

JOHN A. LOVE
Governor



A. RALPH OWENS
State Engineer

DIVISION OF WATER RESOURCES

232 STATE SERVICES BUILDING
1525 SHERMAN STREET
DENVER, COLORADO 80203


208 Colorado Building
Pueblo, Colorado
28 November 1967

Mr. A. Ralph Owens, State Engineer
State of Colorado
101 Columbine Building
1845 Sherman Street
Denver, Colorado

Dear Mr. Owens:

I submit herewith my annual report of activities in
Irrigation Division No. 2 for the 1967 water year.

Respectfully submitted,


Rudy Stydular
Division Engineer
Irrigation Division No. 2

RS:RB

I. PERSONNEL

1. Senior Water Resource Engineer (Division Engineer) John W. Patterson, submitted his resignation to Mr. A. Ralph Owens, State Engineer, effective 1 March 1967.

2. Assistant Water Resources Engineer Rudolph Styduhar was promoted to Associate Water Resources Engineer (Division Engineer) effective 1 April 1967.

II. GROUND WATER REGULATION AND ADMINISTRATION

1. Actual ground water regulation and administration during the past year occurred on the Arkansas River primarily in Water District No. 14 (Pueblo County) and in an area adjacent to the eastern boundary of District No. 14 which is the western portion of Water District No. 17, (Bent County). No regulation and/or administration was attempted on the Fountain River in Water Districts Nos. 10 and 14.

2. Thirty-eight wells were ordered closed for the first time, by orders personally delivered by the Division Engineer on the 21, 22, 23 and 24 May 1967. Arkansas River call during this period was 2-26-1887.

3. On 26 and 27 May 1967, river call was raised to 1-6-1890, and wells were allowed to operate.

4. On 1 June 1967, river call of 5-10-1887, all wells were ordered closed via registered mail, (Return Receipt).

5. On 21 June 1967, river call of 8-31-1893, all wells were allowed to resume operations.

6. On 30 June 1967, river call of 3-1-1887, all wells were ordered to cease operations. An additional 12 wells, west of Pueblo in District No. 14, were ordered closed via registered mail. From 30 June 1967 to 15 September 1967, no wells were allowed to resume operations on a river call basis. However, based on the number of days that operation of an individual well could be maintained without affecting the Arkansas River flow, some individual wells were allowed to resume operations. However, all wells were allowed to resume operations on 15 September 1967.

7. There is available in the Division Engineer's Pueblo office all pertinent information relative to each individual well that was regulated during 1967. Information consists of the well owner's name, address, well capacity, well distance from river, location, date of regulation and operation, etc. A district map showing well locations with respect to the Arkansas River is being prepared.

8. Investigation of all wells on the Fountain River in Water District No. 14 (Pueblo County) and in Water District No. 10 (El Paso County) has been completed. All pertinent information has been compiled and a location map is being prepared. Regulation and administration of well pumping operations on the Fountain River can be commenced on short notice.

9. Investigation of all wells on the Arkansas River in Water District No. 12 (Fremont County) has been completed. Regulation and/or administration operations can commence whenever necessary.

10. Investigations of possible regulation and/or administration of additional wells along the Arkansas River in Water District No. 14 (Pueblo County) will continue throughout the winter months.

11. Investigations of possible regulation and/or administration of additional wells along the Arkansas River in Water District No. 17 (Crowley, Bent and Otero County) will continue and will be extended down the Arkansas River through the entire length of District No. 17 during the winter months.

12. Investigation of possible regulation and/or administration of wells along the Arkansas River will be extended down the Arkansas River through Water District No. 67 (Bent, & Prowers County) to the Colorado-Kansas line during the winter months.

13. It is recommended that the State Engineer's Office not issue any further well permits until the Division Engineer's Office approves the location of the well.

III. ARKANSAS RIVER CALL CHART

1. The Division Engineer has prepared a river call chart for Water Districts No. 11, 12, 14, 17 and 67 on the Arkansas River. This chart includes the names of all adjudicated ditches diverting water from the Arkansas River, the amount decreed to the ditch, and the appropriation date.

2. The ditch names, along with their decreed amount and appropriation dates, are arranged in such a manner that the Division Engineer can, with a knowledge of the actual Arkansas River flow at either Canon City or Pueblo, immediately set the date of the river call for each individual district along the Arkansas River or for the entire Arkansas River. Furthermore, the Division Engineer or the District Water Commissioners can immediately determine which ditches should be allowed to operate and the amount that each operating ditch can divert from the river. The chart has proven invaluable in daily river administration activities and, also, in predicting the immediate future administrative river call manipulations.

3. It is recommended that the Arkansas River call chart be printed by the State Engineer's Office and distributed to the Commissioners of Water Districts No. 11, 12, 14, 17 and 67.

IV. WATER DISTRICT LINE DIAGRAMS

1. The Division Engineer is in the midst of preparing more accurate, precise and efficient line diagrams for all Water Districts of Irrigation Division No. 2.

2. All past line diagrams, showing the name, priority number, date of appropriation, decreed amount, date of adjudication, etc. have been prepared on plain paper with no regard for area location or location with regard to neighboring ditches.

3. In cooperation with the Pueblo Planning Commission, who have been very cooperative in preparing one sheet, river strip maps by photographing quad topographic maps, the Division Engineer has super-imposed on the strip maps all of the usual line diagram information. These strip maps, when completed by the addition of line diagram information, may be copied by blueprinting equipment and the end result is a line diagram showing accurate area locations and location of individual ditches with respect to neighboring ditches.

V. ARKANSAS RIVER DITCH DIVERSION CHARTS

1. Generally speaking, and for all practical purposes, it may be stated that all diversions out of the Arkansas River in Water District Nos. 11, 12, 14, 17 and 67 have been adequately flumed and recorded. Exceptions are those diversions of 3.00 c.f.s. or less.

2. It is proposed by the Division Engineer that, commencing with the irrigation season of 1968, that the Water Commissioners of Districts 11, 12, 14, 17 and 67 be instructed to compute their weekly Arkansas River diversion charts and to forward the computed charts to the Division Engineer's Office weekly for checking and for further processing. The proposal is intended to accomplish the following:

a. To satisfy the Division Engineer that the Water Commissioners of the Arkansas River Water Districts are permitting ditch diversions in accordance with current river calls and that diversions do not exceed the ditches decreed amounts. It is possible, although improbable, that some Water Commissioners, in order to maintain harmonious relations in their communities, may tend to disregard the undesirable aspects of river calls that require ditches in their districts to curtail or cease river diversions. Furthermore it will improve administration in that both the Water Commissioners and Division Engineer will know that diversions are within the river call and that diversions are accurate.

b. It is becoming increasingly necessary to maintain an up-to-date record of diversions from, not only the Arkansas River, but from all streams. Usual practice has been to receive all ditch charts from all diversions in the Division and then forward them to the State Engineer's Office. The Division Engineer is of the opinion that the Irrigation Division No. 2 office should, beginning with the 1968 irrigation season, commence with the establishment and up-to-date maintenance of accurate ditch diversion records. This record keeping could be expanded to include the Purgatoire River which is adequately flumed and recorded and as other streams are flumed and recorded the record keeping should be further expanded.

3. It is recommended that this proposal be adopted and included in the duties of the Division Engineer of Irrigation Division No. 2.

VI. DIVISION II WATER ACCOUNTING PROCEDURES

1. The Division Engineer's Office presently maintains the following weekly records:

- a. Trans-mountain diversions
 - 1. Daily diversions (c.f.s.) (a.f.) of 7 ditches
 - 2. Transmission losses
 - 3. Allowable storage
- b. Mountain Reservoirs (Clear Creek, Twin Lakes & Sugar Loaf)
 - 1. Allowable weekly storage
 - 2. Releases
 - 3. Exchanges
 - 4. Cumulative weekly total

These reports are computed weekly and copies are provided to all interested parties. During the irrigation season, when all trans-mountain ditches are operating, it requires an average time of two days to complete and copy the reports. This operation is further complicated by the erratic mail service provided from Salida to Pueblo. At the present time, all mail is transported by truck from Salida to Canon City, thence to Colorado Springs, thence to Pueblo. An attempt is made to have all reports completed and mailed by Tuesday of each week provided that the required information is received on Mondays.

2. The Division Engineer's Office presently maintains the following monthly records:

- a. Trans-mountain diversions
 - 1. Totals of all weekly records
- b. Mountain Reservoirs
 - 1. Totals of all weekly records
 - 2. Reservoir evaporation losses

These records are completed monthly and copies are provided to all interested parties.

3. It is proposed that these weekly and monthly accounting practices be made applicable to all major reservoirs in Division II.

VII. MOUNTAIN RESERVOIR EVAPORATION CHARGES

1. With regards to our long standing and present method of computing reservoir evaporation charges for Sugar Loaf, Twin Lakes and Clear Creek Reservoirs during the winter period when the reservoirs are covered with ice and snow; the Division Engineer is of the opinion that our present computation methods and accuracy are questionable. With all interested parties in basic agreement, it cannot be arbitrarily decided that there should be no further evaporation loss charges to the reservoirs during winter periods of ice and snow cover with the basic facts and data to back-up such a decision. Consequently, we will proceed with a plan of no winter evaporation charge on the three reservoirs for a period of five years, during which time the Bureau of Reclamation will operate their weather equipment at Twin Lakes Reservoir and hopefully secure sufficient weather records from which we may secure specific evaporation data to allow determination of whether or not the present system, now in use, should be revised. The winter period of no evaporation charge will commence on the 1st of the month following the complete freezing of the reservoir's water surface and extend to the 1st of the month following ice and snow break-up.

VIII. SIMULATED FLOOD EXERCISE

1. Floods were simulated on the Arkansas River, on the Fountain River and on the Arkansas and Fountain Rivers simultaneously and the Water Commissioners of Water Districts No. 12 (Canon City), 14 (Pueblo), 10 (Colorado Springs), and 17 (La Junta) were instructed as to their actions in the event of such occurrences. A standing operations plan has been designed and it will be distributed to everyone concerned.

IX. DIVISION MILEAGE

1. Total division travel amounted to 225,807 miles, at a cost of \$18,064.56. A district breakdown is illustrated in Appendix No. 1, Pages 1 and 2.

2. An attempt to develop cost accounting information for Division No. II operations is commencing. Such information should be useful as back-up data for budgetary requests and hopefully, within another year, the cost of water administration per acre foot of water delivered in Division II can be determined.

X. REQUIRED OFFICE EQUIPMENT

1. Due to the fact that the weekly and monthly reports issued by the Division Engineer's Office are being requested on a larger and larger scale, it is requested that the Division Engineer's Office be equipped with a small dry copying machine of the Xerox style.

2. A four drawer filing cabinet is requested to provide sufficient filing storage for Division No. II office records.

XI. DIVISION ENGINEER SUPPORT PERSONNEL

1. Consideration should be given to the idea of establishing the position of a "Deputy Division Engineer" for the following reasons:

- a. In the event of illness or absence of the Division Engineer, a back-up man should be available to establish the river call during the irrigation season.
- b. Contemplated expansion of record keeping, i.e., Arkansas River ditch diversion records, Fryingpan operations, well regulation and administration, Homestake Operations, Reservoir records, etc.
- c. Maintenance of current weekly reports, i.e., reservoir reports, trans-mountain diversions, reservoir releases, reservoir exchanges, evaporation reports, etc.
- d. Closer supervision of reservoir releases to ditches in District No. 17.
- e. Closer water commissioner supervision and the desired presence of the Division Engineer or his deputy among water users during irrigation season.

TABULATION OF WATER COMMISSIONER'S ANNUAL REPORTS FOR 1967

IRRIGATION DIVISION NO. 2

<u>DISTRICT</u> <u>NUMBER</u>	<u>ACRE FEET</u> <u>1964</u>	<u>USED BY</u> <u>1965</u>	<u>CANALS</u> <u>1966</u>	<u>DURING</u> <u>1967</u>	<u>SEASON*</u> <u>1967</u>
10	48,661	51,815	55,684	63,435	
11	123,796	153,210	139,321	133,985	
12	361,811	370,722	391,135	389,406	
13	30,341	71,503	69,739	28,811	
14	207,778	414,548	259,003	262,571	
15	21,793	28,932	16,727	20,286	
16	38,392	71,041	58,628	47,384	
17	300,778	426,592	378,712	433,275	
18	5,656	9,575	7,210	8,744	
19	55,372	92,673	72,696	56,945	
66	1,958	2,870	988	2,660	
67	<u>69,430</u>	<u>148,185</u>	<u>229,478</u>	<u>215,538</u>	
	1,265,766	1,841,666	1,679,478	1,663,040	

*Includes municipal, industrial and agricultural uses, as well as that water diverted thru a feeder canal for storage purposes.

Water District No. 10

I. Personnel:

Commissioner	Rufus Marshall (W.C.I)
Address	833 Kiowa
City	Fountain, Colorado
Phone No.	382-5686

Deputy Commissioner	Merle Hardin
Address	Route 4, Black Forest
City	Colorado Springs, Colorado
Phone No.	495-2239

II. Geographical Location:

Water District No. 10 consists of all lands irrigated from ditches and canals taking water from the Fountain and its tributaries; provided, that said district shall not extend beyond the limits of El Paso County.

III. District Mileage:

Total district travel amounted to 26,532 miles, at a cost of \$2,122.56, or 11.75% of the total division mileage. District 10 ranks third in the entire division with regard to the number of miles traveled.

District 10 travel is illustrated below:

Marshall, R.	21,136 miles	\$1,690.88	9.36%
Harden, M.	<u>5,396 "</u>	<u>431.68</u>	<u>2.39%</u>
	26,532 miles	\$2,122.56	11.75%

IV. Court Proceedings:

1. Colorado Springs Valley High Golf Course has been storing water in a small reservoir and pumping out of the same reservoir to irrigate the golf course grass. This practice was contested in the District Court and the practice halted. Appealed to the Supreme Court on the basis that course natural grasses were replaced by domestic grasses and that consumptive use was lessened thereby entitling the Valley High Course to the water saved. Supreme Court decision is pending.

V. Administrative Proceedings:

1. Mr. Hugh Nevins (Monument Ditch Priorities No. 3 and No. 12) was permitted to exchange water between Monument Creek and South Monument Creek for a limited period of ninety days to allow sufficient time for Mr. Nevins to petition the District Court for a change in the point of division of his Monument Ditch rights.
2. Stratmoor Hills development was ordered to repair outlet valves on their No. 1 reservoir and also to re-rap the downstream slope of the spillway. Spillway on No. 4 reservoir was ordered re-rapped and it was recommended that an additional 30"36" pipe be installed as an additional spillway. The work ordered has been partially completed and re-rapping is proceeding very slowly.
3. The Fountain Mutual (4 Treadwell & Lamb) is the decreed point of diversion of the No. 4, 11, 17, 21, 28 and 41 ditches. The decreed point of division has been wahsed out and not replaced, therefore, the decreed water cannot be delivered and they have been ordered to cease intercepting the Colorado Springs sewage affluent.
4. The same problem has occurred with the No. 15, 16 and 25 ditches. Points of diversion have been destroyed and not repaired, therefore, the decreed water has not been delivered. They have been ordered to cease intercepting various other flows and the ditches has been regulated "out".
5. Mr. John Straus has been intercepting flow out of a small tributary to Monument Creek for irrigation of about 20 acres. Orders to cease have been complied with and the dam will be removed.
6. Town of Palmer Lake has been ordered to install measuring devices and recorders by March 1968. This problem is still very active.

VI. District Reservoirs:

Glen Park (Palmer Lake)	no staff gage, inadequate capacity table
Monument	no staff gage, inadequate capacity table
N. Latamont	adequate staff, adequate capacity tables
S. Latamont	adequate staff, adequate capacity tables
Crystal	adequate staff, adequate capacity tables
Manitou	adequate staff, inadequate capacity tables
Northfield No. 1)	
Northfield No. 4)	Blue & Homestake
Northfield No. 5)	stabilization
Northfield No. 2)	reservoirs
Lake Maraine	adequate staff, inadequate capacity tables
Upper S. Ruxton	no staff gage, no capacity tables
Mesa 1	adequate staff gage, inadequate capacity tables
Mesa 2	adequate staff gage, adequate capacity tables
Spring Run 2	adequate staff gage, adequate capacity tables.
Fountain Valley No. 2	adequate staff gage, inadequate capacity table
Callahan	adequate staff gage, need new capacity tables
Haynes Storage	adequate staff gage, need new capacity tables
	no staff gage, no capacity tables

VII. Anticipated Difficulties in 1968:

1. The regulation and administration of well pumping on the Fountain River.
2. Continued use of seep water from the large reservoir belonging to the Fountain Mutual.
3. Town of Palmer Lake resisting the installation of three flumes and reservoir gage rod.

VIII. Division Engineer Comments on District Administration:

1. District No. 10 is being capably and efficiently administered by Rufus Marshall and one deputy commissioner. There has been controversy within the district, but the controversy is due to resistance to Division Engineer's orders for improvements within the District. Controversy has been largely on the passive side. Mr. Marshall's co-operation with the Division Engineer has been excellent and his administration is commended.

Water District No. 11

I. Personnel:

Commissioner	Harold Krasomil (W.C. II)
Address	P. O. Box 262
City	Salida, Colorado 81201
Phone No.	539-2540

Deputy Commissioner	Forrest H. Schneider
Address	P. O. Box 48
City	Salida, Colorado 81201
Phone No.	539-6068

Deputy Commissioner	M. E. Hedges
Address	P. O. Box 57
City	Buena Vista, Colorado 81211
Phone No.	395-2540

II. Geographical Location:

Water District No. 11 consists of all lands irrigated by water taken from that portion of the Arkansas River above Water District No. 12, and from streams draining into said portion of the Arkansas River. (Chaffe and Lake Counties).

III. District Mileage:

Total district travel amounted to 26,326 miles, at a cost of \$2,106.08, or 11.66% of the total division mileage. District 11 ranks second among the five districts along the main Arkansas River and fourth in the entire division with regard to the number of miles traveled. See appendix tables No. 3 and No. 4.

District 11 travel is illustrated below:

Krasomil, H.	12,591 miles	\$1,007.28	5.58%
Schneider, F.	9,240 "	739.20	4.09%
Hedges, M.	<u>4,495</u> "	<u>359.60</u>	<u>1.99%</u>
	26,326 miles	\$2,106.08	11.66%

IV. Court Proceedings:

1. The adjudication Court of 1962 is still open.
2. Change in Point of Diversion
 - a. Henderson-DeLappe Ditch
 - b. Joseph Dunn Ditch

V. Administrative Proceedings:

Complaint by Burt Holt's Murphy Ditch (5-1-1888, 1.00 s.f. and 8-12-1889, 3.80') on the Little Cochetopa Creek that Noble Friend's "Filing Ditch" (filing now in the Adjudication Court) has illegally diverted water to the detriment of the Murphy Ditch. Investigation proved Holt's complaint was justified and Water Commissioner was ordered to dam the ditch and Noble Friend was ordered by the Division Engineer to install a headgate and measuring flume.

VI. Trans-Mountain Diversions:

See Appendix Sheet Number 1 and Number 2.

VII. Mountain Reservoirs:

1. Clear Creek Reservoir (City of Pueblo)
 - a. Caretaker - Claus Schipper
 - b. Address - Box 392, Beuna Vista
 - c. Phone No. - 486-0157
 - d. Capacity - 11,821 acre feet
 - e. Present Storage (1 Nov. 1967) - 7,921 acre feet
 - f. Reservoir has an adequate staff gage and corresponding capacity tables.
2. Twin Lakes Reservoir (Twin Lakes Canal Co.)
 - a. Caretaker - A. D. Sober
 - b. Address - Twin Lakes Reservoir, Granite, Colorado
 - c. Phone No. - 486-0871
 - d. Capacity - 57,873 acre feet
 - e. Present storage (1 Nov. 1967) - 30,648 acre feet
 - f. Reservoir has an adequate staff gage and corresponding capacity tables.
3. Sugar Loaf Reservoir (C. F. & I. Steel Corporation)
 - a. Caretaker - John Sodic
 - b. Address - P. O. Box 286
 - c. City - Leadville, Colorado
 - d. Phone No. - 486-1043
 - e. Capacity - 17,416 acre feet
 - f. Present storage (1 Nov. 1967) - 1,669 acre feet
 - g. Present reservoir has an adequate staff gage and corresponding capacity tables.

VIII. District Installations:

1. Maysville Ditch, North Arkansas, new flume
2. Missouri Park Ditch, South Arkansas, new hdg. and wtg.
3. Newby-Bowring Ditch, South Arkansas, reset flume in concrete
4. Sunnyside Ditch, Main Arkansas, new hdg. and wtg.
5. Independence Pass Tunnel, Lake Creek, repaired floor and flume walls
6. Homestake, Lake Fork Creek, new flume and weir
7. Homestake Pumphouse, Main Arkansas, 6 new recorders

IX. Homestake Tunnel and Diversion Operation (City of Colorado Springs & Aurora)

Homestake water is collected in Irrigation Division 5 and stored in the Homestake Reservoir also in Division 5. Maximum capacity of the Homestake Reservoir is 22,565 acre feet with present storage (1 Nov. 1967) of 12,124 acre feet. Reservoir releases are made through the Division 5 office and Division 2 assumes control when releases enter Water District 11 in Division 2. Transmission charges on Homestake water from the point of origin in District 11 to the point of diversion near Granite amount to 1.60% for a distance of 22.90 miles. Homestake diversions at the Otero diversion point are affected through a battery of 6 pumps, pumping directly from the Arkansas River into the Homestake system. The 6 pumps are rated at capacities of 4.50, 7.00, 15.00, 15.00, 15.00, 15.00 c.f.s. respectively. Reservoir releases (cfs) are made on the basis of the number of pumps that are to be operated, i.e., assuming operation of only the #1 pump, rated capacity of 4.50 c.f.s., a release of 4.50 c.f.s. plus 1.60% transmission less is requested and measured and recorded at the Homestake gaging station near the mouth of the Homestake Tunnel. The accuracy of the measurements at this point had proved to be a point of controversy between the City of Colorado Springs and the Division Engineer's office in that it is impossible to control the flow out of the Homestake Reservoir and through the flume to deliver an absolute 4.57 c.f.s. to the Otero point of diversion. The Arkansas River was shorted several times in this manner and, although the amount of shortage was insignificant, it was necessary to establish proper operating procedures so that shortages would be at a minimum when larger volumes are to be diverted. Flows of under 11.50 c.f.s. through the Homestake Tunnel are measured by a 3' rectangular weir placed within a 12' flume that is used for flows over 11.50 c.f.s. The quality of the recorder charts from the flume during initial operations was very poor but have improved considerably as operations have become more routine. Charts from the Otero point of diversion initially were also very poor but these too have improved somewhat but further improvement is required.

At the present time, due to construction necessities at the Sugar Loaf Reservoir; Homestake requirements are being filled on an exchange basis by C. F. & I. Steel Corporation's Sugar Loaf Reservoir water presently stored in Twin Lakes Reservoir. The Homestake system has no storage facilities on the eastern slope in District 11 nor does it, at the present time, have any agreements for storage of its waters on any

of the mountain reservoirs in District 11. Difficulties in administration are anticipated when Homestake repays its water debt to C. F. & I. and when its releases from the Homestake Reservoir exceed the demand at the Otero pump diversion. The releases will always exceed the demand since the Division Engineer will not allow the Arkansas River to be shorted whatsoever by the Otero Diversion and absolute flow control from the Homestake Reservoir is impossible. Usual practice has been to allow any flow excesses to the C. F. & I.'s Sugar Loaf Reservoir as repayment water, but, as stated above, this will cease when the water debt is paid. However, as a matter of information, the operation of the Sugar Loaf Reservoir is tentatively schedule to revert to Bureau of Reclamation control on 1 May 1968 and the Homestake system has 30,000 acre feet of allotted storage, however, the storage space allotted cannot be utilized until the project is completed or the Secretary of the Interior gives permission for prior use.

X. U. S. Bureau of Reclamation and the Sugar Loaf Reservoir:

As stated previously, operation of the Sugar Loaf Reservoir is tentatively scheduled to revert to the Bureau of Reclamation on 1 May 1968. Approximately 14,500 acre feet of water was removed from Sugar Loaf Reservoir and stored in Twin Lakes Reservoir (exchange basis) in order to facilitate the fish kill by the Bureau and the State Game and Fish Department. Current water level in the reservoir (GH. = 7.50", Q = 1669 A.F.) is being maintained at the request of the C. F. & I. Steel Corporation in order to facilitate the removal of the hydraulic systems from the valve installations in the present Sugar Loaf dam. Removal is scheduled early in 1968 prior to closure of the dam and Bureau of Reclamation operation.

C. F. & I. Steel Corporation will retain its 17,400 acre feet storage decree in Sugar Loaf and must decide, within 10 years, whether or not to exercise an option on an additional 10,000 acre feet of storage.

Operation of the Sugar Loaf Reservoir by the Bureau of Reclamation will result in the expansion of already complicated accounting procedures being carried out by the Division Engineer's Office. Several meetings have been held with Bureau officials and attempts have been made to design an accounting system compatible to all interested parties.

Capacity tables of the new Sugar Loaf Reservoir as compared to the capacity tables of the present Sugar Loaf Reservoir indicate that for identical gage heights below a 10.0 foot elevation there is an excess of approximately 550 acre feet of water in the present dam. This excess storage in the present dam will facilitate the re-exchange of Sugar Loaf water presently stored in Twin Lakes Reservoir back to the Sugar Loaf Reservoir.

XI. Anticipated Difficulties in 1968:

1. Control and measurement of Homestake Reservoir releases to the Homestake's Otero pump diversion.
2. Control and measurement of the Homestake's Otero pump diversions from the Arkansas River at the Otero point of diversion.

3. Establishment and maintenance of a suitable accounting procedure involving the Division Engineer's Office and the Bureau of Reclamation.

XII. Division Engineer Comments on District Operation:

District No. 11 is being capably administered by Mr. Harold Krasomil and two deputy commissioners. Administration is commended on having nearly all diversions on the main Arkansas adequately flumed and recorded. There has been a minimum of controversy in the district and co-operation with the Division Engineer's Office has been excellent. However, there has developed an uneasy feeling that those Water Commissioners with deputies for assistants are gradually assuming an attitude that their primary concern is the supervision of their deputies. The assumption of such an attitude is not desired and the assignment of duties to deputies should be done with care and vigilance.

Water District No. 12

I. Personnel:

Commissioner Jack McDonough (W.C.II)
Address P. O. Box 128
City Canon City, Colorado
Phone No. 275-9176

Deputy Commissioner Byron Bean
Address General Delivery
City Florence, Colorado
Phone No. 784-3260

Deputy Commissioner Tom Young
Address General Delivery
City Cotopaxi, Colorado
Phone No. 928-3387

II. Geographical Location:

Water District No. 12 consists of all lands irrigated from ditches or canals taking water from that part of the Arkansas lying in Fremont County; also lands irrigated from ditches or canals taking water from the tributaries of said portion of the Arkansas River, except Texas Creek and its tributaries, and that part of Grape Creek which lies above the south line of Fremont County.

III. District Mileage:

Total district travel amounted to 28,059 miles, at a cost of \$2,244.72, or 12.43% of the total division mileage. District 12 ranks first among the five districts along the main Arkansas River and second in the entire division with regard to the number of miles traveled.

District 12 travel is illustrated below:

McDonough, J.	15,804 miles	\$1,264.32	7.00%
Bean, B.	5,774 "	461.92	2.56%
Young, T.	<u>6,481</u> "	<u>518.48</u>	<u>2.87%</u>
	28,059 miles	<u>\$2,244.72</u>	12.43%

IV. Court Proceedings:

1. The Bruce North Side ditch on Hardscrabble Creek is seeking a change in point of diversion.
2. Alternate Point of Diversion
 - a. City of Canon City

V. Administrative Proceedings:

1. Ordered Mr. R. R. Riss to cease, until further notice, any present and/or future storage in the Riss Reservoir Dams effective May 19, 1967 and until he provides the State Engineers Office with "Plans and Specifications" of his dams. Order is still in effect.
2. Complaint from several water users along Howard Creek objecting to the manner in which Mr. Tom Young, Deputy Commissioner was distributing available water, i.e., priority No. 1 and No. 6, owned by one individual and delivered at two points of diversion, available water in Howard Creek sufficient to fill No. 1 priority only, practice was for No. 1 to relinquish some of its available water to subsequent priorities; provided that the remaining water of No. 1 that was not relinquished could be taken out at the No. 6 point of diversion. Young ordered to deliver water strictly on a priority basis in the future.
3. City of Colorado Springs stored an excess of water in its seven reservoirs located on the south slope of the Pikes Peak watershed. City of Colorado Springs complied with the order, although very reluctantly.

VI. District Installations:

1. Southern Colorado Power Company installed an eight foot flume and recorder to measure the cooling water taken from the Arkansas River above the gaging station on the Arkansas River at Canon City.
2. State Game, Fish and Parks Department repaired the Skagway Reservoir and installed a new gate and staff gage.

VII. District Reservoirs:

- | | |
|---------------------------|---|
| 1. Brush Hollow | adequate staff gage and capacity tables |
| 2. Mt. Pisgah | adequate staff gage and capacity tables |
| 3. Skagway | adequate staff gage and capacity tables |
| 4. Colorado Springs No. 2 | no staff gage, adequate capacity tables |
| 5. Colorado Springs No. 4 | no staff gage, adequate capacity tables |
| 6. Colorado Springs No. 5 | no staff gage, adequate capacity tables |
| 7. Colorado Springs No. 7 | no staff gage, adequate capacity tables |
| 8. Colorado Springs No. 8 | no staff gage, adequate capacity tables |

VIII. Anticipated Difficulties in 1968:

1. R. R. Riss has contacted the engineering firm of Karach and Weber in Colorado Springs to survey one of his dams previously ordered to cease any present and/or future storage until he provided the State Engineers Office "Plans and Specifications" of construction. Further

construction will increase the dam capacity above 10 acre feet. Mr. Riss will, without any doubt, have to be taken into court.

2. City of Colorado Springs does not have staff gages in its south slope reservoirs Nos. 2, 4, 5, 7 and 8 and it has been an established practice for the City of Colorado Springs to furnish the Water Commissioner monthly reservoir reports which are a month late when received by the Water Commissioner. They will be ordered to install staff gages in all reservoirs and Water Commissioner will make his own reservoir checks on a weekly basis.
3. City of Colorado Springs will be ordered to install a flume and recorder at the mouth of the Strickler Tunnel on its south slope reservoir collecting system. This installation will regulate the storage in the south slope system.

IX. Division Engineer Comments on District Operation:

1. District 12 is being capably administered by Mr. Jack McDonough and two deputy commissioners. Administration is commended on having nearly all diversions on the main Arkansas adequately flumed and recorded. There has been a minimum of controversy in the district and co-operation with the Division Engineers Office has been excellent. However, there has developed an uneasy feeling that those Water Commissioners with deputies for assistants are gradually assuming an attitude that their primary concern is the supervision of their deputies. The assumption of such an attitude is not desired and the assignment of duties to deputies should be done with care and vigilance.

Water District No. 13

I. Personnel:

Commissioner	Gayle Patterson (W.C. I)
Address	General Delivery
City	Westcliffe, Colorado
Phone No.	783-2238

Deputy Commissioner	Casper L. Seybolt
Address	General Delivery
City	Westcliffe, Colorado
Phone No.	

District No. 13 Water Commissioner Patterson at the present time is classified as a per diem employee rather than as a full-time employee. District No. 13 administration is complicated by the presence of numerous illegal points of diversions, ambiguous decrees, improperly located ditches, etc., however, due to Mr. Patterson's ability and integrity the potential possibilities of a major administrative up-heavel have been averted. Therefore, it is recommended that every consideration be given to up-grading the position to a full time Water Commissioner I.

II. Geographical Location

Water District No. 13 consists of all lands irrigated from ditches and canals taking water from Texas Creek and its tributaries and that part of Grape Creek and its tributaries lying in Custer County.

III. District Mileage

Total district mileage amounted to 11,247 miles, at a cost of \$899.76, or 4.98% of the total division mileage. District 13 ranks tenth in the entire division with regard to the number of miles traveled.

District 13 travel is illustrated below:

Patterson, G.	6,549 miles	\$523.92	2.90%
Seybold, C.	<u>4,698</u> "	<u>375.84</u>	<u>2.08%</u>
	11,247 miles	\$899.76	4.98%

IV. Court Proceedings

Controversy involving Mr. Ernest George and Mr. Fred Vahldick over the measurement of Vahldick's water rights in the Conradths Ditch. Decision of the Supreme Court was that Vahldick was to comply with the State Engineer's decision on the manner of measurement of these rights.

V. Administrative Proceedings

1. The problem of the manner of measurement to be employed in the Conradths ditch is still pending. Several solutions have been suggested, however, the problem is still current.
2. The problem of numerous beaver dams in the ditches in the district causing problems of distribution to subsequent ditches. Complaints have been referred to local attorneys.
3. Dispute between Adams and Boyer regarding an agreement which is also a part of the ditch decree was referred to private attorneys at this is not within the jurisdiction of the Division Engineer.

VI. District Reservoirs

DeWeese Dye adequate staff gage and capacity tables

VII. Anticipated Difficulties in 1968

1. Orders to replace and/or rejuvenate the 12 foot parshall flume at the outlet of the DeWeese Dye Reservoir.
2. Continued illegal domestic diversions by summer residents in the area.

VIII. Division Engineer Comments on District Administration

District No. 13 is being capably administered by Mr. Gayle Patterson and one deputy commissioner. There has been a minimum of controversy in the district and co-operation with the Division Engineer's Office has been excellent.

Water District No. 14

I. Personnel:

Commissioner	Cecil Shepard (W.C.I.)
Address	208 Colorado Building
City	Pueblo, Colorado
Phone No.	542-3368

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Deputy Commissioner	None
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The Water Commissioner of District 14, and District 14 in itself, may be considered as the pivot point of administration on the Arkansas River because:

1. Junction of Fountain and Arkansas River flows and,
2. Return flow from CF & I Steel Corporation and Pueblo Sewage Plant.

Frequently during low flow periods, the river call west of Pueblo differs from the river call east of Pueblo due to the above stated reasons. Water Commissioner, although under closer supervision than the other Water Commissioners on the main Arkansas River, is still basically responsible for water distribution within the district and frequently under trying conditions of marginal river flow, more so than the other Water Commissioners on the main Arkansas. Furthermore, generally speaking, the Water Commissioner of District 14, during the past two water years, has been basically charged with seeking out wells both along the Arkansas and Fountain Rivers and securing basic information concerning each individual well. Generally, Water Commissioner of District 14 is the only Commissioner thus far involved in the problems of well pumping regulation and administration.

The Water Commissioner, Mr. Cecil Shepard, has done his job well and it is recommended that every consideration be given to up-grading this position to a Water Commissioner II.

II. Geographical Location:

Water District No. 14 consists of all lands irrigated by water taken from that portion of the Arkansas River situated within the boundaries of Pueblo County and from the streams draining into said portion of the Arkansas River, except the St. Charles and Huerfano Rivers and their tributaries, and except that portion of the Fountain River embraced in Water District No. 10, and the streams draining into the said portion of the Fountain River.

III. District Mileage:

Total district travel amounted to 13,753 miles, at a cost of \$1,100.24, or 6.09% of the total division mileage. District 14 ranks fifth among

the five districts along the main Arkansas River and ninth in the entire division with regards to the number of miles traveled.

District 14 travel is illustrated below:

Shepard, C.	13,753 miles	\$1,0024	6.09%
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IV. Court Proceedings:

1. The Fellhauer case has been appealed to the Supreme Court and a decision is pending.
2. The Adjudication Court is still open. A recent ruling states that the adjudication would continue for the presentation of evidence to be used in obtaining of court decrees for the diversion of ground water through the use of wells. The following rules will apply:
 - a. Every claimant to ground water in District 14 may choose to appear or not to appear and present evidence in his behalf.
 - b. Failure of any group or water appropriator to appear or submit proof will not in any way prejudice any claim he may have. Priority dates will be set according to when the well was established and will not be effected by any court appearance.
 - c. Decrees issued by the local court on wells which are tributary to a natural stream will be correlated with the orders and decrees of other state agencies which handle water rulings.
 - d. Court will not accept any statement of claim or proof of any well established in the district after a ground water basin is formed in this area.

It is expected that two years will be required to issue all decrees and to complete all proceedings.

V. Administrative Proceedings:

1. Laudermilk Construction Co., contractor for the relocation of the railroad west of Pueblo (a portion of the Fryingpan-Arkansas project) was allowed on 1 September 1967 to divert construction water by pumping from the Arkansas River until further notice. Water diverted by Laudermilk is replaced by monthly releases from the City of Pueblo's Clear Creek Reservoir. This practice, may or may not be allowed to continue during the spring of 1968 depending on flow conditions of the Arkansas River.
2. Well Pumping Regulation and Administration discussed in Division Administration.
3. The Federal Government has acquired additional land for the Fort Carson Military Reservation. This acquisition has for all practical purposes eliminated the administration of water rights on Turkey Creek and the Teller Reservoir. The water rights on Turkey Creek are not being used nor is there any use of Teller Reservoir. Administration consists of bi-monthly observations.

VI. Anticipated Difficulties in 1968:

1. The regulation and administration of well pumping on the Fountain and Arkansas Rivers.
2. Providing water for the Laudermilk Construction Co. in the event it is necessary to rescind the present arrangement of allowing diversion from the Arkansas River and repayment from Clear Creek Reservoir storage.

VII. Division Engineer Comments on District Operation:

1. District 14 is being capably administered by Mr. Cecil Shepard and diversions from the Fountain and Arkansas Rivers are adequately flumed and recorded. There has been a minimum of controversy and co-operation with the Division Engineer has been excellent.

Water District No. 15

I. Personnel:

Commissioner	Beverly Klipfel (W.C.I.)
Address	General Delivery
City	Beulah, Colorado
Phone No.	485-2372

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Deputy Commissioner	None
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II. Geographical Location:

Water District No. 15 consists of all lands irrigated from ditches or canals taking water from the St. Charles River and its tributaries.

III. District Mileage:

Total district travel amounted to 18,857 miles, at a cost of \$1,508.56, or 8.35% of the total division mileage. District 15 ranks seventh in the entire division with regard to the number of miles traveled.

District 15 travel is illustrated below:

Klipfel, B.	18,857 miles	\$1,508.56	8.35%
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IV. Court Proceedings:

None pending nor has there been any in which a decision has been rendered.

V. Administrative Proceedings:

None pending nor has there been any in which a decision has been rendered.

VI. District Reservoirs:

1. St. Charles No. 2	adequate staff gage and capacity tables
2. St. Charles No. 3	adequate staff gage and capacity tables
3. Lake Minnequa	adequate staff gage and capacity tables
4. Hayden	adequate staff gage and capacity tables

VII. Anticipated Difficulties in 1968:

None

VIII. Division Engineer Comments on District Operation:

Water District No. 15 is very capably and efficiently administered by Mr. Beverly Klipfel.

There has been no controversy whatsoever in the district and co-operation with the Division Engineers Office has been excellent. Mr. Klipfel is to be highly commended for his excellent administration.

Water District No. 16

I. Personnel:

Commissioner	Joe E. Faris (W.C. I)
Address	223 E. Elm Street
City	Walsenburg, Colorado
Phone No.	738-2551

Deputy Commissioner	James P. Faris
Address	P. O. Box 407
City	Walsenburg, Colorado
Phone No.	738-2381

Deputy Commissioner	Robert Brgoch
Address	General Delivery
City	LaVeta, Colorado
Phone No.	742-3592

Mr. James Faris, Deputy Commissioner, has established his permanent residence in Denver, Colorado and has verbally indicated that he intends to resign his position of deputy water commissioner. As of 15 November 1967, neither the water commissioner nor the division engineer have received his letter of resignation. Commissioner Joe Faris has stated that he has no information as to his deputy's intentions. It is, therefore, suggested that the State Engineer's Office pose the question directly to Mr. James Faris via registered mail. The Division Engineer's Office desires the information because, in the event of resignation, it will be necessary to advertise the availability of the position, to accept applications, to announce time and place of examinations, etc. It would be somewhat difficult to enter into the 1968 irrigation season without a deputy commissioner on the Huerfano River, but the situation would not be impossible.

II. Geographical Location:

District No. 16 consists of all lands irrigated from ditches and canals taking water from the Huerfano and its tributaries.

III. District Mileage:

Total district travel amounted to 42,558 miles, at a cost of \$3,404.64, or 18.84% of the total division mileage. District 16 ranks first in

the entire division with regard to the total number of miles traveled.

District 16 travel is illustrated below:

Faris, J. E.	17,688 miles	\$1,415.04	7.83%
Faris, J. P.	15,792 "	1,263.36	6.99%
Brgoch, R.	9,078 "	726.24	4.02%
	<u>42,558 miles</u>	<u>\$3,404.64</u>	<u>18.84%</u>

IV. Court Proceedings:

1. Change in Point of Diversion
 - a. McCaskill Ditch
 - b. The Cuchara Ditch and First Enlargement
 - c. Walsenburg Ditch
 - (1) Transferred 0.30 cfs to the headgate of the Cucharas Camps Water System (Ditch No. 318) and 0.30 cfs abandoned to the Cucharas River.
2. Alternate Point of Diversion
 - a. City of Walsenburg, Priorities No. 1, 2, 3 and 4.
 - b. Granted a change in water usage and a right to store direct flow rights.

V. Administrative Proceedings:

1. The Santa Fe Trail Council of the Boy Scouts of America constructed a shallow well (12') in the South Fork of Bear Creek. Mr. Andrew Vanotti, registered an official complaint with the Division Engineers Office, and investigation disclosed that there was insufficient water in the South Fork of Bear Creek to supply the rights of senior appropriators. The Council was ordered to cease operation of the well, but subsequent negotiations with Mr. Vanotti and the Council, resulted in an agreement that the cease operation order, although still in effect, would not be enforced in 1967 but would be enforced in 1968. This would allow the Council sufficient time to develop a deep well. All parties concerned were satisfied with the agreement.
2. City of Walsenburg through Mr. Louis Bellotti, City Council member, registered an official complaint with the State Engineer's Office protesting the pumping of domestic water from shallow wells along the Cuchara River at Cuchara Camps, southwest of LaVeta, Colorado. Also protested the direct pumping of domestic water from the Cuchara River. This is a situation which is becoming more serious throughout the entire division. An attempt is being made by the Division Engineer to determine the actual loss to the Cuchara River flow by this pumping. The City of Walsenburg is being advised of any progress and results.
3. Frank Andreatta, Yellowstone Creek area, west of Walsenburg, has complained to the Division Engineer regarding the use of Yellowstone water by Mr. Charles Desert of LaVeta, Colorado as stock water transported by plastic pipe into metal stock tanks. Mr. George Vranesh, attorney for Andreatta and Mr. E. V. Sandoval, attorney for Desert have arrived at an agreement satisfactory to all concerned and no further problems are expected.

4. Water users along Bear Creek, southwest of Walsenburg, have complained to the Division Engineer's Office that Andrew Vanotti, located on the headwaters of South Fork of Bear Creek, will not permit flow of S. Bear Creek to flow into the main Bear Creek channel thus denying them water. Flow of S. Bear Creek is intermittent and any available water has not been passed in 20 years; furthermore, there is no existing channel for the water to pass through. Complaints were advised they should contest this problem through a private suit.

VI. District Reservoirs:

Cucharas	adequate staff gage and capacity table
Coler	no staff gage and adequate capacity table
Holita	adequate staff gage and capacity table
Orlando #2	adequate staff gage and capacity table
Huerfano Valley	adequate staff gage and capacity table
Dotson	adequate staff gage and capacity table
La Joya	no staff gage; no capacity table
Maria & Stevens	no staff gage; no capacity table
City of Walsenburg	no staff gage; no capacity table
City of LaVeta	no staff gage; no capacity table

VII. District Installations:

None, and there has not been any orders issued for any installations.

VIII. Anticipated Difficulties in 1968:

1. Continued and increased usage of wells and direct pumping from Cuchara River for domestic use along the upper Cuchara River Watershed.
2. Resistance to Division Engineer's orders for installation of headgates and flumes and recorders.
3. Resistance to Division Engineer's orders for the installation of reservoir staff gages and the necessity of providing reservoir capacity tables to the Division Engineer's office.

IX. Division Engineer's Comments on District Operation:

1. It is becoming increasingly necessary to order the installation of headgates, flumes and recorders on the first twenty priorities on the Huerfano River and the first ten priorities on the Cucharas River. Installation orders will be contested by everyone, including the Water Commissioner, thus requiring the Division Engineer to refuse delivery of water. First few installations will be difficult but progress will accelerate when the individual priorities realize that installation orders will be enforced.
2. It is also becoming increasingly necessary to order the installation of reservoir staff gages in the major reservoirs in District 16. At the same time, it will be necessary to request adequate capacity tables for each reservoir in which a staff gage is ordered installed. Since professional engineers will be engaged by reservoir owners it is recommended that any engineer doing this work be approved by either the Division Engineer or State Engineer.

3. District 16 is being administered by Mr. Joe Faris and two deputy commissioners. Mr. Faris has the ability to be the most efficient administrator in the division, however, he has definitely assumed the attitude that his primary concern is the supervision of his deputies. The district is badly in need of modernization and more efficient administration.

Water District No. 17

I. Personnel:

Commissioner	William F. Pattie (W.C.III)
Address	P. O. Box 828
City	La Junta, Colorado
Phone No.	384-9880

Deputy Commissioner	George A. Watson
Address	R. R. 1
City	Manzanola, Colorado
Phone No.	254-7222

Deputy Commissioner	William H. Watson
Address	201 5th Street
City	Fowler, Colorado
Phone No.	263-5371

Deputy Commissioners were not employed during the 1966-67 years.

II. Geographical Location:

Water District No. 17 consists of all lands irrigated by ditches or canals taking water from that portion of the Purgatoire River north of the north boundary line of Las Animas County, and all lands irrigated by ditches or canals taking water from that portion of the Arkansas River below District No. 14 and above the mouth of the Purgatoire River, and from the streams running into the said portion of the Arkansas River except that portion of the Apishapa River and its tributaries south of the north line of Township 28 south of R 6 west of the 6th P.M.

III. District Mileage:

Total district travel amounted to 19,036 miles, at a cost of \$1,522.88, or 8.43% of the total division mileage. District 17 ranks fourth among the five districts along the main Arkansas River and sixth in the entire division with regards to the number of miles traveled.

District 17 travel is illustrated below:

Pattie, W.	19,036 miles	\$1,522.88	8.43%
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IV. Court Proceedings:

1. The adjudication Court in Bent County District Court will close in the month of December 1967.

V. Administrative Proceedings:

1. Well pumping regulation and administration is discussed in Division Administration.
2. An illegal division by the Mesa De Maya, Inc. out of Chacuaro Creek, tributary to the Purgatoire River was discovered in late October 1967. Ranch Manager, Mrs. Lorean Gowel, was advised to take immediate action to secure a legal priority through the filing of a claim and subsequent adjudication. Attorneys Wright & Kastler, Raton, New Mexico have arranged a meeting with the Division Engineer and have pledged their and their clients co-operation in the matter.

VI. District Reservoirs:

- | | |
|--------------------------|---|
| 1. Henry Reservoir | adequate staff gage and capacity tables
(in process of a new survey) |
| 2. Meredith Reservoir | adequate staff gage and capacity tables |
| 3. Horse Creek Reservoir | adequate staff gage and capacity tables |
| 4. Adobe Creek Reservoir | adequate staff gage and capacity tables |
| 5. Holbrook Reservoir | adequate staff gage and capacity tables |
| 6. Dye Reservoir | staff gage and capacity table corrected
for sedimentation in August 1930; Soil
Conservation Service re-survey in June
1959 not filed with State Engineer's Office. |

VII. Anticipated Difficulties in 1968:

1. Regulation and administration of well pumping on the Arkansas River.
2. Required passing of Arkansas River flow through District 17 into District 67 because of depleted John Martin Dam storage.

VIII. Division Engineer Comments on District Operation:

1. District 19 is very capably and efficiently administered by Mr. William Pattie. Mr. Pattie's District 17 is the control district in the division, and the divisions of the Division Engineer are based on his judgment. There has been no controversy within the District and Mr. Pattie's co-operation with the Division Engineer has been excellent. Mr. Pattie's presence on the Arkansas in District 17 is sincerely appreciated by the Division Engineer.

Water District No. 18

I. Personnel:

Commissioner	George Slakich (W.C.I)
Address	Box 552
City	Aguilar, Colorado
Phone No.	2877

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Deputy Commissioner	None
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II. Geographical Location:

Water District No. 18 consists of all lands irrigated by ditches or canals taking water from that portion of the Apishapa River and its tributaries south of the north line of Township 28 south of Range 61 West of the sixth principal meridian.

III. District Mileage:

Total district travel amounted to 4,013 miles, at a cost of \$321.04, or 1.78% of the total division travel. District 18 ranks eleventh in the entire division with regard to the number of miles traveled.

District 18 travel is illustrated below:

Slakich, G.	4,013 miles	\$321.04	1.78%
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IV. Court Proceedings:

1. There are two complaints filed with the District Attorney's Office in Trinidad, Las Animas County, Colorado against Rose Chelon and Louis Sinkovich. They have been charged with illegal water diversion and tampering with headgates. The complaints were filed in July 1964 and are still pending.
2. Controversy over the relative priorities of right between the so-called Bent County and Las Animas County adjudications has been heard in the Las Animas District Court. Decision of the Court is that the relative priorities are to be administered as in the past, namely, the decreed priorities have been administered on an intermingled basis and administration will so continue. No official notice has been received by the Division Engineer's Office as yet.
3. Change in Point of Diversion
 - a. Borrego Ditch

V. Administrative Proceedings:

1. Town of Aguilar was advised that the planned development of additional wells along the Apishapa River, West of Aguilar, Colorado would require the securing of "well permits." They were further informed that location of wells near the Apishapa River could result in regulation of their well pumping activities. The town board is currently attempting to purchase sufficient surface water rights to transfer to their developed wells, but the resulting purchases are at the present time insufficient to their need. This problem is continuing.

VI. District Reservoirs:

Seven Lakes Reservoir no staff gage, inadequate capacity tables

VII. Anticipated Difficulties in 1968:

1. Town of Aguilar's "well development program."
2. Orders for installation of headgates, flumes and recorders in the district.

VIII. Division Engineer Comments on District Operations:

District No. 18, under existing conditions of a complete absence of any headgates, flumes, etc. is being capably although not efficiently administered by Mr. George Stakich. Mr. Stakich is an able administrator and efficiency can be improved with the installation of headgates and measuring devices. Orders for installation will undoubtedly have to be confirmed by the Las Animas District Court. Mr. Stakich's co-operation with the Division Engineer has been excellent.

Water District No. 19

I. Personnel:

Commissioner	Robert Mariano (W.C.I)
Address	Rt. 1, Box 71
City	Trinidad, Colorado
Phone No.	846-7412

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Deputy Commissioner	Manuel Vigil
Address	Rt. 1, Box 328
City	Trinidad, Colorado
Phone No.	846-6283

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During the water year 1966, an altercation occurring in the south east end of Water District 19, between Mr. Kenneth Laudle and John Paulich resulted in the death of Mr. Laudle and the subsequent jailing of Mr. Paulich on involuntary manslaughter charges for one year. The dispute and subsequent events were caused by an argument over the ownership of ditch right-of-way in the San Yadro Highline Ditch. The area is approximately 35 miles southeast of Trinidad and a marginal farming area due to an intermittent water supply except during periods of precipitation. The area is not frequently visited by the Water Commissioner and during periods of precipitation the time lapse between the Water Commissioner receiving notification and his arrival at the distant scene results in the mis-appropriation or lose of water by the water users in the area.

Therefore it is earnestly recommended that the services of a Deputy Water Commissioner be obtained for this area. Period of employment would be intermittent over ; a four month span.

II. Geographical Location:

Water District No. 19 consists of all lands irrigated by ditches or canals taking water from that portion of the Purgatoire River and its tributaries, south of the north boundary line of Las Animas County.

III. District Mileage:

Total district travel amounted to 16,038 miles, at a cost of \$1,283.04, or 7.10% of the total division mileage. District 19 ranks eighth in the entire division with regard to the number of miles traveled.

District 19 travel is illustrated below:

Mariano, R.	15,522 miles	\$1,241.76	6.87%
Vigil, M.	<u>516 "</u>	<u>41.28</u>	<u>0.23%</u>
	16,038 miles	\$1,283.04	7.10%

IV. Court Proceedings:

1. Lujan Ditch, Chicosa Ditch and North Side Ditches are at the present time, and for the past twenty five years, still claiming 2.00 cfs of the #3 priority of the Baca Ditch.
2. During the acquisition of the Model Canal by the City of Trinidad, Joe and Georgina Sacca, owners of 200 shares of Model Water offered to sell their shares. John Oxley secured an option to buy the 200 shares of water; however, the option was only signed by Joe Sacco and not by Georgina Sacco. Sale of the 200 shares of Model Water was then made to the City of Trinidad. Oxley sued and appealed through the Courts and the final outcome was the sale of 100 shares to Oxley and 100 shares to the City of Trinidad. We have no interest in this and it is included in this report only as a matter of information. This same situation will occur between John Oxley and Hugh Wilson and the City of Trinidad.

V. Administrative Proceedings:

The Model-Johns Ditch was requested to install a suitable gaging station and measuring device at the point of diversion on the Purgatoire River and also to install a new flume and gaging station on the Johns Ditch lateral out of the Model Ditch. Compliance with this request has been painfully slow; however, some repairs have been effected on the Johns Lateral. The primary request of an installation at the point of diversion is still awaiting a decision from the Soil Conservation Service as to whether or not they will participate. Progress is further complicated in that the City of Trinidad, majority owner of the Model stock, is in the midst of an election of City Councilmen, several of which are on the Model Board of Directors. The Division Engineer has not contacted anyone concerning the Model Johns Ditch problems for the last six weeks lest he be accused of interfering with the election of City Councilmen. However, after the election in November, the original request for work on the Model Johns Ditch will be supplemented by a written order denying further diversions from the Purgatoire Ditch until the necessary work is completed. The order will be made effective 1 April 1968 thus providing the Model Johns Ditch ample time to complete the necessary work.

VI. District Reservoirs:

1. Model Reservoir has an adequate capacity table but there is no staff gage installation. Storage can be maintained up to a gate height of 2.60 feet. Storage beyond this gage height is not recommended because of the condition of the dam. The storage right has been moved into the new Trinidad dam on the Purgatoire River.
2. City of Trinidad's Monument Lake and North Lake Reservoirs have adequate staff gages and capacity tables.
3. Browns Reservoir No. 1 has an adequate capacity table but no staff gage.
4. Hermosa Valley Reservoir has no staff gage and present capacity table is worthless. Reservoir has been silted up to 26 feet.
5. Russell Reservoir has no staff gage or capacity table.

VII. District Installations:

1. Six new recorders have been installed in the Hoehne, Johns, Enlarged South Side, Antonio Lopez, Tyeras, and C.F & I.'s North Fork Ditches.
2. New flume has been installed in the Hoehne Ditch and Enlarged South Side has a new flume at the site which will be installed prior to next year's irrigation season.
3. Recorders have been ordered in the Russell Storz Ditch (Robert Parsons) out of Whiskey Creek, the C. F. & I. Steel Corporation's Ramon Torres Ditch out of South Fork and the Maxwell #11 Ditch out of Middle Fork.

VIII. Anticipated Difficulties in 1968:

1. Model-Johns Ditch installation at their point of diversion from the Purgatoire River.

IX. Division Engineer Comments on District Operations:

1. District 19 is very capably administered by Mr. Robert Mariano and he is commended on having most of the ditches on the Purgatoire flumed and recorded. There has been a minimum of controversy in the district and Mr. Mariano's co-operation with the Division Engineer's Office has been excellent. Mr. Mariano's presence on the Purgatoire River is sincerely appreciated by the Division Engineer.

Water District No. 67

I. Personnel:

Commissioner	Lane Hackett (W.C.I)
Address	P. O. Box 881
City	Lamar, Colorado
Phone No.	336-7284

Deputy Commissioner	None

II. Geographical Location:

Water District No. 67 shall consist of all lands in the State of Colorado irrigated by water taken from that portion of the Arkansas River below the mouth of the Purgatoire River, and from the streams draining into said portion of the Arkansas River.

III. District Mileage:

Total district travel amounted to 19,388 miles, at a cost of \$1,551.04, or 8.59% of the total division mileage. District 67 ranks third among the five districts along the main Arkansas River and fifth in the entire division with regard to the number of miles traveled.

District 67 travel is illustrated below.

Hackett, L.	19,388 miles	\$1,551.04	8.59%
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IV. Court Proceedings:

1. Hearing is pending in the transfer of the storage rights of the Lake Setchfield or Muddy Creek Reservoir into the John Martin Reservoir by the Colorado Game, Fish and Parks Department. Change in location of 5000 acre feet of storage

V. Administrative Proceedings:

1. City of Lamar was instructed to provide Water Commission Hackett with daily discharge measurements and supporting flow charts of cooling water discharged from the Lamar Power Plant into the Lamar Canal. Measurements and flow charts are based on pounds of steam during a 24 hour period. Cooling waters of the Lamar plant are continuing to be discharged into the Lamar Canal. Mr. Hackett was instructed to consider the Lamar plant water discharged into the Lamar Canal as a portion of the Lamar Canals decreed water and therefore to reduce the Lamar Canal's decreed water by an amount equal to the discharge from the power plant. The Lamar Canal Company has appealed the Division Engineer's decision to the State Engineer.

2. Amity Irrigation Company complained to the State Engineer that a channel cut from the Arkansas River onto adjoining privately owned lands and not currently making any beneficial use of water might be enlarged by floods and eventually change the course of the river to the detriment of the Amity Canal. Opinion of the State Engineer is that a private law suit outlining the possible damages to the Amity should be undertaken. State Engineer cannot ask for abandonment and filling since there has been no illegal use of water through irrigation or otherwise.

VI. District Reservoirs:

John Martin	adequate staff gage and capacity tables
Two Buttes	no staff gage, date of capacity table unknown
Great Plains	adequate staff gage, date of capacity table unknown

VII. District Installations:

1. Recorder and flumes in Lamar Canal for Granada Irrigation Division..

VIII. John Martin Reservoir:

1. Current John Martin storage (4 November 1967) is 16,027 acre feet.
2. John Martin weekly storage is illustrated below:

Week Ending	Storage	(+)	(-)
March 5	198,431		
11	198,753	322	
18	198,592		161
25	198,673	81	
April 1 =	198,029		644
8	180,171		17,858
15	152,646		27,525
22	136,904		15,742
29	120,737		16,167
May 6	106,613		14,124
13	93,361		13,252
20	82,702		10,659
27	74,372		8,330
June 3	87,170	12,798	
10	86,261		909
17	86,667	406	
24	107,704	21,037	
July 2	109,899	2,195	
8	108,087		1,812
15	111,945	3,858	
22	116,589	4,644	
29	111,003		5,586
Aug. 6	103,904		7,099
12	98,354		5,550
19	86,451		11,903
26	75,211		11,240

Week Ending	Storage	(+)	(-)
Sept. 2	64,728		10,483
9	57,913		6,815
16	53,031		4,882
23	47,531		5,500
30	40,641		6,890
Oct. 7	33,425		7,216
14	22,559		10,866
21	18,449		4,110
28	15,334		3,115
Nov. 4	<u>16,027</u>	<u>45,341</u>	<u>229,131</u>

- Water users upstream were benefited by the elimination of a demand by the senior rights downstream of the reservoir as provided in the Colorado-Kansas Compact during the water year 1967. However, this benefit will not occur in the water year 1968. John Martin, for all practical purposes, has exhausted its stored water and this will necessitate the passing of water through District 17 into District 67 during 1968. There is evidence of a considerable waste of water in the district and from all appearances there has been no sincere effort on the part of Colorado users to curtail wastes.

IX. Anticipated Difficulties in 1968:

- Passing Arkansas River flow through District 17 into District 67.
- Lamar Canal will resist the Division Engineer's decision that the Water Commissioner is to consider the Lamar power plant water being discharged into the Lamar Canal as a part of the Lamar Canal's decreed water. The Ft. Bent Canal will resist any efforts to alter the Division Engineer's order and to further complicate matters the City of Lamar and the Lamar Canal will resist any attempts to require the City of Lamar to return its power plant water to the Arkansas.

X. Division Engineer Comments on District Operations:

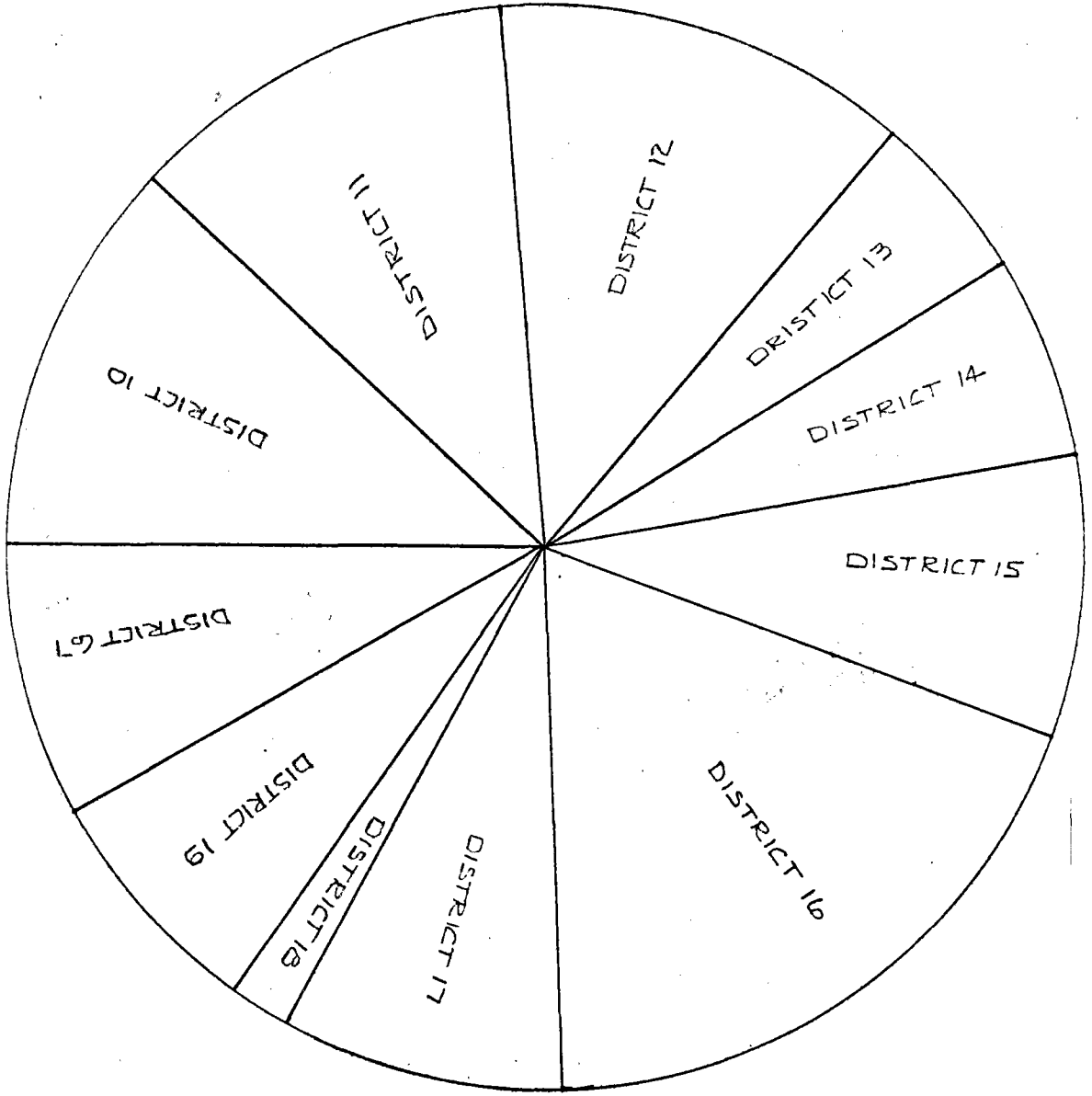
- District 67 is very capably and efficiently administered by Mr. Lane Hackett. There has been a minimum of controversy in the District and co-operation with the Division Engineer's Office has been excellent. Division Engineer is of the opinion that, if at all possible, some type of an educational program should be instituted in the District with a view towards curtailing the excessive use and accompanying waste of available John Martin water.

WATER DISTRICT MILEAGE REPORT

DIVISION 2

OCT. 1, 1966 to SEPT. 30, 1967

WATER DISTRICT MILEAGE REPORT
DIVISION 2
OCT. 1, 1967 to SEPT. 30, 1967



<u>DISTRICT</u>	<u>MILEAGE</u>	<u>DOLLARS</u>	<u>% OF TOTAL</u>
10	26,532	\$2,122.56	11.75%
11	26,326	\$2,106.08	11.66%
12	28,059	\$2,244.72	12.43%
13	11,247	\$ 899.76	4.98%
14	13,753	\$1,100.24	6.09%
15	18,857	\$1,508.56	8.35%
16	42,558	\$3,404.64	18.84%
17	19,036	\$1,522.88	8.43%
18	4,013	\$ 321.04	1.78%
19	16,038	\$1,283.04	7.10%
<u>67</u>	<u>19,388</u>	<u>\$1,551.04</u>	<u>8.59%</u>
TOTAL	225,807	\$18,064.56	

WATER DISTRICT MILEAGE REPORT

DIVISION II

OCT. 1, 1966 to SEPT. 30, 1967

NAME AND DISTRICT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	TOTAL	PERCENT	DOLLARS
<u>DISTRICT 10</u>															
MARSHALL, RUFUS	1276	1067	688	849	782	2616	2763	2771	1679	2245	1975	2425	21,136	9.36%	\$1,690.88
HARDIN, M. C.	559	—	461	—	—	—	623	862	656	841	660	734	5,396	2.39%	431.68
	1835	1067	1149	849	782	2616	3386	3633	2335	3086	2635	3159	26,532	11.75%	\$2,122.56
<u>DISTRICT 11</u>															
KRASOMIL, HAROLD	1031	913	1066	—	79	456	1017	1949	1742	1796	1714	828	12,591	5.58%	\$1,007.28
SCHNEIDER, F.	756	—	—	—	—	355	819	1970	2015	1302	1238	785	9,240	4.09%	739.20
HEDGES, M. E.	—	737	—	—	—	—	298	850	667	682	730	531	4,495	1.99%	359.60
	1787	1650	1066	0	79	811	2134	4769	4424	3780	3682	2144	26,326	11.66%	\$2,106.08
<u>DISTRICT 12</u>															
MCDONOUGH, JOHN	1112	796	579	978	625	1554	2154	1063	1569	1900	1834	1640	15,804	7.00%	\$1,264.32
BEAN, B.	215	—	363	150	—	404	880	1401	970	572	368	451	5,774	2.56%	461.92
YOUNG, T.	948	—	—	—	—	230	458	1148	1363	1060	770	504	6,481	2.87%	518.48
	2275	796	942	1128	625	2188	3492	3612	3902	3532	2972	2595	28,059	12.43%	\$2,244.72
<u>DISTRICT 13</u>															
PATTERSON, GAYLE	233	124	112	108	99	226	384	1272	1530	1270	671	520	6,549	2.90%	\$ 523.92
SEYBOLD, C.	—	—	—	—	—	—	418	911	1459	947	612	351	4,698	2.08%	375.84
	233	124	112	108	99	226	802	2183	2989	2217	1283	871	11,247	4.98%	\$ 899.76
<u>DISTRICT 14</u>															
SHEPARD, CECIL	696	971	245	957	1066	1316	1382	1572	1491	1695	1412	950	13,753	6.09%	\$1,100.24
	696	971	245	957	1066	1316	1382	1572	1491	1695	1412	950	13,753	6.09%	\$1,100.24
<u>DISTRICT 15</u>															
KLIPFEL, BEVERLY	1041	1349	930	1139	970	1707	2392	2716	1938	1702	1667	1306	18,857	8.35%	\$1,508.56
	1041	1349	930	1139	970	1707	2392	2716	1938	1702	1667	1306	18,857	8.35%	\$1,508.56
<u>DISTRICT 16</u>															
FARIS, JOE E.	1393	1364	1395	1567	588	1506	1530	1772	1589	1695	1636	1653	17,688	7.83%	\$1,415.04
FARIS, J.	1601	—	—	—	576	1588	1903	2262	2544	2113	1694	1511	15,792	6.99%	1,263.36
BROGOCH, R.	731	110	—	—	537	750	750	1077	1512	1283	1159	1169	9,078	4.02%	726.24
	3725	1474	1395	1567	1701	3844	4183	5111	5645	5091	4489	4333	42,558	18.84%	\$3,404.64
<u>DISTRICT 17</u>															
PATTIE, WILLIAM	2167	1952	2053	1635	1295	1316	1301	1708	1667	1275	1456	1211	19,036	8.43%	\$1,522.88
	2167	1952	2053	1635	1295	1316	1301	1708	1667	1275	1456	1211	19,036	8.43%	\$1,522.88
<u>DISTRICT 18</u>															
STAKICH, GEORGE	154	—	44	—	—	42	448	555	1084	667	656	363	4,013	1.78%	\$ 321.04
	154	—	44	—	—	42	448	555	1084	667	656	363	4,013	1.78%	\$ 321.04
<u>DISTRICT 19</u>															
MARIANO, ROBERT	1307	705	834	1108	876	1328	1406	1431	2218	1747	1426	1136	15,522	6.87%	\$1,241.76
VIGIL, M. C.	—	—	—	—	—	192	—	—	101	144	79	—	516	0.23%	41.28
	1307	705	834	1108	876	1520	1406	1431	2319	1891	1505	1136	16,038	7.10%	\$1,283.04
<u>DISTRICT 67</u>															
HACKETT, LANE	1898	1160	1551	1644	1245	1711	1831	1825	1603	1424	1822	1674	19,388	8.59%	\$1,551.04
	17,118	11,248	10,321	10,135	8,738	17,297	22,757	29,115	29,397	26,360	23,579	19,742	225,807		\$18,064.56

CONTENTS OF MAJOR RESERVOIRS

IRRIGATION DIVISION NO. 2

OCT. 1, 1966 to SEPT. 30, 1967

CONTENTS OF MAJOR RESERVOIRS
IRRIGATION DIVISION NO. 2
OCT. 1, 1966 to SEPT. 30, 1967

NAME OF RESERVOIR	OCT. 1	NOV. 1	DEC. 1	JAN 1	FEB. 1	MAR. 1	APR. 1	MAY 1	JUNE 1	JULY 1	AUG. 1	SEPT. 1	OCT. 1
FOUNTAIN VALLEY NO. 2	2,981	2,981	2,919	2,919	2,896	2,896	2,896	2,767	2,521	2,724	2,457	2,457	2,219
FOUNTAIN VALLEY NO. 3	0	0	0	0	0	0	0	0	0	0	0	0	0
MONUMENT RESERVOIR	225	225	225	225	225	225	225	225	237	225	225	225	225
*SUGAR LOAF	10,793	10,529	10,477	10,207	9,864	9,163	8,957	8,899	8,965	12,667	2,343	839	1,526
TWIN LAKES	16,374	16,232	16,748	16,928	17,778	17,887	18,068	18,557	19,092	43,311	45,027	32,986	30,806
*CLEAR CREEK	7,195	7,161	7,164	7,080	7,080	7,080	7,080	6,825	7,466	9,791	10,192	9,287	8,036
MT. PISGAH	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866	1,866
SKAGUAY													
BRUSH HOLLOW	1,026	1,026	1,026	1,026	1,088	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
CITY OF COLORADO SPRINGS	5,002	4,286	4,776	4,797	4,169	3,939	3,593	3,593	3,696	4,171	4,702	4,267	3,764
DEWEESE DYE	3,272	2,463	2,681	2,394	2,404	3,006	3,372	2,961	2,180	2,091	2,502	3,031	2,235
LAKE HENRY	2,899	2,522	1,985	1,906	6,396	6,096	5,706	4,070	2,710	5,111	4,422	2,635	1,632
LAKE MEREDITH	6,730	6,065	5,891	6,236	7,204	6,765	5,855	3,896	0	0	0	0	0
BECKWITH (HAYDEN)	278	234	223	628	378	458	462	433	394	349	305	262	252
*C. F. & I. RESERVOIRS	9,126	8,745	9,156	9,439	10,313	10,875	10,891	10,154	10,138	10,353	10,289	10,206	7,855
COLER	1,312	1,223	1,094	1,081	1,069	1,069	1,069	1,045	1,020	1,008	948	902	879
CUCHARAS	3,385	2,885	2,607	2,601	1,555	1,510	0	116	76	0	575	0	0
HUERFANO VALLEY	556	556	384	384	236	236	236	236	0	325	325	325	325
ORLANDO NO. 2	0	0	0	0	0	0	0	0	0	0	0	0	0
HOLITA	0	0	0	0	0	0	0	0	0	0	0	0	0
DOTSON	0	0	0	0	0	0	0	0	0	509	509	509	509
DYE	0	0	0	0	0	0	0	0	0	0	0	0	0
HOLBROOK	2,788	2,586	2,506	2,909	4,415	4,332	4,200	3,785	2,213	1,660	4,386	3,593	1,270
HORSE CREEK	9,930	9,352	8,994	8,788	8,732	8,337	7,976	5,402	6,036	6,977	9,852	3,741	629
ADOBE	31,391	30,516	29,292	29,082	28,766	28,066	25,753	19,569	12,072	11,344	11,829	9,060	8,836
MODEL	1,056	0	0	0	1,545	1,500	1,500	0	2,760	5,812	5,812	1,545	1,545
*NORTH LAKE	1,611	1,560	1,504	1,504	1,378	1,378	1,299	1,197	1,167	1,338	1,611	1,719	1,978
*MONUMENT LAKE	1,611	1,674	1,614	1,614	1,774	1,674	1,674	1,674	1,674	1,674	1,674	1,674	1,674
GREAT PLAINS	88,140	77,995	70,611	69,921	70,611	69,921	67,138	64,406	63,049	61,713	59,042	55,938	53,736
TWO BUTTES	29,127	27,059	26,405	25,969	24,830	24,781	24,929	20,083	20,419	24,731	23,725	23,090	23,090
JOHN MARTIN	198,913	188,547	187,323	191,035	196,911	198,431	198,029	120,737	87,170	109,899	103,904	64,728	40,641
TOTAL	437,587	408,288	397,471	400,539	413,483	412,586	403,869	303,591	258,016	320,744	309,617	235,980	196,623
MUNICIPAL, POWER, MFG.	30,366	29,669	29,915	29,844	30,409	30,170	29,901	28,749	29,410	35,823	26,109	23,725	20,940
IRRIGATION	407,221	378,619	367,556	380,695	383,074	382,416	373,968	274,842	228,606	284,921	283,508	212,255	175,683

TRANS-MOUNTAIN WATER DIVERSIONS

DIVISION 2

OCT. 1, 1966 to SEPT. 30, 1967

TRANS-MOUNTAIN WATER DIVERSIONS
OCT. 1, 1966 to SEPT. 30, 1967

	<u>BUSK-IVANHOE TUNNEL</u>	<u>COLUMBINE</u>	<u>EWING</u>	<u>TWIN LAKES TUNNEL</u>	<u>WURTZ</u>	<u>LARKSPUR</u>	<u>HOBESTAKE</u>
<u>OWNER</u>	HIGHLINE CANAL CO.	CITY OF PUEBLO	CITY OF PUEBLO	TWIN LAKES CO.	CITY OF PUEBLO	CATLIN CANAL	AURORA & SPRINGS
<u>SOURCE OF SUPPLY (WATER DISTRICT)</u>	38	37	37	38	37	37	
<u>PRIORITY NUMBER</u>	246	476	294	431	472	317	
<u>PRIORITY DATE</u>	6-27-1921	6-21-1930	6-1-1906	8-23-1929	6-8-1929	6-8-1931	
<u>SIZE AND TYPE OF FLUME</u>	8' Parshall	6' Parshall	4' Parshall	8' Parshall	6' Parshall	4' Parshall	12' Parshall
<u>FIRST DAY OF FLOW</u>	5-15-1967	5-18-1967	5-4-1967	10-15-1967	5-2-1967	---	6-6-1967
<u>LAST DAY OF FLOW</u>	9-17-1967	8-20-1967	8-21-1967	9-30-1967	7-25-1967	---	9-14-1967
<u>NUMBER OF DAYS OF FLOW</u>	126	95	110	338	85	---	72
<u>MINIMUM FLOW (CFS)</u>	0.40	0.30	0.50	0.40	0.50	---	3.70
<u>DATE OF MINIMUM FLOW</u>	5-15-1967	5-18-1967	8-21-1967	9-8-1967	5-2-1967	---	7-22-1967
<u>MAXIMUM FLOW (CFS)</u>	79	35	7.50	467	35	---	91
<u>DATE OF MAXIMUM FLOW</u>	6-7-1967	6-6-1967	6-6-1967	5-25-1967	5-24-1967	---	9-12-1967
<u>STORAGE SITE</u>	SUGAR LOAF	CLEAR CREEK	CLEAR CREEK	TWIN LAKES	CLEAR CREEK	SUGAR LOAF	
<u>TRANSMISSION MILEAGE; SOURCE TO STORAGE SITE</u>	9.00	29.85	27.45	12.40	23.45	20.00	26.80
<u>TRANSMISSION PERCENTAGE LOSS (%)</u>	0.63%	2.09%	1.92%	0.87%	1.64%	1.40%	1.87%
<u>TOTAL TRANS-MOUNTAIN DIVERSION (AF)</u>	4830	1550	752	46,990	1566	---	2180
<u>TOTAL TRANSMISSION LOSS (AF)</u>	30	32	14	409	26	---	41
<u>TOTAL ALLOWABLE STORAGE (AF)</u>	4800	1518	738	46,581	1540	---	2139
<u>MEAN FLOW (CFS)</u>	19.0	8.20	3.40	70	9.30	---	30

Rudy Styduhar
RUDY STYDUHAR
DIVISION ENGINEER
IRRIGATION DIVISION 2

TRANS-MOUNTAIN DIVERSIONS
IRRIGATION DIVISION 2
1967

<u>MONTH</u>	<u>LARKSPUR</u>	<u>WURITZ</u>	<u>EWING</u>	<u>COLUMBINE</u>	<u>BUSK-IVANHOE TUNNEL</u>	<u>TWIN LAKES TUNNEL</u>	<u>HOMESTEAK</u>	<u>TOTAL</u>
OCTOBER						183		183
NOVEMBER						164		164
DECEMBER						176		176
JANUARY						120		120
FEBRUARY						112		112
MARCH						124		124
APRIL						252		252
MAY		333	107	110	207	4870		5627
JUNE		379	174	550	1690	10800	1350	14943
JULY		79	70	106	288	5380	375	6298
AUGUST			29	15	221	1180	163	1608
SEPTEMBER					34	367	288	689
<u>TOTAL</u>	0	791	380	781	2440	23728	2176	30,296

Rudy Styochar
RUDY STYOCHAR
IRRIGATION DIVISION 2
DIVISION ENGINEER