Mud characteristics Sampling and laboratory testing





Mud

Mud layers are formed due to the decrease of kinetic energy that causes sediment particles to deposit on the bottom of a channel, port or estuary. If an increasing amount of particles is settling down, the base sediment layer will be subjected to increased pressure due to the weight of the upper layers. As a result water is expelled from the base layers and the sediments are compacted.

Important for navigability at minimal or negative UKC is the resistance of the 'muddy sediment' against the vessel's movement. The resistance of 'muddy' sediment is generally shear stress dependent. Rheological properties should be tested regarding this resistance. The rheological properties can also be used for flow calculations of the fluid mud and consolidation calculations.

Sampling

Together with our sister companies Wiertsema ϑ Partners B.V. and Marine Sampling Holland B.V. we have gained a lot of experience in the underwater sampling of the seabed in ports, canals, seas and estuaries.

Mud samples can be collected with a Van Veen grab, Beeker Sampler, Tube pump, Vibrocorer or Horizontal Sediment Water Sampler and the Sludge Sampler. The Sludge Sampler is a sampling tool for taking samples of the fluid mud layer. The Sludge Sampler takes 11 samples over a height of 211 cm.



SEMASO B.V. is a sister company of Wiertsema & Partners B.V. and Marine Sampling Holland B.V.



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Laboratory testing

- >>> Classification of the sediment samples
- Particle Size Distribution by sieving (particles > 63 micron) and/or sedigraph (> 2 micron and < 63 micron)</p>
- Determination of the wet and dry densities and the particle density (by helium pycnometer)
- Organic and carbonate content (chemical or glow method)
- Testing for the rheological properties of fluid mud (yield point and viscosity)
- >>> Settling speed tests and re-consolidation tests

There are several additional tests possible in our geotechnical laboratory. For more information please contact **info@semaso.com**.

References

A list of reference projects is available via info@semaso.com

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