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MEMORANDUM TO CHIEF DESIGNING ENGINEER

(J. E. Warnock)

Subject: First progress report - Model study for the transition and exit of the 102-inch river outlets - Friant Dam, Central Valley Project, California.

1. The attached prints show a design proposed by the laboratory for the transition and exit of the four 102-inch river outlets, and the indicated pressures within the transition.

2. Before the design and model study of the transition and exit could be made, it was necessary to determine a satisfactory apron design on a 1:24 scale sectional model of Friant Dam. After the apron had been determined, one outlet of the proposed design was installed in the sectional model. A study has been made of the pressures in the transition and exit (see attached print) and of the spreading of the issuing jet on the apron. Satisfactory results have been found in both cases for all operating conditions.

3. Additional tests are considered necessary to determine the horizontal spacing of the outlets and the effect of the issuing jets on the stilling pool. This study will be included with the tests to be made on a 1:60 scale model of the entire Friant Dam and its appurtenant structures, which is now under construction.

4. The transition and exit design as now proposed may be incorporated in the prototype design. Some changes may be necessary, however, as a result of the studies on the 1:60 scale model.

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Encl.

J.E.W.