



The
Black
Country
Geological
Society

NEWSLETTER No. 161

October 2003

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.

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 27TH OCTOBER 2003 Indoor meeting: " A Volcanic Eruption and Outburst under the Myrdals Jokull, southern Iceland 1999." By Dr Andrew Russell, School of Earth Sciences, University of Keele.

MONDAY 24TH NOVEMBER 2003 Members evening comprising a series of short talks etc. given by Society members. This will be open to anyone who would like to share something of interest, whether it be some rock or fossil specimens collected on holiday or a short talk accompanied by a few slides. We already have a very full programme as outlined below. Should be a great evening!

Chairman

G.J. Worton B.Sc., C.Geol., F.G.S.

Vice Chairman

A. Cutler B.Sc., M.C.A.M., Dip.M., M.CIM.

Hon Treasurer

M Williams

Hon Secretary

S.H.Worton B.Sc., PhD., F.G.S.

Meetings Secretary

G.W.J. Hensman B.Sc., F.R.Met.S.

Field Secretary

A. Rochelle B.A. Hons., Tech.RICS.

Part 1 Viking Visions comprising:

- Getting to Iceland by sea - what the Vikings saw. 35mm slides of the south coast of the island - Vatnajokull, Oraefajokull, Myrdals Jokull, Vestmanna Isles, Reykjavik. By Gordon Hensman
- Slides of Iceland taken by Ananda Shamo on a recent trip.
- Short illustrated talk on Iceland by Alf Cole.

Followed by:

- Halesowen Coal Measure Nodules - by Laura Brazel.
- The Severn Sisters Caverns - a photographic record. By Peter Parkes.
- The changing face of geology examinations - by Bill Groves.
- Methane hydrates - what they are and where they can be found. By Chris Rochelle.

Part 2 Quick preview of the new geological gallery at Dudley Museum by our chairman and keeper of geology at Dudley, Graham Worton.

Please note that due to the experience of previous years we are making an earlier start this year and will be gathering at 7.00pm for a 7.30pm start

MONDAY 26TH JANUARY 2004 Indoor meeting: "You can take a cow to water.....the evolution of whales." by Dr Paul Smith, Lapworth Museum, University of Birmingham.

Paul is a long standing member of B.C.G.S. and has delivered many a fascinating lecture as well as leading several delightful and informative field trips. We very much look forward to this lecture on the evolution of an animal which is the subject of intense interest at the moment.

Note this is a change to the previously advertised title of "Tropical Carbonates in Polar Climates"

MONDAY 29TH MARCH 2004 Indoor meeting: **7.30pm start** Annual General Meeting followed by "The geology of the Longmynd, Priors Holt and the Knills area" by Mike Williams and Andrew Rochelle. This evening will preview the geological history of the area in readiness for the field trip in the following month.

SATURDAY 24TH APRIL 2004 Field Trip: "The geology of the Longmynd, Priors Holt and the Knills area" led by Mike Williams and Andrew Rochelle.

This trip will look at the exotic landscape of the Pre-Cambrian created by the sedimentary and pyroclastic rocks of the district and will conclude with a visit to the Silurian shoreline exposed at the southern end of the Longmynd. Further details to follow.

SATURDAY 15TH MAY 2004 Field Trip "The glacial and post glacial features of Eatsern Shropshire" led by Andrew Rochelle. This will be a visit to the special natural heritage of the Aqualate area. The trip will particularly examine the ice sheet debris in East Shropshire and West Staffordshire and is timed to see the woodlands at their best. Come and see the bluebells.

JULY 2004 provisional - date tbc Field Trip: "Journey into the heart of a geosyncline' Led by Mike Williams

This trip will take in the scenery and geomorphology of the Elan Valley, into the upper Yswyth valley and across Parsons Gorge to look at fossiliferous rocks and finishing in the turbidite sequences around Aberystwyth. More details to follow in due course.

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EDITORIAL

By a curious fluke of timing, our next indoor meeting and the following members evening, feature the volcanics of Iceland. These occur at the same time as an argument is going on in earth science about how igneous rocks come up to the surface from the inner depths of the planet below us. In particular, the argument centres on whether or not mantle plumes (essentially rising columns of molten rock which push their way up through the denser crystalline crustal rocks around them to form volcanoes and volcanic island chains like the Hawaiian islands and may be involved in the formation of Iceland at the mid Atlantic ridge). The argument is about the fact that the plume idea to explain things is a nice but rather vague concept that may not be capable of testing by scientific means. Evidence that is currently being scrutinised is quite complicated stuff relating to 'anomalous rates of basalt production, how the plume moves through the mantle and looking for alternative ideas to explain things like Large Igneous Provinces (LIPs) i.e. flood basalt areas like Deccan in northern India or the Siberian Steppes. Whatever comes of this re-examination of the facts we can be sure that there will be plenty of mysteries and anomalies that will keep geophysicists and geochemists occupied for many years to come. If you would like more information about the ongoing debate, I would recommend dipping into the September 2003 edition of 'The Geoscientist' Volume 13, No 9 or visiting the Geological Society's website at www.geolsoc.org.uk.

Graham W

REPORTS

SATURDAY 11TH OCTOBER 2003 Field Trip: "Erratics, ventifacts and ice sheet debris" led by Andrew Rochelle.

The weather was beautiful, when we met at Pattingham Church at 11 00 am. We were joined by Mr. David Burton of Pasford Farm for the day. Mr Burton brought to us insights into the history, farming practice and geology of the area. Twelve Society members attended.

A short visit to the graveyard of St. Chads church gave views across the incised valleys of the Severn and Worfe. The deeply incised valleys were the product of icesheet meltwater at the end of the Devension Ice Age, the last great landscape forming agent in Britain.

At the next stop in Copley Lane, views towards the Wrekin across the incised valleys of the Nun Brook, River Worfe and the Mad Brook, enabled members to appreciate the powerful nature of water erosion, icesheet deposition and permafrost phenomena. Erratics were found in the field at this stop.

A stop was then made within the Nun Brook valley and the tiny nature of the stream was compared with the deep and wide valley. A relict kettle hole and black peaty soil was then studied before returning to Pattingham for lunch.

After lunch two large erratics at the entrance to Pasford Farm were studied. They were identified as a Lake District Granite. At a field near the entrance to Pasford Farm patterned ground was marked by faint yellow patterns in a crop of sugar beet. We then walked via the old mill studying an exposure of Bunter Sandstone, before looking at a dry valley, presumed to have been formed by a catastrophic meltwater flood event. Erratic boulders, stream eroded pebbles and till over sandstone were well observed.

At a field near the farm, which had recently been worked, erratics and a few ventifacts were found. All in all an excellent day.

Thanks to Mr. Neil Burton for permission to walk the area and for Mr. David Burton's company and stimulating conversation..

Andrew Rochelle

CONSERVATION COLUMN

Malvern and Abberley Hills – UK's second Geopark

We are very happy to announce that the bid put forward to the European Geoparks Network by the partnerships surrounding the Malvern and Abberley Hills, Co-ordinated by the Geology Trusts (formerly the Hereford and Worcester Earth Heritage Trust) has been approved. As such this neighbouring area has been formerly recognised for its wonderful geological heritage and the use of that heritage by man. We will have more details available for the next newsletter.

Our congratulations to those involved.

Wrens Nest Update

The engineering works at the Wrens Nest has come to a halt as the winter draws in and the bats return to the quiet cool caverns to hibernate. This means that no serious engineering action will be occurring until next April when the bats leave again as the weather (hopefully) improves.

WORKING PARTY UPDATE

As previously stated, excavated materials from the first stage of works have been set aside for picking over to allow the collection of a comprehensive suite of specimens for the museum. On three separate occasions during September, weekend conservation working parties involving both the museum, the BCGS and King Edward the VIth sixth form college, Stourbridge group members took place and 'salvaged' much material for the Dudley Collections. Now as the restoration phase of the works has been delayed, there will be more opportunities to add to this good work before the stocks are removed back into the permanent engineering works next year. I will publish new dates in the December issue of the newsletter, with a resume of the findings to-date

Fig. 1 The conservation crew on one of the stockpiles at Wrens Nest September 2003.



*From Left to Right;
Bob Duncan, Gordon Hensman, Graham worton, Leila Battison, Linda Buterl, Sarah Butler, John ,
Alex James, Gareth Izon and Richard Newport*

Dudley Museum Update – Collections



The Dudley geological collection has received another sizeable boost thanks to a donation in September by BCGS member Steve Powell. Some of you may know Steve as the author of mining histories like 'The limestone Mines of Dudley' and through his artwork that featured in the recent 'Speleoart' exhibition at the museum. Steve has donated many fine mineral and fossil specimens that he has collected over the years from a number of sites across England and Wales. Some of which are no longer accessible.

*Fig. 4
Piece of Galena and Calcite ore from Snailbeach mine Shropshire. from the recent donation by
Steve Powell*

Rock and Fossil Surgeries;

If you have any specimens that you would like identified then please make a note of the dates and times below and come along and join us.

Saturday October 25 th	10.00 am to 12.00 noon
Thursday November 20 th	11.00am to 1.00pm
Saturday December 13 th	10.00 am to 12.00 noon

Dudley Museum Update – *Exhibitions*

The New Permanent Geology gallery

As I write this edition of the conservation column, workmen have just arrived in the museum to begin installing the new ceiling and electrics in what was formerly the 'Time Trail' gallery before its sad demise due to dry rot. Next week the display cases will begin to be dressed and on the 10th November, the new flooring will be laid. These are exciting times.



Fig. 2 The state of the gallery today, before the transformation that will occur in the next few weeks

In this new gallery we are not attempting to repeat or improve upon what the Time Trail achieved, such an undertaking would require a better resourced future and a larger area to deliver the vision that we would wish to come to fruition if we are to do that story justice. At the members evening in November however, you will get a chance to see the way we have chosen to go in the storyline and style of new interpretation for geology at Dudley. This gallery will hopefully be, in its own way, as inspirational and tactile as the time trail was and will certainly illustrate what is truly remarkable about the Geology of Dudley and the Black Country

We have put much more emphasis on accessing the subject for those with a disability or impairment this time around by introducing audio-visual elements and touchable objects wherever it has been sensible to do so. We have also listened to the educational community and tried to cover the key aspects of Earth science in the new displays as well as making things as aesthetically pleasing as we can within the constraints that we have.

The opening of this new geology gallery signifies the general expansion in the geological coverage at the museum in other ways too. In response to the rising number of school, college and community group requesting talks and teaching sessions about rocks, fossils, mining, local history, soils and environment, we have been working on the provision of a formal, earth sciences educational service based at the museum. This will use a series of experiments, handling collections and other geological resources that we are putting together at the moment.

Clearly this educational work is not something that we can do within the confines of the new geology gallery which needs to be open to casual visitors too. Therefore, in order to make this happen we have specifically designated gallery 4 (the upstairs gallery that currently holds the temporary geological displays) as the geology education and fossil identification room. This will be used to host a wide range of 'sessions' for schools and colleges using the new resources and our staff and demonstrators trained to deliver these sessions. Hopefully this series of new developments will return geology to centre stage at Dudley Museum and set the scene for even better things to follow.

I would also like to offer a final and sincere invite to those of you who have not yet offered opinion to do so now before we have reached a point where no further modifications or amendments are

possible. It would be a great shame if someone out there offers a real Eureka moment idea.....at the opening event for to launch these new services!

Please feel free to call or email with any comments or ideas as I really am trying to develop and expand our geological services in the best possible way with relevance to those who would use it. You can reach me at the museum on **01384 815575** or email me at graham.worton@dudley.gov.uk

I would particularly like to thank those willing few who have offered opinion or advice in the conceptualisation of the new gallery.

Until next time.....Graham W

GEOBABLE

This editions geobabble is about all those confusing '.....ospheres'. In particular one which I often get confused with is 'Asthenosphere' which is often described in words akin to Egyptian hieroglyphics by geophysicists and geochemists but in simple terms means the 'soft' part of the upper mantle which is more plastic or 'squidgy' than brittle like rock. As a result seismic waves are on go-slow in this zone and it is sometimes also called the 'low velocity zone'. Immediately overlying the asthenosphere is the 'Lithosphere' – another confusing '....osphere'. This is the bit nearest the surface where rocks are good and hard and do what rocks should do. But it isn't just what we refer to as the 'crust', it also includes the uppermost, brittle part of the mantle.

So that requires us to define what we mean by the 'crust' and where and why that becomes the 'mantle' if they both behave as hard and brittle in their near surface bits..... But that can wait until next time.

Graham W

We still await your further suggestions and definitions and emails with bated breath – ed.

OTHER NEWS

No other news has been received

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