Cal/EPA

State Water Resources Control Board

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Pete Wilson
Governor

MEMORANDUM

TO: Files 29449 and 29450

FROM: Christopher O. Murray
WRC Engineer
DIVISION OF WATER RIGHTS

DATE: 6-5-98

SUBJECT: INSPECTION OF MARBLE MOUNTAIN RANCH'S DIVERSION FACILITIES

As indicated in the preceding Contact Report dated 6-2-98, Mr. Cole has cancelled our meeting at his project site for 6-3-98. Basically, this trip was scheduled to assist Mr. Cole in determining how to proceed in order to either prove the extent of his pre-1914 claim or to continue processing these applications. The only piece of information which I needed was the rate at which he is currently diverting water. Because I had scheduled this trip to Mr. Cole's site in Somes Bar, I had scheduled to meet with DFG in Seiad Valley on another project the following day.

Since I had to drive to Seiad Valley anyway, I decided to stop off and measure the amount of water flowing through Mr. Cole's diversion facilities. I am familiar with the location of his diversion ditch by virtue of the fact that I visited the site and inspected the ditch with Doug Cole's father-in-law on September 23, 1997. I did not take a flow measurement during that visit due to time constraints. Mr. Cole's diversion ditch lies entirely upon Forest Service property. Consequently, no permission from the Cole family is required to inspect the site or measure the flow.

I hiked to the POD from Highway 96, following Stanshaw Creek until I reached the diversion ditch. I photographed the diversion structure and the ditch in various places. I noted the presence of a rainbow trout approximately 9 inches in length utilizing the buried sediment trap for cover. I located an area of the ditch which had a very uniform cross section and a smooth bottom. From here I measured the flow in the ditch using a pygmy meter. I estimated the velocity prior to initiating the flow measurement as a check on the

flow rate I obtain with the instrument. I estimated the velocity to be approximately 1 foot/second (probably a little more than that). Based on a quick calculation of the cross sectional area (2.54 Sq. Ft.) I obtained an estimated flow rate of approximately 2.5 cfs. The flow rate I obtained using the pygmy meter matched very closely my estimate of the flow rate. The measured flow rate was determined to be 2.4 cfs. This flow was measured near the point of diversion. The ditch is a mile or so long, and some conveyance loss is expected over that distance. The water near the terminus of the ditch appeared to be flowing at a rate comparable to the beginning of the ditch. I would regard the conveyance losses to be a small fraction (20% maximum for loss of 0.5 cfs) of the flow of the ditch although the flow was not measured near the penstock. The entire flow of the ditch was being diverted through the penstock.

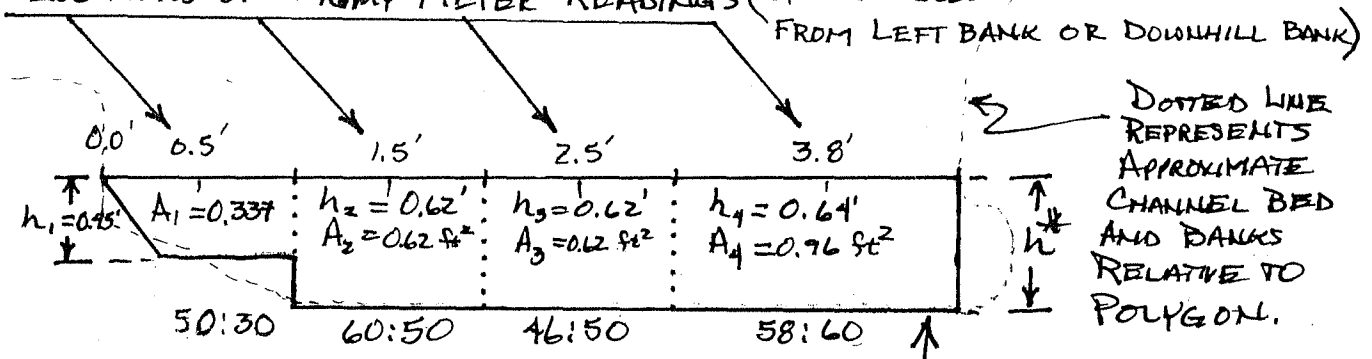
FIELD NOTES FROM FLOW MEASUREMENT OF COLE'S DIVERSION DITCH ON STANISHAW CREEK.

6-4-98 6:15 AM

SISKIYOU COUNTY

FLOW IN DITCH APPEARS TO BE APPROXIMATELY 1/4 TO 1/3 OF THE FLOW IN STANISHAW CREEK.

LOCATIONS OF PYGMY METER READINGS (AS MEASURED FROM LEFT BANK OR DOWNHILL BANK)



V_1=0.619 ft/s V_2=0.845 ft/s V_3=1.09 ft/s V_4=1.04 ft/s

Q_1=0.21 ft³/s Q_2=0.52 ft³/s Q_3=0.68 ft³/s Q_4=1.0 ft³/s

Q_{TOTAL} = 2.41 cfs

* THE DITCH APPEARED TO BE SIGNIFICANTLY DEEPER DURING MY 9-23-97 VISIT TO THIS SITE. APPARENTLY SIGNIFICANT SEDIMENTATION TAKES PLACE DURING THE WATER DIVERSION SEASON.