JOHN D. VANDERHOOF
Governor

C. J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

LEE R. ENEWOLD P. E.
IRRIGATION DIVISION ENGINEER
P. O. BOX 396
GLENWOOD SPRINGS, COLORADO 81601
PHONE: 945-5665

November 30, 1976

This annual report is hereby respectfully submitted to the State Engineer of Colorado for the water year 1975-76.

Lee R. Enewold
Division Engineer

Ray D. Walker
Asst Div. Engineer

INTRODUCTORY STATEMENT

Mr. Clarence J. Kuiper
State Engineer
Division of Water Resources
1313 Sherman Street
Denver, Colorado 80203

Re: Division Engineer's
Annual Report

This annual report for Division No. 5 for the water year ending November 30, 1976, is as follows:

1. Introductory Statement.

A. Division 5 consists of all the Colorado River Basin, including all of its tributaries from the Continental Divide through its course within the State of Colorado to the Utah State line; excluding only the Gunnison River drainage basin, but including the White River drainage, which is located in Division 6, only and expressly provided by law as under judiciary, decretal rule by the Water Judge presiding in the Division 5 Water Court.

The major tributaries of the Colorado River from its headwaters to the state line are the North Fork of the Colorado, Willow Creek, Fraser River, Williams Fork, Troublesome Creek, Blue River, Muddy Creek, Eagle River, Roaring Fork, Divide Creek, Mamm Creek, Rifle Creek, Parachute Creek, Roan Creek, Plateau Creek and the Big Salt Wash.

The major population centers are:

Name	Stream	Approx. Pop.
Carbondale	Roaring Fork	2,400
Glenwood Springs	Roaring Fork	4,900
Area surrounding Glenwood Springs	Roaring Fork	2,850
New Castle	Colorado River	625
Silt	Colorado River	750
Rifle	Colorado River	2,750
Grand Valley	Colorado River	325
DeBeque	Colorado River	325
Collbran	Plateau Creek	265
Palisade	Colorado River	1,000
Grand Junction	Colorado River	27,000
Fruita	Colorado River	2,000
Grand Lake	Colorado River	229
Granby	Fraser-Colorado River	679
Fraser-Winter Park	Fraser River	269
Hot Sulphur Springs	Colorado River	275
Kremmling	Colo. Muddy, Blue River	955
Breckenridge	Blue River	685
Frisco	Blue River	571
Dillon	Blue River	232
Minturn	Eagle River	706
Vail	Eagle River	596
Eagle	Eagle River	525
Aspen	Roaring Fork	3,551
Basalt	Roaring Fork	524

[illegible]	[illegible]	[illegible]	18,597	19,290	20,148	21,127
Grand	7,496	7,821	8,203	8,582	9,006	9,461
Mesa	61,305	62,434	64,052	65,889	68,256	70,988
Pitkin	10,336	10,636	11,004	11,357	11,761	12,193
Summit	5,810	6,248	6,743	7,248	7,805	8,403

POPULATION PROJECTIONS

	End of Year									
y	1960	1970	1974	Present *	1975	1976	1977	1978	1979	1980
le	612	726	1,600	2,400	3,100	3,850	4,300	4,600	4,800	5,000
	310	225	265	265	275	315	375	450	530	600
	3,984	4,205	5,495	6,000	6,600	8,300	9,900	11,600	13,300	15,000
	172	155	300	325	370	490	620	740	870	1,000
	318	247	350	350	370	450	570	710	850	1,000
	1,830	1,822	2,000	2,000	2,030	2,300	2,800	3,450	4,250	5,000
Springs	3,637	4,106	4,646	4,900	5,200	6,200	7,100	8,000	8,900	9,800
lley	245	270	354	325	340	500	840	1,220	1,600	2,000
ıction	18,694	20,170	26,400	27,000	28,000	29,500	31,000	32,400	34,000	35,700
	1,655	1,597	2,000	2,150	2,350	2,950	3,750	4,700	5,550	6,200
e	447	499	618	625	650	720	780	860	930	1,000
	860	874	900	1,000	1,050	1,150	1,270	1,380	1,480	1,600
	1,464	1,591	1,725	1,785	1,850	2,200	2,850	3,800	5,000	6,100
	2,135	2,150	2,403	2,750	2,900	3,500	4,200	5,400	6,900	8,600
	384	434	720	750	780	850	920	1,030	1,160	1,300
Totals	36,747	39,071	49,776	52, 625	55,865	63,275	71,275	80,340	90,120	99,900

vision was the results of information McDowell-Smith & Associates obtained during their meetings with the rious communities during June and July, 1975, and the current trends of the oil shale industry.

Effective: June 19, 1974

WATER QUALITY STANDARDS SUMMARY

STANDARD	CLASS			
	A_1	A_2	B_1	
Settleable Solids	Free From	Free From	Free From	Fre
Floating Solids	Free From	Free From	Free From	Fre
Taste, Odor, Color	Free From	Free From	Free From	Fre
Toxic Materials	Free From	Free From	Free From	Fre
Oil and Grease	Cause a film or other discoloration	Cause a film or other discoloration	Cause a film or other discoloration	Cau oth
Radioactive Material	Drinking Water Standards	Drinking Water Standards	Drinking Water Standards	Dri Sta
Fecal Coliform Bacteria	Geometric Mean of <200/100ml from five samples in 30-day per.	Geometric Mean of <200/100ml from five samples in 30-day per.	Geometric Mean of <1000/100ml from five samples in 30-day per.	Geo <1C sam
Turbidity	No increase of more than 10 J.T.U.	No increase of more than 10 J.T.U.	No increase of more than 10 J.T.U.	No tha
Dissolved Oxygen	6 mg/l minimum	5 mg/l minimum	6 mg/l minimum	5 m
pH	6.5 - 8.5	6.5 - 8.5	6.0 - 9.0	
Temperature	Maximum 68°F. Maximum Change 2°F.	Maximum 90°F. Maximum Change: Streams - 5°F. Lakes - 3°F.	Maximum 68°F. Maximum Change 2°F.	Max Max S L
Fecal Streptococcus	Monthly average of <20/100ml from five samples in 30-day per.	Monthly average of <20/100ml from five samples in 30-day per.	----	

COLORADO RIVER BASIN

CLASSIFICATION

AREA NO.	AREA	FROM	TO	QUALITY CLASS
1	Main Stem of Colorado River and tributaries and standing bodies of water on main stem and tributaries in this area	Sources	Confluence with Parachute Creek near Town of Grand Valley	B
2	Grand Lake, Shadow Mountain Reservoir and Granby Reservoir	Inlet	Outlet	A
3	Main Stem of Colorado River	Confluence with Parachute Creek near Town of Grand Valley	Colorado-Utah State Line	B
4	Plateau Creek and tributaries and standing bodies of water on main stem and tributaries	Sources	Confluence with Colorado River	B
5	Fraser River and Williams Forks of River (including Williams Fork Reservoir)	Sources	Confluence with Colorado River	B
6	Blue River including Dillon Reservoir	Source	Confluence with Colorado River	B
7	Eagle River including Homestake Creek	Source	Confluence with Colorado River	B_1
8	Gore Creek	Source	Confluence with Eagle River	B_1
9	Roaring Fork River and tributaries and standing bodies of water on main stem and tributaries	Sources	Confluence with Colorado River	B_1

PERSONNEL

PERSONNEL

Name	Position	District	Months Worked/ Budgeted	Mileage
Enewold, Lee R.	Division Engineer		Annual	14,280
Walker, Ray	Asst. Div. Engineer		Annual	2,091
Jackson, Arlen	H.B. 1042		Annual	11,095
Krueger, Robert	SB 35		Annual	4,305
Walcher, Douglas	Hydrographer		Annual	**9,600
Dalton, Ruth	Admin. Clerk-Typist		Annual	-0-
Anderson, George	WC	70	7	7,699
Bieser, Robert	WD	72	6	3,147
Callicotte, Stephen	WC	38	7	5,760
Coultas, Tim	WC	50 & 51	7	7,000
*Forster, Charles	WC	52 & 53	Annual	4,794
Gerry, Woodrow	WD	72	6	5,902
Hill, Clifford	WD	72	6	4,988
Kenney, Donald	WD	72	7	4,452
Klocker, Marcus	WC	39	11	10,727
Nelson, Glen G.	WD	45	4	1,291
Rager, Cletus	WC	45	7	4,965
Raine, Jack	WD	72	3	1,146
Reed, Miles	WD	72	6	1,734
Saunders, Woodrow	WC	72	Annual	14,407
Shelden, Jim	WD	52 & 53	4	5,439
Wells, Wayne L.	WC	36 & 37	Annual	10,645
Yeoman, Richard	WD	45	4	2,155

*Deceased - October, 1976

**Since June 1, 1976

SNOW PACK

The snowpack was below average in most areas. Snow course readings of water content as of February 1 average below normal on most watersheds in the Western Division System. With good February precipitation at higher elevations, snowpack gains were above normal for most watersheds; thus resulting in an improvement of percent of average snow-water content for these areas.

With below normal March precipitation at higher elevations, snowpack gains were below normal for most watersheds; thus resulting in a higher decline of percent of average snow-water content for these areas. The April 1 snowpack water contents for water sheds located in Colorado were below normal.

Average May 1 snowpack water contents were below average for most areas in the Western Division System. Water supply forecasts at all key forecast points were below normal.

PRECIPITATION

during October through January with the exception of December when temperatures averaged about 6 degrees above normal. Runoff during the winter period (October - January) varied from 57 to 126 percent of the 1959-1975 average at major reservoirs within the Western Division System.

Storage was above normal in most reservoirs. Colorado-Big Thompson Project storage at the end of January totaled 681,600 acre feet, which was 13,800 acre feet greater than last year and 73,000 acre feet above the recent ten year average.

April precipitation over the Western Division System averaged below normal. The total seasonal runoff remained above normal for most areas and ranged to 66 percent of normal at Lake Granby and Lake Estes. Storage for nearly all major reservoirs remained above normal at the end of March.

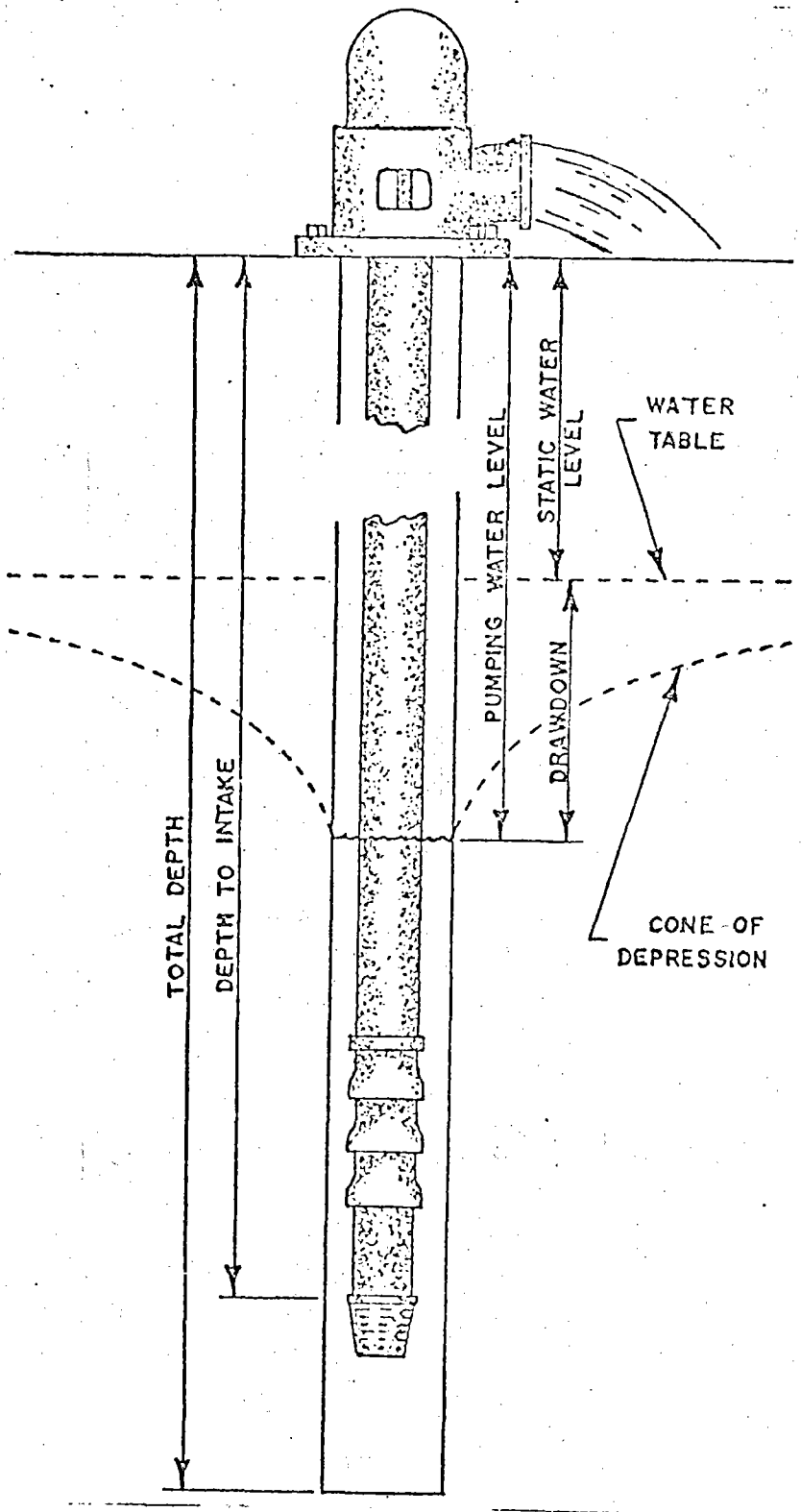
Precipitation during May was very erratic. Temperatures were near normal. However, cool temperatures retarded snow melt at the higher elevations. Light seasonal precipitation totals combined with low soil moisture conditions over most irrigated areas have resulted in above normal irrigation demands.

June precipitation was in general below normal. Reservoir inflows during June continued to be below normal.

Seasonal precipitation for the October - July period remained below normal at most reporting stations. Inflows during July continued to be below normal for nearly all reservoirs. The computed inflows to all major reservoirs within the Western Division during July ranged from 65 percent of normal at Lake Granby. August irrigation deliveries were in general normal to above for most project areas as the trend of below normal precipitation continued to prevail over most irrigated areas of the system.

Water year 1976 runoff was also below normal at nearly all Western Division System reservoirs. Seasonal inflows recorded at all reservoirs averaged 95% of normal.

UNDERGROUND WATER


TOTAL DEPTH
DEPTH TO INTAKE
PUMPING WATER LEVEL
STATIC WATER LEVEL
DRAWDOWN
WATER TABLE
CONE OF DEPRESSION

Division 5

Wells Adjudicated In The
Water Court

ct	No. of Applications	Domestic	Commercial	Irrigation	Municipal	Other Uses
	1	1				
	6				6	
	20	17	2	4	5	5
	6	6	1	1		3
	2	2	1	1		1
	5	4	2		1	
	1					1
	1					1
	42	30	6	6	12	11

TRANSMOUNTAIN DIVERSIONS

October 17, 1976

Mr. W. G. Wilkinson, Division Engineer
Room 208
8th & 8th Office Building
Greeley, Colorado 80631

Dear Dugan:

In preparation for our 1976 annual report, would it be too much trouble for you to furnish me with copies of your records for the trans-mountain diversions from Water Division No. 5 to Water Division No. 1?

The following structures are involved:

Adams Tunnel	256,100 acre-ft.
Grand River Ditch	18,550
Berthoud Ditch	377
Eureka Ditch	79
Moffat Tunnel	62,960
Williams Fork Tunnel	13,120
Hoosier Pass	10,510
Boreas Pass	66
Roberts Tunnel	62,900
Vidler Tunnel	No Flow

Total Diverted from Division V to Division I - 424,662 acre-ft.

I would appreciate any help or suggestions regarding these records.

Sincerely,

Lee R. Enewold
Division Engineer

JOHN D. VANDERHOOF
Governor

C. J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

LEE R. ENEWOLD P. E.
IRRIGATION DIVISION ENGINEER
P. O. BOX 396
GLENWOOD SPRINGS, COLORADO 81601
PHONE: 945-5665

October 17, 1976

Mr. W. G. Wilkinson, Division Engineer
Room 208
8th & 8th Office Building
Greeley, Colorado 80631

Dear Dugan:

In preparation for our 1976 annual report, would it be too much trouble for you to furnish me with copies of your records for the trans-mountain diversions from Water Division No. 5 to Water Division No. 1?

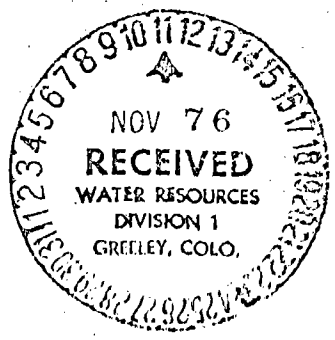
The following structures are involved:

Adams Tunnel – Attached
Grand River Ditch Attached
Berthoud Ditch Attached
Eureka Ditch Attached
Moffat Tunnel Attached
Williams Fork Tunnel – Attached
Hoosier Pass – Attached
Boreas Pass – Attached
Roberts Tunnel – Attached
Vidler Tunnel – NO Flow

I would appreciate any help or suggestions regarding these records.

Sincerely,

Lee R. Enewold
Division Engineer



Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area Trans. Mtn. square miles. Water stage recorder Stevens A-35

Max. Discharge ____ Sec. ft. at ____ on ____ G. H. ____ ft.
Max. G. H. ____ ft. at ____ on ____ Min. Daily Discharge ____ sec.-ft. on ____

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discha
1		327		408		406		494		304		
2		379		383		494		498		376		
3		349		396		430		498		385		
4		391		348		401		494		351		
5		350		391		401				483		
6		303		357		491				491		
7		419		355		404		5		385		
8		359		350		46		5		305		
9		315		352		489		5		337		
10		350		352		401				400		
11		343		400		485				333		
12		342		197		491				334		
13		345		368		502		564		301		
14		343		519		512		525		330		
15				531		51		527		3		
16		333		531		510		498		33		
17		383		447		48		533		39		
18		266		406		439		533		405		
19		358		406		424		533		390		
20		362		408				536				
21		365		404		45		502		331		
22		369		406		41		502		320		
23		383		404		43		483		373		
24		405		406		536		491		3		
25		391		409		49						
26		387		420		498		498		390		
27		382		403		406		48		330		
28		387		485		402		485		30		
29		39		391		494		477		2		
30		402		366		491		485	XX	XXX		
31		389	XX	XXX		49		49	XX	XXX		
Total		11,243		12,111		15,070		15,561		10,85		11
Mean		363		404		486		502		37		37
Run-off in acre-feet		22,300		24,03		29,900		30,870		21,5		
Maximum		449		536		536		536				
Minimum		266		197		402		477				

Calendar Year 1975

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used _____

COMPUTED FIGURE

Day.	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1		415		329		0		323		43		307
2		363		270		0		238		1.2		334
3		299		298		207		192		0.9		505
4		207		294		210		232		0.3		506
5		385		215		230		252		.3		523
6		395		202		3		335		93		496
7		388		201		0		354		272		528
8		303		237		0		384		356		511
9		303		166		0		410		371		317
10		205		272		0		344		427		531
11		105		207		0		312		425		536
12		53		156		283		330		263		435
13		51		157		259		303		328		534
14		24		153		117		356		362		525
15		36		193		0		369		333		492
16		54		195		310		403		412		498
17		53		292		282		367		434		498
18		71		294		216		461		456		502
19		50		332		206		471		426		542
20		45		312		155		445		411		494
21		106		280		185		384		405		121
22		61		201		191		275		470		543
23		185		279		150		389		474		542
24		151		104		0		437		464		542
25		148		61		244		427		453		492
26		282		0		271		421		372		408
27		330		244		305		433		413		298
28		322		105		242		447		419		455
29		301		0		298		474		420		412
30		295		0		298		501		416		312
31	XX	XXX		0	XX	XXX		487		302	XX	XXX
	5934.65		4135.		4876		12112		12068.5		13514	
	198		133.		163		391		325		450	
	11,770		12,440.		9670		24020		19972		26810	
	415		329		371		501		476		543	
	0		0		0		232		0.3		121	

Quarter: 4th, 3rd, 2nd, 1st — Computed, Checked, Date

Quarter: 4th, 3rd, 2nd, 1st — Dis.appld., Dis.check, Date

Quarter: 4th, 3rd, 2nd, 1st — G.H.copd., G.H.check, Date

Water Year 1976

Grand River Ditch — Near La Poudre Pass

Drainage area TRANS-MT. DIV. square miles. — Water stage recorder STEVENS "F" WEEKLY

Max. Discharge 205 Sec. ft. at 2220 on June 22, 1976 G. H. 3.21 ft.
Max. G. H. 3.21 ft. at 2220 on June 22, 1976 Min. Daily Discharge 0 sec.-ft. on many days
S-discharge subdivided. Discharge estimated for "2" - No gage height record.
Commissioners report used for period May 1 - May 21, 1976

Day	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12		N		N		N		N		N		N
13		O		O		O		O		O		O
14												
15		F		F		F		F		F		F
16		L		L		L		L		L		L
17		O		O		O		O		O		O
18		W		W		W		W		W		W
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30									XX	XXX		
31			XX	XXX					XX	XXX		

Calendar Year 1975

008.3	Total		0		0		0		0		0	
30.2	Mean		0		0		0		0		0	
330.	Run-off in acre-feet		0		0		0		0		0	
339.	Maximum		0		0		0		0		0	
0	Minimum		0		0		0		0		0	

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used STANDARD 10 FT. PARSHALL
DATED 6-15-71 OCT. 1, 1974 to SEPT. 30, 19

APR.		MAY		JUNE		JULY		AUG.		SEPT.		Day.
Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	
		d	5	1.56	-01 77	2.53	+01 175	1.25	+02 58	.53	+02 15	1
			5	1.74	-00 90	2.49	171	1.66	90	.50	14	2
			5	1.97	-03 109	2.50	172	1.56	82	.48	13	3
			5	2.26	-10 135	2.45	166	1.33	64	.47	13	4
			6	2.55	-12 163	2.41	162	1.19	53	.46	12	5
			6	2.54	162	2.36	+01 157	1.09	46	.44	11	6
			7	2.40	147	2.17	+02 138	1.02	42	.46	12	7
			7	2.48	156	2.10	131	0.98	39	.49	13	8
			10	2.71	181	2.14	135	1.21	55	.43	11	9
			10	40 2.69	-12 178	2.04	125	1.00	41	.41	10	10
			12	2.79	-12 190	2.06	127	0.94	37	.41	10	11
			14	2.51	-10 161	2.10	131	.89	34	.41	10	12
	N		14	1.99	-09 110	40 2.11	+02 132	.90	34	.39	9.4	13
			15	1.74	-07 90	1.90	112	.92	36	.42	11.	14
	O		15	1.56	-05 76	1.77	100	.83	30	.48	13	15
	F		15	1.48	-04 71	1.63	92	.78	28	.46	12	16
	L		15	1.50	-04 72	1.64	89	.75	26	.40	9.8	17
	O		24	1.35	-03 61	1.63	88	.73	25	.38	9.1	18
	W		33	1.34	-03 61	1.96	117	.72	24	.38	9.1	19
			39	1.56	-01 79	1.82	104	.68	22	.32	7.0	20
			42	2.14	0 133	1.76	99	.67	22	.23	4.3	21
		d	42	2.65	187	1.57	83	.64	20	.23	4.3	22
		.91	-01 33	2.79	203	1.47	74	.66	21	S	+02 3.0	23
		.82	28	2.24	143	1.46	74	.63	20		0	24
		.79	26	2.02	121	1.36	66	.59	18		0	25
		.83	-01 29	2.08	0 127	1.33	64	.58	17		0	26
		1.00	-02 38	2.31	+01 151	1.39	68	.76	26		0	27
		1.19	51	2.56	178	1.24	57	.63	20		0	28
		1.26	56	2.52	174	1.17	52	.60	18		0	29
		1.30	58	2.41	+01 162	1.14	50	.57	17		0	30
XX	XXX	1.32	-02 60	XX	XXX	1.13	+02 49	.56	+02 16	XX	XXX	31
0			725.		3,948.		3,360.		1,081.		236.0	9,350.0
0			23.4		132.		108.		34.9		7.87	25.5
0			1,440.		7,830.		6,660.		2,140.		468.	18,550.
0			60.		203.		175.		90.		15.	203.
0			5.		61.		49.		16.		0	0

4th Qtr: 11 — —
3rd Qtr: Be C — 10-25-76
2nd Qtr: S. H R —
1st Qtr: T. — —
Quarter: Computed — Checked — Date

4th Qtr: 11 — —
3rd Qtr: Be C — 10-25-76
2nd Qtr: S. H R —
1st Qtr: T. — —
Quarter: Dis. Appld. — Dis. Check — Date

4th Qtr: 11 — —
3rd Qtr: Be — —
2nd Qtr: S. H R C — 10-25-76
1st Qtr: T. — —
Quarter: G.H. Copd. — G.H. Check — Date

Water Year 1976

Berthoud Pass Ditch

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used STANDARD 3-FT. PARSHALL
DATED JUNE 22, 1971, Oct. 1, 1975 TO SEPT. 30,

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1						0	0.40	2.8	0.39	2.6	a	1.0
2							.42	3.0	.41	2.9		1.0
3						0	.45	3.3	.39	2.6		1.0
4					0.27	1.5	.41	3.4	.36	2.4		1.0
5					a	1.5	.42	3.1	.34	2.2		1.0
6						1.5	.40	2.8	.33	2.1		1.0
7						1.5	.44	3.3	.32	2.0		1.0
8						1.5	.43	3.1	.31	1.9	a	1.0
9						1.4	.40	2.8	.29	1.7		0
10						1.4	.39	2.6	.27	1.6		
11					a	1.4	5	5.7	.26	1.5		
12					0.26	1.4	.76	7.6	.23	1.2		
13					.24	1.2	.72	7.0	.22	1.1		
14					.20	.89	.69	6.6	.2	1.0		
15					.15	.55	.67	6.3		1.0		
16					.12	.38	5	4.7		1.0		
17					.12	.38	.45	3.3		1.0		
18					.12	.38	.43	3.1		1.0		
19					.10	.28	.44	3.3		1.0		
20					.10	.28	.44	3.3		1.0		
21					.12	.38	.42	3.1		1.0		
22					.16	.61	.40	2.8		1.0		
23					.19	.82	.40	2.8		1.0		
24					.21	.96	.39	2.6		1.0		
25					.20	.89	.40	2.8		1.0		
26					.28	1.6	.39	2.6		1.0		
27					.29	1.6	.33	2.0		1.0		
28					.32	1.9	.33	2.0		1.0		
29					.33	2.0	.33	2.0		1.0		
30					.36	2.3	.32	1.9		1.0		0
31	XX	XXX			XX	XXX	.33	2.0	a	1.0	XX	XXX
						20.50"		107.7		43.8"		8.0"
						1.02		3.47		1.41		0.27
						1.0		214		87		16
						2.3		7.6		2.7		1.0
						0		1.9		1.0		0

Quarter	Computed	Checked	Date
4th			
3rd		7.5.76	
2nd			
1st			

Quarter	Dis.appld.	Dis.check	Date
4th		12	
3rd		7.5.1	
2nd			
1st			

Quarter	G.H.copd.	G.H.check	Date
4th		12	
3rd		7.5.12	
2nd			
1st			

Water Year 1976

EUREKA DITCH @ 4'C.P Near Flattop Mtn.

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS. MT. square miles. Water stage recorder CONT. STEVENS A-35

Max. Discharge ____ Sec. ft. at ____ on ____ G. H. ____ ft.
Max. G. H. ____ ft. at ____ on ____ Min. Daily Discharge 0 sec.-ft. on Many days
"2" No gage ht. record

Calendar Year 1975

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12		N		N		N		N		N	
13		0		0		0		0		0	
14											
15		F		F		F		F		F	
16		L		L		L		L		L	
17		0		0		0		0		0	
18		W		W		W		W		W	
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30									XX	XXX	
31			XX	XXX					XX	XXX	
Total		0		0		0		0		0	
Mean		0		0		0		0		0	
Run-off in acre-feet		0		0		0		0		0	
Maximum		0		0		0		0		0	
Minimum		0		0		0		0		0	

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used STANDARD 4" CIP.

Day.	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1								0	.11	.49		
2								0	.09	.36		
3								0	.13	.63		
4								0	.17	.94		
5								0	.20	1.2		
6								0	.23	1.5		
7								0	.26	1.8		
8								0	.28	2.0		
9								0	.31	2.3		
10								0	.35	2.8		
11								0	.44	3.9		
12		N		N		N		0	.43	3.8		N
13		O		O		O		0	5	3.5		O
14								0	.18	1.0		
15		F		F		F		0	.18	1.0		F
16		L		L		L	.5	.15	.18	1.0		L
17		O		O		O	.07	.25	2	1.0		O
18		W		W		W	.04	.11		.90		W
19							0	0		.80		
20							.03	.07	Range in Stage .28 - .04	.80		
21							.07	.25		.60		
22							.09	.36		.40		
23							.11	.49	2	.30		
24							.12	.56	.04	.11		
25							.12	.56		0		
26							.12	.56		0		
27							.11	.49		0		
28							.13	.63		0		
29							.15	.78		0		
30							.15	.78		0		
31	XX	XXX			XX	XXX	.15	.78		0	XX	XXX
		0		0		0		6.82		33.13		0
		0		0		0		0.22		1.07		0
		0		0		0		14.		66.		0
		0		0		0		0.78		3.9		0
		0		0		0		0		0		0

Quarter	4th	TSB	HRC
	3rd		
	2nd		
	1st		
		Computed	Checked
Quarter	4th	TSB	HRC
	3rd		
	2nd		
	1st		
		Dis.appld.	Dis.check
Quarter	4th	TSB	HRC
	3rd		
	2nd		
	1st		
		G.H.copd.	G.H.check

Water Year 1976

	39.95
	0.11
	79.
	3.9
	0

MOFFAT TUNNEL [illegible] COLORADO

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS-MTN. square miles. Water stage recorder STEVENS A-35 CONT.

Max. Discharge ____ Sec. ft. at ____ on ____ Min. Daily Discharge ____ sec.-ft. on ____
Max. G. H. ____ ft. at ____ on ____ G. H. ____ ft. on ____

Day	OCT. Gage height	OCT. Discharge	NOV. Gage height	NOV. Discharge	DEC. Gage height	DEC. Discharge	JAN. Gage height	JAN. Discharge	FEB. Gage height	FEB. Discharge	MAR. Gage height	MAR. Discharge
1	0.94	52	0.97	55	0.54	22	0.45	14	0.39	9.3	0.38	
2	.81	41	.97	55	.53	21	.41	13	.38	8.9	.39	
3	.79	40	.90	49	.53	21	.49	13	.38	8.9	.39	
4	.76	37	.89	48	.52	20	.43	12	.39	9.3	.39	
5	5	28	.95	53	.51	20	.43	12	.38	9.3	.38	
6	.30	84	.93	52	.50	19	.43	12	.38	9.3	.38	
7	5	32	.92	51	.48	17	.43	12	.38	9.3	.38	
8	.78	39	.93	52	.48	17	.43	12	.38	9.3	.38	
9	.84	41	.91	50	.48	17	.43	12	.39	9.3	.38	
10	.96	51	.91	50	.48	17	.43	12	.39	9.3	.38	
11	1.07	61	.85	45	.47	17	.42	12	.37	9.3	.38	
12	1.02	60	.68	31	.47	17	.43	12	.34	8.0	.38	
13	.90	49	.59	24	.46	16	.43	12	.38	9.3	.37	
14	.72	34	.58	24	.45	15	.42	11	.39	10	.37	
15	.70	33	.58	24	.47	16	.41	11	.41	11	.37	
16	.66	30	.57	24	.45	15	.42	11	.39	10	.38	
17	.76	37	.60	26	.44	14	.42	11	.39	10	.38	
18	.98	56	.60	26	.44	14	.43	12	.38	10	.36	
19	.98	56	.58	24	.43	13	.43	12	.36	9.3	.37	
20	.99	57	.57	23	.43	13	.42	11	.36	9.3	.37	
21	.97	55	.55	22	.43	13	.43	12	.38	10	.37	
22	.96	54	.57	24	.44	14	.43	12	.38	10	.36	
23	.93	51	.57	24	.44	14	.42	11	[illegible]	[illegible]	.34	
24	.95	53	.57	24	.43	13	.42	11	.34	8.9	.35	
25	.95	53	.62	26	.43	13	.42	11	[illegible]	[illegible]	.34	
26	1.01	59	.60	26	.43	13	.42	11	.38	10	.36	
27	1.02	60	.62	27	.43	13	.40	9.8	.38	10	.36	
28	.95	53	.62	27	.44	13	.40	9.8	.38	10	.37	
29	.87	46	.60	26	.44	13	.40	9.8	.39	11	.36	
30	.88	47	.56	23	.44	13	.39	9.3	XX	XXX	.33	
31	.91	50	XX	XXX	.45	14	.39	9.3	XX	XXX	.37	
Total		1429.1		1035		427		355.0		279.4		
Mean		46.1		34.5		15.7		11.4		9.63		
Run-off in acre-feet		2840		2050		966		704		554		
Maximum		61		55		22		14				
Minimum		84		22		13		9.3				

Calendar Year 1975

...VISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used _____

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
	XX	XXX			XX	XXX					XX	XXX
	465.0				12632		5567				1810*	
	15.5				421		179				60.3	
	922				25060		11030		5290		3590	
	29				619		361		150		92	
	99				282		100		45		32	

4th | 3rd | 2nd | 1st | Quarter | Computed | Checked | Date

4th | 3rd | 2nd | 1st | Quarter | Dis.appld. | Dis.check | Date

4th | 3rd | 2nd | 1st | Quarter | G.H.copd. | G.H.check

Water Ye...
1976

31741.
86.7
6296
71

AUGUST 1. GUNNISON TUNNEL — Creek near JONES PASS, COLORADO

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS-MTN square miles. Water stage recorder STEVENS TYPE L WEEKLY

Max. Discharge 194 Sec. ft. at 2230 on June 9, 1976 G. H. 2.08 ft.
Max. G. H. ft. at on Min. Daily Discharge 0 sec.-ft. on Several days

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discha
1		6.3	0.16	3.1	0.18	3.7	0.19	4.1	0.16	3.1		
2		6.3	.17	3.4	.17	3.4	.19	4.1	.16	3.1		
3		5.9	.15	1.0	.17	3.4	.18	3.7	.14	2.5		
4		5.9	.15	1.8	.17	3.4	.18	3.7	.14	2.5		
5		2.8	.18	3.7	.18	3.7	.16	3.7	.15	2.8		
6		0	.18	3.7	.19	4.1	.17	3.4	.15	2.8		
7		0	.18	3.7	.18	3.7	.17	3.4	.15	2.8		
8		0	.18	3.7	.18	3.7	.18	3.7	.15	2.8		
9	.15	3.2	.18	3.7	.18	3.7	.17	3.4	.15	2.8		
10	.25	6.3		3.7	.18	3.7	.17	3.4		2.8		
11	.23	5.5	.18	3.7	.18	3.7	.17	3.4	.15	1.2		
12	.22	5.1	.19	4.1	.17	3.4	.16	3.1	.15	.41		
13	.23	5.5	.18	3.7	.17	3.4	.17	3.4	.13	2.2		
14	.22	5.1	.18	3.7	.17	3.4	.17	3.4	.14	2.5		
15	.23	5.5	.19	4.1	.18	3.7	.17	3.4	.14	2.5		
16	.22	5.1	.18	3.7	.15	2.0	.16	3.1	.15	2.8		
17	.23	5.5	.17	3.4	.17	3.4	.16	3.1	.15	2.8		
18	.22	5.1	.15	2.8	.18	3.7	.16	3.1	.15	1.0		
19	.22	5.1	.17	3.4	.17	3.4	.16	3.1		0		
20	.21	4.8	.17	3.4	.17	3.4	.14	3.1	.15	.82		
21	.20	4.4	.16	3.1	.17	3.4	.16	3.1	.15	2.8		
22	.21	4.8	.16	3.1	.17	3.4	.16	3.1	.16	3.1		
23	.17	3.4	.16	3.1	.17	3.4	.16	3.1	.15	1.2		
24	.23	5.5	.17	3.4	.17	3.4	.16	3.1	.15	1.0		
25	.23	5.5	.17	3.4	.17	3.4	.15	2.8	.16	3.1		
26	.22	5.1	.17	3.4	.17	3.4	.16	3.1	.16	3.1		
27	.15	2.2	.17	3.4	.17	3.4	.16	3.1	.15	1.1		
28		0	.17	3.4	.18	3.7	.16	3.1	.13	2.2		
29		0	.17	3.4	.16	3.7	.16	3.1	.13	0 2.2		
30		0	.18	0 3.7	.18	3.7	.15	2.5	XX	XXX		
31	.15	0 1.3	XX	XXX	.18	0 3.7	.17	0 3.4	XX	XXX		0
Total		121.2"		100.9"		108.6"		102.3"		64.03"		
Mean		3.91		3.36		3.50		3.30		2.21		
Run-off in acre-feet		240		200		215		203		127		
Maximum		6.3		4.1		4.1		4.1		3.1		
Minimum		0		1.0		2.0		2.5		0		

Calendar Year 1975

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used _____

Day.	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1	a	2.5	0.20	a 4.4	a	77	1.41	± 106	0.70	± 36	.30	± 10
2	a	2.8	.22	5.1	S	76	1.35	99	S	49	.28	9.3
3	.15	0 2.8	.24	5.9	1.30	93	1.33	97	.19	43	.26	8.4
4	.15	2.8	.27	7.1	1.38	102	1.26	89	.20	36	.25	8.0
5	.14	3.1	.28	7.5	1.52	± 119	1.21	84	.15	32	.25	8.0
6	.17	3.4	.29	8.0	a	99	S	68	.21	29	.25	8.0
7	.17	3.4	.33	9.8	a	135	1.13	75	.18	27	.27	8.9
8	.16	3.1	.32	9.3	a	140	1.11	73	S	26	.27	8.9
9	.17	3.4	.34	10	1.72	± 144	1.07	69	S	29	.25	8.0
10	.13	3.7	.31	8.9	1.60	140	1.03	65	.23	24	.24	7.5
11	.13	3.7	S	V 7.5	1.60	129	1.02	± 64	.24	24	.24	7.5
12	.20	4.4	.35	± 11	1.37	101	S	V 36	.20	22	.25	8.0
13	.21	4.8	S	V 8.5	1.23	86	.38	± 14	.18	20	S	3.3
14	.20	4.4	.39	± 14	S	70	.32	11	.16	19		0
15	.19	4.1	.48	± 20	1.10	± 72	.24	75	.13	17		0
16	.20	4.4	.51	± 22	1.09	71	.20	5.9	.11	16	S	2.0
17	.19	4.1	S	V 23	1.05	67	.14	3.7	.11	16	.25	8.0
18	.19	4.1	.72	± 37	S	54	S	2.5	.10	16	.24	7.5
19	.19	4.1	S	30	.97	60	S	6.4	.38	± 14	.25	8.0
20	.19	4.1	.70	43	1.13	80	S	7.5	.17	14	.25	8.0
21	.20	4.4	.86	± 49	S	104	S	9.0	.15	13	.23	7.1
22	.19	4.1	a	39	1.60	129	.73	± 38	.13	12	.29	9.8
23	.19	4.1	a	34	1.48	114	S	34	.13	12	.29	9.8
24	.19	4.1	a	32	1.30	93	.67	33	.13	12	.27	8.9
25	.19	3.7	.64	± 31	S	71	S	4.2	.11	11	.25	8.1
26	.18	3.7	.62	30	1.27	90	.52	4.1	.11	11	.24	12
27	.18	3.7	.77	41	1.39	104	.75	40	.10	16	.33	12
28	.19	4.1	.93	55	S	95	.67	33	.12	11	.33	12
29	.22	5.1	.97	59	1.39	104	.64	31	.11	11	.33	12
30	S	0 3.9	.95	± 57	1.43	± 107	.65	32	.30	10	.32	± 11
31	XX	XXX	a	58	XX	XXX	.62	± 30	.30	10	XX	XXX
	114.1		777.0		2923		1405		638.		214.9	
	3.80		25.1		97.4		43.5		20.6		8.16	
	226		1540		5800		2780		1,270.		486.	
	5.1		5.9		14.4		10.6		49.		13.	
	2.5		4.4		54		2.5		10.		0	

Quarter: 4th, 3rd, 2nd, 1st — Computed, Checked, Date

Quarter: 4th, 3rd, 2nd, 1st — Dis.appld., Dis.check, Date

Quarter: 4th, 3rd, 2nd, 1st — G.H.copd., G.H.check, Date

Water Year 1976

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS. MTN. square miles. Water stage recorder STEVENS TYPE F WEEKLY

DAILY DISCHARGE DATA FOR YEAR ENDING SEPT. 30, 19___

Max. Discharge ___ Sec. ft. at ___ G. H. ___ ft.
Max. G. H. ___ ft. at ___ on ___ Min. Daily Discharge ___ sec.-ft. on ___

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Ga he
1	0.97	30									
2	.95	30									
3	.93	28									
4	.92	28									
5	.88	26									
6	.87	26									
7	.83	24									
8	.81	23									
9	.77	21									
10	5	9									
11	.11	.92									
12	.10	.79									
13		0									
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30									XX	XXX	
31		0	XX	XXX					XX	XXX	
Calendar Year 1975											
4212.0	Total	246.71									
11.5	Mean	7.96									
8350.	Run-off in acre-feet	489.									
120.	Maximum	30.									
0	Minimum	0									

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used

COLORADO SPRINGS WATER DEPT.

Day.	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge	Day.
1				0	1.53	63	1.76	76	1.40	56	0.88	26	1
2					1.70	74	1.76	76	1.54	65	.87	26	2
3					1.82	83	1.64	67	1.5	40	.87	26	3
4					2.02	98	1.68	70	1.70	13	.86	25	4
5					2.09	104	1.69	71	.57	13	.84	24	5
6					2.03	99	1.40	52	.67	17	.84	24	6
7					2.07	102	1.02	31	.79	22	.83	24	7
8					2.48	137	.93	26	.74	20	.83	24	8
9					2.48	137	.99	30	.82	24	.82	23	9
10					2.18	111	.91	27	.74	20	.82	23	10
11					1.95	93	.96	28	.81	23	.81	23	11
12					1.60	67	.98	29	.83	24	.81	23	12
13					1.40	54	.78	20	.77	22	.79	22	13
14					1.31	48	.56	12	.83	24	.81	23	14
15					1.15	39	.53	10	.86	26	.80	22	15
16				0	1.15	39	.49	9.2	.71	22	.79	22	16
17			11am .98	0 12	1.17	40	.49	8.9	.78	22	.78	22	17
18			.90	27	1.06	34	.49	9.2	.77	21	.80	22	18
19			1.06	35	1.02	32	.72	19	.75	20	.92	28	19
20			1.00	37		45	.87	25	.80	22	.92	28	20
21			1.12	38	1.14	75	.87	25	.80	22	.92	28	21
22			.93	31	1.11	92	.74	19	.7	22	.91	28	22
23			.8	24	1.18	90	.69	17	.81	23	.88	26	23
24			.78	22	1.14	54	.70	18	.81	23	.8	26	24
25			30 .79	22	1.04	42	.69	17	.81	23	.86	25	25
26			.77	21	1.32	47	.84	24	.93	26	5	13	26
27			.98	31	1.49	58	1.04	34	.92	28		0	27
28			1.21	44	1.22	73	.89	26	.93	26		0	28
29			1.30	51	1.20	72	.90	27		26		0	29
30			1.29	48	1.66	68	1.02	33	31 1.90	27		0	30
31	XX	XXX	1.26	46	XX	XXX	1.03	34	.88	26	XX	XXX	31
				1137.		2,170.		969.3		797		626	5298
				15.8		72.3		31.3		25.7		20.9	14.5
				970.		4,300.		1920		1580		1240	1051
				51.		137.		76.		65		28	
				0		32.		8.9		13		0	0

4th / 3rd / 2nd / 1st — Quarter — Computed / Checked

4th / 3rd / 2nd / 1st — Quarter — Dis.appld. / Dis.check

4th / 3rd / 2nd / 1st — Quarter — G.H.copd. / G.H.check

Water Y

1976

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Boreas Pass Ditch.

Rating Table Used STANDARD 2-FT. PARSHALL

DATED 6-22-71 OCT. 1, 1974, to SEPT. 30, 1975

Day.	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1						0	0.22	0.77	0.14	0.38		0
2							.21	.71	.15	.42		
3							.21	.71	.14	.38		
4							.21	.71	.13	.34		
5							.21	.71	.14	.38		
6							.22	.77	.15	.42		
7							.22	.77	.17	.51		
8							.21	.71	.18	.56		
9							.22	.77	.18	.56		
10							.21	.71	.17	.51		
11							.21	.71	.17	.51		
12							.22	.77	.16	.47		
13							.21	.71	.14	.38		
14							.20	.66	.14	.38		
15							.19	.61	.10	.23		
16							a	.60	5	.21		
17						0		.60		0		
18					5	0.10		.60				
19					0.10	.23		.55				
20					.12	.30		.55				
21					.17	.51	a	.56				
22					.21	.71	.18	.56				
23					.23	.82	.18	.56				
24					.22	.77	.17	.51				
25					.23	.82	.16	.47				
26					.20	.66	.15	.42				
27					.23	.82	.15	.42				
28					.23	.82	.14	.33				
29					.23	.82	.13	.34				
30					.22	.77	.13	.34				
31	XX	XXX			XX	XXX	.13	.34		0	XX	XXX
					8.15"		18.60"		6.64"		0	
					0.27		0.60		0.21			
					16		37		13			
					0.82		0.77		0.56			
					0		0.34		0			

4th 3rd 2nd 1st Quarter — Computed — Checked — Date: 7.18

4th 3rd 2nd 1st Quarter — Dis.appld. — Dis.check — Date: 7.18

4th 3rd 2nd 1st Quarter — G.H.copd. — G.H.check — Date: 7.18

Water Year 1976

33.39"

0.09

66

0.82

0

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS-MTN. square miles. Water stage recorder STEVENS A-35

Max. Discharge ____ Sec. ft. at ____ on ____ G. H. ____ ft.
Max. G. H. ____ ft. at ____ on ____ Min. Daily Discharge ____ sec.-ft. on ____

Day	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1		0	5	0 36	0.77	1/2 52	0.76	1/2 56	0.76	1/2 53	0.75	1/2 5
2			.50	25	.77	52	.76	1/2 54	.76	1/4 53	.75	5
3			.50	25	.77	1/2 52	.76	54	.77	54	.74	5
4			.50	25	.77	1/2 51	.76	54	.77	54	.74	5
5			.50	25	.77	1/2 51	.76	1/2 54	.77	1/2 54	.74	5
6			.50	25	5	V 53	.76	54	.76	1/2 52	.74	5
7			5	40	.77	1/2 54	.76	54	.76	52	.76	54
8			.78	51	.73	56	.77	56	.76	1/2 52	5	77
9			.78	51	.78	1/2 56	.77	1/2 56	5	V 53	5	8
10			.77	50	.77	54	.76	1/2 53	.76	1/2 54	.74	5
11			.77	50	.77	54	.76	53	.76	54	5	6
12			.77	50	.77	54	.75	1/2 52	.76	1/2 54	.74	5
13			.77	0 50	.77	54	.76	1/2 52	.76	1/4 53	.74	5
14			.78	1/2 50	.77	54	.76	52	.76	53	5	4
15			5	V 54	.77	1/2 54	.76	52	.76	1/2 53	5	17
16			.77	1/2 56	.76	1/2 54	.76	1/2 52	.76	1/2 52	.32	16
17			.77	56	.77	56	5	V 52	.76	52	.31	15
18			.77	1/2 56	.77	56	.76	1/2 53	.76	1/2 52	.30	14
19		0	.78	1/4 56	.77	56	.76	53	.76	1/2 51	.30	14
20	5	0 46	.77	54	.73	56	.77	53	.77	1/2 52	.29	14
21	1.55	154	.77	54	.77	56	.76	53	5	V 54	.28	14
22	1.55	154	.77	54	.77	1/2 56	.76	1/4 53	.77	1/2 53	.28	13
23	5	99	.77	54	.77	56	.77	1/2 53	.77	53	.28	13
24	.81	54	.77	54	.77	56	.76	1/2 52	.77	1/2 53	.28	13
25	.81	54	.77	1/2 54	.77	1/2 56	.77	1/2 52	.78	1/2 53	.28	13
26	.80	53	.77	54	.77	1/2 54	.77	52	.77	52	.28	13
27	.80	53	.77	1/4 54	.77	54	.77	1/2 52	.78	1/2 53	.28	13
28	.80	53	.77	1/2 53	.77	1/2 54	5	V 53	5	V 55	.28	13
29	.80	53	.77	53	5	V 56	.75	1/2 53	.77	1/2 [illegible]	[illegible]	1/2 5
30	.80	53	.77	1/2 53	.76	1/2 56	.75	1/2 53	XX	XXX	[illegible]	0
31	.80	0 53	XX	XXX	.76	1/2 54	.76	1/4 53	XX	XXX		0
Total		879		1422		1691		1648		1526		1006
Mean		28.4		47.4		54.6		53.2		52.6		32.5
Run-off in acre-feet		1740		2820		3350		3270		3030		2000
Maximum		154		56		56		56		55		54
Minimum		0		25		51		52		45		0

Calendar Year 1975

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used _____

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1						0	S	± 84	2.89	± 430		0
2							S	213	2.89	± 430		
3							2.05	252	[42] S	∨ 243		
4							2.05	252		0		
5							2.05	252	S	± 117		
6							[43] 2.28	± 297	2.46	337		0
7					[58]	-	2.44	330	2.76	403	S	± 192
8							2.44	330	2.76	403	2.28	299
9							2.44	330	2.76	± 403	1.86	218
10			[54]	-			2.44	330	2.81	± 424	1.67	185
11							2.44	330	2.89	435	1.69	188
12		- [55]					2.59	363	2.89	435	1.68	187
13							2.81	412	2.89	435	[55] 1.86	± 213
14							2.90	433	2.89	435	1.89	224
15							2.90	433	2.89	435	1.75	199
16							2.90	433	[57] 2.89	± 435	1.65	182
17							2.90	433	2.89	435	1.64	180
18							2.90	433	2.89	435	1.66	183
19							[59] 2.84	± 419	2.89	435 [60]	S	124
20							2.65	376	2.83	419	1.76	57
21					[52]	-	2.70	387	2.75	403	S	72
22							2.85	421	2.75	403	S	58
23						0	2.89	430	2.75	403	.39	22
24			[53]	-	S	± 5.7	2.89	430	S	± 213	S	54
25					S	± 11	2.89	430		0	1.01	81
26		- [56]				0	2.89	430			S	± 39
27						0	2.89	430				0
28						0	2.89	430				0
29						0	2.89	430			S	± 56
30						0	2.89	430	[64]		1.39	± 137
31	XX	XXX			XX	XXX	2.89	± 430		0	XX	XXX
	0		0		16.7"		11410"		8951"		3160"	
					0.56"		368		289		105	
					33		22630		17750		6770	
					11		433		435		203	
					0		.84		0		0	

Quarter: 4th, 3rd, 2nd, 1st — Computed, Checked, Date

Quarter: 4th, 3rd, 2nd, 1st — Dis.appld., Dis.check, Date

Quarter: 4th, 3rd, 2nd, 1st — G.H.copd., G.H.check, Date

Water Year 1976

Berthoud Pass Ditch ID # 4625 51

DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Rating Table Used STANDARE 3-FT. PARSHALL
DATED JUNE 22, 1971, Oct. 1, 1975 TO SEPT. 30, 1

APR.		MAY		JUNE		JULY		AUG.		SEPT.		Day.
Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	
					0	0.40	2.8	0.39	2.6	a	1.0	1
						.42	3.0	.41	2.9		1.0	2
					0	.45	3.3	.39	2.6		1.0	3
				0.27	1.5	.46	3.4	.36	2.4		1.0	4
				a	1.5	.43	3.1	.34	2.2		1.0	5
					1.5	.40	2.8	.33	2.1		1.0	6
					1.5	.41	3.3	.32	2.0		1.0	7
					1.5	.43	3.1	.31	1.9	a	1.0	8
					1.4	.40	2.8	.29	1.7		0	9
					1.4	.39	2.6	.27	1.6			10
				a	1.4	5	5.7	.26	1.5			11
				0.26	1.4	.76	7.6	.23	1.2			12
				.24	1.2	.72	7.0	.22	1.1			13
				.20	.89	.69	6.6	a	1.0			14
				.15 (25)	.55	.67	6.3		1.0			15
				.12	.38	5	4.7		1.0			16
				.12	.38	.45	3.3		1.0			17
				.12	.38	.43	3.1		1.0			18
				.10	.28	.44	3.3	.21	1.0			19
				.10	.28	.44	3.3		1.0			20
				.12	.38	.43	3.1		1.0			21
				.16	.61	.40 (26)	2.8		1.0			22
				.19	.82	.40	2.8		1.0			23
				.21	.96	.39	2.6	.28	1.0			24
				.20	.89	.40	2.8		1.0			25
				.28	1.6	.39	2.6		1.0			26
				.29	1.6	.33	2.0		1.0			27
				.32	1.9	.33	2.0		1.0			28
				.33	2.0	.33	2.0		1.0			29
				.36	2.3	.32	1.9		1.0		0	30
XX	XXX			XX	XXX	.33	2.0	a	1.0	XX	XXX	31
				20.50"		107.7		43.8"		8.0"		190.00
				1.02		3.47		1.41		0.27		0.52
				60		214		87		16		377
				2.3		7.6		2.7		1.0		7.6
				0		1.9		1.0		0		0

Day. | Quarter: 4th, 3rd, 2nd, 1st — Computed, Checked, Date — T.S.B.
Quarter: 4th, 3rd, 2nd, 1st — Dis.appld., Dis.check, Date — T.S.B.
Quarter: 4th, 3rd, 2nd, 1st — G.H.copd., G.H.check, Date — T.S.B.

Water Year 1976

GRAND RIVER DITCH No. 4601 Creek near LA POUDRE PASS, COLO.

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area TRANS-MT. DIV. square miles. Water stage recorder STEVENS "F" WEEKLY

Max. Discharge 254 Sec. ft. at 2220 on June 22, 1976 G. H. 3.21 ft.
Max. G. H. 3.21 ft. at 2220 on June 22, 1976 Min. Daily Discharge 0 sec.-ft. on many days
S-discharge subdivided. Discharge estimated for "2" - No gage height record.
Commissioners report used for period May1 - May 21, 1976

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12		N		N		N		N		N		N
13		O		O		O		O		O		O
14												
15		F		F		F		F		F		F
16		L		L		L		L		L		L
17		O		O		O		O		O		O
18		W		W		W		W		W		W
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30									XX	XXX		
31			XX	XXX					XX	XXX		
Calendar Year 1975												
11,008.3	Total	0		0		0		0		0		0
30.2	Mean	0		0		0		0		0		0
21,830.	Run-off in acre-feet	0		0		0		0		0		0
339.	Maximum	0		0		0		0		0		0
0	Minimum	0		0		0		0		0		0

JOHN D. VANDERHOOF
Governor

C. J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

LEE R. ENEWOLD P. E.
IRRIGATION DIVISION ENGINEER
P. O. BOX 396
GLENWOOD SPRINGS, COLORADO 81601
PHONE: 945-5665

October 17, 1976

Bob Jesse, Division Engineer
1906 West Northern Avenue
Pueblo, Colorado 81004

Dear Bob:

In preparation of our 1976 annual report, we would like some information on the trans-mountain diversions from Water Division No. 5 to Water Division No. 2.

The following structures are involved;

Twin Lakes Tunnel	41860 acre-ft.
Busk Ivanhoe Tunnel	4930
Ewing Ditch	802
Wurtz Ditch	2580
Columbine Ditch	1670
Homestake Tunnel	
Fry-Ark Project	26880

Total diversion Division V to Division II 78,722 acre-ft.

I would appreciate any help or suggestions regarding these records.

Sincerely,

Lee R. Enewold
Division Engineer

LRE/rd

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09062500
Rating Table Used

WURTZ DITCH

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1		↑		0	1.23	33	0.57	0 9.8	0.36	+.01 4.9	0.07	+.01 0.43
2			S	.46	1.33	38	.54	+.01 9.2	.38	5.4	S	+.01 .30
3			S	1.5	1.35	39	.50	8.2	.38	5.4		0
4			S	1.8	1.41	42	.46	7.2	.27	3.2		0
5			S	1.9	1.47	44	.44	6.7	.22	2.3		0
6			.18	1.6	1.37	40	.42	6.2	.17	1.6		0
7			S	1.6	1.32	37	.41	6.0	.17	1.6	S	+.01 .54
8			.21	2.0	1.37	40	.40	5.8	.18	1.7	.21	2.1
9			S	2.0	1.35	39	.37	5.1	.19	1.8	.10	.71
10			.28	3.2	1.25	34	.36	4.9	.17	1.6	.08	.52
11			.34	4.3	1.10	28	.35	4.7	.20	2.0	.06	.35
12			.38	5.1	.94	22	[17] .34	+.01 4.5	.18	1.7	.05	.27
13			.37	4.9	.85	18	.33	+.01 4.3	.15	1.3	.05	.27
14			S	8.1	.82	18	[18] .30	+.02 3.9	.15	1.3	.08	.52
15		NO	.75	15	.73	14	.28	3.5	.12	.93	.11	.82
16		FLOW	.87	19	[16] .71	0 14	.26	3.2	.10	.71	.13	1.0
17			.98	23	.72	14	.25	3.0	.09	.61	.10	.71
18			1.08	27	.65	12	.26	3.2	.11	.82	.08	.52
19			[15] 1.10	0 28	.60	11	.28	3.5	.12	.93	.08	.52
20			1.04	26	.63	12	.28	3.5	.12	.93	.12	.93
21			1.05	26	.71	14	.28	3.5	.19	1.8	.08	.52
22			.93	21	.73	14	.23	2.6	.13	1.0	.10	.71
23			.82	18	.74	15	.21	+.02 2.3	.12	.93	.12	.93
24			.79	16	.65	12	.19	+.01 1.8	.11	.82	.12	.93
25			.83	18	.56	9.5	.19	1.8	[19] .10	+.01 .71	.18	1.7
26			.81	17	.55	9.2	.21	2.1	.09	.61	.21	2.1
27			.94	22	.56	9.5	.28	3.3	.17	1.6	.19	1.8
28			1.13	29	.56	9.5	.22	2.3	.12	.93	.15	1.3
29		↓	1.22	33	.55	9.2	.18	1.7	.09	.61	.13	1.0
30			1.17	31	.54	9.0	.18	1.7	.09	.61	.13	+.01 1.0
31	XX	XXX	1.06	26	XX	XXX	.27	+.01 3.2	.08	+.01 .52	XX	XXX

	APR.	MAY	JUNE	JULY	AUG.	SEPT.	Year
	0	433.46	659.9	132.7	50.87	22.5	1299.43
	0	14.0	22.0	4.28	1.64	0.75	3.55
	0	860	1310	263	101	45	2580
	0	33	44	9.8	5.4	2.1	44
	0	0	9.0	1.7	.52	0	0

Quarter	Computed	Checked	Date
4th, 3rd, 2nd, 1st	D. DeYoung	G. E. Largent	10-14-76

Quarter	Dis. appl'd.	Dis. check	Date
4th, 3rd, 2nd, 1st	G. Largent	D. DeYoung	Oct. 13, 1976

Quarter	G.H. copd.	G.H. check	Date
4th, 3rd, 2nd, 1st	D. DeYoung	G. Largent	Oct. 6, 1976

Water Year 1976

EWING DITCH at TENNESSEE PASS, COLO.

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 1976

Drainage area _____ square miles. Water stage recorder STEVENS "F" WEEKLY

Max. Discharge 8.11 Sec. ft. at 1900 Hrs on MAY 17, 1926 G. H. 0.73 ft.
Max. G. H. 0.73 ft. at 1900 Hrs on May 17, 1926 Min. Daily Discharge 0 sec.-ft. on many days
5 - DISCHARGE SUBDIVIDED

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discha
1	0.20	.03 0.98										
2	.20	.98										
3	S	.03 .50										
4		0										
5		0										
6		0										
7		0										
8		0										
9		0										
10		0										
11		0										
12		0										
13		0										
14		0										
15		0										
16		0										
17		0										
18		0										
19		0										
20		0										
21		0										
22		0										
23		0										
24		0										
25		0										
26		0										
27		0										
28		0										
29		0										
30		0							XX	XXX		
31		0	XX	XXX					XX	XXX		

No Flow

Calendar Year 1975												
576.31	Total	2.46		0		0		0		0		0
1.58	Mean	0.08		0		0		0		0		0
1140	Run-off in acre-feet	4.9		0		0		0		0		0
11	Maximum	0.98		0		0		0		0		0

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09062000
Rating Table Used

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1				0	0.58	-06 5.7	0.43	-04 3.6	0.33	-05 2.2	0.20	-05 0.80
2			S	-05 .27	.59	5.9	.42	3.5	.32	2.0	.20	.80
3			.20	.80	.61	6.2	.40	-04 3.2	.30	1.8	.20	.80
4			.25	1.3	.64	6.8	.39	-03 3.2	.27	1.5	.20	.80
5			.24	1.2	.67	7.3	.38	3.1	.26	1.4	.20	.80
6			.24	1.2	.68	7.5	.37	2.9	.25	1.3	.20	.80
7			.24	1.2	.68	-06 7.5	.37	2.9	.25	1.3	.21	.89
8			.23	1.1	.67	-05 7.5	.36	2.8	.26	1.4	.20	.80
9			.24	-05 1.2	.67	7.5	.34	2.5	.26	1.4	.20	.80
10			.29	-06 1.6	.67	7.5	.34	2.5	.26	1.4	.19	.72
11			.32	1.9	.67	7.5	.33	2.4	.28	1.6	.19	.72
12			.29	1.6	.66	7.3	[18] .32	-03 2.3	.26	1.4	.20	.80
13			.33	-06 2.0	.64	7.0	.32	-04 2.2	.25	1.3	.20	.80
14			.43	-07 3.2	.62	6.6	[19] .31	-06 1.8	.24	1.2	.21	.89
15			.48	3.9	.60	6.2	.30	1.7	.23	1.1	.22	.98
16			.50	-07 4.2	[17] .58	-05 5.9	.30	1.7	.23	1.1	.20	.80
17			.54	-08 4.7	.58	5.9	.29	1.6	.22	.98	.18	.64
18			.57	5.2	.56	5.5	.30	1.7	.22	.98	.18	.64
19			[16] .56	-08 5.0	.53	5.0	.31	1.8	.22	.98	.18	.64
20			.57	5.2	.52	4.9	.31	1.8	.22	.98	.18	.64
21			.60	5.7	.51	4.7	.30	-06 1.7	.23	1.1	.17	.56
22			.57	5.2	.51	4.7	.28	-05 1.6	.22	.98	.18	.64
23			.53	4.5	.51	4.7	.28	1.6	.22	.98	.18	.64
24			.52	-08 4.4	.50	-05 4.5	.28	1.6	.21	.89	.18	.64
25			.51	-07 4.4	.49	-04 4.5	.28	1.6	[20] .20	-05 .80	.19	.72
26			.50	4.2	.48	4.4	.29	1.7	.20	.80	.20	.80
27			.51	4.4	.47	4.2	.29	1.7	.22	.98	.20	.80
28			.54	4.9	.46	4.1	.27	1.5	.21	.89	.20	.80
29			.56	5.2	.45	3.9	.26	1.4	.21	.89	.21	.89
30			.57	5.4	.44	-04 3.8	.25	1.3	.21	.89	.21	-05 .89
31	XX	XXX	.57	-07 5.4	XX	XXX	.25	-05 1.3	.21	-05 .89	XX	XXX
	0		100.47		174.7		66.2		37.41		22.94	
	0		3.24		5.82		2.14		1.21		0.76	
	0		199		347		131		74		46	
	0		5.7		7.5		3.6		2.2		0.98	

No Flow

Quarter		Computed	Checked	Date
4th				
3rd		G. LARGENT	D. DeYoung	10-21-76
2nd				
1st				

Quarter		Dis.appld.	Dis.check	Date
4th				
3rd		D. DeYoung	G. LARGENT	10-19-76
2nd				
1st				

Quarter		G.H.copd.	G.H.check	Date
4th				
3rd		D. DeYoung	G.E.L.	10-7-76
2nd				
1st				

Water Year 1976

	404.18
	1.10
	802
	7.5

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09061500

Rating Table Used

COLUMBINE DITCH

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1				0	0.75	-.04 14	0.64	-.03 11	0.37	-.02 4.5	0.15	-.02 .93
2				0	[10] .82	-.04 16	.58	9.2	S	7.5	.14	.82
3				0	1.02	23	.56	8.7	.37	4.5	.14	.82
4				0	1.15	28	.52	7.7	.29	3.0	.13	.71
5				0	1.23	32	.50	7.2	.26	2.5	.13	.71
6				0	1.13	28	.47	6.5	.24	2.1	.13	.71
7				0	1.14	28	.45	6.0	.23	2.0	.13	.71
8				0	1.18	30	.44	5.8	.25	2.3	.13	.71
9				0	1.26	33	.42	-.03 5.4	.26	2.5	.13	.71
10				0	1.19	30	.39	-.02 4.9	.23	2.0	.13	.71
11				0	1.02	23	.38	4.7	.32	3.5	.13	.71
12				0	.76	14	.36	4.3	.30	3.2	.13	.71
13				0	.72	13	.35	4.1	.25	2.3	.13	.71
14				0	.62	10	.33	3.7	.24	2.1	.15	.93
15				0	.56	8.5	.31	3.3	.20	1.6	.17	1.2
16				0	.65	11	.32	3.5	.20	1.6	.16	1.0
17			S	-.02 1.6	.59	9.2	.30	3.2	.19	1.4	.14	.82
18			.37	4.5	.51	7.2	.30	3.2	.18	1.3	.13	.71
19			.44	6.0	.58	9.0	.35	4.1	.17	1.2	.12	.61
20			.52	7.9	.81	16	.36	4.3	.19	1.4	.12	.61
21			.52	-.02 7.9	.88	18	.33	3.7	.20	1.6	.12	.61
22			S	✓ 6.8	.88	18	.28	2.8	.18	1.3	.13	.71
23			.36	-.03 4.1	.82	-.04 16	.28	2.8	.18	1.3	.13	.71
24			.30	3.0	.67	-.03 12	.27	2.6	.18	1.3	.12	.61
25			.27	2.5	.62	10	.28	2.8	.17	1.2	.16	1.0
26			.28	2.6	.67	12	.31	3.3	.17	1.2	.18	1.3
27			.59	-.03 4.7	.70	13	.30	3.2	.19	1.4	.18	1.3
28			.58	-.04 9.0	.67	12	[11] .24	-.02 2.1	.17	1.2	.17	1.2
29			.68	12	.61	10	.23	2.0	.16	1.0	.17	1.2
30			.72	13	.61	-.03 10	.22	1.8	.16	1.0	.18	-.02 1.3
31	XX	XXX	.63	-.04 10	XX	XXX	.20	-.02 1.6	.15	-.02 .93	XX	XXX
	0			95.6		513.9		139.5		65.93		25.49
	0			3.08		17.1		4.50		2.13		0.85
	0			190		1020		277		131		50.6
	0			13		33		11		7.5		1.3
	0			0		72		16		0.93		0.61

840.42
2.30
1670
33
0

No Flow

4th Quarter: Computed G. LARGENT, Checked D. DeYOUNG, Date 10-19-76
1st Quarter: Dis.appld. D. DeYOUNG, Dis.check G. LARGENT, Date 10-18-76
2nd Quarter: G.H.copd. D. DeYOUNG, G.H.check G. LARGENT, Date 10-15-76

Water Year 1976

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09077160
Rating Table Used

BOUSTEAD TUNNEL

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1				0	3.00	335	1.57	119		0		
2				0	3.32	394	1.80	148		0		
3			S	8.6	3.33	396	1.68	133		0		
4			.58	24	3.58	445	1.62	125	S	14		
5			.60	26	3.85	500	1.51	112	.58	24		
6			.81	41	3.45	419	1.43	102	.30	8.4		
7			.91	50	3.24	379	1.34	92		0		
8			.92	51	3.42	413	1.34	92		0		
9			.94	52	3.50	429	1.32	90		0		
10			1.03	61	3.38	406	1.12	69		0		
11			1.17	74	3.02	339	1.06	64		0		
12			1.12	69	2.53	255	[16] 1.02	° 60		0		
13			1.09	66	2.14	195	1.08	65		0		
14			S	105	1.92	164	.92	51		0		
15			2.01	177	1.74	140	[17] .98	° 56		0		
16			2.27	215	[15] 1.63	° 126	S	56		0		
17			2.42	238	1.57	119	.56	23		0		
18			2.67	278	1.45	105	.56	23		0		
19			[14] 2.77	° 295	1.25	83	.75	36		0		
20			2.93	323	1.46	106	.70	33		0		
21			3.04	342	2.03	179	.54	22		0		
22			2.43	239	2.48	247	.48	18		0		
23			1.88	159	2.44	241	.32	9.3		0		
24			1.68	133	1.88	159	.18	3.7		0		
25			1.71	136	1.60	123	.17	3.4		0		
26			1.72	138	1.46	106	.15	2.8		0		
27			2.15	197	1.42	101		0		0		
28			2.62	270	1.60	123		0		0		
29			2.92	321	1.59	121		0		0		
30			2.83	305	1.28	86		0		0		
31	XX	XXX	2.62	270	XX	XXX		0		0	XX	XXX
		0		4663.6		7234		1608.2		46.4		0
		0		150		241		51.9		1.50		0
		0		9250		14350		3190		92		0
		0		342		500		148		24		0
		0		0		83		0		0		0
		0		13552.2								
		0		37.1								
		0		26,880								
		0		500								
		0		0								

No Flow

No Flow

Water Year 1976

Quarter	1st	2nd	3rd	4th
Computed		R. DeYoung	G. Largent	
Checked				10-19-76
Date				
Dis.appld.		R. DeYoung	G. Largent	
Dis.check				Oct. 18, 1976
Date				
G.H.copd.		D. DeYoung	G. Largent	
G.H.check				Oct. 14, 1976
Date				

ily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

ainage area _____ square miles. Water stage recorder STEVENS A-35 CONTINUOUS

Max. Discharge 3100 Sec. ft. at 0700 HRS. on JUNE 15, 1976 G. H. 7.03 ft.
Max. G. H. 4.85 ft. at 0900 HRS on June 10, 1976 Min. Daily Discharge _____ sec.-ft. on _____
S - DISCHARGE SUBDIVIDED

Day.	OCT.		NOV.		DEC.		JAN.		FEB.		MAR.	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1	0.12	1.6	0.10	1.2	0.21	3.8	0.16	2.5	0.15	2.2	a	2.5
2	.12	1.6	.10	1.2	.21	3.8	.15	2.2	.15	2.2		2.5
3	.12	1.6	.10	1.2	.21	3.8	.15	2.2	.15	2.2		2.5
4	.11	1.4	S	4.9	.20	3.6	.15	2.2	.15	2.2		2.5
5	.11	1.4	.28	6.1	.20	3.6	.15	2.2	.15	2.2		2.5
6	.10	1.2	.27	5.8	.20	3.6	.15	2.2	.16	2.5		2.5
7	.10	1.2	.25	5.1	.20	3.6	.15	2.2	.17	2.7		2.5
8	.10	1.2	.27	5.8	.18	3.0	.15	2.2	.17	2.7		2.5
9	.10	1.2	.26	5.4	.18	3.0	.16	2.5	.17	2.7		2.5
10	.09	.99	.24	4.8	.18	3.0	.16	2.5	.17	2.7		2.5
11	.09	.99	.25	5.1	.17	2.7	.16	2.5	.17	2.7		2.5
12	.08	.82	.24	4.8	.18	3.0	.16	2.5	.17	2.7	a	2.5
13	.08	.82	.24	4.8	.18	3.0	.16	2.5	a	2.7	.16	2.5
14	.08	.82	.22	4.2	.19	3.3	.15	2.2		2.7	.15	2.2
15	.08	.82	.22	4.2	.19	3.3	.15	2.2		2.7	.16	2.5
16	.08	.82	.21	3.8	.18	3.0	.15	2.2		2.7	.15	2.2
17	.09	.99	.21	3.8	.18	3.0	.15	2.2		2.7	.15	2.2
18	.10	1.2	.20	3.6	.18	3.0	.15	2.2		2.7	.15	2.2
19	.10	1.2	.21	3.8	.17	2.7	.15	2.2		2.7	.15	2.2
20	.10	1.2	.22	4.2	.17	2.7	.15	2.2		2.7	.16	2.5
21	.10	1.2	.21	3.8	.17	2.7	.15	2.2		2.7	.15	2.2
22	.10	1.2	.21	3.8	.16	2.5	.15	2.2		2.7	.14	2.0
23	.10	1.2	.20	3.6	.16	2.5	.15	2.2		2.7	.15	2.2
24	.10	1.2	.20	3.6	.16	2.5	.15	2.2		2.7	.14	2.0
25	.10	1.2	.21	3.8	.16	2.5	.16	2.5		2.7	.14	2.0
26	.10	1.2	.20	3.6	.16	2.5	.16	2.5		2.7	.15	2.2
27	.10	1.2	.20	3.6	.16	2.5	.16	2.5		2.7	.14	2.0
28	.10	1.2	.20	3.6	.16	2.5	.15	2.2		2.5	.14	2.0
29	.10	1.2	.21	3.8	.16	2.5	.15	2.2	a	2.5	.14	2.0
30	.10	1.2	.21	3.8	.15	2.2	.15	2.2	XX	XXX	.14	2.0
31	.10	1.2	XX	XXX	.16	2.5	.15	2.2	XX	XXX	.14	2.0
1,940.76 Total		36.27		120.8		91.9		70.9		75.2		71.1
683 Mean		1.17		4.03		2.96		2.29		259		2.29
19470 Run-off in acre-feet		72		240		182		141		149		141
556 Maximum		1.6		6.1		3.8		2.5		2.7		2.5
0.39 Minimum		0.82		1.2		2.2		2.2		2.2		2.0

Calendar Year 1975

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09073000

Rating Table Used

Day	APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge
1	0.14	2.0	0.12	1.6	3.43	336	2.65	222	1.04	50	0.57	19
2	.15	2.2	S	18	4.28	479	2.74	235	1.05	51	.56	18
3	.15	2.2	S	15	4.37	495	2.90	257	1.06	51	[20] .56	18
4	.15	2.2	S	25	4.52	522	2.82	246	a	51	a	18
5	.16	2.5	S	43	4.74	564	2.57	212	a	51	.53	17
6	.17	2.7	S	50	4.80	575	2.05	147	.98	45	.53	17
7	.17	2.7	a	82	4.47	513	2.12	156	.92	41	S	8.1
8	.17	2.7	a	28	4.42	504	2.16	160	.91	40	.12	1.6
9	.17	2.7	S	24	4.49	517	2.41	191	.92	41	.11	1.4
10	.17	2.7	S	44	4.77	569	2.37	186	.91	40	.10	1.2
11	a	2.7	1.88	128	4.75	566	2.00	142	[19] .91	40	.10	1.2
12		3.3	1.84	124	S	364	[18] 1.91	132	.92	41	.09	.99
13		3.8	S	27	3.17	296	1.93	134	.92	41	.09	.99
14		3.8	1.26	68	2.79	241	1.90	131	.91	40	.09	.99
15	a	3.8	1.82	122	1.92	133	1.83	123	.90	40	a	.99
16	.21	3.8	2.65	222	2.57	212	1.48	88	.78	31		.99
17	.21	3.8	2.67	225	2.93	261	1.31	72	.56	18		.99
18	.21	3.8	2.85	250	2.28	175	1.28	69	.57	19		1.4
19	.20	3.6	3.28	313	2.07	150	1.32	73	.59	20		2.0
20	.20	3.6	3.24	307	2.31	178	1.57	96	.60	21		1.8
21	.20	3.6	3.29	314	3.79	394	1.87	127	.61	21		.39
22	.18	3.0	3.16	295	4.02	433	1.64	103	.62	22		.39
23	.19	3.3	2.43	194	3.69	378	S	46	.67	25		.39
24	.21	3.8	2.15	159	3.05	278	.68	25	.83	35		.39
25	.21	3.8	2.06	149	2.42	192	.92	41	.82	34		.39
26	.21	3.8	1.98	139	2.32	180	1.10	54	.91	40		.39
27	.21	3.8	2.22	167	3.10	286	1.17	60	.90	40		.39
28	.23	4.4	3.28	313	3.57	358	1.39	79	.77	31		.39
29	.28	6.1	3.53	352	3.18	298	1.31	72	.77	31		.39
30	.25	5.1	3.43	336	[17] a	260	1.07	52	.75	30	a	.39
31	XX	XXX	3.02	274	XX	XXX	1.05	51	.66	24	XX	XXX
		101.3		4808.6		10707		3782		1105		135.54
		3.38		155		357		122		35.6		4.52
		201		9540		21240		7500		2190		269
		6.1		352		575		257		51		19
		2.0		16		133		25		18		0.39

Day.	4th	3rd	2nd	1st	Quarter	Computed	Checked	Date
1						D. DeYoung	G. LARGENT	10-27-76
11						G. LARGENT	D. DeYoung	10-25-76
21						D DeYoung	G. LARGENT	10-21-76

Day.	Quarter	Dis.appld.	Dis.check	Date
1				
11				
21				

Day.	Quarter	G.H.copd.	G.H.check	Date
1				
11				
21				

Water Year 1976

BUSK-IVANHOE TUNNEL Creek near LEADVILLE, COLO.

Daily Gage Height, in Feet, and Discharge in Second-Feet for the Year Ending September 30, 19 76

Drainage area _____ square miles. Water stage recorder STEVENS "F" WEEKLY

Max. Discharge 93.6 Sec. ft. at 1300 Hrs on June 8, 1976 G. H. 1.93 ft. +.02
Max. G. H. 1.93 ft. at 1300 Hrs on June 8, 1976 Min. Daily Discharge 0 sec.-ft. on MANY DAYS
S - DISCHARGE SUBDIVIDED

Day.	OCT. Gage height	OCT. Discharge	NOV. Gage height	NOV. Discharge	DEC. Gage height	DEC. Discharge	JAN. Gage height	JAN. Discharge	FEB. Gage height	FEB. Discharge	MAR. Gage height	MAR. Discharge
1	0.09 +.04	1.2										
2	.09	1.2										
3	.09	1.2										
4	.08	1.1										
5	.08	1.1										
6	.08	1.1										
7	.08	1.1										
8	.09	1.2										
9	.09	1.2										
10	.10	1.4										
11	.10	1.4		No Flow		No Flow		No Flow		No Flow		
12	.10	1.4										
13	.10	1.4										
14	.09	1.2										
15	.10	1.4										
16	.11	1.5										
17	.09	1.2										
18	.10	1.4										
19	.09	1.2										
20	.09	1.2										
21	.08	1.1										
22	.08	1.1										
23	.09	1.2										
24	.09 +.04	1.2										
25	a	1.2										
26	a	1.2										
27	a	1.2										
28	.09 +.04	1.2										
29	.08	1.1										
30	.08	1.1							XX	XXX		
31	S +.04	.57	XX	XXX					XX	XXX		

Calendar Year 1975			
3589.72	Total	37.27	
9.83	Mean	1.20	
7120	Run-off in acre-feet	74	
118	Maximum	1.5	
0	Minimum	0.57	

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF STATE ENGINEER

Sta. No. 09077500
Rating Table Used

APR. Gage height	APR. Discharge	MAY Gage height	MAY Discharge	JUNE Gage height	JUNE Discharge	JULY Gage height	JULY Discharge	AUG. Gage height	AUG. Discharge	SEPT. Gage height	SEPT. Discharge	Day.
			0	1.33	+.02 52	S	+.03 24	0.21	+.04 3.4	a	1.7	1
			0	1.42	58	.99	33	.22	3.7		1.7	2
			0	1.45	59	.93	30	.28	5.1		1.7	3
			0	1.53	65	.88	28	.28	5.1		1.7	4
			0	1.65	73	.84	26	.25	+.04 4.4		1.7	5
			0	1.74	79	S	17	.21	+.05 3.7		1.7	6
			0	1.70	76	.23	3.7	.18	+.06 3.2		1.7	7
			0	1.82	85	.23	3.7	.18	3.2		1.7	8
			0	1.83	86	.20	3.0	.18	3.2		1.8	9
			0	1.81	84	.17	2.4	.17	3.0		1.8	10
		S	+.01 0.97	1.80	84	.17	2.4	[19] .18	+.06 3.2		1.8	11
		S	3.9	1.62	71	[18] .17	+.03 2.4	.25	+.05 4.6		1.8	12
		.36	6.5	1.47	61	.17	2.4	.30	5.9		1.8	13
		.43	8.6	1.40	56	.18	2.6	.29	5.7		1.8	14
		.53	12	1.23	+.02 46	.18	2.6	.27	+.05 5.1	a	1.8	15
		.60	14	[17] 1.09	+.03 38	S	19	.23	+.04 3.9	.13	+.04 1.8	16
		.71	19	1.03	35	.81	24	.22	3.7	.13	1.8	17
		.83	24	.97	32	.62	16	.21	3.4	.13	1.8	18
		[16] .86	+.01 26	.92	30	.51	12	.20	3.2	.12	1.7	19
		.91	28	.97	32	.45	9.8	.18	2.8	.12	1.7	20
		1.03	34	1.08	38	.43	+.03 9.2	.18	2.8	.12	1.7	21
		1.02	34	1.20	45	.37	+.04 7.6	.17	2.6	.12	1.7	22
		.92	28	1.29	50	.32	6.2	.17	+.04 2.6	.12	1.7	23
		.78	22	1.22	46	.28	5.1	a	2.2	.12	1.7	24
		.73	20	1.11	40	.27	4.9	[20] a	1.8	.14	2.0	25
		.69	18	S	19	.28	5.1	.12	+.04 1.7	.18	2.8	26
		.74	20	.35	6.8	.30	5.7	.13	1.8	.22	3.7	27
		.96	+.01 30	.35	6.8	.29	5.4	.13	1.8	.21	+.04 3.4	28
		1.18	+.02 43	.36	7.0	.28	5.1	.13	1.8	a	3.4	29
		1.30	50	.34	+.03 6.5	.27	4.9	.12	1.7	a	3.4	30
XX	XXX	1.27	+.02 48	XX	XXX	.24	+.04 4.1	.12	+.04 1.7	XX	XXX	31
0		489.97		1467.1		327.3		102.0		60.5		2484.14
0		15.8		48.9		10.6		3.29		2.02		6.79
0		972		2910		649		202		120		4930
0		50		86		33		59		37		86
0		0		6.5		2.4		1.7		1.7		0

NO FLOW

4th Quarter — Computed: D. DeYoung; Checked: G. Largent; Date: 10-25-76
4th Quarter — Dis.appld.: D. DeYoung; Dis.check: G. Largent; Date: 10-14-76
4th Quarter — G.H.copd.: D. DeYoung; G.H.check: G. Largent; Date: Oct. 7, 1976

Water Year 1976

RESERVOIRS

Storage Report - Acre Feet
1976

orage t 10-31-76	Actual Am't Diverted to Storage During Season	Delivered from Storage to Irrigation	Storage to Industrial Use	Storage to Municipal Use	Storage to Recreation Use	Storage to Projects
364219	- 31845	6750	70,107	39724	7367	2140
27063	22872	460	3340		23792	
84881 6983	- 6413	8227		40	7119	
6454	- 365	10,062		384	21,973	5720
19	19	—				
3259	- 3484	4480			5000	
66338	15470	3835			50,000	
15	- 46	105	0	0	0	
3017	- 640	2091		640		
0		—				
—	(54840)	31789	12224	406	46223	32700
562248	- 4432	67799.	85671	41194	161474	40560

RRELATED WITH 1975 RECORDS

E TO ~~##~~ insufficient 1976 Reports

AGRICULTURE

classed as livestock and grazing. The major crop is hay, with 3/4 to 1 ton per acre. The grazing land in the area ranges in elevation from 4,500 to 12,000 feet. With this difference in elevation, there is a great difference in ability to produce forage for cattle and browse for wild game and sheep. Some sites can produce no more than 100 pounds of plant material per acre. Other sites in favorable years produce 4000 pounds per acre.

The Middle Park area crops are mostly barley, potatoes, corn and hay. Over the last twenty years the cropping patterns have changed in this area. Carbondale and Aspen used to be known for potatoes, and crops like strawberries were common around Glenwood Springs. Today this area is devoted to pasture and hayland, with minor acreages of cash crops.

The Lower Grand Valley area produc es fruits and row crops. About 8,141 acres of fruit orchards - peaches, pears and apples.

In all three areas combined, the approximate yield of wheat and hay is 105,700 bushels and 310,258 tons. There are approximately 152,548 sheep and lambs, and 143,276 cattle and calves. Livestock is an important part of the agriculture industry. However, the total number has decreased. Cattle and sheep are often summered on land administered by the U. S. Forest Service and Bureau of Land Management.

Irrigation water is available for many farms in the 3 areas and new planned developments are underway to promote more irrigation water and more uniform distribution of water.

There are many organizations designed to assist farmers and ranchers. Such organizations as the Agricultural Stabilization and Conservation Service, Farmers Home Administration, Bureau of Land Management, U. S. Forest Service, and State Forester and Extension Service.

DAMS

DISTRICT	NO. OF STOCK TANKS
36	0
37	0
38	0
39	0
45	1
50	0
51	0
52	0
53	0
70	0
72	1

WATER RIGHTS TABULATIONS

1.	Underground water rights	44
2.	Changes in water rights	22
3.	Water rights (absolute)	75
4.	Diligence (conditional)	52
5.	Water storage rights	15
6.	Applications received in water court	356
7.	Referee consultations	356

We are, and have been for the past several years, making corrections to the Water Rights Tabulation. It is our hope that a tabulation can be printed soon that will be dependable and usable by this office and the general public.

(1) - 3246

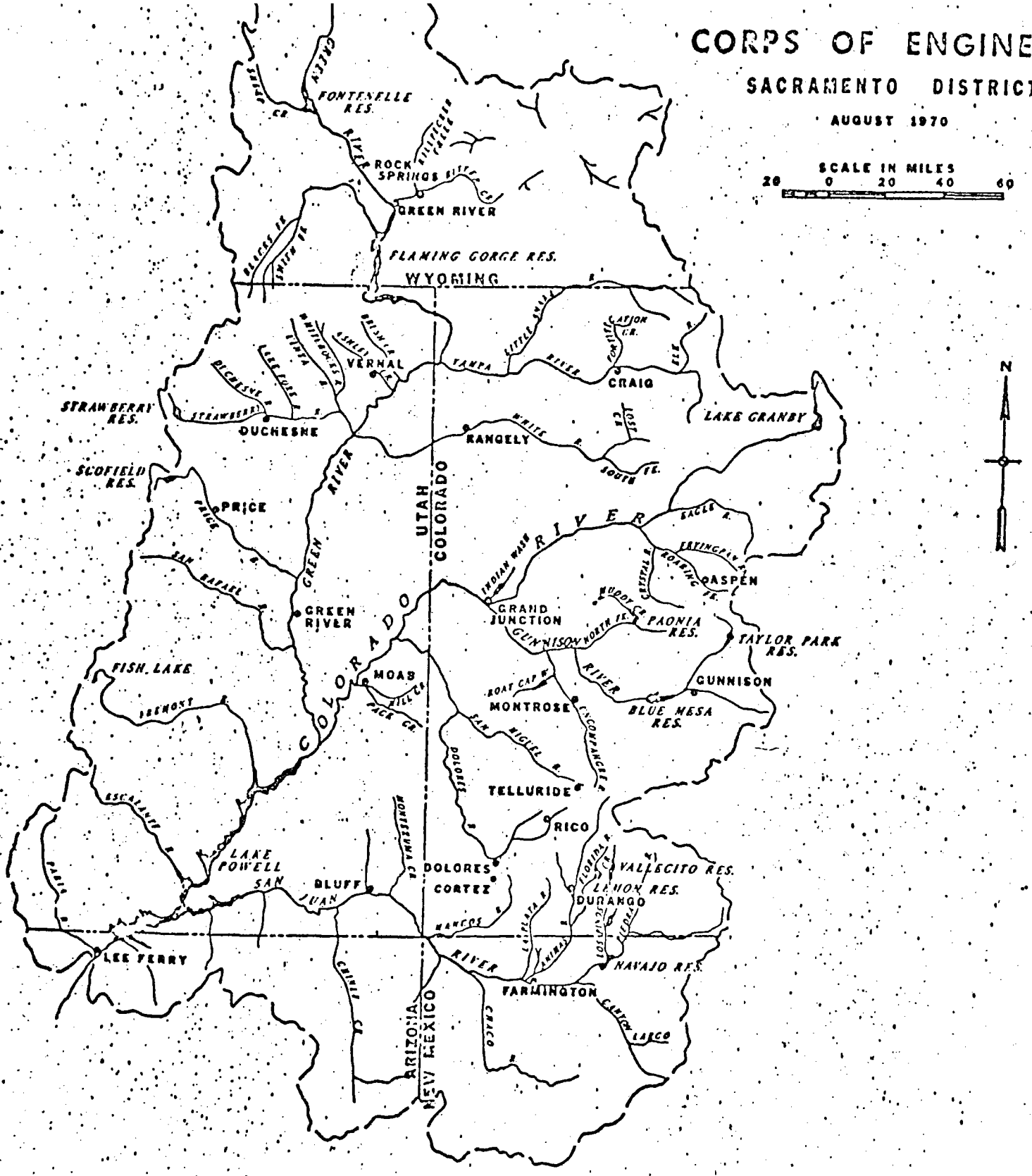
REFEREE'S FINDINGS AND DECREES

HYDROGRAPHER'S REPORT

On September 15, 1976, an agreement between the Bureau of Reclamation and the Colorado State Engineer was made confirming the responsibility of the State Engineer to administer certain Fryingpan-Arkansas Project stream gages.

The hydrographer began operating the stream gates on July 1, 1976 and assumed responsibility for computing stream flow records on October 1, 1976.

ORGANIZATIONS



UPPER COLORADO RIVER BASIN

Carl Bernklau
Paul Pitman
L. Christensen
Ralph L. Antonides

MISCELLANEOUS - Colorado River Water Users Association

Pres: L. Y. Siddoway, Vernal, Utah
V-Pres: Clifford Tabor, Wellton, Ariz.
Sec-Treas: Lynn S. Ludlow, Orem, Utah
Dir: Floyd M. Smith, Arizona
Victor I. Corbell, Arizona
Norris Soma, Arizona
Carl Vevine, California
Warren Butler, California
Leon Kennedy, California
Roland Fischer, Colorado
Don D. Noble, Colorado
Robert Delaney, Colorado
Ivan P. Head, Nevada

COLORADO DEPARTMENT OF NATURAL RESOURCES

T. W. Ten Eyck
Division of Game Fish & Parks
Division of Mines
Division of Water Resources
Geological Survey
Board of Land Commissioner
Oil and Gas Conservation Commission
Soil Conservation Board
Water Conservation Board

COLORADO RIVER WATER CONSERVATION DISTRICT

Ken Balcomb
R. C. Fischer

COLORADO WATER CONSERVATION BOARD

Felix L. Sparks

GRAND VALLEY - Orchard Mesa Irrigation District

Pres: Edward T. Bryant, Gr. Junction
V-Pres: H. E. Porterfield, Palisade, Colo.
Sec: Florence K. Pauly, Gr. Junction
Treas: Mesa County Treasurer, Gr. Junction
Atty: Williams & Turner
Supt: W. F. Green, Palisade
Mgr: G. W. Klapwyk, Gr. Junction
Dir: H. E. Porterfield
E. T. Bryant
Clyde Rooks

GRAND VALLEY - Palisade Irrigation District

Pres: Everett Corlett, Gr. Junction
V-Pres: John Vesakis, Clifton
Sec: W. E. Funk, Palisade
Treas: Mesa County Treasurer, Gr. Junction
Atty: William H. Nelson
Ditchrider: Delbert Kitson
Dir: W. E. Funk
John Vesakis
Everett Corlett

MIDDLE PARK - Middle Park Water Conservancy District

Pres: Redwood Fisher, Granby
V-Pres: Karl H. Knorr, Dillon
Sec-Treas: Carl Breeze, Kremmling
Atty: Bob Delaney, Glenwood Springs
Dir: Red Fisher
Jack Horn
Carl Breeze
Karl H. Knorr
Kenneth Wheatley
Frank F. Brown

SILT - Silt Water Conservancy District

Pres: Marvin Ryden, Rifle
V-Pres: Jake Haas, Rifle
Sec. Treas: Mike Dmitrich, Price
Atty: Therald N. Jensen
Dir: Chris Jouflas
George Waterman
Paul Moynier
William Welsh
Gordon Newbold

UTE WATER - Ute Water Conservancy District

Pres: Fred J. Simpson, Grand Junction
V-Pres: W. J. Baker, Loma
Sec: L. P. Morse, Gr. Junction
Treas: Bobby J. White, Gr. Junction
Atty: Albin Anderson, Gr. Junction
Mgr: Riney F. Wilbert, Gr. Junction
Dir: John Brophy
W. J. Baker, Loma
Frank Hoods

Willis Kenny
Austin Hueschkel
Harold Fender
Thomas Turnbull
George Lucksinger
Floyd Crawford

BATTLEMENT MESA - Battlement Mesa Wtr. Cons. Dist.

Pres: Carleton Currier, Gr. Junction
V-Pres: Clyde Bruton, Collbran
Sec. Treas: Arthur Linn, Collbran
Atty: Albin Anderson, Gr. Junction
Dir: Carleton Currier
Arthur Linn
Ray Hittle
Rex Clifton
Paul Height
George Gipp
Clyde Bruton

BLUESTONE - Bluestone Wtr. Cons. Dist.

Pres: Orville Mahaffey, Grand Valley
V-Pres: Robert Latham, Gr. Valley
Sec-Treas: Geo. Anderson, DeBeque
Atty: Kenneth Balcomb, Gl. Springs
Dir: LeRoy Latham
George Anderson
Orville Mahaffey
Robert Latham
Carlos Carpenter
Harry Blue
Richard Looney

COLLBRAN - Collbran Conservancy District

Pres: Herbert Milholland, Molina
V-Pres: Francis Chapman, Collbran
Sec: H. R. Lloyd, Mesa
Atty: Nelson, Hoskin & Groves, Gr. Jct.
Sec.Treas: Everett Collins, Collbran
Dir: Ben Nichols
Bill Tupper
Francis Chapman
Herbert Milholland
W. D. Meador
H. R. Lloyd

GRAND VALLEY-Gr. Valley Wtr Users Assoc.

Pres: W. J. Baker, Loma
V-Pres: Taylor Roberts, Mack
Sec: Ray Gobbo, Gr. Junction
Treas: G. W. Klapwyk, Gr. Junction
Atty: Williams & Turner, Gr. Junction
Mgr: G. W. Klapwyk, Gr. Junction
Asst. Mgr: Bob Byers
Dir: Amos Alstatt
W. J. Baker
Avery Kohln
Bruce Currier

The purpose of this memorandum is to set forth the efforts undertaken by the Pitkin County Commissioners on behalf of Pitkin County residents and in a larger sense the residents of the Roaring Fork River Valley. The memo demonstrates the work completed, in process and planned.

The memo serves to demonstrate that Pitkin County has not received from the Colorado River Water Conservation District, one cent of contribution toward the solution of its or the basinwide problems despite large tax revenues from the Pitkin County area. And in spite of these tax revenues the County has expended large additional sums on legal and engineering advisors to protect and preserve its water environment.

What the Board of Commissioners are requesting is a review of their largely successful efforts and the immediate moral and financial support of their pending projects by the District Board.

1. W-1869. Twin Lakes Reservoir and Canal Company.

Pitkin County in conjunction with the City of Aspen, opposed this application by the Twin Lakes Reservoir and Canal Company for a conditional water right for 100 cfs. additional water to be collected at various diversion points on the New York Collection Canal, a segment of the Independence Pass Transmountain Diversion System, lying to the west of Grizzly Reservoir. The United States also opposed the application in the Water Court on the ground that the applicant had not sought nor received the special use permit or right-of-way required by law since the applicant's points of diversion were located upon National Forest Land and that the proposed development violated the water interests of the United States under the doctrine of reserved rights. The Colorado River Conservation District entered an appearance. Additional entries of appearance were made on behalf of the Colorado Rivers Council, Trout Unlimited, The Crystal Valley Environmental Protection Association, and the Towns of Carbondale and Basalt.

At the hearing, only the United States and the City of Aspen and County of Pitkin appeared to present arguments in opposition. Subsequently, the United States withdrew its opposition. The Division V Water Court denied the application in March, 1975. The result of the denial was to preclude the diversion of from 200 to 600 acre feet of water per year to the eastern slope. Twin Lakes appealed to the Supreme Court and oral arguments were presented by John Musick of Vranesh and Musick on behalf of the objectors City of Aspen and County of Pitkin. No other objectors argued before the Supreme Court. No decision as yet has been issued by the Supreme Court in this case.

by Mills E. Bunger based on surveys conducted by the applicant while an employee of the U.S. Department of the Interior Bureau of Reclamation. The City of Aspen and the County of Pitkin opposed these applications. Additional opposition was filed by the Colorado River Water Conservation District and the Northern Colorado Water Conservancy District as well as by others. The City and Aspen and the County of Pitkin filed Motions for Summary Judgment. Additional Motions for Summary Judgment were also filed on behalf of the Colorado River Conservation District and the Northern Colorado Water Conservancy District.

The Water Courts in Divisions IV and V granted the Motions for Summary Judgment and the applicant appealed to the Supreme Court of Colorado. Oral arguments were held in September, 1976, with presentations made by John Musick of Vranesh and Musick on behalf of the City of Aspen and the County of Pitkin, and by Scott Balcomb on behalf of the Colorado River Water Conservation District and others. No decision has yet been issued by the Supreme Court.

3. W-1901. The Twin Lakes Reservoir and Canal Company.

This application is for a change of the presently-decreed water rights of the Independence Pass Transmountain Diversion System from irrigation purposes to all beneficial purposes, and from use on specified lands in Pueblo and Crowley Counties to all points capable of being served by water from the outlet of the Independence Pass Tunnel or from Grizzly Reservoir, including the cities of Aurora, Colorado Springs, Pueblo and Pueblo West. The City of Aspen and County of Pitkin opposed this water application. The Colorado River Water Conservation District also objected to this application but later withdrew pursuant

Court, a Decree was issued granting the proposed change with certain limitations and the City of Aspen and County of Pitkin have recently filed a Notice of Appeal in this case. The appeal questions only that part of the decree approving the stipulation by the River District. The balance of the decree, parts of which contain additional limitations upon the transmountain diversions, have not been appealed.

4. W-1905 and W-1906; Marble Metropolitan District and Marble Ski Area.

These applications for a plan of augmentation, a change of use, and for surface water rights were filed in May, 1973, and July, 1974. Pitkin County opposed these applications. The Crystal Valley Environmental Protection Association, the Town of Marble, the Colorado Rivers Council, and Trout Unlimited also opposed these applications. The applications were conditionally decreed in August, 1974, and February, 1975, but were made subject to various conditions demanded by the County.

The District has now filed an application for a finding of due diligence on the various water rights involved in the plan. A Statement of Opposition was filed on behalf of the County of Pitkin. A trial is scheduled for November 9, 1976. The Colorado Water Conservation District did not oppose the original application, nor has it opposed the application for a finding of due diligence.

5. W-2609, W-2610, W-2611.

These applications are for storage water rights for the water contained behind the diversion dams on Lincoln Gulch, Lost Man Creek, and the Roaring Fork River, components of the Twin Lakes Company's Independence Transmountain Diversion System. A pre-trial conference was held in mid-1975, at which a compromise was proposed by the attorney for the Twin Lakes Company, who was opposing the application. Negotiations are now being

County questioning the factual basis of the application. Negotiations are currently under way for a proposed settlement of this matter between the City of Aspen, the County of Pitkin, and the Salvation Ditch Company.

7. Pitkin County Minimum Stream Flow Water Rights.

The Board of County Commissioners of Pitkin filed numerous applications for minimum stream flow water rights in the rivers and streams located within Pitkin County. The County sought to join the Colorado Water Conservation Board as an involuntary applicant. Statements of Opposition were filed by the Colorado Water Conservation Board, by the City and County of Denver, and by the Southeastern Water Conservancy District. All objectors, except the City and County of Denver, filed Motions to Dismiss which were granted by the court on the ground that the Board of County Commissioners of Pitkin County had no authority to make such an appropriation. This decision was not appealed. Immediately prior to the time this decision was rendered representatives of the County met with the Director of the Water Conservation Board and the Director of Natural Resources. As a result of these meetings and the efforts of the County, the designations of the streams in the Roaring Fork Valley were pushed far ahead of schedule. As a result of this designation, minimum stream flow applications were filed by the Board considerably sooner than originally represented by the Board.

8. W-2720, W-2721, and W-2777; Colorado Water Conservation Board Minimum Stream Flow Applications.

These three applications are for minimum stream flow water rights on the Crystal River and Avalanche Creek filed by the Colorado Water Conservation Board in 1975. W-2936 through W-2951 were postponed pending resolution of the issues raised by the objectors in the above three cases. Objections were filed

figures in each application. The entry of appearance was made on behalf of the County of Pitkin in order to assist the Colorado Water Conservation Board and the Attorney General's staff in asserting the constitutionality of the minimum stream flow concept. The Colorado River Water Conservation District deposed members of the Colorado Water Conservation Board, Division of Wildlife, Division of Parks and Outdoor Recreation in Denver in late September, 1976. A pre-trial conference is scheduled for February, 1977.

9. Board of County Commissioners of the County of Pitkin v. Kleppe, et al; Civil Action No. 75-M-1268.

This complaint in the United States District Court was filed on behalf of the Commissioners in November, 1975. The complaint alleges procedural non-compliance with the National Environmental Policy Act (NEPA), in that the final environmental statement for the Fryingpan-Arkansas Project is insufficient. The complaint also alleges that substantive non-compliance with NEPA in the Fryingpan-Arkansas Project will result in unjustified adverse environmental impact. The Bureau of Reclamation (Dept. of Interior) and the Southeastern Colorado Water Conservancy District (which intervened in the action) have moved for Summary Judgment on the ground that the County has no standing to bring the action. One of the arguments asserted against Pitkin County in the motions for summary judgment relies on the assertion that Pitkin County is one of the fifteen counties which belong to the Colorado River Water Conservation District. The contention is that since the Colorado River Water Conservation District testified in 1960 before Congress in support of the Fryingpan-Arkansas project, since the Colorado River Water Conservation District entered into a compact with the Colorado Water Conservation Board and Southwestern Colorado Water Conservancy District which was incorporated

10. W-2860; The Board of County Commissioners of the County of Pitkin v. The Southeastern Colorado Water Conservancy District and the Colorado River Water Conservation District.

This complaint was filed on behalf of the Board of County Commissioners in late 1975. The action is one for declaratory and injunctive relief seeking a determination of the abandonment of water rights and interpretation of water rights for the Fryingpan-Arkansas Project and Ruedi Reservoir. The complaint in seven counts alleges that the defendants (1) plan to divert water in excess of the decreed water rights from No Name Creek, Midway Creek and Hunter Creek; (2) have abandoned decreed water rights in Lime Creek and Last Chance Creek, and their tributaries; (3) have stored water contrary to decreed water rights; (4) plan to divert water from Midway and No Name Creeks without complying with conditions of the decreed water rights; (5) plan to use water diverted from Midway Creek and No Name Creeks for purposes contrary to decreed water rights; (6) have stored water in Ruedi Reservoir not thereafter put to beneficial use contrary to decreed water rights; and (7) have failed to maintain bypass stream flows contrary to decreed water rights. The complaint seeks mandatory injunctive relief requiring defendants to adhere to limitations of the decreed water rights and to install adequate measuring devices and maintain adequate records, and an order declaring abandonment of the Lime Creek and Last Chance Creeks decreed water rights.

The defendants have filed a Motion to Dismiss for lack of jurisdiction, lack of standing, and failure to join proper parties. Briefs have been filed by all parties and a resolution of the Motion is pending.

11. W-829-76.

This is an application for change of water rights, finding of due diligence, and partial final decree for the Fryingpan-

12. General Protests.

The firm of Vranesh and Musick undertakes a general review of the resumes that are published by the Water Court in Division V. When an application which may affect the County is discovered, the information is forwarded to the County and appropriate action, if any, to protest the application, or to seek provisions through negotiations which will protect the County's rights and interests, is made on behalf of the County.

II. NON-LITIGATION MATTERS UNDERTAKEN FOR THE COUNTY OF PITKIN BY VRANESH AND MUSICK

1. Water Resources Impacts.

The Water Resources Impacts sections of the new Pitkin County Land Use Code was drafted as a response to the County Commissioners' realization that the natural mountain environment of Pitkin County was strongly effected by the conditions of the natural streams in the County, and that any attempt to control the development of land in the County so as to preserve that natural environment must also address itself to the streams. The purpose of the Water Resources Impacts sections is to require developers, those who would initiate new uses of land within the County, to take into their planning the interrelationships between land use and its impacts on the County's water resources and between water use and its impacts on the entire environment. Every prospective developer must investigate and analyze the impact of his development on the following areas:

(1) Natural stream and lake water levels;

(2) Water quality;

(3) Ground water withdrawals;

(4) Ground water recharge;

Some of these impacts had been previously treated in other sections of the Code, while others had not been dealt with previously. In the new Code, these impacts are made the core of the new Water Impacts Section.

Under the new Water Resources Impact Section, development will be permitted only if the development will not: (1) reduce the natural stream and lake levels below existing levels, or below the standard identified on the County's stream flow map, whichever is less; (2) cause a discharge or degrade the quality of the water in the stream in excess of the criteria of the Roaring Fork River Basin 303 Plan; (3) reduce the existing level of ground water recharge or withdrawal; (4) reduce the economic reliability of existing commercial irrigated agriculture, as by reducing the supply of irrigation water available to presently-irrigated acreages below the level necessary to continue economic operation; (5) create a flood hazard, either by the erection of a structure, alteration of a flood channel, or contribution of runoff; (6) create a land use for which there is inadequate domestic water supply or alter any natural feature of the land before that supply is assured; or (7) create a water quality or flood problem from surface runoff or erosion. As in all other areas of the Code, the developer must make an affirmative showing that none of the impacts will result.

It is anticipated that detailed maps will be constructed in the near future for the purpose of providing detailed information about acceptable impacts, and also for providing guidelines for improvement of areas already considered unacceptable. Wright Water Engineers in Glenwwod Springs is currently under contract with the County to prepare maps concerning minimum stream flow and lake levels, irrigated areas, and ground water resources. The funds for this project were provided under a

water rights in the County.

In conjunction with Wright Water Engineers, Glenwood Springs, Vranesh And Musick has been working for and with the County to identify and analyze significant senior water rights on the streams in the County which either are threatened by over-development, are environmentally hazardous diversions, or are key rights in the development of new land uses in the County. It is proposed that the County will acquire interests in these key senior rights for the purpose of preserving the natural environment, maintaining the streams, and controlling development by a process analogous to land banking.

3. The West Divide and Basalt Projects.

The West Divide project is a portion of the Colorado River Storage Project authorized by Congress in 1956. When Congress approved the Fryingpan-Arkansas project, it mandated a study of the Basalt project's feasibility. Vranesh and Musick has been advising the County with respect to the West Divide and Basalt projects since they were hired by the County in early 1974. The firm has attempted to articulate the County's policies relative to these projects to assess the various proposed project features as they relate to those policies. The firm has kept the County advised of steps which can be taken to achieve these various policies, including available legal action. The policies of limiting municipal and industrial development in the Roaring Fork valley and maintaining the natural beauty of the Crystal Valley have been the major concern of the County in relation to these projects. Maintenance of irrigated agriculture in the area has also been an important policy in this area as well as in the land use code.

Resolutions were prepared by Vranesh And Musick and adopted by the Board of County Commissioners of Pitkin County detailing the concerns of the County with regard to these

from the Project the dam on the Crystal River at Placita.

4. The Salvation Ditch Proposal.

The Salvation Ditch Company, a mutual ditch company, is the owner and operator of the Salvation Ditch, a large irrigation canal in Pitkin County. The ditch begins at a point on the north bank of the Roaring Fork River just east, or upstream, from the City of Aspen. The ditch follows a northwesterly course north of the City of Aspen across the foot of Smuggler Mountain and Red Mountain carrying large quantities of water in the summertime to irrigate farmlands lying northwest of Woody Creek. Along its course the Salvation Ditch crosses Hunter Creek and Woody Creek.

Much of the terrain traversed by the Salvation Ditch is unsuitable for the purpose of maintenance of an open irrigation canal such as the Salvation Ditch. This condition has always caused the ditch company to lose much of the water from the Salvation Ditch through seepage. As a result, the Salvation Ditch Company has been forced to divert greater quantities of water from the Roaring Fork than would normally have been required in order to insure an adequate supply of irrigation water to the farmlands after those seepage losses had been suffered. As an added result, the water lost from the Salvation Ditch in the Smuggler Mountain area has been blamed for damage to homes lying below the ditch.

Of even greater concern to the County is the dangerous reduction in the flow of the Roaring Fork between the Salvation Ditch headgate and the confluence of Hunter Creek and the Roaring Fork. The concern over the reduction in the quantity of water flowing in the Roaring Fork is coupled with a concern over the quality of the water flowing in the Roaring Fork. Although the Aspen Sanitation District sewage treatment plant on Mill Street in downtown Aspen and the Aspen Metro District plant located

develop a system of trails for use by hikers, bicyclists and horseback riders, in pursuant of the County's policy of discouraging use of automobiles, have resulted in a proposal to the Salvation Ditch Company. If implemented, the proposal will beneficially effect the entire Roaring Fork Valley as well as resolving the problems experienced by the Salvation Ditch Company and meeting the concerns of the County.

The proposal involves the conversion of the present Salvation Ditch conveyance system to a buried pipeline between the Roaring Fork River and Woody Creek. The pipeline would be installed in a gravel bed in the existing Salvation Ditch structure and then covered. The gravel pack would provide sufficient water to preserve the trees and shrubs that have grown up along the ditch and the pipeline would eliminate the seepage problem experienced in the past. The covered pipeline would be usable as a trail. In addition, since no water would be lost from the ditch in transportation, the Ditch Company would be able to divert less water from the Roaring Fork while delivering adequate amounts of water to the farmlands and at the same time increasing the amount of water in the Roaring Fork River.

The proposal also envisions the use of treated effluent from the Aspen Metro sewage plant and urban runoff from the City of Aspen for land treatment on the farmlands irrigated by the Salvation Ditch Company. A pumping plant would be constructed at the Aspen Metro sewage plant to pipe the treated effluent and urban runoff to the Salvation Ditch pipeline, to be carried by the pipeline to the present irrigated farmland. This portion of the proposal would have several beneficial effects. First, supplying treated effluent and urban runoff to the Salvation Ditch Company would reduce the needed quantity of diversions at the Salvation Ditch headgate, thereby further alleviating the water quantity problem at the most critical point on the

the need for artificial fertilizers. Third, the use of secondary treated effluent for land treatment reduces, and could possibly eliminate, the need for in-plant advanced biological treatment of sewage wastes. Land treatment has been proven to be an acceptable and effective method of advanced waste treatment due to the natural biological breakdown of applied organic waste. Additionally, it is proposed that the pumping plant be designed so that it could be utilized to supply water directly from the Roaring Fork to the Salvation Ditch at a point where the flow in the Roaring Fork River is much less critical, again further alleviating the water quantity problems upstream.

The Environmental Protection Agency has endorsed the land treatment portion of the Salvation Ditch proposal in the draft environmental impact statement on the Aspen/Snowmass 201 Wastewater Facilities plan.

The land treatment proposal was considered by the officers of the Salvation Ditch Company and its shareholders and it was decided by them that the proposal would not be in the best interests of these land owners when considering the areas economic viability for other than agricultural production. Once matters relative to land use have been resolved it is hopeful that this proposal will find sufficient acceptance to cause its implementation.

III. FUTURE PROJECTS WHICH COULD INVOLVE THE JOINT PARTICIPATION AND COOPERATION OF THE COLORADO RIVER WATER CONSERVATION DISTRICT AND THE COUNTY OF PITKIN

1. Water Rights Zoning.

The Colorado River Water Conservation District and the County of Pitkin could jointly participate and cooperate in the preparation of the maps necessary to further implement the Water Resources Impacts sections of the Pitkin County land

surveys and conduct investigations to determine the best manner of utilizing streamflows within the district and the amount of such stream flow or other water supply, and to perform all acts and things necessary or advisable to secure and insure an adequate supply of water, present and future, for irrigation, mining, manufacturing, and domestic purposes within the district.

2. The Salvation Ditch Proposal.

The beneficial effects which would result from the implementation of this proposal have been previously discussed in paragraph 3 of section II, supra. The benefits accruing to water quality and water quantity on the Roaring Fork River, which of course is within the area included within the Colorado River Water Conservation District, will ultimately be felt on the Colorado River itself. Furthermore, the implementation of this proposal will help achieve the purposes for which the Colorado River Water Conservation District was formed.

Endorsement of the proposal by the Colorado River Water Conservation District would help alleviate the concerns expressed by some members of the Salvation Ditch Company over the viability and effectiveness of the proposal generally and the concept of land treatment in particular. Financial assistance in the implementation of the proposal would also serve to enhance the feasibility of the proposal.

3. Development, control and management of Western Slope Water Resources and Water Resource Projects.

The transmountain diversion projects which exist today have all been the subject of Western Slope opposition. Western Slope interests have opposed most of these projects and have often attempted, through litigation, to prevent their construction.

The Taussig v. Moffat Tunnel Water and Development Co., 106 Colo. 384, 106 P.2d 363 (1940) case involved the

Colorado River Water Conservation District, 148 Colo. 173, 365 P.2d 273 (1961). Western slope minimum stream flows were deflated in Colorado River Water Conservation District v. Rocky Mountain Power Co., 158 Colo. 331, 406 P.2d 798 (1965) 174 Colo. 309, 486 P.2d 438 (1971). The Rabbit Ears project resulted in three Colorado Supreme Court opinions. Four Counties Water Users Ass'n v. Colorado River Water Conservation District, 161 Colo. 416, 425 P.2d 2590; 161 Colo. 424 425 P.2d 266; 161 Colo. 429, 425 P.2d 262 (1967). And, the Twin Lakes projects were litigated in Colorado River Water Conservation District v. Twin Lakes Reservoir and Canal Co., 171 Colo. 561, 468 P.2d 853 (1970); 181 Colo. 53, 506 P.2d 1226 (1973).

The Western Slope has not failed because these cases were poorly financed, unsupported by necessary engineering and hydrological evidence, or inadequately briefed and argued by the attorneys involved. Nor is a lack of need by the Western Slope for the water the reason. Yet, the unfortunate law which has resulted from these cases has severely affected the ability of the Western Slope to develop and control its water resources for the needs of the Western Slope. The inevitable conclusion is that the result in these cases is due, in part, to the economic imbalance between the Eastern Slope and Western Slope to which reasonable minds, whether consciously or unconsciously, respond.

There can be little doubt that the Western Slope currently, as well as in the past, lacks the economic power necessary to compete with Eastern Slope interests. Attempts, some successful and some not, have been made to develop projects which will narrow this gap; primarily in the areas of farm land reclamation by irrigation, recreational facilities development, and energy resource development. However, such attempts are declining and many earlier projects have slowed or have been abandoned. The

economically or otherwise, from the existing transmountain diversions.

The situation approaches one of colonialism; the Eastern Slope "empire" depletes the resources of its Western Slope "colony" and reaps the only economic benefits for itself. The economic imbalance becomes more firmly entrenched the longer this status quo continues.

While some projects, such as the dam and reservoir project contemplated by the Upper Yampa Conservancy District, are currently being promoted they are controlled by private interests. The water resources of the Western Slope are the birthright of the public and should be controlled by, and for the benefit of, the public of the Western Slope.

In fact, water resources are perhaps the only birthright of the people of the Western Slope, for without water the other natural resources of the Western Slope have very little value.

Therefore, it is essential that the entities representing the public, e.e., the counties, the municipalities, and the Colorado River Water Conservation District, join together to develop, control and manage the water resources and the water resource projects of the Western Slope. Only through such a combination can the economic and political power be mustered to effectively increase the Western Slope's ability to compete with Eastern Slope interests and protect the water resources for the entire Western Slope.

The public entities referred to above could utilize the existing organizational structure of the Colorado River Water Conservation District or the Northwest Colorado Council of Governments for this purpose, or exercise the power granted in C.R.S. 1973, §37-93-101 et seq. to form a River Basin Authority.

The organization chosen could then control and manage

either privately or by condemnation, by Eastern Slope interests.

With this control, water would then be available to satisfy the short term and long term needs of the Western Slope. After those needs were fulfilled by adequate availability in storage or otherwise, any remaining water could then be sold to the Eastern Slope. And, when the spring runoff began, the Western Slope could estimate the amount that will be available to replenish existing storage and that amount would then be immediately released to the Eastern Slope through existing transmountain diversion facilities.

Over a period of time the Western Slope could acquire by condemnation the rights of the Vidler Tunnel Company, the excess capacity of the Moffat Tunnel, etc. The purpose would be twofold: first, to prevent Eastern Slope interests from controlling the destiny of the Western Slope; and second, to provide the Western Slope with the water and the facilities to sell water to the Eastern Slope when not needed to meet Western Slope needs. For example, water, in storage in Ruedi Reservoir could be sold to the Eastern Slope at the time of the spring runoff. By controlling the volume of water sold, the Western Slope would guarantee that its needs, both present and future, would be fulfilled, as well as guaranteeing a stabilized minimum level in Ruedi Reservoir to preserve recreation values. Ruedi water held over in storage until April, when not needed on the Western Slope and when a good runoff year is predicted, would be pumped into the Charles Boustead Tunnel, at a time when the Boustead Tunnel is not carrying its full capacity, by use of Mr. Elbert power generated by its own fall going down the Otero Canal. By selling on a yearly basis, as needs and supply indicate, no contractual right or interest in the continuation of flow would be acquired.

Such a project would require intensive participation,

forever.

WATER COMMISSIONER'S SUMMARY

DIVISION SUMMARY - DIVISION NO. 5

Direct Flow Diversions

1976

PiscA

Direct ersions c.Ft.	No. of Acres Irrigated	Ac.Ft. Per Acre	Industrial Use Diversions Ac.Ft.	Municipal Use Diversions Ac.Ft.	Recreation Use Diversions Ac.Ft.	Trans Mtn. Diversions Ac.Ft.	Total Diversions Ac.Ft.	No. of Daily Ditch Rstr.	~~Deli to C Cher~~
0,500 *	13,600	18.13	Power 425,000	1,000	100,000	63,000 F	698,000		
0,000 *	17,000	11.18		1,000	100,000	5,000 F	190,000		
6,000	87,000	9.15		2,000	202,000	27,000 F	796,000		
4,000	16,000	7.75		3,000	25,000	0	124,000		
8,800	27,200	2.90		1,000	4,000	0	78,800		
3,000	14,000	4.5		1,000	40,000	0	63,000		
0,000	28,000	5.0	25,000	1,000	100,000	25,000 F	140,000		
8,000	7,500	2.4		1,000	5,000	0	18,000		
2,000	30,000	3.07	Power 450,000	1,000	1,000		92,000		
2,000) 7,000	10,500	5.90		1,000	10,000	0	87,000		
1,000 7,000)	151,000	5.24	Power 39,000	2,000	46,000	0	1,287,000		
0,300	401,800	6.45	866,000	15,000	633,000	Records not complete	3,573,800		

= Non Use

Transmountain Diversions: Designate either to or from Division.

DIVISION ENGINEER'S SUMMARY

DIVISION 5

Statistics - 1976 Water Year

District	36	37	38	39	45	50	51	52	53	70	72	
Acre Feet Water Used (1000 A.F.)	698	190	796	124	78.8	63	140	18	92	87	1287	
A. F. for Agriculture (1000 A.F.)	199	189	550	124	78.8	68	115	18	94	62	791	2.288
A.F. for Industry (1000 A.F.)	425	0	0	0	0	0	25	0	450	0	391	
A.F. for Recreation (1000 A.F.)	100	100	202	25	4	40	100	5	1	10	46	
A.F. for Municipal (1000 A.F.)	1	1	2	3	1	1	1	1	1	1	2	
A.F. to Compact (1000 A.F.)	0	0	0	0	0	0	0	0	0	0	0	
A.F. Stored (1000 A.F.)	81.8	27	140	14	0	5	119	0	2	0	55	
A.F. To Transmountain Diversion (1000 A.F.)	63	5	27	0	0	0	25	0	0	0	0	
Acres Irrigated (1000)	13.6	17	87	16	27.2	14	28	7.5	30	10.5	151	
Ditches, Wells & Reservoirs Admin.	1200	500	1600	550	475	400	769	200	1100	125	850	
Daily Ditch Reports (1000) Estimated												

RECOMMENDATIONS AND SUGGESTIONS

the diversion records are prepared.

2). What the adverse effects on the Division Operations have been - why.
3). Ways in which these adverse effects could be alleviated and the WDB operations improved.

I have chosen to answer these two questions in the same discussion.

The WDB has increased the Water Commissioner's workload about 25% . However, we are now getting better records, therefore much of this additional time has gone to good use. In many cases their records now reflect more user supplied information. Considering our mileage allowance problems, I have encouraged more user supplied information if the commissioner feels it is reliable.

As the Assistant Division Engineer, it takes up too much of my time and continues to take even more. So far I have been reluctant to pass the increasing amount of paperwork on to the Water Commissioners. In most cases I can normally do what needs to be done quicker and more efficiently by doing it myself and with office personnel. This procedure has added a 25% workload to the office's' workload. I feel that the responsiblity for the WDB on the Division level should be eventually placed in the hands of a full time WDB coordinator on the Division level or the water commissioner's credentials will need to be upgraded in the very near future. For instance in the larger, more complex districts, it is already necessary to look to the college graduate as probable replacements. A new man coming into a position as commissioner by himself has such a tremendous amount of initial information he must quickly digest concerning water law, WDB, well information, ect., that he can no longer have just the credentials of the past and get by. This sideline suggestion may seem irrelevant to the problem at hand, but we must face tomorrows problems today or our situation will worsen. One added benefit to upgrading water commissioner credentials would be an accompaning increase in pay which would justify the increased workloads and responsibilities.

It probably sounds like to you that I am trying to unload the work onto someone else. That is exactly the case. When I started with the Division of Water Resources in 1968 just 8 years ago there were only a couple of Assistants in the state, now of course, there are 7. Since that time the responsibilities, legal entanglements, and computer workload have become enormous and will contimue to worsen. If in the future the Assistants are to be Assistants to the Division Engineers as they should be, we must begin now to delegate the computer workload.

4). Ways in which the WDB could be of more help to us.

Possibly the computer could be used to produce the initial blank water commissioner reports at the beginning of the water year. This would save us a great deal of time in hand copying information, and expense in xeroxing master copies for each district. Prepared "computer sheets" would be easier to compare against for verification purposes later because the sheets would all have the same format.

Once a given water year's records are checked, approved, and signed that year's records need to be "sealed" so that additional data can't be added or subtracted without special handling.

Our part time water commissioners and deputies should be given some of the historic WDB work during the non irrigation season. They need the work so they can remain employed and not be on unemployment. Such a procedure would really help our Division.

Dec 15, 1976

Ray D. Walker
Asst Div. Engr.

4). Cont.

We have already had some problems with the procedure of the water commissioners signing their records the following year after they have been corrected. Water commissioners who retire one year are difficult to find the following year and they feel they should be paid for coming in to sign them. Commissioners even move away after they retire and are totally unavailable. To carry this signing problem one step further, a commissioner with many deputies really has trouble getting each deputy to sign for the ditches each administers. I really don't have an idea of how to solve this problem.

The daily water log for the Colorado Big Thompson Project which is computed by the Bureau of Reclamation under the Pick Sloan Missouri Basin Program is already in a computerized form. This information should be put directly into the WDB without going through Division 5 or Division 1 personnel. Other transmountain diversion records are also coming out in computerized form and these also need to be put directly into the WDB without going through Division 5 handling.

Ray D. Walker
Dec 15, 1976