

UNIVERSITY OF MACAU
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT of
CIVIL AND ENVIRONMENTAL ENGINEERING

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**" Exploration for Offshore Sand in Hong Kong:
Detailed Surveys, Dredging and Environmental
Assessments "**

by

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Time: 3:00PM – 4:00PM

Venue: E12 – G020

Abstract

Hong Kong used about 270Mm³ of marine dredged sand from 1990 to 2003 to form land for the Chek Lap Kok Airport and port facilities, roads and various new town developments for housing and industry. The main sand reserves are Pleistocene fluvial deposits, the upper portions of which were largely reworked and laterally transported by early Holocene tidal currents. Economic sand reserves mostly occur where later Holocene mud deposition has been restricted by high tidal flows. Sand dredging proposals have been subjected to the environmental impact assessment process and in some instances the decision was taken not to extract certain sand deposits for environmental, ecological and socio-economic reasons. Detailed dredging assessments have been undertaken to quantify economic reserves. The key are the overburden ratio and a means to economically dispose of the overburden. Empty sand borrow pits were used for cost effective mud disposal while at the same time reinstating the seabed. The marine sand search study in 1990 was to locate and investigate all major offshore deposits of sand and gravel that could be used as reclamation fill in Hong Kong. The study comprised a two-stage offshore investigation of geophysical surveys and drilling followed by borehole logging and laboratory testing. The study had identified 14 potential marine sand areas with a combined volume of approximately 588Mm³.

Biography

Mr. Paul Cheung is currently the Chairman of Profession Branch of Geological Society of Hong Kong. He obtained his B.S. and M.S. in Geology in National Taiwan University and University of Windsor, Ontario, respectively. He is a chartered engineer, geologist, and scientist of UK. He had conducted many geological related projects in Hong Kong. In particular, he was involved with the “Exploration for Offshore Sand in Hong Kong” while he was working for the Civil Engineering Development Department of HKSAR.

ALL ARE WELCOME!