

**SIXTH ANNUAL REPORT**

**Arkansas River  
Compact  
Administration  
(1954)**

**For the Report-Year November 1, 1953  
To October 31, 1954**

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**LAMAR, COLORADO  
December 14, 1954**

Sixth  
Annual Report  
ARKANSAS RIVER COMPACT  
ADMINISTRATION  
(1954)

For the Report-Year November 1, 1953, to October 31, 1954

LAMAR, COLORADO

December 14, 1954

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**THE ADMINISTRATION**

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

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

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

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**Annual Report of**  
**ARKANSAS RIVER COMPACT ADMINISTRATION**  
**(1954)**

Report-Year November 1, 1953, to October 31, 1954

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, 1953, through October 31, 1954, as follows:

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

Representative of the United States:

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

Colorado Representatives:

Ivan C. Crawford, Denver, Colorado

Harry B. Mendenhall, Rocky Ford, Colorado

Harry C. Nevius, Lamar, Colorado

Kansas Representatives:

William E. Leavitt, Garden City, Kansas

R. V. Smrha, Topeka, Kansas

Roland H. Tate, Garden City, Kansas

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

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

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

Secretary—Harry C. Nevius of Lamar, Colorado

Treasurer—Harry C. Nevius of Lamar, Colorado

**3. *Standing Committees***

Administrative and Legal Committees:

Roland H. Tate of Kansas (Chairman) and

Harry C. Nevius of Colorado

Engineering Committee:

R. V. Smrha of Kansas (Chairman) and

Ivan C. Crawford of Colorado

Operations Committee:

Harry B. Mendenhall of Colorado (Chairman) and

William E. Leavitt of Kansas

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

4. **Meetings**

- (a) Decmeber 22, 1953      Lamar, Colorado      Annual Meeting
- March 23, 1954      Lamar, Colorado      Regular Meeting
- April 10, 1954    Telephonic Meeting
- July 23, 1954    Telephonic Meeting
- July 27, 1954              Lamar, Colorado      Regular Meeting
- August 5, 1954    Telephonic Meeting
- August 12, 1954    Telephonic Meeting
- October 26, 1954      Denver, Colorado      Special Meeting

- (b) The Administration at its Annual Meeting, December 22, 1953, acted to amend the By-Laws to authorize Telephonic Meetings as follows:

    BE IT RESOLVED that Article IV, Meetings, Section 3, of the By-laws of the Arkansas River Compact Administration be amended to read as follows:

3. (a) Special Meetings etc.—

(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 meetings and such minutes shall be acted upon by the Administration at the next regular meeting or special meeting held under sub-section (a) hereof.

- (c) The Administration met as a Committee of the Whole on January 26, 1954, to discuss, study and report any recommended revisions of the Rules and Regulations. No revisions were recommended.

5. **Fiscal**

- (a) Balance on hand October 31, 1953, Auditor's Report..\$3,600.07

- (b) Receipts

    Call authorized \$2,400.00 October 26, 1954 but  
    uncollected October 31, 1954

Colorado 60% .....	\$1,440.00	
Kansas 40% .....	960.00	00.00
	<hr/>	<hr/>
		\$3,600.07

(c) Disbursements by the Administration—Nov. 1, 1953 to Oct. 31, 1954:

Voucher No.	Date	Payee and Purpose	Amount
114	12-23-53	Treasurer of U. S., Deposit F.I.C.A.....	\$ 6.00
115	12-31-53	Secretary Salary, Nov. & Dec. (less \$3.00 F.I.C.A.)	197.00
116		Robert W. Rollins, Audit & Service.....	65.00
117		Mtn. States T. & T. Co., Nov. & Dec. Serv. & Tolls	38.35
118		Treasurer of U. S., Deposit F.I.C.A.....	12.00
119	3-10-54	Secretary Salary, Jan. & Feb. (less \$4.00 F.I.C.A.)	196.00
120		Mtn. States T. & T. Co., Jan. & Feb. Serv. & Tolls	22.50
121	4-10-54	Peerless Printing Co., Annual Report.....	476.00
122		Mtn. States T. & T. Co., March Service & Tolls....	9.40
123		Secretary Salary, March (less \$2.00 F.I.C.A.).....	98.00
124		Treasurer of U. S., Deposit F.I.C.A.....	12.00
125	6-26-54	Lamar Daily News, Supplies.....	7.50
126		Mtn. States T. & T. Co., April & May Serv. & Tolls	32.00
127		Secretary Salary, April & May (less \$4.00 F.I.C.A.)	196.00
128	6-30-54	Secretary Salary, June (less \$2.00 F.I.C.A.).....	98.00
129		Treasurer of U. S., Deposit F.I.C.A.....	12.00
130		Mtn. States T. & T. Co., June Service & Tolls.....	9.90
131	10-11-54	J. L. Wade, Agent Nat. Surety Corp., Treasurers' Bond .....	25.00
132		Secretary Salary, July, Aug. & Sept. (less \$6.00 F.I.C.A.).....	294.00
133		Treasurer of U. S., Deposit F.I.C.A.....	12.00
134		Mtn. States T. & T. Co., July, Aug. & Sept. Service & Tolls.....	90.30
135		Secretary, Mileage expense.....	55.30
136	10-31-54	Secretary Salary, Oct. (less \$2.00 F.I.C.A.).....	98.00
137		Treasurer of U. S., Deposit F.I.C.A.....	4.00
138		Secretary, Cash Advanced, Stamps.....	7.00
139		Mtn. States T. & T. Co., October Serv. & Tolls....	11.60
Total Disbursements .....			<u>\$2,085.45</u>

(d) Balance on hand, October 31, 1954.....\$1,514.62

(e) On October 26, 1954, the Administration approved a budget for the fiscal year July 1, 1955, to June 30, 1956, for transmittal to the Governor of each of the States of Colorado and Kansas in accordance with Article VIII E (2) of the Compact as follows:

Personal Service .....	\$1,825.00
Secretary Salary .....	\$1,200.00
Social Security .....	50.00
Gage Reports .....	500.00
Audit of Accounts.....	75.00
Capital Outlay .....	300.00
Maintenance and Operation.....	1,675.00
Bond .....	25.00
Printing .....	600.00
Official Publication .....	100.00
Travel .....	150.00
Typing and Mailing.....	200.00
Investigation and Inspection.....	150.00
Telephone and Telegraph.....	300.00
Office Supplies .....	150.00

Total Budget proposed for 1955-56.....	3,800.00
Estimated Carry-over as of June 30, 1955.....	1,400.00
	<hr/>
Total to be appropriated by Colorado and Kansas	\$2,400.00
To be appropriated by Colorado (60%).....	1,440.00
To be appropriated by Kansas (40%).....	960.00
	<hr/>
	\$2,400.00

- (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, 1953 through October 31, 1954, the end of the Report-year. The report of such audit is hereto attached as Appendix A.

**6. Cooperative Studies and Activities**

- (a) Article VIII-G (1) of the Arkansas River Compact requires the Administration to cooperate with the Chief Official of each of the States of Colorado and Kansas charged with the administration of water rights and with the Federal agencies in a systematic determination and correlation of the facts as to the flow and diversion of the waters of the Arkansas River and as to the operation and siltation of John Martin Reservoir and other related structures. Article VIII-G (2) requests the Director of the United States Geological Survey, the Commissioner of Reclamation, and the Chief of Engineers, United States Army, to collaborate with the Administration and with appropriate State officials in such determination and correlation of stream flow and related data. The carrying out of these cooperative studies and activities is assigned, under the By-Laws of the Administration, to the Engineering Committee.
- (b) During the period covered by this report, the Administration has had the benefit of excellent cooperation from all agencies and officials referred to in the above provisions of the Compact. The United States Geological Survey has proceeded with the establishment and operation of Compact gaging stations, an activity which is covered in detail in Paragraph 8 of this report. The United States Geological Survey has also continued the compilation of hydrologic data which are presented in this report and which have been utilized in the administration of the Compact. The Corps of Engineers has continued to operate John Martin Reservoir in accordance with the provisions of the Compact.

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

Repeating the previous year's experience, John Martin Reservoir was empty at the beginning of the Compact year on November 1, 1953. The storage of winter flows started on November 23, 1953 and continued to the opening of the irrigation season on April 1, 1954, at

which time the reservoir contained 15,853 acre-feet of water. This is about 25% less than was accumulated during the same period in the preceding year and constitutes a new low in winter water supply by that margin. The accumulation of water in storage was continued through April 6, 1954, reaching a total volume of 16,066 acre-feet before releases were commenced.

Inflow to John Martin Reservoir during the irrigation season April 1, 1954 to October 31, 1954, as measured by discharge of the Arkansas and Purgatoire Rivers near Las Animas was 113,075 acre-feet. This is comparable to the summer water supplies that have been available each year since 1949. This year, the largest part of it occurred in July and August.

Releases from the reservoir commenced on April 7, 1954, based upon the concurrent demands of both states and continued until the reservoir was empty on April 15, 1954. Water rights on the river in Colorado then were administered by the State Engineer of Colorado according to their decreed priorities until July 23, 1954 when water began to be accumulated in the reservoir. Upon due notice then being given to the State Engineer of Colorado, releases were begun at once in accordance with provisions of the Compact. Water accumulated in storage to the extent of 33,314 acre-feet on July 27, 1954 and then declined steadily to 19,649 acre-feet on August 6, 1954. At that time another freshet occurred bringing additional water which accumulated in the reservoir to a peak of 38,343 acre-feet on August 9, 1954. Continuing demands soon exhausted the supply, and the reservoir was empty again on September 8, 1954. It remained empty to the end of the Compact year on October 31, 1954. During this time, water rights on the river in Colorado were administered by the State Engineer of Colorado pursuant to due notice given him in accordance with provisions of the Compact.

Releases from the reservoir during the periods April 7 to 15 and July 23 to September 8 amounted to a total of 89,550 acre-feet. Stateline flows during the corresponding periods, allowing three days for water from the reservoir to reach the stateline, amounted to 59,970 acre-feet.

During the periods April 1 to 6, inclusive, April 16 to July 22, inclusive, and September 9 to October 31, inclusive, discharge of the Arkansas River reported as outflow from John Martin Reservoir was 23,590 acre-feet. Stateline flow for the corresponding period was 13,660 acre-feet.

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

Hydrologic data as listed below are presented in Appendix B:

- B-1. Daily discharges, Arkansas River near Pueblo, Colorado, monthly totals corrected for transmountain water.
- B-2. Daily discharges, Arkansas River at Las Animas, Colorado.
- B-3. Daily discharges, Purgatoire River near Las Animas, Colorado.



- B-4. Inflow into John Martin Reservoir.
- B-5. Daily contents, John Martin Reservoir.
- B-6. Outflow from John Martin Reservoir.
- B-7. Daily discharges, Arkansas River at the Colorado-Kansas Stateline.
- B-8. Daily discharges, Arkansas River at Garden City, Kansas.
- B-9. Demands by Colorado for water.
- B-10. Demands by Kansas for water.
- B-11. Stateline flows on days of Kansas demand.
- B-12. Diversions by ditches in Colorado Water Districts 14 and 17.
- B-13. Diversions by ditches in Colorado Water District 67.
- B-14. Diversions by ditches in Kansas, Stateline to Garden City.
- B-15. Summary tabulation.

### **8. Gaging Stations**

Heavy rains in July in the vicinity of John Martin Reservoir caused severe damage to the Compact Gaging Station below the Reservoir and for several weeks, the safety of the structure was endangered. With the cooperation of the Corps of Engineers, repairs were completed before further damage occurred.

The July floods on the Purgatoire River also caused severe scouring of the channel at the Compact station on this stream. When the high water receded, the channel had moved from the right bank to the left bank of the stream and the gaging station was left surrounded by large deposits of sand and debris. As a temporary expedient to obtain stream-flow records, a wire-weight gage was installed over the new channel and daily gage readings were obtained. Since occasional channel shifts can be expected in the future, plans have been made to construct a new station on the left bank, leaving the right bank station in place. The recording instrument will be moved from one structure to the other as channel shifts may require.

The need still exists for radio stage-reporting equipment at the stations measuring inflow into John Martin Reservoir.

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

(a) On April 10, 1954, the Administration in accordance with Article IV, Section 3 (b) of the By-laws considered by telephonic meeting the question of finding the Reservoir empty of winter stored water April 16, 1954 and giving notice to the State Engineer of Colorado that priority administration would commence April 13, 1954. As a result of affirmative action taken, the State Engineer of Colorado was notified that on April 13, 1954, priority administration should commence, and decreed rights of water users on the river would be administered by Colorado under Article V-F of the Compact.

The Reservoir was emptied at 11:50 P.M., April 15, 1954.

(b) On July 23, 1954, the Administration gave Notice to the Acting State Engineer of Colorado that water was in John Martin Reservoir and in the Purgatoire River as recorded at Purgatoire Com-

pact Gaging Station, which would be available at 8:00 A.M., July 24, 1954 for release to water users in Kansas and in Colorado Water District No. 67 as provided in the Compact.

(c) On August 5, 1954, the Administration again made Findings and gave notice to the Acting State Engineer of Colorado that the Conservation Pool would be exhausted by August 18, 1954, and that on August 15, 1954, unless a change of conditions justified cancellation or modification of this notice he should administer the decreed rights of water users in Colorado under the terms of the Compact.

On August 12, 1954, the Administration modified the above Findings and extended the date of Priority Administration for twelve (12) days from August 15, 1954 to August 27, 1954.

Again on August 25, 1954, it was found that water had accumulated in the Reservoir in quantity sufficient to justify another modification as to date of priority administration. The time was extended for twelve (12) days from August 27, 1954 to September 8, 1954.

The Reservoir was emptied at 6:30 A.M., September 8, 1954.

The above Findings and Notifications were in form similar to those published in the 5th Annual Arkansas River Compact Administration Report of 1953, Appendix C.

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

By:

HANS KRAMER,  
Representative of the United States and Chairman

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

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

Lamar, Colorado  
December 14, 1954.

## APPENDICES

for

### Annual Report of the Arkansas River Compact Administration

For the Report-Year Nov. 1, 1953, to Oct. 31, 1954

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

**APPENDIX "A"**

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**AUDITOR'S REPORT**

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ROBERT W. ROLLINS  
Certified Public Accountant  
La Junta, Colorado

December 10, 1954

To the Representatives  
Arkansas River Compact Administration  
Lamar, Colorado

Gentlemen:

In reply to your request, an examination has been made of the financial transactions of the Arkansas River Compact Administration for its fifth "Report year," November 1, 1953 to October 31, 1954. The results of this audit are expressed in the attached Statement of Cash Receipts and Disbursements—Schedule I, page No. 4. The following remarks are offered as additional information and also tend to describe the extent of the auditing work performed.

**General Comments**

Schedule I, page No. 4 reflects the beginning balance of cash in bank, expenditures by classification and the ending balance of cash in bank.

As noted on the a-fore mentioned Schedule no funds were received from the States of Colorado and Kansas during the year under review. Calls for funds were authorized, however, in the minutes of the Administration's meeting of October 26, 1954. The amounts due from Colorado (60% share) of \$1,440.00 and Kansas (40% share) of \$960.00 will then be shown in the subsequent year.

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 of each payment to the payee's statement, authorization by the Administration as evidenced in minutes of the representatives' meetings or other supporting evidence. All minutes of the Administration's meetings for the year under review were examined for information relating to accounting matters.

The Secretary's salary for the current year of \$1,200.00 has been

reduced by Old-Age and Survivors Insurance deductions amounting to \$23.00. A similar amount contributed by the Administration is shown under the classification of taxes.

Travel expense of the Secretary for the fiscal year ended October 31, 1954 amounted to \$55.30 or 790 miles of business travel at \$.07 per mile.

Payments made to the U. S. Treasury totaling \$58.00 are shown in detail on Schedule I.

Cash in bank at October 31, 1954 per Schedule I amounting to \$1,514.62 was reconciled to the amount confirmed by the First National Bank in Lamar. A review of the Administration's bank statement at November 22, 1954 shows that all outstanding checks listed on Schedule I, with the exception of check No. 137 for \$4.00 to the Treasurer of the U. S. had cleared the bank at that date.

The financial position of the Administration at October 31, 1954 is compared with that of a year ago, in the following summary:

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

Comparative Balance Sheet

	October 31, 1954	October 31, 1953	Increase (Decrease)
<b>Assets:</b>			
Cash in bank.....	\$1,514.62	\$3,600.07	\$(2,085.45)
Equipment (Portable typewriter) .....	92.50	92.50	.....
<b>Total Assets .....</b>	<b>\$1,607.12</b>	<b>\$3,692.57</b>	<b>\$(2,085.45)</b>
<b>Liabilities:</b>			
Employee's deductions (Held in trust) .....	\$ .....	\$ 6.00	\$ (6.00)
<b>Capital:</b>			
Unexpended fund balance.....	\$1,514.62	\$3,594.07	\$(2,079.45)
Expended fund balance for equip't .....	92.50	92.50	.....
<b>Total Capital .....</b>	<b>\$1,607.12</b>	<b>\$3,686.57</b>	<b>\$(2,079.45)</b>
<b>Total Liabilities and Capital.....</b>	<b>\$1,607.12</b>	<b>\$3,692.57</b>	<b>\$(2,085.45)</b>

As the "Budget year" covers the period July 1, 1953 to June 30, 1954, it has been necessary to combine the related months of the last two "Report years," in order to compare actual expenditures with related budgeted amounts. The following summary reflects such a comparison in detail.

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

Comparison of Disbursements With Budget  
Budget Year July 1, 1953 to June 30, 1954

Classification	Disbursements	Budget
Personal Services		
Secretary's salary (\$1,300.00 -22.50).....	\$1,277.50*	\$1,200.00
Taxes—O. A. and S. I. (Combined).....	57.00	.....
Gage reports .....	.....	500.00
Professional services (Audit of accounts).....	65.00	100.00
Capital Outlay .....	.....	300.00
Maintenance and Operation		
Bond, Treasurer .....	25.00	50.00
Printing .....	476.00	600.00
Official publications .....	.....	100.00
Travel expense—Secretary and employees.....	37.80	150.00
Typing and mailing.....	7.50	200.00
Investigation and inspection.....	.....	150.00
Telephone and telegraph.....	280.45	300.00
Office supplies .....	12.30	150.00
Totals .....	\$2,238.55	\$3,800.00

Consistent with prior year's practice, the Administration's Budget for the year July 1, 1954 to June 30, 1955 amounting to \$3,800.00, as approved in the Minutes of the October 27, 1953 Meeting, provides for the application of the unexpended funds at June 30, 1954 to the future year, thus reducing the assessments from the States accordingly.

Respectfully submitted,

ROBERT W. ROLLINS,  
Certified Public Accountant.

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\* You will recall that the Secretary's June salary for 1953 was paid in July of 1953, consequently thirteen salary payments are shown in the year ending June 30, 1954.

ARKANSAS RIVER COMPACT ADMINISTRATION  
Lamar, Colorado

Statement of Receipts and Disbursements

November 1, 1953 to October 31, 1954  
(Refer to comments in text of audit)

Cash in bank at November 1, 1953 (Per Audit).....		\$3,600.07
Receipts		
Revenues from assessments*		
Colorado portion 60%.....	\$.....	
Kansas portion 40%.....	.....	
Total Available Funds.....		\$3,600.07
Disbursements		
Salary of secretary.....	\$1,200.00	
Less: O. A. and S. I. deductions.....	23.00	1,177.00
Printing—Annual report .....		476.00
Telephone and telegraph.....		214.65
Travel expense .....		55.30
Audit fee—Fiscal year ended		
October 31, 1953.....		65.00
Taxes—O. A. and S. I. payments		
Deductions from employee		
Current year .....	\$23.00	
Prior year .....	6.00	29.00
Administration's portion .....	29.00	58.00
Premium on secretary-treasurer's		
bond .....		25.00
Typing and mailing.....		14.00
Total Disbursements .....		2,085.45
Cash in bank at October 31, 1954.....		\$1,514.62
Cash on deposit at First National Bank in Lamar		
Per direct confirmation at October 31, 1954.....		\$1,635.22
Less: Outstanding checks of:		
No. 136 Harry C. Nevius.....	\$ 98.00	
No. 137 Treasurer of the U. S.....	4.00	
No. 138 Harry C. Nevius.....	7.00	
No. 139 Mt. States T. & T. Co....	11.60	120.60
		\$1,514.62

\* Funds amounting to \$2,400.00 for the Budget Year July 1, 1954 to June 30, 1955 were not authorized for call from the States of Colorado and Kansas until the meeting of October 26, 1954.

## ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year Ending October 31, 1954  
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	290	449	427	280	87	62	200	597	679	322	52	171
2	266	450	366	280	93	44	242	468	700	264	67	150
3	266	468	330	269	121	40	234	411	601	173	84	150
4	266	415	341	268	135	26	248	411	518	118	95	155
5	289	317	299	250	146	22	255	382	447	79	119	152
6	348	291	287	219	152	34	165	441	397	324	160	172
7	349	266	293	202	121	35	110	494	407	210	161	182
8	348	266	305	174	116	40	94	405	367	295	187	182
9	327	293	305	168	99	59	114	358	397	144	140	141
10	305	268	299	151	73	49	205	312	382	154	127	120
11	305	286	274	146	57	66	320	304	406	119	115	120
12	348	298	251	145	79	94	528	314	407	667	103	128
13	348	286	259	130	77	81	549	333	244	599	103	137
14	371	304	292	125	63	61	494	722	185	367	136	144
15	360	280	303	131	90	47	494	989	913	146	111	149
16	359	299	297	141	100	56	569	896	1100	126	99	162
17	349	341	274	131	89	48	895	882	895	89	84	150
18	328	347	273	120	84	37	881	1000	1000	82	74	140
19	327	323	267	120	70	31	1510	1060	960	408	70	137
20	337	304	273	120	61	32	1230	1090	939	434	63	129
21	282	316	267	101	47	27	1120	734	1050	408	51	124
22	288	334	273	116	53	30	1290	629	923	426	55	111
23	287	316	284	111	54	69	1490	618	443	462	44	94
24	314	281	260	106	63	73	1600	641	577	356	74	89
25	358	310	261	87	63	94	1650	686	523	318	111	119
26	335	324	262	91	51	144	1330	742	483	137	135	149
27	334	348	268	98	32	131	1050	729	453	61	172	155
28	295	360	262	94	32	110	845	697	597	44	141	171
29	286	336	274		29	94	819	687	337	42	151	165
30	389	337	280		33	94	698	3040	307	59	176	166
31		367	287		34		607		631	96		140
TOTAL												
Sec. Ft.	9654	10180	8993	4374	2404	1830	21836	21072	18268	7529	3260	4454
Ac. Ft.	19150	20190	17840	8680	4770	3630	43310	41800	36230	14930	6470	8830
(a) ac. ft.	230	0	0	0	0	0	7460	7150	9080	5130	0	0
(b) ac. ft.	18920	20190	17840	8680	4770	3630	35850	34650	27150	9800	6470	8830

(a) Less upstream res. and transmountain water.  
(b) Corrected Total, acre feet.

THE YEAR 225,830 Ac. Ft.  
CORRECTED 196,780 Ac. Ft.

ARKANSAS RIVER NEAR PUEBLO, COLORADO

APPENDIX "B-1"



ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report Year Ending October 31, 1954  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	23	19	21	51	20	12	20	187	838	19	17	6.5
2	19	21	23	60	21	12	22	106	320	11	17	6.2
3	14	108	24	62	33	12	15	67	117	8.0	18	6.2
4	15	145	73	57	23	13	12	37	84	7.6	19	6.8
5	18	82	63	63	20	14	12	20	71	6.8	19	8.8
6	21	67	49	57	18	12	12	15	38	269	19	8.8
7	18	60	43	50	17	13	12	13	24	3060	20	10
8	19	54	42	50	15	13	18	12	20	370	20	8.0
9	21	46	41	31	12	12	15	13	15	64	19	7.7
10	19	46	38	27	12	13	15	15	21	30	19	7.4
11	19	33	36	26	12	15	15	30	13	23	19	7.7
12	17	30	35	25	12	18	14	26	16	23	18	7.7
13	17	29	38	26	12	18	12	26	21	22	18	8.8
14	18	28	40	25	20	15	12	59	27	22	17	8.8
15	17	28	39	22	25	15	26	54	36	22	16	8.0
16	14	27	38	22	18	15	47	126	37	22	15	8.0
17	14	25	38	20	17	15	99	59	51	22	14	7.7
18	15	26	42	19	14	15	290	23	27	21	13	7.4
19	16	25	50	25	14	15	155	17	42	21	11	7.1
20	36	26	40	38	14	17	208	15	38	20	6.5	6.5
21	150	26	30	38	13	21	300	31	35	20	6.2	6.2
22	99	21	37	25	13	14	276	26	29	20	5.6	6.2
23	62	23	49	22	16	13	573	22	46	19	5.6	6.5
24	38	23	50	21	13	12	1110	12	18	19	5.6	6.2
25	26	24	53	19	13	12	196	11	11	19	5.6	6.2
25	20	28	50	20	12	12	248	10	465	18	7.4	6.2
27	19	28	47	20	12	12	340	38	145	18	10	6.5
28	19	24	46	21	12	12	324	78	36	18	8.4	6.8
29	21	22	49		13	12	396	108	25	17	6.8	6.8
30	20	21	47		13	12	320	62	16	17	6.8	7.1
31		21	46		13		304		53	17		7.1
TOTAL												
Sec. Ft.	844	1186	1317	942	492	416	5418	1318	2735	4265.4	402.5	225.9
Ac. Ft.	1670	2350	2610	1870	976	825	10750	2610	5420	8460	798	448
								THE YEAR		38,790		

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ARKANSAS RIVER AT LAS ANIMAS, COLORADO

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

Report Year Ending October 31, 1954  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	1.5	3.7	14	24	5.7	2.7	3.2	1.7	0.4	49	3.7	1.8
2	1.5	4.5	13	20	8.2	2.4	2.7	1.6	.4	31	3.7	1.8
3	1.6	3.5	12	18	9.9	2.2	2.3	1.6	.4	18	3.4	1.8
4	1.7	3.0	12	16	7.0	2.2	1.8	1.4	.5	22	3.2	1.8
5	2.7	4.5	13	12	6.5	2.2	1.7	1.1	.5	22	3.2	1.5
6	4.0	7.0	12	11	6.4	2.3	1.8	.9	.5	88	2.9	1.9
7	2.7	7.0	11	9.9	5.0	2.3	2.0	1.0	.6	6330	2.7	3.4
8	2.4	6.0	11	12	4.0	2.2	2.0	1.0	.4	2990	2.4	5.4
9	2.3	6.5	9.0	23	3.7	2.2	2.2	.8	.4	1440	2.4	7.9
10	2.3	6.8	8.0	19	3.4	2.2	2.9	.7	.3	427	2.4	11
11	2.3	6.5	7.0	19	2.4	2.2	2.9	.6	.3	177	2.3	13
12	2.3	10	7.0	18	2.6	2.4	11	.6	.2	168	2.2	5.4
13	2.3	15	7.5	18	2.8	2.4	13	.5	.1	3650	2.2	4.5
14	2.2	22	8.5	17	3.2	2.0	12	.5	.2	761	2.2	4.0
15	2.2	25	9.0	16	3.6	1.9	8.6	.7	.3	268	2.2	3.4
16	2.2	24	6.0	15	4.2	1.9	4.2	.7	.3	159	2.0	2.9
17	2.2	22	6.5	12	3.4	1.8	9.5	.7	.3	164	1.9	2.4
18	2.2	24	6.5	10	2.4	1.8	3.7	.7	.3	219	1.8	2.3
19	1.9	28	7.0	9.9	2.7	1.7	3.2	.7	.3	207	1.7	1.9
20	1.5	34	6.0	7.2	4.5	1.7	2.2	.7	.2	186	1.4	1.9
21	1.7	28	5.0	6.4	5.7	1.8	1.8	.6	.3	121	1.4	1.8
22	2.0	20	5.0	8.6	4.7	1.8	2.3	2.7	.7	67	1.4	1.8
23	4.7	16	9.0	3.7	5.0	1.8	2.4	.6	19200	36	1.4	1.8
24	6.8	18	11	2.9	5.0	1.8	2.2	.4	1870	26	1.6	1.7
25	3.7	21	14	2.9	4.5	1.8	1.9	.4	1100	21	1.7	1.7
26	4.0	18	17	2.9	4.2	1.8	7.5	.4	1090	16	1.8	1.7
27	3.7	15	26	3.4	4.2	1.8	13	.4	328	13	1.8	1.7
28	3.2	16	27	3.0	3.4	1.9	7.9	.4	237	9.5	1.8	1.7
29	3.2	15	29		2.9	2.0	4.7	.4	154	4.7	1.8	1.7
30	3.2	14	26		2.9	2.0	2.9	.4	87	4.5	1.8	1.7
31		16	25		2.7		2.0		62	7.9		1.7
TOTAL												
Sec. Ft.	80.2	460.0	380.0	340.8	136.8	61.2	141.5	24.9	24135.9	17702.6	66.4	99.0
Ac. Ft.	159	912	754	676	271	121	281	49	47870	35110	132	196
THE YEAR										86,530 Ac. Ft.		

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

APPENDIX "B-3"

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INFLOW INTO JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1954

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	24	23	35	75	26	15	23	189	838	68	21	8
2	20	26	36	80	29	14	25	108	320	42	21	8
3	16	112	36	80	43	14	17	69	117	26	21	8
4	17	148	85	73	30	15	14	38	84	30	22	9
5	21	86	76	75	26	16	14	21	72	29	22	10
6	25	74	61	68	24	14	14	16	38	357	22	11
7	21	67	54	60	22	15	14	14	25	9390	23	13
8	21	60	53	62	19	15	20	13	20	3360	22	13
9	23	52	50	54	16	14	17	14	15	1500	21	16
10	21	53	46	46	15	15	18	16	21	457	21	18
11	21	40	43	45	14	17	18	31	13	200	21	21
12	19	40	42	43	15	20	25	27	16	191	20	13
13	19	44	46	44	15	20	25	26	21	3670	20	13
14	20	50	48	42	23	17	24	60	27	783	19	13
15	19	53	48	38	29	17	35	55	36	290	18	11
16	16	51	44	37	22	17	51	127	37	181	17	11
17	16	47	44	32	20	17	108	60	51	186	16	10
18	17	50	48	29	16	17	294	24	27	240	15	10
19	18	53	47	35	17	17	158	18	42	228	13	9
20	38	60	46	45	18	19	210	16	38	206	8	8
21	152	54	35	44	19	23	302	32	35	141	8	8
22	101	41	42	34	18	16	278	29	30	87	7	8
23	67	39	58	26	21	15	575	23	19250	55	7	8
24	45	41	61	24	18	14	1110	12	1890	45	7	8
25	30	45	67	22	18	14	198	11	1110	40	7	8
26	24	46	67	23	16	14	256	10	1560	34	9	8
27	23	43	73	23	16	14	353	38	473	31	12	8
28	22	40	73	24	15	14	332	78	273	28	10	8
19	24	37	78		16	14	401	108	179	22	9	8
30	23	35	73		16	14	323	62	103	22	9	9
31		37	71		16		306		115	25		9
TOTAL												
Sec. Ft.	923	1647	1696	1283	628	477	5558	1345	26876	21964	468	323
Ac. Ft.	1830	3270	3360	2540	1250	946	11020	2670	53310	43560	928	641
THE YEAR										125,320	Ac. Ft.	

Arkansas River at Las Animas plus Pergatoire River near Las Animas.

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "B-4"

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DAILY CONTENTS JOHN MARTIN RESERVOIR

(Acre Feet)

Report Year Ending October 31, 1954

Corps of Engineers Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	1566	6526	10454	13962	15917	0	0	0	28074	11369	0
2	0	1746	6667	10705	14003	15938	0	0	0	25874	9679	0
3	0	2029	6797	10919	14086	15959	0	0	0	24490	7796	0
4	0	2361	6969	11114	14211	15959	0	0	0	22577	6045	0
5	0	2581	7170	11329	14315	16023	0	0	0	20758	4143	0
6	0	2816	7362	11487	14399	16066	0	0	0	19649	2356	0
7	0	3060	7544	11665	14461	15217	0	0	0	32024	753	0
8	0	3226	7715	11844	14545	13837	0	0	0	37487	0	0
9	0	3368	7888	12004	14629	12064	0	0	0	38343	0	0
10	0	3531	8048	12164	14754	10036	0	0	0	37754	0	0
11	0	3687	8107	12285	14838	7650	0	0	0	36589	0	0
12	0	3816	8211	12406	14838	5248	0	0	0	35575	0	0
13	0	3947	8301	12528	14838	4005	0	0	0	35988	0	0
14	0	4088	8422	12670	14859	2019	0	0	0	35549	0	0
15	0	4222	8545	12771	14922	0	0	0	0	34270	0	0
16	0	4348	8684	12893	15027	0	0	0	0	33389	0	0
17	0	4612	8793	12995	15133	0	0	0	0	31680	0	0
18	0	4872	8935	13179	15133	0	0	0	0	31338	0	0
19	0	5026	9110	13179	15133	0	0	0	0	30705	0	0
20	0	5182	9190	13199	15175	0	0	0	0	29477	0	0
21	0	5294	9319	13302	15238	0	0	0	0	27885	0	0
22	0	5363	9466	13425	15302	0	0	0	0	26548	0	0
23	398	5454	9597	13466	15471	0	0	0	12104	25134	0	0
24	630	5546	9764	13507	15513	0	0	0	25365	23804	0	0
25	766	5686	9932	13589	15534	0	0	0	26735	22577	0	0
26	906	5874	9983	13754	15598	0	0	0	33314	21138	0	0
27	1060	5969	10291	13817	15662	0	0	0	33314	19384	0	0
28	1176	6054	10497	13920	15704	0	0	0	32866	18047	0	0
29	1299	6126	10671		15725	0	0	0	32370	16493	0	0
30	1390	6236	10987		15746	0	0	0	30972	14880	0	0
31		6386	11163		15853		0		29405	13220		0

DAILY CONTENTS JOHN MARTIN RESERVOIR

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APPENDIX "B-5"

**OUTFLOW FROM JOHN MARTIN RESERVOIR**

Report Year Ending October 31, 1954  
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	50	1.8	2.3	1.7	1.7	1.7	36	252	571	1010	754	16
2	43	2.0	2.3	1.7	1.7	1.6	52	164	556	1020	768	16
3	38	2.3	2.3	1.6	1.7	1.6	44	110	215	1020	782	16
4	36	2.0	2.3	1.6	1.7	1.6	40	74	107	1020	782	16
5	43	2.0	2.3	1.6	1.7	1.6	35	54	84	997	789	22
6	66	2.0	2.9	1.6	1.7	1.4	32	38	66	714	789	33
7	62	2.0	2.9	1.6	1.7	385	28	28	52	239	782	92
8	44	2.0	2.9	1.6	1.8	675	29	28	29	610	280	40
9	43	2.0	2.9	1.6	1.8	754	33	24	25	775	36	29
10	44	1.8	2.9	1.6	1.7	890	38	20	20	922	46	25
11	44	2.0	2.9	1.6	1.6	1010	46	22	22	954	35	46
12	44	1.8	2.9	1.6	1.2	997	52	32	15	997	33	30
13	44	1.8	2.0	1.4	1.4	997	62	28	16	988	30	23
14	46	1.8	1.7	1.4	1.7	970	62	28	20	997	29	20
15	46	1.8	1.6	1.6	1.7	946	66	56	30	997	28	19
16	46	2.0	1.7	1.6	1.6	159	76	64	30	890	26	20
17	46	2.0	1.6	1.6	1.6	95	141	122	30	890	24	20
18	48	1.8	1.6	1.6	1.2	87	226	44	40	946	25	19
19	56	2.0	1.8	1.4	1.7	56	257	25	29	796	26	18
20	62	2.0	1.7	1.6	1.8	36	181	18	40	768	23	18
21	101	2.0	1.7	1.8	1.8	38	285	15	35	946	22	18
22	144	2.3	1.7	1.8	2.0	41	244	24	107	962	18	18
23	29	2.3	1.7	1.8	2.9	36	305	40	326	850	17	18
24	1.8	2.3	1.6	1.8	2.6	35	1010	22	701	734	16	17
25	1.8	2.0	1.7	1.8	2.0	33	414	13	979	636	16	17
26	1.8	2.3	1.6	1.7	2.3	33	320	10	216	734	18	17
27	1.8	2.3	1.4	1.7	1.8	32	419	10	113	734	29	16
28	2.0	2.3	1.6	1.7	1.8	32	392	36	424	734	20	17
29	1.8	2.3	1.6		1.8	28	472	76	922	734	17	17
30	1.8	2.3	1.6		1.8	32	380	82	1010	734	16	17
31		2.3	1.6		1.8		358		1020	740		17
TOTAL												
Sec. Ft.	1237.8	63.6	63.3	45.7	55.3	8406.5	6135	1559	7850	26088	6276	727
Ac. Ft.	2460	126	126	91	110	16670	12170	3090	15570	51740	12450	1440
								THE YEAR		116,040 Ac. Ft.		

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

OUTFLOW FROM JOHN MARTIN RESERVOIR

APPENDIX "B-6"

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ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report Year Ending October 31, 1954  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	54	91	117	148	77	60	53	52	13	367	252	27
2	57	104	113	144	63	63	52	50	12	281	242	28
3	57	103	106	140	87	68	51	52	13	276	246	27
4	61	91	106	122	126	74	51	36	14	343	263	25
5	73	98	106	126	110	77	46	28	15	383	249	30
6	107	91	110	122	117	74	43	26	18	2310	248	36
7	93	98	117	117	113	74	44	27	17	4310	253	52
8	87	113	113	117	95	71	38	25	11	396	283	48
9	69	95	110	113	87	95	39	24	11	191	269	45
10	63	98	113	113	74	173	46	21	10	195	146	42
11	66	113	87	126	57	189	63	21	8	331	98	44
12	71	91	67	126	80	304	63	18	12	415	74	43
13	74	98	75	113	153	376	57	21	11	449	73	47
14	71	80	85	102	87	401	59	21	10	426	59	48
15	71	102	94	87	84	444	47	23	9	411	46	47
16	68	110	100	80	63	450	51	20	9	823	40	46
17	65	113	95	80	66	318	341	19	9	501	33	44
18	68	110	107	80	80	143	158	19	6	456	28	42
19	74	106	125	113	71	98	86	19	4	454	29	46
20	90	106	105	84	74	69	69	17	6	723	29	46
21	109	106	89	91	74	65	62	19	11	435	28	43
22	108	74	70	87	68	58	62	18	6	505	30	49
23	97	68	81	87	71	57	66	17	41	816	25	49
24	113	74	95	95	74	46	69	16	282	524	26	47
25	149	95	96	98	63	53	67	14	83	476	29	46
26	134	102	102	110	63	51	132	12	1960	421	25	42
27	110	122	110	84	57	46	105	12	2740	342	24	40
28	99	106	120	84	57	43	85	12	533	300	24	42
29	95	117	130		60	44	66	14	203	254	24	41
30	91	117	130		66	46	53	15	242	245	24	37
31		113	130		60		56		619	230		38
TOTAL												
Sec. Ft.	2544	3105	3204	2989	2477	4130	2280	688	6938	18589	3219	1287
Ac. Ft.	5050	6160	6360	5930	4910	8190	4520	1360	13760	36870	6380	2550

THE YEAR 102,040 Ac. Ft.

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

*Apr 1 - Oct 31 = 73,630*

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

APPENDIX "B-7"

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report Year Ending October 31, 1954  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	6	16	141	110	49	24	17	8	9	11	13	4
2	7	14	126	100	30	27	14	10	8	9	13	6
3	8	21	135	77	18	25	6	4	1	5	11	5
4	11	32	118	62	30	26	12	4	1	3	10	4
5	11	26	123	60	44	27	13	6	1	3	9	10
6	11	40	141	51	47	27	11	2	1	4	8	12
7	14	64	118	48	39	25	12	6	2	21	7	15
8	19	91	103	46	40	20	13	7	4	4640	6	13
9	21	87	73	42	39	14	10	3	0	1670	4	15
10	16	71	40	45	40	15	12	8	0	465	2	15
11	16	105	20	46	37	15	19	7	0	85	1	14
12	21	110	10	46	33	16	12	6	1	34	.8	18
13	18	135	19	44	35	13	11	8	3	27	3	19
14	16	105	85	43	43	11	10	8	4	22	8	17
15	16	64	90	41	40	15	10	8	4	20	5	17
16	16	129	42	40	35	8	9	6	6	18	7	18
17	16	129	22	40	38	15	3	7	6	17	8	16
18	14	141	40	40	35	11	6	8	7	16	7	16
19	14	166	95	37	33	10	3	7	8	14	8	16
20	11	170	61	50	35	8	10	3	8	13	10	17
21	16	147	26	73	40	7	8	5	8	8	10	15
22	28	158	43	93	36	6	8	6	6	6	1	19
23	29	61	68	97	47	6	7	8	6	4	.5	18
24	40	70	85	104	43	5	3	8	9	2	0	17
25	12	93	79	106	35	10	4	10	6	4	0	18
26	32	50	76	86	33	9	4	2	9	6	0	18
27	27	110	95	62	27	6	7	6	7	11	0	17
28	23	108	126	55	23	5	8	9	6	10	.3	17
29	20	110	150		22	4	8	10	791	9	.1	16
30	22	141	120		31	12	6	9	218	9	3	16
31		132	100		28		7		23	9		13
TOTAL												
Sec. Ft.	531	2896	2570	1744	1105	422	283	199	1163	7175	155.7	451
Ac. Ft.	1050	5740	5100	3460	2190	837	561	395	2310	14230	309	895
THE YEAR										37,080 Ac. Ft.		

ARKANSAS RIVER AT GARDEN CITY, KANSAS

APPENDIX "B-8"

\* \* \* \* \*

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1954

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1						COLORADO DITCHES ON DECREED				600	450	
2						PRIORITIES AT TIMES WHEN NO DE-				600	480	
3						MAND IS SHOWN DURING APRIL				600	500	
4						TO OCTOBER INCLUSIVE				600	500	
5										600	500	
6										600	500	
7						270				300	500	
8						350				430	140	
9						450				480		
10						540				550		
11						600				560		
12						600				600		
13						600				600		
14						600				600		
15						600				600		
16										550		
17										550		
18										550		
19										550		
20										550		
21										550		
22										550		
23								70		500		
24								550		500		
25								600		500		
26								170		450		
27								600		450		
28								360		450		
29								400		450		
30								450		450		
31								550		450		
TOTAL						4610			3750	16370	3570	
Sec. Ft.						9140			7440	32470	7080	
Ac. Ft.												

THE YEAR 56,130 Ac. Ft.

DEMANDS BY COLORADO FOR WATER

APPENDIX "B-9"

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DEMANDS BY KANSAS FOR WATER

Report Year Ending October 31, 1954  
 (Arkansas River Compact Administration records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										400	300	
2										400	300	
3										400	300	
4										400	300	
5										400	300	
6										360	300	
7						180				0	300	
8						267				258	90	
9						267				400		
10						360				400		
11						400				400		
12						400				400		
13						400				400		
14						400				400		
15						400				400		
16										400		
17										400		
18										400		
19										400		
20										400		
21										400		
22										400		
23										400		
24									200	400		
25									400	335		
26									68	300		
27									133	300		
28									400	300		
29									400	300		
30									400	300		
31									400	300		
TOTAL												
Sec. Ft.						3074			2401	11153	2190	
Ac. Ft.						6100			4760	22120	4340	

THE YEAR 37,320 Ac. Ft.

DEMANDS BY KANSAS FOR WATER

APPENDIX "B-10"

\* \* \* \* \*

STATELINE FLOWS ON DAYS OF KANSAS DEMAND\*

Report Year Ending October 31, 1954  
 U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										367	252	
2										281	242	
3										276	246	
4										343	263	
5										383	249	
6										2310	248	
7										4310	253	
8										396	283	
9										191	269	
10						173				195	146	
11						189				331	98	
12						304				415		
13						376				449		
14						401				426		
15						444				411		
16						450				823		
17						318				501		
18						143				456		
19										454		
20										723		
21										435		
22										505		
23										816		
24										524		
25										476		
26										421		
27									2740	342		
28									533	300		
29									203	254		
30									242	245		
31									619	230		
TOTAL												
Sec. Ft.						2789			4337	18589	2549	
Ac. Ft.						5550			8600	36870	5060	

THE YEAR 56,080 Ac. Ft.

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

STATELINE FLOWS ON DAYS OF KANSAS DEMAND \*

APPENDIX "B-11"

\* \* \* \* \*

## APPENDIX "B-12"

\* \* \* \* \*

## DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report Year Ending October 31, 1954  
(Acre Feet)

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

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Bessemer (River) .....	4,225	2,206	0	3,207	4,358	3,299	4,451	4,610	4,608	5,476	2,559	3,814	42,813
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total .....	4,225	2,206	0	3,207	4,358	3,299	4,451	4,610	4,608	5,476	2,559	3,814	42,813
West Pueblo (River).....	0	0	0	12	63	131	180	179	184	190	119	123	1,181
Booth-Orchard Gr.(Riv.)	752	262	0	196	1,023	930	1,107	1,071	1,107	1,099	952	968	9,467
Excelsior (River) .....	0	375	553	0	0	0	34	50	48	167	0	0	1,227
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total .....	0	375	553	0	0	0	34	50	48	167	0	0	1,227
Colorado Canal (River)..	0	2,830	8,257	0	0	0	95	595	0	1,386	0	0	13,163
Res. or Imported.....	224	0	0	0	0	0	7,319	6,942	6,956	4,742	0	0	26,183
Total .....	224	2,830	8,257	0	0	0	7,414	7,537	6,956	6,128	0	0	39,346
Highline (River) .....	3,749	5,845	4,030	3,761	3,277	3,392	4,725	3,948	4,052	4,462	3,392	2,989	47,622
Res. or Imported.....	0	0	0	0	0	0	0	65	1,942	284	0	0	2,291
Total .....	3,749	5,845	4,030	3,761	3,277	3,392	4,725	4,013	5,994	4,746	3,392	2,989	49,913

(Continued on following page)

APPENDIX "B-12" (Continued)

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DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Oxford Canal (River)....	1,305	547	38	1,244	781	811	1,765	902	1,561	1,783	762	601	12,100
Otero (River) .....	506	1,767	2,102	0	0	0	61	147	24	355	0	0	4,962
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total .....	506	1,767	2,102	0	0	0	61	147	24	355	0	0	4,962
Catlin (River) .....	7,940	3,872	2,095	4,235	1,267	0	8,654	6,920	7,236	4,056	0	706*	46,981
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Total .....	7,940	3,872	2,095	4,235	1,267	0	8,654	6,920	7,236	4,056	0	706	46,981
Holbrook (River) .....	932	7,420	5,264	0	0	0	462	397	474	2,485	0	0	17,434
Rocky Ford (River).....	4,681	1,696	902	2,783	3,961	5,185	5,393	6,426	5,921	3,915	2,218	5,000	48,081
Ft. Lyon Storage (River)	0	0	0	0	0	0	0	0	0	1,805	0	0	1,805
Ft. Lyon Canal (River)..	13,129	10,693	8,372	11,131	9,907	3,033	12,335	9,562	12,781	10,846	0	5,845	107,634
Las Animas Cons. (Riv.)	2,366	859	71	760	1,357	341	2,406	1,585	2,616	1,862	298	613	15,134
Las Animas Town (Riv.)	202	2	0	0	264	1,488	1,466	1,680	1,632	1,577	486	430	9,227
TOTAL													
River .....	39,787	38,374	31,684	27,329	26,258	18,610	43,134	38,072	42,244	41,464	10,786	21,089	378,831
Res. or Imported....	224	0	0	0	0	0	7,319	7,007	8,898	5,026	0	0	28,474
	40,011	38,374	31,684	27,329	26,258	18,610	50,453	45,079	51,142	46,490	10,786	21,089	407,305

\*Part Highline and Oxford Canal's water diverted by Catlin for Holly Sugar Company.

## APPENDIX "B-13"

\* \* \* \* \*

## DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year Ending October 31, 1954  
(Acre Feet)

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

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Ft. Bent Canal.....	984	0	0	0	0	1,325	1,505	500	964	3,892	994	555*	10,719
Keesee Ditch .....	204	0	0	0	0	361	276	585	621	774	766	270	3,857
Amity Canal .....	327	0	0	0	0	4,502	5,310	450	7,553	19,119	3,838	0	41,099
Lamar Canal .....	1,146	674	603	16	0	2,761	3,174	1,140	2,231	6,274	2,440	1,029	21,488
Hyde Ditch .....	0	0	0	0	0	149	224	42	149	605	129	83	1,381
Manvel Canal .....	0	0	0	0	643	375	28	0	60	871	190	0	2,167
X. Y. & Graham Canal....	20	0	0	0	0	305	885	30	204	1,761	428	0	3,633
Buffalo Canal .....	1,605	0	0	0	0	1,331	2,467	1,660	1,706	2,719	2,194	1,636	15,318
TOTAL .....	4,286	674	603	16	643	11,109	13,869	4,407	13,488	36,015	10,979	3,573	99,662

\*Includes 171 Ac. Ft. for Keesee Ditch.

APPENDIX "B-14"

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DIVERSIONS BY DITCHES IN KANSAS

Report Year Ending October 31, 1954  
(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 .....	991	5	0	0	0	950	1,720	1,120	1,150	1,280	1,000	1,100	9,316
Alamo Canal .....	173	0	0	0	0	345	532	353	60	87	355	482	2,387
Ft. Aubrey Canal.....	514	0	0	0	0	438	1,220	353	228	692	678	1,310	5,433
Total Stateline to Syracuse .....	1,678	5	0	0	0	1,733	3,472	1,826	1,438	2,059	2,033	2,892	17,136
Amazon Canal .....	0	0	0	0	238	1,460	1,640	0	1,660	4,600	0	0	9,598
South Side Ditch.....	0	0	0	0	0	0	34	242	912	3,920	2,630	0	7,738
Great Eastern Canal.....	4,320	762	2,660	4,220	3,490	833	0	0	303	6,360	1,860	0	24,808
Farmer's Ditch .....	555	42	0	0	52	3,100	954	272	855	5,780	928	151	12,689
Garden City Canal.....	22	0	0	0	0	0	0	0	0	0	0	0	22
Total Syracuse to Garden City .....	4,897	804	2,660	4,220	3,780	5,393	2,628	514	3,730	20,660	5,418	151	54,855
Total Stateline to Garden City .....	6,575	809	2,660	4,220	3,780	7,126	6,100	2,340	5,168	22,719	7,451	3,043	71,991

*Apr. 1 - Oct 31 = 53,987*

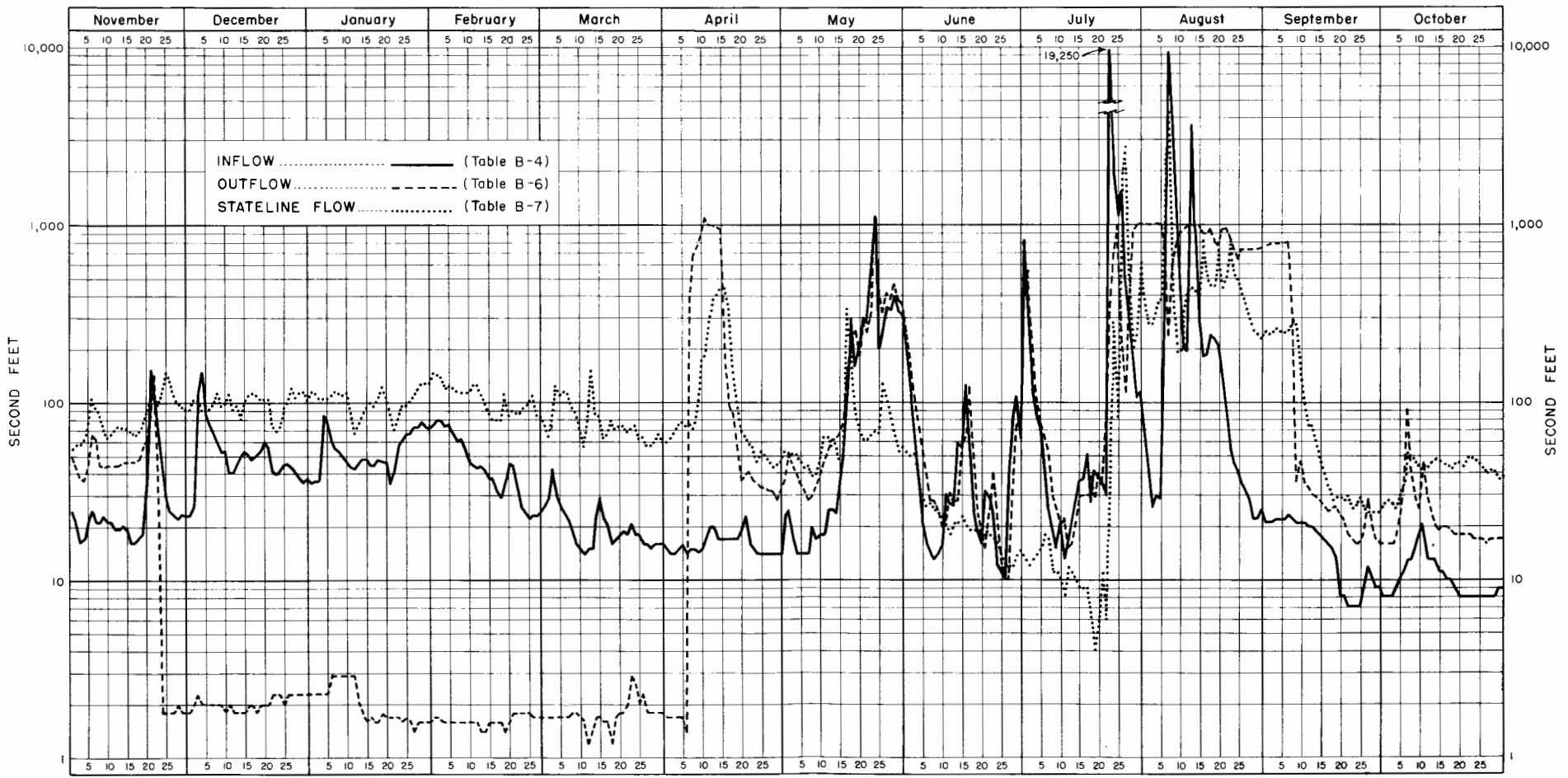
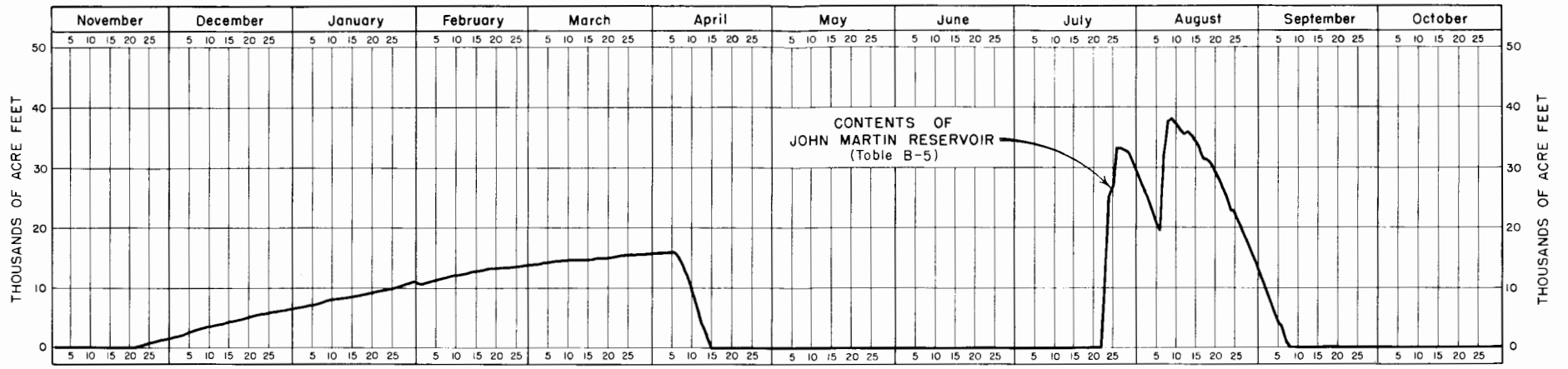
## APPENDIX "B-15"

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## SUMMARY TABULATION

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	YEAR	DATA THE FR. AP- PENDIX
Arkansas River at Las Animas, Colo.....	1670	2350	2610	1870	976	825	10750	2610	5420	8460	798	448	38790	B-2
Purgatoire River near Las Animas, Colo.	159	912	754	676	271	121	281	49	47870	35110	132	196	86530	B-3
Inflow to John Martin Reservoir (1).....	1830	3270	3360	2540	1250	946	11020	2670	53310	43560	928	641	125320	B-4
Reservoir contents at end of month.....	1390	6386	11163	13920	15853	0	0	0	29405	13220	0	0	0	B-5
Outflow from John Martin Reservoir.....	2460	126	126	91	110	16670	12170	3090	15570	51740	12450	1440	116040	B-6
Diversions in District 67 (Colorado).....	4286	674	603	16	643	11109	13869	4407	13488	36015	10979	3573	99662	B-13
Flow at Colorado-Kansas State Line.....	5050	6160	6360	5930	4910	8190	4520	1360	13760	36870	6380	2550	102040	B-7
Diversions in Kansas.....	6575	809	2660	4220	3780	7126	6100	2340	5168	22719	7451	3043	71991	B-14
Arkansas River at Garden City, Kansas..	1050	5740	5100	3460	2190	837	561	395	2310	14230	309	895	37080	B-8

(1) Note: Because of computation rules the figures following are not necessarily the exact sum of those shown above.



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

Report Year, November 1, 1953 - October 31, 1954