



Dredging Research in China

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- The main Stake Holders
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Introduction

- Yearly dredging market in China about 265 Mm³.
- 2/3 is executed by the CCCC Group
- 1/3 by others (mainly dredgers of the Ministry of Water Resources)
- Dredging research is started in the 1990th



Dredging Contractors

(Ministry of Transport and Communications)

China Communication Construction Company Ltd.
(former called CHEC;
China Harbour and Construction Company)

Divisions:

- Infrastructure Design
- Infrastructure Construction
- Dredging
- Port Machinery and Manufacturing
- Other



Dredging Contractors

(Ministry of Water Recourses)

- Many small Contractors with small equipment
- Are different organised and have there own meetings in China.
- 100 dredgers project ??



Dredging Laboratories

- **CCCC**
 - Shanghai Dredging Company (Lab reconstructed)
 - Tianjin Dredging Company (plans to build one)
 - Guangzhou Dredging Company (????)
- Hohai University of Changzhou (Ministry of Education; formally Ministry of Water Recourses)



Laboratory of Shanghai Dredging Co.





Dredging Flume





Dredge Carriage





Irregular wave flume





Hopper Loading Model Test Facility





Sub-surface Dredging Test Facility





Experiments to improve an environmental cutter head



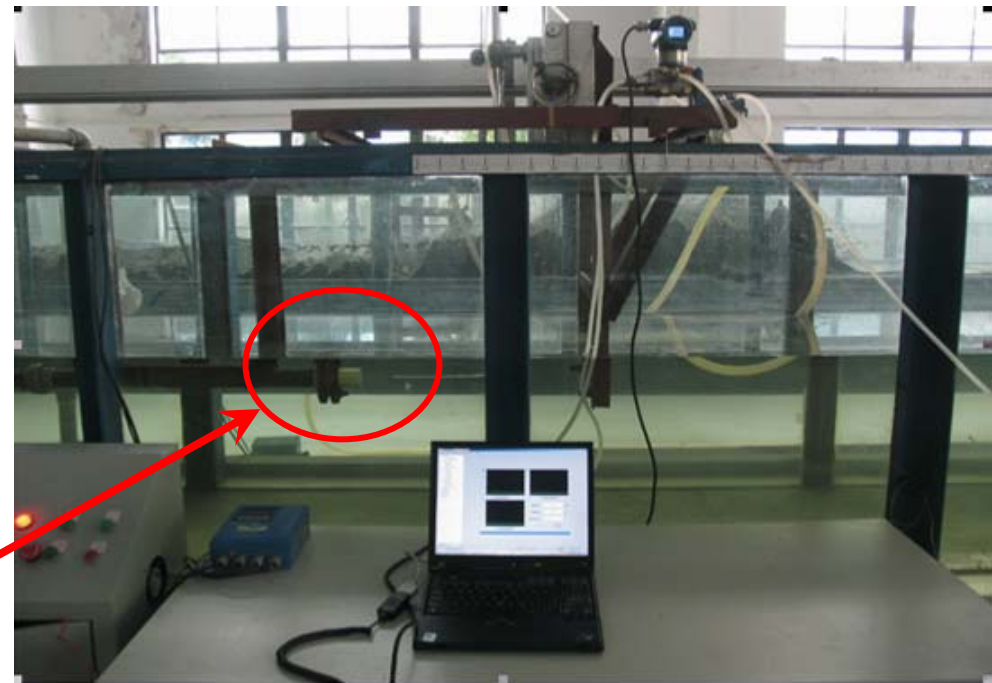
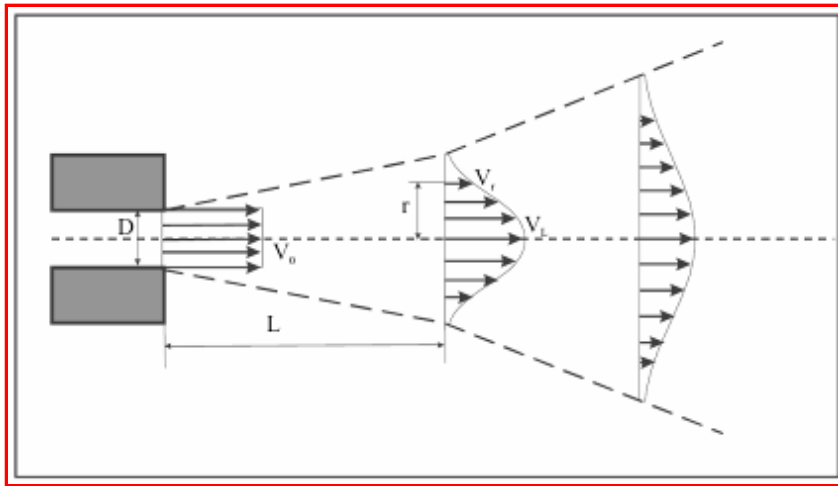
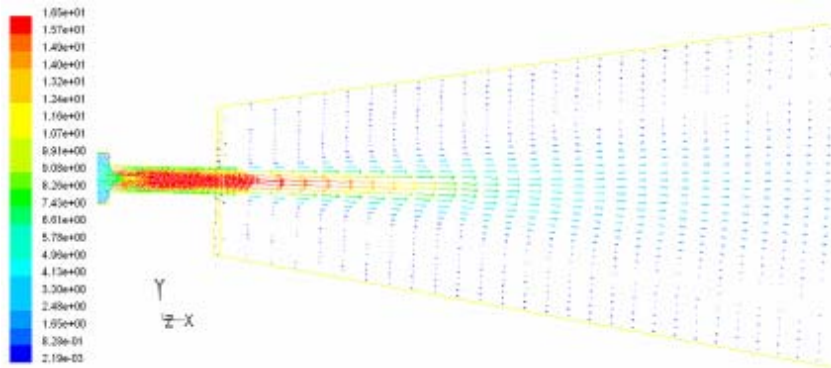


Hydro-cyclone Model Test Facility



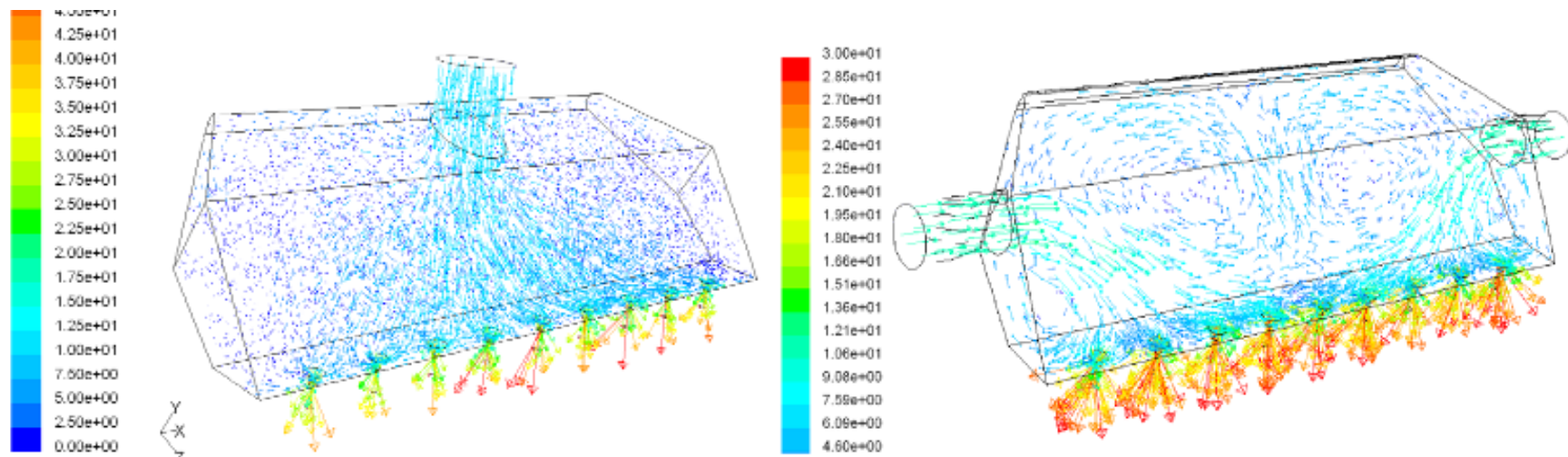


Jet Water Nozzle Current Profile Measurement Facility





Study on the improvement of the jet water coherency in draghead





Experimental study on cutting of saturated hard compact soil with draghead teeth





Draghead Model Test



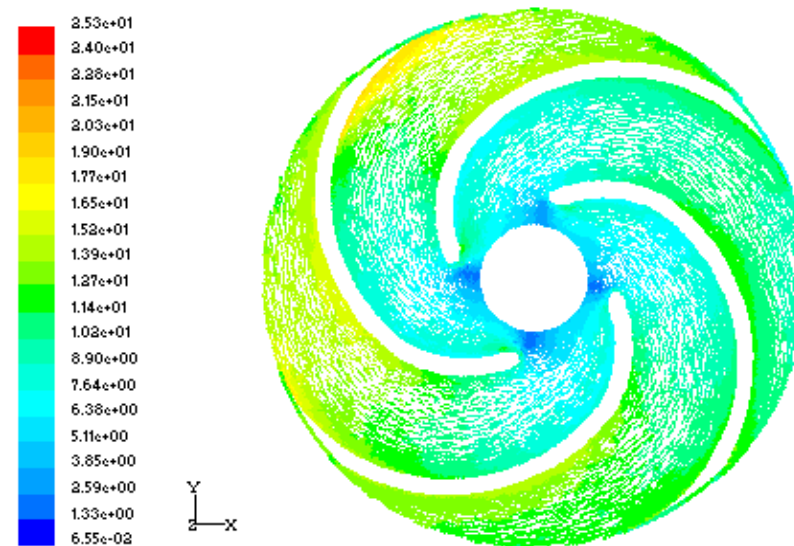
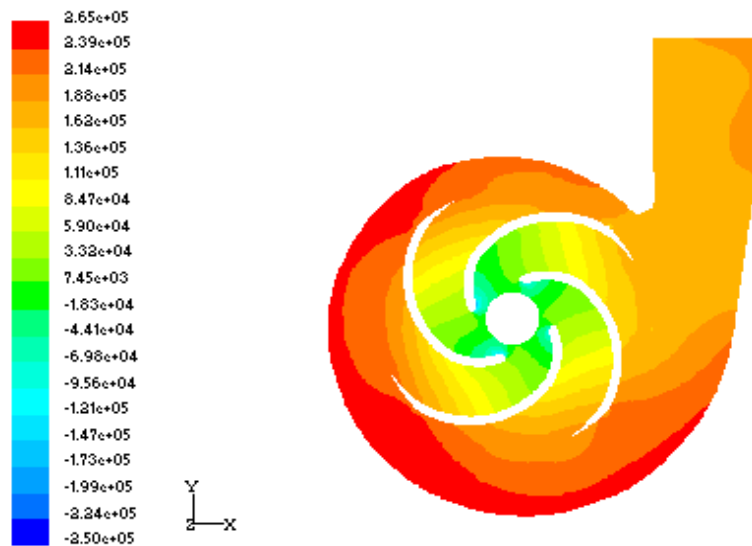


Draghead Design



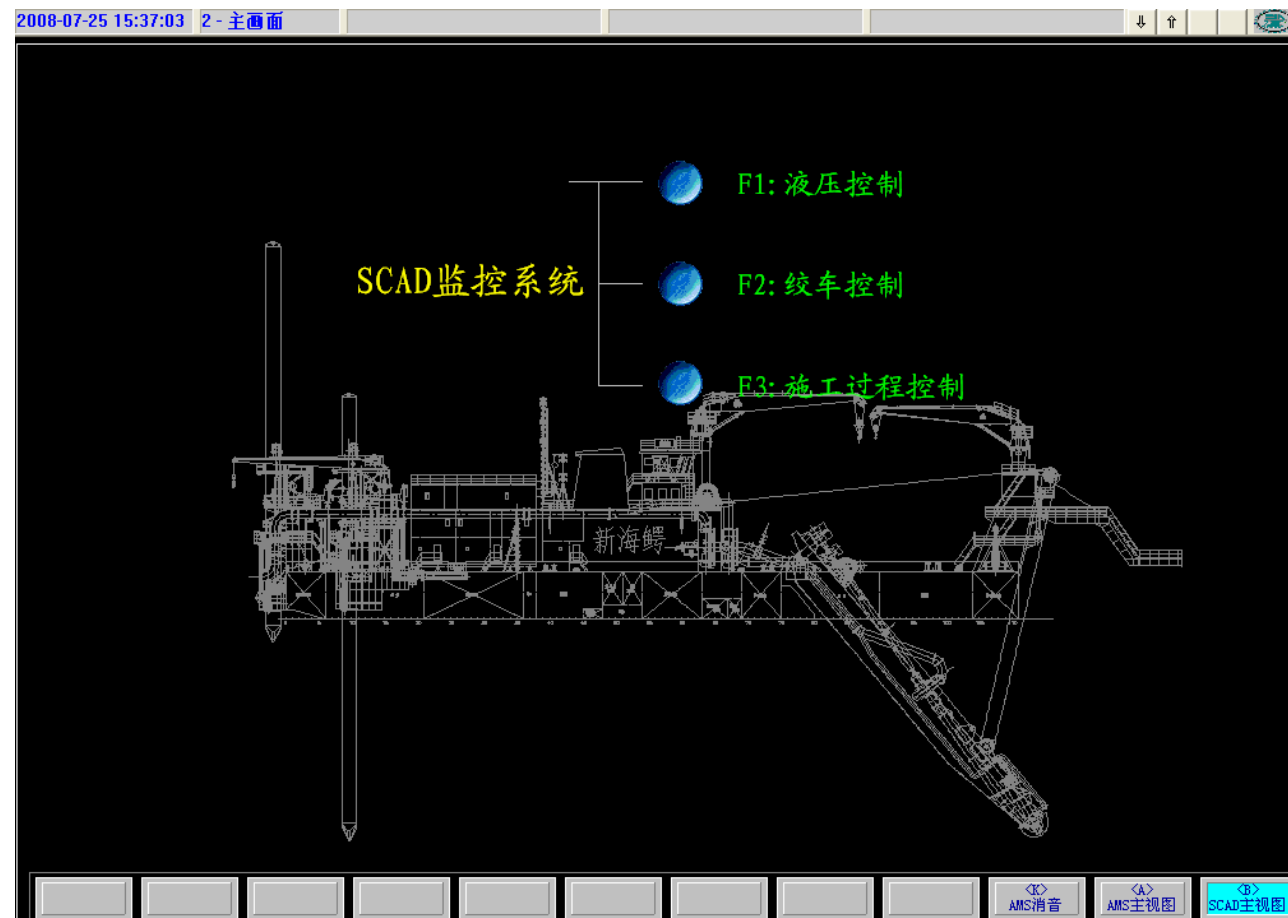


Study on High Efficiency Medium Pressure Dredge Pump





CSD Supervisory Control and Data Acquisition System





The laboratory of Tianjin Dredging Company

- Is under construction; plans for:
 - A long (1500 m) pipeline and pump facility \varnothing 500 mm
 - A cutting tank
 - A sedimentation tank



Laboratory of the Hohai University





Cutting Tank under Construction





Cutting Tank ready for use





Pump and Pipeline Test Stand





Resistant test of 90° bend





Cutter head tests





Draghead Tests



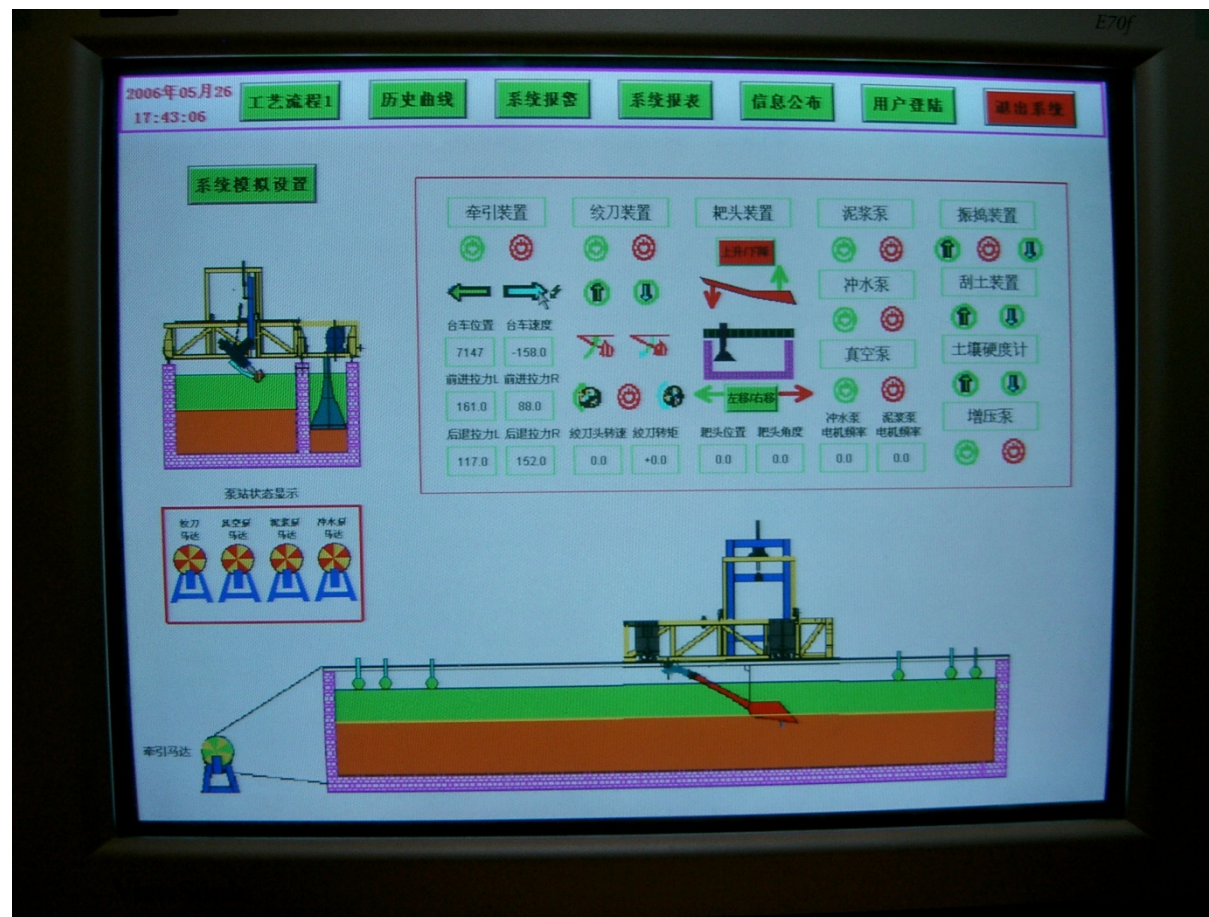


Filling the tank with sand





Tank Operation Screen





The small Glass Model and Triaxial Test Stand





The Simulator





The research (Hohai)

- solid transport
- pump performance
- soil cutting
- mathematical modeling
- dredging simulation

In general applied research for contractors.
Hardly fundamental (basic) research



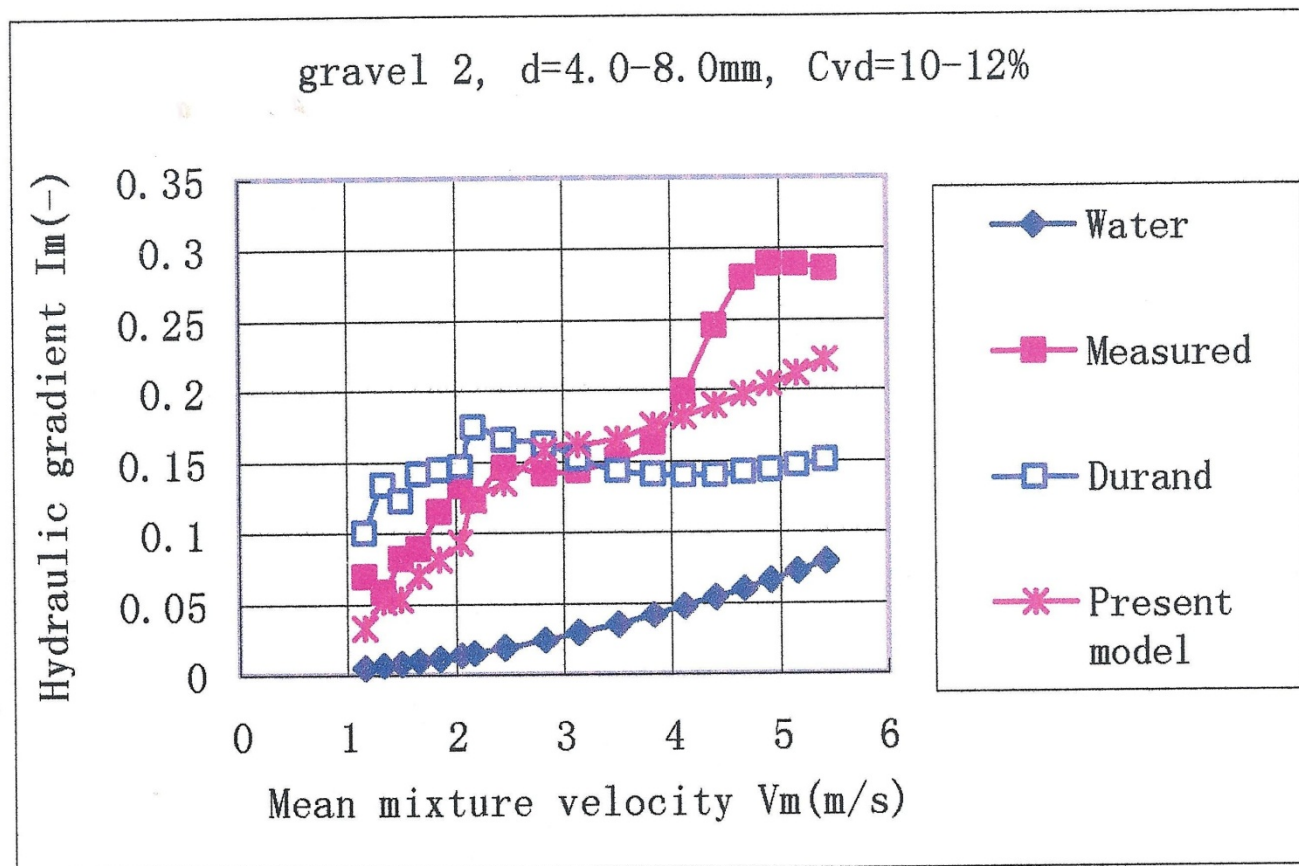
Cutter Head Design

- Some articles about cutter head design are published
- On Wodcon XVIII and other EADA/ CHIDA conferences



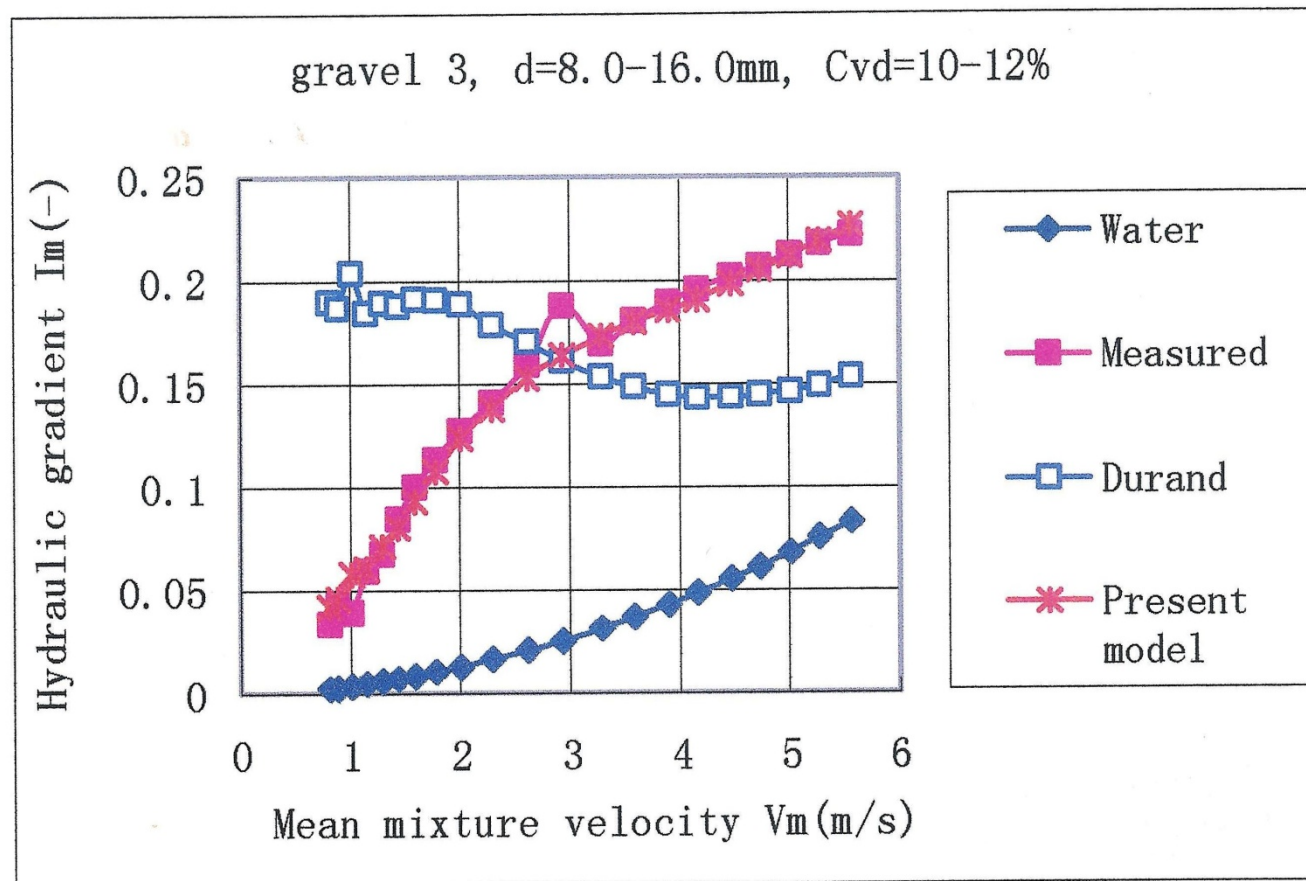


Hydraulic transport (1)





Hydraulic transport (2)





Hydraulic transport (3)

