1956 ANNUAL REPORT

A. R. OWENS, DIVISION ENGINEER
IRRIGATION DIVISION #1

Mr. J. E. Whitten, State Engineer
State of Colorado
State Capitol
Denver, Colorado

Dear Mr. Whitten:

I hereby present the Annual Report of the Office of Division Engineer of Irrigation Division No. 1 for the year 1956.

This has been another in a series of drouth years, and this is contrary to the May 1st reports of the snow pack. The snow pack, averaging from 70% to 90%, was dissipated by three adverse conditions, i.e.; strong spring winds, lack of normal May snow, and below normal soil moisture in the mountain areas. The run-off of the South Platte River at Denver was 81,000 acre feet, or about 30% of the normal of 250,000.

Storage reservoirs have long been relied upon to "firm up" the water supply of this basin, and unfortunately winter storage was quite short and storage from snow melt was non-existent. The total storage on May 1st was 549,191 acre feet. Of this total, 83,157 acre feet was municipally owned and 170,700 acre feet was Big Thompson Project water, leaving 295,334 acre feet, which was 60 % of the long time average. Considerable of this reservoir supply was required to get crops started. Rainfall during the summer was extremely spotted and too late to do more than carry along crops already well established.

For many years seepage return flow has provided a substantial portion of the basin's water supply, amounting at one time to a total of about 1400 c.f.s. between Denver and Julesburg. We had anticipated that with the application of supplemental Big Thompson Project water that seepage return flow would be increased. Yet we find, in spite of this supplemental supply, that the seepage return flow is approximately one-half of the long period records. The depletion of this portion of our base supply is due in part to drouth conditions but far more to the several

thousand irrigation wells that have been punched to water-bearing gravels in the flood plain. These are sucking up the seepage return flow and lowering the normal water table to the point where eventually more water will flow laterally from the streams to feed underground reservoirs than will flow down the old stream channel.

Whether we are moving toward a new concept in irrigation in which the basic supply will be pumped from underground reservoirs, which will be recharged by canals diverting from the streams, or whether this rash of pump wells is merely that and will be healed over with a succession of good years remains to be seen. The final outcome will no doubt be determined by bitter and long drawn out Court action.

Trans-mountain diversions of water were very important not only to augment the deficient irrigation supply but also factually to provide drinking water for city residents. The value of this supply at its delivery points is difficult to assess, and even more difficult to assess is the final over-all value to the economy of the Northeast part of Colorado representing, say, one-half of the State's population. It would probably have more value in Southern California but certainly not in Colorado. The total delivered to the basin this year amounted to 325,567 acre feet. Of this amount the Colorado-Big Thompson Project was responsible for 210,720 acre feet and the City of Denver for 60,640 acre feet.

The City of Colorado Springs has completed work on the rock fill of Montgomery Reservoir Dam below the east portal of the Hoosier Pass Tunnel. The asphaltic face will probably not be contracted before 1958 to allow further time for settlement. The pipeline from the reservoir across South Park was in use this past season.

Failure of the newly built dam on the South Fork of Clear Creek below the Town of Georgetown caused damage to bridges and the main tile line leading from Idaho Springs to its sewage disposal plant.

During a period of severe rains in and about Denver, several demands were made by the City that we close the outlet valves on Cherry Creek Dam to stop damage being done to three bridges the City was building across Cherry Creek in the "downtown" area. The run-off all developed below the Dam on Cherry Creek, so no relief could be given. The intensity of these storms reminded me of the Arkansas River Basin. The total over a period of a week amounted to nearly 10" at my home in extreme Southeast Denver. Had any one of these extended over a large area, damage would have been extreme, and even so, it was estimated at around one million dollars.

The usual number and type of complaints were received and mostly resolved quickly. Two, however, may have far reaching effects:

1. The City of Denver, through a newly appointed Superintendent, insists that South Boulder Creek stand the evaporation loss from its new reservoir on that stream. It was agreed before the reservoir went into service, between City and State Officials, that the reservoir be operated on an inflow-outflow basis. This method of operation was agreed upon because the stream in the fall becomes quite small and the evaporation from the surface of the reservoir may at times completely consume the stream flow. City and State Officials will meet next week to attempt to resolve the point in question. It is feared that failure to obtain a satisfactory settlement will result in Court action, action that will likely be carried to the Supreme Court and may bring a decision that will require the computation of and charge against not only this but also other reservoirs.

2. Beaver Creek enters the South Platte River near the Town of Brush. In resent years, numerous stock water tanks and several that are not stock tanks at all have been built on this stream and its tributaries. The result is that a ditch decreed to divert from Beaver Creek below the ponds has no water. Court action on this problem is expected. The U. S. Soil Conservation Service has unfortunately entered into the construction of these dams (not

only stock but also otherwise) and at times flagrantly violated the "Stock Water Tank Act". Ponds are over the legal capacity, dams over legal height, they are constructed across live streams, and even have irrigation facilities included in the outlay.

Administration of the waters of the Laramie River proceeded in accordance with the agreement of 1942. The State Engineer of Wyoming complained to Mr. Whitten and Mr. Hezmalhalch about the overflow irrigation, contending that such overflow should be charged against the ranchers. Irrigation benefits from the overflow are acknowledged; but as they seemed entirely involuntary (not man induced), the Division Engineer refused to charge such water against the rancher. At a hearing in this office at which the State Engineers and Attorney Generals of both States were present, it was concluded to wait until another season and then see jointly if any charge could properly be made. At this same hearing, the administration of the waters of Sand Creek was also aired. It developed that since a wide difference existed between administrative officials of the two States in their reports for a single day, an Interstate Water Master would be appointed for next season's operation.

The administration of the Big Thompson Project water, the amounts delivered to the several stream systems, and the problems encountered therewith will be contained in the report of Special Deputy State Engineer C. E. Schnurr.

Tabulations of Water Commissioners' Annual Reports, Amounts of Water in Storage, Totals of Trans-Mountain Diversions and Amounts Diverted by the several users from the Laramie River and Tributaries accompany and form a part of this report.

Respectfully submitted,

A. Ralph Brown

Division Engineer
Irrigation Division No. 1

WATER COMMISSIONERS ANNUAL REPORTS
1 9 5 6

Dist. No.	Acre Feet Used					Acres Irrigated	1st Day	Last Day
	Direct	Res.	Big Thompson	Other	Total			
1	101,468	37,552	1,186		140,206	135,073	4-7-56	10-31-56
2	254,226	52,870	6,160		307,096	205,390	4-16-56	10-31-56
3	260,118	29,332	78,462	43,257	411,169	286,540	4-21-56	10-31-56
4	133,998	31,598	54,616		220,212	146,215	4-14-56	10-31-56
5	86,464	19,735	19,707		125,906	111,980	4- 2-56	10-31-56
6	106,115	9,672	9,942		125,729	162,517	4-14-56	10-31-56
7	106,930	8,500			115,330	114,235	3- 3-56	11- 3-56
8	87,505	18,403			105,908	12,979	3-24-56	10-31-56
9	18,246	3,131			21,377	10,731	4- 5-56	10-31-56
23	57,306	1,115			58,421	41,172	4- 1-56	8- 9-56
64	171,208	56,134			227,342	158,983	11-1-56	10-31-56
65	21,772				21,772	* 8,451	4--3-56	10-31-56
47	300,000				300,000 Est.	126,281		
48	19,627				19,627	4,845	4-27-56	10-31-56
Totals:	1,724,983	268,042	170,073	43,257	2,200,095	1,525,412		

* 5000 Acres in Nebr.

OFFICE OF STATE ENGINEER OF COLORADO
Diversions from Laramie River and Tributaries
- 1 9 5 6 -
Recapitulation - Totals for Season
- -- -

Name of Ditch	Amount Diverted Day Second Feet
Bliler - Boswell Stuck Warren	625.38
Mansfield & Enlg. Mansfield No. 2	880.22
Forrester No. 1 Grace Cr. & Enlg.	710.22
Detro No. 1 Detro No. 2 Lower La Garde	243.34
Jimmy Cr. (Net) La Garde minus Lower L. G. La Garde No. 1 Schnitger	704.84
Yelton	264.90
Homestead No. 1 (Big Jenkins) Homestead No. 2 (Little Jenkins) Pache Nellie	540.18
Martin No. 1 Martin No. 2 & Enlg. Wright	1773.19
Brown - Nun Cr. Cabin Davy Forrester - Brown Cr. Stubb	693.53
Link No. 1 Link No. 2 Smith - Brown Cr. Upper Hills	712.95
Brown — Porter Cr.	38.90
Lamb	792.19

Laramie River Diversions - Continued

Name of Ditch	Amount Diverted Day Second Feet
British Cr.	
Comet	
Homestead - McIntyre Cr.	
Lower Grant	
Upper Grant	
Stuart No. 1	
Stuart No. 2	518.17
Brinker	
McIntyre	
Pine Creek & Enlg.	233.51
Glendevey	
Talmadge	90.69
Lower Jim	
Trollope	
Ward No. 1	
Ward No. 2	151.54
Jim minus Lower Jim	
Jim No. 2	
Lone Tree	
Ollie	
Timothy	921.66
Total Meadow Land Diversion	19,627 acre feet

-Trans-Mountain Diversions-
Laramie River

Deadman Ditch	1,721
Laramie-Poudre Tunnel	15,011
Skyline Ditch	2,263
Lost Lake Ditch	0
Columbine Ditch	256
Bob Creek Ditch	704
	19,955 acre feet

Total Meadow Land	19,627
Total Trans-Mountain	19,955

Division #1 Acre Ft. in Storage 1st of Month 19 56

Dist.	Use	December'55	January	February	March	April	May
1	Dist. Irrig.		44,824	58,187	70,534	79,841	77,067
	Big Thomp.						
	Municipal						
	Total						
2							
	Dist. Irrig.		23,150	27,573	33,969	40,913	37,623
	Big Thomp.						
	Municipal						
	Total						
3							
	Dist. Irrig.		29,037	30,108	34,596	39,655	47,448
	Big Thomp.		39,985	48,502	62,235	62,235	96,239
	Municipal		4,872	4,872	4,872	4,872	4,872
	Total		73,894	83,482	101,703	106,762	148,559
4							
	Dist. Irrig.		19,587	20,575	21,524	15,998	20,931
	Big Thomp.		28,103	35,993	47,870	70,476	72,256
	Municipal						
	Total		47,690	56,568	69,394	86,474	93,187
5							
	Dist. Irrig.		6,898	8,368	9,405	10,842	19,270
	Big Thomp.						
	Municipal						
	Total						
6							
	Dist. Irrig.		10,190	10,914	10,605	11,440	13,135
	Big Thomp.		2,237	2,237	2,269	2,269	2,205
	Municipal		4,853	4,761	6,532	5,184	5,901
	Total		17,280	17,912	19,406	18,893	21,240
7							
	Dist. Irrig.		4,313	6,202	8,388	9,207	9,567
	Municipal		9,321	7,613	6,983	6,501	4,521
	Total		13,634	13,815	15,371	15,708	14,088
8							
	Municipal		17,172	14,987	14,987	14,156	12,881
9							
	Dist Irrig.		2,041	2,491	2,870	3,000	4,049
	Municipal						
	Total						
23							
	Dist. Irrig.						
	Municipal		48,142	48,122	49,471	50,653	54,982
	Total						
64							
	Dist. Irrig.		34,871	47,178	55,624	66,534	66,244
Totals							
	Irrigation		174,911	211,596	247,573	277,492	295,334
	Big Thomp.		70,325	86,732	112,374	134,980	170,700

Division #1 Acre Ft. in Storage 1st of Month 1956

Dist.	Use	June	July	August	September	October	November
1	Dist. Irrig.	61,967	48,431	19,774	13,061	1,670	1,137
	Big Thomp.						
	Municipal						
	Total						
2							
	Dist. Irrig.	39,586	19,826	11,530	4,326	2,707	2,467
	Big Thomp.						
	Municipal						
	Total						
3							
	Dist. Irrig.	65,121	81,109	52,436	34,378	19,680	20,240
	Big Thomp.	99,442	96,709	72,634	48,658	30,798	34,156
	Municipal	4,872	4,872	5,111	5,464	4,708	4,328
	Total	169,435	182,690	130,181	88,500	55,186	58,724
4							
	Dist. Irrig.	27,052	29,243	22,885	18,827	15,211	4,282
	Big Thomp.	64,137	53,963	28,799	22,604	16,440	14,274
	Municipal	91,189	83,206	51,682	41,431	31,651	18,556
	Total						
5							
	Dist. Irrig.	14,778	17,668	14,138	10,557	6,200	6,200
	Big Thomp.						
	Municipal						
	Total						
6							
	Dist. Irrig.	14,132	15,047	13,089	11,397	8,569	7,272
	Big Thomp.	4,585	3,541	3,666	3,582	2,380	2,136
	Municipal	20,733	31,371	25,995	25,985	17,570	13,959
	Total	39,450	49,959	42,750	40,964	28,519	23,367
7							
	Dist. Irrig.	6,191	4,368	948	0	0	130
	Municipal	5,510	8,225	8,881	7,484	10,914	11,211
	Total	11,701	12,593	9,829			11,341
8							
	Municipal	16,226	15,032	14,428	14,428	16,213	16,309
9							
	Dist Irrig.	2,909	2,460	1,344	1,051	911	911
	Municipal						
	Total						
23							
	Dist. Irrig.						
	Municipal	53,148	52,767	57,918	56,744	48,271	45,555
	Total						
64							
	Dist. Irrig.	56,409	50,784	29,936	19,067	1,400	1,400
Totals							
	Irrigation	288,145	268,936	166,080	112,664	56,348	44,039
	Big Thomp.	168,164	154,213	105,099	74,844	49,618	50,566