



NEWSLETTER NO. 102 DECEMBER 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 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.

TUESDAY 7TH DECEMBER. Birmingham University Lapworth Lecture. "Initiation and growth of the Antarctic Ice Sheet" by Professor Mike Hambrey (John Moores University, Liverpool).

This lecture is given in Birmingham University, School of Earth Sciences, Edgbaston, Birmingham. It commences at 5.30 p.m. in the large lecture theatre, Hills Building, preceded by coffee at 5.00 p.m. in the Lapworth Geology Museum.

BCGS members are invited to attend. This invitation comes from Dr. Paul Smith, Curator of the Lapworth Museum.

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 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 Priory, 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.

SATURDAY 5TH FEBRUARY. Birmingham University Dayschool 10.00 a.m. - 5.00 p.m. Fee £13. "Precious and semi-precious stones" by Dr. Rob Ixer.

Details and booking:

School of Continuing Studies, University of Birmingham,
Edgbaston, Birmingham B15 2TT. Phone (021) 414 5606/7/8.

MONDAY 21ST FEBRUARY. 7.45 p.m. ANNUAL GENERAL MEETING (see notice in this newsletter). All posts of officials and committee members are up for annual election) Any nominations for election should be given to the secretary, or can be declared at the AGM.

Followed by a talk "The Himalayas - a Trekker's Travelogue" by David Gossage.

DAVID GOSSAGE writes: "The Himalayas are a major physiographic and structural feature of the Earth's surface, extending 2500km from Kashmir to the border of Burma, with fourteen summits higher than 8000m. The geology is dominated by Alpine-type nappes, greatly complicated by metamorphism and igneous intrusions. My talk is illustrated by slides from two treks in which I took part: Langtang in 1988 and Rolwaling in 1992."

SATURDAY 26TH FEBRUARY Birmingham University Dayschool 10.00 a.m. - 5.00 p.m. Fee £13. "Fossil Fish" by Dr. Paul Smith & Dr. Alan Thomas. Details and booking : As for Dayschool on 5th February.

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

The Aeolian Islands lie off the coast of Sicily. As well as being a super place for a holiday, they are in an active volcanic area, with nearby Mount Etna often in the news for its eruptions. At least two of the islands - Vulcano and Stromboli - are currently active. The latter is the type-locality of 'Strombolian type' volcanoes world-wide to indicate volcanoes which erupt continuously rather than with intermittent violent explosions.

While Etna continues to be active and is probably increasing, there is some evidence that the Aeolian Islands are in a declining phase. The lecture will describe the islands and their environment, and link their activity to that of Etna and other vulcanicity in southern Italy.

MIKE BAMLETT is Head of Geology, Birkbeck College, 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).

MONDAY 20TH JUNE. Lecture: "Australian Journey" by Paul Shilston.

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

SATURDAY/SUNDAY 24/25TH SEPTEMBER 1994

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

SUNDAY 2ND OCTOBER. Field meeting to the Bridgnorth area.
Leader: Dr. David Thompson (Keele University).

MONDAY 24TH OCTOBER. Lecture: The Geology of the Isle of Man. By Dr. Trevor Ford (Leicester University).

EDITORIAL

The sartorial elegance of some participants on the Dudley Canal Trip has been described to me. (Congratulations, incidentally, to Judith on selling 100 tickets for the trip.) This newsletter contains a timely updated list of BCGS sports clothing, the purchase of which could simplify your Christmas shopping problems and, with its reasonable prices, ease the financial burden of Christmas.

Since the response to my last plea was something less than magnificent perhaps your New Year's Resolution might be to offer to write a report of one of our meetings for the newsletter.

Thank you to the many who have contributed, and best wishes to all for the coming festivities.

See you in the New Year!

REPORTS

Sunday 26th September - Visit to Griff Quarry and Judkin's Quarry near Nuneaton. Leader John Crossling of Warwickshire Museum

In this cold and overcast Sunday morning 15 or so members of the Society and myself gathered at Griff Quarry.

The main geological feature in the quarry was a sill dipping towards the south west. The sill varied in its vertical thickness compositionally, with the upper most layers containing mostly feldspars whilst the lower layers were composed mainly of hornblende.

The sill is Ordovician in age and is surrounded by Cambrian shales above and below it, into which it was intruded.

In the main sill there were some small dykes composed of aplite. In one part of the quarry the Cambrian shales were intensely contorted which was probably due to earth tremors at the time it was deposited rather than being associated with the intrusion.

The contact between the shales and the sill is very sharp which was surprising considering the size of the sill, 30m or so.

Immediately on top of the intrusion were Carboniferous coal measures which included some plant fossils and in one isolated part of the quarry a small exposure of red sandstone occurs, which may be in situ Permo-triass.

The site is a proposed SSSI.

CRAIG MAXWELL

The afternoon was spent in Judkins Quarry.

Here we saw the Caldicott Volcanics, a confusing mixture of spessatite, diorite, crystallitic tuffs, pyroclastic ashes and welded ignimbrites the latter showing green and red with smooth glassy surfaces.

The contact with the overlying Cambrian Hartshill quartzite is clearly exposed. The volcanics beneath the unconformity appear well weathered, perhaps reflecting their period of weathering at the surface. The unconformity is irregular and above it the quartzite includes some large boulders one of which is over a metre in diameter. The quartzite is pinkish with clear quartz grains and is very strongly cemented. The lowest bed is thick but the beds become thinner upwards passing in to shales. They dip with angular discordance from the underlying volcanics.

The quartzites are missing from other faces of the quarry where Triassic sandstones appear to overlie the PreCambrian.

Very striking was the evidence of Triassic wadis, infilled with very coarse angular material.

John Crossling was concerned by A.R.C.'s planning application to use the site for landfill, including the south face where the quartzite is exposed. The company have agreed to leave the top of the quarry unfilled which will leave many features uncovered but the company claims this plan will make the removal of surface water difficult.

KATE ASHCROFT

Exploring for Minerals

On 11th October we enjoyed a lively, informal talk by Dr. Nick Badham, Chief Geologist of RTZ Mining and Exploration Ltd.

In his own world-wide work Nick Badham finds truth in the words of an old time prospector: try new ideas in old places, or old ideas in new places; but avoid old ideas in old places!

A new idea originated from an unsuccessful well drilled alongside a hot water spring in the search for geothermal energy in the USA around 1960. The well first passed through some 30m of silica-enriched rock which also contained sulphur and compounds of mercury and arsenic. Below this came nearly 200m containing significant quantities of silver and gold, followed deeper down by rock enriched in base metals, including lead and zinc. The sequence was seen as being due to precipitation of the various ores as the mineralised water lost heat and pressure on its upward journey to the surface. This realisation led quickly to correlation with already known sequences of minerals in areas where there are no longer any hot springs; and to the establishment of an "epithermal" model which accounts for the hot water genesis of certain spectra, or associations, of minerals. With care the model can be used to recognise prospects for subsurface ore masses which may give no direct evidence of their presence at the surface, e.g. gold below silicates containing mercury and arsenic.

Our speaker showed slides of spectacular geysers in North Island New Zealand where steam and highly corrosive acid gases issue through siliceous surface deposits rich in sulphides (mercury and arsenic again). Associated country rock locally contains 80 parts per million of gold. Commercially mineable gold has also been found in a similar association in the volcanic caldera of Lihir Island off New Ireland in the South Pacific.

Old ideas successful in new places were beautifully illustrated by slides from Masupai Ria, Kalimautau, Central Borneo. Indonesian legislation allows the local people there to mine gold provided that no modern artificial energy sources such as explosives, petrol/diesel motors, steam or electricity are used. Accordingly, picks and shovels, water wheels, man-powered winches and hand-built wooden flumes and shakers are used to produce gold from high-grade ores in quantities which clearly keep hundreds of healthy, good-looking, ingenious local people smiling broadly.

We thank Nick Badham for an exciting and enticing glimpse into a world where fresh ideas and adaptability are the principal ingredients in success.

DAVID GOSSAGE

Report of the trip through the Dudley Tunnel, Saturday 30th October

This was probably one of the best attended field trips in the recent history of the Society with 99 people spanning a variety of ages.

We all met at Mad O' Rourke's in Tipton at 2.15 and at 2.30 set off aboard two buses to Parkhead Locks where we boarded two boats (someone will no doubt be able to advise whether these were long or narrow boats - the writer has no idea). "The George" and "The William" are electrically powered boats and, as we were told, are derived from milkfloats, although there wasn't a milk bottle in sight! Regulations dictate that boats travelling through the tunnel must not use combustion engines, hence our milkfloats.

We entered the tunnel at about 3.00 p.m. passing the sign at the entrance which informed us that the length is 2888 metres. The boat entered the tunnel by bouncing off the brick walls of the canal - an ingenious system for slowing the boats down as they approach the tunnel mouth and not, or so we were told, bad driving. For a tunnel that is 201 years old the brickwork is remarkable with the only signs of wear being the area alongside the boat where the walls have been worn away by the feet of the 'leggers'. These were the folk who made a living by 'legging' the boats through the tunnel (before milkfloats were invented). Several people volunteered to propel our boat by this method. In places the brickwork has been worn away due to long poles having been pushed against the bricks in the roof to propel the boat forwards.

The tunnel is mainly brick lined and the monotony of the view was compensated by the splendid commentary given by the boat driver, pilot, navigator etc., ably assisted by Paul Shilston and Peter Smith, who gave additional geological information. We also had a geologically informative handout which we tried to keep dry from the persistent drips from the roof.

The geology we saw included sections of dolerite and Gornal sandstone in the unlined parts of the tunnel and the magnificent limestone caverns of Castle Hill. In addition there were a few calcite 'curtains' on the walls as well as small examples of stalactites. A slight traffic jam occurred at Castle Mill Basin, which incidentally we were informed is a SINC, which was controlled by advanced technology in the form of a two way radio. Once into the limestone caverns, everyone enjoyed the audio-visual displays.

After leaving the caverns we headed towards Tipton and the promise of a hot meal with eager anticipation. By this time it was quite dark and we were all very cold.

Upon arrival at Tipton most of the party proceeded into the Pie Factory for the pre-booked meal, which was splendidly organised and delivered. Many pies were consumed with gusto, Cradley sausages slithered down a treat and delicate lasagnes lingered on the palate. All of this was assisted by some wonderful Black Country ales and puddings (mud pies, spotted dick etc.,) were forced upon us but were nevertheless consumed with bravado.

Our thanks go to Judith and Paul for their meticulous organisation of the whole event. It was an exceptional trip enjoyed by all who sailed. Let's do it again!

BOB FAIRCLOUGH

CONSERVATION NEWS

Earlier this year the second International Earth Science Conservation Conference was held at Great Malvern and the BCGS was very well represented on this international stage.

There were very important issues discussed, in particular, experiences from countries as diverse as Australia, Hungary, Taiwan, Poland, USA, France, India, South Africa, Spain and Romania were described and compared. The need for an Earth Science Conservation International Convention was demonstrated and its format discussed.

Society members presented three papers in succession concerned with BCGS work in the West Midlands and showed how close liaison between amateur and professional public service and private sector has made the best of opportunities in the Black Country. A fourth paper concerned with the particular demands of saving and recording sites in the urban area was given by Colin Prosser of English Nature and served as a fitting introduction to what was essentially a Black Country case study.

Alan Cutler's paper "Local Conservation and the Role of the Regional Geological Society" tackled the question of RIGS (Regionally Important Geological/Geomorphological Sites) or SINCs (Sites of Importance for Nature Conservation) and used BCGS projects to suggest that a joint nature conservation approach may gain more support for conservation and offer real practical advantages over a more restricted, purely geological approach.

Colin Reid's paper "Conservation, Communication and GIS - A Computerised Aid to Site Monitoring" examined critically how effective the policy of "keeping interested parties informed" was in the Dudley Borough and also used BCGS projects to show how communication failure between parties had caused problems and ill feeling among sympathetic peoples and how good communication and goodwill had led to some spectacular examples of good conservation. Colin's paper also demonstrated how GIS (Geographic Information Systems) could be used to act as a watchdog to alert the right people at the right time about any threats to conservation sites from potential development.

Graham Worton's paper "A Man on the Inside - Opportunities for Geological Conservation in Local Engineering Projects" drew on his experience of working on such projects in the UK. Highlighting problems of attitude, short timescales and health and safety Graham argued that site engineers/geologists could take an active role in the conservation effort if encouraged and targeted for education by conservation groups. Through their training, interest in the subject and position, site engineers and geologists offered many often overlooked advantages.

The papers made a very poignant case study of how geological conservation works successfully in the Black Country. This was followed by an afternoon field trip to the Black Country Museum and Dudley Museum which further emphasised our work.

I guess at the end of the day the international delegates had been well saturated with Black Country geological conservation success stories and the BCGS and its efforts are definitely firmly on the world map.

I should note that this was a wonderful opportunity to share common ground and learn and compare methods and positions. If anyone is interested the papers are to be published this winter in the Conference Proceedings.

GRAHAM WORTON

ITEMS IN BRIEF

1. Welcome to new members

Brian Gibbons - Sedgley
John Kelly - Rochdale/Birmingham University
Joy Duckworth - Selly Oak
Richard Hunter - Kings Norton
Dr. Paul Smith - Curator, Lapworth Geology Museum, Birmingham University.

2. Geology Today

Geology Today is a lively geological magazine for amateurs and professionals with a wide range of articles, news and other items.

BCGS members have a 20% discount on the annual subscription to *Geology Today*, making our subscription for 1994 £22.00. When making or renewing their subscription, members should indicate that they are BCGS members.

3. Courses

(a) University of Nottingham

Details and booking: Sarah Poyzer,
University of Nottingham,
Dept of Adult Education,
14-22 Shakespeare Street,
Nottingham NG1 4JJ.
telephone: (0602) 483838.

- (i) Geology study tour - Cyprus. 10-17th April 1994. £350.
- (ii) Geological weekend - Forest of Dean. 3-5th June 1994. £93.
- (iii) Geology and coastal scenery in Cornwall.
Based at Boscastle. 16-20th September 1994. £170.

(b) Mineral Collecting Holidays - Russia 1994

A mineral collecting trip for summer 1994 is being proposed by:
C.P. Haldane, 15 Norton Road, Camberley, Surrey, GU15 1SB,
'phone 0276 65675. The trip would last for 14 days and would visit the Kola Peninsula and the Ural Mountains as well as visiting local museums and collectors. Anyone who is interested should contact Mr. Haldane.

(c) The Holiday Fellowship runs special interest holidays in geology.

Scarborough - 23rd July 1994 led by Paul Wakely.
Arran - 14th May 1994.
Arran - 16th July 1994.

Brochure can be obtained from:

H.F. Holidays Ltd.,
Imperial House,
Edgware Road,
Colindale,

London NW9 5AL

Tel. Brochure Requests 081 905 9388.

4. SWEATSHIRTS, T-SHIRTS and POLO-SHIRTS with the B.C.G.S. Trilobite logo

Sweatshirts and T-shirts are available in navy blue, royal blue, sky blue, bottle green, red, burgundy, black, emerald, yellow, white and grey.

Sizes are small, medium, large and extra-large.

Polo-shirts (short sleeved) - small, medium, large and extra-large available in black, white, navy, bottle green, red and royal blue.

Logo is available in black, white or gold.

Sweatshirts	£9
T-shirts	£5
(short sleeves)	
Polo-shirts	£9

Telephone with order to Chris Jowitt. 021 436 6681.

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

BLACK COUNTRY GEOLOGICAL SOCIETY

NOTICE IS HEREBY GIVEN that the nineteenth annual general meeting will be held at 7.45pm on Monday 21st February 1994 at Saracens Head Stone Street Dudley.

AGENDA

1. Apologies for absence.
2. Minutes of the AGM held on 22nd February 1993.
3. Statement of accounts and Treasurer's report.
4. Chairman's annual report.
5. Election of officers and committee.
 - (a) chairman.
 - (b) vice-chairman.
 - (c) secretary.
 - (d) treasurer.
 - (e) three committee members.
 - (f) hon. auditor.
6. Amendment of constitution.
7. Any other business.

The retiring officers and committee members are :

Chairman: Alan Cutler Vice-chairman: Graham Worton
Secretary: Paul Shilston Treasurer: Judith Shilston

Committee members: Sue Fairclough Steven Hughes Peter Smith
Hon. auditor: Mr. G. Hubbard ACA.

ALL POSTS OF OFFICIALS AND COMMITTEE MEMBERS are up for annual election.

NOMINATIONS for any of the posts of society officials or committee members should be sent to the Secretary or can be declared at the AGM

SUBSCRIPTIONS 1994

Membership subscriptions WILL BECOME DUE on 1st January 1994 and can be paid at any meeting or to the Treasurer :

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

SUBSCRIPTION RATES ARE AS FOLLOWS :

Individual membership	£9	per annum.
Family membership	£12	per annum.
Full-time student	£2.50	per annum.
Group membership	£25	per annum.

CUT HERE

BLACK COUNTRY
GEOLOGICAL SOCIETY

NAME

ADDRESS

Telephone

I/we enclose £ for membership.

DATE:

CHEQUES to be made payable to BLACK COUNTRY GEOLOGICAL SOCIETY