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

Volume 8 **Issue 2** **May 2006**

Branch Organiser's Bit (May 2006)

Welcome to our May Newsletter. After a long winter we now have the promise of spring. With the warmer weather, I am looking forward to our local fieldtrip programme.

Our first trip of the year was an underground trip to Parys Mountain, at the end of March. This could not have been done without the help of the local Caving Club. The interest was great so a second trip was arranged for the beginning of April. Write-up of the visits are printed later in this newsletter. Many thanks for the positive feedback following the visits. It was appreciated by both the Caving Club and the GCy committee.

I am in the process of arranging another visit either later in the year or early next year. I have a list of people who could not make either of the two dates in March and April, or had expressed an interest previously. If you are therefore interested in visiting the Copper mines under Parys Mountain, please get in touch with me so that I can gauge the interest and keep you informed as to progress.

The next GCy trip will be on the 13th May to Llynclys Quarry, near Oswestry which is Dolomitised Limestone. We will also visit Dolgoch Quarry (Carboniferous Limestone) in the afternoon. Gordon Hillier has agreed to come along and pass on his knowledge of the area.

Wendy Owens has been busy updating the Gogledd Cymru Branch website. She would welcome any comments on the website, and is also looking for photographs of the area to include on the site. Please get in touch if you can help.

There are several members of our branch going to the OUGS symposium at Nottingham in July. If you are interested in going but have a problem with getting there, get in touch with any committee member. We may be able to help with lifts. This also applies to field trips. There are members travelling from (almost) all over the area and would be pleased to offer lifts if required.

See you soon,
Rachel

Llynclys Quarry and Dolgogh Quarry
Field Trip - 13th May

Quarry location is: Shrewsbury OS map
Grid Reference SJ 267243
Leaders: Gordon Hillier and Sue Hughes - Meet at 10am.

Geology: Dolomitised Limestone (Southern end of Pant/Halkyn Stretch) and Carboniferous Limestone
Require hard hats and Jackets if you have them.
Lunch: White Lion in Llynclys

If time allows go down to Llanymynech and look at the view from the top of the quarry there and the carb limestone of course or we could go to the new visitor centre at Llanymynech and look at the Hoffman kiln

Contact: Sue Hughes or Rachel Atherton for further information

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.

Underground Visit to Parys Mountain,

Anglesey

Mineralisation

It was on 2 April 2006 that some twelve hardy souls from OUGS gathered on an exposed car park on Parys Mountain trying to get kitted up for an underground visit. The wind and rain were severe, rain near horizontal and a biting north-westerly wind.

After various preliminaries had been completed including the issue of miners type lamps, we were escorted by four members of the Parys Mountain Underground Cavers Group to an inclined adit where we descended via a series of steps and ladders to the so-called ten fathom level; here we all assembled in a convenient but unsupported refuge chamber. This was to be our introduction to the concept of tunnels, shafts and refuge holes excavated from the rock, which was so competent as not to require any artificial support. At this first port of call we completed the rest of the preliminaries; this was good in that we were all protected from the dreadful atmospheric elements which we had left on the surface. Your correspondent then laughingly joined the 'fast' group; these days I usually don't do 'fast' I am the wrong shape!

Our group descended by ladder, some metal, some wood and steep inclines with a rope to hold onto, down through the twenty fathom level until we ultimately arrived at the thirty fathom level. On route we were shown an example of a badly decomposed metal ladder that had been cast aside because of the prolonged attack by acidic groundwater. Our two guides from the Cavers Group, Alan and Rob, had an extremely high tolerance level and gave us a geological and mining introduction to the tour. Mining has been going on this vicinity for in excess of 4000 years, initially by open pit techniques where the ores were in a more disseminated form and then as this was exhausted by underground stoping etc. Geologically Parys Mountain is a volcanic complex of rhyolite intruded in late Ordovician/early Silurian times. Although the subject of much debates the basic geological structure is thought to be an overturned syncline. Later discussions with members of the British Geological Survey and your correspondent, confirm the strong possibility that the vulcanicity is synchronous with the Cu, Pb and Zn mineralization. The setting of Parys Mountain is to say the least unusual; its nearest possible analogy is of the Kuroko type i.e. a massive sulphide deposit of chalcopyrite, galena and sphalerite. The tectonic setting of the volcanic activity is considered to be a back arc basin with vulcanicity possibly discharging underwater, but this is difficult to ascertain. It was apparent that the rhyolite in the caverns/tunnels was highly altered and your correspondent could see little in the way of primary volcanic textures.

Under the careful direction of our guides we were led through a labyrinth of tunnels, usually less than one metre in width and ~1.7 m high, to see the various features of mining that had been going on for so many years. The tunnels had all been driven by blasting and hand excavation and followed the line of the ore deposits with, at periodic intervals, various vertical excavations (stopes) which had been carried out recovering such quantities of metals as were available.

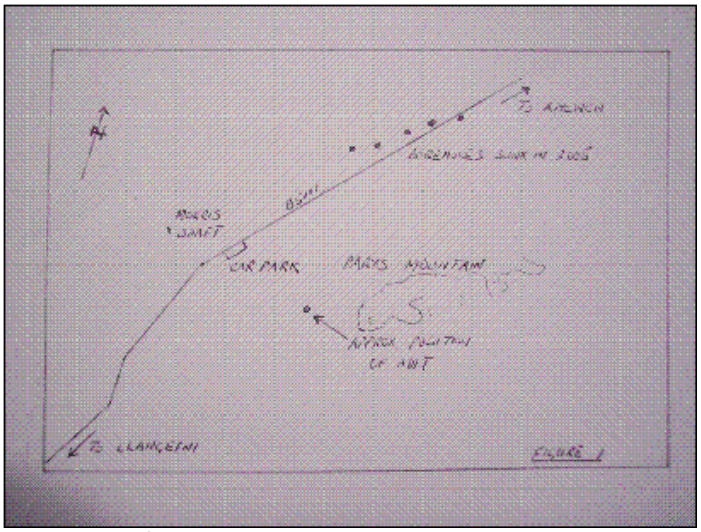
It is worth noting that the only sign of mineralization at the present time is residual

staining of copper on the walls of the excavation. On our tour we were introduced to such terms as ‘deads’ i.e. pieces of rock with no ore and ‘stemples’, these are protective timber platforms erected to protect the workforce working to the underside from falling debris. Evidence of ancient mining was to be found in the form of Bronze Age stone artefacts, which had been used to liberate the ore from the host rock.

Working our way through the levels in an upward direction we were to see iron like stalagmite/stalactite formations; these were formed through the continual infiltration of ground water which we were told can sometimes have a pH value as low as 1.8. We also saw examples of the disgustingly named ‘snotites’, these were some form of protein/polysaccharide polymer which were combined with aqueous emissions from the roof and gave rise to the term.

Upwards and onwards, when your correspondent was regretting his inclusion in the fast group, we were shown examples of hydrothermal activity, presumably secondary, where 300mm thick veins of ore had been extracted. It was at the sixteen fathom where we saw examples of some beautiful mineralogy in the form of ferric, copper sulphate set within a quartz host, this was pisolite. Still upwards and onwards where we passed by two brown liquid pools some 2/3m in diameter and 9m deep and having a pH of ~1.8; this was AMD (Acid Mine Drainage) first hand - with a potential, if not contained, for surface pollution. Eventually we reached the ten fathom level where we could see a backfilled shaft which was the subject of a current archaeological investigation by the University of Bangor. The backfilled material was apparently providing evidence of peoples living conditions at the time of the backfilling. Finally we re-climbed the ladder and ramp to emerge at the surface where the rain was still horizontal and the wind just as aggressive as when we first went underground some 2.5 hours earlier.

As an addendum to our visit, reference to the latest Press release of Anglesey Mining plc from their website angleseymining.co.uk confirms a 6.5Mt resource at Parys Mountain but that this could be considerably increased as the result of



further exploration carried out in the latter part of 2005 when a series of five boreholes drilled to the north of the B5111 (see Figure 1 below). These holes have each located substantial metal deposits at three discrete, stratigraphic horizons whose thicknesses varied between 0.2m and 18m, and depths ranging from 250m to 600m. The total metal content was found to be as much as 40% (zinc, copper and lead). Further drilling is planned and the Company is excited at the prospect of confirming these encouraging results. A thoroughly worthwhile excursion ended with all participants wet, bedraggled and a bit mucky but I felt happy with our efforts. Finally it is my pleasure to give thanks to those members of the Parys Mountain Underground Cavers Group who gave up their Sunday afternoon to see to our wellbeing.

Joe Jennings (photos from the editor)

	Your committee for 2006 is
Branch Organiser	Rachel Atherton
Committee Member	Sue Hughes
Newsletter Editor	Tony James
Webmaster/Treasurer	Wendy Owens
Committee Member	Lyn Relph

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

Field trip to Brymbo
Manchester Geological Association

We are very pleased to let you know that we have been able to organise a trip led by Jackie Malpas to the Fossilised forest which has been discovered at Brymbo. Jackie has been working on the conservation of this area during the redevelopment of the site. This trip coincides with an Open Day at the site and will include a visit to the old Wilkinson Ironworks/blast furnace as well as other heritage sites. The date is Saturday 20 May and is likely to start at 10.30 or 11am.

Contact: Jane Michael on:

S260 & S269
REVISION DAY

SUNDAY 1st OCTOBER 2006

Study Centre, Queen's Park High School Chester.

North West & North Wales Branches

Further details from:

Hilary Tatton

Field/Events list for 2006

Date	Location	Contact
May 13th	Oswestry Llynclys Quarry, Oswestry (dolomitic limestone)	Sue Hughes
June 18th	Llanrwst Gwyddyr Forest Miners Trail	Rachel Atherton
July 9th or 16th	Anglesey Llanwddyn Island	Wendy Owens
Sept 2nd or 9th	Flintshire Pant Quarry (Carboniferous Limestone)	Wendy Owens
Oct 1st	Chester Revision Day.	Hilary Tatton NWe/GCy
Oct 27-29	Anglesey Post Exam Weekend: Ros Todhunter	Chris Arkwright GCy
Nov (or March 07)	Anglesey Revisit to Parys Mountain (underground)	Rachel Atherton

NWGA trips:-

May 21st	Moel Hebog. Volcanics in Snowdonia	J. Wilkins
Jul 12th	Menai Straits Field Evening with Rob Crossley Details in NWGA next newsletter	
Aug 9th	Nant Francon Field Evening with Jan Heiland Details in NWGA next newsletter	
Oct 18th	Conwy 7.30p.m. Details in NWGA next newsletter	

The Wrexham Science Fair.

Took place on Saturday 25th March. There was the usual excellent turn out and a great deal of interest was shown in our stand. The star of or show was Peter Appleton's display of the Brymbo Fossilised Forest samples.

Many people were interested in his display since the local televising of a documentary about the forest (Peter actually appeared on T.V.) He has kindly allowed me to print some photos of the display


MEMBER OF
THE UNIVERSITY
OF WALES
Plant fossils from Brymbo


Fossils and minerals from Minera
crinoid
brachiopods