



**THE OPEN UNIVERSITY GEOLOGICAL SOCIETY
GOGLEDD CYMRU - NORTH WALES
BRANCH NEWSLETTER**



Volume 9

Issue 4

Oct 2006

Branch Organiser's Bit (July 2006)

I hope you had a good summer. I know many of you will be turning your thoughts to the exams in October. The next event on the branch list is the Annual Revision Day for S260 and S269, which takes place on Sunday October 1st, in Chester. If you want help with your revision then this may be what you need. Local course tutors will be there to encourage and advise. Contact details are found elsewhere in the Newsletter.

After exam time is a joint weekend (27-29th October) with the North West Branch to Anglesey. The proposed itinerary is shown below. The Hotel accommodation is now fully booked, however if you are interested in attending any of the days as a day visitor, then please contact Chris Arkwright so that the appropriate arrangements can be made.

The Society AGM, Lecture, Dinner and Disco is on Saturday 18th November near Coventry. The booking form for this event is in the Society Newsletter. There will be a few people from our branch there, so if you are interested in attending, but have no means of transport and would like a lift, let me know and I will see who else in your area is also going and could provide a lift.

The Branch Committee is currently working to put together next year's field trip programme. If you have any ideas as to where you would like to go, or would be willing to volunteer to lead a trip in 2007, then we would glad to hear from you. We are especially interested in areas of North Wales where we have not been recently.

Good luck to those of you taking exams over the next few weeks.

Best Wishes,

Rachel

(Branch Organiser)

I have been asked again to remind members that you must check your insurance details for field trips.

The exact requirements are published in the national newsletter.

The Gwydyr Forest Miners Trail

Sunday 18th June 2006

The weather forecast for the day was not good. A small group of OUGS members gathered in Llanrwst in the pouring rain, hoping that the weather would lighten. We were looking forward to a day of Geology and Industrial Archaeology.

The Gwydyr Forest is situated on the eastern side of Snowdonia, around Betws-y-Coed and Llanrwst. Looking at the area now, there is a tranquil, scenic area of forest and lakes that attracts tourists. Looking at the area more closely you discover a past that includes 400 years of mining. The first exploratory lodes were tested in the early 1600's and operations finally ceased in the 1960's.

The principle minerals found in the Gwydyr Forest Park are Lead (Galena) and Zinc (Blende). This area is one of the most important sources of lead and Zinc in the lower Palaeozoic rocks of North Wales. They are found in steeply dipping veins, following steeply dipping normal faults, formed around 200 million years ago during a period of intense volcanic activity. Volcanic intrusions were forced into the mudstones laid down during the Ordovician age. Looking at the two geology maps covering this region, there is much evidence of faulting. The mining district

is bounded by the Conwy valley to the east and the Geirionydd Valley to the west. As a result of the intense geological activity in the region, there were a number of Lead and



Zinc mines operating in addition to mining of pyrite, sphalerite and marcasite. The miners trail covers a number of the more interesting mines and we managed to see three, the Parc mine, Hafna Mine and Llanrwst Mine. The mineral lodes cross each other, which is reflected in the age of the mineworkings. The more recent mine workings are deeper than the older ones (e.g. Llanrwst mine). Gangue minerals are quartz and calcite.

Hafna Mine

The Hafna mine buildings can be seen from the road, as it climbs up the hillside. The Hafna Lode is the most important lode in the area. There are a number of Mine buildings still to be seen, including the Mill and Smelter. The mine was built in 1879. Ore came to the mill from the principal level located at the rear of the top floor. The rock is sorted and sent to the crusher on the floor below.



Separation of rock from ore was by gravity. Lead and Zinc are heavier than the host rock. Waste was taken and tipped to the north side of the mill. The spoil heap has been removed but the location can still be seen. A number of the Adit entrances can still be seen. The mine chimney remains in place and reminded us of

the poisonous fumes that would have been dispersed into the atmosphere.

Parc Mine

Parc was the last mine to be worked, ceasing operation in the 1960's. As you walk towards the mine, you see the area where the narrow gauge mine tramway was once located. The wall of the change rooms and showers provides a platform for a view over the valley where the water flows out of the mine. The forest means that it is difficult to see the underlying geology, however there is a cutting into the hillside where there is much evidence of mining. Kneebone's cutting is a chasm known as a 'stope' where a rich pocket of ore was extracted at the turn of the century. The No 3 level breaks into the cutting. Compressed air and water pipes and the remains of a wagon can still be seen. Exploration of the mine spoil heap identified small quantities of galena and calcite.

Llanrwst Mine

This is one of the older mines which is accessed by a stile. The main feature here is the tall brick chimney, which rises impressively above the trees and can be

seen from Hafna Mine. There is a spoil heap that trees are being encouraged to grow on.

Other mines in the area include the Pandora mine near Llyn Geirionydd, and Cyffty mine where there are views across to Moel Siabod.



There are a number of books that describe the geology and industrial history of the area.

A selection of these are referenced below. I personally found the day very interesting. During the late 1970's I spent a lot of time walking and camping in the area. I am amazed that I was completely unaware of the geological importance of the area and the industrial history hidden by the trees that had masked the workings.

Rachel Atherton.

References:-

Gwydyr Forest Park Miners Trail leaflet (50p from tourist office)
Gwydyr Forest Park Guide to Forestry Commission Recreation Facilities leaflet

Mines of the Gwydyr Forest Part 2. The Hafna Mine, Llanrwst and some early ventures in Gwydyr Nant. By John Bennett and Robert W. Vernon.

1:25 000 Geological Survey Capel Curig and Betws-y-Coed SH75

1:25 000 Geological Survey Dolgarrog SH76 Howells, Leveridge, Evans, Nutt.

Classical areas of British geology Capel Curig and Betws-y-Coed, Description of 1:25 000 Sheet SH75.

Classical areas of British geology Dolgarrog, Description of 1:25 000 Sheet SH76. (photos Tony James).

Proposed Itinerary for Anglesey Field Weekend

Contact:- Chris Arkwright 01772 335316

Some of the localities will involve a fair amount of walking (see itinerary) when we'll be away from the vehicles about 2 to 3 hours. To make full use of the time we shall be taking packed lunches on the Saturday but may have a pub/café lunch on the Sunday.

Transport around Anglesey will be in our own vehicles but, as parking is restricted in some places, we hope to arrange appropriate car-sharing.

Itinerary, Terrain & Length of Walking

See below the itinerary which has been worked out according to tides on the weekend. Because the clocks go back on Saturday night, High Tide is at 3 p.m. on both days.

Friday :- Optional underground visit (for ~2 hrs) to Parys Mines led by caving club members. Extra cost of ~£10, which includes use of helmets and head torches.

Saturday :-

Cemeas Bay to Llanbadrig (3 km walk) Grid Ref.: 375 938

Coastal exposures of the Precambrian Gwna melange formation (a mixed rock formed in a submarine landslide) and the unconformity with the overlying Ordovician conglomerates and cherty shales

Rhoscolyn (4 km walk) Grid Ref.: 272 751

Coastal and cliff top traverse across the Rhoscolyn anticline. Spectacular exposures of folded and fractures New Harbour Group green schists, Holyhead Quartzite, Rhoscolyn Formation greywackes.

Cae'r Sais (near parked cars) Grid Ref.: 268 772

Serpentine-metagabbro complex

Sunday:-

Trwyn Dwlban, Red Wharf Bay (2 km walk) Grid Ref.: 532 816 Carboniferous Limestone with chert and sandstone, palaeokarst, bioturbated.

Marquis of Anglesey Monument (near car park) Grid Ref.: 534 716

Precambrian Glaucophane Schist. A high pressure metamorphic rock, tightly folded.

Parys Mountain Grid Ref.: 435 903

Copper, lead, zinc, silver and gold mineralization in Ordovician volcanics. Mining has taken place since Roman times and currently a new surface trail and underground mine trip has being developed by Anglesey Mining plc and the local caving club.

The Ian Gass Bursary (next closing date 31 January 2007)

This award (up to £750) is made annually. It's open to anyone who has studied with the Open University (you need to have got good grades in at least 3 Earth Science courses) and who wishes to pursue independent geological work but who doesn't already hold a grant. You don't have to be studying for a PhD or MSc but may be pursuing a private passion. The money was donated by friends and colleagues of the late Professor Ian Gass FRS, founding professor of OU Earth Sciences, on his retirement in 1991.

Details and forms can also be downloaded from <http://www3.open.ac.uk/Earth-Sciences/opp-bursaries.shtml>

Your committee for 2006 is

Branch Organiser	Rachel Atherton	gogledd.cymru@ougs.org
Committee Member	Sue Hughes	sue.hughes@virgin.net
Newsletter Editor	Tony James	anthojm7@aol.com
Webmaster/Treasurer	Wendy Owens	wso@bagillt.claranet.co.uk
Committee Member	Lyn Relph	hazlyn.relph@ukgateway.net

Field/Events list for 2006

Date	Location	Contact
Oct 27-29	Anglesey Post Exam Weekend:	Ros Todhunter
	Chris Arkwright	NWe/ Gcy
Nov (or March 07)	Anglesey Revisit to Parys Mountain (underground)	Rachel Atherton
NWGA trips:-		
Oct 18 th	Conwy 7.30p.m.	Details in NWGA next newsletter