



# The Black Country Geological Society

NEWSLETTER No. 81 June 1990

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Lecture meetings are held at The Saracens Head, Stone Street Dudley, 7.30pm for 8 o'clock start.

*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.*

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## FORTHCOMING MEETINGS :

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### **\*\* EXTRA MEETING \*\***

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**MONDAY 9th July** : evening field meeting to Wrens Nest National Nature Reserve.

Leader: Colin Reid, Keeper of Geology, Dudley Museum.  
Meet 7pm at the Reserve entrance, Wrens Hill Road, Dudley (near the "Caves" pub).

A guide to the new trail at Wrens Nest has just been published by the Nature Conservancy Council, and Colin will take members over the new trail, using the guide.

**SATURDAY (note - Saturday) 21st July** : field meeting to Malvern Hills. Leader: Dr. David Bullard.  
Meet 10am at British Camp car park (grid ref: 762403) on the A449 Malvern-Ledbury road.

Dr. Bullard is an expert on Malvern geology, and has written a geological guide to the area for the Nature Conservancy Council - "A Student's Guide to the Geology of the Malvern Hills".

This is a joint meeting organised by our friends of Shropshire Geological Society.

**SUNDAY 23rd SEPTEMBER** : field meeting to Dovedale, Derbyshire. Leader: Dr. Paul Bridges of Derbyshire College of Higher Education.

Meet 10.15am at car park in Thorpe village (grid ref: 1557 5050).

The field meeting will be a linear walk ending at the carpark in Milldale (grid ref: 136548) so cars should be left there. The plan is for passengers to alight at Thorpe, then drivers to take their cars to Milldale and leave them there.

(continued)

Chairman  
A. Cutler B.Sc., M.C.A.M.,  
Dip.M., M.Inst.M.

Vice Chairman  
J.E. Gollidge M.A.

Hon. Treasurer  
Mrs J. Shilston

Hon. Secretary  
P.D. Shilston M.A., C.Eng.,  
F.I.E.E., M.I. Mech.E.

The carpark at Milldale is at Sunny Bank, 400 yards from Milldale on the road to Hopedale. Cars should be at Milldale by 9.50am, and we will ferry drivers back to Thorpe for the start.

The itinerary will involve approx. 7km walking and some hill climbing - stout walking shoes are recommended. The meeting will start at Thorpe, ascend Thorpe Cloud, then to Stepping Stones, along Dovedale and finish at Milldale.

It will study in particular clusters of carbonate mud-mounds of Lower Carboniferous age, formed in deep water off the developing Derbyshire Platform, and now exposed in Dovedale.

MONDAY 15th OCTOBER : lecture "Silurian RED beds - a geologist's view of the USSR" by Dr. David Siviter of Leicester University.

The lecture will be 70% geology and 30% travelogue of various parts of the USSR including Moscow and Leningrad. The Silurian geology in the lecture is chiefly in Estonia and in the Ukraine, and will show some connections with the Silurian on our own doorstep in Dudley.

Dr. Siviter has been to the USSR several times, and will be there again this summer. He has visited many regions including the Baltic States, Siberia and Soviet Central Asia.

SUNDAY 28th OCTOBER : field meeting to Black Country sites, led by Dr. John Powell and the British Geological Survey team.

Meet: 10am at the entrance to Ibstock Brick Company quarry, Tansey Green (grid ref: 900902).

Wellington boots are advised, and hard hats must be worn - bring your own if you have one, otherwise the Society's stock of hats will be available.

MONDAY 19th NOVEMBER : lecture "The Hornsleasow dinosaur excavation and sieving project" by Roger Vaughan of Bath Museum.

FRIDAY 30th NOVEMBER : 15th ANNIVERSARY DINNER, WITH SPEAKER.  
At the University Centre, on the Birmingham University campus.

The dinner will be an informal social function, in a private room at the University Centre. Cost will be around £15.

*The BCGS is pleased that Dr. Beverly Halstead has agreed to come and give a light-hearted address at the dinner. He is a well-known geological personality, a great champion of popular geology, and is President of the Geologists Association.*

Tickets for the dinner will be on sale from September.

MONDAY 14th JANUARY 1991 : lecture "Britain underground". Caves, caving and geology by John Smith of Dudley Caves rescue Team.

MONDAY 25th FEBRUARY : AGM followed by "Geology in paradise" a talk by Paul Shilston on the Hawaiian Islands.

March : lecture - to be announced.

SUNDAY 15th APRIL : field meeting to North Staffordshire.  
Leader : Mr. John Armitage.

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CORRESPONDENCE.

This is a letter we have recently received from KEITH ALDEN, who is a founder member of the Society, and now lives in Bracknell, Berks.

Bracknell.  
4 May 1990

Although a somewhat far-flung member of the BCGS, my association goes back a long way.

I attended the Birmingham University Extra-Mural classes in geology, held at Dudley Technical College, and run by Peter Oliver. This nucleus of people became the founder members of the BCGS.

I can remember attending the inaugural meeting at the Museum & Art Gallery when the objects of the Society were established. That seems as if it was in Miocene times now! My interest in geology began with my scrambling around the Wrens Nest and Sedgley Beacon as a boy, and I am now a petroleum geologist, so all that expenditure of energy wasn't wasted!

I enjoy reading the newsletter, and am very happy to support the continuance of the Society, if somewhat "in absentia". Please extend my best regards to any members who remember me; they will probably be the ones with long grey beards (ladies excepted of course!).

Did I read something about a BCGS sweatshirt - perhaps you would be kind enough to send me details, if they are still available.

Best regards - Keith Alden.

REPORT OF FIELD MEETING.

Sunday 29th April. Field meeting "geology at the northern end of Cannock Chase".  
Leader : Fred Imm of Geologists Association (North Staffs Group).

The BCGS has not had a field meeting in this area before; Fred Imm is a long-time resident of Stafford and knows the area well - not just the geology but local history, local industry and the countryside.

The morning was spent in the Wildwood area south of Stafford, looking at Triassic exposures and at the Triassic landscape. Radford Bank (GR.948209) is in the Sherwood Sandstone and showed a transition between pebble beds and soft sandstones, with marl appearing in the valley. Wildwood ring road (GR.943210) was on the site of old marl pits, created for marling agricultural land; the ridge across the valley of the River Penk was also Keuper Marl (Mercia Mudstone group) but the valley itself had been carved by glacial melt-water and now comprised peat and running sand - it was probably an old lake bed in Roman times.

Further along the ring road there were old sandstone quarries. Fred Imm also described the old salt industry in Stafford, working Triassic evaporite deposits at Baswich, so within a short distance all the characteristic Triassic features were present - pebble beds, marl, sandstone and salt beds.

Lunch was at Milford (GR.968211) on the edge of Cannock Chase. Here there are large areas of pebble beds, but Fred Imm pointed out that while some of these may be Triassic pebble beds, they will mostly at some depth. Pebbles at the surface are much

more likely to be the result of glacial transport during the ice age. There is a very wide range of pebble types - the most common is a well-rounded purple quartzite, but others include sandstones, cherts and agates.

A tour on foot from Milford, via the Punchbowl, Satnall Hills Quarry SSSI (GR.976203), with several different episodes of pebble-beds, and Satnall Hills, showed a wide range of glacial overflow and under-ice channels, formed as the last of the ice was disappearing.

Finally, the quarry at Badgers Slade (GR.975165) of soft sandstone with pebbles, showed soft dark-brown manganese deposits, apparently replacing individual pebbles.

As well as seeing interesting geology. the weather was perfect, and we are most grateful to Fred Imm for giving us such a good day.

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#### INDOOR MEETING REPORT.

Monday 14th May. Lecture "The Birmingham West geological mapping project"  
by the British Geological Survey Team :  
Dr. John Powell - team leader.  
Dr. Brian Glover.  
Dr. Colin Waters.

The Society was treated to a superbly prepared presentation which opened our eyes to many hitherto unknown geological 'secrets' of our area.

The project's principal objectives are to remap an area which is currently covered by four 1:50,000 sheets, where vast quantities of new data from site investigation, development excavations, and new exposures in opencast and quarrying operations, are now available.

John Powell gave an introduction to the aims of the study, and how the final report would be the culmination of a 3-year team effort involving rigorous field mapping, collection and processing of approximately 15,000 shaft, borehole and trial pit excavations, with any historical and personal knowledge that could be assimilated along the way. The report is to be published in 1992.

One of the most impressive parts of the study is the insistence of the DoE that the BGS develop sophisticated computer techniques which can produce 3D topographical models of surfaces of strata with the ground. A particularly fine example of the base of the Thick Coal at Kates Hill was shown.

The project will publish not one single map, but rather a series of maps, each of which will have a 'theme', those proposed at the meeting included :

- \* positions of mineshafts and boreholes used in the study.
- \* solid geology with modern terminology.
- \* superficial deposits.
- \* areas of backfilled quarries, landfills and made ground.
- \* areas at risk from shallow mineworkings.
- \* mineral and water resource potential.
- \* engineering features, slope stability.

The report and maps would therefore be useful to anyone having to make decisions concerning land use or building development.

Dr. Brian Glover described the new information concerning the Coal Measures sequence and the Etruria Marl formation, and how the interpretation of these was deduced from work at the Patent Shaft opencast, Wednesbury and other choice localities.

The coal measures at Patent Shaft show dominantly fine-grained lithologies, typically grey mudstones and siltstones indicating very quiet conditions of deposition, with very few river-channel sandstones. Higher in the sequence however, channel sandstones become more abundant, showing a change from the quiet poorly-drained swamps to a much more freely-draining alluvial plain and lake type environment of the Etruria formation.

In the quarries in the Etruria Marl at Kingswinford perhaps the most startling discoveries have been made. Very well preserved fossil soil (gleysols) horizons have been found in the red brick clay sequences, with, at the top of the sequence, green volcanic ash horizons, with delicately preserved conifer twigs (some of the oldest and best preserved in the British Isles).

Here also are very thin fingers of basalt snaking through the marls, which are suggested to be caused to by explosively escaping gases from a Tansey Green area volcano. This change to volcanic conditions suggests major tectonic changes were occurring in the area.

Dr. Colin Waters had the unenviable task of explaining the structural features in the geology of the Black Country, and the nature of the alkali basic intrusions in the area. He demonstrated how features of the Palaeozoic's two mountain-building periods, as well as older structural features, are recorded in the structure of the area.

The oldest structures are the NNW-SSE trending folds and faults, dating from the Caledonian orogeny of Pre-cambrian times. They are represented locally by the 'Dudley ridge' including structures like Wrens Nest, Castle Hill, Wetherton Anticline, and most importantly Russells Hall fault with up to 350m of vertical movement.

NE-SW trending faults belong to the Caledonian orogeny, and E-W trending faults to the Hercynian (or Variscan) orogeny. Until the deposition of Etruria Marl, these structures appear to be of a compressional nature, but later tensional forces were experienced by the Black Country possibly producing local graben structures associated with alkali basalt intrusions.

Colin then presented ideas about the intrusion of the Rowley dolerite that showed how the new detailed work had redefined the shape of the intrusion from that of a classic laccolith (of bowler hat shape) to that of an inverted bowler hat which did not appear to have a feeder dyke beneath it. Colin suggested that the intrusion entered laterally, and took residence over a subsiding graben which allowed the intrusion to gain substantial central thickness.

Our heartiest thanks go to the speakers and the BGS for the evening's presentation, and we hope that they will speak again and keep us informed of any further revelations that their work may provide.

*(The three speakers will be leading a Society field meeting to Black Country sites on Sunday 28th October).*

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MONDAY 21st MAY : EVENING VISIT TO DUDLEY "GEOCHROM" EXHIBIT & SINGING CAVERN.

*The Society is very grateful to Colin Reid for organising a special evening opening of these two exhibitions. The visit was a great success, and the large turnout of members showed how much interest there is in these new developments, and they are very appreciative of the hard work Colin has put in.*

## TYPING OF THE NEWSLETTER

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After many years HILARY GILTRAP has decided that she can no longer continue with this job because of other commitments. The Society would like to record its grateful thanks to Hilary for the invaluable work that she has done over the years so reliably and well.

The committee is anxious to find someone else to take over the job as quickly as possible. So, is there a competent typist in the Society who would be willing to volunteer to spend about three hours every two months typing up the Newsletter ?

The Newsletter is a very important service to members particularly to those who are unable to attend the meetings. Indeed, in the totally unbiased opinion of some of our non-member readers (!) it is probably the best newsletter of any geological society in the country. So if you think you can help to keep it this way please contact either ANDREW RIGBY or PAUL SHILSTON. It may be that the Society could supply a typewriter if necessary.

This edition of the newsletter has been typed by Paul using just two fingers although this paragraph has been typed by Judith using just one and hunting for the keys. There has to be someone more competent than us!

## BCGS NEWS.

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### 1. LONDON UNIVERSITY.

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"The volcano trip" 20-27th October 1990 to Sicily and the Aeolian Islands, visiting the volcanoes Mount Etna, Vulcano, and Stromboli. Cost £490. Details from Centre for Extra-Mural Studies, 26 Russell Square, London WC1 5DQ. phone 071-636-8000 ext.3854.

### 2. HMSO PUBLICATIONS.

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The Stationery Office publishes a wide range of geological publications including British Geological Survey Memoirs, reports and other publications.

The local Birmingham shop is at 258 Broad Street, Birmingham B1 2HE (phone 021-643-3740).

### Secretary.

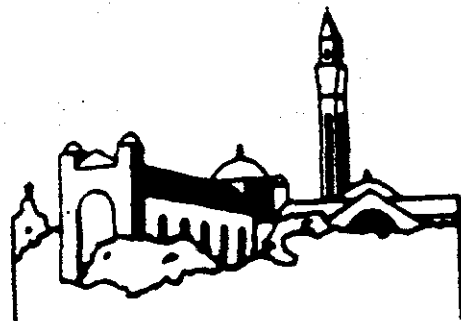
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### Newsletter editor.

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BLACK COUNTRY GEOLOGICAL SOCIETY

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15th ANNIVERSARY DINNER

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*In The Hampton Room  
at the University Centre, Birmingham University campus.  
(see map on reverse)*

FRIDAY 30TH NOVEMBER 1990, 7.00PM for 7.30PM.

Guest speaker : Dr. Beverly Halstead, President, Geologists Association.

*This year sees the completion of 15 successful years for the Black Country Geological Society. We are pleased that Dr. Beverly Halstead has agreed to attend and give a light-hearted address on this special occasion.*

*Dr. Halstead is a well-known geological personality from Reading University. He is president of the Geologists Association, and of the British Association (geology section).*

The dinner menu will comprise :

- ham crepe topped with toasted cheese
- chicken bonne femme with selection of vegetables
- pineapple & orange souffle
- cheese and biscuits with fruit
- coffee/tea and mints
- petit fours

An alternative vegetarian menu is available if requested at the time of booking. This will be : starter - mushroom soup, main course - vegetable moussaka.

Drinks are not included but can be purchased.

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BLACK COUNTRY GEOLOGICAL SOCIETY. 15TH ANNIVERSARY DINNER. 30th November 1990.

I wish to book .....places at the dinner at £15 each.

I enclose a cheque for £.....

If you would like the vegetarian alternative,

show the number of such meals in the box

Name :

Address :

Please return to:

Judith Shilston, 16 St. Nicolas Gardens, Kings Norton, Birmingham B38 8TW.