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The extreme environment of active gas hydrate bearing pockmarks at Nyegga: a multidisciplinary geological, biological and geochemical study on the Mid-Norwegian margin

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The extensive deep water (700-900 m) pockmark area recently mapped at Nyegga on the Mid-Norwegian margin, has a wide range of both relict and active seafloor seeping structures with gas hydrate identified at the seafloor within the most active ones. These pockmarks are all located within a temperature regime of ca. -0.7oC. This offers an excellent opportunity to study the history and the development of the structures as well as the different maturity level of the biogeochemical processes and the associated biological and microbiological community related to a stable temperature regime. The pockmarks are commonly ca. 200 m in diameter and the most active ones can have a topographical relief from -10 m to +10 m and are associated with gas and gas hydrate bearing sediments. Through a number of ROV dives, carried out in 2008, a large number of samples have been collected at Nyegga. We will present preliminary results from these recent field and laboratory studies.