

**FIFTEENTH ANNUAL REPORT**

**ARKANSAS RIVER**

**COMPACT**

**ADMINISTRATION**

**(1963)**

**For the Report-Year November 1, 1962  
to October 31, 1963**

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**LAMAR, COLORADO**

**December 13, 1963**

Fifteenth  
Annual Report

ARKANSAS RIVER COMPACT  
ADMINISTRATION  
(1963)

For the Report-Year November 1, 1962 to October 31, 1963

LAMAR, COLORADO

December 13, 1963

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THE ADMINISTRATION

FRANCIS M. BELL, *Chairman and Representative of the United States*  
HACKET SMARTT, *Secretary and Treasurer*

FELIX L. SPARKS, GEORGE F. REYHER and HACKET SMARTT  
*for Colorado*

ROBERT V. SMRHA, LOGAN N. GREEN and CARL E. BENTRUP  
*for Kansas*

\*  
\*   \*  
\*



ARKANSAS RIVER COMPACT ADMINISTRATION MEETING, JULY 9, 1963.

Left to right: Kansas members: Robert V. Smrha, Carl E. Bentrup, Logan N. Green; Representative of the United States, Francis M. Bell; Colorado members: Leonard R. Kuiper, David Jenkins, Hacket Smartt.

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**Annual Report of**  
**ARKANSAS RIVER COMPACT ADMINISTRATION**  
**(1963)**

Report - Year November 1, 1962 to October 31, 1963

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, 1962 through October 31, 1963 as follows:

***1. Members of the Administration***

Representative of the United States:

Francis M. Bell

Colorado Representatives:

Leonard R. Kuiper, Denver, Colorado  
(November 1, 1962 - July 10, 1963)

Felix L. Sparks, Denver, Colorado  
(July 10, 1963 - October 31, 1963)

David Jenkins, Las Animas, Colorado  
(November 1, 1962 - October 11, 1963)

George F. Reyher, McClave, Colorado  
October 12, 1963 - October 31, 1963)

Hacket Smartt, Lamar, Colorado

Kansas Representatives:

Carl E. Bentrup, Deerfield, Kansas

Logan N. Green, Garden City, Kansas

Robert V. Smrha, Topeka, Kansas

***2. Officers of the Administration***

Chairman:

Francis M. Bell

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 (Nov. 1, 1962 - Oct. 11, 1963)

George F. Reyher of Colorado (Oct. 12, 1963 - Oct. 31, 1963)

Engineering Committee:

Robert V. Smrha of Kansas (Chairman)

Leonard R. Kuiper of Colorado (Nov. 1, 1962 - Jul. 10, 1963)

Felix L. Sparks of Colorado (Jul. 10, 1963 - Oct. 31, 1963)

Operations Committee:

Carl E. Bentrup of Kansas (Chairman)

Hacket Smartt of Colorado

Francis M. Bell, Representative of the United States, is ex-officio member of all standing committees.

**4. Meetings**

December 11, 1962	Lamar, Colorado	Annual Meeting
March 26, 1963	Lamar, Colorado	Special Meeting
April 8, 1963		Telephonic Meeting
July 9, 1963	Lamar, Colorado	Special Meeting
September 22, 1963		Telephonic Meeting
September 24, 1963		Telephonic Meeting

**5. Fiscal**

(a) Balance on Hand October 31, 1962, Auditor's Report..\$2,183.28

(b) Receipts—November 1, 1962—Kansas .....	1,980.00
December 8, 1962—Colorado .....	2,970.00
September 3, 1963—Kansas .....	1,980.00
September 3, 1963—Colorado .....	2,970.00

(c) Disbursements by the Administration—November 1, 1962 to October 31, 1963:

Date	Voucher No.	Payee and Purpose	Amount
12/12/62	356	Telephone Co.—Nov. Service.....	\$ 43.50
12/12/62	357	Hotel Broadmoor, re Warden Noe.....	61.20
12/15/62	358	U.S.G.S., 1st Qtr., Cooperative Agreement.....	450.00
1/ 4/63	359	Telephone Co.—Dec. Service.....	13.95
1/ 4/63	360	Marvin Strait Auditing for 1962.....	65.00
1/ 4/63	361	Hacket Smartt Nov., Dec. Salary.....	193.60
1/ 4/63	362	Treasurer of U.S.A. O.A.S.I. Fund.....	18.75
3/ 4/63	363	U.S.G.S., 2nd Qtr., Cooperative Agreement.....	450.00
3/ 4/63	364	Telephone Co.—Jan. & Feb. Service.....	22.00
3/28/63	365	Peerless Printing Co.—14th Annual Report.....	625.00
4/ 2/63	366	Telephone Co.—Mar. Service .....	12.65
4/ 2/63	367	Hacket Smartt Jan., Feb., Mar. Salary.....	289.13
4/ 2/63	368	Treasurer of U.S.A. O.A.S.I. Fund.....	21.75
5/ 5/63	369	Telephone Co.—April Service .....	20.20
6/30/63	370	U.S.G.S., 3rd Qtr., Cooperative Agreement.....	450.00
6/30/63	371	Hacket Smartt, Apr., May, June Salary plus \$12.00 mileage, \$12.00 reading gage at Lamar..	313.13
6/30/63	372	Treasurer of U.S.A. O.A.S.I. Fund.....	21.75
6/30/63	373	Telephone Co.—May and June Service.....	23.75
7/ 7/63	374	Telephone Co.—July Service .....	13.25
8/ 2/63	375	Lamar Daily News—Letter heads .....	9.20
9/ 4/63	376	U.S.G.S., 4th Qtr., Cooperative Agreement.....	450.00
9/ 4/63	377	Telephone Co.—August Service .....	19.00
10/ 3/63	378	Telephone Co.—September Service .....	14.50
10/ 3/63	379	Valley Agency—Surety Bond .....	15.00
10/ 3/63	380	Treasurer of the U.S.A. O.A.S.I. Fund.....	21.75
10/31/63	381	Hacket Smartt, July, Aug., Sept. Salary.....	289.00
10/31/63	382	Hacket Smartt, Oct. Salary.....	\$96.37
		plus 363 miles traveled at 8¢ per mile.....	29.04
		Typing .....	22.00
		Postage and mailing.....	5.00
			<u>152.41</u>
10/31/63	383	Telephone Co.—October Service.....	26.80
		Total Disbursements .....	<u>\$4,106.27*</u>

(d) Balance on hand October 31, 1963.....\$7,977.01

(e) The Compact Administration, at a special meeting held in Lamar, Colorado, July 9, 1963, estimated its expenses in accordance with expenditures during the past year and approved its budget for the fiscal year July 1, 1964, to June 30, 1965, as follows:

\* Note: \$0.63 difference between this and Exhibit A of the auditor's report results from the auditor considering accrued Social Security due the United States as being a disbursement.

Personal Services .....		\$6,825.00
Secretary Salary .....	\$1,200.00	
Social Security .....	50.00	
Gage Reports .....	1,800.00	
Professional Services (Audit of Accounts) .....	75.00	
Cooperative gage replacement and rehabilitation .....	3,700.00	
Capital Outlay.....		300.00
Maintenance and Operation.....		1,675.00
Bond, Treasurer .....	25.00	
Printing .....	600.00	
Official Publications .....	100.00	
Travel Expense—Secretary and Employees .....	150.00	
Typing and Mailing.....	200.00	
Investigation and Inspection.....	150.00	
Telephone and Telegraph .....	300.00	
Office Supplies .....	150.00	
Total Proposed Budget, 1964-1965.....		\$8,800.00
Estimated Carry-over as of June 30, 1964.....		1,580.00
Total to be appropriated by Colorado and Kansas.....		\$7,220.00

In accordance with Article VIII E (I), the amount of such budget payable by the State of Colorado is sixty percent thereof, or \$4,332.00, and the amount payable by the State of Kansas is forty percent thereof, or \$2,888.00.

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, 1962 through October 31, 1963, 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 continued to operate John Martin Reservoir in accordance with the terms of the Compact and the orders of the Administration. In addition, the Corps furnished a revised capacity table for John Martin Reservoir for use beginning November 1, 1962. 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.

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

No reservoir water was in storage on November 1, 1962 at the beginning of the compact year. Winter water stored at midnight March 31, 1963 was 23,189 acre feet. Irrigators in both Colorado and Kansas demanded release of stored water on April 1, 1963 and releases were started at 8:30 A. M. on that date. Colorado's 600 c.f.s. and Kansas' 400 c.f.s. demands emptied the reservoir at midnight April 12, 1963. With the exception of a small amount of flood storage for five days in late September the reservoir remained empty for the rest of the summer irrigation season.

### ***8. Gaging Stations***

Stream-flow records of satisfactory accuracy were obtained at all of the Compact stations. Emphasis was continued on performing additional field work and providing stream-flow data to the Administration and the State officials on a current basis.

Conditions at the station on the Arkansas River at Las Animas remained unfavorable because of the channel by-passing the gage. The varying percentage of the flow in this channel made it difficult to maintain current stage-discharge relations for operation. The station should be relocated or channel improvements effected as soon as bridge plans of the Colorado State Highway Department and channel improvement plans of the Corps of Engineers are firm.

No action has been taken on replacement of the radio stage-reporting equipment at the two State line stations. Although this equipment operated satisfactorily most of the time, it is not dependable because of obsolescence and should be replaced with modern radio or telephonic equipment. The installation of radio stage-reporting equipment at the

two inflow stations at Las Animas to facilitate and improve reservoir operations during summer flash floods is planned if the necessary additional funds are provided by the Colorado and Kansas legislatures.

The Administration approved a cooperative agreement with the U. S. Geological Survey for fiscal year July 1, 1963 to June 30, 1964 for \$7,600, \$3,800 from each party. Twelve hundred dollars is for the full operation of the Compact gaging station at Lamar, \$2,400 for partial support of the other five Compact gaging stations, and the remaining \$4,000 for partial procurement of radio equipment for the two inflow stations at Las Animas.

### **9. Findings of Fact by the Administration**

(a) A special Telephonic Meeting of the Administration was held April 8, 1963 in accordance with Article IV, 3B, of the by-laws for the purpose of declaring the reservoir empty. As a result of this meeting it was decided that the reservoir would become empty on April 12, 1963. Notice was given to the State Engineer of Colorado that unless a change of conditions justify cancellation or modification of this notice, he is required under terms of the compact to administer the rights of water users in Colorado in the manner and for a period of time as set forth in Article VF of the Compact. The reservoir was officially declared empty at 12:00 P.M. April 12, 1963, and the Colorado State Engineer and Division Engineer were duly notified.

(b) The Secretary was notified Saturday evening, September 21, of some floods in the Purgatoire and, also, some water in the Arkansas at Las Animas. On Sunday, September 22, the Secretary made a trip to the reservoir and upon finding 1,000 cfs being discharged at about 2:00 P.M., decided to drive on up to the gaging stations on the Purgatoire and Arkansas Rivers near Las Animas. He found a considerable flood in the Purgatoire; also, there had been some high water at the gaging station on the Arkansas near Las Animas. With this information at hand, the Secretary decided to call a special telephonic meeting which was held in accordance with Article IV, 3B of the by-laws of the Administration for the purpose of declaring water available for storage in John Martin Reservoir. Water was declared to be available and the gates were adjusted at 5:00 P.M. to discharge 1,000 cfs which was demanded by Colorado and Kansas. State Engineer, J. E. Whitten, for Colorado was notified, as was F. C. Snyder, Division Engineer, at Pueblo.

(c) A special Telephonic Meeting was held by the Administration on September 24, 1963 in accordance with Article IV, 3B of the by-laws for the purpose of finding the reservoir empty. The reservoir was found to become empty on September 26, 1963. Notice was given to the State Engineer of Colorado that priority administration would commence on that date, unless a change of conditions justified cancellation or modification of this notice. Priority Administration should commence and

decreed rights of water users in Colorado would be administered by the State Engineer. The reservoir was officially declared empty at 3:30 P.M. on September 26, 1963.

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

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

BY:

FRANCIS M. BELL

Representative of the United States and  
Chairman of the Administration

FELIX L. SPARKS

GEORGE F. REYHER

HACKET SMARTT

Colorado Members of the Administration

ROBERT V. SMRHA

LOGAN N. GREEN

CARL E. BENTRUP

Kansas Members of the Administration

Lamar, Colorado  
December 13, 1963

## APPENDICES

for

### Annual Report of the Arkansas River Compact Administration

For the Report Year November 1, 1962 to October 31, 1963

- 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 Lamar, Colorado.
- APPENDIX "B-8" —Daily Discharges, Arkansas River at Colorado-Kansas Stateline.
- APPENDIX "B-9" —Daily Discharges, Arkansas River at Garden City, Kansas.
- APPENDIX "B-10"—Demands by Colorado for Water.
- APPENDIX "B-11"—Demands by Kansas for Water.
- APPENDIX "B-12"—Stateline Flow on Days of Kansas Demand.
- APPENDIX "B-13"—Diversions by Ditches in Colorado Water Districts 14 and 17.
- APPENDIX "B-14"—Diversions by Ditches in Colorado Water District 67.
- APPENDIX "B-15"—Diversions by Ditches in Kansas, Stateline to Garden City.
- APPENDIX "B-16"—Summary Tabulation.
- APPENDIX "C" —Amendment to By-Laws.
- PLATE I—Graphs showing inflow, outflow and contents of John Martin Reservoir and Stateline Flow for Report Year.

**APPENDIX "A"**

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**AUDITOR'S REPORT**

**A. MARVIN STRAIT**

\* \* \* \*

Certified Public Accountant  
Reyher Building  
Lamar, Colorado

December 4, 1963

To the Representatives  
Arkansas River Compact Administration  
Lamar, Colorado

Gentlemen:

We have examined the receipts and disbursements of the Arkansas River Compact Administration for the fiscal year ended October 31, 1963. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We submit herewith the following financial statements:

EXHIBIT A—Statement of Receipts and Disbursements and Changes in Fund Balances for the Fiscal Year ended October 31, 1963.

SCHEDULE 1—Statement of Receipts and Disbursements compared with Budget for the Budget Year July 1, 1962 to June 30, 1963.

COMMENTS

EXHIBIT A

The receipts and disbursements, on a cash basis, are shown in Exhibit A. The receipts shown in Exhibit A represent two years allocations from Colorado and Kansas. The assessments for the year ended October 31, 1962 were not received and deposited until November of 1962 and; therefore, were not recorded until the current year. The assessments for the current year were received in September of 1963.

The disbursements were all supported by vouchers, cancelled checks, and authorization for payment in the minutes of the Compact's meetings.

SCHEDULE 1

The receipts and disbursements for the budget year of July 1, 1962 to June 30, 1963 as compared with budgeted items for that year are shown in Schedule 1. This differs from the report year of November 1, 1962 to October 31, 1963 and is the result of combining the receipts and disbursements for the appropriate months of the current and previous report years.

Financial position of the Administration as compared with last year is shown below:

COMPARATIVE BALANCE SHEET

ASSETS	October 31, 1963	October 31, 1962
Cash in Bank.....	\$7,977.01	\$2,183.28
Equipment .....	92.50	92.50
Total Assets .....	<u>\$8,069.51</u>	<u>\$2,275.78</u>
Social Security Withheld .....	\$ 3.63	\$ 3.00
Expended Fund Balance Equipment .....	92.50	92.50
Unexpended Fund Balance .....	<u>7,973.38</u>	<u>2,180.28</u>
Total Liabilities and Fund Balances.....	<u>\$8,069.51</u>	<u>\$2,275.78</u>

OPINION

In our opinion the Statement of Receipts and Disbursements and Changes in Fund Balances presents fairly the cash balance of the Arkansas River Compact Administration at October 31, 1963 and the cash transactions for the fiscal year then ended on a basis consistent with that of the previous year.

Respectfully submitted,

A. MARVIN STRAIT

**EXHIBIT A**

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

STATEMENT OF RECEIPTS AND DISBURSEMENTS AND CHANGES IN  
FUND BALANCES FOR THE FISCAL YEAR ENDED  
OCTOBER 31, 1963

CASH IN BANK—NOVEMBER 1, 1962.....	\$ 2,183.28
LESS: Unremitted Social Security Deduction on Secretary's Salary .....	3.00
FUND BALANCE—NOVEMBER 1, 1962.....	\$ 2,180.28
RECEIPTS:	
Revenue from Assessments:	
Colorado .....	\$5,940.00
Kansas .....	3,960.00
TOTAL RECEIPTS .....	9,900.00
TOTAL AVAILABLE .....	\$12,080.28
DISBURSEMENTS:	
Surface Water Investigations:	
U. S. Geological Survey .....	\$1,800.00
Salary of Secretary .....	1,200.00
Printing .....	634.20
Telephone and Telegraph .....	209.60
Travel .....	114.24
Auditing .....	65.00
Social Security—Employer's Share.....	41.86
Typing and Mailing .....	27.00
Treasurer's Bond .....	15.00
TOTAL DISBURSEMENTS .....	4,106.90
FUND BALANCE—OCTOBER 31, 1963.....	\$ 7,973.38
REPRESENTED BY:	
Cash on Deposit—First National Bank in Lamar.....	\$ 8,156.22
LESS: Outstanding Checks:	
No. 382—Hacket Smartt .....	\$ 152.41
No. 383—Mountain States Tel. & Tel. ....	26.80
	179.21
	\$ 7,977.01
Unremitted Payroll Deduction .....	3.63
	\$ 7,973.38

**SCHEDULE 1**

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

STATEMENT OF RECEIPTS AND DISBURSEMENTS COMPARED WITH  
BUDGET FOR THE BUDGET YEAR  
JULY 1, 1962 TO JUNE 30, 1963

	<u>Actual</u>	<u>Budgeted</u>
CASH IN BANK—JULY 1, 1962.....	\$3,221.51	\$1,700.00
RECEIPTS:		
Revenue from Assessments:		
Colorado Portion—60% .....	\$2,970.00	\$2,970.00
Kansas Portion—40% .....	1,980.00	1,980.00
TOTAL RECEIPTS .....	<u>4,950.00</u>	<u>4,950.00</u>
TOTAL TO ACCOUNT FOR .....	<u>\$8,171.51</u>	<u>\$6,650.00</u>
DISBURSEMENTS:		
Surface Water Investigations:		
U. S. Geological Survey .....	\$1,775.00	\$1,650.00
Secretary Salary .....	1,200.00	1,200.00
Printing of Annual Report.....	625.00	600.00
Telephone and Telegraph .....	199.15	300.00
Travel .....	186.48	150.00
Auditing .....	65.00	75.00
Payroll Tax—Employees Portion..	40.46	50.00
Treasurer's Bond .....	15.00	25.00
Typing and Mailing .....	14.00	200.00
Office Supplies .....	13.50	150.00
Official Publications .....		100.00
Investigation and Inspection .....		150.00
Capital Outlay .....		300.00
Capital Outlay—Gage Replacement .....		1,700.00
TOTAL DISBURSEMENTS..	<u>\$4,133.59</u>	<u>\$6,650.00</u>
CASH IN BANK—JUNE 30, 1963.....	<u>\$4,037.92</u>	\$ —



ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year ending October 31, 1963  
 U S G S Records—Provisional, subject to revision  
 (Colorado State Engineer)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	280	361	344	430	200	154	118	869	646	580	721	88
2	273	400	335	430	201	126	109	858	533	554	430	73
3	259	408	306	429	206	106	110	813	570	290	364	67
4	245	392	313	445	226	96	124	803	616	229	305	67
5	244	384	343	479	220	148	143	737	689	326	298	61
6	237	368	326	431	200	182	199	652	809	340	264	59
7	231	392	262	345	219	181	186	602	853	614	515	84
8	231	400	237	281	206	202	295	512	974	333	978	105
9	225	392	241	267	212	260	411	522	930	1150	927	100
10	225	407	230	274	193	194	493	605	786	543	271	146
11	231	384	290	295	170	121	916	625	667	410	250	152
12	244	352	290	268	158	72	1060	487	442	881	313	109
13	211	351	290	240	157	33	1180	406	392	948	277	98
14	170	351	290	240	150	36	1060	398	277	1870	271	83
15	192	344	290	254	140	63	1020	513	225	457	264	83
16	244	343	290	267	145	71	891	819	258	440	238	74
17	279	343	290	267	134	70	924	1150	213	330	182	74
18	271	351	290	246	167	72	1120	1300	179	315	145	86
19	264	335	290	226	162	68	1400	976	154	300	137	86
20	272	343	290	212	150	53	1680	870	126	281	342	89
21	285	351	290	253	159	34	1750	750	194	302	1030	104
22	320	320	290	240	150	29	1690	677	126	590	356	126
23	323	335	290	240	151	40	1560	569	110	765	244	125
24	302	344	290	239	156	42	1280	506	440	734	204	115
25	322	290	290	252	184	36	985	480	542	778	187	113
26	307	265	290	246	190	43	930	445	630	1040	203	106
27	306	265	290	233	156	52	877	440	581	848	153	118
28	328	265	290	227	136	146	844	496	563	826	143	135
29	344	265	290		140	199	778	772	571	1200	123	123
30	352	265	290		173	138	814	696	562	975	119	104
31		351	290		155		869		553	750		131

TOTAL	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
sec. ft.	8017	10717	9027	8256	5366	3067	25816	20348	15211	19999	10254	3084
ac. ft.	15900	21260	17900	16380	10640	6080	51210	40360	30170	39670	20340	6120
(a) ac. ft.						1935	11440	1670	14225	10205	730	
(b) ac. ft.						4140	39770	38690	15940	29460	19610	

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

THE YEAR 276,000 Acre Feet  
 CORRECTED 235,800 Acre Feet

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ARKANSAS RIVER NEAR PUEBLO, COLORADO

APPENDIX "B-1"

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## ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report-Year ending October 31, 1963  
U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	51	65	90	60	62	24	8.0	111	5.0	6.0	26	5.0
2	26	85	86	50	55	62	9.4	92	5.0	5.0	16	4.0
3	12	58	81	53	50	47	9.4	174	5.0	512	19	4.0
4	12	40	96	55	45	38	11	170	9.0	30	38	3.0
5	19	31	93	55	50	33	11	115	25	12	12	2.7
6	24	29	85	70	55	40	11	111	33	7.0	3.0	2.7
7	18	29	83	72	62	38	9.4	89	26	5.0	4.0	3.0
8	70	31	78	58	72	35	9.4	58	35	12	11	4.0
9	75	62	78	58	70	26	9.4	24	50	80	222	4.0
10	115	40	62	36	70	16	9.4	26	72	18	540	5.0
11	80	29	50	26	70	15	9.4	13	47	162	340	5.0
12	60	29	13	36	62	14	9.4	7.0	96	244	340	6.0
13	55	35	16	47	44	11	9.4	3.0	55	99	190	5.0
14	35	38	29	53	33	12	9.4	4.0	11	420	86	4.0
15	33	42	29	60	35	11	9.4	4.0	226	262	45	5.0
16	38	70	31	55	26	11	9.4	9.0	80	134	42	8.0
17	49	40	26	55	55	12	11	182	26	105	26	11
18	58	35	27	62	80	15	16	119	10	66	18	8.0
19	62	55	18	62	72	14	65	80	16	11	14	7.0
20	70	36	19	67	70	12	22	86	20	7.0	14	6.0
21	60	31	29	70	62	9.4	190	194	24	9.0	13	6.0
22	58	31	27	85	67	8.0	385	186	20	9.0	52	7.0
23	58	31	19	55	53	7.4	410	138	16	9.0	38	6.0
24	55	30	33	51	49	8.0	415	123	16	6.0	26	6.0
25	55	27	36	51	44	16	390	60	20	7.0	18	8.0
26	58	25	19	51	42	8.0	310	24	25	7.0	16	6.0
27	60	30	16	38	47	8.0	340	14	121	8.0	13	5.0
28	62	50	35	44	38	8.0	310	11	220	8.0	9.0	5.0
29	55	70	31	26	26	8.0	222	9.0	19	115	8.0	6.0
30	53	90	35	35	35	11	204	8.0	10	421	7.0	5.0
31		92	36		19		166		7.0	396		6.0
<b>TOTAL</b>												
sec. ft.	1536	1386	1406	1535	1620	577.8	3609.8	2244.0	1350.0	3192.0	2206.0	168.4
ac. ft.	3050	2750	2790	3040	3210	1150	7160	4450	2680	6330	4380	334

THE YEAR 41,320 acre-feet

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

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

Report Year ending October 31, 1963  
 U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	9.2	17	8.0	10	7.2	2.0	2.6	2.9	0.7	4.0	182	13
2	5.9	2.7	9.2	9	11	2.0	2.6	2.9	.6	8.0	82	9.8
3	2.6	3.2	8.0	10	8.0	2.9	2.6	2.6	.5	1140	54	7.4
4	2.6	18	13	40	8.0	2.6	2.4	2.0	.5	227	45	6.2
5	6.2	10	18	110	10	5.5	2.6	1.1	.6	147	164	4.7
6	15	12	15	82	11	2.6	2.4	1.1	.5	100	100	4.2
7	9.2	24	22	50	5.9	2.0	2.0	.8	.5	24	46	4.2
8	16	36	27	37	5.9	1.7	2.0	.7	.4	13	33	4.2
9	4.6	7.2	20	15	4.6	2.0	2.0	.8	.6	9.0	77	4.0
10	3.2	20	10	8.6	5.5	1.7	2.2	1.1	.7	10	325	3.3
11	3.2	42	2	5	5.9	2.0	1.7	1.4	.9	10	173	3.3
12	3.2	38	3	6	5.9	2.2	1.5	.9	.9	123	34	3.0
13	5.9	35	5	7	6.3	2.0	1.5	.9	.6	227	11	2.5
14	3.8	29	8	9	7.2	1.7	1.5	.8	.4	868	6.5	2.5
15	4.2	29	9.5	11	5.1	1.5	1.5	24	.4	168	22	2.8
16	4.2	10	9	15	3.1	2.4	2.4	23	.8	77	45	2.8
17	6.3	26	9	18	3.6	2.4	3.6	549	.2	40	37	2.8
18	6.3	36	8	20	3.6	2.2	1.5	30	.2	250	20	3.3
19	3.2	44	4	21	4.6	2.6	2.2	31	.1	75	8.6	3.7
20	3.8	34	7.5	20	4.6	2.2	2.0	11	.2	29	7.4	4.2
21	3.8	30	8.5	7.6	4.2	2.4	2.0	11	.1	16	254	4.2
22	3.5	23	7.5	7.2	3.8	2.2	3.3	6.7	.1	8.6	4370	4.0
23	3.5	20	7	8.6	3.8	2.2	2.6	3.3	.1	178	618	4.0
24	3.5	17	7.5	8.0	3.6	2.2	2.0	1.4	.2	122	140	3.5
25	3.8	8	6.5	7.2	3.8	2.4	2.0	1.2	.3	118	86	3.5
26	3.8	7.5	4	7.6	3.8	2.2	1.7	1.2	.4	606	57	3.0
27	4.2	8.5	3.5	8.6	3.8	1.7	2.9	1.1	861	396	54	2.8
28	4.6	9.5	4	7.2	3.6	2.0	2.0	1.0	728	219	37	2.5
29	6.7	11	3.5		3.3	2.0	1.5	1.0	145	159	26	2.3
30	15	12	3.5		3.3	2.2	6.7	.9	54	249	16	2.3
31		11	4		3.6		3.1		7.1	813		2.5
TOTAL												
sec. ft.	171.0	630.6	274.7	565.6	167.6	67.7	72.6	716.8	1806.6	6433.6	7130.5	126.5
ac. ft.	339	1250	545	1120	332	134	144	1420	3580	12760	14140	251
THE YEAR 36,020 acre-feet												

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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

APPENDIX "B-3"

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INFLOW INTO JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1963  
U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	60	82	98	70	69	26	11	114	5.7	10	208	18
2	32	88	95	59	66	64	12	95	5.6	13	98	14
3	15	61	89	63	58	50	12	177	5.5	1650	73	11
4	15	58	109	95	53	41	13	172	9.5	257	83	9.2
5	25	41	111	165	60	38	14	116	26	159	176	7.4
6	39	41	100	152	66	43	13	112	34	107	103	6.9
7	27	53	105	122	68	40	11	90	26	29	50	7.2
8	86	67	105	95	78	37	11	59	35	25	44	8.2
9	80	69	98	73	75	28	11	25	51	89	299	8.0
10	118	60	72	45	76	18	12	27	73	28	865	8.3
11	83	71	52	31	76	17	11	14	48	172	513	8.3
12	63	67	16	42	68	16	11	7.9	97	367	374	9.0
13	61	70	21	54	50	13	11	3.9	56	326	201	7.5
14	39	67	37	62	40	14	11	4.8	11	1290	92	6.5
15	37	71	38	71	40	12	11	28	226	430	67	7.8
16	42	80	40	70	29	13	12	32	81	211	87	11
17	55	66	35	73	59	14	15	731	26	145	63	14
18	64	71	35	82	84	17	18	149	10	316	38	11
19	65	99	22	83	77	17	67	111	16	86	23	11
20	74	70	26	87	75	14	24	97	20	36	21	10
21	64	61	38	78	66	12	192	205	24	25	267	10
22	62	54	34	92	71	10	388	193	20	18	4420	11
23	62	51	26	64	57	9.6	413	141	16	187	656	10
24	58	47	40	59	53	10	417	124	16	128	166	9.5
25	59	35	42	58	48	18	392	61	20	125	104	12
26	62	32	23	59	46	10	312	25	25	613	73	9.0
27	64	38	20	47	51	9.7	343	15	982	404	67	7.8
28	67	60	39	51	42	10	312	12	948	227	46	7.5
29	62	81	34	29	29	10	224	10	164	274	34	8.3
30	68	102	38	38	38	13	211	8.9	64	670	23	7.3
31		103	40	23	23		169		14	1210		8.5
TOTAL												
sec. ft.	1708	2016	1678	2102	1791	644.3	3684	2960.5	3155.3	9627	9334	295.2
ac. ft.	3390	4000	3330	4170	3550	1280	7310	5870	6260	19090	18510	586

THE YEAR 77,350 acre-feet

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "B-4"

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CONTENTS OF JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1963

Corps of Engineers records—Provisional, subject to revision

Midnight contents in Acre Feet from capacity table dated Nov. 1, 1962

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	2840	8910	13052	18981	21954	0	0	0	0	0	0
2	0	3141	9091	13280	19158	19973	0	0	0	0	0	0
3	0	3383	9337	13528	19400	18099	0	0	0	0	0	0
4	0	3615	9648	13775	19643	16235	0	0	0	0	0	0
5	0	3790	9862	14227	19775	14328	0	0	0	0	0	0
6	0	3976	10058	14570	19951	12367	0	0	0	0	0	0
7	0	4108	10288	14852	20128	10395	0	0	0	0	0	0
8	0	4283	10537	15094	20282	8407	0	0	0	0	0	0
9	34	4491	10803	15275	20419	6437	0	0	0	0	0	0
10	61	4655	10998	15457	20739	4447	0	0	0	0	0	0
11	109	4864	11051	15598	20900	2412	0	0	0	0	0	0
12	137	5047	11123	15699	21152	0	0	0	0	0	0	0
13	158	5255	11229	15779	21336	0	0	0	0	0	0	0
14	204	5439	11318	15981	21542	0	0	0	0	0	0	0
15	243	5623	11406	16193	21725	0	0	0	0	0	0	0
16	288	5836	11513	16447	21862	0	0	0	0	0	0	0
17	374	6055	11620	16722	22000	0	0	0	0	0	0	0
18	495	6259	11761	16913	22207	0	0	0	0	0	0	0
19	622	6491	11797	17188	22298	0	0	0	0	0	0	0
20	752	6736	11886	17400	22459	0	0	0	0	0	0	0
21	938	6913	11975	17591	22596	0	0	0	0	0	0	0
22	1112	7036	12063	17802	22762	0	0	0	0	0	295	0
23	1301	7235	12177	17929	22880	0	0	0	0	0	3704	0
24	1493	7386	12291	18165	23023	0	0	0	0	0	2607	0
25	1657	7536	12386	18342	23094	0	0	0	0	0	998	0
26	1880	7611	12481	18540	23117	0	0	0	0	0	0	0
27	2031	7746	12596	18673	23141	0	0	0	0	0	0	0
28	2237	7927	12691	18827	23165	0	0	0	0	0	0	0
29	2428	8152	12786		23141	0	0	0	0	23141	0	0
30	2637	8407	12824		23189	0	0	0	0	0	0	0
31		8648	12900		23189		0		0	0		0

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CONTENTS OF JOHN MARTIN RESERVOIR

APPENDIX "B-5"  
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OUTFLOW FROM JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1963  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	83	7.1	3.3	3.8	3.8	619	35	175	23	33	622	65
2	105	6.2	3.3	3.8	4.3	998	35	141	18	23	182	59
3	79	5.2	3.3	3.8	4.3	982	35	165	16	459	92	56
4	69	3.3	3.3	3.8	4.3	966	35	192	15	661	102	49
5	69	3.3	3.3	3.8	3.8	990	35	178	20	300	122	39
6	79	3.3	3.3	3.8	3.8	982	35	138	36	165	178	34
7	85	2.8	3.3	3.8	3.8	982	31	120	34	79	71	33
8	83	2.8	3.6	3.8	3.8	990	29	94	28	46	56	34
9	110	2.8	3.6	3.8	3.8	990	29	65	36	65	120	33
10	102	2.8	3.8	3.8	4.0	958	28	48	51	90	580	31
11	105	2.8	3.8	3.3	3.8	1010	28	46	51	163	702	31
12	92	2.8	3.3	3.0	4.0	958	26	36	43	358	520	33
13	83	2.8	3.6	3.0	3.8	101	26	29	87	345	322	34
14	59	2.8	3.6	3.3	3.8	48	28	26	67	630	185	34
15	53	2.8	3.6	3.3	3.8	48	25	26	90	808	110	31
16	49	2.8	3.8	3.0	3.0	46	25	141	168	358	110	31
17	28	3.0	3.8	3.0	4.0	45	33	327	87	213	81	33
18	8.1	3.0	3.8	3.0	4.0	36	36	372	56	297	63	34
19	7.6	3.0	3.6	2.8	4.3	36	40	202	43	216	39	35
20	7.6	3.0	3.6	3.0	4.3	38	59	147	51	83	31	36
21	7.1	3.0	3.6	3.0	4.8	40	67	159	35	56	43	35
22	7.1	3.0	3.8	2.8	4.8	42	260	466	30	53	634	36
23	7.1	3.0	3.6	3.0	4.8	40	405	268	26	54	1030	34
24	7.6	3.0	3.8	3.0	5.2	42	415	178	22	236	1100	31
25	7.6	3.0	3.8	3.0	8.1	46	400	138	19	90	1090	39
26	7.6	3.0	3.6	3.3	30	48	358	75	26	428	827	42
27	8.1	3.0	3.6	3.6	34	38	327	43	24	420	178	38
28	8.1	3.0	3.8	3.6	38	35	336	35	512	185	128	31
29	8.1	3.3	3.8		39	33	276	33	715	341	98	35
30	8.1	3.3	3.8		39	33	213	33	175	420	77	38
31		3.3	3.8		39		210		65	905		40
TOTAL												
sec. ft.	1432.8	102.3	111.6	94.0	325.2	12220	3920	4096	2669	8580	9493	1164
ac. ft.	2840	203	221	186	645	24240	7780	8120	5290	17020	18830	2310
THE YEAR 87,680 acre-feet												

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OUTFLOW FROM JOHN MARTIN RESERVOIR

APPENDIX "B-6"  
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ARKANSAS RIVER AT LAMAR, COLORADO

Report Year ending October 31, 1963  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	6.5	9.0	15	52	26	26	4.5	9.0	3.9	2.8	212	15
2	6.0	9.0	26	60	28	470	4.5	5.0	3.6	2.1	10	16
3	6.0	9.5	27	45	24	502	4.5	7.0	3.6	2.1	11	17
4	6.0	9.5	30	46	26	455	4.5	9.0	3.6	89	3.4	9.0
5	6.0	9.5	27	49	28	448	4.5	10	3.6	19	3.1	9.0
6	6.0	8.5	26	51	30	452	4.2	20	2.8	11	21	9.0
7	6.0	9.0	27	52	39	439	3.9	24	2.6	49	8.5	9.0
8	6.0	9.0	26	52	41	430	3.6	24	2.6	36	2.8	8.0
9	6.0	9.0	27	51	41	427	3.1	22	3.1	20	3.1	11
10	6.0	9.0	20	49	34	406	2.8	14	3.4	49	2.6	3.9
11	6.0	9.0	15	42	36	458	2.3	8.0	4.2	32	42	3.4
12	6.0	9.0	12	45	36	421	2.1	5.5	4.2	38	17	3.6
13	6.0	9.0	13	48	38	195	2.1	5.0	3.6	42	3.9	2.8
14	6.0	9.0	14	50	32	13	2.0	5.5	10	18	2.6	2.6
15	6.5	9.0	15	54	28	8.5	2.1	6.5	6.0	74	2.3	2.3
16	6.5	9.0	16	54	28	7.5	2.1	163	4.7	25	2.3	2.0
17	6.5	9.0	17	54	25	7.0	2.3	88	7.5	20	2.3	2.1
18	7.0	9.5	17	52	25	6.0	2.3	33	13	142	7.5	2.1
19	6.5	9.5	15	46	25	7.0	3.4	5.5	7.5	14	11	1.8
20	6.5	9.5	20	44	25	6.5	3.1	4.5	4.5	5.0	10	1.8
21	7.0	9.5	25	46	25	6.0	3.4	4.7	4.2	4.5	3.4	1.8
22	6.5	9.0	25	45	25	6.5	4.5	83	3.4	3.9	14	1.7
23	6.5	8.5	21	32	26	6.0	13	34	3.4	3.6	197	1.5
24	11	8	22	28	26	5.5	14	6.0	3.1	3.4	406	1.5
25	37	6	20	28	24	5.0	14	6.0	2.8	3.1	373	1.5
26	30	7	17	31	24	5.5	14	5.5	2.6	6.5	359	1.5
27	10	8	18	30	15	4.7	15	4.7	2.8	60	113	1.3
28	9.5	9	19	27	7.0	4.5	11	4.5	1100	51	4.5	1.5
29	9.0	9	21		6.0	3.9	22	4.2	248	45	1.8	1.5
30	9.0	10	25		5.5	3.9	14	4.2	6.5	41	2.6	1.5
31		11	45		5.5		10		3.9	39		1.7
TOTAL												
sec. ft.	259.5	277.5	663	1263	804.0	5236.0	198.8	625.3	1478.7	951.0	1852.7	148.4
ac. ft.	515	550	1320	2510	1590	10390	394	1240	2930	1890	3670	294
THE YEAR 27,290 acre-feet												

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ARKANSAS RIVER AT LAMAR, COLORADO

APPENDIX "B-7"  
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ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report-Year ending October 31, 1963  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	59	91	115	165	144	89	50	129	32	40	43	62
2	56	102	125	160	140	77	44	64	31	34	99	43
3	55	106	132	150	136	210	41	52	29	26	54	36
4	60	129	140	193	144	385	43	43	31	23	34	37
5	46	114	148	186	159	373	36	36	28	21	29	32
6	53	110	144	174	167	370	37	29	27	22	24	31
7	51	110	144	178	167	396	41	25	25	20	30	44
8	51	121	163	174	144	410	35	24	23	20	105	50
9	54	121	159	171	125	400	34	33	24	32	51	42
10	56	117	110	163	133	392	29	42	24	30	36	32
11	74	125	62	155	133	476	32	32	17	30	37	27
12	78	125	68	140	136	367	32	25	16	28	54	26
13	78	125	71	145	133	380	29	22	20	26	63	25
14	79	133	74	150	125	305	30	24	20	24	68	27
15	73	136	77	160	121	189	27	29	19	24	59	26
16	62	133	79	163	129	135	25	290	18	28	55	26
17	73	140	80	163	129	112	31	400	17	34	36	30
18	78	140	68	163	136	89	27	256	20	62	25	31
19	98	129	62	152	133	82	30	152	17	114	23	31
20	102	133	66	152	125	84	30	75	16	47	29	31
21	98	129	70	155	110	75	28	66	16	78	44	29
22	87	114	67	163	106	67	33	570	18	68	63	26
23	91	102	64	155	102	67	36	280	16	35	43	25
24	77	64	70	155	95	67	35	193	16	34	130	26
25	84	60	66	155	91	62	33	148	24	28	269	28
26	84	64	68	148	84	52	29	98	17	28	382	32
27	84	76	70	144	87	46	31	63	21	27	371	28
28	98	86	72	144	77	48	32	49	1030	45	222	31
29	102	98	66		74	44	45	42	457	63	107	31
30	95	104	71		69	44	38	38	199	55	79	33
31		110	84		93		35		71	47		31
TOTAL												
sec. ft.	2236	3447	2855	4476	3747	5893	1058	3329	2339	1193	2664	1009
ac. ft.	4440	6840	5660	8880	7430	11690	2100	6600	4640	2370	5280	2000

THE YEAR 67,930 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-8"

\* \* \*



## ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report Year ending October 31, 1963  
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	3.1	0.0	15	43	40	9.0	3.9	5.4	20	9.6	8.1	9.2
2	3.3	0	21	64	40	8.4	11	5.4	11	3.9	7.4	26
3	0	0	23	78	38	7.8	11	5.4	6.4	5.4	6.2	34
4	0	.7	33	110	40	5.7	9.6	6.6	3.6	3.3	5.6	21
5	0	1.8	33	100	70	5.7	8.4	7.2	3.6	2.6	5.9	17
6	0	2.0	30	104	94	4.5	8.4	7.8	3.9	2.4	6.2	12
7	0	2.0	26	94	97	2.0	9.6	7.2	2.6	1.2	5.3	12
8	0	2.2	26	72	56	3.6	9.0	5.1	2.6	2.0	3.2	11
9	0	2.6	28	67	28	3.6	5.7	5.7	3.0	3.8	4.4	7.8
10	0	2.2	22	61	26	3.0	4.2	7.8	3.0	1.1	4.3	3.1
11	0	2.6	7.2	45	25	4.2	1.0	9.0	3.0	0	5.9	0
12	0	2.2	4.2	36	25	4.2	3.3	8.4	4.8	.8	1.3	.6
13	0	2.3	1.2	42	36	3.0	3.6	8.4	6.4	2.9	1.3	.5
14	0	2.9	9.0	70	26	1.0	3.3	7.8	5.1	3.3	3.0	.2
15	0	1.5	6.0	114	22	3.6	3.0	9.0	3.6	4.7	4.7	0
16	0	1.4	7.2	161	20	4.2	3.0	12	5.4	5.3	8.5	0
17	0	2.7	9.0	161	18	3.0	1.0	11	4.2	5.0	8.5	0
18	0	4.8	7.6	138	18	1.5	4.2	9.6	7.2	3.5	7.4	0
19	0	5.4	7.5	78	16	.7	5.1	76	18	8.1	6.8	0
20	0	6.2	8.4	64	18	0	4.5	91	20	9.6	7.1	0
21	0	6.0	15	75	16	4.5	4.8	48	19	10	4.3	0
22	0	3.0	20	124	15	6.0	5.1	56	15	7.8	5.6	0
23	0	3.0	25	131	11	6.6	4.8	252	12	5.7	6.2	0
24	0	5.1	26	81	7.2	6.6	4.5	739	11	3.0	6.2	0
25	0	3.9	28	61	7.4	10	2.6	200	9.0	8.1	5.9	0
26	0	5.4	31	53	9.6	9.0	.1	114	10	8.5	6.5	0
27	0	6.9	28	45	11	9.0	.1	81	6.0	9.9	14	2.8
28	0	7.4	33	43	11	6.4	3.6	58	6.0	9.9	12	6.6
29	0	6.6	31		9.0	4.0	6.0	43	6.6	9.6	16	7.4
30	0	4.5	33		9.6	4.6	4.8	38	10	9.6	14	7.8
31		7.2	33		6.6		6.3		11	8.5		6.2
<b>TOTAL</b>												
sec. ft.	6.4	104.5	627.3	2315	866.4	145.4	155.5	1934.8	253.0	169.1	201.8	185.2
ac. ft.	13	207	1240	4590	1720	288	308	3840	502	335	400	367

THE YEAR 13,810 acre-feet

ARKANSAS RIVER AT GARDEN CITY, KANSAS

APPENDIX "B-9"  
\* \* \* \*

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1957  
 (Arkansas River Compact Administration Records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1				8:30 A.M.		390						
2						600						
3						600						
4						600						
5						600						
6						600						
7						600						
8						600						
9						600						
10						600						
11						600						
12						600	12:00 P.M.	Empty				
13												
14												
15												
16												
17												
18												
19												
20												
21												
22								5:00 P.M.			175	
23											600	
24											600	
25											600	
26											390	3:30 P.M.
27												Empty
28												
29												
30												
31												
TOTAL						6,990					2,365	
sec. ft.						13,861					4,690	
ac. ft.												

THE YEAR 18,551 Ac. Ft.

DEMANDS BY COLORADO FOR WATER

APPENDIX "B-10"

\* \* \* \*

DEMANDS BY KANSAS FOR WATER

Report-Year ending October 31, 1963  
 (Arkansas River Compact Administration Records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1				8:30 A.M.		260						
2						400						
3						400						
4						400						
5						400						
6						400						
7						400						
8						400						
9						400						
10						400						
11						400						
12						400	12:00 P.M.	Empty				
13												
14												
15												
16												
17												
18												
19												
20												
21												
22								5:00 P.M.			115	
23											400	
24											400	
25											400	
26											260	3:30 P.M.
27												Empty
28												
29												
30												
31												
TOTAL						4,660					1,575	
sec. ft.						9,241					3,123	
ac. ft.												

THE YEAR 12,364 Ac. Ft.

DEMANDS BY KANSAS FOR WATER

APPENDIX "B-11"

\* \* \* \*

STATELINE FLOW ON DAYS OF KANSAS DEMAND\*

Report-Year ending October 31, 1963  
 U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1												
2												
3												
4						385						
5						373						
6						370						
7						396						
8						410						
9						400						
10						392						
11						476						
12						367						
13						380						
14						305						
15						189						
16												
17												
18												
19												
20												
21												
22												
23												
24												
25											269	
26											382	
27											371	
28											222	
29											107	
30												
31												
TOTAL						4443					1351	
sec. ft.						8810					2680	
ac. ft.												

The Year 11,490 Acre-Feet

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

STATELINE FLOW ON DAYS OF KANSAS DEMAND \*

APPENDIX "B-12"  
 \* \* \* \* \*

APPENDIX "B-13"

\* \* \* \*

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report-Year ending October 31, 1963  
 Source of Information, A.V.D.A. Reports and Report from the Fort Lyon Canal Co.  
 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) .....	3,907	0	250	59	3,460	3,633	4,107	5,092	4,642	6,788	6,124	4,365	42,427
Res. or Imported .....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Bessemer .....	3,907	0	250	59	3,460	3,633	4,107	5,092	4,642	6,788	6,124	4,365	42,427
West Pueblo (River) .....	0	0	0	0	32	208	186	210	194	190	190	196	1,406
Booth-Orchard Gr. (Riv.) .....	1,071	635	0	0	428	1,035	1,089	1,079	1,101	1,093	1,071	1,107	9,709
Excelsior (River) .....	0	0	0	0	0	0	0	153	0	141	65	0	359
Collier (River) .....	0	0	0	0	0	0	0	71	18	65	0	0	154
Colorado Canal (Riv.)....	0	1,983	10,290	4,131	0	0	0	0	0	2,925	1,444	0	20,773
Res. or Imported .....	0	0	0	0	0	0	9,451	1,134	12,899	8,959	676	0	33,119
Total Colo. Canal ....	0	1,983	10,290	4,131	0	0	9,451	1,134	12,899	11,884	2,120	0	53,892
Highline (River) .....	3,611	4,902	2,399	4,198	4,488	3,476	4,267	4,505	3,766	6,161	5,328	3,504	50,605
Res. or Imported .....	0	0	0	0	0	593	0	331	1,046	1,045	42	0	3,057
Total Highline .....	3,611	4,902	2,399	4,198	4,488	4,069	4,267	4,836	4,812	7,206	5,370	3,504	53,662
Oxford Canal (River) ....	1,208	873	268	859	964	777	1,646	1,711	1,019	2,780	1,991	809	14,905
Otero Canal (River) .....	0	0	0	0	0	0	0	0	0	494	0	0	494
Catlin Canal (River) .....	7,545	4,497	1,164	4,515	7,861	178	9,685	11,374	3,252	7,238	7,436	50	64,795
Res. or Imported .....	0	0	0	0	0	1,301	1,765	169	0	0	0	0	3,235
Total Catlin .....	7,545	4,497	1,164	4,515	7,861	1,479	11,450	11,543	3,252	7,238	7,436	50	68,030
Holbrook (River) .....	0	317	5,265	2,225	319	0	0	107	90	1,455	1,287	0	11,065
Rocky Ford (River) .....	4,320	3,603	1,602	2,536	2,298	4,999	6,246	6,316	5,743	5,667	5,227	5,166	53,723
Ft. Lyon Storage (Riv.) ..	0	0	0	0	0	0	0	0	0	1,015	0	0	1,015
Ft. Lyon Canal (River)....	16,692	22,534	7,782	21,264	16,842	5,598	7,978	12,192	5,338	13,427	15,882	5,950	151,479
Las Animas Cons. (Riv.) ..	2,029	1,460	0	327	139	646	1,807	2,508	831	2,423	2,326	466	14,962
Las Animas Town (Riv.) ..	605	6	0	0	0	1,126	1,874	1,674	1,678	1,658	1,483	1,031	11,135
TOTAL													
River .....	40,988	40,810	29,020	40,114	36,831	21,676	38,885	46,992	27,672	53,520	49,854	22,644	449,006
Res. or Imported .....	0	0	0	0	0	1,894	11,216	1,634	13,945	10,004	718	0	39,411
GRAND TOTAL .....	40,988	40,810	29,020	40,114	36,831	23,570	50,101	48,626	41,617	63,524	50,572	22,644	488,417

30

APPENDIX "B-14"

\* \* \* \*

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year ending October 31, 1963

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

(Acre-Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Fort Bent Canal .....	873	0	0	0	313	2,296 <sup>1</sup>	880 <sup>2</sup>	1,507 <sup>3</sup>	940 <sup>4</sup>	1,870 <sup>5</sup>	2,507 <sup>6</sup>	710	11,896 <sup>7</sup>
Keesee Ditch .....	161	0	0	0	99	682	720	644	714	742	593	452	4,807
Amity Canal .....	944	0	0	0	0	7,200	3,070	2,518	2,181	7,835	7,545	0	31,293
Lamar Canal .....	1,835	1,634	0	79	149	3,278	2,110	3,486	1,368	3,940	3,893	924	22,696
Hyde Ditch .....	60	0	0	0	0	230	157	202	139	214	214	139	1,355
Manvel Canal .....	0	0	0	0	0	149	0	89	0	59	0	0	297
X. Y. & Graham Canals	722	548	0	0	0	978	0	339	143	579	494	180	3,983
Buffalo Canal .....	849	639	0	0	970	2,883	2,330	2,000	1,624	2,576	2,104	1,616	17,591
Sisson Ditch .....	119	298	69	0	0	228	256	131	0	0	0	238	1,339
TOTAL .....	5,563	3,119	69	79	1,531	17,924	9,523	10,916	7,109	17,815	17,350	4,259	95,257

<sup>1</sup> Includes 26 Acre feet for Keesee Ditch

<sup>2</sup> Includes 194 Acre feet for Keesee Ditch

<sup>3</sup> Includes 103 Acre feet for Keesee Ditch

<sup>4</sup> Includes 32 Acre feet for Keesee Ditch

<sup>5</sup> Includes 16 Acre feet for Keesee Ditch

<sup>6</sup> Includes 208 Acre feet for Keesee Ditch

<sup>7</sup> Includes 579 Acre feet for Keesee Ditch

APPENDIX "B-15"

\* \* \* \*

DIVERSIONS BY DITCHES IN KANSAS

Report Year ending October 31, 1963

(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 .....	1,150	0	0	0	113	1,090	1,690	721	970	1,480	1,520	832	9,566*
Alamo Canal .....	121	0	0	0	0	908	508	188	131	314	242	37	2,449
Ft. Aubrey Canal .....	683	0	0	0	0	657	269	214	139	86	820	507	3,375†
Total Stateline to Syracuse .....	1,954	0	0	0	113	2,655	2,467	1,123	1,240	1,880	2,582	1,376	15,390
Amazon Canal .....	0	0	0	1,590	456	3,250	0	581	0	0	169	734	6,780
Great Eastern Canal .....	1,870	4,810	1,900	3,570	3,670	1,990	32	3,740	2,010	385	0	0	23,977
South Side Ditch .....	0	0	0	0	0	2,890	0	182	0	0	0	0	3,072
Farmers Ditch .....	1,540	506	0	0	2,700	1,280	760	280	950	232	1,830	117	10,195
Garden City Canal.....	0	0	0	0	0	535	0	0	0	0	0	0	535
Total Syracuse to Garden City .....	3,410	5,316	1,900	5,160	6,826	9,945	792	4,783	2,960	617	1,999	851	44,559
Total Stateline to Garden City .....	5,364	5,316	1,900	5,160	6,939	12,600	3,259	5,906	4,200	2,497	4,581	2,227	59,949

\* 3,250 acre-feet returned directly to river.

† 320 acre-feet returned directly to river.

**APPENDIX "B-16"**  
\* \* \* \*  
**SUMMARY TABULATION**  
(Acre-Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR	FROM APP. NO.
Arkansas River at														
Las Animas, Colo. ....	3050	2750	2790	3040	3210	1150	7160	4450	2680	6330	4380	334	41320	B- 2
Purgatoire River near														
Las Animas, Colo. ....	339	1250	545	1120	332	134	144	1420	3580	12760	14140	251	36020	B- 3
3 Inflow to John Martin Reservoir	3390	4000	3330	4170	3550	1280	7310	5870	6260	19090	18510	586	77350	B- 4*
Reservoir contents at														
end of month .....	2637	8648	12900	18827	23189	0	0	0	0	0	0	0	0	B- 5
Net change in reservoir storage	+2637	+6011	+4252	+5927	+4362	-23189	0	0	0	0	0	0	0	B- 5
Outflow from John Martin														
Reservoir .....	2840	203	221	186	645	24240	7780	8120	5290	17020	18830	2310	87680	B- 6
Diversions in District 67, Colo.	5563	3119	69	79	1531	17924	9523	10916	7109	17815	17350	4259	95257	B-14
Flow at Colorado-Kansas														
Stateline .....	4440	6840	5660	8880	7430	11690	2100	6600	4640	2370	5280	2000	67930	B- 8
Diversions in Kansas .....	5364	5316	1900	5160	6939	12600	3259	5906	4200	2497	4581	2227	59949	B-15
Arkansas River at														
Garden City, Kansas .....	13	207	1240	4590	1720	288	308	3840	502	335	400	367	13810	B- 9

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



## APPENDIX "C"

### CHANGES IN BY-LAWS

Due to an oversight, the Fourteenth Annual Report for the Compact year ending October 31, 1962, did not include information on two changes that were made in the By-Laws.

The first change was made at the regular meeting held on March 27, 1962, proper notice having been included in the call for the meeting. By vote of the Administration, Paragraph 7, Article IV, of the By-Laws was changed to read as follows:

"7. A quorum for any meeting of the Administration and the casting of votes by representatives of the States on the Administration shall be in accord with Paragraph D of Article VIII of the Arkansas River Compact; and any action by the Administration shall be determined by vote as required by such Paragraph D of Article VIII of the Compact. If a quorum is not present at any meeting, the members of the Administration present, one or more, may adjourn from time to time without further notice until a quorum is obtained."

The purpose of this change was to provide a means for postponing regularly-scheduled meetings when a quorum cannot be or is not present.

The second change was approved at the special meeting held in Colorado Springs on September 21, 1962, proper notice having been included in the call for the meeting. The purpose of this change was to eliminate the necessity for holding regular meetings on the fourth Tuesdays in March and July of each year. The change was accomplished by striking Paragraph 2 of Article IV of the By-Laws, renumbering subsequent paragraphs and making appropriate language changes so that Article IV now reads as follows:

#### MEETINGS

1. The annual meeting of the Administration shall be held on the second Tuesday in December of each year.

2. (a) Special meetings of the Administration may be called by the Chairman or, in the case of a vacancy in the office of Chairman or inability of the Chairman to act, by the Vice-Chairman. Upon the written request of two or more representatives, it shall be the duty of the Chairman, or Vice-Chairman, as the case may be, to call such a meeting.

(b) Special telephonic meetings of the Administration may be held by telephonic communications between the several members of

the Administration in respect to all matters arising under Article VF of the Compact; Provided that such special telephonic meetings may be called by the Chairman, Vice-Chairman or any member of the Operations Committee, and in any case at least two representatives of each State shall participate personally in such special telephonic meetings and concur in the action taken as a result of any such meeting. And provided further, that the Secretary of the Administration shall prepare minutes of any special telephonic meeting and such minutes shall be acted upon by the Administration at the next Annual meeting or special meeting held under sub-section (a) hereof.

3. Notices of all annual meetings of the Administration shall be sent by the Secretary, or in the case of a vacancy in the office of Secretary, or the inability of the Secretary to act, by the Chairman or Vice-Chairman, as the case may be, to the members of the Administration by ordinary mail at least ten days in advance of such annual meetings. Notice of special meetings shall be given by the Secretary to the members of the Administration by the most expeditious method so as to allow as much time prior to such special meetings as conditions permit.

4. All annual meetings of the Administration shall be held at the principal office of the Administration. Unless otherwise agreed to in advance by all members of the Administration, special meetings shall be held at the office of the Administration.

5. The Administration shall keep a record of the proceedings of all its meetings. The minutes of such proceedings shall be preserved in a suitable manner as directed by the Administration. Minutes of proceedings until approved by the Administration shall not be official and shall be furnished only to members of the Administration, its employees, and committees. Distribution of official minutes shall be made by the Secretary in accordance with directives of the Administration.

6. A quorum for any meeting of the Administration and the casting of votes by representatives of the States on the Administration shall be in accord with Paragraph D of Article VIII of the Arkansas River Compact; and any action by the Administration shall be determined by vote as required by such Paragraph D of Article VIII of the Compact. If a quorum is not present at any meeting, the members present, one or more, may adjourn from time to time without further notice until a quorum is obtained.

7. At each meeting of the Administration, the order of business, unless otherwise agreed, shall be as follows:

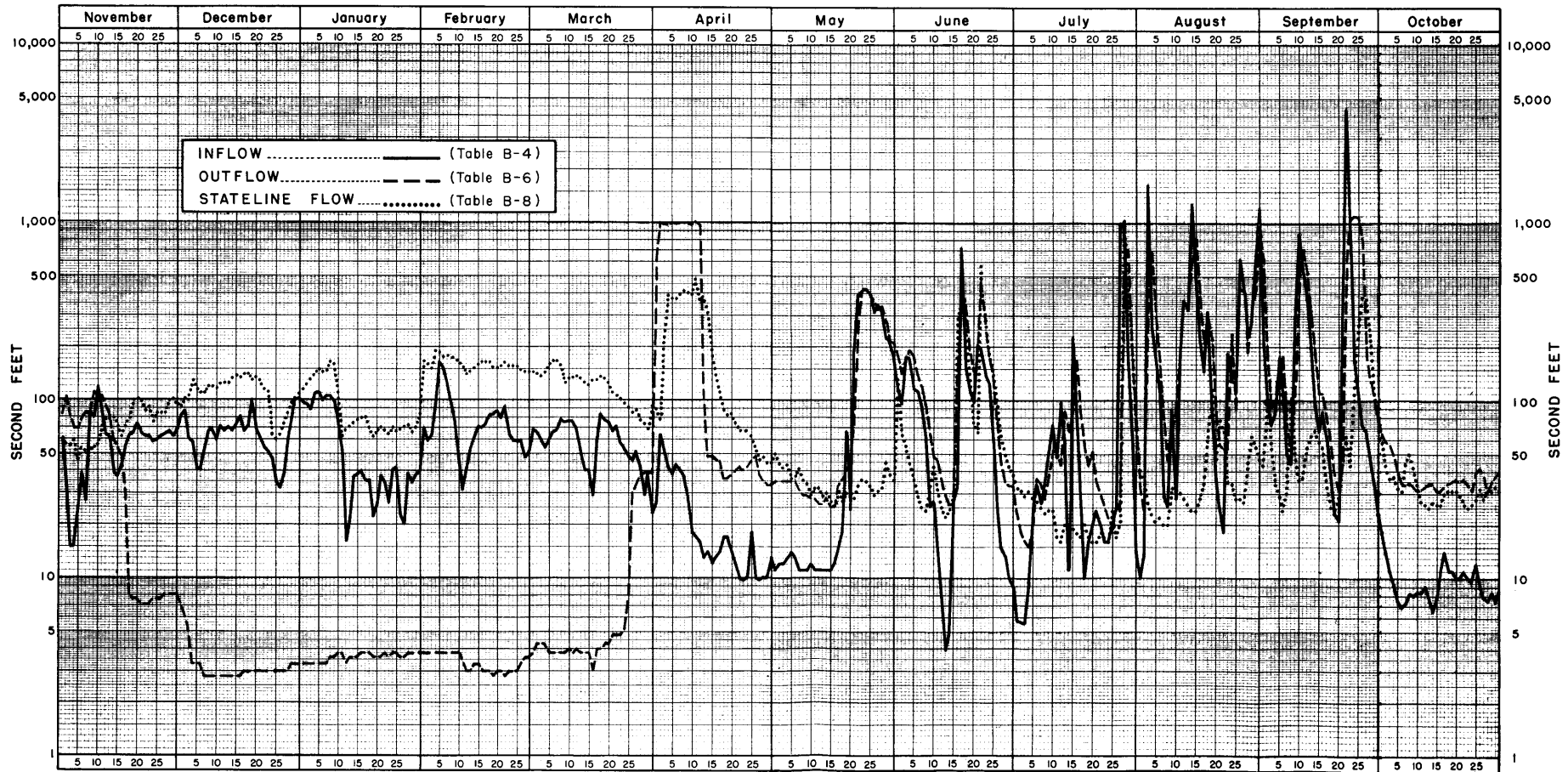
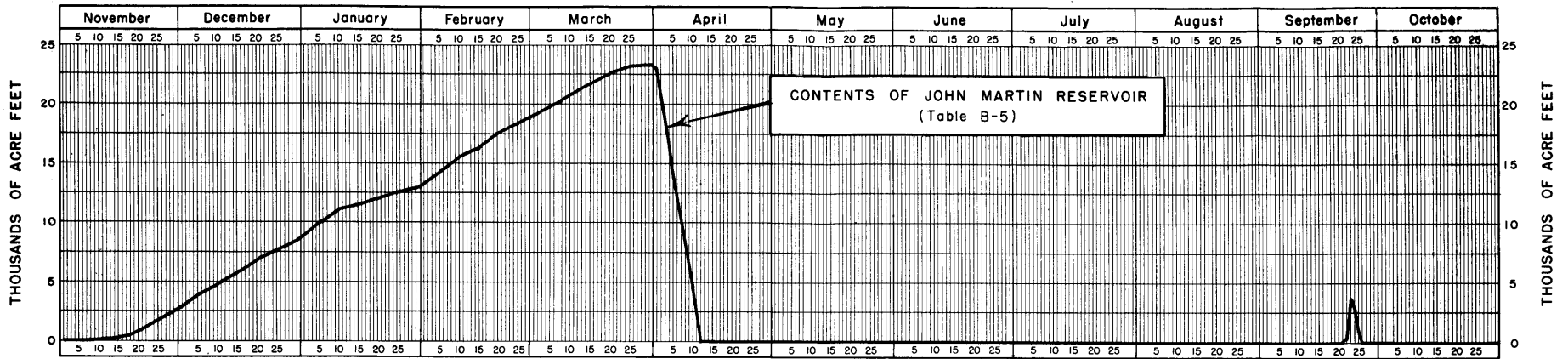
- Call to order;
- Reading of minutes of last meeting;
- Approval of minutes of last meeting;
- Report of Chairman;

Report of Secretary;  
Report of Treasurer;  
Report of Committees;  
Unfinished business;  
New business;  
Adjournment.

8. All meetings of the Administration, except executive sessions, shall be open to the public.

9. Any meeting of the Administration may be adjourned or continued from time to time and from the place set for the meeting to another place.

10. Public notice of all annual and special meetings shall be given in an appropriate manner, determined by the Administration, except in cases where the Administration determines to hold an executive session.



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