

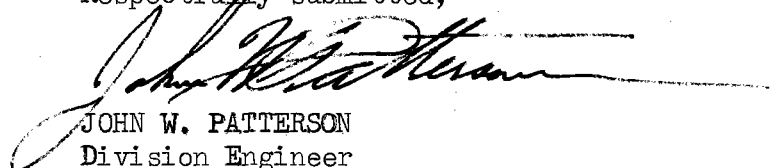
208 Colorado Building  
Pueblo, Colorado  
November 30, 1964

Mr. J. E. Whitten  
State Engineer  
State of Colorado  
232 State Services Building  
Denver, Colorado - 80203

Dear Mr. Whitten:

I submit herewith my annual report of activities in  
Irrigation Division No. 2 for the 1964 water year.

Respectfully submitted,

  
JOHN W. PATTERSON  
Division Engineer  
Irrigation Division No. 2

CONTENTS

DISCUSSION OF DIVISION ADMINISTRATION

	Page
Personnel . . . . .	1
Water Diversion . . . . .	2
Ground Water Pumpage . . . . .	3
Stock Water Tanks . . . . .	4
Automatic Flow Recorders . . . . .	5
Education Program . . . . .	6
Maps and Priority Administrative Lists . . . . .	7

DISCUSSION OF INDIVIDUAL WATER DISTRICT ADMINISTRATION

Water District No. 10 . . . . .	9
Water District No. 11 . . . . .	10
Water District No. 12 . . . . .	10
Water District No. 13 . . . . .	11
Water District No. 14 . . . . .	12
Water District No. 15 . . . . .	12
Water District No. 16 . . . . .	13
Water District No. 17 . . . . .	13
Water District No. 18 . . . . .	14
Water District No. 19 . . . . .	15
Water District No. 66 . . . . .	16
Water District No. 67 . . . . .	16

APPENDICES

I	Tabulation of Water Commissioner's Annual Reports . . . . .	17
II	Trans-Mountain Diversions . . . . .	18
III	Contents of Major Reservoirs . . . . .	19

## DISCUSSION OF DIVISION ADMINISTRATION

### PERSONNEL

The year 1964 was a year of major change in administrative personnel in Irrigation Division No. 2. Due to retirements, it was necessary to replace the Division Engineer and three water commissioners whose area of authority extended from the City of Pueblo to the Kansas state line. Mr. Forrest C. Snyder, who had been Division Engineer for the past 13 years, retired on December 31, 1963. He was succeeded by Mr. John W. Patterson.

Other personnel changes included the retirement of Mr. Joseph Russ from the position of Water Commissioner for Water District No. 14. He was replaced by Mr. Cecil Shepard who had previously been a deputy water commissioner for Water District No. 16.

Mr. William F. Pattie replaced Mr. David Heizer as Water Commissioner for Water District No. 17. The State of Colorado is very fortunate in having secured the services of Mr. Pattie. He has lived his entire life in the Arkansas Valley area and has, on various occasions, been superintendent of the Amity, Twin Lakes, and Fort Lyon Canal Companies. Inasmuch as these companies are among the largest and most controversial, his background and knowledge of them is incalculable.

Mr. Lane L. Hackett succeeded Mr. R. J. McGrath to the position of Water Commissioner for Water District No. 67.

#### WATER DIVERSION

In many respects, the 1964 water year was superior to that of 1963, although total diversion by canals from the main Arkansas River in Water District Nos. 11, 12, 14, 17 and 67 was less than that which had occurred in 1963. (See Appendices I, II and III which indicate District Water Diversions, Reservoir Storage, and Transmountain Water Diversions, respectively). The district water diversion report will show an increase in Water District Nos. 12 and 14 over 1963. However, this is a result of changes in personnel and administrative accounting procedures. Water District No. 67 (Lamar area) received approximately 48,000 acre feet of water less in 1964 than it did in 1963 as a result of extremely limited rainfall downstream from Pueblo. This fact is very much evidenced by the parched fields and overall economy of the southeastern section of the State of Colorado.

The principal factor which made 1964 superior to 1963, with the exception of Water District No. 67, was the fact that major runoff did not commence until the middle of the month of May. On May 18th, flow in the Arkansas River at Pueblo was only 100 cubic feet of water per second of time. By May 23rd, the flow had increased to approximately 2,100 cubic feet of water per second. This permitted those ditches with water rights antedating November 4, 1886, to divert as water became available at their

respective headgates. If runoff had been postponed any longer, considerable damage would have resulted due to lack of soil moisture.

On Memorial Day weekend, a major rainstorm occurred in the Lamar area which resulted in the closure of the gates of John Martin Reservoir. Whenever any water is impounded in John Martin Reservoir, the area downstream from the reservoir is administered according to the Kansas-Colorado Compact; and, the State Engineer of Colorado is relieved of the responsibility of supplying water to this area. This, in turn, eliminated the necessity of bypassing flows of 800 to 1,000 cubic feet of water per second of time at La Junta and permitted upstream rights to increase their diversions, accordingly. When John Martin Reservoir was drained on June 23rd, water bypass at La Junta had to be resumed. However, by this time the majority of the better rights upstream of John Martin had been able to irrigate their lands and crops were well along. Rains which originated in the Salida area during July helped to insure maturity of crops.

#### GROUND WATER PUMPAGE

The pumping of underground water in the Arkansas Valley is becoming a major problem. It is estimated there are approximately 1,500 major irrigation wells in the area, of which none are under any type of authoritative legal administration. The majority of these wells are shallow and almost certainly remove water from aquifers that would normally be considered as being tributary to

the main Arkansas River. The possibility of litigation to resolve the underground water problem is quite probable since the legislature has not seen fit~~ing~~, as of this date, to enact any laws controlling the administration of the ground water supply of the state. The effect of removing ground water from aquifers by non-regulated wells is to create an apparent superior right and supply to the detriment of previously adjudicated surface water rights. A majority of the major ditch companies which derive water from the Arkansas River have retained legal counsel to advise ~~them~~ regarding possible legal action against the Highline and Oxford Canal Companies. These two companies have recently constructed batteries of shallow wells in the alluvium immediately adjacent to the river and are pumping water directly into their canals without measurement or restriction.

#### STOCK WATER TANKS

Another problem which is becoming quite evident is the indiscriminate construction of stock water ponds upon "normally dry watercourses" and the so-called dry water courses. Very few of these ponds are equipped with outlet pipes to bypass natural stream flow. Bypass occurs only when the stock pond is filled and stream flow goes over the spillway. Section 5 of House Bill No. 750 of the 1941 Colorado General Assembly relating to stock water tanks provides that:

"No stock water tanks constructed under the provisions of this Act shall be used for irrigation purposes; and nothing contained in this Act shall be construed as conferring upon the owner of any such livestock water tanks a priority of use superior to any vested water right or to an adjudicated appropriation of water pursuant to state laws."

Section 11 of the same act also provides:

"Where in the judgment of the State Engineer, such tanks upon such stream and its tributaries, do not require conduits for purposes of safety or the protection of prior stock water tank rights, it shall be lawful for the State Engineer to approve plans, drawings, and specifications, not calling for conduits; PROVIDED, that nothing in this section contained shall be construed as abrogating the right of any owner of a vested water right or appropriation of water, to require such conduits in any case where necessary in order to protect such senior right."

In order to protect those previously adjudicated water rights and to partially eliminate controversy with the local water administrative officials, I believe that it should be mandatory for all stock water ponds to be equipped with proper controlled outlet works to permit the passage of natural flow without impoundment when demand is being made by senior downstream appropriators. Exceptions to this requirement should only be granted with the express written authorization of the water commissioner for the particular area concerned.

#### AUTOMATIC FLOW RECORDERS

In order to eliminate the persistent controversy between lower and upper valley water users regarding the so-called overdiversion of water by each respective area, orders were issued for the installation of automatic flow recorders on all ditches which had a decreed right in excess of 4.0 cubic feet of water per second of time and which diverted water from the main Arkansas River. As of this date, a total of 21 recorders have been installed, with 4 or 5 more due to be installed prior to any diversions next spring. Reaction to this requirement has been very favorable from all

water users concerned. Recorders will also be of value in making hydrologic investigations of transmission loss for water released from Sugar Loaf, Clear Creek and the Twin Lakes Reservoirs to downstream appropriators. This same information will be required for the Fryingpan-Arkansas transmountain diversion project.

#### EDUCATION PROGRAM

In order to insure the better administration of water in Irrigation Division No. 2, a one day school was held in the office of the Division Engineer in Pueblo. Discussion included the authority of the water commissioner in various instances; his police powers and procedures for arrest; measurement of water; proper setting of charts for automatic water stage records; procedures for the compilation of field books and annual reports, and general discussion questions. The water commissioners were instructed to secure the installation of proper measuring devices in all ditches which divert water for a period in excess of three weeks during the average year. Regulation headgates are also to be installed in all ditches which divert water from a stream that flows water for a period in excess of four weeks per average year. The water commissioners were further instructed to make notations in their field books and annual reports of every adjudicated water right in their respective districts. This is to include not only the active, but also the inactive rights. Those ditches and reservoirs which are inactive are to be so noted and an explanation given as to why they are inactive, i.e., headgate washed out, ditch



With the preparation of line diagrams and proper administrative lists, there should be no lapse in water administration if the employment of any Deputy Water Commissioner, Water Commissioner, or Deivision Engineer should be suddenly terminated.

or reservoir in state of disrepair, no water available, no demand when water was available, etc.

In several water districts, it is currently impossible for the water commissioner to adequately control or administer water due to the almost complete lack of proper control and measurement facilities. However, it is anticipated that these problems will be rectified by the next irrigation season.

#### MAPS AND PRIORITY ADMINISTRATIVE LISTS

To further simplify water administration and problems which oftentimes arise as a result of change in administrative personnel, line diagrams of all streams in a water district are being prepared giving the name, priority number, date of appropriation, flow, and the adjudication date of all decreed water rights. The line diagrams will be incorporated with administrative priority lists for the use of each water commissioner. Initial investigation revealed that only one water commissioner in Irrigation Division No. 2 had been furnished a complete tabulation of water rights under his jurisdiction. It is hoped that this problem can be corrected prior to the 1965 irrigation season. <sup>part</sup> With the preparation of line diagrams and proper administrative lists, there should be no lapse in water administration if employment should be suddenly terminated by any deputy water commissioner, water commissioner, or the division engineer.

Very few administrative problems arose during the past season that haven't either been solved or are pending solution. It must

be emphasized that Irrigation Division No. 2 is very fortunate in having water commissioners of very high calibre with/a conscientious desire for self-improvement in their duties. It is anticipated that fewer local administrative problems will result in the future as a result of the present education program.

## DISCUSSION OF INDIVIDUAL WATER DISTRICT ADMINISTRATION

### WATER DISTRICT NO. 10

Water District No. 10 is under the supervision of Mr. Rufus Marshall. It encompasses an area which derives its source of supply from Fountain Creek and its tributaries, extending south to the El Paso County boundary line.

Mr. Marshall has the complete confidence of the majority of the water users in his particular area as a result of his impartiality and personal integrity. He is neither swayed by political influence nor personal feelings. Needless to say, however, differences will result among water appropriators and the water administrative officials. As a result of these differences, Mr. Marshall is presently involved in three appeals of his rulings.

The first involves the Brady Sanitarium and their alleged illegal diversion of water from Spring Run Creek. The sanitarium has been pumping water from Spring Run Creek without benefit of an adjudicated water right. They contend that water from Spring Run Creek is not tributary to Fountain Creek and should be granted independent administration.

The second appeal involves the Valley-High Golf Course. The golf course has dammed off a small tributary of Fountain Creek and

is impounding water without benefit of a decree. This water is used for the irrigation of a considerable lawn area.

The third and most controversial of Mr. Marshall's appeals is based upon the re-use and sale of sewage water originally derived from a transmountain source by the City of Colorado Springs. It is doubtful if this case will be settled without a decision of the Colorado Supreme Court.

Mr. Marshall has recently obtained the satisfactory installation of an automatic flow recorder to record diversions delivered to the City of Colorado Springs from their Pike's Peak West Slope Collection System.

#### WATER DISTRICT NO. 11

Water District No. 11 includes that area of the Arkansas River and its tributaries upstream of the Fremont County line. It is administered by Mr. Harold Krasomil with the assistance of two deputy water commissioners. Mr. Krasomil has had little controversy in his district during the past year.

A total of eight new automatic flow recorders were installed in ditches which divert water from the Arkansas River. Orders have been issued for the replacement of a number of unsatisfactory headgates and the installation of proper measuring devices.

#### WATER DISTRICT NO. 12

Water District No. 12 is very capably administered by Mr. Jack McDonough and two deputy water commissioners. The district is

defined as consisting of all lands irrigated from ditches taking water from that part of the Arkansas River and its tributaries lying in Fremont County, (except Texas Creek and its tributaries) and that part of Grape Creek which lies above the south line of Fremont County. Mr. McDonough has recently supervised the installation of 11 recorders and two Parshall flumes in his district.

#### WATER DISTRICT NO. 13

Water District No. 13 consists of all land irrigated from Texas Creek and that portion of Grape Creek lying in Custer County. It is administered by Mr. Gayle Patterson and one deputy water commissioner. Both of these men are paid on a per diem basis rather than at an annual rate. Mr. Patterson has been able to maintain relatively harmonious conditions in his district due to his tact and fairness. However, potential exists for controversy due to the apparent misunderstandings of individuals regarding the status of their water rights and restrictions placed upon the rights at the time of adjudication. A large number of the ranchers in the area depend entirely upon the honesty and integrity of the water commissioner to insure that each receives the water to which he is respectively entitled.

Mr. Patterson has recently issued a large number of orders for the installation of proper headgates and Parshall measuring flumes in his district. Additional controls and measuring devices should facilitate the distribution of water.

#### WATER DISTRICT NO. 14

Water District No. 14 consists of all lands irrigated from the Arkansas River and its tributaries in Pueblo County (except the St. Charles and Huerfano Rivers) and that portion of Fountain Creek not embraced in Water District No. 10. Mr. Cecil Shepard has recently assumed the position of water commissioner for this district, replacing Mr. Joseph Russ, who recently retired. The district is sadly lacking in headgates and water measurement devices. Prior to the current year, only six measuring devices had been installed in ditches throughout the entire district, and the primary reason for these installations appeared to be for the interests of the particular canal companies, rather than proper accounting of water by the State.

The Federal Government is in the process of acquiring additional land for the Fort Carson Military Reservation. This acquisition will quite probably eliminate the majority of the privately owned adjudicated water rights from Turkey Creek and its tributaries, upstream and including Tellers Reservoir. Whether this will complicate administration remains to be seen.

#### WATER DISTRICT NO. 15

Water District No. 15 is very capably administered by Mr. Beverley Klipfel and one deputy water commissioner. It embraces all lands irrigated from the St. Charles River and its tributaries. Water District No. 15 has probably the least controversy of any in Irrigation Division No. 2. This can be attributed to a limited water supply and competent administrative personnel.

### WATER DISTRICT NO. 16

Whereas Water District No. 15 is probably the least controversial in Irrigation Division No. 2, Water District No. 16 is probably the most controversial. This fact can most probably be attributed to politics and the contention that local water users should have the first opportunity to utilize water which originates in their area, irrespective of senior appropriators elsewhere.

A cutback of two deputy water commissioners was accomplished, although this action certainly brought political influence to bear.

As a result of the curtailment in personnel, a saving of 430 man-days and 11,000 miles was accomplished over an identical period for the year preceding. It should be possible to ultimately save 500 man-days and 15,000 miles per year without curtailing administrative services. The district is presently administered by Mr. Joe Faris and two deputy water commissioners.

The district is definitely in need of the installation of more locked headgates and proper measuring devices. However, this problem is well on its way toward correction.

### WATER DISTRICT NO. 17

The water commissioner for Water District No. 17 literally "controls" the Arkansas River. He is responsible for the passage water from the La Junta area downstream to Lamar and the Kansas state line, as well as supplying major canals in his own district. It is necessary for him to anticipate diurnal changes as well as



to keep informed about flooding conditions which might arise from the Purgatoire and Apishapa Rivers and other numerous arroyas. If he ~~errors~~ in a decision, complaints commence throughout the whole irrigation division. However, Mr. William Pattie, who succeeded Mr. David Heizer, has been very successful the past year in maintaining harmonious conditions.

Water District No. 17 consists of lands irrigated by ditches taking water from the Purgatoire River north of the Las Animas County line and lands irrigated from the Arkansas River downstream from Water District No. 14. It also includes all streams tributary thereto and the Apishapa River south to the north line of Township 28 South.

The litigation initiated by Mr. Kenneth Carter regarding his water rights from Horse Creek is still unsettled. Personalities seem to be more involved in the action than the value of the water allegedly diverted without proper authority.

#### WATER DISTRICT NO. 18

Water District No. 18 is under the supervision of Mr. George Stakich and consists of all lands irrigated by ditches taking water from the Apishapa River and its tributaries south of the north line of Township 28 South. It is presently involved in a controversy regarding two apparently separate adjudications of water rights. The original adjudication was decreed in 1887 by Bent County. In 1891, a subsequent adjudication followed in Las Animas County for the same sources of supply. Past

administrative procedures have permitted the two adjudications to be intermingled and administered solely according to priority date. The primary issue is whether the Las Animas County adjudication is a continuance of the original Bent County decree or whether Las Animas County assumed jurisdiction when it had no right to do so.

Water District No. 18 is very lacking in proper headgates and measuring flumes. Orders have been issued for their installation during the 1964 year, but as of this date, only those users who have had good water rights have complied. No particular emphasis has been placed upon the installation of Parshall measuring flumes since the adjudication question arose. However, headgate installations will be mandatory. Past experience has indicated that a number of users with inadequate regulation devices and junior rights get the available water, while those who are properly equipped and justly entitled to the water are continuously shorted. It is quite possible that drastic action may be required to enforce compliance of the headgate orders.

#### WATER DISTRICT NO. 19

Water District No. 19 consists of lands taking water from the Purgatoire River south of the north boundary of Las Animas County and is administered by Mr. Robert Mariano. It has had only one major controversy during the past year. This has involved the Model Canal and the water transferred to it by the John's Flood Ditch. Mr. Mariano ordered the installation of a measuring device at or near the headgate of the canal, as required by state law, to

replace a Parshall measuring flume that is located some  $2\frac{1}{2}$  to 3 miles downstream in the canal. However, the order is being appealed by the company and the issue should be settled in the not too distant future.

WATER DISTRICTS NOS. 66 and 67

Water District No. 66 consists of lands which derive their water from the Dry Cimarron River and its tributaries. Water District No. 67 consists of all lands irrigated by water taken from the Arkansas River downstream of the Purgatoire River and tributaries thereto. Water District Nos. 66 and 67 are jointly administered by Mr. Lane L. Hackett, who recently succeeded Mr. R. J. McGrath. Mr. Hackett has commenced action to solve some of the water administrative inequities which have existed in his districts for a number of years.

As a result of the extreme drought in both of these water districts, a definite economic squeeze is being felt by local businesses. It was previously noted that Water District No. 67 received approximately 48,000 acre feet of water less from the Arkansas River in 1964 than it did in 1963.

Mr. Hackett has obtained the installation of one recorder and one measuring flume in his administrative area.

TABULATION OF WATER COMMISSIONER'S ANNUAL REPORTS  
FOR IRRIGATION SEASON OF 1964.

IRRIGATION DIVISION NO. 2

Dist. No.	First day water was used from natural stream	Last day water was used from natural stream.	Number of acre feet water used by canals for season.	Total number acre irrigated 1964.
10	Nov. 1, 1963	Oct. 31, 1964	48,661	12,585
11	Nov. 1, 1963	Oct. 31, 1964	123,796	25,524
12	Nov. 1, 1963	Oct. 31, 1964	361,811	19,232
13	Apr. 15, 1964	Sept. 20, 1964	30,341	35,194
14	Nov. 1, 1963	Oct. 31, 1964	207,778	83,225
15	Nov. 1, 1963	Oct. 31, 1964	21,793	4,250
16	Nov. 1, 1963	Oct. 31, 1964	38,392	21,435
17	Nov. 1, 1963	Oct. 31, 1964	300,778	151,115
18	Mar. 26, 1964	July 16, 1964	5,656	3,455
19	Mar. 26, 1964	July 16, 1964	55,372	21,014
66	Mar. 26, 1964	July 16, 1964	1,958	293
67	Mar. 26, 1964	July 16, 1964	69,430	63,699
Totals			1,265,766	447,021



CONTENTS OF MAJOR RESERVOIRS IN IRRIGATION DIVISION NO. 2.  
 Oct. 1, 1963 to Sept. 30, 1964. values in acre feet.

Appendix III

	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	0	0	0	129	129	217	532	65	134	134	0	0	0
Fountain Valley No. 3	0	0	0	0	0	0	0	0	0	0	0	0	0
Monument Reservoir	225	225	0	225	237	225	324	272	237	214	222	222	210
Sugar Loaf	4268	4427	4427	4338	4332	4332	4396	4319	4747	7819	6869	5624	5443
Twin Lakes	14802	15876	16000	16321	16712	16748	17054	17416	19170	27847	20949	10149	9811
Clear Creek	7986	7906	7900	7851	7886	7879	7854	7833	8833	10810	10786	10751	10617
Mt. Pisgah	439	439	439	439	439	439	439	439	439	439	439	439	439
Skaguay	2065	1525	1525	1400	1093	1093	1093	1351	1093	1093	1093	1093	1093
Brush Hollow	1551	1960	1960	2001	2032	2117	2160	2160	1650	1423	594	584	584
City of Colo Spgs	3162	2964	3000	3100	3300	3680	3620	3319	3396	4300	4300	4783	4665
DeWeese Dye	800	860	947	700	760	1495	2003	1636	1423	1063	1075	614	402
Lake Henry	1301	542	0	0	1852	1809	1588	1179	814	366	0	0	0
Lake Meredith	0	0	0	0	0	0	0	0	0	0	0	0	0
Beckwith (Hayden)	409	346	334	305	291	274	284	328	274	245	200	172	155
C F & I Reservoirs	11116	9618	9710	9995	11022	11113	10739	10593	10071	10499	9781	9814	9167
Color	1069	757	735	693	672	672	672	672	672	672	672	672	672
Cucharas	1296	845	791	673	673	673	1185	710	455	240	0	0	0
Huerfano Valley	108	124	124	124	124	124	124	124	124	0	0	0	0
Orlando No. 2	0	0	0	0	0	325	591	500	364	192	0	0	0
Holita	0	0	0	0	0	0	50	111	27	27	0	0	0
Dotson	0	0	0	0	0	0	0	0	0	0	0	0	0
Dye	0	0	0	0	0	0	0	0	0	0	0	0	0
Holbrook	0	0	0	0	0	0	0	0	0	0	0	0	0
Horse Creek	0	0	0	0	0	0	0	0	0	0	0	0	0
Adobe	0	0	0	0	0	0	0	0	0	0	0	0	0
Model	3507	2760	2630	2400	2112	3358	3432	2760	2112	0	664	664	0
North Lake	886	826	788	708	662	607	549	597	662	755	875	897	897
Monument Lake	1249	831	1000	1348	1266	1299	1225	1454	1446	1389	1266	1249	1299
Great Plains	0	0	0	0	0	0	0	0	0	0	0	0	0
Two Buttes	5118	8575	8600	8600	8600	8500	6400	3000	0	0	0	0	0
John Martin	0	0	0	1078	5158	7220	9665	12400	12405	0	0	0	0
Total	61357	61406	60910	62428	69352	74199	75979	73288	70548	69527	59752	47727	45454
Munic.Mfg.& Power	25298	22870	22870	23039	23983	24437	23978	23768	24065	27374	26614	27113	26214
Irrigation	36059	38536	38040	39389	45369	49762	52001	49520	46483	42183	33183	20614	19240