



# COLLEGE of SOUTHERN UTAH

BRANCH of UTAH STATE AGRICULTURAL COLLEGE

CEDAR CITY, UTAH

ROYDEN C. BRAITHWAITE  
Director, College of Southern Utah  
CEDAR CITY, UTAH

July 11, 1957

DARYL CHASE  
President, U. S. A. C.  
LOGAN, UTAH

Mr. Hubert Lambert  
State Engineer's Office  
State Capitol Building  
Salt Lake City, Utah

Dear Hubert:

I returned to Wayne County on July 2, and found conditions very much the same as last time.

I started in at Boulder Mountain and measured 1.31 feet flowing through the Parshall flume into Pleasant Creek for his exact six c.f.s. In addition, Wild Cat Creek was flowing  $3 \frac{5}{16}$  inch over a two foot rectangular weir for 0.93 c.f.s., Clear Creek or Spring Gulch as some call it was flowing  $2 \frac{5}{16}$  over a one foot Cipolletti weir for 0.30 c.f.s, Tantalus had  $1 \frac{5}{8}$  inch over a one foot rect. weir for .16 c.f.s. and Sulpher had only .04 c.f.s.

At the Pleasant Creek Ranch the stream measured 6.19 c.f.s. that night but early the next morning I met Mr. Durfey of the Notom Ranch and he told me he had increased the stream the day before, so I went back and measured it again and it measured 6.90 early on the morning of the 3rd. I checked the corrugations and they were not connected to the head ditch and it has not been irrigated this year.

At the Notom Ranch there was more tail water than before, measuring  $8 \frac{5}{8}$  inch over a two/<sup>ft.</sup>rect. weir for 3.77 c.f.s.. However, there was not as much surface water visable as the last time. I walked up the creek and found much of it seeping out of the banks and the pastures. A heavy shower stopped me from investigating farther but next time I plan to see where all the tail water is coming from. The stream going onto the Notom Ranch measured 5.33 c.f.s.

There was still 4.77 c.f.s. going into the lower Bowns Reservoir and the reservoir lacked about 5 feet of being full.

I plan to return on July 15 and will check the two creeks at Boulder at that time. That should be the last trip necessary to Pleasant Creek.

On the seepage losses in Iron County, I have some problems. I have run three tests on the North Field Canal and have found 2.71% loss per mile when the stream was 27.5 c.f.s., 2.63% per mile when the flow was 26.0 c.f.s. and 6.76% per mile when the flow was 7 c.f.s. The North Field ditch is then divided into three laterals and their loss is much higher and seems to depend on the number of headgates in the section rather than on the length of ditch. The west one of these three lateral is known as the Road ditch and lost 3.77% per mile. The middle one

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is the Melling ditch and lost 16.7% per mile on one test and 19.3% on another. The east one is known as the East Extension and lost 3.26% per mile. I checked the Bulldog Ditch five times and could find no loss three times and 4.34% per mile, and 3.49% per mile the other times. The first three times, however, I was using a parshall flume they have at the diversion and later found it was not accurate so I am inclined to think the last two are quite accurate.

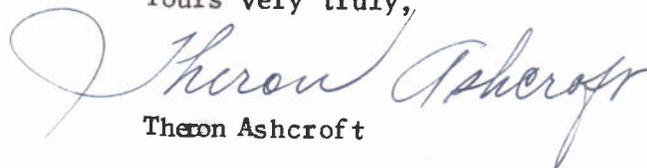
The Hunter Ditch was re-aligned and I measured it a few days after and found 56.5% loss per mile but two weeks later it was only 14.7% per mile.

The Union Ditch is the one that causes the trouble. I have measured it almost daily and have only been able to measure any loss on four occasions. They have been 2.38%, 5.05%, 3.47%, and 3.40%. The stream is now low enough to measure with a weir which I feel is more accurate than a meter and I cannot detect any loss with the weir.

I would like to continue to measure these stream for about one or two days a week for the rest of the season to see what the losses are when the flow gets low.

Any suggestions will be most welcome. Do you want a copy of my field notes and current meter notes or would you like the information in a table form or will these reports suffice.

Yours very truly,



Theron Ashcroft

TA:vja



REPORT ON WATER MEASUREMENT FOR SUMMER OF 1957

Boulder Creek and Deer Creek

A schematic sketch of the Boulder Distribution System with the measurements in c.f.s. is included for each date the streams were measured. In general, the ditches in the Boulder area are poorly cleaned and will not carry the water without loss.