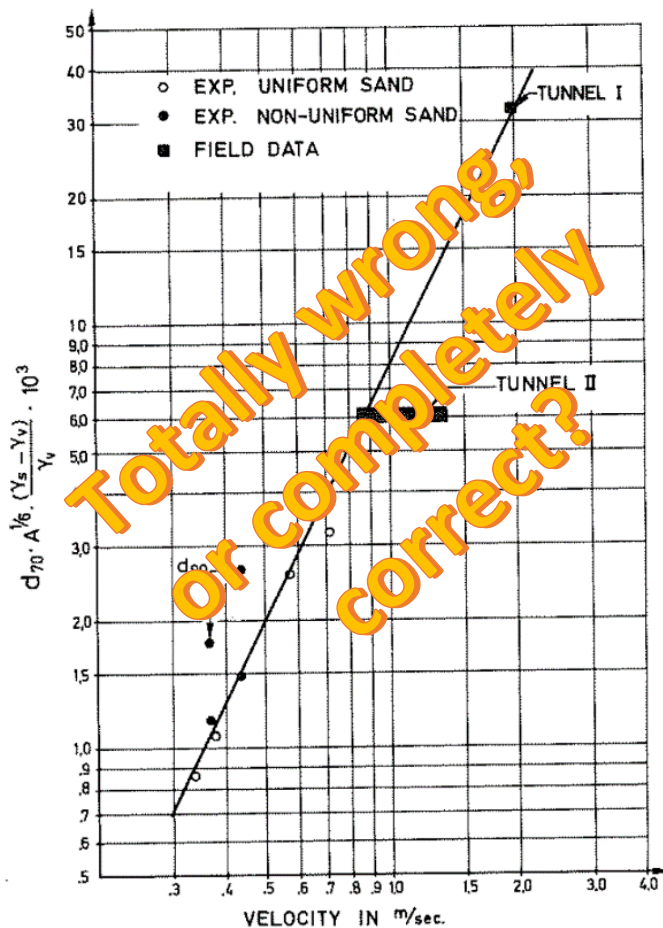


Tittel	Sediment transport in tunnels
Type	Model tests with sediments
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Short description with pictures/Kort beskrivelse med et bilde



In 1966, model tests were performed at the Hydrotechnical laboratory in Trondheim to gain knowledge of movement of sand and gravel in hydropower tunnels. The results formed the basis for a formula for beginning transport of sediments in tunnels that was widely used for Norwegian hydropower projects the following years. The formula is based on Manning's and Shields' formulas, and variables include particle diameter, water velocity and cross section area of the tunnel.

Will a replication of the model tests bring the same results, and will the conclusions be the same? Has the theory behind the formula stood well against time, or will new knowledge in the field of sediment transport from the last 50 years necessitate the creation of a new formula?

The student will investigate the theory of beginning motion of sediments, and perform model tests to investigate the validity of the results from 1966.