

MEMORANDUM

TO: NORM YOUNG

FROM: TIM LUKE *TJ*

DATE: August 27, 1993

RE: VISIT & MEASUREMENTS AT JONES FISH HATCHERY

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On August 26, 1993, Loren Holmes and I visited the Jones Fish Hatchery and diversions from Weatherby Springs, Three Springs and Hoagland Tunnel. Accompanying us on this visit was the fish hatchery owner, Bill Jones, and Water District 36-A watermaster George Lemmon.

Attached to this memo is a diagram of the fish hatchery and spring diversions. Listed below is a summary of the measurements made by Loren and myself. The summary shows the amount of water being diverted to the fish hatchery.

Location/Source of Measurement	Method	Discharge
Sum of hatchery raceway weir measurements, including hatchery inflow from irrigation overflow	Weirs	34.79 cfs
Pipeline with co- mingled water from Three Sprgs. & Weatherby Sprgs.	Polysonic Meter	8.95 cfs
Hoagland Tunnel (meas. on ditch)	Swoffer 2100 Current Meter	6.05 cfs

The total amount of water diverted to the Jones hatchery was 34.79 cfs. The total measured spring flow from Three Springs, the Weatherby Springs complex and Hoagland Tunnel was 46.67 cfs. This later amount was derived by summation of the Hoagland Tunnel measurement (6.05 cfs), the comingled pipeline measurement (8.95 cfs), and the sum of the hatchery raceway weirs (34.79 cfs) less the overflow to the hatchery from the comingled pipeline (3.12 cfs).

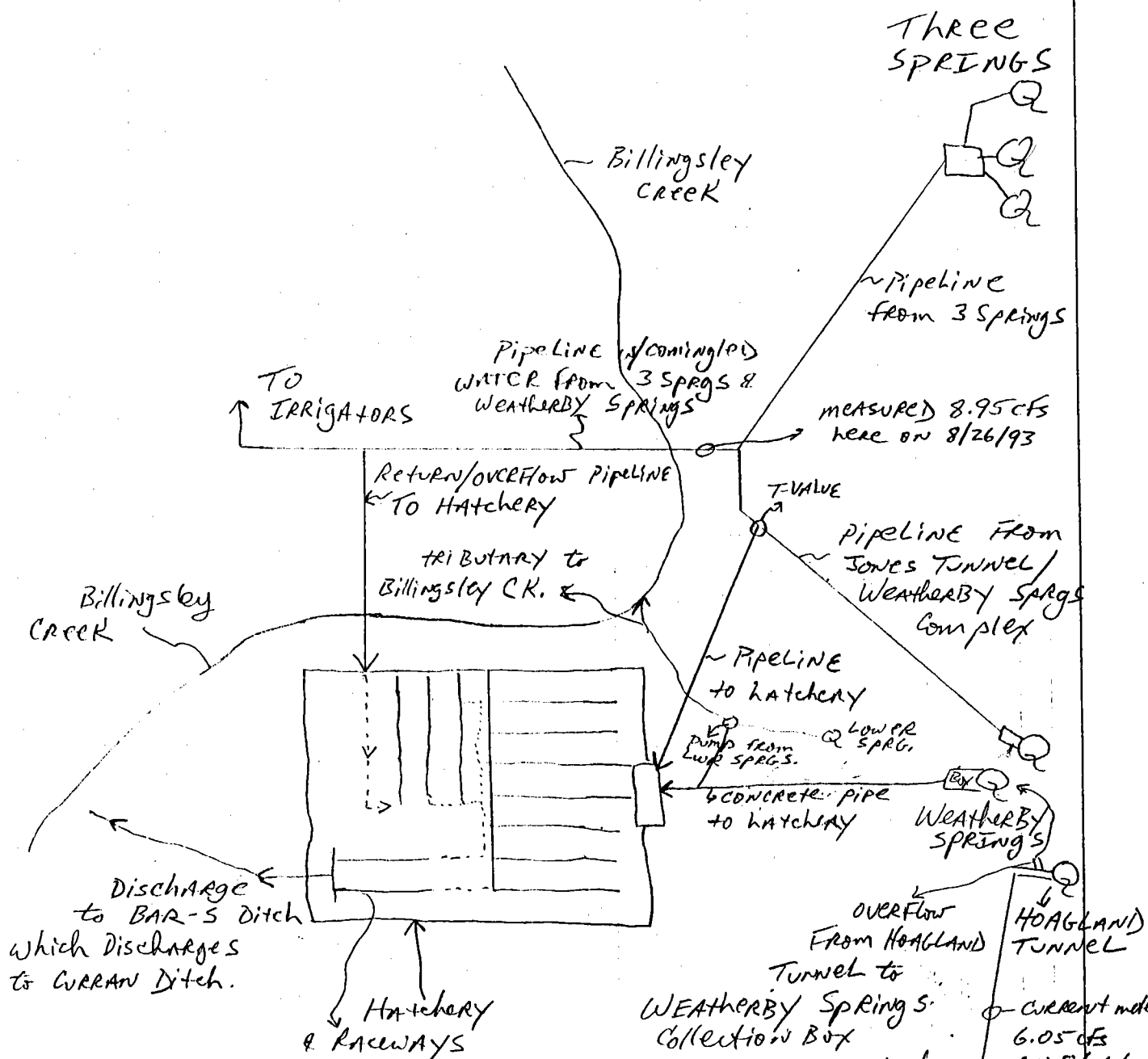
The equation for total spring flow therefore is:

$$Q = 6.05 + 8.95 + (34.79 - 3.12) = 46.67 \text{ cfs}$$

This total spring flow does not include some water from a lower elevation spring which was discharging directly into a small

creek tributary to Billingsley Creek. The lower spring was not measured. Mr. Jones explained that he has a pump which can divert about 3.0 to 3.5 cfs from this lower spring to the hatchery.

The 3.12 cfs overflow to the hatchery from the comingled pipeline was determined by taking the difference of two weir discharge measurements in a single hatchery raceway. The overflow pipe discharges to this raceway in between the two weirs.



Sum of Weir measurements on Hatchery Raceways, including Return flow from Irrigation Pipeline = 34.79 cfs on 8-26-93
 Total Discharge to Hatchery on 8-26-93 = 34.79 cfs

Total Discharge from 3 Springs, Weatherby Springs & Hoagland Tunnel =

31.67
8.95
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46.67

Unaccounted Lower Spring Discharge to Creek \approx 4.00 cfs
 total Estimated Spring Q = 46.67 + 4.00 \approx 51.00 cfs