

ELEVENTH ANNUAL REPORT

ARKANSAS RIVER

COMPACT

ADMINISTRATION

(1959)

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

LAMAR, COLORADO

December 8, 1959

Eleventh
Annual Report
ARKANSAS RIVER COMPACT
ADMINISTRATION
(1959)

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

LAMAR, COLORADO

December 8, 1959

THE ADMINISTRATION

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

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

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

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and Stateline Flow.

Annual Report of
ARKANSAS RIVER COMPACT ADMINISTRATION
(1959)

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

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

Sirs:

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

1. *Members of the Administration*

Representative of the United States:

Carl G. Paulsen

Colorado Representatives:

Felix L. Sparks, Denver, Colorado

David Jenkins, Las Animas, Colorado

Hacket Smartt, Lamar, Colorado

Kansas Representatives:

Carl E. Bentrup, Deerfield, Kansas

Logan N. Green, Garden City, Kansas

R. V. Smrha, Topeka, Kansas

2. *Officers of the Administration*

Chairman:

Carl G. Paulsen

Vice-Chairman:

Logan N. Green of Garden City, Kansas

Secretary:
Hacket Smartt of Lamar, Colorado

Treasurer:
Hacket Smartt of Lamar, Colorado

3. Standing Committees

Administrative and Legal Committees:
Logan N. Green of Kansas (Chairman)
David Jenkins of Colorado

Engineering Committee:
R. V. Smrha of Kansas (Chairman)
Felix L. Sparks of Colorado

Operations Committee:
Carl E. Bentrup of Kansas (Chairman)
Hacket Smartt of Colorado

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

4. Meetings

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

5. Fiscal

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

(b) Receipts

State of Colorado, September 10, 1959....\$2,400.00
State of Kansas, September 23, 1959..... 1,600.00

4,000.00

\$8,512.86

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

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

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

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

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

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

6. Cooperative Studies and Activities

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

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

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

7. Water Supply, Reservoir Operations and Hydrologic Data

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

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

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

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

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

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

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

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

River flow was passed through the reservoir averaging:

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

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

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

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

8. *Gaging Stations*

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

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

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

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

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

9. Findings of fact by the Administration

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

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

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

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

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION
BY:

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

FELIX L. SPARKS
DAVID JENKINS
HACKET SMARTT

Colorado Members of the Administration

R. V. SMRHA
LOGAN N. GREEN
CARL E. BENTRUP

Kansas Members of the Administration

Lamar, Colorado
December 8, 1959

APPENDICES
for
Annual Report of the
Arkansas River Compact Administration

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

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

APPENDIX "A"

* * * *

AUDITOR'S REPORT

ROBERT W. ROLLINS

* * * *

Certified Public Accountant

La Junta, Colorado

December 4, 1959

To the Representatives
Arkansas River Compact Administration
Lamar, Colorado

Gentlemen:

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

General Comments

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

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

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

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

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

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

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

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

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

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

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado
COMPARATIVE BALANCE SHEET

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

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

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

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

NOTES

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

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

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

Respectfully submitted,
ROBERT W. ROLLINS,
Certified Public Accountant

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
NOVEMBER 1, 1958 TO OCTOBER 31, 1959
(Refer to comments in text of audit)

CASH IN BANK AT NOVEMBER 1, 1958 (per audit).....	\$4,512.86
RECEIPTS	
Revenue from assessments	
Colorado portion 60%.....	\$2,400.00
Kansas portion 40%.....	1,600.00
	4,000.00
TOTAL RECEIPTS	4,000.00
TOTAL AVAILABLE FUNDS.....	8,512.86
DISBURSEMENTS	
Salary of secretary.....	\$1,200.00
Less: O.A. and S.I. deductions	29.50(1)
	1,170.50
Sub-total	1,170.50
Printing—Annual report	648.00
Telephone and telegraph.....	194.23
Travel expense of secretary.....	101.52
Audit fee (Fiscal year ended 10/31/58)....	65.00
Premium on treasurer's bond.....	25.00
Typing and mailing.....	25.00
Office supplies, stationery, etc.....	18.67
Taxes—O.A. and S.I. payments	
Deductions from employees	27.00(1)
Administration's portion	27.00
	54.00
Surface water investigations by the U. S. Geological Survey.....	1,600.00
TOTAL DISBURSEMENTS	3,901.92
CASH IN BANK AT OCTOBER 31, 1959.....	\$4,610.94
Consisting of:	
Amount held in trust—Payroll deduction on secretary's salary for month of October 1959.....	\$ 2.50(1)
Cash available for expending in subsequent period	4,608.44
	4,610.94
TOTAL	\$4,610.94

CASH ON DEPOSIT AT FIRST NATIONAL BANK, LAMAR, COLORADO

Per direct confirmation at October 31, 1959 \$5,605.81

Less: Outstanding checks of:

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

ADJUSTED CASH ON DEPOSIT AT BANK..... \$4,610.94

SCHEDULE I

ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report-Year Ending October 31, 1959
U S G S Records—Provisional, subject to revision

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

(a) Less upstream reservoir and transmountain water.
(b) Corrected total Ac. Ft.

THE YEAR 364,500 Acre Feet
CORRECTED 317,980 Acre Feet

ARKANSAS RIVER NEAR PUEBLO, COLORADO

APPENDIX "B-1"

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report-Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

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

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ARKANSAS RIVER AT LAS ANIMAS, COLORADO

APPENDIX "B.2"

* * * *

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

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

THE YEAR 20,590 Acre Feet

INFLOW INTO JOHN MARTIN RESERVOIR

Report Year ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

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

THE YEAR 43,430 Acre Feet.

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "B-4"

CONTENTS OF JOHN MARTIN RESERVOIR

Report-Year Ending October 31, 1959

Corps of Engineers records—Provisional, subject to revision

Midnight contents in Acre Feet from capacity table dated June 1, 1958

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	231090	233634	238812	244463	252927	255977	223814	184426	142012	82135	26232	0
2	231181	233906	238903	244835	252927	255405	221606	183960	141362	79997	24293	0
3	231272	234088	238994	245021	253118	254833	219272	183417	139997	77763	22100	0
4	231272	234179	239085	245207	253308	254071	216939	183029	138573	75535	20074	0
5	231272	234452	239175	245393	253308	253404	214951	182175	136747	73216	18204	0
6	231272	234633	239266	245672	253404	252736	212634	181322	134857	70841	16227	0
7	231272	234815	239357	245952	253499	251783	210528	180102	133094	68767	14360	0
8	231363	234997	239448	246138	253594	250544	208759	179197	130940	67264	12430	0
9	231363	235178	239629	246510	253594	250544	207749	178291	128622	65652	10483	0
10	231363	235269	239811	246789	253880	250735	206991	176783	126130	63887	8526	0
11	231363	235360	239997	247068	253975	251021	206317	175124	123770	61884	6446	0
12	231453	235541	240183	247254	254071	251116	204801	173167	121411	60035	4211	0
13	231453	235723	240369	247440	254261	250830	202997	171116	119099	58251	2104	0
14	231453	235814	240741	247720	254356	250068	201192	169210	117046	56646	0	0
15	231453	235995	241113	247999	254452	249401	199060	166719	114765	55020	0	0
16	231453	236177	241300	248836	254547	248557	197091	164990	112893	53366	0	0
17	231635	236359	241486	249306	254642	247626	195322	163140	111129	51957	0	0
18	231726	236541	241672	249687	254738	246417	193406	161504	109257	50626	0	0
19	231908	236722	241858	250068	254833	245393	191810	159796	107343	49050	0	0
20	232180	236904	242230	250259	255024	244277	190053	158180	105322	47116	0	0
21	232362	237086	242416	250735	255310	243161	188617	156246	104045	45033	0	0
22	232635	237268	242602	251116	255500	241672	188229	154450	102604	43344	0	0
23	232816	237449	242695	251402	255786	240090	187841	153069	101167	42132	0	0
24	232998	237631	242788	251593	255786	238176	187375	151762	99472	40314	0	0
25	232998	237812	242974	251783	255977	236541	187143	150220	97318	38556	0	0
26	232998	237994	243161	252165	255977	234815	186832	148612	95187	36818	0	0
27	232998	238176	243533	252450	255977	232726	186444	147406	92892	35064	0	0
28	233089	238358	243719	252641	255977	230461	186134	145931	90597	33383	0	0
29	233180	238448	243905		256167	228423	185668	144481	88466	31570	0	0
30	233452	238539	244091		256262	226296	185280	142986	86481	29843	0	0
31		238630	244277		256358		184891		84450	28064		930

CONTENTS OF JOHN MARTIN RESERVOIR

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APPENDIX "B-5"

OUTFLOW FROM JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1959

U S G S Records—Provisional, Subject to Revision

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

THE YEAR 271,600 Acre Feet

OUTFLOW FROM JOHN MARTIN RESERVOIR

* * * *

APPENDIX "B-6"

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report-Year Ending October 31, 1959

U S G S Record—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	357	265	140	90	143	110	430	175	304	424	359	350
2	350	198	166	71	148	106	505	166	281	437	368	378
3	250	182	110	90	157	117	554	169	186	470	475	315
4	227	171	87	110	166	176	506	152	131	471	518	340
5	204	157	80	130	157	204	504	130	100	470	533	406
6	166	157	82	150	130	162	558	121	179	483	511	310
7	153	157	120	160	143	134	562	110	238	641	485	316
8	148	157	155	148	157	148	541	136	276	780	463	311
9	143	120	175	148	162	157	592	131	283	568	451	324
10	139	140	175	148	157	232	443	135	308	519	431	334
11	139	170	170	153	153	305	290	121	377	500	455	305
12	125	176	160	166	148	198	204	155	421	464	476	282
13	125	180	157	171	157	143	140	225	468	441	472	260
14	110	187	157	171	157	114	290	239	463	457	502	254
15	114	193	162	171	134	110	385	374	460	498	470	248
16	121	176	171	162	130	106	441	357	576	517	306	237
17	95	162	166	166	125	87	467	369	538	508	260	215
18	117	171	162	166	125	87	491	363	413	466	218	210
19	148	166	176	153	130	102	427	291	437	421	198	204
20	171	162	135	143	153	121	401	284	500	369	164	176
21	182	162	110	148	134	143	485	317	1030	384	142	166
22	166	162	120	148	134	204	604	564	663	577	134	171
23	176	162	130	139	134	232	553	1190	744	1380	136	182
24	166	171	150	143	134	264	496	503	433	484	269	182
25	166	176	175	148	134	282	460	343	335	359	2270	176
26	162	182	170	148	139	439	379	339	374	836	970	166
27	130	182	180	143	125	345	301	402	422	400	570	166
28	150	148	193	143	134	380	218	371	420	394	412	198
29	190	121	193		121	513	217	310	495	367	309	198
30	220	125	171		117	515	187	294	504	374	301	204
31		125	135		117		175		477	388		210
TOTAL												
sec. ft.	5110	5163	4633	4027	4355	6236	12806	8836	12836	15847	13628	7794
ac. ft.	10140	10240	9190	7990	8640	12370	25400	17530	25460	31430	27030	15460

THE YEAR 200,900 Acre Feet

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

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

APPENDIX "B-7"

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report-Year Ending October 31, 1959

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	19	178	196	70	190	181	33	136	9.4	17	6.7	116
2	19	210	192	44	190	174	38	116	9.1	13	8.3	139
3	19	227	34	81	194	142	18	113	11	12	11	123
4	13	241	36	132	194	107	20	98	16	10	7.5	110
5	11	241	62	199	190	95	23	101	14	9.5	6.7	148
6	16	227	75	240	187	95	31	83	12	10	6.3	326
7	15	230	106	319	181	92	38	58	17	9.1	6.9	434
8	23	227	129	296	181	89	42	42	11	12	7.1	320
9	13	205	147	266	184	86	64	33	5.9	16	7.1	309
10	16	213	160	256	187	98	49	31	4.3	53	4.0	299
11	10	216	192	227	190	155	31	31	7.9	27	3.1	313
12	13	238	210	220	184	187	25	27	5.9	13	4.4	322
13	17	125	241	256	184	230	25	25	6.7	21	3.1	322
14	13	89	276	263	184	224	23	16	6.7	14	3.1	313
15	18	138	276	243	184	174	35	21	5.9	14	4.4	306
16	12	196	255	230	187	116	28	21	7.4	20	8.3	290
17	4.0	241	210	224	181	98	31	23	5.4	20	2.4	283
18	10	262	202	217	181	92	24	17	12	27	5.6	273
19	40	241	227	214	177	86	28	16	20	25	3.5	266
20	75	230	234	210	190	80	40	15	16	14	4.0	256
21	117	220	55	200	197	56	28	17	54	11	2.1	253
22	154	220	46	204	197	38	33	24	36	23	1.6	250
23	182	216	89	200	197	33	69	42	42	19	1.4	237
24	188	216	117	200	194	35	75	92	16	5.1	1.6	230
25	192	216	144	197	197	33	104	80	16	6.6	3.0	233
26	188	213	168	197	207	28	110	27	12	18	1.34	224
27	185	216	196	194	197	28	126	16	16	14	638	224
28	100	216	238	190	194	33	171	9.6	16	5.3	362	220
29	120	216	276		187	25	155	20	35	33	194	227
30	138	196	272		190	23	142	15	21	14	116	237
31		168	171		187		142		14	8.3		256
TOTAL												
sec. ft.	1940.0	6488	5232	5789	5864	2933	1801	1365.6	481.6	666.9	1794.0	7859
ac. ft.	3850	12870	10380	11480	11630	5820	3570	2710	995	1320	3560	15590

THE YEAR 83,740 Acre Feet

ARKANSAS RIVER AT GARDEN CITY, KANSAS

APPENDIX "B-8"

DEMANDS BY COLORADO FOR WATER

Report-Year Ending October 31, 1959

(Arkansas River Compact Administration Records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1						195	650	275	600	650	550	
2						300	650	275	600	675	600	
3						300	650	275	600	675	600	
4						300	650	275	600	675	600	
5						310	650	365	600	675	600	
6						345	650	460	600	675	600	
7						450	650	475	600	555	600	
8						550	600	475	600	430	600	
9						435	575	475	635	400	600	
10						0	575	525	650	400	600	
11						0	575	550	650	400	600	
12						0	575	550	650	400	600	
13						250	575	615	650	400	600	
14						385	575	650	650	400	220 (Empty 8:45 a.m.)	
15						420	575	600	650	370		
16						490	575	600	590	350		
17						540	525	570	550	350		
18						570	500	550	550	350		
19						570	460	570	550	350		
20						570	425	600	550	450		
21						570	395	600	550	500		
22						570	350	570	550	400		
23						580	335	550	550	400		
24						580	300	550	550	400		
25						600	250	550	550	400		
26						600	225	550	550	400		
27						620	225	490	600	400		
28						650	245	450	625	400		
29						650	275	450	625	400		
30						650	275	470	600	400		
31							275		600	400		
TOTAL						13050	14810	14960	18475	14130	7970	
sec. ft.						25880	29380	29670	36640	28030	15810	
ac. ft.												

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DEMANDS BY COLORADO FOR WATER

* * * *

APPENDIX "B.9"

THE YEAR 165,410 Acre Feet

DEMANDS BY KANSAS FOR WATER
 Report-Year Ending October 31, 1959
 (Arkansas River Compact Administration Records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	
1							500	0	75	500	500		
2							500	0	0	500	500		
3							500	0	0	500	500		
4							500	0	190	500	455		
5							500	0	300	500	400		
6							500	0	300	500	400		
7							500	0	340	500	400		
8							180	0	400	500	400		
9							0	0	465	500	400		
10							0	195	500	500	400		
11							0	300	500	500	400		
12							260	300	500	500	400		
13							400	300	500	500	400		
14							400	300	500	500	145 (Empty		
15							400	300	500	500	8:45		
16							400	300	500	500	A.M.)		
17							400	300	500	500			
18							400	300	500	500			
19							400	300	500	500			
20						195	400	300	500	500			
21						300	350	300	500	500			
22						300	194	300	500	500			
23						300	0	300	500	500			
24						300	0	300	500	500			
25						300	0	300	500	500			
26						300	0	300	500	500			
27						380	0	300	500	500			
28						500	0	300	500	500			
29						500	0	300	500	500			
30						500	0	300	500	500			
31							0		500	500			
TOTAL													
sec. ft.						3875	7684	6195	13070	15500	5700		
ac. ft.						7690	15240	12290	25920	30740	11310		
								THE YEAR 103,190 Acre Feet					

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DEMANDS BY KANSAS FOR WATER

APPENDIX "B-10"

* * * * *

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

Report-Year Ending October 31, 1959

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1							430		304	424	359	
2							505		281	437	368	
3							554		186	470	475	
4							506		131	471	518	
5							504			470	533	
6							558			483	511	
7							562		238	641	485	
8							541		276	780	463	
9							592		283	568	451	
10							443		308	519	431	
11							290		377	500	455	
12									421	464	476	
13								225	468	441	472	
14								239	463	457	502	
15							385	374	460	498	470	
16							441	357	576	517	306	
17							467	369	538	508	260	
18							491	363	413	466		
19							427	291	437	421		
20							401	284	500	369		
21							485	317	1030	384		
22							604	564	663	577		
23						232	553	1190	744	1380		
24						264	496	503	433	484		
25						282	460	343	335	359		
26						439		339	374	836		
27						345		402	422	400		
28						380		371	420	394		
29						513		310	495	367		
30						515		294	504	374		
31									477	388		
TOTAL												
sec. ft.							2970	10695	7135	12557	15847	7535
ac. ft.							5890	21210	14150	24910	31430	14950
THE YEAR 112,500 Acre Feet												

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STATELINE FLOW ON DAYS OF KANSAS DEMAND

* * * * *

APPENDIX "B-11"

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

APPENDIX "B-12"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report-Year Ending October 31, 1959

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

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

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APPENDIX "B-13"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year Ending October 31, 1959

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

(Acre Feet)

31

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

APPENDIX "B-14"

* * * *

DIVERSIONS BY DITCHES IN KANSAS

Report-Year Ending October 31, 1959

(Acre Feet)

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

Other Ditches, Kansas Division of Water Resources Records

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

APPENDIX "B-15"

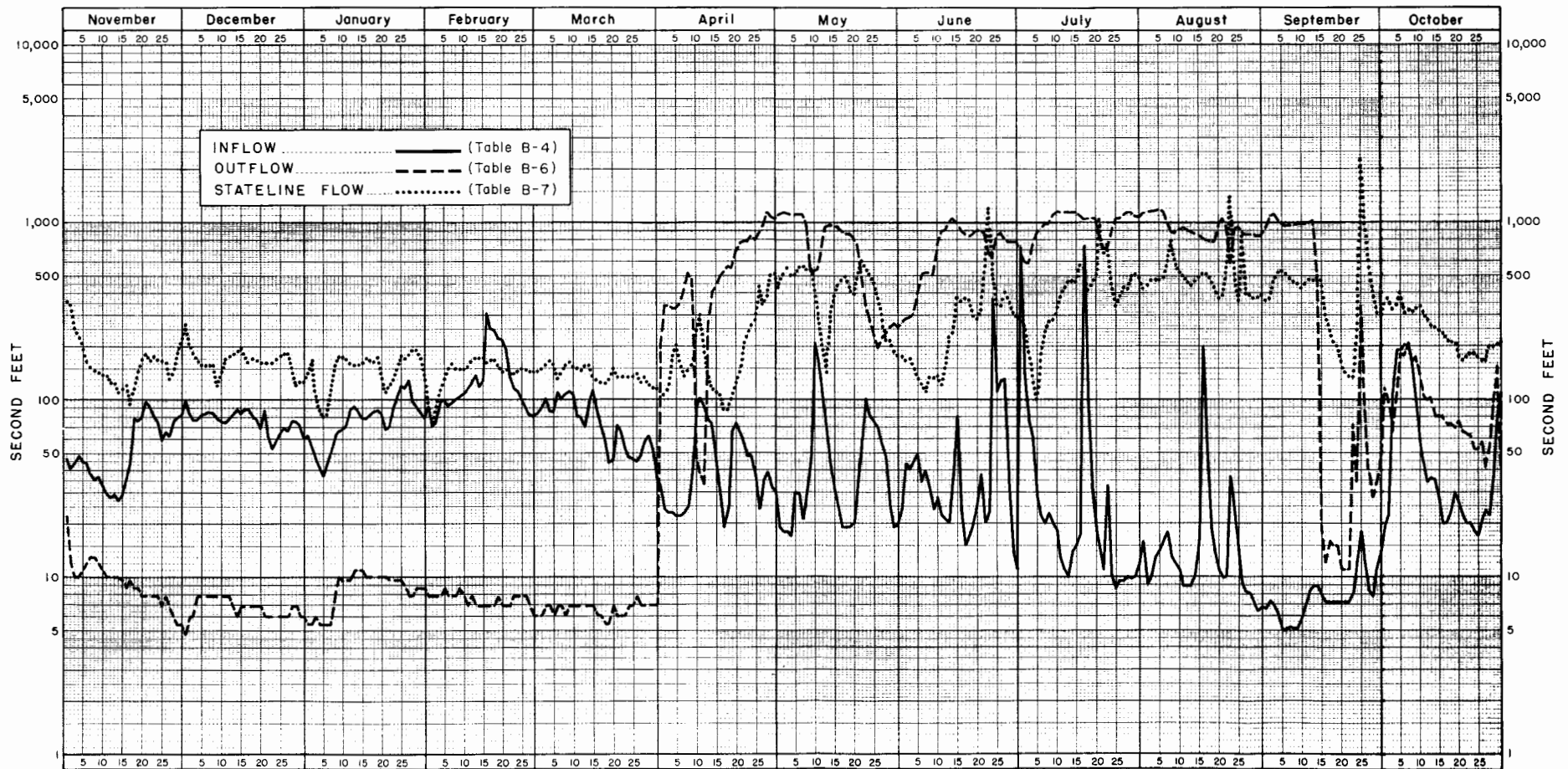
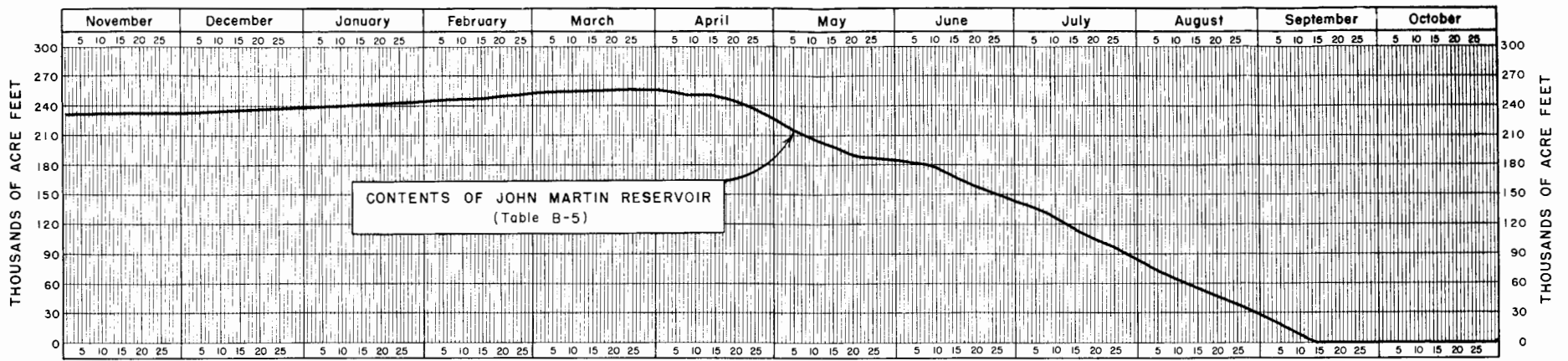
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SUMMARY TABULATION

(Acre-Feet)

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

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



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

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