Fifth

Annual Report

ARKANSAS RIVER COMPACT ADMINISTRATION

(1953)

For the Report-Year November 1, 1952, to October 31, 1953

LAMAR, COLORADO

December 22, 1953

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

(1953)

Report-Year November 1, 1952, to October 31, 1953

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, 1952 through October 31, 1953 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 (From March 1, 1953)
R. M. Gildersleeve, Denver, Colorado (Oct. 31, 1952-Feb. 28, 1953)
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.) as required by Article VIII C of the Compact.
Vice-Chairman—William E. Leavitt of Garden City, Kansas.
Secretary—Harry C. Nevius of Lamar, Colorado.
Treasurer—Harry C. Nevius of Lamar, Colorado.

3. ***Standing Committees***

Administrative and Legal Committee:
From Nov. 1, 1952 to July 28, 1953.
Roland H. Tate of Kansas.
From July 28, 1953 to Oct. 31, 1953.
Roland H. Tate of Kansas (Chairman) and Harry C. Nevius of Colorado.

Engineering Committee:

From Nov. 1, 1952 to July 28, 1953.

R. V. Smrha of Kansas (Chairman) and Harry C. Nevius of Colorado.

From July 28, 1953 to Oct. 31, 1953

R. V. Smrha of Kansas (Chairman) and Ivan C. Crawford of Colorado.

Operations Committee:

From Nov. 1, 1952 to Oct. 31, 1953.

Harry B. Mendenhall of Colorado (Chairman) and William E. Leavitt of Kansas.

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

4. ***Meetings***

December 9, 1952	Lamar, Colorado	Annual Meeting
April 2, 1953	Garden City, Kansas	Special Meeting
July 28, 1953	Lamar, Colorado	Regular Meeting
October 27, 1953	Lamar, Colorado	Special Meeting

5. ***Fiscal***

(a) Balance on hand Oct. 31, 1952 Auditor's Report.....$3,446.95

(b) Receipts 12-31-52—Nat'l Surety Co. Secy.
Bond Reduction ....$ 18.77
9-18-53—Colorado Payment,
July 28 Coll. 1,440.00
10- 8-53—Kansas Payment,
July 27 Coll. 960.00

2,418.77

Total $5,865.72

(c) Disbursements by the Administration—Nov. 1, 1952 to Oct. 31, 1953:

Voucher No.	*Date*	*Payee and Purpose*	*Amount*
85	12-19-52	Robert W. Rollins, Audit & Service	$ 75.00
86	12-19-52	Treas, of U. S., Deposit F.I.C.A.	60.00
87	12-31-52	Mtn. States T. & T. Co., Nov. & Dec. Serv. & Tolls	37.45
88	12-31-52	Secy. Salary, Nov. & Dec. (less $3.00 F.I.C.A.)	197.00
89	12-31-52	Secy. Mileage $16.10, supplies $6.55	22.65
90	12-31-52	Treas. of U. S., Deposit F.I.C.A.	6.00
91	3- 2-53	Secy. Salary, Jan. & Feb. (less $3.00 F.I.C.A.)	197.00
92	3- 2-53	Peerless Ptg. Co., Annual Report	500.00
93	3- 2-53	Mtn. States T. & T. Co., Jan. Serv. & Tolls	9.55
94	3-31-53	Secy. Salary, March (less $1.50 F.I.C.A.)	98.50
95	3-31-53	Treas. of U. S., Deposit F.I.C.A.	9.00
96	3-31-53	Mtn. States T. & T. Co., Feb. & March Service & Tolls	23.25
97	6- 3-53	Western Union Tel. Co., Telegram	2.45
98	6- 3-53	Mtn. States T. & T. Co., April & May Serv. & Tolls	49.00

99	6- 3-53	Secy. Salary, Apr. & May (less $3.00 F.I.C.A.)	197.00
100	6- 3-53	Sec., Mileage	31.50
101	7-15-53	Mtn. States T. & T. Co., June Serv. & Tolls	27.50
102	7-15-53	Treas. of U. S., Deposit F.I.C.A.	6.00
103	7-15-53	Secy. Salary, June (less $1.50 F.I.C.A.)	98.50
104	9- 8-53	Lamar Daily News—Supplies	12.30
105	9 -8-53	Mt. States T. & T. Co., July & Aug. Serv. & Tolls	105.60
106	9- 8-53	Secy. Salary July & Aug. (less $3.00 F.I.C.A.)	197.00
107	9- 8-53	Secy. Expense & Mileage	37.80
108	10-20-53	J. L. Wade, Natl. Surety Corp. Treas.	25.00
109	10-20-53	Secy. Salary, Sept. (less $1.50 F.I.C.A.)	98.50
110	10-20-53	Mtn. States T. & T. Co., Sept. Serv. & Tolls	24.40
111	10-20-53	Treas. of U. S., Deposit by states (F.O.A.S. Ins.)	9.00
112	10-31-53	Secy. Salary, Oct. (less $1.50 F.I.C.A.)	98.50
	10-31-53	Mtn. States T. & T. Co., Oct. Serv. & Tolls	10.20
			$2,265.65

(d) Balance on hand October 31, 1953 ..... $3,600.07

(e) On October 27, 1953, the Administration approved a budget for the fiscal year July 1, 1954 to June 30, 1955, for transmittal to the Governor of each of the States of Colorado and Kansas in accordance with Article VIII E (2) of the Compact as follows:

Personal Services		$1,825.00
Secretary Salary	$1,200.00	
Social Security	25.00	
Gage Reports	500.00	
Professional Services (Audit of Accounts)	100.00	
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	
Investigations—Inspections	150.00	
Telephone—Telegraph	300.00	
Office Supplies	150.00	
TOTAL BUDGET proposed for 1953-54		3,800.00
Estimated carry-over as of June 30, 1953		1,400.00
Total to be appropriated by Colorado-Kansas		$2,400.00
To be appropriated by Colorado 60%		1,440.00
To be appropriated by Kansas 40%		960.00
		$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, 1952 through October 31, 1953, 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*

John Martin Reservoir was empty at the beginning of the Compact year on November 1, 1952. Winter flow started to accumulate in storage on November 12, 1952, and continued to the opening of the irrigation season on April 1, 1953, at which time the reservoir contained 21,266 acre-feet of water. This is approximately 25% less than was accumulated in a similar period during the preceding year and nearly 60% less than was in storage at the same time a year ago. It constituted by far the smallest amount in storage at that time of the year since the Compact has been in effect.

While the winter storage season was exceedingly dry, the combined discharge of the Arkansas and Purgatoire Rivers near Las Animas during the irrigation season from April 1, 1953, to October 31, 1953, was 147,433 acre-feet. This, of course, is a very meager quantity also but nevertheless it was the largest amount of water produced from those sources during that time of the year since 1949. Nearly all of it occurred during the months of June, July and August.

Releases from the reservoir commenced on April 1, 1953, based upon the concurrent demands of both states and continued until the reservoir was empty on April 17, 1953. Water rights on the river in

Colorado then were administered by the State Engineer of Colorado according to their decreed priorities until July 13, 1953, when, as a result of a flash flood on the Purgatoire River following a local cloudburst on the night of July 11, 1953, a quantity of water was accumulated in the reservoir. Upon due notice being given to the State Engineer of Colorado, subsequent releases of water from the reservoir were made in accordance with the concurrent demands of both states during the period July 13 to 30, inclusive. The reservoir was empty again at the end of that time and administration of water rights on the river in Colorado reverted again to the State Engineer of Colorado. Early in August and during the last half of that month there were freshets on the Purgatoire River resulting in the temporary accumulation of some water in the reservoir. It was empty on August 30, 1953, and remained so to the end of the Compact year on October 31, 1953.

Releases from the reservoir during the period April 1 to 18, inclusive, and July 13 to 30, inclusive, amounted to a total of 59,100 acre-feet. Stateline flows during the corresponding periods amounted to 23,650 acre-feet.

During the period April 19 to July 12, inclusive, and July 31 to October 31, inclusive, discharge of the Arkansas River, reported as outflow from John Martin Reservoir, was 92,460 acre-feet and Stateline flow was 43,370 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*

The Compact gaging station on the Purgatoire River near Las Animas was reconstructed during the year. At the other Compact stations only minor repairs and ordinary maintenance were required.

The radio equipment below John Martin Dam and at the Stateline stations operated satisfactorily except for occasional periods of a day or two. The general satisfactory performance of this equipment and the necessity for more frequent gage reports from the inflow stations during flood periods points to the desirability of installing similar equipment at the stations on the Arkansas and Purgatoire Rivers at Las Animas. Such installations should be made when funds become available.

9. *Findings of Fact by the Administration*

(a) The Administration at a Special Meeting, called for the purpose on April 2, 1953, considered the short water supply and the time of notification to the State Engineer of Colorado under Art. VF of the Compact. As a result of such consideration the Administration passed a resolution giving notice to the State Engineer of Colorado of the impending exhaustion of water in the conservation pool stating the date of April 13, 1953, on which to administer the decreed rights of the water users in Colorado. This date was modified on April 11, 1953, to read April 14, 1953, and again modified on April 13, 1953, to read April 15, 1953. The reservoir was declared officially empty at 2:35 P.M. April 18, 1953.

(b) On July 13, 1953, the Administration gave notice to the State Engineer of Colorado that as of 2:00 P.M. that date there was stored 18,980 acre-feet of water in the reservoir and that water was available in the conservation pool for release to water users in Kansas and Colorado Water District No. 67 in accordance with the Compact.

(c) On July 17, 1953, the Administration again made Findings and gave Notification under provisions of the Compact that, as of the date July 21, 1953, the decreed rights of the water users in the State of Colorado should be administered under the terms of the Compact. This date was modified on July 20, 1953 to read July 25, 1953 and again modified on July 24, 1953 to read July 27, 1953. The reservoir was declared officially empty at 8:00 A.M. July 30, 1953.

The above Findings and Notifications are attached hereto in Appendix C.

10. *Changes in Personnel of Administration*

Following the death of Clifford H. Stone, October 22, 1952, Governor Dan Thornton of Colorado appointed R. M. Gildersleeve as Acting Director of the Colorado Water Conservation Board. By virtue of that appointment, Mr. Gildersleeve was a member of the Administration from November 1, 1952 to February 28, 1953.

Ivan C. Crawford was appointed Director of the Colorado Water Conservation Board of Governor Dan Thornton on March 1, 1953, and has been a member of the Administration since that date. The other Colorado representatives were reappointed by Governor Dan Thornton on May 27, 1953.

The present representatives from Kansas were reappointed by Governor Edward F. Arn to serve until June 7, 1957.

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 22, 1953

APPENDICES

for

Annual Report of the Arkansas River Compact Administration

For the Report-Year Nov. 1, 1952 to Oct. 31, 1953

APPENDIX "A" —Auditor's Report.

APPENDIX "B-1" —Daily Discharges, Arkansas River near Pueblo, Colorado.

APPENDIX "B-2" —Daily Discharges, Arkansas River at Las Animas, Colorado.

APPENDIX "B-3" —Daily Discharges, Purgatoire River near Las Animas, Colorado.

APPENDIX "B-4" —Inflow into John Martin Reservoir.

APPENDIX "B-5" —Daily Contents, John Martin Reservoir.

APPENDIX "B-6" —Outflow from John Martin Reservoir.

APPENDIX "B-7" —Daily Discharges, Arkansas River at Colorado-Kansas Stateline.

APPENDIX "B-8" —Daily Discharges, Arkansas River at Garden City, Kansas.

APPENDIX "B-9" —Demands by Colorado for Water.

APPENDIX "B-10"—Demands by Kansas for Water.

APPENDIX "B-11"—Stateline Flows on Days of Kansas Demand.

APPENDIX "B-12"—Diversions by Ditches in Colorado Water Districts 14 and 17.

APPENDIX "B-13"—Diversions by Ditches in Colorado Water District 67.

APPENDIX "B-14"—Diversions by Ditches in Kansas, Stateline to Garden City.

APPENDIX "B-15"—Summary Tabulation.

APPENDIX "C-1" —Finding and Notification dated April 2, 1953.

APPENDIX "C-2" —Finding and Notification dated July 13, 1953.

APPENDIX "C-3" —Finding and Notification dated July 17, 1953.

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

* * * *

ROBERT W. ROLLINS
Certified Public Accountant
La Junta, Colorado

December 15, 1953.

To the Representatives
Arkansas River Compact Administration
Lamar, Colorado

Gentlemen:

In accordance with your request, an examination has been made of the financial transactions of the Arkansas River Compact Administration for its fourth "Report year"—November 1, 1952 to October 31, 1953. The results of this audit are expressed in the attached Statement of Cash Receipts and Disbursements—Schedule I, page No. 4. The remarks that follow are offered as additional information and also tend to describe the extent of the auditing work performed.

General Comments

Schedule I, page No. 4, reflects the beginning balance of cash in bank, revenue assessments received from the States of Colorado and Kansas, other cash receipts, expenditures by classification and the ending balance of cash in bank.

As provided for in the budget of the Minutes of the Administration's Meeting of October 28, 1952, funds due from Colorado (60% share) of $1,440.00 and Kansas (40% share) of $960.00 were received for the fiscal year ending June 30, 1954 and deposited in the First National Bank in Lamar, Colorado, on the respective dates of September 18, 1953 and October 8, 1953. A refund from the National Surety Corporation in the amount of $18.77 was deposited on December 31, 1952. This receipt was the result of reducing the $10,000.00 protection to a $5,000.00 coverage on the Treasurer's bond and was so authorized in the Minutes of the Administration's Meeting of December 9, 1952. Such action was taken by the Administration upon reviewing the maximum amount of funds which would be on hand at any one time.

All disbursements were made by checks drawn on the Administration's account at the First National Bank in Lamar, Colorado. The individual checks were examined for amount, signature and endorsement. The correctness of the amounts disbursed was verified to payees' statements, authorization of payment as evidenced in minutes of the Administration's meetings or other supporting evidence. Minutes of the October 28, 1952 Meeting that were unavailable for last year's audit, were examined this year.

The Secretary's salary for the current year of $1,200.00 has been reduced by Old-Age and Survivors Insurance deductions amounting to $18.00 or 1½% of the gross figure. It should be remembered, the Administration contributes a similar amount, thus matching the employee's deduction. As of October 31, 1953 the combined amount due by the Administration for Old-Age and Survivors Insurance on its employees is $12.00.

Travel expense of the Secretary for the year under review amounted to $85.40 or 1,220 miles of business travel at $0.07 a mile incurred during August and December of 1952, and April, May, July and August of 1953.

Payments made to the U. S. Treasury totaling $90.00 during the year and labeled taxes were accompanied by related returns referring to Old-Age and Survivors Insurance information on the Secretary. $60.00 pertained to former years' salaries, while the current year's salary deduction and related expense accounted for balance of $30.00. As mentioned on Schedule I, the Secretary's deductions of $3.00 for the months of September and October, 1952 (salaries paid in October, 1952) together with related Administration's share will be reported on and paid in December, 1953.

The reduction of the premium paid in October of 1953 on the Treasurer's bond for the year ending September 12, 1954 has been previously referred to, and it is thought additional remarks need not be made.

Cash in bank at October 31, 1953, per Schedule I, amounting to $3,600.07 was reconciled to the amount confirmed by the First National Bank in Lamar. Outstanding checks at the end of the year under review cleared the bank in November of 1953.

The financial position of the Administration at October 31, 1953 is compared with that of a year ago, in the following summary:

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

Comparative Balance Sheets

Assets:	October 31, 1953	October 31, 1952	Increase (Decrease)
Cash in bank	$3,600.07	$3,446.95	$153.12
Equipment (Portable Typewriter)	92.50	92.50	.....
Total Assets	$3,692.57	$3,539.45	$153.12

Liabilities:			
Employee's deductions (held in trust)	$ 6.00	$ 33.00	$(27.00)
Capital:			
Unexpended fund balance	$3,594.07	$3,413.95	$180.12
Expended fund balance for equip't	92.50	92.50	.....
Total Capital	$3,686.57	$3,506.45	$180.12
Total Liabilities and Capital	$3,692.57	$3,539.45	$153.12

Since the "Budget year" covers the period July 1, 1952 to June 30, 1953, it has been necessary to combine certain months of the past 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
Fiscal Year July 1, 1952 to June 30, 1953

Classification	Disbursements	Budget
Personal Services:		
Secretary salary ($1,100.00 –$6.00)	$1,094.00*	$1,200.00
Taxes—O.A. and S.I. (Combined)	64.50	.....
Gage reports	.....	500.00
Professional services (audit of accounts)	75.00	100.00
Capital Outlay	.....	300.00
Maintenance and Operation		
Bond	50.00	50.00
Printing	500.00	600.00
Official publications	.....	100.00
Travel expense—Secretary and employees	47.60	150.00
Typing and mailing	6.00	200.00
Investigation and inspection	.....	150.00
Telephone and telegraph	239.19	300.00
Office supplies	.55	150.00
Totals	$2,094.84	$3,800.00

*June's salary was not paid until July, 1953, so the excess of the budgeted amounts over actual disbursements of approximately $1,700.00 is overstated by $100.00. Salary expenditures have also been reduced by tax deductions not yet paid to the U. S. Treasury.

The Administration's Budget as approved in the Minutes of its Meeting of October 28, 1952, for the fiscal year July 1, 1953 to June 30, 1954, provided for the use of an estimated excess of $1,400.00 of budgeted funds at June 30, 1953 to reduce the assessments from the States for the ensuing fiscal year. In like manner, the Administration has provided for an estimated excess of unexpended cash balance of $1,400.00 at June 30, 1954 to be carried forward and affect a similar reduction in assessments requested from the States for the fiscal year July 1, 1954 to June 30, 1955.

Consistent with the Administration's policy as stated in last year's "Audit report," the Writer has been advised that a budget aggregating $3,800.00 will be maintained, but any excess of amounts budgeted over actual disbursements will always be used to reduce the subsequent year's revenue assessment requests of the States accordingly.

Respectfully submitted,

ROBERT W. ROLLINS,
Certified Public Accountant.

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

Statement of Cash Receipts and Disbursements
November 1, 1952 to October 31, 1953
(Refer to comments in text of audit)

Cash in bank at November 1, 1952 (Per Audit)			$3,446.95
Receipts			
Revenues from assessments			
Colorado portion 60%		$1,440.00	
Kansas portion 40%		960.00	
Refund—Secretary-treasurer's bond		18.77	
Total Receipts			2,418.77
Total Available Funds			$5,865.72
Disbursements			
Salary of secretary	$1,200.00		
Less: O.A. and S.I. deductions	18.00*	$1,182.00	
Printing—Annual reports		500.00	
Telephone and telegraph		289.40	
Travel expense		85.40	
Audit fee—Fiscal Year—October 31, 1952		75.00	
Taxes—O.A. and S.I. Payments			
Deductions from employee	45.00		
Administration's portion	45.00	90.00	
Premium on secretary-treasurer's bond		25.00	
Office supplies and stationery		12.85	
Typing and mailing		6.00	
Total Disbursements			2,265.65
Cash in bank at October 31, 1953			$3,600.07*
Cash on Deposit at First National Bank in Lamar (Per direct confirmation) on October 31, 1953		$3,708.77	
Less: Outstanding checks of:			
No. 112 Harry C. Nevius	$ 98.50		
No. 113 Mt. States T. & T. Co.	10.20	108.70	$3,600.07

*At October 31, 1953, $6.00 was held in trust by the Administration, representing Old-Age and Survivors Insurance deductions from the Secretary's salary for the months of September, 1952, October, 1952, September, 1953 and October, 1953. Amounts so withheld for 1952 totaling $3.00 together with the Administration's expense are being sent in with a special adjustment report in December, 1953. Current year's deductions should be reported in the normal manner.

APPENDIX "B-1"

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ARKANSAS RIVER NEAR PUEBLO, COLORADO

ARKANSAS RIVER NEAR PUEBLO, COLORADO

Report Year Ending October 31, 1953
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	167	504	424	189	154	168	137	1680	1640	1550	662	44
2	151	550	377	171	179	126	120	1800	1620	1650	733	42
3	138	560	394	178	171	121	126	1930	1470	1760	723	53
4	156	462	333	190	141	87	91	1970	1320	1900	682	57
5	157	363	291	189	129	110	75	1990	1270	1340	625	75
6	162	380	306	239	153	212	41	1800	1080	1260	653	40
7	167	419	337	190	142	160	36	1610	1110	1140	345	61
8	158	350	294	178	142	142	35	1450	951	1320	184	70
9	214	305	281	225	143	142	65	1520	874	766	163	75
10	249	445	275	249	143	97	38	1890	1080	672	141	73
11	249	416	281	258	191	121	153	2640	1230	625	135	66
12	250	348	295	238	254	156	685	3040	1580	596	135	62
13	249	359	289	215	190	180	841	3580	1710	513	131	75
14	249	366	295	215	126	156	772	4190	1500	458	152	85
15	238	365	255	172	119	146	728	3870	1280	520	136	83
16	250	351	301	165	86	123	706	3600	1290	701	111	93
17	261	337	334	170	48	93	914	3180	1580	539	96	57
18	261	351	254	130	42	122	470	3020	1660	983	81	64
19	262	344	281	188	68	138	415	2920	1590	327	74	60
20	269	336	268	158	53	127	277	2690	1390	307	85	80
21	290	321	256	213	51	88	228	2490	1500	312	185	90
22	291	306	254	200	42	42	202	2230	1050	345	175	144
23	292	308	254	206	38	25	143	1930	907	250	91	144
24	340	303	241	164	82	87	222	1830	855	184	67	225
25	318	323	254	169	86	116	411	1700	752	124	58	257
26	306	305	180	154	83	88	536	1500	601	119	50	241
27	314	216	214	165	70	89	642	1510	537	123	45	258
28	354	292	203	143	103	111	922	1690	518	97	45	243
29	404	254	189		59	136	1560	1640	623	95	39	282
30	446	243	189		79	209	1790	1670	1340	480	38	316
31		303	190		156		1490		1400	654		305
TOTAL												
Sec. Ft.	7612	11085	8589	5321	3523	3718	14871	68560	37308	21710	6840	3820
Ac. Ft.	15100	21990	17040	10550	6990	7370	29500	136000	74000	43060	13570	7580
(a) ac. ft.	0	0	0	0	0	0	−6420	−8270	−14160	−13770	−8140	−150
(b) ac. ft.	15100	21990	17040	10550	6990	7370	23080	127730	59840	29290	5430	7430

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

THE YEAR 382750 Ac. Ft.
CORRECTED 331840 Ac. Ft.

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ARKANSAS RIVER AT LAS ANIMAS, COLORADO

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report Year Ending October 31, 1953
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	24	123	85	36	33	37	40	62	410	265	17	9.0
2	24	105	66	35	30	27	44	580	459	269	21	8.6
3	24	108	61	34	30	22	100	314	468	297	19	8.6
4	26	78	69	33	29	24	95	468	123	206	21	10
5	30	64	73	33	28	24	56	590	180	114	18	13
6	30	64	75	31	26	21	36	486	450	33	14	12
7	30	68	68	29	26	19	31	450	426	21	14	11
8	31	75	68	28	26	20	26	349	363	94	14	9.6
9	39	75	71	29	25	20	25	307	370	237	14	9.6
10	151	64	69	24	24	21	34	410	321	370	15	9.0
11	87	56	64	25	24	35	30	386	342	212	16	9.6
12	60	49	62	30	24	60	28	426	3190	186	14	10
13	71	46	64	27	23	58	24	363	380	128	13	10
14	103	46	60	30	21	36	24	805	150	82	18	10
15	163	42	48	24	21	26	23	761	106	44	15	12
16	151	40	41	24	20	22	28	495	59	27	15	15
17	100	39	50	28	24	22	239	560	150	1730	15	12
18	75	39	73	26	20	20	138	590	88	1160	16	12
19	49	37	69	24	18	19	146	151	405	244	16	12
20	52	35	56	14	17	19	114	335	192	493	14	13
21	68	34	50	23	16	17	108	673	108	126	13	13
22	82	32	49	50	42	17	54	651	43	64	11	13
23	85	31	46	123	25	18	30	884	72	140	11	13
24	92	32	46	68	17	20	23	610	33	55	11	13
25	69	26	45	44	22	18	22	706	28	28	11	13
26	66	27	45	37	23	18	20	504	26	24	11	13
27	56	60	39	31	17	15	16	504	26	20	11	13
28	75	56	51	27	17	15	18	504	26	18	11	14
29	117	103	52		17	20	703	468	22	17	10	14
30	105	213	44		19	18	254	328	27	17	10	27
31		114	40		37		218		78	16		30
TOTAL												
Sec. Ft.	2135	1981	1799	967	741	728	2747	14720	9121	6737	429	392.0
Ac. Ft.	4230	3930	3570	1920	1470	1440	5450	29200	18090	13360	851	778

THE YEAR 84289 Ac. Ft.

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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report Year Ending October 31, 1953
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	4.2	3	8	23	7.2	13	22	96	2.7	69	6.3	1.5
2	4.0	5.2	8	24	6.2	6.5	9.2	64	2.7	158	55	1.3
3	3.8	3	8	26	6.2	4.2	6.8	48	2000	362	88	1.3
4	3.2	4	9	17	6.0	3.6	8.4	30	300	266	102	1.3
5	3.0	5	9.6	10	6.8	4.2	15	153	120	556	64	1.2
6	3.0	6	11	10	6.8	4.8	22	104	25	528	47	1.1
7	3.0	7.0	11	9.6	6.0	5.8	11	58	12	204	28	1.2
8	3.0	7.5	10	9.2	5.2	2.9	5.5	11	6.4	118	20	1.4
9	11	9.2	15	21	4.8	2.1	3.8	6.0	5.5	104	17	1.6
10	5.0	9.6	24	30	3.8	2.1	4.2	3.8	74	70	18	1.9
11	4.0	18	23	30	2.8	6.8	6.0	3.1	818	54	12	1.9
12	4.0	21	21	30	3.0	8.8	3.8	2.7	12600	39	8.0	1.9
13	3.6	23	19	32	2.2	8.8	4.2	2.9	1440	28	5.4	2.1
14	3.6	42	20	34	2.7	5.0	3.3	3.3	464	24	3.6	2.2
15	15	40	19	40	5.5	3.5	3.1	2.7	246	21	3.4	2.2
16	34	28	19	52	5.8	3.3	8.8	2.7	296	19	3.1	2.3
17	15	30	19	23	2.2	3.1	300	236	135	1870	3.1	2.2
18	21	28	20	9.6	2.5	3.1	74	807	380	3360	2.9	2.1
19	21	22	21	13	3.6	3.1	7.6	192	1170	789	2.9	2.0
20	20	24	19	10	2.5	3.1	4.5	108	500	655	2.9	2.5
21	16	28	17	10	3.0	2.9	2.9	44	274	524	2.3	2.3
22	18	31	15	10	4.6	2.5	2.5	28	162	472	2.1	2.1
23	65	34	13	10	5.0	2.5	2.5	12	360	524	2.1	2.0
24	45	23	17	10	4.2	4.0	2.5	4.8	185	606	2.1	1.9
25	7	13	17	9.6	4.2	3.3	2.5	3.5	118	154	2.1	1.6
26	5	12	17	6.5	4.4	3.1	2.3	3.1	60	51	2.0	1.5
27	4	11	15	2.5	4.2	2.1	2.5	2.9	23	20	2.0	1.5
28	3	10	10	3.6	4.2	1.7	2.5	2.9	15	16	1.9	1.5
29	3	9	9.2		4.2	5.8	1260	2.7	11	10	1.7	1.5
30	3	8	13		6.5	8.8	1110	2.7	9.4	7.5	1.7	1.5
31		8	19		17		210		12	6.0		1.5
TOTAL												
Sec. Ft.	353.4	520.5	475.8	515.6	153.3	134.5	3123.4	2040.8	21826.7	11684.5	512.6	54.1
Ac. Ft.	701	1030	944	1020	304	267	6200	4050	43290	23180	1020	107

THE YEAR 82113 Ac. Ft.

INFLOW INTO JOHN MARTIN RESERVOIR

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INFLOW INTO JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1953
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	28	126	93	59	40	50	62	158	413	334	23	10
2	28	108	74	59	36	34	53	644	462	427	76	10
3	28	111	69	60	36	26	107	362	2470	659	107	10
4	29	82	78	50	35	28	103	498	423	472	123	11
5	33	69	83	43	35	28	71	743	300	670	82	14
6	33	70	86	41	33	26	58	590	475	561	61	13
7	33	75	79	39	32	25	42	508	438	225	42	12
8	34	82	78	37	31	23	32	360	369	212	34	11
9	50	84	86	50	30	22	29	313	376	341	31	11
10	156	74	93	54	28	23	38	414	395	440	33	11
11	91	74	87	55	27	42	36	389	1160	266	28	12
12	64	70	83	60	27	69	32	429	15800	225	22	12
13	75	69	83	59	25	67	28	366	1820	156	18	12
14	107	88	80	64	24	41	27	808	614	106	22	12
15	178	82	67	64	26	30	26	764	352	65	18	14
16	185	68	60	76	26	25	37	498	355	46	18	17
17	115	69	69	51	26	25	539	796	285	3430	18	14
18	96	67	93	36	22	23	212	1400	468	4520	19	14
19	70	59	90	37	22	22	154	343	1560	1030	19	14
20	72	59	75	24	20	22	118	443	692	1150	17	16
21	84	62	67	33	19	20	111	717	382	650	15	15
22	100	63	64	60	47	20	56	679	205	536	13	15
23	150	63	59	133	30	20	32	896	432	664	13	15
24	137	55	63	78	21	24	26	615	218	661	13	15
25	76	39	62	54	26	21	24	710	146	182	13	15
26	71	39	62	44	27	21	22	507	86	75	13	14
27	60	71	54	34	21	17	18	507	49	40	13	14
28	78	66	61	31	21	17	20	507	42	34	13	16
29	120	112	61		21	26	1960	471	33	27	12	16
30	108	221	57		26	27	910	331	36	24	12	28
31		122	59		54		428		90	22		32
TOTAL												
Sec. Ft.	2489	2501	2275	1485	894	864	5411	16766	30946	18250	941	445
Ac. Ft.	4940	4960	4510	2950	1770	1710	10730	33250	61380	36200	1870	883

THE YEAR 165153 Ac. Ft.

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

DAILY CONTENTS JOHN MARTIN RESERVOIR

(Acre Feet)

Report Year Ending October 31, 1953

Corps of Engineers Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	2513	8529	14504	18467	20651	0	0	0	0	0	0
2	0	2728	8715	14619	18816	19478	0	0	0	225	0	0
3	0	3161	8903	14792	18940	18282	0	0	0	683	0	0
4	0	3415	9126	14967	19022	17125	0	0	0	896	0	0
5	0	3511	9400	15065	19126	16006	0	0	0	0	0	0
6	0	3856	9614	15162	19209	14909	0	0	0	0	0	0
7	0	4264	9830	15260	19292	13795	0	0	0	0	0	0
8	0	4369	10068	15377	19395	12521	0	0	0	0	0	0
9	0	4463	10256	15494	19499	11181	0	0	0	0	0	0
10	0	4559	10532	15553	19582	9797	0	0	0	0	0	0
11	0	4883	10811	15711	19686	8653	0	0	0	0	0	0
12	80	5048	11092	15868	19728	7502	0	0	9158	0	0	0
13	375	5227	11305	16066	19811	6349	0	0	19395	0	0	0
14	510	5318	11628	16284	19832	5126	0	0	19478	0	0	0
15	637	5639	11718	16463	19916	3866	0	0	17226	0	0	0
16	896	5850	11736	16623	19957	2370	0	0	16723	0	0	0
17	973	6090	11863	16763	19978	1054	0	0	15162	132	0	0
18	1043	6188	12118	16843	19999	0	0	0	14389	3377	0	0
19	1123	6262	12393	16944	20083	0	0	0	15201	3415	0	0
20	1262	6386	12650	16984	20104	0	0	0	15730	4201	0	0
21	1377	6590	12873	17045	20167	0	0	0	14389	5004	0	0
22	1483	6719	13022	17125	20188	0	0	0	13172	4916	0	0
23	1587	6902	13078	17509	20272	0	0	0	12099	4634	0	0
24	1616	7036	13322	17834	20314	0	0	0	10532	5329	0	0
25	1457	7089	13454	18038	20356	0	0	0	8824	5386	0	0
26	1602	7198	13624	18160	20398	0	0	0	7009	4828	0	0
27	1724	7307	13776	18303	20440	0	0	0	5160	4150	0	0
28	1874	7418	13909	18364	20482	0	0	0	3060	2923	0	0
29	2061	7573	14042		20482	0	0	0	699	1338	0	0
30	2287	7960	14195		21095	0	0	0	0	0	0	0
31		8256	14350		21266		0		0	0		0

(Data from revised capacity table of Sept. 1, 1952)

APPENDIX "B-5"

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DAILY CONTENTS JOHN MARTIN RESERVOIR

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OUTFLOW FROM JOHN MARTIN RESERVOIR

OUTFLOW FROM JOHN MARTIN RESERVOIR

Report Year Ending October 31, 1953

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	36	2.9	2.0	2.3	2.9	414	116	315	310	270	48	22
2	52	2.9	2.3	2.3	2.9	668	128	395	402	472	104	18
3	52	2.9	2.3	2.9	2.6	662	107	454	627	483	226	17
4	56	2.9	2.0	2.9	2.6	649	138	326	1240	850	364	19
5	64	2.6	2.3	2.6	2.6	642	138	818	235	694	248	24
6	60	2.6	2.6	2.6	2.6	649	107	649	466	1180	154	29
7	58	2.6	2.6	2.6	2.6	668	87	526	484	454	101	28
8	60	2.6	2.0	2.6	2.6	701	74	430	408	244	76	26
9	64	2.6	2.3	2.6	2.6	688	56	386	342	305	60	26
10	95	2.6	2.3	2.9	2.6	688	50	442	364	430	54	25
11	113	2.6	2.3	2.6	2.6	688	62	454	392	392	54	24
12	105	2.9	2.3	2.6	2.6	694	56	408	1400	248	43	25
13	95	2.9	2.3	2.6	2.3	688	60	419	1830	218	38	24
14	92	3.2	2.0	2.6	2.3	675	60	562	1020	154	36	25
15	92	3.2	2.6	2.3	2.6	675	58	890	1030	119	38	26
16	101	2.9	2.6	2.3	9.5	694	69	586	1030	110	36	29
17	98	2.9	2.6	2.3	15	694	317	580	1030	741	36	29
18	98	2.9	2.6	2.6	19	471	230	1140	1020	1760	32	28
19	87	2.9	2.6	2.6	16	62	185	610	1030	1840	33	26
20	62	2.9	2.6	2.6	15	58	171	336	1050	674	33	29
21	52	2.9	2.0	2.9	16	56	164	402	1020	174	33	40
22	66	2.9	2.6	2.6	15	52	122	649	970	235	33	32
23	84	2.9	22	2.6	16	50	79	502	997	310	33	33
24	107	2.6	3.8	2.6	15	60	60	623	1010	295	35	36
25	113	2.6	2.6	2.6	13	62	46	454	938	266	33	32
26	76	2.6	2.3	2.6	14	56	41	490	930	397	32	30
27	4.7	2.6	2.3	2.6	13	58	46	442	930	408	28	32
28	3.8	2.6	2.3	2.6	13	52	44	375	970	556	26	32
29	3.2	2.6	2.3		13	54	548	466	970	538	23	32
30	2.9	2.6	2.3		16	64	1220	348	368	419	22	35
31		2.3	2.3		15		796		66	56		46
TOTAL												
Sec. Ft.	2052.6	85.7	94.0	72.5	272.5	12392	5435	15477	24879	15292	2112	877
Ac. Ft.	4070	170	186	144	540	24580	10780	30700	49350	30330	4190	1740

THE YEAR 156780 Ac. Ft.

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

APPENDIX "B-7"

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ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

Report Year Ending October 31, 1953

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	99	130	83	122	130	58	73	181	29	161	173	35
2	86	120	126	117	122	60	72	144	30	143	120	29
3	80	108	126	117	110	87	77	87	29	940	101	28
4	86	125	126	122	68	184	85	63	26	600	84	30
5	89	150	126	135	106	194	91	76	31	161	72	31
6	87	160	135	126	91	210	82	62	86	1240	69	30
7	97	178	130	122	95	245	71	83	40	358	67	33
8	116	167	153	122	84	255	65	92	35	356	59	32
9	120	173	153	117	80	287	61	47	35	410	54	34
10	124	148	148	102	87	318	59	37	38	182	54	34
11	138	153	130	110	95	346	59	38	41	134	57	33
12	119	173	140	113	95	337	59	42	37	110	51	33
13	109	173	140	140	87	300	60	41	40	107	44	38
14	106	153	122	135	91	337	60	39	164	104	42	41
15	99	144	100	135	74	275	60	46	452	85	42	44
16	97	148	80	98	74	234	89	44	348	101	42	56
17	91	144	74	95	74	265	609	44	412	82	40	59
18	93	140	90	106	68	262	152	34	412	82	37	55
19	98	148	120	106	66	263	126	50	422	304	38	45
20	107	148	158	162	63	169	106	100	475	2720	36	40
21	119	153	153	222	74	131	98	76	570	1280	37	49
22	126	153	144	304	68	106	96	48	530	371	36	47
23	119	162	135	261	66	93	97	63	522	194	37	51
24	113	158	122	148	66	98	85	78	511	230	35	52
25	72	126	135	122	52	73	79	53	470	216	35	53
26	67	100	135	113	60	69	68	53	444	177	33	53
27	84	80	135	113	66	79	66	37	363	146	31	57
28	90	74	117	102	57	73	58	35	335	181	29	58
29	110	84	117		57	75	48	33	396	180	30	59
30	130	90	122		53	80	54	30	420	200	32	57
31		122	117		55		75		378	204		52
TOTAL												
Sec. Ft.	3071	4285	3892	3787	2434	5563	2940	1856	8121	11759	1617	1348
Ac. Ft.	6090	8500	7720	7510	4830	11030	5830	3680	16110	23320	3210	2670

THE YEAR 100500 Ac.Ft.

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

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ARKANSAS RIVER AT GARDEN CITY, KANSAS

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report Year Ending October 31, 1953
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	13	35	106	21	28	13	10	3	.2	7	14	6
2	13	35	120	24	24	14	9	2	0	8	10	8
3	14	40	89	26	26	14	11	2	0	45	12	7
4	16	60	160	16	26	14	10	2	0	16	11	8
5	16	81	106	13	28	14	12	11	0	10	8	8
6	16	69	180	19	24	13	11	9	.4	12	10	7
7	26	48	120	16	16	14	11	9	1	10	4	7
8	24	58	145	16	13	14	6	3	2	7	6	7
9	24	58	175	26	13	13	10	2	3	7	7	7
10	24	62	215	33	12	12	11	.8	7	5	7	9
11	24	38	170	38	12	16	8	.4	8	2	4	10
12	26	130	72	58	11	13	11	.1	7	1	2	10
13	31	111	58	69	11	12	10	0	3	.5	2	11
14	31	48	36	72	14	13	16	0	.8	.4	7	12
15	26	48	31	52	10	11	16	0	.6	.9	5	13
16	31	115	28	36	9	10	21	0	.5	10	12	13
17	26	195	31	28	11	10	31	0	0	364	10	12
18	24	98	41	24	8	9	21	0	0	180	7	11
19	21	98	76	16	12	9	16	0	0	65	11	10
20	24	305	52	11	9	8	12	0	.4	31	11	9
21	19	290	41	10	11	8	10	0	.7	16	8	18
22	21	250	41	12	13	6	7	0	1	1260	4	17
23	19	250	38	21	14	4	6	1	12	1730	2	16
24	19	200	38	45	12	5	5	2	69	1150	.5	16
25	16	150	36	58	13	5	3	3	69	658	.1	15
26	16	90	36	41	12	7	2	4	36	175	.1	12
27	16	85	26	24	13	4	1	2	26	36	0	9
28	18	72	33	19	14	3	2	2	19	19	0	8
29	21	89	28		13	4	3	1	13	16	2	7
30	24	90	26		14	9	3	.6	11	21	4	6
31		94	24		14		3		8	16		5
TOTAL												
Sec. Ft.	639	3392	2378	844	460	301	308	59.9	298.6	5878.8	180.7	314
Ac. Ft.	1270	6730	4720	1670	912	597	611	119	592	11660	358	623

THE YEAR 29862 Ac. Ft.

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1953

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1						267						
2						400						
3						400						
4						400						
5						400						
6						400						
7						400						
8						400						
9						400						
10						400						
11						400						
12						400						
13						400			600			
14						400			600			
15						400			600			
16						400			600			
17						400			600			
18						240			600			
19									600			
20									600			
21									600			
22									600			
23									600			
24									580			
25									550			
26									550			
27									550			
28									580			
29									600			
30									200			
31												
TOTAL												
Sec. Ft.						6907			10210			
Ac. Ft.						13700			20250			

COLORADO DITCHES ON DECREED PRIORITIES AT TIMES WHEN NO DEMAND IS SHOWN DURING APRIL TO SEPTEMBER INCLUSIVE

THE YEAR 33950 Ac. Ft.

DEMANDS BY COLORADO FOR WATER

APPENDIX "B-9"

* * * *

* * * * *

DEMANDS BY KANSAS FOR WATER

DEMANDS BY KANSAS FOR WATER

Report Year Ending October 31, 1953
(Arkansas River Compact Administration records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1						178						
2						267						
3						267						
4						267						
5						267	RESERVOIR EMPTY AT TIMES WHEN					
6						267	NO DEMAND IS SHOWN DURING					
7						267	APRIL TO OCTOBER INCLUSIVE					
8						267						
9						267						
10						267						
11						267						
12						267						
13						267			400			
14						267			400			
15						267			400			
16						267			400			
17						267			400			
18						160			400			
19									400			
20									400			
21									400			
22									400			
23									400			
24									400			
25									400			
26									400			
27									400			
28									400			
29									400			
30									133			
31												
TOTAL												
Sec. Ft.						4610			6933			
Ac. Ft.						9140			13750			

THE YEAR 22890 Ac. Ft.

* * * *

STATELINE FLOWS ON DAYS OF KANSAS DEMAND*

STATELINE FLOWS ON DAYS OF KANSAS DEMAND*

Report Year Ending October 31, 1953

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										161		
2										143		
3												
4						184						
5						194						
6						210						
7						245						
8						255						
9						287						
10						318						
11						346						
12						337						
13						300						
14						337						
15						275						
16						234			348			
17						265			412			
18						262			412			
19						263			422			
20						169			475			
21						131			570			
22									530			
23									522			
24									511			
25									470			
26									444			
27									363			
28									335			
29									396			
30									420			
31									378			
TOTAL												
Sec. Ft.						4612			7008	304		
Ac. Ft.						9150			13900	603		
								TOTAL YEAR		23653 Ac. Ft.		

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

APPENDIX "B-12"

* * * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report Year Ending October 31, 1953
(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)	3,620	797	397	3,211	4,358	4,225	4,943	13,341	7,309	7,446	4,197	4,360	58,204
Res. or Imported	0	0	0	0	0	0	0	0	793	0	655	0	1,448
Total	3,620	797	397	3,211	4,358	4,225	4,943	13,341	8,102	7,446	4,852	4,360	59,652
West Pueblo (River)	0	0	0	0	0	179	194	347	184	184	179	173	1,440
Booth-Orchard Gr. (Riv.)	861	0	0	417	1,107	1,071	1,107	1,248	1,139	1,107	1,071	1,089	10,217
Excelsior (River)	0	407	803	0	0	0	79	1,487	524	646	298	0	4,244
Res. or Imported	0	0	0	0	0	0	0	16	188	40	0	0	244
Total	0	407	803	0	0	0	79	1,503	712	686	298	0	4,488
Colorado Canal (River)	831	7,626	3,122	0	0	0	0	8,769	1,926	2,989	0	0	25,263
Res. or Imported	0	0	0	0	0	0	6,292	7,686	11,326	10,820	6,774	0	42,898
Total	831	7,626	3,122	0	0	0	6,292	16,455	13,252	13,809	6,774	0	68,161
Highline (River)	2,483	5,135	5,403	4,443	3,685	3,392	5,060	15,035	7,358	8,091	3,391	3,505	66,981
Res. or Imported	0	0	0	0	0	0	0	0	881	2,021	651	0	3,553
Total	2,483	5,135	5,403	4,443	3,685	3,392	5,060	15,035	8,239	10,112	4,042	3,505	70,534

(Continued on page 30)

APPENDIX "B-12" (Continued)

* * * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Oxford Canal (River)....	1,016	0	0	315	803	762	1,335	6,645	5,111	3,465	748	817	21,017
Otero (River)	0	789	284	0	0	0	242	2,374	388	502	0	0	4,579
Res. or Imported.....	0	0	0	0	0	0	0	403	1,492	619	0	0	2,514
Total	0	789	284	0	0	0	242	2,777	1,880	1,121	0	0	7,093
Catlin (River)	4,796	3,300	4,631	5,693	3,562	1,537	6,161	14,590	14,265	11,504	224	545	70,808
Res. or Imported.....	0	0	0	0	0	0	0	0	0	0	557	145	702
Total	4,796	3,300	4,631	5,693	3,562	1,537	6,161	14,590	14,265	11,504	781	690	71,510
Holbrook (River)	613	3,511	3,648	228	0	0	702	6,565	4,233	4,441	0	0	23,941
Rocky Ford (River).....	4,473	1,258	1,789	2,499	4,322	4,814	4,237	5,155	5,845	5,576	4,598	4,943	49,509
Ft. Lyon Storage (River)	426	1,263	0	0	0	0	0	0	2,321	1,656	0	0	5,666
Ft. Lyon Canal (River)..	11,173	16,437	14,300	11,334	8,692	9,410	12,065	40,935	26,503	21,731	4,497	5,488	182,565
Las Animas Cons. (Riv.)	2,120	619	75	1,769	1,890	1,222	2,148	5,445	3,874	3,913	363	867	24,305
Las Animas Town (Riv.)	647	0	0	0	585	1,021	918	1,801	1,795	1,575	1,313	595	10,250
TOTAL													
River	33,059	41,142	34,452	29,909	29,004	27,633	39,191	123,737	82,775	74,826	20,879	22,382	558,989
Res. or Imported.....	0	0	0	0	0	0	6,292	8,105	14,680	13,500	8,637	145	51,359
	33,059	41,142	34,452	29,909	29,004	27,633	45,483	131,842	97,455	88,326	29,516	22,527	610,348

APPENDIX "B-13"

* * * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report Year Ending October 31, 1953
(Acre Feet)
Source of Information A.V.D.A. Reports

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Ft. Bent Canal	1,202	0	0	0	0	2,208	1,912	2,569	3,431	2,656	1,226	377	15,581
Keesee Ditch	528	99	0	0	266	666	234	837	877	819	524	401	5,251
Amity Canal	930	10	0	0	0	8,196	4,034	17,407	17,859	16,005	998	0	65,439
Lamar Canal	1,962	417	0	0	436	4,326	3,685	5,925	6,210	5,581	1,888	897	31,327
Hyde Ditch	135	0	0	0	0	143	184	280	361	222	145	6	1,476
Manvel Canal	0	0	0	0	436	401	20	123	444	119	0	0	1,543
X. Y. & Graham Canal	883	417	139	0	288	1,325	807	1,478	1,997	1,121	0	139	8,594
Buffalo Canal	1,289	615	278	0	317	2,194	2,894	2,936	3,098	3,213	2,529	1,678	21,041
TOTAL	6,929	1,558	417	0	1,743	19,459	13,770	31,555	34,277	29,736	7,310	3,498	150,252

APPENDIX "B-14"

* * * * *

DIVERSIONS BY DITCHES IN KANSAS

Report Year Ending October 31, 1953
(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	1,510	0	0	0	57	1,790	1,740	1,610	1,710	1,280	1,490	1,970	13,157
Alamo Canal	0	0	0	0	731	959	756	865	642	147	277	533	4,910
Ft. Aubrey Canal	677	0	0	0	709	1,489	1,620	1,031	1,426	980	988	1,091	10,011
Total Stateline to Syracuse	2,187	0	0	0	1,497	4,258	4,116	3,506	3,778	2,407	2,755	3,594	28,078
Amazon Canal	55	0	1,025	0	0	3,229	0	0	1,156	4,080	0	0	9,545
South Side Ditch	3,066	0	0	0	0	2,769	0	0	156	3,675	0	0	9,666
Great Eastern Canal	558	2,326	7,201	4,497	2,141	753	2,410	1,234	1,628	1,995	1,320	634	26,697
Farmer's Ditch	471	0	148	747	3,225	1,055	938	380	3,563	3,460	510	704	15,201
Garden City Canal	56	12	2	57	198	740	374	167	301	808	364	150	3,229
Total Syracuse to Garden City	4,206	2,338	8,376	5,301	5,564	8,546	3,722	1,781	6,804	14,018	2,194	1,488	64,338
Total Stateline to Garden City	6,393	2,338	8,376	5,301	7,061	12,784	7,838	5,287	10,582	16,425	4,949	5,082	92,416

APPENDIX "B-15"

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SUMMARY TABULATION

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR	DATA FR. APPENDIX
Arkansas River at Las Animas, Colo.	4230	3930	3570	1920	1470	1440	5450	29200	18090	13360	851	778	84289	B-2
Purgatoire River near Las Animas, Colo.	701	1030	944	1020	304	267	6200	4050	43290	23180	1020	107	82113	B-3
Inflow to John Martin Reservoir (1)	4940	4960	4510	2950	1770	1710	11630	33250	61420	36540	1870	883	166433	B-4
Reservoir contents at end of month	2287	8256	14350	18364	21266	0	0	0	0	0	0	0	0	B-5
Outflow from John Martin Reservoir	4070	170	186	144	540	24580	10780	30700	49350	30330	4190	1740	156780	B-6
Diversions by District 67 (Colorado)	6929	1558	417	0	1743	19459	13770	31555	34277	29736	7310	3498	150252	B-13
Flow at Colorado-Kansas State Line	6090	8500	7720	7510	4830	11030	5830	3680	16110	23320	3210	2670	100500	B-7
Diversions by Kansas	6393	2338	8376	5301	7061	12784	7838	5287	10582	16425	4949	5082	92416	B-14
Arkansas River at Garden City, Kansas	1270	6730	4720	1670	912	597	611	119	592	11660	358	623	29862	B-8

(1) Because of computation rules these monthly figures are not necessarily the exact sum of those shown above.

APPENDIX "C-1"

FINDINGS AND NOTIFICATION

by

ARKANSAS RIVER COMPACT ADMINISTRATION

April 2, 1953

WHEREAS, Article VF of the Arkansas River Compact which became effective on May 31, 1949, provides as follows:

> "In the event the Administration finds that within a period of fourteen (14) days the water in the conservation pool will be or is liable to be exhausted, the Administration shall forthwith notify the State Engineer of Colorado, or his duly authorized representative, that commencing upon a day certain within said fourten (14) day period, unless a change of conditions justifies cancellation or modification of such notice, Colorado shall administer the decree rights of water users in Colorado Water District 67 as against each other and as against all rights now or hereafter decreed to water users diverting upstream from John Martin Dam on the basis of relative priorities in the same manner in which their respective priority rights were administered by Colorado before John Martin Reservoir began to operate and as though John Martin Dam had not been constructed. Such priority administration by Colorado shall be continued until the Administration finds that water is again available in the conservation pool for release as provided in this Compact, and timely notice of such finding shall be given by the Administration to the State Engineer of Colorado or his duly authorized representative. Provided, that except as controlled by the operation of the preceding provisions of this paragraph and other applicable provisions of this Compact, when there is water in the conservation pool the water users upstream from John Martin Reservoir shall not be affected by the decrees to the ditches in Colorado Water District 67. Except when administration in Colorado is on a priority basis the water diversions in Colorado Water District 67 shall be administered by Colorado in accordance with distribution agreements made from time to time between the water users in such District and filed with the Administration and with the State Engineer of Colorado or, in the absence of such agreement, upon the basis of the respective priority decrees, as against each other, in said District."

NOW, THEREFORE, acting pursuant to the above quoted provision of the Arkansas River Compact, and in the exercise of the powers set forth in Article VIII of such Compact, the Arkansas River Compact Administration finds;

That, based upon the present quantity of water stored in, and anticipated release of water from, and inflow to, the John Martin Reservoir, the conservation pool thereof, within a period of fourteen (14) days from this 2nd day of April, 1953, will be, or is liable to be, exhausted.

NOTIFICATION; In further compliance with the above quoted provision of the Arkansas River Compact, the Arkansas River Compact Administration hereby notifies the State Engineer of Colorado as follows:

That, commencing on the 13th day of April, 1953, unless a change of conditions justifies cancellation or modification of this notice, he is required, under the terms of the Compact, to administer the decreed rights of the water users in Colorado in the manner and for a period of time determined in accordance with the provisions set forth in the above quoted Article VF of the Compact.

The above findings have been made, and notification thereof given, at a special meeting of the Arkansas River Compact Administration held at Garden City, Kansas, on the 2nd day of April, 1953.

W. E. LEAVITT, Vice Chairman.

(SEAL)

Attest: HARRY C. NEVIUS, Secretary.

APPENDIX "C-2"

ARKANSAS RIVER COMPACT ADMINISTRATION

Principal Office . Court House

Lamar, Colorado

July 13, 1953

Mr. M. C. Hinderlider,
State Engineer,
State Capitol Building,
Denver, Colorado.

Dear Mr. Hinderlider:

This will confirm our telephone conversation July 13, concerning action of the Arkansas River Compact Administration and regarding water stored in John Martin Reservoir, which at 2:00 P.M. showed a gauge height of 3791.69 or 18,980 acre feet.

The Arkansas River Compact Administration finds this day that water is available in the Conservation Pool for release to water users in Kansas and in Colorado water district No. 67 as provided in the Compact, and notice is herewith given you, the State Engineer of Colorado, under the provisions of Article VF of the Arkansas River Compact.

Respectfully submitted,

HARRY C. NEVIUS, Secretary.

HCN:dn

cc: F. C. SNYDER, Division Engineer, Pueblo, Colorado.
R. J. MCGRATH, Water Commissioner District No. 67, Lamar, Colorado.
JOHN SHARER, Reservoir Manager, Caddoa, Colorado.

APPENDIX "C-3"

FINDINGS AND NOTIFICATION

by

ARKANSAS RIVER COMPACT ADMINISTRATION

July 17, 1953

WHEREAS, Article VF of the Arkansas River Compact which became effective on May 31, 1949, provides as follows:

> "In the event the Administration finds that within a period of fourteen (14) days the water in the conservation pool will be or is liable to be exhausted, the Administration shall forthwith notify the State Engineer of Colorado, or his duly authorized representative, that commencing upon a day certain within said fourten (14) day period, unless a change of conditions justifies cancellation or modification of such notice, Colorado shall administer the decreed rights of water users in Colorado Water District No. 67 as against each other and as against all rights now or hereafter decreed to water users diverting upstream from John Martin Dam on the basis of relative priorities in the same manner in which their respective priority rights were administered by Colorado before John Martin Reservoir began to operate and as though John Martin Dam had not been constructed. Such priority administration by Colorado shall be continued until the Administration finds that water is again available in the conservation pool for release as provided in this Compact, and timely notice of such finding shall be given by the Administration to the State Engineer of Colorado or his duly authorized representative. Provided, that except as controlled by the operation of the preceding provisions of this paragraph and other applicable provisions of this Compact, when there is water in the conservation pool the water users upstream from John Martin Reservoir shall not be affected by the decrees to the ditches in Colorado Water District 67. Except when administration in Colorado is on a priority basis the water diversions in Colorado Water District 67 shall be administered by Colorado in accordance with distribution agreements made from time to time between the water users in such District and filed with the Administration and with the State Engineer of Colorado or, in the absence of such agreement, upon the basis, of the respective priority decrees, as against each other, in said District."

NOW, THEREFORE, acting pursuant to the above quoted provision of the Arkansas River Compact, and in the exercise of the powers set forth in Article VIII of such Compact, the Arkansas River Compact Administration finds;

That, based upon the present quantity of water stored in, and anticipated release of water from, and inflow to, the John Martin Reservoir, the conservation pool thereof, within a period of fourteen (14) days from this 17th day of July, will be, or is liable to be, exhausted.

NOTIFICATION; in further compliance with the above quoted provision of the Arkansas River Compact, the Arkansas River Compact Administration hereby notifies the State Engineer of Colorado as follows:

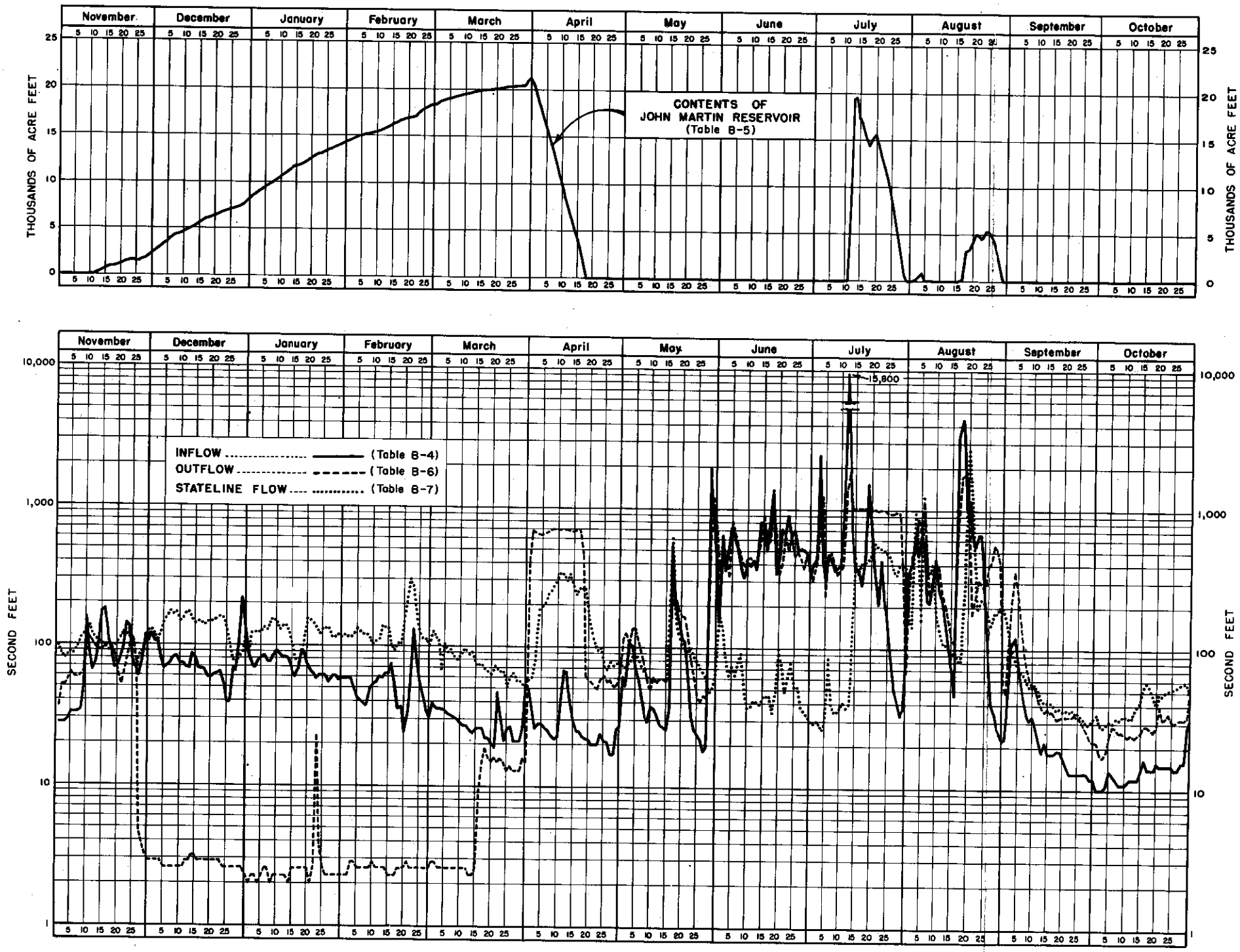
That, commencing on the 21st day of July, 1953, unless a change of conditions justifies cancellation or modification of this notice, he is required, under the terms of the Compact, to administer the decreed rights of the water users in Colorado in the manner and for a period of time determined in accordance with the provisions set forth in the above quoted Article VF of the Compact.

The above findings have been made, and notification thereof given, by the Arkansas River Compact Administration on this 17th day of July, 1953.

W. E. LEAVITT, Vice Chairman.

(SEAL)

Attest: HARRY C. NEVIUS, Secretary.



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

Report Year, November 1, 1952 - October 31, 1953

PLATE I

287-3403