

Hi all,

No additional news this month so just a reminder of our first field trip of the year, 12th May

Hope to see you there

NEGS May 2012

GEOLOGY SOUTH OF SUNDERLAND

FIELD DAY 12th May 2012

This excursion will take us to some little known sites from just south of Sunderland to the Blast Beach just south of Seaham. We will look at rocks belonging to the top of the Permian Magnesium Limestone sequence - not just the Concretionary Limestone Formation, but the Roker Dolomite and Seaham Formation, too. We will look at a history of deposition, dissolution and disturbance of the beds repeated up the succession. Other features to see will be our geologically young (Devensian) glacial beds, coastal erosion, and the impact of past industries on the coastline – the last two events being closely linked!

ASSEMBLY – Cars meet at Ryhope Green (NGR 414529*) at 10.30hrs on the day. Landmarks around the Green are the Albion pub, the Farmers Club and the prominent War Memorial in the middle. The assembly point can also be reached by bus from Sunderland's Park Lane Interchange, catching any bus heading towards Peterlee, Easington, Hartlepool or Dalton Park but the most frequent are the 60 and 61 (the "Drifter" service, usually painted a dark green!).
* All NGR's are read from the OS Landranger sheet 88 (Tyneside).

LOCALITY 1 - A short walk from Ryhope Green takes us under the new road (A 1018) to the sea (NGR 417531). No facilities at this site, so a short stay providing an overview of the geology and some features of the Concretionary Limestone Formation.

LOCALITY 2 – A short car drive (B 1522 then the B 1287) to the car park (NGR 424508) close to Seaham Hall. There are toilets and a cafeteria at this car park. We walk down the steps to the beach and firstly walk north (in the direction of Ryhope Dene). The main attractions here are some caves and fractures in the Roker Dolomite Formation showing interesting solution and replacement structures. Then we will walk south along the promenade almost as far as the Featherbed Rocks, with points of interest in the exposed Roker Dolomite Formation and elsewhere! Can we (hand on heart) be sure we can tell the difference between the CLF and the RDF? Probably not, and this was a big problem when the BGS mapped the area in the 1960's and 70's.

LOCALITY 3 - Head south into Seaham along the sea front (watch out for the speed bumps and traffic controls) and park in the car park signed on your left by the war memorial (NGR 431497). We are now just south of the Featherbed Rocks. The nearest toilets I am aware of are about ¼ mile south in the Asda shopping complex. To get down to the shore we walk just beyond the buildings at the south of the car park, and head down a path and steps.

The section we hope to see** in the cliffs here gives us a pretty well unique view of some of the rocks of **Zechstein Cycle 3**, preserved on the downthrow side of the younger Seaham Harbour Fault. The sequence should include here the Fordon Evaporite Formation, found at the top of Cycle 2, and the **Cycle 3 Seaham Formation**, another major carbonate deposit. The Fordon Evaporite should rest on the top of the Cycle 2 Roker Dolomite Formation (maybe visible at the base of the section). **But**, just as in the case of the Cycle 1 Hartlepool Anhydrite, later dissolution has removed all but a residue of the Fordon Evaporite and the overlying Cycle 3 Seaham Formation has collapsed into the void with brecciation and alteration. The silty, muddy remnant of the Fordon Evaporite is known locally as the Seaham Residue. Well if that sounds complicated, just wait till you see the Featherbed end of the section – the structure is "jaw-droppingly" chaotic!

Another point of interest is the composition of the rock armour- think "pub stone"!

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I say "hope to see" because the council are working on paths and access in this area, and generally getting in the way! Hope fully, by May, all will be clear

LOCALITY 4 – The Blast Beach, just south of Seaham. To reach the last stop on the itinerary, drive south past Seaham Docks on your left, keep Asda on your right (toilets, remember) and stay on the new road till it swings to the right to approach a roundabout. **Just before** it reaches the roundabout turn left at the signpost to **Nose's Point**. Drive past the first car park and assemble in the second about ¼ mile on (NGR 436478). We will then walk south along the clifftop path towards Chourdon Point for c 2/3 of a mile then go down some steps to the Blast Beach. On the beach we will eventually work our way back to the car park, which we can get up to via a steep but fairly firm slope.

This is the “fun stop”. Apart from some imposing cliffs of disturbed Roker Formation (having crossed the Seaham Harbour Fault we are back down in Cycle 2), we can see many reminders of the area’s mining and industrial past, including an artificial “raised beach” made up of colliery spoil. This gives us a very good chance of finding Coal Measures’ fossils, as well as speculating on how coastal erosion will behave when it is all washed away.

RETURNING HOME – after leaving the car park, turn left on to the new road (A 182) and it will lead straight to the A 19 at Dalton Park. Anybody requiring a lift back to the nearest Metro station should see me during the excursion.

Thank you for your attendance!

Andy Lane, Dec 2011

Judy Harrison

NEGS Secretary

www.northeast-geolsoc.50megs.com