



Notes to the localities, map and photos

33. IGC Excursion 25 A.

Friday, August 8th, 2008

**The Palaeozoic geology of the Oslo Region,
The Outer Oslofjord area**

Bjørn T. Larsen (DetNorske) & Snorre Olausen (Eni Norge)

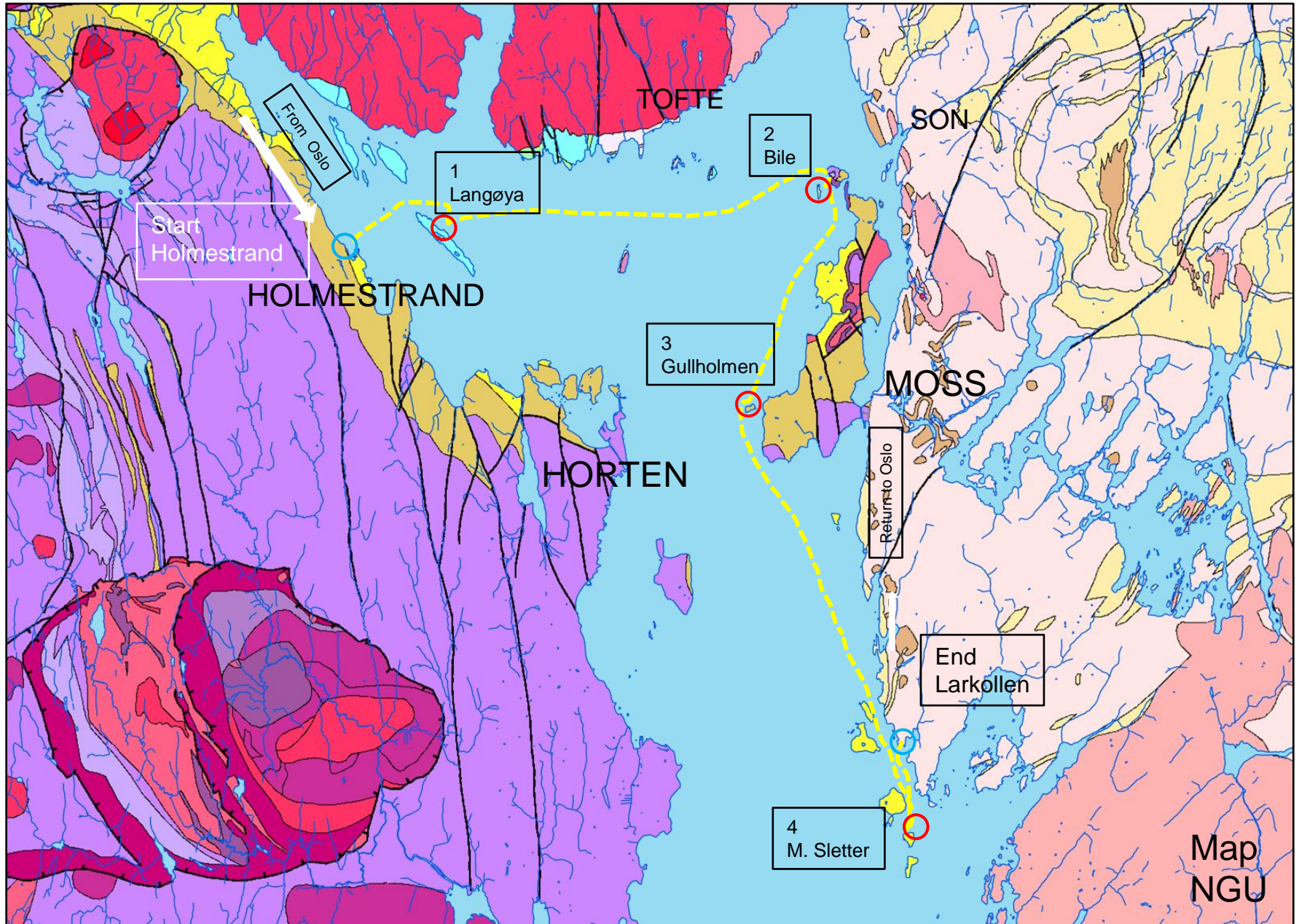
Excursion 25 A,		
The Palaeozoic geology of the Oslo Region, The Outer Oslofjord area		
<i>Bjørn T. Larsen (DetNorske) & Snorre Olausen (ENI Norge)</i>		
Friday, August 8th, 2008	From 08:30 to ~19:00	Number of participants 30.
By bus and boat. Bus to Holmestrand. Embark the ship in Holmestrand. The ship`s name "Hankø"		
Bus starts from the Old University at Karl Johans gate, in the city centre of Oslo at 08:30		
Stop 1	Langøya, Holmestrand	Upper Silurian (Wenlock) limestones of a shallow marine carbonate ramp setting. The Steinsfjorden Formation.
Stop 2	Bileholmen, Jeløya	The Upper Silurian Holmestrand Formation of the Ringerike Group. Foreland basin, ephemeral stream sandstones deposited on a broad coastal floodplain
Stop 3	Gullholmen fyr, Jeløya	Basalt lava flows from stage 2 in the Oslo Rift development. Alkali olivine basalts with interbedded eolian and fluvial red sandstones. Boundary between Carboniferous and Permian
Stop 4	M. Sletter Island	Lower Permian debris flow deposits on alluvial fans. Formed on the downfaulted side of the Oslofjorden master fault during the rift climax (Stage 3)

We disembark the ship in Larkollen, return to Oslo by bus

The Palaeozoic geology of the OsloRegion, The Outer Oslofjord area



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Stop 1. Langøya, Homestrand. Slide 1. Upper Silurian (Wenlock) limestones of a shallow marine carbonate ramp setting. The Steinsfjorden Formation.



Well stratified limestones of the Langøya Member of the Steinfjorden Formation.

Stop 1. Langøya, Homstrand. Slide 2. Upper Silurian (Wenlock) limestones of a shallow marine carbonate ramp setting. The Steinsfjorden Formation.



Oncolitic mudstone facies from the Langøya Member. The pebbles size are about 1 - 3 cm.

Stop 2. Bileholmen, Jeløya north. Slide 1. Sandstones of the Holmestrand Formation, foreland basin to the Caledonian Orogen. Uppermost Silurian



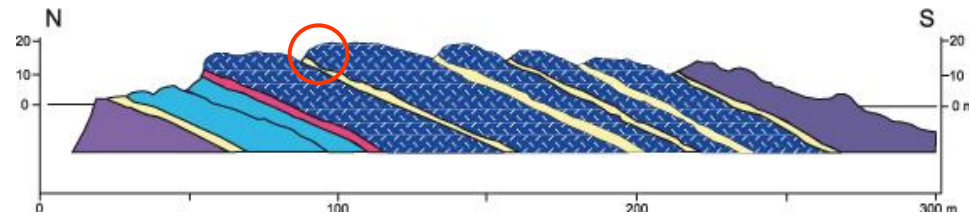
The southeasternmost and youngest part of the Ringerike Group sandstones, the Holmestrand Formation (Pridoli). Deposited in a foreland basin setting in front of the Caledonian Orogen. Ephemeral stream and sandy beach face sandstones were deposited on a broad coastal floodplain, and reflect the down-slope change of an extensive ephemeral stream delta system.

Stop 2. Bileholmen, Jeløya north. Slide 2. Sandstones of the Holmestrand Formation, foreland basin to the Caledonian Orogen. Uppermost Silurian



The sandstones are grey, green and red, well sorted, medium grained sandstones. The lower unit (at Bile) comprises ephemeral stream sediments as stacked sheet-sandstone bodies deposited on a broad costal flood plain.

Stop 3. Gullholmen, Jeløya. Slide 1. Alkali olivine basaltic lava flow with red sandstones interbedded. Stage 2, the introduction to rifting.



N-S profile across the small island of Gullholmen showing different types of basaltic lavas and thin sandstones. (from Schou Jensen & Neumann, 1988)

Interbedded thin eolian/fluvial sandstones between two alkali olivine basalt lava flows.

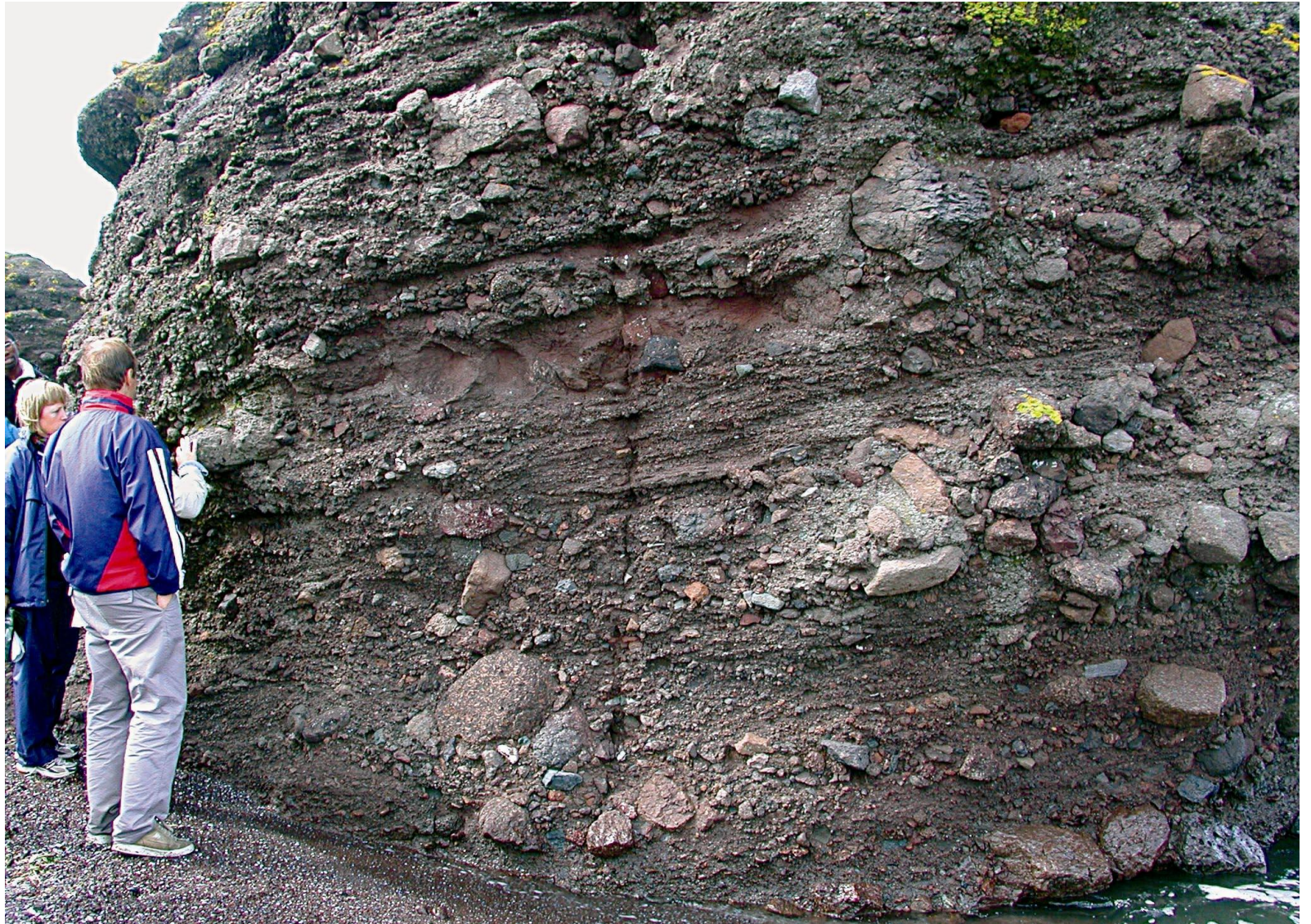
Basaltic lava flows with interbedded red sandstones. The basalts erupted during Stage 2, and have an alkali olivine basaltic composition and these flows have clinopyroxene phenocrysts. The top surface of the flow shows pahoehoe structures. The red sandstones are partly eolian, partly fluvial.

Stop 3. Gullholmen, Jeløya. Slide 2. Alkali olivine basaltic lava flow with red sandstones interbedded. Stage 2, the introduction to rifting.



Red sandstone from eolian sand trapped between the blocky surface of a basaltic lava flow. The sandstone is quartz-rich, fine grained and well sorted and its provenance area must have been from outside the lava fields. The size of the blocks is about 30 cm.

Stop 4. M. Sletter island. Slide 1. Rift climax. Lower Permian conglomerates. Large alluvial fans along the east-bounding master fault of the Oslo Graben



Deposition of very coarse conglomerates occur all along the eastern side of Oslo Fjord, representing alluvial fans along the eastern bounding fault of the rift. The conglomerates are volcanoclastic with about 70% rhomb porphyry clasts. The rift climax, stage 3

Stop 4. M. Sletter island. Slide 2. Rift climax. Lower Permian conglomerates.
 Large alluvial fans along the east-bounding master fault of the Oslo Graben

