



Down to Earth

"Earth science learning for all"

Llyn Peninsular North Wales October 11-16 2019



Peace and tranquility on the Llyn Peninsular

A word from your leaders...

The Llyn Peninsular (sometimes spelt Llyn) is one of those areas where people exclaim 'where's that?' It's described as being on the cusp of North Wales, bordering on the Irish Sea. The most notable place on the Peninsular is the holiday town of Pwllheli, that many of us remember for its famous holiday camp. For geologists, the interest lies in the rich variety of ancient rocks exposed in some of its beautiful coastal and inland scenery. Away from the coastal resorts it's one of the most tranquil places in the whole of Wales.

No trip is complete without good food and accommodation and for this our second visit, we've chosen *The Nanhoran Arms Hotel* in Nefyn. It offers us comfortable, en suite rooms and hearty food. If you've never been to the Llyn Peninsular, now is the time to come. It has the feel of being somewhere really remote yet, in reality, it's not far from places like Bangor. It sits between Anglesey and Snowdonia, yet geologically it's more akin to the former than the latter.

We last visited the Llyn in 2014 so we expect there to be a good reaction to us putting it on once again. We therefore advise you to book early, especially if you want one of the five single rooms that are available.

Chris Darmon & Colin Schofield
Trip Organisers/Leaders

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Getting to the Llyn Peninsular

For anyone coming from Northern England, there are good roads to Bangor and then minor roads for the final few miles to your destination. For those coming from the South or the Midlands it's a case of head for Pwllheli on the coast through mid-Wales. For those coming by rail, you can enjoy a leisurely ride from Shrewsbury to Pwllheli, taking in some spectacular scenery along the way. There is a decent bus service from Pwllheli to Nefyn taking around 15 minutes. If you are put off coming on this trip by a complex journey, please contact us and we will see what we can do for you - no promises, but we will try!

Getting around on the trip

For this trip we will have the use of a hired 17-seater minibus. My friend and colleague Colin will be driving, ensuring that we are safely and comfortably transported around the area. If there are too many people for the bus, we would hope to have the use of at least one extra car. (See our booking form if you are willing to drive a car during the trip.)

Walking

Everything should be within the capabilities of all of the party. We will always try to get as close as possible to the sites, but this will still mean that there are some walks of a couple of miles, to see the best exposures. Because many of the sites are coastal there will be some short, steep ascents and descents. However, if at any time you wish to 'opt out' that will be fully acceptable and understood. In view of the uncertainties of the weather you are strongly advised to bring all waterproofs and walking boots – particularly as you will be walking over rough ground.

Why the Llyn Peninsular?

Studying geology on the Llyn allows us to access many of the rocks of Central Snowdonia without having to climb mountains to see them! Additionally, there are rocks that are unique to the Llyn, but which have affinities to the rocks of the Mona Complex on nearby Anglesey, or Ynys Mon as the Welsh call it. The following comes from an account of a visit by the Mid-Wales Geology Club:

"The Llyn protrudes about 25 miles, and separates Cardigan Bay from Caernarvon Bay. On the southern side, under shallow water mostly less than 20 metres deep the Llyn joins the rock of the Cambrian Harlech Dome, and small exposures of Cambrian appear on the far south of the Llyn. The structure of the peninsula itself continues into Snowdonia. The main spine of Llyn, like most of Snowdonia, is Ordovician and synclinal, the younger Llyn Ashgill-Caradoc is exposed at the centre, with older Arenig-Llandeilo around it. Between them are exposed the acid lavas and tuffs associated with the early Ordovician subduction volcanics. Along the northern edge of Llyn are the prominent hills of the Northern Granodiorites; the line of these intrusions extending nearly to Conwy. Granodiorites also appear in other places on Llyn, and there are many diorite intrusions as well. The far west and south west is much older Precambrian Mona Complex, with mélangé, pillows and schists, metamorphosed in the Cadomian Orogeny and then accreted to the rest of Wales."

Japanese researchers working on the Llyn and Anglesey have now recognised some of the elements that go to make up what is known as an ophiolite complex (ocean floor rocks). This exciting discovery helps to explain some of the amazing rocks that we will find including a melange, serpentine and pillow basalts.

Accommodation & Food



Good food and a good night's rest are important elements to our tours and so we always try to use small, family run, hotels and guesthouses that offer en-suite facilities. For this trip we have chosen the highly recommended Nanhoran Arms Hotel in Nefyn that offers comfortable accommodation, a warm welcome and good honest food. All rooms are en-suite. The hotel was badly damaged in an accidental fire in 2015 and since then, has been extensively rebuilt.

Single accommodation is available, but is limited to a maximum of five rooms. We are happy to help anyone looking for someone to share a twin bedded room - simply indicate on the booking form. The hotel will provide us with breakfast, evening dinners and packed lunches, for each field day.

Itinerary

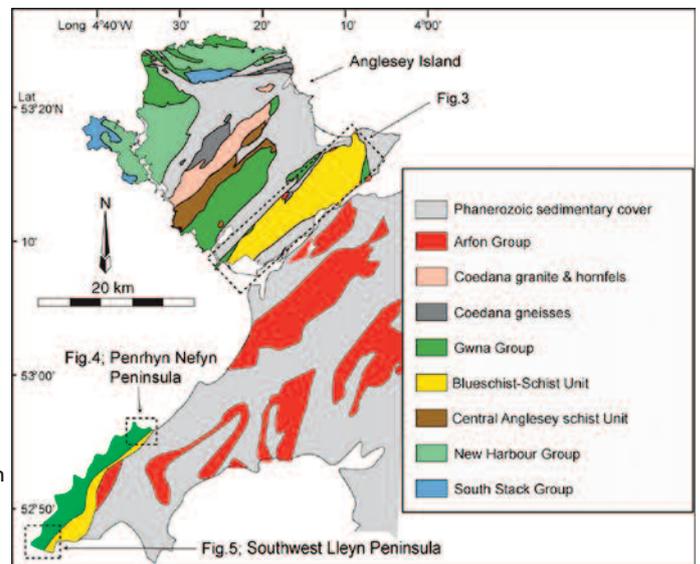
The following is not intended to be prescriptive, but to give you an idea of what we might want to cover during the course.

On the final day, we will finish by 12 noon in order that people can get home at a reasonable time.

- **The Precambrian Gwna Group rocks** - tuffs, greenschists and the chaotic melange rocks (see picture below)
- **Igneous rocks of the Rhiw Complex** - microgranites, dolerites and manganese ore deposits
- **Gimblet Rock** - dolerite with pegmatite pods and great coastal scenery
- **Mynydd Cilan** - Cambrian and Ordovician sediments including the Cambro-Ordovician unconformity
- **Monian rocks or Morfa Nefyn** - pillow basalts and associated tuffs and the more recent granodiorite intrusions
- **Upper Ordovician volcanics of the Llanbedrog area** - tuffs, rhyolites and andesites are on the menu!

Cost

For 2 people sharing a double or twin room, the cost of the 5-night trip will be £650.00 per person; for single room occupancy, the cost will be £725.00 per person and is limited to a maximum of 5.



What's included in the cost?

- The services of Chris Darmon and Colin Schofield as leaders, who will be available to you at all reasonable times
- Accommodation and meals as specified here
- The cost of all transport used during the trip
- Admission to any museum, exhibition etc. as visited by the group

What's excluded from the cost?

- The cost of travel between your home and Nefyn
- Travel insurance
- Incidental expenditure

Booking

Please fill in and return a completed booking form.. Your booking will be confirmed upon receipt of either a deposit of £300.00 per person or the full payment. The balance of the brochure price will be due by July 31st. 2019.

This trip will run provided a minimum of 12 people have booked by July 31st. 2019.

Your money...

Upon receipt, all monies paid for these trips are placed in a specific 'client trust account' where it cannot be drawn by us until after completion of the tour. This is in accordance with EU Directives and ensures that your money is safe in the unlikely event of corporate failure by Geo Supplies.

What happens next?

As soon as we are in a position of confirming that the trip will run - we will let you know. You will then be free to start making your own travel plans and to take advantage of any early deals on train/air tickets. Please don't make any such arrangements until we have been in touch with you.

Please also see information contained in our 'Residential Field Trips 2019'

