



The
Black
Country
Geological
Society

NEWSLETTER No. 190 AUGUST 2008

The Society provides limited personal accident cover for members attending meetings or field trips. Details can be obtained from the Secretary. Non-members attending society field trips are advised to take out your own personal accident insurance to the level you feel appropriate. Schools and other bodies should arrange their own insurance as a matter of course.

Leaders provide their services on a purely voluntary basis and may not be professionally qualified in this capacity.

The Society does not provide hard hats for use of members or visitors at field meetings. It is your responsibility to provide your own hard hat and other safety equipment (such as safety boots and goggles/glasses) and to use it when you feel it is necessary or when a site owner makes it a condition of entry.

Hammering is seldom necessary. It is the responsibility of the hammerer to ensure that other people are at a safe distance before doing so.

Joint Chairmen:
Alf Cole C.Sci;
Alan Cutler B.Sc.,
M.C.A.M.,
Dip.M., M.CIM.

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Meetings Secretary
Gordon Hensman B.Sc.,
F.R.Met.S.

Field Secretary
Andrew Harrison BSC.,
MSc., F.G.S.

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**COPY DATE FOR NEXT NEWSLETTER IS
MONDAY 13th OCTOBER 2008**

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FUTURE PROGRAMME

**Lecture meetings are held at Dudley Museum, St James's Road, Dudley.
Phone (01384 815575)
7.30 for 8 o'clock start unless stated otherwise.**

MONDAY 29TH SEPTEMBER 2008 (Indoor meeting)**Gemstones. Speaker: Spencer Mather**

What are gem stones? What is their geographical distribution, geological formation, chemical composition? The nearest gemstone location is in Derbyshire where Blue John is found. A visit to Soho House, Handsworth is one of the places where a magnificent Blue John vase, decorated with ormolu, once possessed by Matthew Boulton, can be seen. The Assay Office in Birmingham (which Matthew Boulton was instrumental in establishing), also has some Blue John. Our mineral expert *Spencer Mather* will be giving this lecture and promises to show us examples of these beautiful stones.

SUNDAY 26TH OCTOBER 2008 (Field meeting)

This next fieldtrip will be a return to *Whitman's Hill Quarry*, north of the Malverns, plus a look at more of the Silurian of the Malverns. Full details are yet to be confirmed, but I am guessing we will **meet at 10:30am** in the car park of StorrIDGE village hall again. Could members please bring a packed lunch? Should you require more information please call Andy Harrison on 0797 333 0706.

MONDAY 27TH OCTOBER 2008 (Indoor meeting)**The latest developments in the effort to remove CO₂ from the gases released when coal, gas or oil are burnt. Speaker: Christopher Rochelle BGS**

Christopher will speak to us on power stations where captured CO₂ is forced down spent oil wells. This technology is very relevant to the whole business of curbing climate change, and we are grateful that Chris is able to keep us up to date.

MONDAY 1st DECEMBER 2008 (Indoor meeting)**Members evening.**

Your chance to reveal the particular bee in your bonnet! Have your say, have you a talk hidden inside? Have you some marvellous photos?

Andrew Harrison, Gordon Hensman

OTHER SOCIETIES**NORTH STAFFORDSHIRE GROUP OF THE GEOLOGISTS' ASSOCIATION****Saturday 27 September:****Calton Hill Quarry, nr. Buxton** Leader: Dr Chris Arkwright

Meet at 10.00am at Miller's Dale Station Car Park, Grid Ref: SK137733 (parking fee payable). To investigate Carboniferous igneous intrusions and lavas and their associated limestones in the Buxton area. Overall length of walks about 5km, limestone succession and interbedded lavas in Miller's Dale Quarry then, driving into Tideswell for a dolerite quarry to examine lithology and thermal effect on surrounding country rocks. Packed lunch at picnic site in the quarry. After lunch drive to Calton Hill, park at SK112710 to examine the structure and lithology of a Visean volcanic complex and dolerite intrusion in the disused quarry.

For further information contact NSGGA Field Secretary Gerald Ford , 01630-673409 or e-mail: g.ford@ukonline.co.uk For contact with the Field Secretary on the day of a field trip the mobile phone number is 07789 826807 when there is a chance that it will be switched on
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EXHIBITION

There is an exhibition at Derby Museum and Art Gallery, The Strand, Derby, entitled **Explorations in Geology**. Works based on 18th century investigations into the formation of the Earth. Mon-Sat (10am-5pm), Sun 1pm-4pm. Ends 1st September.

MEETING REPORT**SUNDAY 29th JUNE 2008****The Devensian glaciation of the Shropshire plains****Leader: David Pannet (Shropshire Geological Society)**

The day started with sun when we met at the Fisherman's car park between Atcham and Cross Houses, Shropshire. It was a small group of four BCGS members and Geoffrey Thomas a specialist in glacial and Quaternary geology recently moved to Shropshire from Cheshire. Throughout the day David showed us several sites from Fisherman's car park in the east to Melverley in the west and beyond to illustrate what Shropshire was like during the Late Devensian, when ice from the Welsh Ice Cap, covered the Shropshire Plain between Melverley and Cross Houses / Atcham. As the climate warmed the ice retreated and left behind a terminal moraine to the east of Shrewsbury. As the ice continued to retreat a lake, complete with deltas, formed behind the moraine and accumulated deposits of clay and outwash sands. Later the lake was drained by a river flowing out through the moraine and as the lake shrank the river cut down into the underlying deposits forming meanders and a palaeochannel. As the ice continued to intermittently retreat westwards it left behind further recessive moraine ridges. Further west the weight of ice gouged a depression in the underlying Sherwood sandstones – giving rise to the outwash sands deposited in the east. The depression formed a large lake called Lake Lapworth, which like its contemporary, Lake Harrison, in Warwickshire is now believed to be many small lakes as opposed to a single large one. Gravelly moraine ridges were left behind within the lake between which clay and silt deposits accumulated. The outwash sands backfilled any depressions such as the abandoned palaeochannel meanders. The retreating glacier also left behind a tundra type environment and buried lumps of ice. As the buried ice melted kettle holes formed and became infilled with plant debris, soil deposits and trapped animals like woolly mammoths. Later a post-glacial channel cut into the deposits infilling the palaeochannel forming a new floodplain and river terrace deposits known today as the Severn Valley.

At our first location, Fisherman's car park, David showed us an example of the infilled palaeochannel and a meander into which the River Severn was now carving its course. The palaeochannel was backfilled with sandy, partly imbricate gravels, from the north and Wales, which showed a sharp contrast to the silt deposits backfilling the abandoned meanders. From the car park we headed west stopping at Bicton Heath to view examples of kettle holes and over coffee David provided more insight into the glacial history and geography of the area. David also treated us to a look at some living fossil trees in his own private plant collection.

We continued westwards to Preston Montford and Montford Bridge crossing a landscape made up of recessive moraine ridges, and various deposits associated with the early lake and the River Severn and its flood plain. These deposits included laminated (varved) clays and sands deposited in the bottom of an earlier meltwater lake by sediment laden rivers during cyclic springtime/winter inflow. After a quick pub stop we took in the view eastwards from Montford Bridge along the route of the A5 as it made its way through moraines in the distance and the Severn floodplain. At Montford Bridge the A5 passes through a cutting of outwash sands overlying the varved clays. This posed an interesting geotechnical drainage problem, which was solved by constructing a berm and drainage ditch at the boundary of these deposits to intercept any daylighting groundwater from the overlying outwash sands.

Continuing westwards across flat low lying ground of outwash sands surrounded by moraine ridges we stopped at Montford Church and saw examples of how these deposits affect the landscape and generate areas of well drained and swampy ground. Montford churchyard is the resting place of Robert Darwin, father of Erasmus Darwin, whose grave, like the church is constructed of red Sherwood Sandstone from Nesscliff Hill. A grey coloured sandstone from

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Grinshill can also be seen in the walls of the church, the grey colour resulting from the leaching of iron when the sandstone was intruded by a dyke.

Continuing west past Little Shrawardine, to the Royal Hill Pub and Molverley we crossed low lying ground cut by ridges of recessive moraines indicative of the glacial meltwater lake. Here outwash sands gave way to clay, of the meltwater lake, overlain by silty alluvium deposited by later rivers. The banks of the River Severn, close to the Royal Hill Pub, are the site of a former wharf used for offloading dolerite, shipped by river from quarries on the Breidden Hills. Here the Severn has cut down through the overlying silt to the underlying clays. Unlike a river cutting through gravels one cut through clays and silts tends not to meander and is more stable because of an absence of gravel and boulders. Here shallow rotational failures could be seen in the river banks within the less stable overlying silt and scoured polished ridges in the river's bed formed from the more stable clay. The dolerite stockpiles caused settlement of river bank within the soft silt and clay deposits, and dolerite gravel could be seen in bed of present river.

Molverley Church is a timber framed church, on the edge of the deeply incised and vertically sided River Vyrnwy, and like the other buildings of the town is built on elevated ground formed from recessive moraines. The surrounding ground surface, the bed of the lake, is generally below sea level which is prone to flooding. However, because the Molverley Church and town is built on the higher ground they are less likely to flood and the timber frame of the church means it's a light weight structure. Beyond Molverley we could see the Breidden and Nesscliff Hills with a low wide valley between, providing a clear view into Wales from where the ice forming this landscape had come from the Welsh Ice Cap. We stopped for tea at Molverley Craft Centre around four o'clock before heading home.

I would like to thank David for a very interesting day.

Andy Harrison

EDITORIAL

It is not often that I stray into the web site of the Council of Europe when I am browsing geological topics on the internet; the address listed below is well worth a visit. I was put on to it through a short article in *Geoscientist*; the excellent magazine of The Geological Society of London and it is resolution 1580 of 4th October 2007. Its title, '*The dangers of creationism in education*' will explain my interest.

I am the first to defend the right of any person to hold any view on any subject in a modern democratic society, but I am also the first to recognise the role that science has played in the development of that society. I also think I know what a science is, and I know that geology is a science. To paraphrase the words of this resolution, belief and science have always been able to coexist, but belief is now challenging science through creationism and refined versions such as 'intelligent design', which do not deny a certain degree of evolution and seek to portray its approach as scientific. Paragraph 17 of this resolution puts it in a nutshell: '*Science provides irreplaceable training in intellectual rigour. It seeks not to explain why things are but to understand how they work*'.

The geological community has until recently regarded these views with interested disdain, but the warning bells sounded when moves were made in some areas for 'intelligent design' to be included in the science curriculum in schools. It is not a science! The major geological organisations, such as The Geological Society of London have now decided that this situation can no longer be ignored and have issued their own statements. Twenty seven Academies of Science of Council of Europe member states have signed a declaration on the teaching of evolution. Resolution 1580 urges member states to *firmly oppose the teaching of creationism as a scientific discipline on an equal footing with the theory of evolution and in general the presentation of creationist ideas in any discipline other than religion*'. I would concur with this view, but must point out that this is my personal view and not necessarily that of other members of BCGS. **Ref: Geoscientist. Volume 18; No7; July 2008. Page 4.**

The web site is:

<http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta07/ERES1580.htm>

Bill Groves

ARTY-CRAFTY GEOLOGY

You can find pieces of geological 'art' in all sorts of unusual places. Dudley has always been proud of its geological heritage and so it is no surprise that this motif is found in buildings produced by the metropolitan borough. The bridge in the pictures was built fairly recently to take the Dudley ring-road over New Road which runs from the town centre to Netherton.

The top picture shows the bridge looking south with its two distinctive trilobites, I am sure based on Calymene, the 'Dudley bug'. The other picture is from the road underneath the bridge, the fossil is picked out with what

looks like Staffordshire Blue Bricks, the famous engineering bricks that are also part of our geological heritage. Bricklaying is a very skilful art form as these two pictures show.

Bill Groves

GEOBABBLE

Some geological terms are specialist and precise in their meaning, such as *Trilobite*, whereas others are used more generally in the language, and can be heard in non-geologic contexts. This would apply to *limestone* and perhaps *granite*. If you put these three terms into one of the many translation programmes available on-line, the results are I suppose fairly predictable. *Trilobite* is used in ten other European languages, and in the others the modification is so small that it is instantly recognisable: *Trilobit*, *Trilobitów*, *Trilobiitti* and *Trilobieten* in Czech, Polish, Finnish and Dutch respectively. The most attractive is the Norwegian *Trilobitter*, which I think is the name given to a special beer brewed to commemorate the Wren's Nest celebrations a couple of years ago.

Although *granite* remains the same in Croatian and Czech, it becomes *granit* in Denmark, France and Germany, *granitt* in Norway, granite in Holland, and the Finnish is *graniitti*. In the Latin countries I have always had the impression the lots of words end in o, particularly Italy, and so it is no surprise that Portuguese, Spanish and Italian have *granito*. Variations of *limestone* fall into two groups, either using calcareous as the main description or lime-stone. The French and Italians use *calcaire* and *calcare* respectively, and Portuguese is *calcário*. Limestone is literally translated into *Kalkstein* in German and Norwegian and *kalksten* in Denmark and Sweden. The Finnish is *kalkkikivi* and Spanish; *pedra caliza*.

Perhaps we should go a stage further and write a phrase book for geologists in the field in foreign parts. You would have phrases such as: 'where is the best quarry?', 'do I need a hard hat?', 'I think I found that fossil first' and most important of all, 'where is the nearest hostelry, I am thirsty?'

Bill Groves

PLEASE CONTRIBUTE

We rely on all members to make the content of the Newsletter more interesting. If you are sending photographs, can you please reduce them as suitable for documents. The Newsletter is kept below 1MB for the convenience of members. In order to include material in the October Newsletter, please send or give it to me by **Monday 13th October 2008**

*PLEASE SEND MATERIAL FOR THE NEXT
NEWSLETTER*

to

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**Why not have a look at our excellent website
at:**

www.bcgs.info