



NORTH EASTERN GEOLOGICAL SOCIETY
Newsletter. August 2011

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Dear Member,

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1. FIELD TRIPS

FULL DETAILS NOW OF THE LAST 2 TRIPS

Aug. 6th. The Ferryhill Gap. Leader: Derek Teasdale, Quaternary Geologist.

The Ferryhill Gap is a huge incised valley cutting through the Magnesian Limestone escarpment south of Durham. It is the largest glacial meltwater channel in North East England. Extensive sands, gravels and lake deposits occur to the south. This visit will examine questions surrounding the gap's formation, whilst exploring this spectacular landscape feature.

Meeting place: [NZ 297 331] Beginning of the public footpath to the nature reserve at the junction of the Metal Bridge to Ferryhill road (Cleves Ave.) and Wood Lane. Free parking is available on Wood Lane, opposite.

Time: 10:00 am

Length of visit: 2-3 hours

Type of terrain: The trip will consist of four car stops, with short walks to view points on good paths or over fields. The first visit will take us into the dene, so there will be a gentle slope to climb on the way out.

Distance to be walked: 1-2 km in total.

Food / packed lunch: Bring your own packed lunch.

Toilet facilities: There are public toilets in the centre of Ferryhill, at the Ferryhill Station roundabout [NZ302319].

Sep. 17th. "Geology South of the Wear. **"SUNDERLAND'S SECRET GEOLOGY" Leader Andy Lane.** Andy writes: *This field excursion will take you to see some of the less well-known geological sights of the Sunderland area. That they are less well-known does not mean that they are not spectacular!*

Travel Arrangements. We need cars to get around but the fewer the better (parking is a bit tight at the first two localities), so please look into car sharing. If you do not have a car, then I can offer two places in mine (pick up at 10.00hrs at Sunderland Park Lane Metro station) and hopefully others will oblige in this way - please ask around!

All cars meet at 10.30hrs at the south-west-bound (left hand side) lay by on the A690, (NGR 347508), about 2kms southwest of the A19/A690 roundabout, and about 1 km after a BP filling station on your left and just before the road plunges down Houghton Cut. If you approach from the southwest (i.e. from Durham or the A1M) you will have to go to the A690 intersection with the A 19 to turn round.

Locality 1 Field House Farm (NGR 355506). Now a part working, part landfill site. Displays perhaps the best section of the Lower Permian Yellow Sands in the region, and details of desert/dune structure, also patchy development of the Marl Slate followed by beds of the Raisby Formation (oldest of the Magnesian Limestones).

Locality 2 Houghton Hillside Cemetery. NGR 345505. Good exposure of the Raisby Formation and have a close look at bedding and texture. It was deposited as a shelf carbonate, converted to a dolomite probably soon after deposition. Partial replacement back to calcium carbonate can be seen giving the rock its distinctive appearance. We can also see the dramatic effects of faulting and post mining subsidence, and see how local stone was once used in building.

Locality 3 Hendon Promenade NGR 412549. On the coast. This little known site is a gem, as we have there a section of the Concretionary Limestone Formation (part of the Upper Magnesian Limestone) showing a vast range of alteration structures caused by early Tertiary(?) collapse and dissolution processes which have altered the rock beyond recognition. Small scale faulting is visible too, probably tectonic in origin but maybe enhanced by mining subsidence. There are other things to see here, including Whinstone rock armour, and importantly (and tide and weather permitting) we will walk southwards towards Salterfen Point to admire the 250Ma unconformity and an excellent section through boulder clay and other Devonian sediments.

Locality 4 Tunstall Hill NGR 396544. We move back westwards a little to the Middle Magnesian Limestone, and the one site that is far from "Secret"! A walk around a segment of the famous Permian barrier reef to get an excellent idea of the ancient palaeogeography and a look at the rock type (Ford Formation - Middle Magnesian Limestone) and in places see something of the reef's structure. We might get to see some fossils, too. We can see a feature too that links with the Devonian sediments we saw at Salterfen

2. OTHER NEWS.

1. Open University Summer School

All members of NEGS are cordially invited to attend the guest lectures at the O.U. Summer School at the University of Durham.

This year the lectures are as follows and are all held in the Geography Building, the Appleby Lecture Theatre from 7.30pm.

<http://www.dur.ac.uk/about/location/>

<http://www.dur.ac.uk/map/ss3d/>

3 August

‘Keeping the lights on: energy for the future’

Tony Grindrod (Consultant)

2. NEGS Autumn Lecture Programme

Please make a note of these dates in your diary.

21st October, 2011 Dr. Phil Manning, Univ. Manchester: Dinosaurs, space shuttles and synchrotrons

18th November, 2011 Dr. Rachel Wood, Univ. Edinburgh: The dawn of biomineralisation

16th December, 2011 Prof. Richard Davies, Univ. Durham: The Lusi mud volcano disaster, Indonesia: Why and what next?

20th January, 2012 Dr Lisa Baldini. Univ. Durham, *to be announced*

17th February, 2012 Prof. Philip Gibbard, Univ. Cambridge: The last glacial cycle in lowland England

16th March, 2012 Dr. Mike Norry, Univ. Leicester: Shetland; the evolution of geology, language and people

Please remember Professor Gillian Foulger, our Lecture Coordinator, has a website which gives details about the lectures, lecturers and their websites. To access it, [click here](#). She also has her own website which members might like to view: [click here](#).

FOUNDATIONS OF THE NORTHERN PENNINES: ROOKHOPE – 50 YEARS ON

‘THE SIR KINGSLEY DUNHAM MEETING’*

Joint meeting of the Natural History Society of Northumbria, the Yorkshire Geological Society and Friends of Killhope

Saturday 28th January 2012.

2.00pm -5.00pm Great North Museum:Hancock

It is now fifty years since the Weardale Granite, the existence of which was first predicted in the 1930s by Kingsley Dunham, then a Durham University post-graduate student, was finally proved by drilling the Rookhope Borehole.

The varied lines of reasoning that first suggested that a granite may lie beneath the Northern Pennines, and the detailed results of the drilling, including the unexpected age of the granite, soon become established as one of the classical stories of British geology. The project was a geological adventure that radically changed perceptions, not just of northern England geology, but which led to major advances in the understanding of ore-forming and related processes worldwide.

Fifty years on, the scientific legacies of the borehole are as relevant as ever, underpinning research into new areas of understanding, some of which may have the potential for economic benefits undreamt of when the granite was first predicted.

To mark this significant anniversary, the **Natural History Society of Northumbria** has joined with the **Yorkshire Geological Society** and the **Friends of Killhope** to hold a joint meeting at the Great North Museum:Hancock on the afternoon of Saturday 28th January 2012.

In addition to reviewing the ongoing significance of the borehole, each of the afternoon’s four talks will focus on an aspect of northern England geology which arises from insights provided by the borehole. Topics will include new interpretations and models for the origins of mineralisation, the possibilities for economically viable geothermal resources and a review of the potential for future mineral exploration and working.

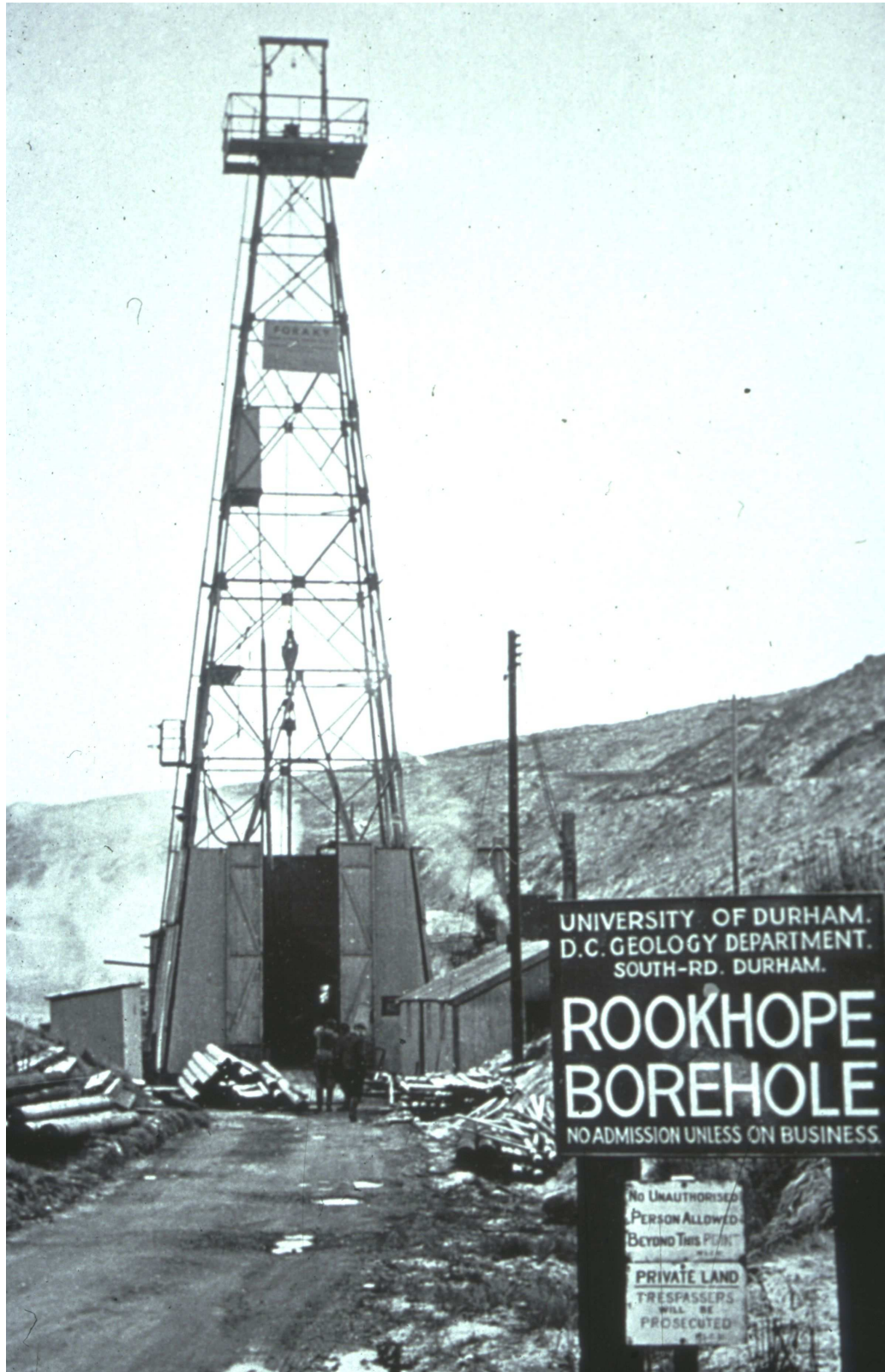
Speakers will include Professor Martin Bott, Professor Jon Gluyas, Professor Joe Cann and others currently involved in research in this varied field.

More details, including details of the talks and speakers will appear in the next issue of the Bulletin.

** In recognition of Sir Kingsley Dunham’s distinguished contributions to geological science, particularly in respect of his seminal work on Pennine ore deposits and his former Presidency of the Society, the Yorkshire Geological Society occasionally dedicates one of its scientific meetings as The Sir Kingsley Dunham Meeting. There can be no more fitting a topic for this dedication than the theme of this meeting.*

ROOKHOPE BOREHOLE 1960-1961 The drilling rig.

Photo: University of Durham, Department of Earth Sciences



4. Linear Geological Walk: Dartmoor to Bolt Trail

We have received an email from Nick Chidlaw, he is running a 3 day linear walk
Sunday 11th September – Tuesday 13th September Inclusive

I have run the above 'linear walk' field trip several years ago, and in view of discussions with potential attendees in the last year or so, am offering it again early this autumn.

Please see outline information below, for your reference. If you find the proposal of interest and are able to attend, please let me know, *sending in your tuition fee by*

Sunday 24th July. In order for the trip to be viable and to work effectively, enrolled numbers will need to be a minimum of 10, and a maximum of 20.

I will contact those who have enrolled shortly after Sunday 24th July, to inform them whether the trip can be put on or not; if the former, arrangements will need to be made soon after for overnight accommodation, and transport (see below); if the latter, cheques will be returned to those who have sent them in shortly afterwards.

I hope you find the proposal of interest, and can attend. Any queries, do let me know.

Regards,

NICK CHIDLAW

Linear Geological Walk: Dartmoor to Bolt Tail

* This is a privately-arranged trip and does not involve any other organizations (e.g. a University) – no question paper at the end!!

* Dates: Sunday 11th – Tuesday 13th September inclusive. Three-day format.

* Reason for these specific dates: on the 2nd day, we cross the River Erme at low tide c. 1 pm using the established 'South West Coastal Path'. On the 3rd day we cross the River Avon by small passenger ferry (available only until end of September). Saturday 10th

September can be used as a travel day to get to the start point of the walk, but those in work will need to take holidays Monday 12th, Tuesday 13th (and possibly Wednesday 14th if home area is some distance from the field area).

* Reason for 'linear walk' format: very effective way of studying landforms and underlying geology in areas where there is plenty of change in these aspects; a fuller understanding of the landforms and geology can be gained by walking a route essentially at right-angles to the grain of the 'country' rock an examining exposures *en route*. This is a format that has been tried out with adult ed. students at Bristol University, is popular and has worked well. Idea is that you carry your overnight belongings etc in a rucksack –

contents would be lightweight and kept to a minimum. Water bottles can be replenished each night. Pubs / café's are included for short breaks during each day.

* The proposed walk crosses the 'grain' of part of the Variscan Orogenic Belt in South Devon: beginning near the S end of Dartmoor, and working south to the coast at Bigbury Bay, then along the coast to Bolt Tail west of Salcombe.

* Geology covered: Hemerdon Ball Granite (offshoot of Dartmoor Granite), metamorphic aureole / metallic mineralization around margin of the latter; deformed basinal metasediments (mainly turbidite sandstones and slates) and interbedded mafic bodies; major

strike-slip fault of the Start-Perranporth Line; mica schists and hornblende schists of the Start Complex (possibly lateral equivalent of part of the Lizard Complex).

* Logistics: 3 day walk. Approx total distance walked 15 – 20 miles; many stops *en route* to examine geology / landforms. Vehicles would be left at a secure location (arrangement made in advance) near the beginning of the walk. Coach / minibus and driver

arranged in advance to pick up field party at a stated location and return to the secure parking location. B&B accommodation to be arranged in advance: in / near Yealmpton (end of 1st day); in /near Ringmore / Bigbury village (end of 2nd day).

* Tuition fee: £69.00 per person. Cost of hired coach / minibus and driver would be divided between attendees and paid in advance. There is a small charge for the Avon passenger ferry which is paid on the day of the crossing.

* Attendees would be insured against accident for the duration of the trip.

5. Communication from the Geologists' Assoc.

Subject: GeoConservation Conference

As you are aware, the Geologists' Association Conference, 'Geoconservation for science and society: an agenda for the 21st Century' is now only a month away. In the current economic climate and with the geological community arguing that geoconservation is an important and worthwhile activity that people care about and which government should support, it is an important time to be seen to be supporting geoconservation ourselves. As such we are keen to get as many people as possible attending the conference in Worcester. With this in mind, we would be very grateful if you, as one of the Geologists' Association local groups, remind your members about the conference and encourage them to register and come along. Not only is it an opportunity to show the strength of feeling for, and participation in, geoconservation, it is also a chance to demonstrate that conferences held outside of London can be just as successful as those held in the capital. Further details and a registration form are available at.

<http://www.geologistsassociation.org.uk/conferences.html>

Best Wishes,

Judy Harrison
NEGS Secretary

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