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JAN 11 2001

Dave Sundberg
Box #1 Malta, Idaho 83342
July 2 - Dec. 5, 2000

Department of Water Resources

Tim Luke
IDWR
1301 North Orchard Street
Box 83720 Boise, Idaho 83720-0098

Dear Mr. Luke,

First I would like to thank you for your efforts to resolve the problems on Clear Creek. I started to answer your letter dated June 1, 2000 shortly after I recieved it. I almost sent this in July and things happened that made me decide to wait. Now I don't think there is any reason to wait any longer.

Last Winter when I gave Doug Jones a copy of the segment from the guaging station I planned on sending you my interpretation of it. I prepared an interpretation and sent a copy to the State Engeneer in Utah. That letter mostly discussed problems in Utah. The scroll from the USGS station ran from about May 17 - Aug. 27 1999. They wanted \$1 per page if I copied all of it so I only copied the part I sent to you which covered the last part of June and July and August. That is the only part that can be compared to the flow meter data anyway. They did not measure the stream during the high run-off.

I will answer your June 1 letter backward from the way you wrote it. Starting with the second to last paragraph on page 3; each year for the water district I make a list of daily diversions and total stream flow. When I gave the scroll copy and Vern's records to Doug Jones last Winter I also gave him a copy of the record I made for the Water District. He gave it back and said the log book was all you needed. With this letter I am sending a copy of my 1997, 1998, 1999 and 2000 list of deliveries and total flows. Since Vern Kempton has been Utah commissioner he has never produced any kind of record until at least February so without some cooperation from Utah I can not provide USGS site data.

In answer to your ^{FIRST FULL} ~~second to last~~ paragraph on page 3 I am sending a memo to Clear Creek file from Doug Jones dated May 12, 1998. On May 7 while they were there I measured 21 cfs in the 10ft weir and 3.1 cfs going out the East ditch for a total of 24.1 cfs. IDWR then measured 23.35 cfs with the flow meter. This is a 3% diference which is not all that bad. Vern's report shows 21.13 cfs that day. That is 10% less than the flow meter but his measurement may have been made before the effect of his Utah adjustments reached the Idaho weir. The day before he measured 24.5 and I measured 24.9 so when Vern measures the Idaho weir his measurements are about the same as mine.

On May 25, 2000 Vern wanted to start taking water in Utah and we compared our measurements. His measurements at the Idaho weir and mine were almost identical. The 12 day run should start when there is 36.2 cfs measured at the diversion points. Thi means 20 cfs at the Idaho weir and 16 cfs in Utah diversions. On June 2, 2000 I measured 20.1 cfs at the Idaho weir and on June 3 Vern turned all of the water to Idaho. Obviously he measured the same as I did. I don't believe that the measurements which are actually made at the Idaho weir are a problem.

In answer to your last paragraph on page 2 and the top of page 3; I put a staff guage in the Idaho weir in 1997 and all of the measurements since then have been based on that staff guage including the one on May 7, 1998 when Doug Jones and Kelly Christensen measured it with the flow meter.

Let me go back to the first page of your letter and comment on the paragraphs with dots to the left of them. In 1997 Vern and I measured the water each day before 8:00 a.m. at the Idaho weir, although we were not together there was very little difference in our measurements except on the days that Vern did not go, for example on May 25 he wrote down about what he had measured on May 24 even though in reality the creek dropped off that day. Toward the end of June he quit going in the morning and was turning the Utah water at different times in the day so there is more variation. The condition of the Idaho weir was not near as significant as whether or not Vern measured the water.

I have attached a hand drawn map of Clear Creek and the property it crosses in Utah. My ditches are drawn in pink and Naf Irrigation Co.'s ditches are yellow and numbered from the top of the page (South) from 1 to 11 and 12 on the State Line.

On May 2, 1998 I turned the water to Idaho because there had been more than 20 cfs for at least 2 days and Vern did not turn it. On May 1 and May 2 most of the Creek was in Mont Campbell's ditch #1 going to his ground in section 35 and in Kempton's ditch #5 going to the East. They had a board in the creek at headgate #5-6. On May 2, I shut Campbell's ditch #1 off and turned it down the creek. About 3 hours later I went to talk to Vern. His pickup was behind Mont's shop at headgate #5-6 and Vern and Mont and Mont's son Blaine were trying to get the board out of the creek. The whole creek was going down Kempton's ditch except what was going over the board down the creek.

I was not able to talk to Vern because Mont and Blaine met me at Vern's pickup and Mont grabbed me by the neck and started shaking me and saying they were going to teach me some lessons. While Blaine was getting around behind me I pulled down on Mont's wrists and pushed him aside and left.

As you know, a great fuss was made about me shutting off Mont's water and flooding Larry's board in the creek, but Vern's Report for 1998 shows that neither Campbell nor Kempton took any water that year until after the Creek had gone to Idaho and was split on May 13. Vern shows that until May 2 all of the creek was going to me and Ray Jones. Vern's report is false.

Vern's Report is false not because of anything at the Idaho weir but simply because Vern makes false records. If the Creek had all been going to me and to Ray like Vern's Report shows it couldn't have flooded anybody. I have a right to shut off my own water which Vern shows as 2.2 cfs which certainly wouldn't flood anything. If the rest of the creek was going to Ray at headgate #11-12 turning it down to Idaho would not have affected anything else in Utah. Since Jones's property is all in Idaho and only their diversions are in Utah, in reality Campbell and Kempton were taking Idaho water while Vern was keeping false records to cover them.

In your letter, the second dotted paragraph talks about positive gains between the USGS station and the Idaho weir. The reason the Johnson decree keeps all the water in Utah until there is 20 cfs at the USGS station is because the creek shrinks so much that a usable stream does not reach the Idaho weir if there is less than 20 cfs at the gauging station. I have attached some pages (146-151) which show the flow at the gauging station and the losses between there and the Idaho weir in 1936. Under no conditions was there ever a positive gain. The creek loses less when the flow is decreasing because the banks give up stored water, but still it was determined and decreed that the creek should not stay in Idaho when it measures less than 17 cfs at the USGS station because it loses too much water to be usable in Idaho.

The reason your spreadsheet shows a positive gain using my measurements at the Idaho weir on June 28 is because Vern was keeping false records in Utah. If Vern had made an accurate record of diversions in Utah there would have been a negative gain at the Idaho weir. In the letter I wrote to you on July 6, 1999, I complained that;

- A. On July 1 my measurement at the Idaho weir indicated that the 12 day run should have started, that is, the water should have all gone to Idaho.
- B. On July 6, UDWR measured 29 cfs at the guaging station which means that all of the water should have been in Idaho several days before.
- C. On July 6, a big stream was in Cambell's ditch and another big stream was running off from Kempton's field across the road to Rice Creek where they have no water rights.
- D. Only 12 cfs was going to Idaho.

In answer to your last two dotted paragraphs I am attaching my interpretation of the scroll from the guaging station which I sent to the Utah State engineer last winter. The part about 1999 starts on page 4 of the letter. When the Creek is split between Idaho and Utah the total flow is determined by adding the diversions in Utah and at the Idaho weir. The wooden weir below the guaging station is not in place so we can't blame the wooden weir for Vern's inaccuracy. In your last dotted paragraph you make a rather strange combination of measurements. The fact is on June 28 UDWR measured 44 cfs at the guaging station and Fotheringham told me they went to the Idaho weir and figured that Idaho was getting their 57%. I measured 26.1 cfs which is 58%. Although my measurements are almost identical to UDWR, Vern's measurements are grossly inflated at 72cfs and 44 cfs at the Idaho weir probably to justify the fact that he was turning so much water to the Rice Creek side of the road for Kempton, Campbell and Sessions. See my letter to Utah State Engineer.

On June 13, 2000, Allen Merritt and John Freitag measured 13.13 cfs at the Idaho weir plus 3.05 in the East ditch and 0.1 cfs in Hoskins ditch which is a total of 16.28 cfs. I measured $11.9 + 3.1 + 0.1 = 15.1$ cfs, 93% of 16.28. Within an hour, Bob Fotheringham measured 23.338 at the guaging station which is 7 cfs more than the Idaho Weir. 7 cfs is a fairly normal loss for Clear Creek. When the creek first drops off after the Spring flood there is a little less shrinkage for a few days but not for long. In 1934 the water users in Utah built 3/4 mile of cement ditches to carry the water when the creek was low so the 1936 measurements don't show as much loss because the water was in the cement ditches during low water season. But even with the cement ditch the creek always showed a negative gain.

In answer to your first dotted paragraph on page 2, in 1936 after the big snow melt was over, after June 7, the creek dropped in a very flat steady decline just like 1999 and 2000 and every other year in history. During the snow melt the creek goes up and down depending on how hot it is each day. When the snow is mostly gone the mountain is like a sponge, the water seeps out of it getting less and less until it is gone. Neither sunshine nor rain has a direct effect during the declining stage. I am enclosing a copy of the graphs from the guaging station from 1961 - 1970 which show the same steady decline each of those years after the creek dropped off below 50 cfs. I believe UDWR's ^{RECORDS} did an excellent job of recording the flow in 1999.

Your spreadsheet shows in the "Water distributed to Idaho" columns;

	Utah Report	Idaho Report
8-Jul.	20	19
9-Jul.	23	21

Apparently you overlooked something because the Idaho report shows 23 cfs for

those two days. I admit that the log book can be hard to follow. Each day when I turn the water I write the measurements in the book. Sometimes after looking at the Stewart and Arimo diversions I go back and readjust the Idaho weir and rewrite what was in the book and it looks a little scruffy. Apparently you could read my numbers though, you added up the stream total I did every day except two. That is why I always type a list of deliveries for the water district.

Comparing the guaging station graphs with my measurements and Vern's measurements shows;

1. My measurements show a direct relationship between the amount of water at the guaging station and the Idaho weir, that is, my report was based on actual measurements. When all of the water was in Idaho my measurements showed a fairly constant approximately 7 cfs loss from the guaging station to the Idaho weir. Last Summer Fotheringham and Merritt measured 23 cfs and 16 cfs which is 7 cfs loss from the guaging station to the Idaho weir.
2. Vern's Report shows that until he got caught on July 6 he was reporting grossly inflated figures to cover Kempton and Campbell while they were running water to the Rice Creek side of the road. On July 9, the day after Vern turned the water to Idaho, he actually measured the Idaho weir and reported an accurate measurement. After that his report shows no particular similarity to the actual stream. After July 15 when there was no water in Idaho, he shows as much or even more water at the Idaho weir than there was at the guaging station. Obviously there was no actual measurement involved there.

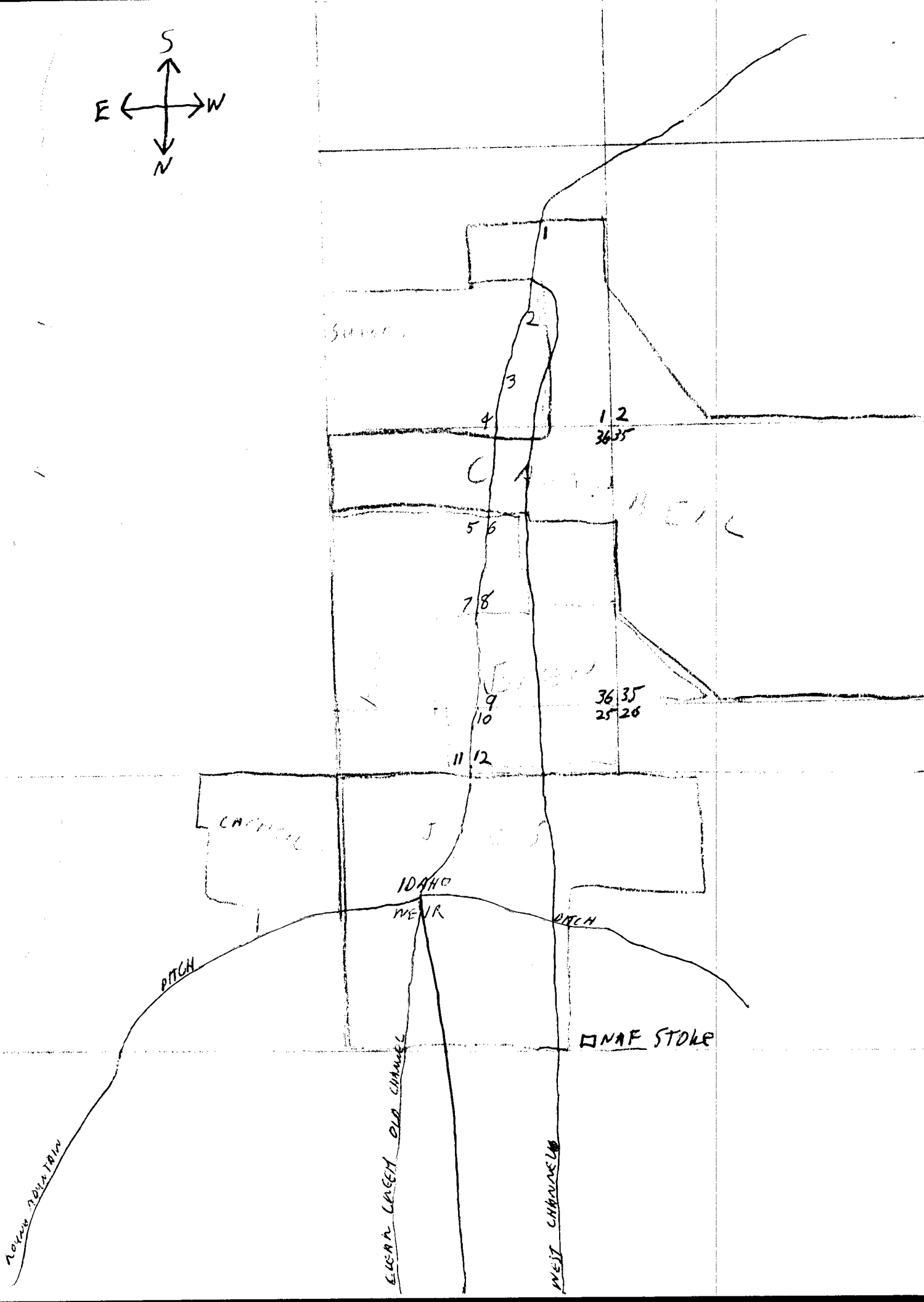
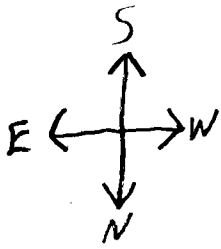
In summary;

1. The recorder at the guaging station made an accurate record of the flows of Clear Creek in 1999.
2. The staff guage at the Idaho weir makes reasonably accurate measurements.
3. When Vern measures the water at the Idaho weir his measurements are about the same as mine.
4. The grossly inflated numbers in Vern's report in 1999 were designed to produce confusion while Kemptons and Campbells took Idaho's water and run it to the Rice Creek side of the road where they have no water rights.

Again I would like to thank you for trying to resolve this problem and also Allen Merritt for coming out last Summer and measuring the creek for us. I hope this information will help find a permanent solution. If you have any suggestions or information I would be happy to hear from you.

Sincerely


Dave Sundberg



Sump

IDAHO WEST

IDAHO WEST

CHANNEL

IDAHO WEST

DITCH

PITCH

NAF STOLE

ROUND MOUNTAIN

ELEANOR LAKEH OLD CHANNEL

WEST CHANNELS

1 2
36 35

5 6

7 8

9 10
36 35
25 26

11 12

during the irrigation seasons of 1935 and 1936. The said engineering assistants filed their respective reports with the said commissioners.

On or about January 1, 1935, the aforesaid commissioners filed their report with the court, including recommendations for the supervision and distribution of the waters of Clear Creek, to be tried out during the succeeding irrigation season. Whereupon the court continued its previous order including the recommendations of the said commissioners to be tried out during the irrigation season of 1935 and subsequently continued to include the season of 1936.

Clear Creek is an interstate mountain stream having its source in the Raft River Mountains in Box Elder County, Utah, as it emerges from the mouth of Clear Creek Canyon it runs in a northerly direction for about two miles to the State line between Idaho and Utah, thence continuing in a northerly direction in Idaho about 15 miles to its confluence with Raft River.

As Clear Creek emerges from the canyon, it has run in various channels, three of which are well defined, viz.: the East, Middle and West channels.

The creek is usually confined to the East channel up to from 50 to 60 sec. ft. Any excess is diverted to the Middle channel.

All diversions in the Upper or Utah division are made from the East channel except during the high water stage when some of the diversions are made from the Middle channel.

Any water flowing in the Middle and West channels is diverted to the East channel at the point of diversion of the Albion-Idaho Land Company near the Northeast (NE) corner of the Southeast Quarter (SE $\frac{1}{4}$) of Section 27, T. 16 S., R. 27 E. B. M.

The Albion-Idaho Land Company diverts water from Clear Creek through the Braconbury and Maughan ditches and by means of dams in said creek as it crosses the tracts owned by the said Company, the Maughan ditch is also the point of diversion for the Kelan Tract owned by Mrs. A. L. Dowler and Thomas McClay.

The Gummel-Olson ditch diverts from Clear Creek in the South Half of the Southeast Quarter (S $\frac{1}{2}$ SE $\frac{1}{4}$) of Section 33, T. 15 S., R. 27 E. B. M.

The East and Middle channels in the Upper division and in parts of the Lower division are very brushy and other parts, particularly in the Lower division are very crooked. Some of the brush was cut out of the East channel this *spring*.

STRUCTURES.

Structures for the diversion of water from Clear Creek have been described in previous reports and need not be described here, except to say that they are rapidly depreciating and most of them will become useless in a very short time.

A few new structures have been installed during the early part of this season but, owing to the early rise of the creek, this work was discontinued.

STREAM FLOW.

A daily record of the stream flow of Clear Creek was kept from April 1 to July 2, 1936. Two gauge readings were taken daily and the average has been tabulated and plotted on a hydrograph.

The discharge, corresponding to the gauge readings, was determined from a rating curve prepared from current meter readings taken at the U. S. G. S. gauging station during the season at various stages of the stream flow. The rating curve is hereto attached.

The following tabulation shows the daily discharge, diversions and losses from April 1 to July 2, 1936, including the discharge from Kelso Creek and the return flow from irrigated fields:

Table I.
DISCHARGE, DIVERSIONS AND LOSSES DURING SEASON OF 1936.

April	Discharge Sec. ft.	DIVERSIONS.			Loss Sec. ft.	Loss %
		Total Sec. ft.	Upper Div. Sec. ft.	Lower Div. Sec. ft.		
1	1.89					
2	1.89					
3	1.31					
4	1.12					
5	1.12					
6	2.47					
7	93					
8	2.47					
9	1.89					
	15.09					
10	2.47	0.54	0.54		1.93	78.2
11	2.28	.72	.72		1.56	68.4

DIVERSIONS.

April	Discharge Sec. Ft.	Total Sec. Ft.	Upper Div. Sec. Ft.	Lower Div. Sec. Ft.	Loss Sec. Ft.	Loss %
12	347	146	116	231	231	66
13	413	201	201	212	514	66
14	473	262	262	211	446	66
15	610	362	362	245	407	66
16	808	458	458	350	483	66
17	1183	918	918	265	224	66
18	1427	1252	1252	175	123	66
19	1524	1350	1350	174	114	66
20	1476	1419	1419	61	42	66
21	1498	1490	1490	452	232	66
22	2043	2271	2271	372	141	66
23	3184	2692	2692	401	164	66
24	3166	1903	1903	1263	399	66
25	2503	2049	746	454	181	66
26	22180	16872	15569	1303	6308	240
27	43916	33407	30897	2680	10510	174
28	2300	1900	1836	1900	664	286
29	2300	1930	1930	1980	320	139
30	1975	1725	1725	1978	322	140
Ac. Ft.	33455	28291	16669	10722	7164	214
May	66241	62056m	30827	21230	14185	187
1	1760	1507	1507	1607	243	137
2	1100	1415	1415	1415	285	168
3	2200	222	222	1710	490	251
4	3160	770	770	2390	251	251
5	4100	3057	3057	3057	1043	265
6	3655	2670	2670	2670	985	269
7	2800	2500	2500	2870	107	189
8	2800	2270	2270	2270	530	189
Keiso Cr.	55620	43610	15669	28241	11810	212
Ac. Ft.	109045	85568	30515	30289	23148	157
9	2900	2445	2445	2445	455	113
10	3500	3105	3105	3105	395	265
11	5000	3575	3575	3675	1325	210
12	5798	4572	4572	4572	210	210
Keiso Cr.	72818	57607	15669	42038	15211	209
Ac. Ft.	142723	112910	30515	44348	29814	208
13	6398	5068	5068	3650	1330	178
14	7575	6225	6225	1350	178	222
15	8891	5836	5836	3660	1751	222
16	6891	5630	5630	2485	1261	183
17	6097	4000	4000	3570	2097	210
18	5747	4402	4402	3809	1345	234
19	5360	3985	3985	3650	1376	256
20	4800	4020	4020	3470	1045	218
21	4000	3661	3661	3010	439	110

DIVERSIONS.

May	Discharge Sec. Ft.	Total Sec. Ft.	Upper Div. Sec. Ft.	Lower Div. Sec. Ft.	Loss Sec. Ft.	Loss %
22	3300	2926	356	2560	374	101
23	3049	2562	299	2163	563	183
24	3150	2820	2820	2820	330	110
25	3400	3060	3060	3060	340	100
26	3750	3290	3290	3290	460	122
27	4380	3750	3750	3750	620	144
28	4650	3940	3940	3940	720	154
29	4800	3910	3910	3910	890	185
30	4838	3967	188	3767	883	182
31	6434	6566	1872	3737	825	158
Keiso Cr.	169034	30279	105536	32201	33219	197
Return Flow			3187	3850		
Ac. Ft.	334687	265914	69952	112273	66774	
June				222301		
1	5935	4843	2043	2800	1092	184
2	4557	4112	1832	2280	245	56
3	4034	3992	1819	2172	42	10
4	3668	3795	1638	2070	160	41
5	3600	3127	1040	2087	373	107
6	3500	3189	959	2230	811	89
7	3553	3758	1328	2430	195	49
8	3868	3587	1352	2235	281	73
9	3250	2632	757	1876	618	190
10	2889	2610	838	1822	270	93
11	2825	2679	1016	1763	46	16
12	2825	2759	948	1811	66	23
13	2900	2473	1171	1302	427	147
14	2825	2677	1151	1526	148	52
15	2825	2733	1018	1715	92	32
16	2400	1980	841	1139	420	173
17	2150	2113	753	1352	420	173
18	2050	1871	808	1085	37	17
19	2000	1734	840	794	179	133
20	2062	1630	1014	205	422	205
21	1928	1708	1171	220	220	113
22	1824	1476	1171	119	281	119
23	1423	1304	1304	1304	353	281
24	1423	1339	1339	1339	84	58
25	1133	1114	1114	1114	165	129
26	1133	999	999	134	152	152
27	1025	818	818	207	202	202
28	929	833	833	143	139	139
29	920	680	680	246	265	265
30	245803	204921	64297	140627	40882	167
Keiso Cr.				3397		
Return flow				6200		
Ac. Ft.	486690	405744	127305	149221	80946	
				296468		

	DIVERISIONS.				
	Discharge Sec. Ft.	Total Sec. Ft.	Upper Div. Sec. Ft.	Lower Div. Sec. Ft.	Loss Sec. Ft.
July 1	6.60	5.42	5.42		1.18
2	8.33	7.56	7.56		0.77
Keiso Cr. Return flow	2472.96	2062.19	655.95	1406.24	410.77
				33.97	16.2
				52.00	
Acres Ft.	4896.46	4083.14	1288.78	1492.21	813.32
				2954.55	

The sum of all diversions is 83.5% of discharge at U.S.G.S. gauging station.

The sum of all diversions by the users of the Upper division is 31.8% of the sum of all diversions by both divisions.

The sum of all diversions by the users of the Lower division is 68.2% of the sum of all diversions by both divisions.

LOSSES.

Table I shows the losses of water that have occurred during the irrigation season of 1936. It will be seen from the tabulation, that the smaller the flow, the greater the losses and, also, that the losses are greater when the flow is increasing than when the flow is decreasing. This is shown by the following tabulation.

From April 10 to 25, flow increasing, losses 24 %
" April 25 to 30, " decreasing, " 16.5%
" May 1 to 5, " increasing, " 21.8%
" May 5 to 15, " decreasing, " 15.8%
" May 15 to 31, " increasing, " 21.6%
" June 1 to 30, " decreasing, " 10.0%

Average loss April 10 to July 2 is 16.6%.

The increasing and decreasing losses as the flow of the creek is increasing or decreasing was to be expected, for as the flow increases, part of the flow is stored in the creek and is returned when the flow is decreasing.

The average loss of 16.6% during the season is nearly all due to seepage losses. There are some losses from leakages through gates and other losses from operations (changing from one point of diversion to another) but these are probably small.

Losses when the entire flow of Clear Creek went to the

Under Ranch, making measurements at the headgate of Rice ditch near Opial's house, at headgate of Campbell's ditch at North line of Section 1, T. 14 N., R. 13 W., S.1.M. and at Hunter headgate at North line of Section 36, T. 15 N., R. 13 W., S.1.M. are indicated as 1, 2 and 3 in the following tabulation:

1936 April	Discharge			Losses		Between 1 & 3
	1	2	3	1 & 2	2 & 3	
8	1.89	0.90		0.99		
9	1.89	1.04		0.85		
10	2.47	1.38		1.09	0.84	1.93
11	2.25	1.92	0.54	0.36	1.20	1.66
12	3.47	2.64	0.72	0.93	1.38	2.31
13	4.13	3.15	1.16	0.98	1.14	2.12
14	4.73	3.95	2.01	0.78	1.33	2.11
15	6.10	4.64	3.62	1.46	1.02	2.48
16	8.08	6.11	4.58	1.97	1.53	3.50
	35.04	25.63	16.25	9.41	6.44	16.56

The distance between 1 and 2 is approximately 3/4 mile and between 2 and 3, approximately 1 mile, making the distance between 1 and 3 approximately 1 3/4 miles. The losses per mile and expressed as a per cent are as follows:

1936 April	1 to 2	Loss Per Cent 2 to 3	1 to 3	Loss Per Cent 1 to 2	Loss Per Cent 2 to 3	Per Mile 1 to 3
8	62.0			69.8		
9	44.8			60.0		
10	44.2	60.8	78.2	58.8	60.8	44.7
11	15.8	62.2	68.4	21.0	62.2	38.1
12	26.8	64.4	51.6	35.7	64.4	38.0
13	23.7	36.2	51.4	31.6	36.2	29.3
14	16.5	33.7	44.6	32.0	33.7	25.5
15	24.0	20.0	40.6	31.9	20.0	23.2
16	24.4	28.0	43.3	32.5	28.0	24.1

The loss during a period of 9 days, April 8 to 16, inclusive, between Points 1 and 2 was 35.8%; for a period of 7 days, April 10 to 16, inclusive, between Points 2 and 3 was 35.6%, and between Points 1 and 3 33.0%.

On the 23 day of May, two current meter readings were taken, one at the headgate of the Maughan ditch near a point where the said creek crosses the line between Sections 3 and 10, and the other near the North Boundary of Section 4, both in T. 16 S., R. 27 E.B.M. The first reading gave a discharge of 17.1 sec. ft. and the second reading gave 11.5 sec. ft. There were no diversions between the two points. The loss between the points was 5.6 sec. ft. or 32.7%. The distance between the points is problematical as the creek is very crooked and while the direct distance is about 1.4 miles the distance means-