



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



Volume 9

Issue 6

Dec 2007

Branch Organiser's Bit (Oct. 2007)

As we get to the end of 2007 I would like to thank Branch Members for your support during the year. I also hope that those of you who did exams this year do well and get good results.

The committee are busy finalising arrangements for the Branch AGM on the 2nd February 2008. The Agenda and details of this meeting are attached. Linda McArdle will be coming along to give a talk on her visit to Antarctica. I have been told that this will be very interesting and worth while. So I hope you will be able to find time to come and support your branch.

At the AGM we will be discussing some of the issues that came out of the last Society Committee meeting, this will include possible changes to the Branch Structure, in particular the number of Branches. We would like to find out what the thoughts of the Branch are, so come along and have your say. Each year we also vote members to the Branch Committee. The Newsletter Editor has indicated that he would like to stand down at the AGM. If anyone would like to try their hand then please let me know. We aim to produce up to 5 newsletters a year, with articles written by a number of different people. The editor's job is to collate them along with Field Trip information, get the newsletter printed and posted. The rest of the committee will help and support as much as required. Other volunteers to join the committee are also welcome.

By now you should have received the Society Newsletter, and noticed that in 2008 the AGM has been moved forward to April. This is due to changes in the Charities act regarding presentation of accounts. We don't know yet where the AGM will be held. This information will be passed on as soon as it has been arranged.

Arrangements for 2008 field trips are ongoing. Further details will be given at the AGM. You can also look on the OUGS web site at www.OUGS.org which will be updated at regular intervals.

Finally I would like to wish everyone a happy Christmas, and a peaceful new year. We hope to see you at the AGM, on behalf of the GCy Committee

Best wishes, Rachel

Urgent:-

From 2008, due to other commitments, I will be standing down as newsletter editor. So if anyone is willing to take up the mantle please come to the A.G.M. and make yourself known. For me it has been an immensely rewarding experience and I have had a great deal of fun in the process. But without a doubt I would not have been able to produce the newsletter without your help and the enormous contribution made by the other members of the committee. If anyone would like to become the new editor I can guarantee the unflinching support and help of Wendy, Rachel, Lyn and Sue.

Lastly I would thank all of you who have read the newsletter and put up with all the little typographical tipographical...er... spelling mistakes.

TJ.

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

The exact requirements are usually published in the national newsletter.

**Mam Tor Field Day
Led by Chris Arkwright**

Our first stop and meeting point was at the back scarp of the Mam Tor landslip (SK 131 835). As we looked out over the exhumed topography of the Lower Carboniferous Chris gave us a brief history of the geology of the area. Uplift and erosion in Tertiary times has revealed the southern edge of the Lower Carboniferous platform with lagoonal and basin sediments interspersed with various reef types. Evidence of

marine volcanism (ash and lava) can be found in this area.

The Mam Tor landslide dominated the area and we inspected it along with the overlying beds of Edale Shales. The back scarp is very impressive here, a near vertical cliff about 100 metres high where the Mam Tor beds are down faulted against the Shales Fig 1.



We noticed the Mam Tor beds show repeated coarsening upward sequences with easily spotted flute marks on the bases Fig 2, characteristic of turbidites. These are organic rich marine mudstones containing pyrite and gypsum.

The landslide is a classic example of a rotational landslide; and it continues to be highly active, slowly engulfing the flat fields at its toe. The ground moves after periods of heavy rainfall: water seeps between the rocks layers, lubricating the joints, thus enabling the different layers to slip over one another. Debris falling from the face adds to the weight of material below. The slip probably began in pre-historic times when the drier climate of the Bronze Age changed to today's Atlantic period; geologists think it will only stop when the face of the hill reaches an angle of 30 degrees - possibly in another 1,500 years.

Our second stop was at the small quarry at Windy Knoll (SK 126 830). Back reef fossiliferous limestones overlain by a boulder bed are exposed at this site which is famous for the discovery of Pleistocene bones in a cave in the 1870's. Many fossils were present in these limestones - solitary corals, bivalves, crinoid debris were all identified.

At the top of the quarry black tarry hydrocarbons are exposed.

We drove through Winnats Pass (SK 136 827); an exhumed channel in the reef complex of the Carboniferous platform edge. Mine adits here indicate that the reef has been heavily mineralised and beds are almost horizontal at the west end of the pass, but dip sharply to the east as the edge of the reef is approached just above Speedwell Cavern.

Our next stop was a lunch stop at Treak Cliff Cavern (SK 137 830) where a few of us were tempted by the wonderful 'souvenirs' in the shop! From here we walked on to Odin Mine (SK 134 834) which is a 2 metre wide strike slip fault worked for galena, barite and fluorite from the 13th century until 1869. Slickensides indicated movement on the fault and traces of mineralisation could still be seen on these faces. Chris explained that the source of the mineralisation was from late



Carboniferous hydrothermal fluids eroding minerals from anoxic basin clays and depositing in fissures along the edge of the carbonate platform.

Across the old A625 Manchester to Sheffield road the true magnitude of the slide began to be appreciated. This part of the road is still used as access to Mam Farm, but is ridged and cracked by continual movement of the earthflow. Chris explained the survey points seen along the route were installed in 1996 and have been read in the spring of each year using complex electronic measurements of distance and angle. The results of the survey indicate that sections of the landslide move at different rates and in directions, with maximum movements of approximately 1 metre occurring every four years when the water table is high and the main slips are reactivated.

We continued to climb to the upper level of the old A625 route. The road below Mam Tor, which is now closed to traffic, was first built in 1819 by the Sheffield Turnpike Company using spoil from the nearby Odin mine. The route was designed to bypass the steep limestone gorge of Winnats Pass where the one in five gradient was a severe test of a coachman's skill and the strength of the horse team. Even with an extra two horses provided in Castleton it was always a difficult pull. Rotated blocks of Mam Tor beds have displaced the road surface by several metres. Evidence for many years of failed remedial measures was seen in the form of exposed herringbone drains and successive layers of road infilling and re-



tarmacing, in places over a metre thick.

We had had an excellent day, including a detailed inspection of one of the most spectacular landslips in the UK as well as a wonderful overview of the geology of the area. Thanks Chris!

Sue Hughes.

White Scar Caves

The trip to WSC was not particularly geologically enlightening. The leader was in fact one of the 'curators' of the commercialised cave system. The cave system itself is, I suppose, a fairly routine structure. It is found in massive limestone beds overlying the impervious Silurian slate beds. However what makes the whites scar system so enjoyable is the experience. One enters the cave system through a long tunnel (alongside a couple of simple dioramas showing the original exploration.). There is then a long meandering walk through a passageway consisting of an underground stream. The walkway is a steel grid system over the stream bed. In times of heavy rain, the stream is quite swollen and often reaches the steel grid, so it can be quite exciting (in times of exceptionally heavy rain the cave system has to

be closed for safety reasons). Some way along the passageway the route parts company with the stream bed at an underground waterfall.

Again at times of heavy rain this waterfall is swollen, very noisy and dramatic. The passageway walls are covered with beautiful natural flowstone sculptures. There are also some exciting cascades of water along the passageway adding to the general excitement. Stalactites and stalagmites abound. At the end of this passage is a flight of steps opening up into a massive cave. As you enter the cave, the floor slopes from left to right, huge boulders strewn the floor of this magnificent cathedral, testament to the force of water pouring down the cave. There is a walkway leading down to the right with

the roof of the cave is lower. Here there is a SSSI, ancient mud cracks have been preserved in the



cave floor. The roof is festooned with straw stalactites, and when the lighting system is switched off they fluoresce a pale blue. The cave personnel are justifiably proud of their cave system, and are only too pleased to point out eerie 'images' appearing in the flowstone. Two are particularly striking, a witches head and nearby the witches cat. As a scientist, I naturally scoffed at the suggestions, as a human being I kept one eye carefully looking over my shoulder.

I took many photographs and was fortunate enough to win one of the AGM photo competitions with one of these photos. If you are ever in the

area I strongly recommend visiting this cave system. Tony James.



All photos in this issue courtesy of T. James.

Field Trip/Events list for 2008:
 A.G.M. in February – Speaker Lynda McArdle 2nd February
 Lynda will be talking about her trip to Antarctica
 Field trip to Llangollen 18th May. Leader Ros Todhunter
 Contact Sue Hughes.
 Weekend to Wicklow Hills Nr Dublin Joint trip with Ireland branch. Contact Rachel.
 Plans are further under way for trips later in the year. These will be announced when the dates are available

	<u>Your committee for 2007 is</u>
Branch Organiser	Rachel Atherton
Committee Member	Sue Hughes
Newsletter Editor	Tony James
Webmaster/Treasurer	Wendy Owens
Committee Member	Lyn Relph

Gogledd Cymru Annual General Meeting

Notice is hereby given of the OUGS Gogledd Cymru Branch A.G.M.

The location will be Lecture Room B at NEWI, Wrexham (see maps below.).
The time and date will be Saturday 2nd February 2008 at 2:00 p.m.

There will be a guest speaker, Linda McArdle, who will talk about her visit to Antarctica. The presentation should take place at approximately 3:00 p.m.

Tea and biscuits will be available.

This is your meeting so please attend. We need your support to continue providing field trips and newsletters throughout the year.

OPEN UNIVERSITY GEOLOGICAL SOCIETY GOGLEDD CYMRU (NORTH WALES) BRANCH



**OPEN UNIVERSITY GEOLOGICAL SOCIETY
GOGLEDD CYMRU (NORTH WALES) BRANCH**

The meeting was opened at 2:00 p.m. on Saturday 3rd of February 2007 by Rachel Atherton.

1. Apologies.

Apologies for absence were received from Dr Jacqui Malpas, Rob Crossley, Fred Owen, Dick Calver, Susan Brooks, and Sue Hughes.

2. Minutes of Last Meeting.

The minutes were proposed by Wendy Owens as an accurate record of the last meeting. They were seconded by Arthur Clarke

3. Branch Organiser's Report – Review of 2006.

Rachel stated that we had had an interesting year with trips Parys Mountain (underground). Machynleth Quarry (Wendy learned a lot about dynamite). There was an 'archaeological/geological' trip to Gwydda Forest. Unfortunately for most of the years trips the weather was little short of appalling. In September Wendy returned to Pant Quarry which had been extended southwards. In October was the revision day and GC also took part in a joint weekend trip to Anglesey. We also took part in the Wrexham Science Festival in March. Rachel also reminded the meeting about subscriptions and to send in any applications for places at the symposium.

4. Officers Reports

Wendy wore two hats (very fetching)

Treasurer. The accounts were audited by and approved by Hilary Tatton, with grateful thanks. The branch's bank account is looking too healthy; and bearing in mind that we are a non-profit organisation it was agreed that the committee would look for ways the branch members can benefit from the available funds. Suggestions included obtaining an on-line license for viewing BGS files by members.

Webmistress. The website is in good shape with many adjustments having been made during the year. Wendy said she would be grateful for any photos of trips or anything of geological interest in the area. She also commented that our website had achieved a google ranking of 4.

Newsletter Editor. Tony reported that he had produced 5 issues during the year. He thanked everyone who had contributed copy and asked for any items of interest as there was always a need for copy. He apologised for any mistakes and said that there was always a problem with deadlines, but that this 'went with the territory'.

5. Election of Officers.

The following were elected unopposed:-

Rachel Atherton – Branch Organiser
Sue. Hughes
Tony James – Newsletter Editor
Wendy Owens – Treasurer
Lyn Relph

6. Program of Events

Parys mountain caving club have volunteered to run another weekend/day trip underground. They say that they have other locations that we may be of interest

Lyn and Peter Appleton are arranging a trip to Brymbo in mid-May. It is not yet fully planned but will likely involve a view of the fossilised forest.

Wendy is planning a trip to one of the Colwyn Bay Quarries for July. (on A55). This trip will not be a limestone visit (sighs of relief).

We are also planning a trip to Aberdarren. This year's symposium will be partly hosted by our branch. This will take place in Lancaster University on 17th-19th of August.

The revision day will again be hosted by Sue Hughes and Hilary Tatton.

It was also noted that any suggestions for trips would be much appreciated.

7. Any other business

A suggestion was made to avoid double-dates for future newsletters. Chris Arkwright clarified the situation regarding new members choice of branch. She said that each new member was canvassed for their desired branch choice.

8. Rachel thanked the committee for their work and the date of the next AGM was chosen as the same Saturday 2008.

9. The meeting was closed by Rachel at 14:47.