



NEWSLETTER NO. 101 OCTOBER 1993

The Black Country Geological Society

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 to use it when you feel it is necessary, or when a site owner makes it a condition of entry.

FUTURE PROGRAMME

Lecture meetings are held at the Saracens Head, Stone Street, Dudley, 7.30 p.m. for 8 o'clock start.

MONDAY 11TH OCTOBER. Lecture on mining exploration by John Collier (RTZ Mining and Exploration Ltd.)

The RTZ Group is one of the world's major mining and mineral combines, with interests worldwide in coal, iron ore, copper, zinc and precious metals. This activity requires a continuous programme of exploration for new sites and for development of existing ones. This lecture will describe exploration and evaluation techniques used by the company and will be illustrated with several examples.

JOHN COLLIER is Chairman of RTZ Mining and Exploration Ltd. and directs mining and mineral exploration worldwide for the RTZ Corporation. He is now based in Britain but previously he directed exploration for the group in Australia.

SATURDAY 30TH OCTOBER

A geological and social event of an afternoon canal trip through the newly re-opened Dudley canal (duration approx. 2 hours) followed by an optional meal. Assemble at 2.15 p.m. at Mad O'Rourke's, Hurst Lane, Tipton (near the Black Country Museum) and leave cars there. Go by private bus to the far end of the tunnel at Netherton, travel by barge through the tunnel into Singing Cavern and Little Tess Cavern with their audio-visual displays, past the Black Country Museum site and finish close to Mad O'Rourke's around 4.45 pm. A meal will be laid on there for those who want it and have booked in advance.

BOOKINGS FOR THIS EVENT ARE STILL OPEN - see the booking form in the June and August newsletters.

Chairman
A. Cutler B.Sc., M.C.A.M.,
Dip.M., M.C.I.M.
Vice Chairman
G. J. Worton B.Sc., F.G.S.,
A.M.I.Geol., M.I.Env.Sci.
Hon. Treasurer
Mrs J. Shilston
Hon. Secretary
P.D. Shilston M.A., C.Eng.,
F.I.E.E., M.I. Mech.E.

MONDAY 15TH NOVEMBER.

Lecture "The uses of palaeomagnetism in the study of sedimentary rocks" by Dr. Peter Turner (Birmingham University).

The study of palaeomagnetism - the earth's magnetic field and its effect over geologic time - has assumed great importance in recent years. Magnetic field changes and reversals are imprinted into rocks when they are formed and this has given geologists a new insight into sedimentary rocks and their histories. In particular, palaeomagnetic studies finally proved that the continental and oceanic plates had actually moved, and this confirmed the whole theory of plate tectonics.

Dr. Peter Turner has palaeomagnetism as one of his specialities and his lecture will cover much of this interesting and important branch of Earth Science.

SATURDAY 27TH NOVEMBER. Geological Roadshow at Dudley Museum, St. James Street, Dudley. 10.30 am - 5.30 pm.

This will feature geological stands and displays from the Museum, from local firms, societies and other organisations, film shows, the museum shop, a stand where experts will identify your fossils and minerals, and other attractions.

MONDAY 6TH DECEMBER. Lecture "Canal construction and maintenance" by David Brown (British Waterways).

This year - 1993 - is being celebrated by British Waterways as 'the year of the canal' to mark the time, 200 years ago, when canal planning and building was at its height in the 1790's, so it is appropriate to have a 'canal' lecture in our programme.

This will be an 'engineering geology' lecture dealing with the many aspects of canal construction and maintenance. The lecture will concentrate on the engineering construction and maintenance of canals, making reference to the problems associated with coal-mining subsidence, limestone caverns and earthworks stability.

David Brown is Works Engineer in the Midlands & Southwest Region of British Waterways.

MONDAY 17TH JANUARY 1994. Lecture "Black Country Building Stones" by Keith Hodgkiss.

Keith Hodgkiss will look at the general use of local materials for building purposes and in our area will highlight the use of local Black Country building stones - Dudley Limestone (Silurian), Gornal Sandstone (Carboniferous) and Rowley Rag (igneous). There are several existing buildings of Dudley Limestone, including of course Dudley Castle and Prior while Gornal Sandstone was widely used for buildings in the area around Gornal. The lecture will describe these and other buildings and their use of local stone.

KEITH HODGKISS is an architect with a keen interest in local history and buildings. He comes from the Black Country and is a past Chairman of the Black Country Society as well as being involved with the Black Country Museum and other local bodies. His interest in building stones led him to study for a post-graduate diploma in Architectural Conservation at Leicester.

MONDAY 21ST FEBRUARY, AGM followed by a talk "The Himalayas" by David Gossage.

MONDAY 14TH MARCH Lecture: "The Aeolian Islands - a dying volcanic arc in the Tyrrhenian Sea" by Michael Bamlett (University of London).

MONDAY 18TH APRIL Lecture "The contribution of groundwater to water supply in the Severn Trent catchment" by R.I. Rodgers (Groundwater planner, Severn Trent Water).

SUNDAY 8TH MAY

Field meeting: "Slip sliding away and a subterranean experience".
Leaders: Dr. J. Cripps and Dr. P.R. Ineson (Sheffield University).

This will be a visit to Mam Tor landslip, Castleton, Derbyshire and related sites.

SUNDAY 12TH JUNE Field meeting to the Forest of Dean. Leader: Roger Vaughan (Bristol City Museum).

SUNDAY 3RD JULY Field Meeting to Derbyshire with a lead-mining theme.
Leader: Lynn Weillies (Peak District Mining Museum).

** ADVANCE NOTICE **

SATURDAY/SUNDAY 24/25TH SEPTEMBER 1994

DUDLEY ROCK & FOSSIL FAIR - Town Hall & Museum, Dudley.

EDITORIAL

Environmental organisations are pressing for the government to publish a register which it holds of sites which have been subject to contaminated use. Some members of our Society have argued that the publication of this list would prevent the reclamation of such sites as no amount of cleaning would erase the sites from the register since the list refers to contaminated use and not to proven contamination. Listing might reduce the economic benefits of cleaning up sites and thus fossilise contamination. Householders are concerned that they have unknowingly bought houses situated on landfill sites and find their homes impossible to re-sell. Does the present legislation provide satisfactory protection for the public or is some change needed? We have many members working in this field whose opinion I would value.

+++++

I'm currently finding it more difficult to get people to write reports of our meetings. I shall be absent from the autumn evening meetings and the boat trip and this makes it even more difficult to get items recorded. New members are hesitant to write the reports and frequent contributors begin to feel they have done their share. Lectures don't have to be reported verbatim or events in great detail. I'm pleased when accounts are concise. A high level of knowledge is not required and an individual style is appreciated. A variety of people writing gives a freshness to the newsletter. You tell me you enjoy reading it. I know you are busy but I find refusals very disheartening.

Please, make my day! Look through the programme, choose a meeting, pick up the phone now and tell me you will write the report. I shall be delighted.

REPORTS

'The Grand Canyon' Lecture by Dr Trevor Ford of Leicester University, 14th June 1993.

We were entertained on this occasion by Dr. Ford's amusing commentary, accompanied by some spectacular slides of the Grand Canyon. Dr. Ford has made at least a dozen visits to the Grand Canyon and has led a number of

white-water rafting trips down the Colorado River through the Grand Canyon. His particular interest is in Pre-Cambrian fossils.

The Colorado Plateau occupies about half of the state of Utah and smaller portions of Arizona, New Mexico and Colorado. Its southern margin in Arizona and New Mexico is outlined by extinct volcanoes and lava flows and the Rockies mark its border in Colorado. The most conspicuous feature of the plateau is of course the Grand Canyon which has been carved out by the Colorado River. The river has cut down through at least a mile of solid rock, but this action is limited to its river bed and other erosion processes along with weathering and gravity have assisted in this great carving of the landscape.

The Colorado River rises in Denver and flows in a south-westerly direction through 300 miles of the Grand Canyon. Rafting trips start from Lees Ferry and progress at the rate of 30 miles a day. At the half-way stage where the canyon is 5000 feet deep and 9 miles wide at the rim, the intrepid rafters spend the night on the river's beaches. During the night the water level may fall by up to 10 feet when water is released from the Hoover Dam downstream. Outlet from the Glen Canyon Dam upstream can cause a rise of 10 feet in many minutes and it is advisable not to leave one's dentures or wooden legs at the bedside during the night (although the latter may be recovered downstream later)! When morning comes the rafters witness some exceptional exposures (not all of them geological)!

The sedimentary rocks of the Grand Canyon hold a record of much of the Earth's history in their almost horizontal strata. The youngest sediments form the top 4000 feet of the Canyon and represent the Palaeozoic era spanning ages from 250 to 550 million years. These horizontal Palaeozoic sediments lie unconformably on the tilted younger Pre-Cambrian sediments which are inter-bedded with basaltic lavas.

The younger Pre-Cambrian sediments range from soft shales to resistant sandstones and contain evidence of 800 million year old algal mats. Beneath the Palaeozoic and younger Pre-Cambrian strata lies the Inner Gorge which is composed of metamorphic rocks including the well-known Vishnu Schist with its dolerite sills and intrusive granites. Returning to the Palaeozoic sediments it is interesting to note that there is an unconformity between the Cambrian and the Devonian, so that 200 million years of the Upper Cambrian and the whole of the Ordovician and Silurian are missing.

The Carboniferous is represented by limestones containing fossils such as crinoids, brachiopods and bryozoans but there are no equivalents of the Milstone Grit or Coal Measures.

Overlying the Carboniferous rocks are the Permian Coconino sandstones which are yellow aeolian sands like those found in Durham. These are overlain by Permian magnesian limestone which in places is up to 700 feet thick. Overlying the Permian and representing more recent times, Tertiary volcanic activity was responsible for vast lava flows which partially filled the Canyon.

The Grand Canyon receives about 15000 visitors a year in rafting parties alone, but many of us will have to be content with the memory of Trevor Ford's spectacular slides.

SALLY CROWTON

THERE'S MORE TO THE JOB THAN MEETS THE EYE

The editor has asked me to recall a few of the happenings over the thirty years I have been doing the Secretary's job.

Evening Meetings

Evening meetings at the Saracen's Head: There's more to this than just bringing the projector and associated paraphernalia and arranging furniture. Sometimes there is a need for an oil-can to oil the door hinges to stop the creaks!

Then there was the speaker who was very concerned about the standard of the blackout. So dash to Dudley to measure the windows and check on the hooks. Then a quick visit to the Garden Centre to buy lots of black polythene, followed by a session with scissors, stapler and bits of string to produce linings for the curtains.

There's also our projector which needed some work to bring a modestly priced model up to the standard of a much more expensive one - i.e. a specially made long lead and hand control unit for the speaker, adaptations to the podger so that it can handle all thicknesses of slide and modifications to the stand to cope safely with the tilt - all done by the Secretary at no extra cost.

Publicity

Our meetings are publicised in a number of ways - including GEOLOGY TODAY, Geologists Association circular, DOWN TO EARTH, Whats On, local libraries and local radio stations (Beacon, BRMB and Radio WM).

This is a "good thing" but it can create its own problems. One time when we had an evening field trip to a local open cast coal site, this was given out as an open invitation to the general public and hundreds turned up. Unfortunately none of them asked to join the Society!

All in a day's work

On the phone: "Hallo, is that the secretary? I would like some details of your Society".

"We have a monthly programme of lectures and field meetings; lectures are on Monday evenings in Dudley, while the field meetings are on Sundays, at places of interest within a reasonable travelling distance, looking at rocks and the general landscape".

"Why do you look at rocks?"

"Well, we are a geological society".

"But I want to study family histories".

"Then I think you want a genealogical society, not a geological society".

"Oh, that's what I thought you were".

On the phone: "Hallo, is that the secretary? While on holiday in Devon near Dartmoor, I saw some bright speckles of a mineral in the bed of a stream. Do you think it might be gold?"

Quick as a flash the Secretary replied: "I think you need to talk to an expert on this - I would recommend Dr. Bob Ixer of Birmingham University as the best mineralogist in this area".

Later Bob Ixer told me: "This woman rang up about finding gold - of course it was mica!"

Letter from a prisoner at Featherstone gaol: "Me and a few of the lads are doing an educational project on economic minerals but we have never seen them and wonder if you could send us some samples".

Public spirited BCGS members spend some time making up a collection with associated write-up. Public spirited Treasurer drives from Kings Norton to Featherstone with large box, which she attempts to get into gaol. She has to shout through the bullet-proof glass and is not welcomed. Thinks "now I know what it is like to be a gangster's moll". Told there was no such educational project and this was just a begging letter.

One week later, letter from inmate said: *Thank you for your help, it is much appreciated. if at any time we can return the favour, please write to us at above address*". He was last heard of writing a similar letter to the East Midlands Geological Society.

Churchyard geology

Got a letter from Dr. Eric Robinson, President of the Geologists Association saying that a churchyard conservation conference was to be held in the Black Country and would we be willing to take part? Churchyards in urban areas can be havens for wildlife, but also have geological interest in the types of stone used for gravestones etc., and Eric was keen to have geology represented at the conference. We said yes - took a set of photos of headstones at St. Giles, Rowley Regis, and made an eye-catching display for the conference.

But it did not end there, for the vicar of St. Giles borrowed the display to show at his next Parochial Church Council, it was reported in "Black Country Environment", we published an article on it in English Nature's "Urban Wildlife News" and this led to enquiries from all over the country as well as one from Cairo!

A similar thing is happening over the 'Canals 200' event, where we were asked for a display of canalside geology, and this has led to another article in "Urban Wildlife News" and a request from a local conservation group for a geological lecture.

Bits and pieces

Finding out what the Health and Safety rules say about the life of hard hats jump-starting the lecturer's car after a meeting on a particularly cold winter's evening, giving talks to Rotary and rambling societies all sorts of things turn up needing to be done.

SO THAT'S THE SECRETARY'S JOB!

ITEMS IN BRIEF

1. University of Birmingham

Details and booking: The Public Programme Office
School of Continuing Studies
University of Birmingham
Edgbaston
Birmingham B15 2TT (phone 021 414 5606/7/8)

- (a) Discovering the Midlands Countryside. Mondays 7.30 - 9.30. £26
At Grace Lab, Winterbourne, Edgbaston, Birmingham.
- (b) Geology of Britain. Tuesdays 10.30 - 12.30 from 28th September
£41.50. At Winterbourne, Edgbaston, Birmingham.
- (c) Reaping the Rocks. Wednesdays 7.30 - 9.30 from 13 April 1994. £2
At Dudley Museum & Art Gallery, St. James's Road, Dudley.
- (d) Geology and the World of Minerals. Tuesdays 10.00 - 12.00 noon
from 21 September. £26. At Stourbridge.
- (e) Fossils, the Dinosaurs and After. Tuesdays 10.00 - 12.00 noon from
4 January 1994. £26. At Stourbridge.
- (f) Understanding the Earth as a Planet. Tuesdays 2.00 - 4.00pm from
21 September. £41.50. At Wolverhampton.
- (g) Fossils, Environments and the Past. Wednesdays 7.30 - 9.30 from
22 September. £26. At Wolverhampton.

- (h) Fossils, Dinosaurs and After. Wednesdays 7.30 - 9.30 from 5 January 1994. £26. At Wolverhampton.

Day schools

Single day schools at Lapworth Museum, School of Earth Sciences, University of Birmingham, Edgbaston, Birmingham B15 2TT.

- (a) Fossil starfish, sea urchins and their relatives. Saturday 6 November 1993. 10.00 am - 5.00 pm. £13.
- (b) Plate tectonics - concepts and processes. Saturday 27 November 1993. 10.00 am - 5.00 pm £12.
- (c) Precious and semi-precious stones. Saturday 5 February 1994. 10.00 am - 5.00 pm. £13.
- (d) Fossil fish. Saturday 26 February 1994. 10.00 am - 5.00 pm. £13.

2. University of Bristol

Details and booking: Department for Continuing Education
University of Bristol
Wills Memorial Building
Queens Road
Bristol BS8 1HR (phone 0272 303629)

- (a) Geology and mining in the coal basin of Gloucestershire and Avon. Dayschool Saturday 16 April 1994. 10.00 am - 5.00 pm. Cheltenham. £12.50.
- (b) Geology in Wexford, Eire. 7-13 May 1994.
- (c) Geology in the Lizard Peninsula. Weekend 20-22 May 1994.
- (d) Pre-Cambrian geology in the Outer Hebrides. 18-24 June 1994.

3. 'Dinosaur Mania'

Attendances at this event have now exceeded 80,000. This represents an increase of 400% over 1991.

Editor

Kate Ashcroft
48 Worcester Lane
Sutton Coldfield
B75 5NB

Tel: 021 308 6783

Secretary

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

Tel: 021 459 3603