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YALIN

MEMO TO MAYNORD



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Stephen T. Maynard
U.S. Army Engineer Waterways Experiment Station
3909 Halls Ferry Road
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Dear Dr. Maynard,

The replica of a certain reach of the Mississippi River shown to me is not a model in the sense of the word used in fluid mechanics and hydraulic engineering. Indeed it does not satisfy any of the criteria of the dynamic similarity (such as Froude number, Reynolds number, or a dimensionless combination related to the mechanics of sediment transport). The scaled model flowrate and depth are not predictable beforehand (as should be the case in any hydrodynamical model). They are adjusted before each run by visual judgement as to whether the model pattern of erosion and deposition in the model is in agreement with the corresponding pattern known from the prototype measurements (agreement is in the most general trends - not in any details). The suspended load motion and formation of bed forms are not reproduced at all.

I regret such a "model" can not be recommended for predictive purposes.

A handwritten signature in black ink, appearing to read 'M. Selim Yalin'.

Dr. M.S. Yalin