

**APPLIED PETROGRAPHY GROUP**  
**(A Specialist Group affiliated to the Geological Society Engineering Group)**  
**Twelfth Meeting Afternoon Presentation**

**Monday, 15 February 2010,**

**Dr. Maarten Broekmans (Geological Survey of Norway)**

**Technical and Professional Aspects of Petrography in Norway**

The first part of the presentation comprises an outline of ASR history in Norway. Originally identified in Norwegian concrete in 1982, ASR has been the subject of a number of nation-wide research projects and academic studies. These have resulted in national guidelines, a current practice for aggregate assessment by petrography and point counting, a recurring coordination among petrographers, as well as a number of academic degrees, the next being scheduled for 2012. The above will at several instances be compared with the situation in the Netherlands.

The second part presents results from the recent study of a concrete towing tank for ship models. An 80m extension from the late 1970's appears to be expanding due to deleterious ASR, whereas the original 130m dating back to the late 1930's is non-expansive. The structure is gravity balanced and hence very heavy and massive. The concrete has been investigated by petrography at various scales of observation, in the field using a magnifier, in the laboratory using fluorescence-impregnated plane and thin sections, chemical whole-rock compositions by XRF and ICP-AES, and determination of residual expansion on full cores by modified AAR-4.

*Dr. A. T. M. Broekmans (04/02/10)*