Eighth

Annual Report

ARKANSAS RIVER COMPACT ADMINISTRATION

(1956)

For the Report-Year November 1, 1955 to October 31, 1956

LAMAR, COLORADO

December 11, 1956

THE ADMINISTRATION

HANS KRAMER, *Chairman and Representative of the United States*
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
(1956)

Report-Year November 1, 1955 to October 31, 1956

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, 1955, through October 31, 1956 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 Committee:
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*

December 13, 1955	Lamar, Colorado	Annual Meeting
March 27, 1956	Denver, Colorado	Regular Meeting
	(Postponed—No Quorum)	

April 21, 1956		Telephonic Meeting
July 17, 1956	Colo. Springs, Colo.	Regular Meeting
July 19, 1956		Telephonic Meeting
August 19, 1956		Telephonic Meeting
August 27, 1956		Telephonic Meeting
October 26, 1956	Denver, Colorado	Special Meeting

5. ***Fiscal***

(a) Balance on hand October 31, 1955, Auditor's Report....$1,251.63

(b) Receipts

Call authorized October 28, 1955 $2,400.00

Colorado 60% December 16, 1955....$1,440.00

Kansas 40% December 31, 1955..... 960.00

2,400.00

$3,651.63

(c) Disbursements by the Administration—November 1, 1955 to October 31, 1956:

Voucher No.	*Date*	*Payee and Purpose*	*Amount*
166	12-31-55	Secretary Salary, November & December (less $4.00 F.I.C.A.)	$ 196.00
167	1- 8-56	H. R. Meininger Co., Supplies	4.50
168		Mtn. States T. & T. Co., November & December Service & Tolls	25.95
169		Robert W. Rollins, Audit & Service	65.00
170		Treasurer of U. S. Deposits by States	12.00
171	3- 8-56	Peerless Printing Co., Charts	46.00
172		Secretary Salary, January & February (less $4.00 F.I.C.A.)	196.00
173		Mtn. States T. & T. Co., January & February Service & Tolls	16.90
174		Peerless Printing Co., Printing Annual Reports	476.00
175	4-30-56	U.S. Geological Survey, Cooperative Stream Gaging	346.25
176		Secretary Salary March & April (less $4.00 F.I.C.A.)	196.00
177		Treasurer of U. S. Deposits by States	4.00
178		Mtn. States T. & T. Co., March & April Service & Tolls	35.73
179	6-30-56	U. S. Geological Survey, Bal. Cooperative Stream Gaging	153.75
180		Mtn. States T. & T. Co., May & June Service & Tolls	26.40
181		Secretary, Salary, May & June (less $4.00 F.I.C.A.)	196.00
182		Secretary, Stamps, 12.00; Mileage 52.80	64.80
183		Treasurer of U. S. Deposits by States	16.00
184	9- 5-56	J. L. Wade, Agent, Nat. Surety Co., Treasurers Bond	25.00
185		Mtn. States T. & T. Co., July & August Service & Tolls	60.65
186		Schoenith Office Equip. Co., Supplies	7.82
187		Secretary's Salary, July & August (less $4.00 F.I.C.A.)	196.00
188	10-15-56	Mtn. States T. & T. Co., September Service & Tolls	22.55

Voucher No.	Date	Payee and Purpose	Amount
189		Secretary Mileage	62.40
190		Secretary Salary, September (less $2.00 F.I.C.A.)	98.00
191		Treasurer of U. S. Deposits by States	8.00
192	10-31-56	Mtn. States T. & T. Co., October Service & Tolls	16.20
193		Secretary Salary, October (less $2.00 F.I.C.A.)	98.00
194		Treasurer of U. S. Deposits by States	8.00
		Total Disbursements	$2,679.90

(d) Balance on hand October 31, 1956 ..... $ 971.73

(e) On October 26, 1956, the Administration approved a budget for the fiscal year July 1, 1957, to June 30, 1958, 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 1957-58		3,800.00
Estimated Carry-over as of June 30, 1957		800.00
Total to be appropriated by Colorado and Kansas		$3,000.00
To be appropriated by Colorado (60%)		1,800.00
To be appropriated by Kansas (40%)		1,200.00
		$3,000.00

(f) Pursuant to provisions of the Compact (Article VIII-E (3)) and of the By-Laws of the Administration (Article VII (5)), the receipts and disbursements of the Administration have been audited for the period commencing November 1, 1955 through October 31, 1956, 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 referred to in the above provisions of the Compact. The Corps of Engineers has continued to operate John Martin Reservoir in accordance with the provisions of the Compact. The United States Geological Survey has also continued with the operation of the Compact gaging stations and the compilation of hydrologic data presented in this report and utilized in the administration of the Compact. To assist that agency in defraying the costs of operating the radio stage reporting gages and performing other non-routine work required for the administration of the Compact, the Administration entered into cooperative agreements with the Geological Survey for the fiscal years ending June 30, 1956, and June 30, 1957. Under the terms of these agreements, $500 was provided by the Administration and an equal amount by the Geological Survey for the above described purposes, in each of these fiscal years.

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

The gates controlling John Martin Reservoir outlet were closed at midnight October 31, 1955 with 47,413 acre-feet in storage according to the reservoir capacity table then in use. A revised capacity table dated December 1, 1956, based on sedimentation from the flood of May 1955 reduced this storage amount to 38,218 acre-feet. Water continued to be stored in the reservoir until 8:30 A.M., April 2, 1956 when the peak volume reached 48,363 acre-feet. All reservoir volumes in this report are based on the capacity table of December 1, 1956.

Since the last reservoir resurvey in 1951, the storage capacity of the reservoir is estimated to have been depleted by about 17,000 acre-feet of which about 14,000 acre-feet occurred during the latter half of May 1955. Since the storage of water began in 1943, a total of about 55,000 acre-feet of sediment has accumulated in the reservoir. Of this quantity 96 percent or 53,000 acre-feet has been deposited in the irrigation pool. Sediment has been accumulating at an average rate of about 4,000 acre-feet per year.

Releases from the reservoir for the 1956 water year were as follows:

(1) From 8:30 A.M. April 2nd, an amount of 450 c.f.s. to April 3rd at 3:30 P.M., when the release was increased to 750 c.f.s. and which continued to 9:30 A.M. on April 5th, when it was increased to 850 c.f.s. This rate was maintained until April 11th at 10:00 A.M. when it was increased to 950 c.f.s. A further increase to 975 c.f.s. came at 10:20 A.M. April 15th. This flow was maintained until 4:45 A.M. on the morning of April 30th at which time the reservoir was declared

empty, and the administration of the stream reverted to the State Engineer of Colorado.

(2) As a result of a flash flood in the Purgatoire on July 17th and a heavy rain in the area on July 19th, the gates of the dam were next closed at noon of the latter date. On the morning of the 20th, 300 c.f.s. were released, and at 2:30 in the afternoon of the 21st, the rate was increased to 500 c.f.s., where it remained until the 24th when it was raised to 700 c.f.s. At 3:00 P.M. on the afternoon of the 30th, the reservoir was declared empty.

(3) Heavy rains in the Lamar area on August 19th resulted in the closing of the gates of the dam. A release in the amount of 300 c.f.s. commenced on August 20th and was increased to 850 c.f.s. on the 21st. This rate continued with slight variations until the 26th when it became 910 c.f.s. On the 31st of August the release was increased to 950 c.f.s. at which figure it continued until September 2nd at 6:30 A.M. when the reservoir became empty, and the administration of the stream returned to the State Engineer of Colorado.

The total releases from the reservoir during the periods April 2nd to April 30th, July 19th to July 31st, and August 19th to September 2nd, amount to 82,585 acre feet. Stateline flow during the corresponding periods, allowing three days for water from the reservoir to reach the Stateline, amounted to 32,900 acre feet.

River flow was passed through the reservoir averaging 4 c.f.s from November 1, 1955 to April 2, 1956; 296 c.f.s. from April 30, 1956 to July 18, 1956; 190 c.f.s. from August 1, 1956 to August 19, 1956; and 22 c.f.s. from September 3, 1956 to October 31, 1956. Stateline flow for corresponding periods averaged 76 c.f.s, 108 c.f.s., 86 c.f.s. and 42 c.f.s. respectively.

The total discharge for the year at Garden City was 25,850 acre feet. The average discharge was about 36 cubic feet per second. Total diversions by Kansas ditches during the irrigation season amounted to more than 73% of the water which crossed the Stateline from November 1, 1955 to October 31, 1956.

The inflow, outflow and storage at the John Martin Reservoir and Stateline flow for the report-year are shown 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:

Stream-flow records of satisfactory accuracy were obtained at all of the Compact gaging stations. However, day to day operations and reporting of river stages were handicapped at times by occasional failure of radio stage reporting equipment. This equipment although modern when installed in 1952 is now obsolete and should be replaced within the next year or two. As commercial power is now available at the gage sites equipment especially designed for operation by battery power will not be required.

No action has been taken on previous recommendations to equip the stations on the Arkansas and Purgatoire Rivers near Las Animas with stage reporting equipment. It seems certain that reservoir operations during summer flash floods could be improved with better information on flood stages at these two stations. Since such floods occur only occasionally the needs could probably be met by the installation of telephonic reporting equipment instead of the more expensive radio transmitters.

The Administration has contributed $500.00 annually for the past three years to assist the U. S. Geological Survey in operating gaging stations. The Administration believes, however, that the expense of new equipment should continue to be borne by Federal funds in accordance with the intent of Article VIII of the Compact.

9. Findings of Fact by the Administration

(a) On April 21, 1956, the Administration in accordance with Article IV, Section 3 (b) of the By-Laws, considered by telephone the question of finding the Reservoir empty of stored water and giving notice to the State Engineer of Colorado that priority administration would commence on April 27, 1956. As a result of affirmative action taken on the above date the State Engineer of Colorado was notified that, on April 27, 1956, unless a change of conditions justified cancellation or modification of this notice, priority administration would commence, and decreed rights of water users in Colorado would be administered by Colorado under Article V-F of the Compact.

The Reservoir was emptied April 30, 1956 at 4:45 A.M.

(b) On the morning of July 19, 1956, most of the streams in Colorado below John Martin Dam were reported at flood stage. Some water was reported in the Purgatoire and small amounts in the Arkansas River at La Junta. Ditches in Colorado and Kansas were supplied by flood waters. The Administration in accordance with Article IV, Section 3 (b) of the By-Laws considered the question of closing the gates and conserving water. Also the question of notification and return to priority administration by July 21. Affirmative action resulted and the State Engineer of Colorado was notified that there was water in John Martin

Reservoir, and in the Purgatoire river at Las Animas to supply users in Colorado Water District 67 and in Kansas. Also on this same date, notice to the State Engineer was given that unless a change of conditions justified modification or cancellation that commencing on July 21, 1956 Colorado would return to priority administration.

On July 21, because of inflows into the Reservoir, the time was extended for four (4) days from July 21, 1956 to July 25, 1956.

On July 25, the time was further extended for three (3) days from July 25, 1956 to July 28, 1956.

The Reservoir was empty July 30, 1956 at 3:00 P.M.

(c) Early Sunday, August 19, 1956, heavy rains south of the Arkansas river caused runoff below the dam and storage was evident at John Martin Reservoir when the gates were closed at 6:00 A.M.

The Administration in accordance with Article IV, Section 3 (b) of the By-Laws determined that there was in John Martin Reservoir and in the Purgatoire River water available August 19, 1956 for release to water users in Kansas and Colorado Water District 67 as provided in the Compact and notice was given the State Engineer of Colorado to this effect, as provided in Article V-F of the Compact.

(d) On August 27, 1956, the Administration in accordance with Article IV, Section (b) of the By-Laws, decided that at the current rate of release, the State Engineer of Colorado should be notified that the Reservoir would soon be empty. So, on this date the State Engineer of Colorado was notified that on August 31, 1956, unless a change of conditions justified cancellation or modification of that notice, priority administration would commence, and decreed rights of water users in Colorado would be administered by Colorado under Article V-F of the Compact.

The Reservoir was emptied September 2, 1956 at 6:30 A.M.

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

Respectfully submitted,

ARKANSAS RIVER COMPACT ADMINISTRATION

HANS KRAMER,
Chairman and Representative of the United States

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 11, 1956.

APPENDICES

for

Annual Report of the Arkansas River Compact Administration

For the Report-Year November 1, 1955 to October 31, 1956

APPENDIX "A" —Auditor's Report.

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

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

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

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

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

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

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

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

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

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

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

APPENDIX "B-12"—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.

PLATE I—Graphs showing Inflow, Outflow and Storage at John Martin Reservoir and Stateline Flow.

APPENDIX "A"

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AUDITOR'S REPORT

ROBERT W. ROLLINS

* * * *

Certified Public Accountant
La Junta, Colorado

December 6, 1956

To the Representatives
Arkansas River Compact Administration
Lamar, Colorado

Gentlemen:

As requested by you, an examination has been made of the financial transactions of the Arkansas River Compact Administration for its 7th "Report Year"—November 1, 1955 to October 31, 1956. The results of the 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 tend to describe the extent of the audit work performed.

General Comments

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

As provided for in the budget of the Administration's Meeting of October 26, 1954, and authorized for call in the Minutes of the Meeting of December 13, 1955, funds due from Colorado (60% share) of $1,440.00 and Kansas (40% share) of $960.00, were received for the budget year ending June 30, 1956 and placed on deposit in the First National Bank in Lamar, Colorado, on the respective dates of December 16, 1955 and December 31, 1955.

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

Consistent with prior years practices, the Secretary's salary for the current year of $1,200.00 has been reduced by the Old-Age and Survivor's Insurance deductions amounting to $24.00 or 2% of the gross amount. This $24.00 figure together with the Administration's contribution of like amount are shown under the classification of taxes on Schedule I.

Travel expense of the Secretary for the fiscal year ending October 31, 1956 amounted to $115.20 or 1,440 miles at $0.08 per mile.

Payments made to the U. S. Treasurer totaling $48.00 during the year were accompanied by related returns referring to Old Age and Survivor's Insurance information on the Secretary.

Cash in bank at October 31, 1956 per Schedule amounting to $971.73 was reconciled to the amount directly confirmed by the First National Bank in Lamar, Colorado. A review of the Administration's bank statement at November 24, 1956 shows that all outstanding checks listed on Schedule I, with the exception of check No. 194 for $8.00 to the Treasurer of the U. S., had cleared the bank at that date.

The following summary compares the Administration's financial position at October 31, 1956 with that of a year ago.

ARKANSAS RIVER COMPACT ADMINISTRATION
Lamar, Colorado

COMPARATIVE BALANCE SHEET

	October 31, 1956	October 31, 1955	Increase (Decrease)
ASSETS			
Cash in bank	$ 971.73	$1,251.63	$(279.90)
Equipment (Portable typewriter)	92.50	92.50	-0-
Total Assets	$1,064.23	$1,344.13	$(279.90)
CAPITAL			
Unexpended fund balance	$ 971.73	$1,251.63	$(279.90)
Expended fund balance for equipment	92.50	92.50	-0-
Total Capital	$1,064.23	$1,344.13	$(279.90)

Because the "Budget Year" covers the period July 1, 1955 to June 30, 1956, it has been necessary to combine related months of the last two "Report Years" in order to compare actual expenditures with related budgeted items. Such a comparison is set forth in the following summary:

COMPARISON OF DISBURSEMENTS WITH BUDGET
Budget Year July 1, 1955 to June 30, 1956

Classification	*Disbursements*	*Budget*
PERSONAL SERVICES		
Secretary's salary	$1,200.00	$1,200.00
Taxes—O.A. and S.I. Administration's share	26.00*	50.00
Gage reports	500.00	500.00
Professional services (audit of accounts)	65.00	75.00
Capital Outlay	-0-	300.00

MAINTENANCE AND OPERATION

Bond—Treasurer	25.00	25.00
Printing	522.00	600.00
Official publications	-0-	100.00
Travel expense—Secretary	95.50	150.00
Typing and mailing	12.00	200.00
Investigation and inspection	-0-	150.00
Telephone and telegraph	181.58	300.00
Office supplies and repairs	14.39	150.00
Totals	$2,641.47	$3,800.00

* It should be remembered, a year ago, at June 30, 1955, Compact's tax expense was short $2.00 ($1,200.00 × 2% equals $24.00) consequently when adjustment was made, current expenditures are long $2.00.

The Administration's Budget for the fiscal year July 1, 1956 to June 30, 1957, as approved in the Minutes of the Meeting of October 28, 1955, provided for expenditures totaling $3,800.00. Of this, $800.00 is to come from estimated excess of funds at June 30, 1956, supplemented by an appropriation of $3,000.00 from the States of Colorado and Kansas in the respective amounts of $1,800.00 and $1,200.00.

Respectfully submitted,

ROBERT W. ROLLINS,
Certified Public Accountant.

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

November 1, 1955 to October 31, 1956

(Refer to comments in text of audit)

CASH IN BANK AT NOVEMBER 1, 1955 (Per Audit)			$1,251.63
RECEIPTS			
Revenue from assessments			
Colorado portion 60%		$1,440.00	
Kansas portion 40%		960.00	2,400.00
Total Available Funds			$3,651.63
DISBURSEMENTS			
Salary of secretary	$1,200.00		
Less: O.A. and S.I. deductions	24.00	1,176.00	
Printing—Annual report		522.00	
Telephone and telegraph		204.38	
Travel expense of secretary		115.20	
Audit fee (fiscal year ended October 31, 1955)		65.00	
Taxes—O.A. and S.I. payments			
Deductions from employees	24.00		
Administration's portion	24.00	48.00	
Premium on secretary-treasurer bond		25.00	
Typing and mailing		12.00	
Office supplies, stationery, etc.		12.32	
Stream-gaging expense of U.S. Geological Survey		500.00	
Total Disbursements			2,679.90
CASH IN BANK AT OCTOBER 31, 1956			$ 971.73

CASH ON DEPOSIT AT FIRST NATIONAL BANK IN LAMAR

Per direct confirmation at October 31, 1956		$1,101.93	
Less: Outstanding checks of:			
No. 191 Treasurer of U.S.	8.00		
No. 192 Mt. States T. & T. Co.	16.20		
No. 193 Harry C. Nevins	98.00		
No. 194 Treasurer of the U. S.	8.00		
Total outstanding checks		130.20	
Adjusted bank balance			$ 971.73

APPENDIX "B-1"

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ARKANSAS RIVER NEAR PUEBLO, COLORADO

ARKANSAS RIVER NEAR PUEBLO, COLORADO
Report-Year ending October 31, 1956
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	234	261	268	200	198	30	477	2290	647	3890	133	229
2	149	223	247	195	204	34	416	2910	698	1090	143	236
3	228	247	235	190	209	99	433	3950	666	946	142	305
4	159	267	229	210	175	90	433	3740	851	849	124	133
5	108	274	229	300	153	62	503	3260	851	724	116	111
6	116	253	217	367	142	110	586	3170	850	686	116	91
7	113	240	216	399	153	130	477	2870	799	619	108	165
8	124	309	217	424	142	94	595	2450	778	581	95	165
9	108	302	211	361	127	52	662	2410	789	446	88	144
10	104	281	198	353	137	48	672	2370	768	381	124	149
11	112	260	192	368	148	26	703	2310	627	382	116	144
12	116	311	192	345	253	30	577	2250	637	390	77	138
13	124	275	186	383	214	28	558	2210	647	285	51	115
14	154	267	192	382	243	30	577	2130	707	124	46	91
15	268	296	192	368	264	295	672	2070	666	75	39	82
16	363	281	189	323	236	198	566	1990	677	83	37	68
17	348	228	184	272	188	175	458	1890	677	93	36	82
18	349	240	219	250	172	228	415	1850	464	131	30	72
19	347	246	253	242	161	246	494	1710	437	114	34	76
20	275	204	274	237	135	240	932	1650	609	123	29	78
21	222	210	294	224	117	228	1270	1540	332	286	39	85
22	204	204	294	224	117	197	1550	1320	317	218	58	76
23	209	204	286	231	110	197	2130	1110	356	156	62	75
24	209	210	280	240	89	550	2210	1080	303	124	76	76
25	215	216	265	228	89	521	2330	990	277	112	72	91
26	203	198	237	210	90	513	2210	830	232	100	111	123
27	209	170	253	204	103	459	2310	914	207	105	228	115
28	233	164	295	186	107	468	2130	937	173	90	209	115
29	274	181	310	192	84	513	1710	810	238	97	204	127
30	274	247	188		49	522	2050	727	750	118	217	123
31		241	190		34		2210		871	121		127
TOTAL sec. ft.		6151	7510	7232	8108	4643	6413	33316	59738	17901	13539	2960	3807
ac. ft.	12200	14900	14340	16080	9210	12720	66080	118500	35510	11400	26850	5870	7350
(a) ac. ft.	0	0	0	0	190	4910	4480	10730	11400	8960	5870	1200	1270
(b) ac. ft.	12200	14900	14340	16080	9020	7810	61600	107770	24110	17890	4670	6080	

THE YEAR 339,610 Acre Feet
CORRECTED 296,470 Acre Feet

(a) Less upstream reservoir and transmountain water.
(b) Corrected total, ac. ft.

APPENDIX "B-2"

* * * *

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

ARKANSAS RIVER AT LAS ANIMAS, COLORADO

Report-Year ending October 31, 1956

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	9.2	9.2	11	20	17	22	10	461	335	10	11	2.6
2	9.2	9.2	12	23	17	21	9.2	422	294	9.2	9.2	2.8
3	9.6	8.9	16	27	15	27	9.2	434	140	23	7.7	2.8
4	9.6	10	11	29	14	17	9.2	559	246	13	6.6	2.9
5	10	10	9.6	31	13	11	9.2	594	226	9.6	5.9	2.9
6	10	8.6	9.2	32	15	10	9.2	345	230	9.2	5.9	2.9
7	10	8.9	9.6	34	29	17	9.6	330	126	7.9	6.4	3.0
8	9.2	16	9.2	25	33	14	11	322	100	6.4	7.4	3.5
9	8.6	17	9.2	23	17	17	11	262	80	5.9	6.9	5.1
10	8.6	10	10	23	9.6	23	9.6	552	75	5.6	6.1	4.3
11	9.2	15	10	32	11	22	11	461	51	5.6	5.4	4.2
12	8.6	14	10	39	16	22	17	440	39	5.4	5.2	4.2
13	8.6	21	10	45	23	22	17	422	26	5.4	4.9	4.3
14	8.6	18	10	68	19	22	29	461	25	5.4	4.2	4.5
15	8.2	15	9.2	61	30	26	20	454	21	5.1	2.9	3.6
16	8.6	15	7.0	52	35	16	17	386	23	4.9	2.6	3.2
17	7.5	13	9.2	48	20	12	22	510	15	5.9	1.6	3.2
18	8.9	17	17	48	17	21	32	468	15	84	2.2	3.2
19	9.6	25	23	48	16	22	22	461	26	291	2.8	3.5
20	17	16	35	48	18	22	17	447	18	61	3.0	3.5
21	13	13	60	48	20	20	11	434	18	23	3.2	3.4
22	14	25	45	35	17	14	9.6	468	18	16	3.4	3.5
23	14	15	42	24	14	12	458	587	698	13	3.6	3.4
24	14	12	22	22	12	12	848	573	75	12	3.8	5.6
25	11	11	24	22	9.2	12	132	517	13	11	3.5	6.1
26	8.9	10	20	22	8.6	10	46	482	9.2	11	2.8	5.6
27	8.9	10	17	20	9.6	9.2	55	531	7.4	10	2.9	5.2
28	8.6	11	17	20	21	10	380	266	5.6	9.2	3.0	5.1
29	7.5	12	19	19	19	12	278	440	5.4	11	2.9	5.4
30	8.2	12	22		23	11	434	210	6.4	11	2.8	7.9
31		11	26		25		489		7.9	12		10
TOTAL sec. ft.	296.9	418.8	561.2	988	563.0	508.2	3,441.8	13,299	2,974.9	712.7	139.8	131.5
ac. ft.	589	831	1,110	1,960	1,120	1,010	6,830	26,380	5,900	1,410	277	261

THE YEAR 47,680 Acre Feet.

APPENDIX "B-3"

* * * *

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO

Report-Year ending October 31, 1956

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	15	19	4.1	15	1.5	1.5	2.5	6.0	10	14	1.5
2	1.5	15	28	3.8	11	.9	6.6	5.0	58	820	6.0	1.5
3	2.0	14	32	3.5	6.6	9.0	6.0	1.0	284	566	4.8	1.6
4	2.5	14	25	3.2	5.0	7.8	2.5	2.5	184	1,070	4.0	1.6
5	2.5	14	17	2.9	4.0	3.5	1.5	1.0	31	340	4.0	1.7
6	2.5	14	12	2.6	3.5	1.5	.9	3.0	18	96	3.8	1.7
7	2.5	15	9.0	2.3	20	2.5	.9	5.0	62	28	3.6	1.7
8	6.0	15	5.0	2.0	18	1.0	.7	3.5	16	8.6	3.4	1.7
9	2.5	16	4.5	2.0	16	1.5	.5	2.5	6.6	4.7	3.2	1.7
10	2.5	17	5.0	1.8	16	1.0	.4	12	6.6	4.4	3.0	1.7
11	2.5	18	5.5	3.0	16	1.5	3.0	14	6.0	4.4	2.8	1.9
12	2.5	19	6.6	4.0	21	.9	.9	16	6.6	4.2	2.6	1.9
13	3.0	19	5.5	5.0	25	.9	1.0	6.0	6.0	4.0	2.0	2.0
14	2.5	19	6.6	6.7	29	3.5	1.0	5.0	5.5	3.6	2.4	2.0
15	3.5	19	6.7	7.0	25	11	.8	6.6	21	3.5	2.4	2.4
16	2.0	20	6.8	7.0	23	5.5	.7	6.0	10	3.6	2.4	2.0
17	5.0	20	6.8	7.0	21	2.0	.7	3.5	9.6	3.6	2.4	2.0
18	5.5	20	6.8	7.0	20	4.0	.9	2.5	146	826	2.4	2.0
19	24	20	6.7	10	9.0	2.0	.7	1.5	1,260	6,160	2.4	2.4
20	17	19	6.7	31	5.5	1.5	.8	1.5	1,060	950	2.4	2.0
21	9.0	18	6.5	82	11	1.5	.8	.9	982	674	2.4	2.0
22	6.6	17	6.4	75	3.0	2.0	.9	.8	592	425	3.2	2.0
23	15	16	6.3	54	3.0	1.5	2.0	1.0	2,920	300	2.8	2.0
24	4.0	15	6.1	35	3.0	1.5	923	.8	293	270	3.2	1.8
25	6.0	13	6.1	29	3.0	1.5	517	.8	96	246	2.4	1.8
26	11	11	6.0	33	2.5	1.5	113	.9	13	235	1.7	1.8
27	13	11	6.0	30	3.0	1.5	58	1,010	7.0	372	1.7	1.7
28	14	12	5.5	18	2.5	1.0	38	64	5.8	160	1.7	1.7
29	16	12	5.0	17	3.0	.9	19	64	5.2	92	1.6	1.6
30	16	11	4.5		2.5	.8	10	19	6.2	46	1.6	1.6
31		13	4.1		2.0		4.0		11	26		1.5
TOTAL												
sec. ft.	204.1	491	283.7	488.9	348.1	76.7	1,717.7	1,262.8	8,134.1	13,756.6	96.3	56.5
ac. ft.	405	974	563	970	690	152	3,410	2,500	16,130	27,290	191	112

THE YEAR 53,390 Acre Feet

APPENDIX "B-4"

* * * *

INFLOW INTO JOHN MARTIN RESERVOIR

INFLOW INTO JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1956

U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	11	24	30	24	32	24	12	464	341	20	25	4
2	11	24	40	27	28	22	16	427	352	829	15	4
3	12	23	48	30	22	36	15	435	424	589	12	4
4	12	24	36	32	19	25	12	562	430	1,080	11	4
5	12	24	27	34	17	14	11	595	257	350	10	5
6	13	23	21	35	18	12	10	348	248	105	10	5
7	12	24	19	36	49	20	10	335	188	36	10	5
8	15	31	14	27	51	15	12	326	116	15	11	5
9	11	33	14	25	33	18	12	264	87	11	10	7
10	11	27	15	25	26	24	10	564	82	10	9	6
11	12	33	16	35	27	24	14	475	57	10	8	6
12	11	33	17	43	37	23	18	456	46	10	8	6
13	12	40	16	50	48	23	18	428	32	9	7	6
14	11	37	17	75	48	26	30	466	30	9	7	7
15	12	34	16	68	55	37	21	461	42	9	5	6
16	11	35	14	59	58	22	18	392	33	8	5	5
17	12	33	16	55	41	14	23	514	25	10	4	5
18	14	37	24	55	37	25	33	470	161	910	5	5
19	34	45	30	58	25	24	23	462	1,290	6,450	5	6
20	34	35	42	79	24	24	18	448	1,080	1,010	5	6
21	22	31	66	130	31	22	12	435	1,000	697	6	6
22	21	42	51	110	20	16	10	469	610	441	7	5
23	29	31	48	78	17	14	460	588	3,620	313	6	5
24	18	27	28	57	15	14	1,770	574	368	282	7	7
25	17	24	30	51	12	13	649	518	109	257	6	8
26	20	21	26	55	11	12	159	483	22	246	4	7
27	22	21	23	50	13	11	113	1,540	14	382	5	7
28	23	23	22	38	24	11	418	330	11	169	5	7
29	24	24	24	36	22	13	297	504	11	103	4	7
30	24	23	26		26	12	444	229	13	57	4	10
31		24	30		27		493		19	38		12
TOTAL												
sec. ft.	503	910	846	1,477	913	590	5,161	14,562	11,118	14,465	236	188
ac. ft.	998	1,800	1,680	2,930	1,810	1,170	10,240	28,880	22,050	28,690	468	373

THE YEAR 101,090 Acre Feet.

APPENDIX "B-5"

* * * *

CONTENTS OF JOHN MARTIN RESERVOIR

CONTENTS OF JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1956

Corps of Engineer records—Provisional, subject to revision

(Midnight contents in Acre Feet from capacity table dated December 1, 1956)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	38218	39072	41170	43005	46612	48363	0	0	0	0	654	0
2	38218	39219	41260	43065	46612	47862	0	0	0	0	0	0
3	38247	39248	41320	43125	46673	46704	0	0	0	0	0	0
4	38277	39307	41380	43155	46735	45292	0	0	0	0	0	0
5	38277	39307	41440	43215	46796	43880	0	0	0	0	0	0
6	38277	39336	41470	43305	46827	42252	0	0	0	0	0	0
7	38365	39395	41531	43485	46827	40660	0	0	0	0	0	0
8	38365	39424	41591	43545	46890	39013	0	0	0	0	0	0
9	38394	39483	41621	43606	46952	37489	0	0	0	0	0	0
10	38394	39542	41681	43726	47015	35764	0	0	0	0	0	0
11	38424	39601	41711	43818	47109	34113	0	0	0	0	0	0
12	38424	39660	41741	43941	47172	32200	0	0	0	0	0	0
13	38424	39718	41802	44033	47235	30329	0	0	0	0	0	0
14	38454	39777	41832	44217	47297	28539	0	0	0	0	0	0
15	38483	39836	41862	44401	47580	26670	0	0	0	0	0	0
16	38483	39954	41892	44524	47673	24788	0	0	0	0	0	0
17	38512	40013	41922	44586	47830	23002	0	0	0	0	0	0
18	38512	40072	41922	44708	47924	21051	0	0	0	0	0	0
19	38542	40131	41952	44954	47987	19126	0	0	758	14196	0	0
20	38572	40190	41982	45138	48050	17258	0	0	1063	16497	0	0
21	38689	40307	42102	45384	48113	15378	0	0	1110	17191	0	0
22	38778	40366	42222	45629	48175	13812	0	0	1129	16414	0	0
23	38836	40543	42403	45783	48175	11553	0	0	5680	15149	0	0
24	38895	40631	42523	45967	48238	9749	0	0	6019	13735	0	0
25	38954	40690	42583	46090	48300	8001	0	0	5340	12228	0	0
26	38983	40719	42643	46243	48300	6107	0	0	4385	10608	0	0
27	39013	40870	42643	46336	48300	4076	0	0	3257	9096	0	0
28	39013	40930	42704	46428	48332	2259	0	0	2280	7553	0	0
29	39042	40960	42824	46550	48363	368	0	0	771	6107	0	0
30	39042	41020	42884		48363	0	0	0	0	4260	0	0
31		41080	42944		48363		0		0	2600		0

APPENDIX "B-6"

* * * *

OUTFLOW FROM JOHN MARTIN RESERVOIR

OUTFLOW FROM JOHN MARTIN RESERVOIR

Report-Year ending October 31, 1956
U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	10	1.1	2.4	4.0	2.7	1.8	106	553	366	106	944	15
2	7.5	1.0	2.1	3.5	2.7	307	99	504	310	252	396	16
3	7.0	1.0	2.1	3.5	2.7	586	84	498	579	492	66	16
4	7.0	.8	2.7	3.0	2.7	774	66	540	670	631	43	15
5	7.0	1.1	4.0	3.0	2.7	813	56	631	340	408	37	15
6	7.0	5.5	3.5	3.5	2.7	846	49	474	372	166	35	13
7	7.0	5.0	3.5	3.5	3.0	846	41	360	243	106	34	14
8	7.0	3.5	3.0	3.5	2.4	846	34	390	180	66	30	15
9	7.0	3.0	2.7	3.0	2.4	839	32	300	118	49	30	15
10	6.5	2.7	2.7	2.7	2.4	852	28	468	82	40	28	18
11	6.5	2.4	2.7	2.7	2.4	910	22	605	60	32	28	18
12	6.5	2.7	2.7	3.0	2.4	958	22	372	112	32	27	18
13	6.5	3.0	2.7	3.0	2.4	951	16	480	132	38	27	18
14	6.5	3.0	2.7	3.0	2.4	944	21	486	55	84	27	18
15	6.5	2.7	2.7	3.0	3.0	965	40	498	36	64	26	17
16	6.0	3.0	3.0	3.0	2.4	972	37	504	55	36	23	20
17	39	3.0	3.5	3.0	2.4	972	26	504	36	32	21	21
18	5.0	3.0	2.7	3.0	2.4	972	21	468	88	338	20	19
19	4.5	3.0	3.0	3.0	2.4	965	28	432	335	641	20	19
20	4.5	3.0	3.0	3.0	2.4	965	26	432	145	84	19	23
21	4.0	2.7	3.0	2.7	2.4	965	18	444	320	161	19	23
22	4.0	2.7	3.0	2.7	2.4	965	16	444	438	676	18	21
23	3.0	2.4	3.0	2.7	2.4	965	22	516	528	826	18	22
24	2.4	2.4	3.0	2.4	2.4	965	595	560	624	813	18	22
25	2.4	2.1	3.0	2.7	2.1	965	1,410	540	676	852	18	22
26	2.4	2.1	14	2.7	2.1	965	355	510	676	891	18	23
27	2.4	1.8	2.4	3.0	2.1	979	152	486	683	951	18	24
28	2.4	1.8	1.5	3.0	2.1	965	285	780	690	965	17	22
29	2.4	1.8	1.5	2.7	2.1	979	372	540	690	904	16	18
30	1.8	2.1	1.3		2.1	301	384	300	468	891	15	18
31		2.4	1.8		2.1		498		135	917		21
TOTAL												
sec. ft.	191.7	77.8	94.9	87.5	75.3	25,298.8	4,961	14,619	10,242	12,544	2,056	579
ac. ft.	380	154	188	174	149	50,180	9,840	29,000	20,310	24,880	4,080	1,150

THE YEAR 140,480 Acre Feet.

APPENDIX "B-7"

* * * *

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE
Report-Year ending October 31, 1956
U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	93	70	64	27	82	45	361	65	31	115	395	27
2	125	93	64	30	82	45	205	58	51	102	429	23
3	121	93	64	32	73	55	150	50	146	87	357	23
4	101	75	76	49	73	125	124	304	479	66	188	23
5	109	70	82	61	67	196	106	172	219	60	113	21
6	97	65	82	64	76	274	93	47	732	68	105	20
7	93	60	82	70	89	309	80	50	762	61	120	21
8	97	62	82	73	76	325	69	51	298	60	98	24
9	97	65	73	64	64	313	69	249	188	61	73	23
10	89	70	79	61	76	338	62	197	127	45	62	21
11	93	74	85	67	70	335	59	113	72	36	51	22
12	97	78	76	73	61	355	55	70	60	39	41	15
13	89	82	70	121	65	408	52	59	59	45	36	15
14	82	76	70	101	70	414	50	45	71	107	33	16
15	70	64	67	121	75	394	53	30	67	55	32	23
16	53	70	58	109	80	354	51	24	44	33	29	25
17	53	70	50	109	85	354	48	22	41	30	29	25
18	76	67	54	109	70	378	45	25	83	44	30	25
19	89	61	58	85	64	419	40	34	417	513	31	27
20	109	77	62	82	67	403	40	25	2370	4290	29	27
21	93	105	66	85	76	386	36	21	650	546	26	30
22	85	105	70	85	76	373	34	20	402	340	24	28
23	82	105	73	85	67	378	35	21	309	375	25	27
24	97	101	70	97	55	380	143	22	196	492	24	26
25	101	93	73	93	45	407	164	29	146	456	27	34
26	89	93	82	82	43	411	221	29	169	420	25	35
27	85	82	85	70	53	390	179	28	168	423	24	32
28	93	82	82	73	49	393	100	37	147	440	23	29
29	93	85	67	73	45	404	113	43	121	419	23	28
30	90	76	27		51	405	105	41	119	408	26	26
31		64	30		49		78		156	396		25
TOTAL												
sec. ft	2741	2433	2123	2251	2074	9766	3020	1981	8900	10632	2528	766
ac. ft	5440	4830	4210	4460	4110	19370	5990	3930	17650	21090	5010	1520

THE YEAR 97,610 Acre Feet.

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

APPENDIX "B-8"

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ARKANSAS RIVER AT GARDEN CITY, KANSAS

ARKANSAS RIVER AT GARDEN CITY, KANSAS

Report-Year ending October 31, 1956

U S G S Records—Provisional, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	11	61	60	18	48	21	12	21	4.2	6.8	.4	3.0
2	11	70	53	20	43	16	12	14	2.0	6.2	1.3	3.3
3	11	75	50	35	42	14	12	11	1.5	1.4	3.3	2.3
4	12	70	48	46	42	13	11	6.6	5.2	7.4	4.2	.4
5	10	62	47	50	40	24	14	4.2	8.4	6.8	4.4	.2
6	13	64	46	64	40	18	11	4.0	30	6.2	4.2	1.5
7	12	70	43	72	36	16	11	.6	18	7.4	4.2	1.5
8	16	70	41	78	33	16	16	1.0	28	7.7	2.5	4.4
9	14	68	39	75	29	23	18	1.8	32	4.4	.9	5.3
10	13	67	36	89	33	17	12	2.0	18	3.6	.4	8.0
11	14	75	41	97	37	10	3.7	4.0	17	10	1.5	8.0
12	15	85	37	106	42	8.0	5.9	6.2	6.5	9.5	1.1	7.4
13	13	104	36	140	47	7.3	4.5	4.2	3.3	9.2	.4	8.3
14	15	107	35	164	51	7.6	6.6	3.2	5.3	5.9	.2	8.6
15	15	88	32	152	47	10	8.4	3.8	6.5	5.0	0	8.9
16	17	77	31	134	44	10	9.2	1.8	6.5	4.2	.7	8.6
17	29	95	5.6	108	63	7.3	5.2	.8	5.0	4.2	1.5	8.3
18	49	85	13	96	50	5.9	4.8	7.0	7.7	2.8	1.5	5.5
19	66	75	22	109	43	6.2	6.2	2.8	5.6	.4	2.8	4.5
20	80	66	37	107	39	8.4	6.6	.9	1.3	0	4.2	8.3
21	95	63	27	106	37	6.2	4.6	3.8	3.3	29	5.9	6.8
22	92	80	35	104	36	6.2	10	6.2	39	674	5.3	4.4
23	84	113	47	103	34	7.0	5.9	8.0	10	93	5.3	5.6
24	81	146	68	101	33	6.6	3.8	7.3	5.6	9.2	5.3	5.6
25	79	181	63	90	31	6.2	7.0	6.2	6.2	1.5	4.2	7.7
26	77	170	75	79	31	4.8	8.0	9.6	3.6	0	3.9	6.2
27	75	152	110	68	30	4.0	6.6	8.0	3.6	2.5	4.7	7.1
28	70	125	120	57	27	3.8	924	3.8	5.6	2.0	4.7	5.6
29	72	90	112	53	33	8.4	481	2.8	3.9	.7	3.0	6.5
30	65	72	64		38	14	125	4.5	3.9	1.8	2.5	6.5
31		64	50		23		39		6.5	1.3		5.9
TOTAL												
sec. ft.	1226	2790	1523.6	2521	1202	325.9	1805.0	161.1	303.2	924.1	84.5	174.2
ac. ft.	2430	5530	3020	5000	2380	646	3580	320	601	1830	168	346

THE YEAR 25,850 Acre Feet.

DEMANDS BY COLORADO FOR WATER

Report-Year ending October 31, 1956

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1							COLORADO DITCHES ON DE-				550	
2						100	CREED PRIORITIES AT TIMES				180	
3						250	WHEN NO DEMAND IS					
4						450	SHOWN DURING APRIL TO					
5						450	OCTOBER INCLUSIVE					
6						450						
7						450						
8						450						
9						450						
10						480						
11						530						
12						550						
13						550						
14						550						
15						560						
16						570						
17						570						
18						570						
19						570						
20						570			150	60		
21						580			300	220		
22						580			300	450		
23						580			320	410		
24						580			380	410		
25						580			420	440		
26						580			420	470		
27						570			420	510		
28						570			420	510		
29						570			420	510		
30						120			260	510		
31										540		
TOTAL												
sec. ft.	0	0	0	0	0	14,430	0	0	3,810	5,040	730	0
ac. ft.	0	0	0	0	0	28,620	0	0	7,560	10,000	1,450	0

THE YEAR 47,630 Acre Feet.

DEMANDS BY KANSAS FOR WATER

Report-Year ending October 31, 1956
(Arkansas River Compact Administration records)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1							RESERVOIR EMPTY AT TIMES				400	
2						190	WHEN NO DEMAND IS				110	
3						300	SHOWN DURING APRIL TO					
4						300	OCTOBER INCLUSIVE					
5						360						
6						400						
7						400						
8						400						
9						400						
10						400						
11						400						
12						400						
13						400						
14						400						
15						400						
16						400						
17						400						
18						400						
19						400						
20						400						
21						400			80	130		
22						400			200	400		
23						400			210	400		
24						400			250	400		
25						400			280	400		
26						400			280	400		
27						400			280	400		
28						400			280	400		
29						400			280	400		
30						80			175	400		
31										400		
TOTAL												
sec. ft.	0	0	0	0	0	10,830	0	0	2,315	4,130	510	0
ac. ft.	0	0	0	0	0	21,480	0	0	4,590	8,190	1,010	0

THE YEAR 35,270 Acre Feet.

APPENDIX "B-11"

* * * *

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

Report-Year ending October 31, 1956
U S G S Records—Provisional, subject to revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1							361			115	395	
2							205			102	429	
3							150				357	
4											188	
5						196					113	
6						274						
7						309						
8						325						
9						313						
10						338						
11						335						
12						355						
13						408						
14						414						
15						394						
16						354						
17						354						
18						378						
19						419						
20						403						
21						386						
22						373						
23						378						
24						380			196	492		
25						407			146	456		
26						411			169	420		
27						390			168	423		
28						393			147	440		
29						404			121	419		
30						405			119	408		
31									156	396		
TOTAL												
sec. ft.						9,496	716		1,222	3,671	1,482	
ac. ft.						18,840	1,420		2,420	7,280	2,940	

THE YEAR 32,900 Acre Feet.

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

APPENDIX "B-12"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

Report-Year ending October 31, 1956
Source of Information, A.V.D.A. Reports—Reservoir Water is that from upstream reservoirs above Pueblo
(Acre Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Bessemer (River)	3,898	3,273	0	0	3,604	3,951	7,303	6,815	4,376	4,880	2,559	2,644	43,303
Res. or Imported	0	0	0	0	0	0	0	0	456	790	0	0	1,246
Total	3,898	3,273	0	0	3,604	3,951	7,303	6,815	4,832	5,670	2,559	2,644	44,549
West Pueblo (River)	93	0	0	0	147	179	214	288	184	190	179	184	1,658
Booth-Orchard Gr. (Riv.)	722	859	0	0	956	916	1,111	1,111	1,107	1,100	952	[1]296	9,130
Excelsior (River)	0	0	0	182	8	0	252	688	0	210	0	0	1,340
Res. or Imported	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	182	8	0	252	688	0	210	0	0	1,340
Colorado Canal (Riv.)	0	0	79	1,087	0	0	595	4,649	0	1,050	0	0	7,460
Res. or Imported	0	0	0	0	0	3,660	4,390	10,518	9,297	7,660	1,174	1,258	37,957
Total	0	0	79	1,087	0	3,660	4,985	15,167	9,297	8,710	1,174	1,258	45,417
Highline (River)	2,481	4,709	4,203	5,278	3,959	3,394	8,289	10,931	4,455	5,300	3,392	[2]3,435	59,826
Res. or Imported	0	0	0	0	186	676	0	0	1,876	1,130	0	0	3,868
Total	2,481	4,709	4,203	5,278	4,145	4,070	8,289	10,931	6,331	6,430	3,392	3,435	63,694
Oxford Canal (Riv.)	778	611	760	426	686	793	2,626	5,683	1,422	2,150	815	819	17,569

[1] Booth-Orchard ditch stopped diverting at 7 A.M., October 10, 1956, releasing the water for the Holly Sugar Company.
[2] Highline Canal cut diversions by 40 Acre Feet, releasing the water for the Holly Sugar Company.

APPENDIX "B-12" (Continued)

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Otero (River)	0	0	50	651	0	0	303	1,726	0	370	0	0	3,100
Res. or Imported	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	50	651	0	0	303	1,726	0	370	0	0	3,100
Catlin (River)	[3]4,544	5,363	6,048	2,832	4,068	2,428	11,468	15,431	8,204	3,810	0	[4]666	64,862
Res. or Imported	0	0	0	0	0	482	0	0	0	0	0	0	482
Total	4,544	5,363	6,048	2,832	4,068	2,910	11,468	15,431	8,204	3,810	0	666	65,344
Holbrook (River)	0	0	432	3,047	0	0	1,876	3,140	744	2,240	0	0	11,479
Rocky Ford (River)	3,852	2,868	2,335	276	2,729	5,706	6,093	5,885	5,486	4,980	2,077	3,945	46,232
Ft. Lyon Storage (River)	0	0	0	0	0	0	0	0	1,220	660	0	0	1,880
Ft. Lyon Canal (River)	10,867	13,736	13,248	12,177	11,635	7,674	19,500	34,332	11,778	9,380	0	1,884	146,211
Las Animas Cons. (Riv.)	1,666	1,418	811	258	1,390	833	2,987	4,814	2,315	2,190	357	496	19,535
Las Animas Town (Riv.)	153	0	0	0	484	1,303	1,547	1,819	1,077	1,150	932	319	8,784
TOTAL													
River	29,054	32,837	27,966	26,214	29,666	27,177	64,164	97,312	42,368	39,660	11,263	14,688	442,369
Res. or Imported	0	0	0	0	186	4,818	4,390	10,518	11,629	9,580	1,174	1,258	43,553
	29,054	32,837	27,966	26,214	29,852	31,995	68,554	107,830	53,997	49,240	12,437	15,946	485,922

[3] Includes 607 Acre Feet diverted for Holly Sugar Co. and 129 Acre Feet of Rocky Ford Ditch water diverted for City of Rocky Ford.
[4] Entire amount diverted for Holly Sugar Co.

APPENDIX "B-13"

* * * *

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

Report-Year ending October 31, 1956
Source of Information A.V.D.A. Reports
(Acre Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Ft. Bent Canal	430	0	0	0	0	2,886	1,137	3,195	2,029	1,946	[1]1,202	10	12,835
Keesee Ditch	0	0	0	0	0	538	635	605	454	520	294	347	3,393
Amity Canal	290	0	0	0	0	16,034	4,247	17,716	8,860	9,584	1,071	0	57,802
Lamar Canal	750	490	0	0	159	6,125	2,632	5,560	4,933	3,836	1,763	795	27,043
Hyde Ditch	100	56	0	0	0	270	179	309	325	260	190	135	1,824
Manvel Canal	0	0	0	0	0	744	50	135	417	353	73	79	1,851
X. Y. & Graham Canal	0	0	0	0	0	1,248	541	460	1,170	940	278	121	4,758
Buffalo Canal	720	305	0	0	0	1,533	1,866	1,817	2,422	2,295	1,817	1,133	13,908
Sisson Canal	0	0	0	0	0	0	0	20	20	20	30	0	90
TOTAL	2,290	851	0	0	159	29,378	11,287	29,817	20,630	19,754	6,718	2,620	123,504

[1] Includes 52 Acre Feet for Keese Ditch.

APPENDIX "B-14"

* * * *

DIVERSIONS BY DITCHES IN KANSAS

Report-Year ending October 31, 1956
Frontier Ditch, U.S.G.S. Records
Other Ditches, Kansas Division of Water Resources Records
(Acre Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR
Frontier Ditch	0	0	0	0	0	1,670	2,000	1,180	1,780	2,020	1,570	1,290	11,510
Alamo Canal	240	0	0	0	61	849	494	315	75	323	333	159	2,849
Ft. Aubrey Canal	157	0	0	0	0	1,370	827	208	1,120	1,200	664	496	6,042
Total Stateline to Syracuse	397	0	0	0	61	3,889	3,321	1,703	2,975	3,543	2,567	1,945	20,401
Amazon Canal	0	0	0	0	793	3,130	16	635	3,540	1,470	2,050	0	11,634
South Side Ditch	0	0	0	0	0	3,110	662	186	2,470	577	0	0	7,005
Great Eastern Canal	38	841	2,490	1,080	2,120	3,190	2,400	0	2,920	3,360	0	0	18,439
Farmer's Ditch	2,350	0	0	0	0	2,520	2,610	2,080	1,360	2,740	1,110	0	14,770
Garden City Canal	591	0	56	0	103	883	301	795	601	208	482	115	4,135
Total Syracuse to Garden City	2,979	841	2,546	1,080	3,016	12.833	5,989	3,696	10.891	8,355	3,642	115	55,983
Total Stateline to Garden City	3,376	841	2,546	1,080	3,077	16,722	9,310	5,399	13,866	11,898	6,209	2,060	76,384

APPENDIX "B-15"

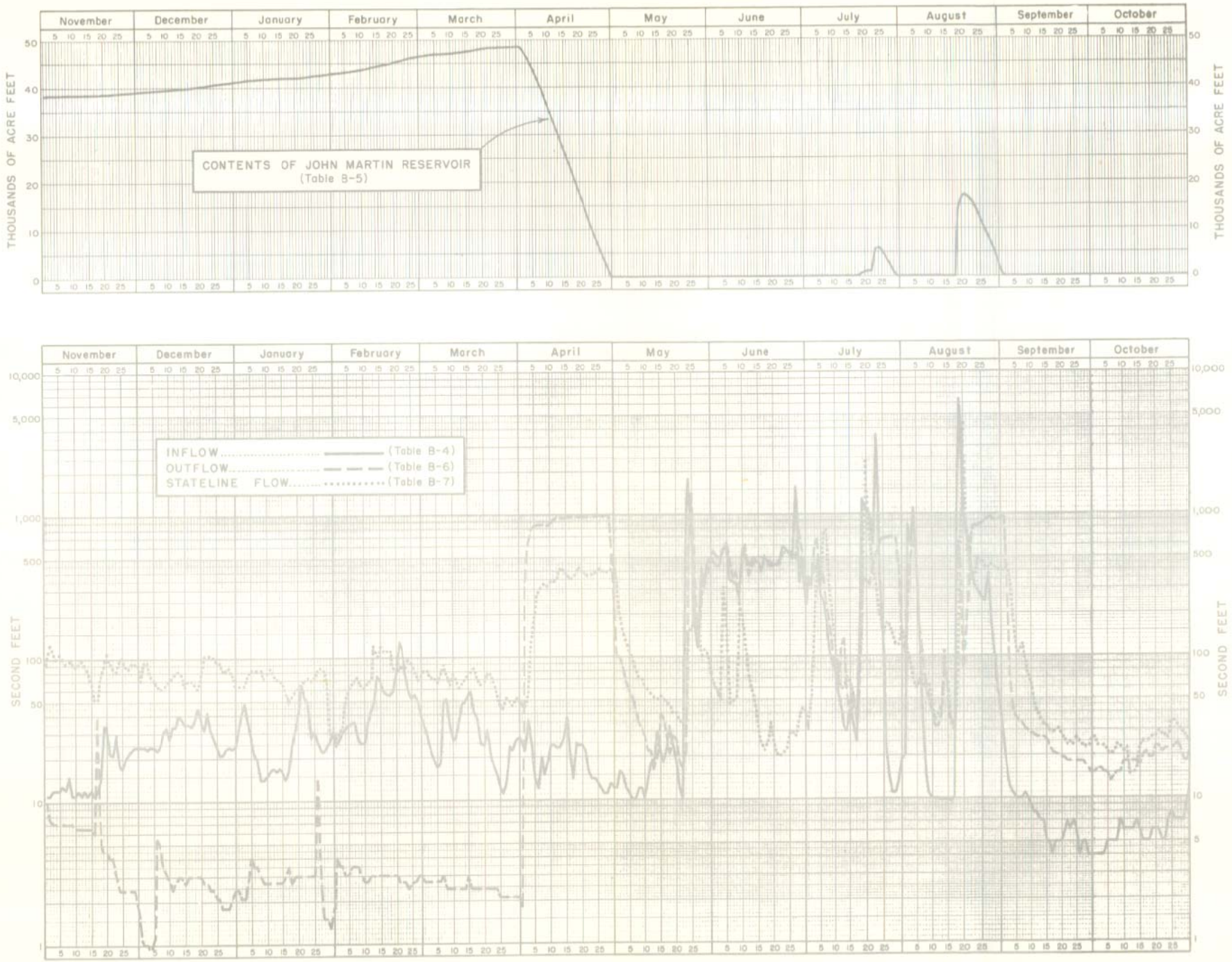
* * * *

SUMMARY TABULATION

(Acre Feet)

	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	THE YEAR	FROM APP. NO.
Arkansas river at Las Animas, Colo...	589	831	1110	1960	1120	1010	6830	26380	5900	1410	277	261	47680	B-2
Purgatoire River near Las Animas, Colo.	405	974	563	970	690	152	3410	2500	16130	27290	191	112	53390	B-3
Inflow to John Martin Reservoir	998	1800	1680	2930	1810	1170	10240	28880	22050	28690	468	373	101090	B-4*
Reservoir contents at end of month	39042	41080	42944	46550	48363	0	0	0	0	2600	0	0	0	B-5
Net change in reservoir storage	+824	+2038	+1864	+3606	+1813	−48363	0	0	0	+2600	−2600	0	−38218	B-5
Outflow from John Martin Reservoir	380	154	188	174	149	50180	9840	29000	20310	24880	4080	1150	140480	B-6
Diversions in District 67, Colo.	2290	851	0	0	159	29378	11287	29817	20630	19754	6718	2620	123504	B-13
Flow at Colorado-Kansas Stateline	5440	4830	4210	4460	4110	19370	5990	3930	17650	21090	5010	1520	97610	B-7
Diversions in Kansas	3376	841	2546	1080	3077	16722	9310	5399	13866	11898	6209	2060	76384	B-14
Arkansas River at Garden City, Kans.	2430	5530	3020	5000	2380	646	3580	320	601	1830	168	346	25850	B-8

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



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

Report Year, November 1, 1955 – October 31, 1956

PLATE I