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

Volume 7 **Issue 3** **July 2005**

Branch Organisers Bit (July 2005)

We are now in the middle of another year. I hope those of you doing courses are finding them rewarding. Whilst this year's field trip programme is in full swing we are being asked to look to the future, 2007 in fact. Every few years we are asked to get involved in arranging the OUGS annual symposium. The OUGS is split into regions for the purpose, and the organisation is rotated between the regions. We (Gogledd Cymru) have been asked (along with the North West Region and Ireland) to organise the Symposium for 2007. As a first step, representatives of NW and GCy looked at a number of potential venues, and narrowed them down to three (Bangor University, Lancaster University and Edge Hill University college at Ormskirk). At this year's Symposium a vote was taken by the delegates for the Symposium to take place at Lancaster University in AUGUST 2007.

Now the hard work starts. We will need a theme and volunteers to help with the organisation. If anyone feels they have a flair for organisation and would like to get involved, either at any point over the next two years organising or on the Weekend, please let me know (via email). We are hoping to get a team of volunteers together late August/early September, to start considering the options. We would be glad of any help, however small.

Our next field trip is on Sunday 14th August, to Hilbre Island (off the Wirral Coast), it will be a joint visit with the North West Region, and is being run jointly by Wendy Owens and Hilary Tatton. If you are interested please ring Wendy for further information.

Look out for other field trips later in the year. Also we are running the annual S260 and S269 Revision day on Sunday 25th September in Chester. First hand access to NW and GCy OU tutors will be available for both S260 and S269. I hope you will be able to make use of the day, if you are studying either of these courses. There has been good feedback from students in previous years who have thought the day well worthwhile.

Rachel Atherton
Gogledd Cymru Branch Organiser

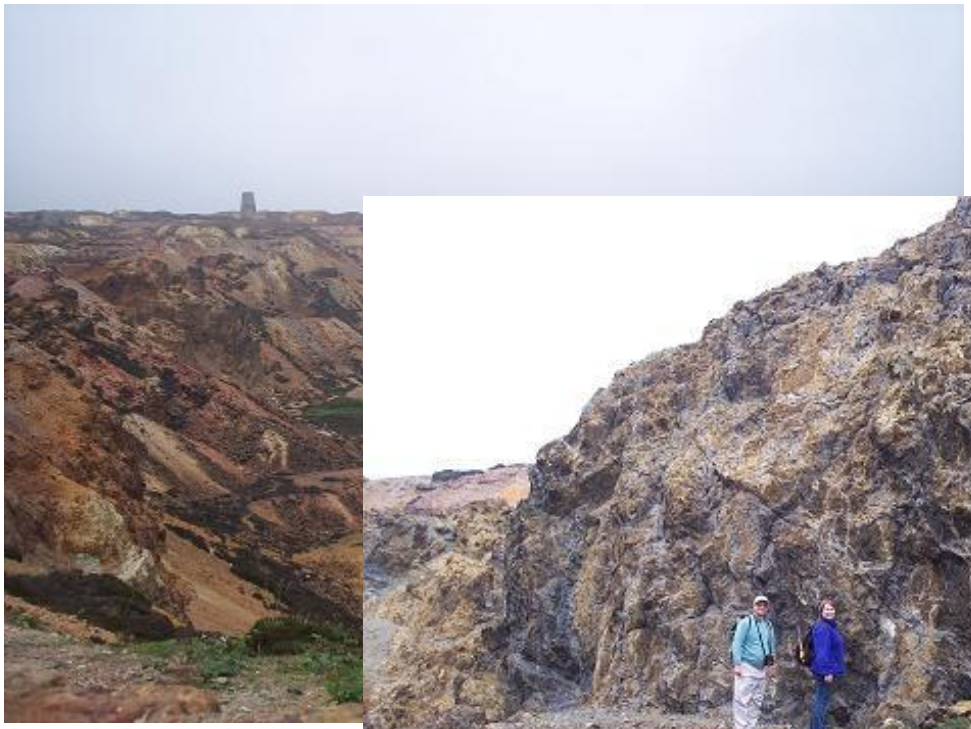
Fieldtrip to Parys Mountain 19th June 2005

We hit on a beautiful day for our trip to Parys Mountain and the views along the coastline were magnificent as we all arrived in Amlwch at the Heritage Trust in the old Sail Loft above the picturesque harbour. Some members managed a cuppa in the café before joining Neil of the Heritage Trust for a guided tour of the exhibits. The history of the port at Amlwch, some interesting characters who have played a part in the past, artist's impressions and information on the mines and minerals at Parys Mountain are very well displayed. Neil's knowledge and enthusiasm for the project added to our understanding and enjoyment and we all felt this was a worthwhile start to our day.

After lunching in the café we headed off for the mountain itself and arrived in an eerie sea mist which made the abandoned workings and holes even more atmospheric. We began with what turned out to be the quote of the day….Tony likened the scene before us at the Great Open Cast to a "tortured mess". This very large hole was opened up after the collapse of workings reached by numerous shallow shafts. There are also extensive underground workings to around 150 metres below the surface. Until a few years ago the hole was flooded with very acidic water (pH < 2!) but as part of the drainage renovation by the Heritage Trust it now merely contains discarded rubbish (due also to be removed) and is of a bright orange colour due to the concentrations of iron leached from oxidising sulphide minerals.

Picture 1. 'A tortured mess'

Looking a little more closely in the walls of the Great Open Cast we could see steeply tilting shales on the south face dipping southeast and blocky to massive rock, possibly a rhyolite, making up the north wall. Across the centre appeared to be a linear (N/S) arrangement of large 'lumps' of darker rock which we thought needed closer investigation and our guide was happy to show us the way at our own risk into the Open Cast itself to examine these.



Picture 2. 'A Black Smoker'

At this point I should give some indication of the complexities of the geology of Parys Mountain. In research literature (some of which was printed off and used as a handout for the day) uncertainty continues to surround the timing and geological context of the mineralization at Parys Mountain. It is known that the mineralization extends roughly 3km NNE-SSW in a band 1km wide and is associated with an ancient volcanic event (possibly late Ordovician ca 480 mya), involving the extrusion of silica-rhyolite/dacite lavas and the ejection of ashes. These grade laterally into volcanic shallow water sediments and appear to overlie the Parys shales but in turn are overlain by later Silurian shales. The beds appear to have been compressed into a steep trough-shaped structure trending NE-SW but tilted over to the SE. The area has been traversed by steep NNW-SSE cross faults and to the north there are older Precambrian schists of the Mona complex, brought up by the Carmel Head and Corwas thrust faults.

As we descended into the Great Open Cast the vastness of the workings and the diverse colours made a big impression. It was like some other world down there! The slump structures did not disappoint and we spent a good deal of time examining their features. The base rock was fine grained and contained masses of pyrite crystals in bands and some bright blue areas of copper iron sulphate minerals. Some areas resembled pillow lava structures and in other areas there seemed to be contact zones without alteration. Some of the literature suggests these slump structures have formed from exhalations on the sea floor analogous to the black smokers seen on ocean floors today (see picture 2).

MGA Sunday 18th Sept – Oldham/Gloddick contact Jane Michael

MGA Wed 19th Oct – Talk by Kate Brody – The Ivrea Coast (Italy) ~ A Window on the Lower Crust. Contact Jim Spencer

Our walk along the heritage trail took us to an overview of the precipitation ponds where purer metal could be obtained very efficiently by precipitation from solution. We walked on past the Charlotte yards where we tried to empathise with the "Copper Ladies" who broke up the ore into small pieces using an iron flat hammer. We peered into the windmill used to pump water from the underlying mine workings and then returning to the car park we glimpsed into the current main entrance tunnel to the underground mine. Several members showed an interest in joining an underground party and this may be a trip for next year. Our visit served to indicate just how complex an area Parys Mountain is and we will look forward to the results of ongoing research by academia and the Anglesey Mining Company.

Sue Hughes

The Glasshouse Mountains
Sue Hughes (part 1)

Australia is far from the edges of the Indian-

Announcements

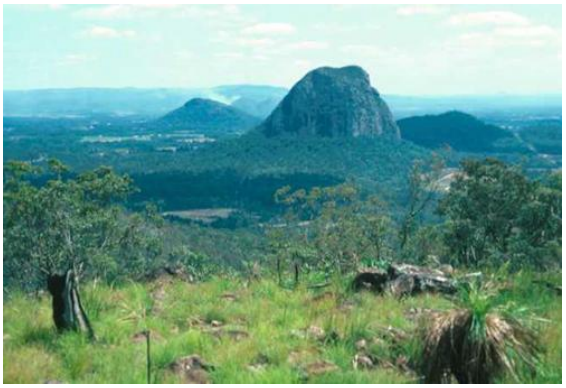
The membership secretary has asked me to remind members that any change of address should be sent to her (Penny Widdison e-mail: p.e.widdison@durham.ac.uk), this will ensure that a single database can be kept as up to date as possible. Please use the Giftaid on the renewal notice for membership – this will enable the OUGS to reclaim some of your tax, and put it to a better use.
Remember to check your insurance details for trips, the exact requirements are published in the national newsletter.

Your committee for 2005 is

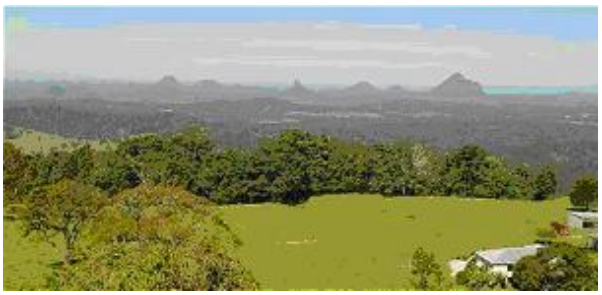
Branch Organiser	Rachel Atherton
Committee Member	Sue Hughes
Newsletter Editor	Tony James
Webmaster/Treasurer	Wendy Owens
Committee member	Lyn Relph

Field Trips:-
Hilbre Island, Wirral (joint with North West Branch) Sunday 14th August 2005, Contact Wendy Owens
Llangollen area (East Anglia Branch) W/e 24/25th September, Leader Will Jones Contact Carey Shaw (Via Rachel Atherton)
Chester Revision Day for S260 and S269 Sunday 25th September, Booking required contact Rachel Atherton for details
Carmel Thrust Fault Anglesey, Sunday 2nd October 2005 leader Rob Crossley, contact Rachel Atherton

Australian plate yet volcanoes have been erupting along the east coast of the continent for the past 33 million years. The volcanoes define several chains with progressively younger volcanoes to the south which suggests a hot spot scenario. Dating has suggested that the plate is moving northwards at 7.5cm/year and it is believed the hot spot is at present under the Bass Strait between Tasmania and Victoria.



Above and below are the Glasshouse Mountains, a spectacular cluster of steep volcanic plugs, the remnants of tertiary volcanic intrusions. They are striking mountains which rise abruptly above the flat coastal plain in the Sunshine Coast hinterland north of Brisbane, Queensland. The original land surface still exists to the north, west and south of this area. They range in height from 100 to 556 metres and have fascinated explorers, settlers and more recently holiday visitors like myself. Apparently, Captain Cook named them after the fashionable glasshouses in his native Yorkshire.



The chief peaks of the Glasshouse Mountains are protected as national parks. This scenic area is the product of active volcanic processes of about 20 million years ago and the subsequent erosion that removed outer, softer material, mainly sandstones, to expose inner, harder volcanic plugs. These mountains are enjoyed by many, especially photographers, bushwalkers and rock climbers. Surrounding them are commercial land uses, including farmland and softwood plantations. The trees are rapidly growing slash pines, used widely in building products and the agriculture includes pineapples, avocados and fruit trees.

The peak shown above left is Coonowrin (also known as Crookneck). It is a 'classic' volcanic plug, formed from magma cooling in, and blocking, the lava tube of a major vent. The rock type is an alkali rhyolite, rich in sodium and potassium (known as comendite). It is a fine-grained, tough and light bluish-grey coloured rock, in places containing visible crystals of several mineral types.

(to be continued…)