

HYDRAULICS BRANCH
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Appendix A

Memorandum

Denver, Colorado
December 7, 1959

To: P. W. Lewis

From: E. J. Carlson

Subject: Operation of pump in which impeller was covered with epoxy and neoprene protective coatings

During the latter part of April 1959, the 6-inch Worthington vertical pump being used in the San Acacia Diversion Dam hydraulic model study was dismantled, and the pump impeller was coated with two different coatings; epoxy and neoprene. A summary of pump operation follows:

After reassembly and installation, the pump was placed in operation on May 6. The pump was used until October 1, at which time it was removed, dismantled, and replaced with another pump. Between May 6 and October 1, the pump was started and stopped a total of 16 times. Average length of a run was 47.3 hours and total time of operation was 757 hours. Each time the pump was started, a discharge of 2.16 cubic feet per second was set and maintained constant. This discharge gave a velocity of 11.0 feet per second in the 6-inch pipe. Velocities through the runner and across the protective coatings would be somewhat higher. The average concentration of a fine uniform sand (gradation curve enclosed) which passed through the pump was 361 parts per million by weight, and the total amount of sediment which passed through was 63 tons. During operation, average temperature of the water-sediment mixture being pumped was 66° F.

If additional information concerning length and concentration of each run is required, it may be obtained from San Acacia model records.

/s/ E. J. Carlson

Enclosure

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