Project, Roaring Fork Diversion, Colorado, as set forth in Project

Planning Report No. 7-8a. 49-1 of the Bureau of Reclamation, be approved; provided, however, that there shall be no re-regulation of native waters of the Arkansas River as proposed in such report until a plan of operation, rules, regulations, procedures and agreements in furtherance thereof, including any pertinent agreements between the Corps of Engineers and the Bureau of Reclamation, shall have been submitted to, and approved by, the Arkansas River Compact Administration and the affected water users.

4. It is the purpose and intent of these recommendations that the proposed project development shall not interfere with or defeat the rights, interests and obligations of Colorado and Kansas under the Arkansas River Compact.

be transmitted to the Governors of the States of Colorado and Kansas and such Governors be and are hereby requested to submit the same to the Secretary of Interior with their official State comments and recommendations upon said proposed project and development.

APPENDIX "D"

* * * * *

RESOLUTION CONCERNING GEORGE S. KNAPP

(Adopted Dec. 12, 1950)

* * * * *

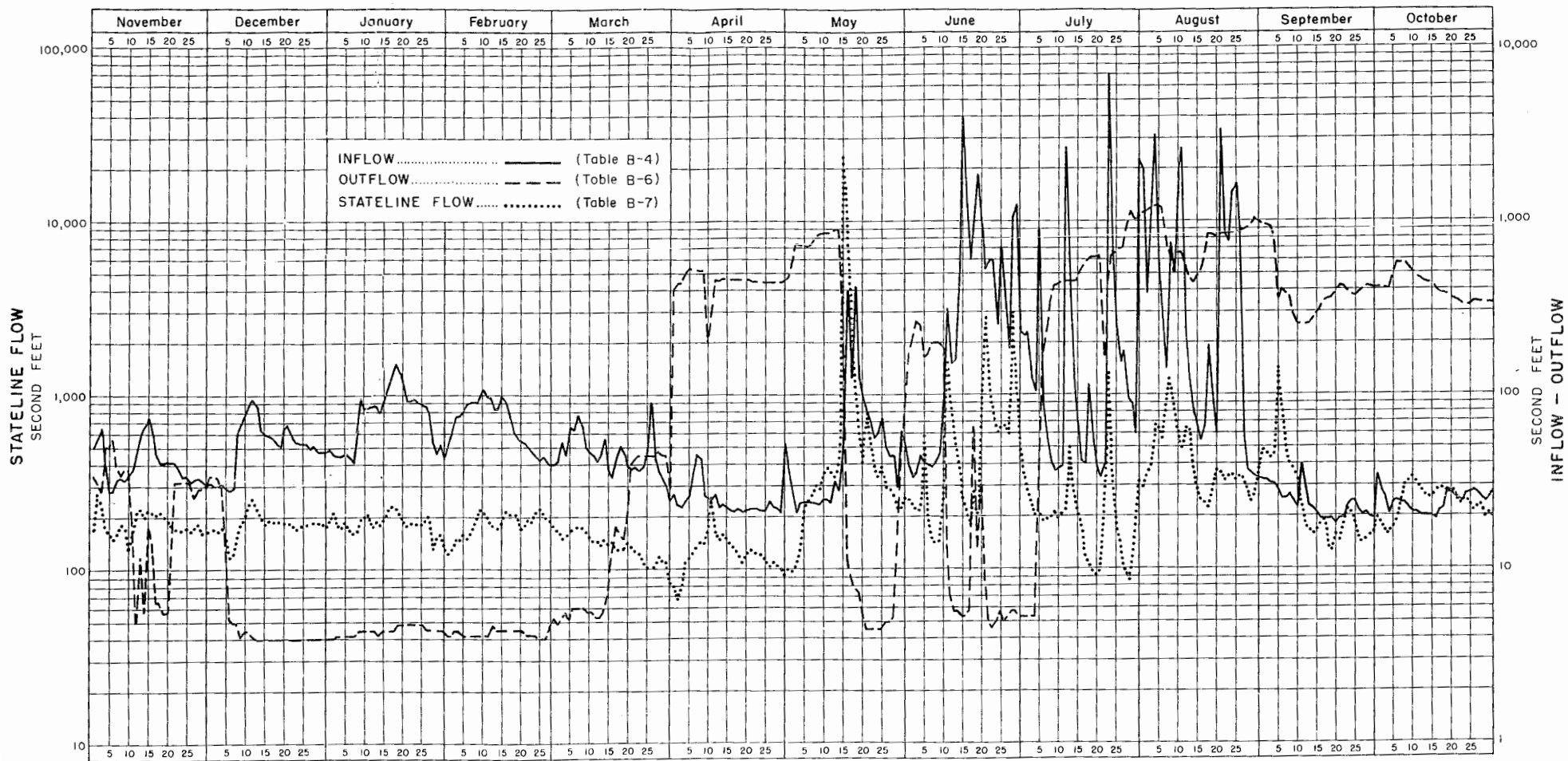
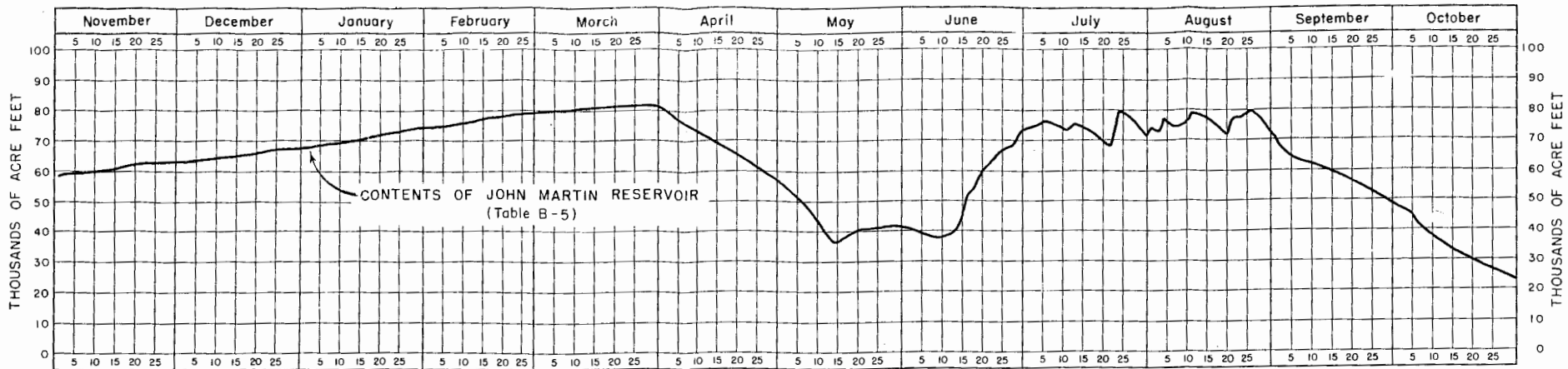
Whereas, the Honorable George S. Knapp, Chief Engineer of the Division of Water Resources of the State Board of Agriculture of the State of Kansas, served with distinction for a period of many years in formulating ideas and principles later embodied in the Arkansas River Compact between the States of Colorado and Kansas; and

Whereas, the said George S. Knapp acted as one of the Commissioners of the State of Kansas on the Arkansas River Compact Commission, which Commission drafted the Arkansas River Compact between the States of Colorado and Kansas, and through his abundant knowledge and professional skill and ability and his individuality and personality contributed immeasurably to the work of that Commission in the drafting of such Compact; and

Whereas, the said George S. Knapp has served as a member of the Arkansas River Compact Administration in the administration of said Compact with honor to that Administration, the people of the States of Colorado and Kansas and himself, has at all times conducted himself with high integrity, both officially and individually, and has contributed unselfishly his knowledge, professional skill and services to the fulfillment of the purposes of said Compact between the States of Colorado and Kansas; and

Whereas, the said George S. Knapp has voluntarily elected to be relieved of his duties as an official of the State of Kansas and a member of the Arkansas River Compact Administration:

Now, Therefore, Be It Resolved, that the Arkansas River Compact Administration, recognizing the great service of George S. Knapp to the States of Colorado and Kansas, does now and hereby express on behalf of the people of the States of Colorado and Kansas and for that Administration sincere appreciation of his services and extends to him kind good wishes for the future.



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