



The
Black
Country
Geological
Society

NEWSLETTER No. 149 October 2001

The Society does not provide personal accident cover for members or visitors on field trips. You are strongly 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.**

MONDAY 29th OCTOBER. Lecture: The Disposal of Carbon Dioxide in Spent Oil Wells – an ongoing experiment jointly funded by the USA, Canada and Europe. Dr Christopher Rochelle, British Geological Survey. Dr. Christopher Rochelle has been representing British Geological Survey in a project, funded by USA, Canada and Europe, to dispose of excess carbon dioxide in spent oil wells in Alberta Canada. Early work by Norway, Britain and the oil companies has taken place in the North Sea, when BGS represented UK interests. Investigations by BCGS into carbon dioxide/rock reactions, carbonation and geological structure in the project areas continue. Disposal and control of "greenhouse" gases has become important for the environment and politics. BGS is in the van of research in this area.

NOVEMBER 2nd- 4th. Geologists Association Festival of Geology – Earth Science Fair at the University of Liverpool. Some details available from The Secretary at meetings. Further details on the event from Sarah Stafford of the GA on 0207 434 9298 (Email geol.assoc@btinternet)

Briefly:

Sat 3rd – Foresight Centre – group displays, commercial exhibits, rock & fossil fayre, discovery room

Sat 3rd – Dept of Earth Sciences, Liverpool University – geology open day where several lectures will be presented by the department.

Sun 4th – Field excursion programme.

MONDAY 26th NOVEMBER. Lecture: 'Snippets from a Suture – A Tibetan Geologue'. Gordon Hillier of Shropshire Geological Society. This is a personalised look at the Geol. Soc. trip in July 1999 to see Himalayan Geology, led by Roger Mason. After a brief introduction in travelogue style, the basic concept of Indian Plate movement towards the Asian Plate and the consequent formation of the Himalayan Belt is outlined. Principally the talk describes the 3 terrains visited-- the southern part of the Lhasa Block, the Suture Zone, & the Tethys Himalayas. Tibetan culture & some of the difficulties associated with travelling in Tibet are lightly commented on.

SATURDAY 1ST DECEMBER 2001_Field Meeting. Leader Andrew Rochelle. The Ercal, Shropshire.

28th JANUARY 2002. Lecture: Dr. Joe Jennings. " The Elf/Elgin Hydrocarbon Fields in the North Sea." The talk concentrates on the background to the discovery of the Elgin/Franklin Fields; the geological setting which includes details of their reservoir and potential source region. Also included is the design & extraction layout with particular emphasis on the landfall, i.e. tunnelling works. The talk concludes with a breakdown of anticipated production levels."

MONDAY 25th FEBRUARY 2002. Dr. Jill Norton, B.G.S. Kinsley Dunham Centre, Keyworth, Notts. " Caribbean Volcanoes." Please note that this is the AGM meeting. Full details and will be issued in the forthcoming December 2001 newsletter

MONDAY 8th APRIL 2002. Lecture: John Armitage. "Meteorites and the Search for Life in Retrospective and Prospective."

MONDAY 29TH APRIL 2002 Professor Aftab Khan, Department of Geology University of Leicester. "Lithospheric Structure and Dynamics of the Kenya Rift."

SATURDAY 4TH MAY 2002 Dr. Andrew Rochelle (ice features in Shropshire field meeting)

Meet at The Canal Warehouse Newport (GR SJ744 194) A518. The trip will view meadows and subsidence along road towards Meretown. And provide views across moors to look at a glacial landscape. Glacial deposits near the roadside including a number of glacial boulders will be examined. A pub stop will be available if required. The party will then go on to view Gnosall Overflow Channel and a Saucer shaped area representing a relict glacial lake. Weaver's Hill Kame will be visited in order to study till fabric. The final stop will be at the Guild of Monks in order to study Eskers and a relict lake shore.

SUNDAY 7TH JULY 2002 Field meeting :Snailbeach lead and zinc mining area near shelve, Shropshire

Meet at Snailbeach car park. NGR SJ 373 023. O S 1:50,000 Sheet 126. The trip will examine the mines at Snailbeach and provide views of the Shropshire landscape. At the mine there are interpretive boards and information explaining the structures and life in the mining industry of the area. There is the possibility of under ground visits here. A short walk will include many mining features and take in the Lord's Hill Baptist Chapel (1833). At the spoil heaps, samples of the minerals mined and their host rocks can be obtained.

We will stop at Stiperstones Inn for lunch. Where good food is available The afternoon session will be spent at The Bog mine where another reconstructed and interpreted mining complex and a field study centre are present.

21ST & 22ND SEPTEMBER 2002. Dudley Rock and Fossil Fair

MONDAY 27th OCTOBER 2002. Lecture: Dr. Ian David Sutton. "Yellowstone, its Evolution and Geology."

EDITORIAL

Following on from the last newsletter as a way to keep costs down in printing and mailing the newsletter, we're looking into the practicalities of Emailing the newsletter to those who would like to receive it in this format. This would have the added advantage of being instantaneous, in colour and subject to your immediate comments or submitted articles. It should encourage feedback and gives you a chance to exchange views and ideas directly with the editorial team

by replying to the author. If you would like to be put onto the email list could you please send your email addresses to Graham Worton at Dudley Museum (email address, museum.pls@mbc.dudley.gov.uk). We aim to get this service underway for the December edition. Go on get online!

REPORTS

Field trip to Walsall on 23rd June 2001, led by Alf Cole

Foot-and mouth restrictions have led to many geological exposures being placed temporarily out of bounds, but fortunately, Walsall is now open for business, allowing us the opportunity to visit local sites with much interest.

A select group met outside the Three Crowns, a pub virtually on the line of the Eastern Boundary Fault of the South Staffordshire Coalfield. Walking northward, we followed the edge of the long-disused Hay Head Quarry, in Silurian strata, where the succession is: Barr Limestone (no longer visible), Wenlock Shale, and Wenlock Limestone. Exposure and access have been greatly improved thanks to the work of BCGS members and the Walsall Conservation Volunteers.

Turning east, we crossed the Boundary Fault, marked on the surface by a change from plants typical of calcareous soil to those found in more acid conditions. Stream sections gave glimpses of Halesowen Beds and Keele Beds (both Upper Coal Measures). Overgrown spoil tips provided evidence of former coal mining activity. To finish the morning, we were shown a splendid roadside boulder of gneiss, presumably a glacial erratic.

After lunch at the charming Manor Arms pub, we attempted to view Daw End railway cutting, described as the most important exposure in Walsall. Unfortunately it is not the most accessible, owing to summer vegetation growth, so we had to imagine rather than observe, the sequence of Wenlock Shale and Limestone, with its 'crog balls' or reef mounds.

There were no problems in seeing rocks at the next site, Linley Wood, where Coal Measure sandstones lie unconformably on Wenlock Limestone. The latter have been much mined, and numerous deep depressions in the ground are due to crowning-in. The entrances to some underground workings were found. Today these are playgrounds for local children, but in the 1880s, the artificial caverns were used for candle-lit parties, in imitation of those held at Dudley. Later, in the 1930s, the caverns were used to store munitions. By the time they were needed in the Second World War, they were found to be so damp and rusty as to be unusable.

The final site was Barr Beacon, an escarpment which can be seen to be displaced by an east-west fault. Pinfold Lane Quarry shows Permian sands and breccias, deposited by desert watercourses, overlain by Triassic Pebble Beds forming the scarp crest. This locality featured as 'Black Country Site No. 2' in the BCGS newsletter of August 1999. The quarry is benefiting from clearance work by volunteers, in which Alf Cole is deeply involved. Out thanks to him for an interesting and well-organised field trip.

Nigel Bradley

Indoor lecture meeting held at Dudley Museum and Art Gallery, 24th September 2001, by Dr Duncan Friend

Duncan began the talk with an historic resume of the finding and opening up of the Burgess Shale exposures in British Columbia, Canada. This story began in 1909 when Charles Doolittle Walcott was wandering in the Canadian Rocky mountains through a pass at about 8500 feet. He found, by some keen eyesight and chance, a flattened fossil on a piece of dark

grey shale. He realised that this was an important find and proceeded through various field seasons to open up a small quarry in a small area of shales between two major shear zones in the hillside. The only place that this rich fossil seam existed.

His work brought to science 70000 beautifully preserved specimens of marine invertebrate creatures that lived approximately 530 million years ago in the Middle Cambrian period. This material was so special because it contained a complete marine community (including the soft bodied creatures). The collection implied that perhaps 80% of all animals in a marine community would typically be absent in the fossil record. It also showed the relative abundance of the creatures. It showed that early notachord animals such as *pika* were very rare (with only 5 specimens out of the 70000). Very common animals were things like the lace crab *Marella* and common animals like the polychaete worm *Wiwaxia*. A full marine community with its filter feeders, grazers and predators could be seen in all its splendour.

The preservation of the animals although squashed flat is exceptional. It is believed to be the result of deposition at the foot of a submarine cliff where they were swept from above as an avalanche and rapidly buried so that no bacterial decay could occur. The interpretation of the fossils was not without its difficulties and controversies. A strange creature called *Halucigenia* was first interpreted both upside down and back to front, and the mouthpiece of the giant predator *Anomalocaris* was interpreted as an entirely different species.

Duncan then went on to tell us about his own research on an animal called *Eldonia Ludwiggii*. This was a kind of jelly creature related to a sea cucumber, of which about 800 specimens are currently known. The nature of the preservation of all 800 specimens was scrutinised by him and led him on a journey which took him to far off places including China. Emerging knowledge of modern deep sea creatures has suggested that there are some deep sea cucumbers which have similar lobes and jelly like veils which can pulse and be used for swimming. Duncan suggested that these were probably very similar creatures to *Eldonia*.

The talk concluded with a brief outline of life on a field party in the remote Rockies. This was full of very basic living conditions, no washing, lots of falling rocks, wet weather and hard physical work. This was a fascinating insight into a very special place, a distant time on Earth and the process of scientific discovery. Our thanks to Duncan for a superb evening.

Graham Worton

CONSERVATION COLUMN

UKRIGS Conference Report

As you may know the UKRIGS conference was held this year at Stoke Rochford, near Grantham. Apart from this being a lovely setting with good accommodation and very good food, it was also a very important conference that focussed on geological conservation in the planning process and progress made by English Nature and the minerals industry professionals. The work of the BCGS in the Black Country was very well represented. A paper was given by myself concerning the promotion of geological heritage to officers within a local authority. This was followed by a paper by the former planning contact at Dudley Metropolitan Borough Council, Steve Havers, who outlined the important steps in the planning process needed to get a site protected and how we should present ourselves if we are to be taken seriously.

Field trips were held at Ketton Quarry and Kings Dyke Brick Pit where we were able to see the commendable work of our friends in the Stamford Geological Society. Evening walks around the town centre of Stamford and the City Centre of Peterborough. This included catching the end of a service in the cathedral following the atrocities in the US two days earlier. The cathedral choir was in fine voice.

The AGM saw the re-appointment of most of the committee including Alan Cutler as Treasurer, although there are now vacancies on the committee following the stepping down of two people. The idea of local or regional Earth Trusts was floated and briefly discussed as a

means of taking forward the RIGS movement now that the Royal Society for Nature Conservation have decided to withdraw future support.

Congratulations to the organisers for a very informative, comfortable and enjoyable conference

ROCKWATCH Update

At this moment in time the future of ROCKWATCH (the nation-wide children's geology club based at the RSNC) hangs in the balance. This is also a potential casualty of their decision to withdraw from geological activities. We see ROCKWATCH as a wonderful resource for the younger generation and it is a superb public introduction to geology that the Rockwatch team have provided. It is of fundamental importance to the future health of geology and geological sites in Britain.

The Geologists Association is attempting to secure funding via oil industry contacts to provide a future for ROCKWATCH. Regional collectives may be able to ensure that the youngsters have somewhere to follow their interests in the interim. I am personally discussing this with contacts via Dudley Museum with North Staffs GA, Stoke Museum and Ludlow museum hopefully to deliver 'Rockwatch style' events in our collective area.

Our very best wishes go to Susan Brown and the staff of the GA in their efforts to secure a future for the ROCKWATCH initiative that benefits so many budding geologists of the future.

Mons Hill Limestone Mine Treatment Works

As part of the works at Mons Hill, a cored borehole was drilled in order to get the best possible look at the nature of the limestone succession here. This is 86m in length and passes through the Upper and Lower Quarried Limestone units and down into the upper part of the Coalbrookdale formation below. It will be given to the museum in the immediate future. It is a very important core as this part of the hill has very poor surface exposure and therefore offers no opportunity for study. I will keep you informed of progress on this.

Other Wrens Nest News

As you will be aware some months ago a section of the famous ripple beds collapsed due to undermining by individuals who had collected from the foot of the rockface a few years before. Due to fears about the potential loss of the remaining ripples we are currently looking, with English Nature, into options to ensure the long term stability of what is left. This is likely to be a costly and delicate exercise and will inevitably have some visual impact on the remaining features. I will let you know more information about this as we get it and draw our conclusions.

Until next time..... Graham W

CONTACT US

Hon. Secretary:
Dr Sarah Worton
158 Oakham Road
Oldbury
B69 1QQ
Tel 01384 235946

Editorial Team
Dudley Museum and Art Gallery
1 St James' Road
Dudley
DY1 1HU
Tel 01384 815574
Or email Museum.pls@mbc.dudley.gov.uk