Paper No. 110
Year 1927

REPORT ON FLUME EXPERIMENTS ON SIRHIND CANAL

By

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Flume experiments were conducted on Sirhind Canal with the objectives of finding out how far the modular limit of a flume is dependent on its geometric parameters, the coefficient of discharge above modular limit and whether the efficiency of flumes can be increased by altering the length of throat and shape of upstream wing walls without much increasing the cost. The efficient flume is one in which the modular limit is the highest, the coefficient of discharge below the modular limit is constant and above the modular limit is mostly uniform for varying heads.

Crumps developed a flume model "L" which has constant modular coefficient and high modular limit. This model is better than other models due to its higher throat length of about 2 times the head. A number of flumes based on this model were built on the Sirhind Canal, but Crumps dimensions were not adhered to.

Experimental flumes were built at Gill and at Bhowani. The flumes were 4' wide, with H equal to 2' giving a discharge of about 35 cusecs. The flumes had a throat length and glacis length of 2.5 H to test the flumes with a depth of water greater than 2'. Kari stop dams were provided above and below the flumes to control the discharge and water level downstream as also to achieve the desired drowning ratio. About 50 feet downstream of stop dam a tail flume with a free fall having the same dimension as that of test flume was installed to act as