



THE HIGHLAND GEOLOGICAL SOCIETY

Scottish Charity No. SC004427

JULY 2017

Dear Members,

Following June's very wet trip to Knoydart, here's hoping for something of an Indian summer for our remaining fieldtrips this year:

SUMMER PROGRAMME 2017

SKYE – Saturday 2 – Monday 4 SEPTEMBER – Jim Ritchie, Speedwell Energy Ltd.

Jim Ritchie will lead this weekend excursion to Skye which will allow us to explore the UK's Atlantic Margin Petroleum System. Depositional environments, palaeogeography, reservoir and source rock development within the Jurassic sedimentary succession will be examined and the impact of Palaeogene volcanics on reservoir properties and source rock maturation will be observed. Intra-basalt reservoirs, which are hydrocarbon-bearing in the offshore Rosebank discovery, will also be studied. This promises to be an interesting weekend, focussing on aspects of the stratigraphy that we have not addressed on previous trips to the island.

Members can opt to attend all or part of the excursion, which will be based at the Sligachan Bunkhouse; please let Alison know which days you plan to join the group and if you require accommodation at the bunkhouse as soon as possible. If you don't wish to self-cater, breakfast and packed lunch can be provided by the hotel but we will need to advise them of numbers nearer the time.

Saturday 2 September – meet 1 pm at the Aros Centre, Portree, IV51 9EU

Afternoon to be spent on the Trotternish Peninsula where we will study the Middle Jurassic sequence – depositional environments, identify key stratigraphic surfaces, stacking patterns, lateral extent and variations prediction, as well as barriers to subsurface fluid flow. Note that the route to Berarreraig Bay involves walking down (then up) a steep slope, with the upper part close to a cliff edge (vertical ascent 100m). **Hard hats are advised** when examining outcrops close to the cliff; a full safety briefing will be given, in accordance with our usual arrangements for work in the field.

Sunday 3 September – meet at 9.15 am at the Sligachan Hotel, IV47 8SW

A full day on the Trotternish Peninsula, visiting Cul nan Cnoc, Valtos Lower, An Coran, Staffin Bay, Loch Langaig, Quiraing continuing Saturday's themes, plus an opportunity to examine some of Skye's Tertiary igneous rocks and their impact on the Jurassic sediments. At Valtos Lower and Staffin Bay there is a moderately steep descent then ascent (vertical ascent 50m) and again hard hats are advised.

Monday 4 September – meet at 8.30 am at the Sligachan Hotel

This will be a half-day excursion to the Strathaird Peninsula to study the Middle Jurassic sequence at Elgol, helping to tie together the depositional environments of the Jurassic sequences and the impact of the Tertiary igneous event.

We will eat in the hotel bar on Saturday and Sunday evening – again please let Alison know if you wish to join the group for dinner.

NW HIGHLANDS 30 SEP – 1 OCT – Pete Harrison, NW Highlands Geopark

This trip will form part of the NW Highlands Geopark's 2017 Geofestival.

We will examine the Cambro-Ordovician succession in Assynt and its involvement in the Moine Thrust Zone. This will involve looking at the normal sequence at Loch Assynt and then considering how it has been structurally modified in Assynt on the Saturday and further south at Strath Canaird on the Sunday.

A useful guide is *A geological guide to the North-West Highlands of Scotland* edited by Kathryn M. Goodenough and Maarten Krabbendam. 2011. ISBN 978-1-905267-53-8

Please let Alison know if you would like to attend, either for the weekend or for either day as this will greatly assist planning. We may be able to use the centre's minibus, which would make site access easier.

Saturday 30 September - meet 9.30 am at the Macphail Centre, Ullapool

We will rationalise cars and then head north stopping briefly at Knockan Crag and then on to Loch Assynt. Most of the day will be spent at Loch Assynt to view the succession and establish the relationships with the underlying Torridonian and in the thrust zone. There may be an opportunity to visit the NWHG Rock Stop centre on Loch Glencoul.

Sunday 1 October - meet at 9.30 at the Macphail Centre, Ullapool

The day will be spent on a lesser known part of the Moine Thrust Zone up above Strath Canaird looking at a part of the Moine Thrust Zone. The site is accessible by a limited number of vehicles and has a good all round view. There will be an opportunity for those that wish (everyone!) to work out the relationships for themselves and to draw their own map. A base map will be provided.

We've booked a table at the Morefield Motel, Ullapool (<http://www.morefieldmotel.co.uk/>) at 7.30pm on Saturday evening so please let Alison know if you would like to join the group for dinner.

Note: If you are unable to make the HGS excursion, you may be interested in the Geotours 2017 trip arranged by the NW Highlands Geopark; see <http://www.nwhgeopark.com/geotours-2017/> for more information.

WINTER PROGRAMME 2017 – 2018

11 October – *Scottish and Agate Creek Agate*, John Mackenzie, Earl of Cromartie

Scottish agate is some of the most beautiful in the world and John's talk will give some insight into their variety, whilst the well-known Agate Creek area of Northern Queensland has agates of a colour brilliance possibly unrivalled. The talk will include photos of agates from both regions as well as from various other localities.

8 November – *Drilling the Nankai Trough Accretionary Complex*, Dr Stephen Bowden, University of Aberdeen

The Nankai Trough Accretionary Complex is the most recent of a number of such complexes that have developed to the south-west of the Japanese island arc. In 2016, Stephen joined an international team of scientists on a leg of the Integrated Ocean Drilling Programme to further investigate the history of the complex and explore it for microbial life. Like many drill targets it was chosen on the back of good preparative work and was considered well-characterised; mud, more mud and mud. But what really happened was far more surprising. Come share the surprise..... A documentary about the project can be seen at: <https://www.youtube.com/watch?v=7-WgYZVYYWQ>

13 December – *Clay*, Professor Peter Scott, Peter W. Scott Ltd. and Camborne School of Mines, University

of Exeter

Clay was one of the first of the Earth's mineral resources to be exploited by mankind. It has been extracted throughout history and remains an important raw material in the 21st Century. Clay has properties that are unique and not found in other rocks and minerals. The talk will describe the diverse types of clay that are found in the UK and elsewhere, their mineralogy, geological setting and origin. It will also explain why clay is unique and how the properties of the microscopic sized clay minerals control the wide range of uses of clay.

10 January – *Hydrogeology - water under the ground*, Dr John Heathcote, HGS

30% of the fresh water on the planet is groundwater, and 69.8% is ice. Most of the drinking water supply in southern England is from groundwater. Groundwater often features in civil engineering too - usually as a nuisance. Thus there's a whole branch of science that studies groundwater - it involves chemistry and maths as well as geology. The talk will cover the broad scope of hydrogeology, without too much chemistry and maths!

14 February – AGM followed by fieldtrip review and members evening – more details to follow!

Information for March and April 2018 to follow.

OTHER DATES OF INTEREST:

9 – 10 September – Conference organised by the Friends of Hugh Miller *The Old Red: Hugh Miller's Geological Legacy*, Cromarty, Black Isle with possible field trip 11 – 13 September.

More information and application form for the conference at:

<http://www.thefriendsofhughmiller.org.uk/index.asp?pageid=661915>

21 – 22 October – David Webster (one of the authors of the recently published 'A Guide to the Geology of Islay') is organising a 'Snowball Earth' excursion on Islay to view the Port Askaig tillite and the Beannan Dubh section in particular. If interested in attending this weekend, please contact David for more information (davidjwebster2003@yahoo.co.uk). This event forms part of October's Geoheritage festival being organised by the Scottish Geodiversity Forum. The full programme of events is not yet available but their website is: <https://scottishgeodiversityforum.org/>

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