



The Black Country Geological Society

Meetings are held at The Saracen's Head, Stone St., Dudley.
7.30 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 insurance to the level which you feel appropriate. Schools and other bodies should arrange their own insurance as a matter of course.

Forthcoming Meetings:

Monday: 15th January, 1990: Lecture by Spencer Mather "Minerals and their environment in Southern Norway". Spencer comes from the West Midlands but he spent over 20 years as a mining engineer/geologist in Norway. He is calling his lecture "minerals and their environment" to stress that minerals are related to their environment, and cannot just be considered in isolation like hand specimens in a lab.

His lecture will use many examples from Norway and other parts of the world, to illustrate minerals in the field, how they come to be where they are, and take the form they do.

He has an extensive mineral collection, and hopes to bring many of his best specimens for his lecture.

Monday: 26th February: 7.45 p.m. Annual General Meeting followed by illustrated talk "Geology and Wildlife in Kenya" by Sheila Pitts. Sheila was in Kenya in December, 1988, when she visited the Rift Valley, the Southern National Parks, Mombasa and the Indian Ocean Reef. Sheila is a founder member of the society, and has already given talks to the society on her visits to Argentina, the Antarctic and New Zealand.

Monday: 26th March: Lecture "Geology and mineralogy of the Caldbeck Fells in Cumbria" by Dr. R. J. King. The Caldbeck Fells are in the northern Lake District, and have always attracted geologists. Although near to Skiddaw, they are composed of Borrowdale Volcanics, while nearby Carrock Fell has an igneous complex with varied mineralogy, including veins of tungsten ore. Dr. King is Curator of the John Moore Museum, Tewkesbury and was formerly with the National Museum of Wales. He is a well-known authority on minerals, and many members will be following his continuing series of articles in 'GEOLOGY TODAY' "Minerals Explained".

Sunday: 29th April: Field meeting. "Geology of the northern end of Cannock Chase". Leader Fred Imm of Geologists Association, North Staffs Group. Meet 10.45 a.m. on the KWIK SAVE car park adjacent to the Wild Wood pub at Grid Ref: SJ94652085. This is located just off the A34 Cannock-Stafford road, on the left, about $\frac{1}{2}$ mile after entering the Stafford boundary.

Cannock Chase is largely an upland Triassic area of sandstones and pebble beds, with underlying carboniferous strata. This field meeting will look at sections of Pebble Beds on Cannock Chase, and study evidence of glaciation across the area.

Chairman
A. Cutler B.Sc., M.CAM.
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.

WEEKEND FIELD MEETING 11-13th May:

Based at Hunstanton, Norfolk, to study the coast of North Norfolk, in particular cretaceous and quaternary deposits, with related coastal features. The area has interesting stratigraphy from the lower greensand and chalk horizons, and these are overlain by glacial melt deposits showing a range of erratics and complex structures. This visit will be a good opportunity for members to see geological forms and strata they do not meet in normal field meetings.

Arranged jointly with University of London. Leaders; Michael Bamlett, University of London and Peter White, Polytechnic of North London.

Further details and booking form with this Newsletter:

Monday: 14th May: Lecture "The Birmingham West Geological Mapping Project" given by the British Geological Survey team who are carrying out the survey:

Dr. John Powell - project leader

Dr. Brian Glover

Dr. Colin Waters.

The BGS is currently carrying out a revision survey of the Black Country. This lecture will outline the aims of the project and describe the methods used, in particular computers for data storage and for the production of geological maps.

Then it will cover new ideas and information already produced by this survey, relating to Etruria Marl in the Barrow Hill area, the Rowley Regis dolerite, and late Carboniferous and early Permian rocks generally.

June: Evening field meeting to local opencast coal site.

Saturday (please note Saturday): 21st

July: Field meeting to Malvern Hills. Leader Dr. David Bullard. Meet 10 a.m. at British Camp car park (grid ref: 762403) on the A449 Malvern-Ledbury road.

Sunday: 23rd September: Field meeting to Dovedale, Derbyshire. Leader Dr. Paul Bridges of Derbyshire College of Higher Education.

October: Lecture: Silurian "red" beds, a geologists view of the USSR.

Dr. David Siviter of Leicester University.

Early November: Field meeting to Black Country sites. Leaders: The British Geological Survey team.

Monday: 19th November: Lecture: "The Hornsleasow dinosaur excavation and sieving project" by Roger Vaughan of Bath Museum.

Editorial:

Many thanks to all the members who helped to make 1989 a successful year for B.C.G.S. The attendance levels at lectures and field trips have been good and the events themselves well worth visiting. We hope this trend will continue through into the 1990's and our committees efforts to secure an interesting programme have been widespread and considerable. Members may be able to contribute here by informing the committee of anyone they think may be prepared to give a suitable lecture or run a field course for the society. We are constantly searching for ideas in this respect and any assistance would be most welcome. Likewise, I also make a plea for articles or cuttings suitable for inclusion in our newsletter. (please indicate paper concerned and date).

Our 1990 programme is taking shape and I'm sure you will see a variety of interesting geological lectures and field trips to look forward to. Resolve to bring along a friend for the new year. Best wishes to all members for a happy christmas and prosperous new year.

Sunday: 17th September, 1989. Field Meeting to Southam Quarry and The Burton Dassett Hills. Leader John Crossling, Keeper of Geology Warwickshire Museum:

A slightly damp group of 21 were warmly welcomed to Warwick museum by John Crossling who gave a short introduction to the museum and allowed us an inspection of the small but impressive display of Warwickshire geology including the work of local Victorian geologist the Rev. Peter Bellinger Brodie. The party then drove to Southam quarry, a working quarry operated by Rugby Cement PLC where we stayed for about three hours. The cement company uses the shales/mudstones and the cementstones of the Jurassic Lower (blue) Lias for the cement making process: the quarry is, however, almost worked out having reached the unconformity represented by the white Lias.

John Crossling had promised us plenty of fossils and we were not disappointed, although

no examples of the recently discovered fish and Ichthyosaurs were found. The cementstones are found in thin bands of very hard precipitated limestones, these having been laid down in warm, shallow seas. These bands yielded numerous small bivalves, brachiopods and many fossil burrows. A number of large bivalves were also found along with ammonites and belemnites.

The shales and mudstones between the cementstone bands were laid down in quieter, deeper waters and, being well weathered in the sides of the quarry, the sometimes spectacular brachiopods, bivalves and ammonites were rather easier to extract than those in the cementstones. The sometimes anaerobic conditions of deposition were shown by some pyritised specimens.

The rather exhausted group (Southam was a typical Lias mudbath) moved on to the Burton Dassett Hills after a lunch break in the Southam works car park. The hills rise above the flat Lower Lias plain and consist of about 100 feet of Middle Lias silts overlain by more resistant Marlstone beds. These erosion resistant rocks are hard, fossiliferous ironstones; some of the quarries which once worked the low-grade iron ore are still visible and offer good exposures. On Harts Hill, the highest point in the area, the marlstone is overlain by Upper Lias clays and the Northampton Sands, these being sandy limestone of the inferior Oolite.

In by now pleasant weather, we discovered evidence of small-scale faulting and current bedding in the marlstones; fossils were however more difficult to come across with only a few small ammonites, belemnites and brachiopods being seen. We finally climbed to the top of Harts Hill and then had a marvelous view of Warwickshire to conclude a thoroughly enjoyable day.

Steve Hughes:

Glaciation in Snowdonia - a modern interpretation - Lecture by Dr. K. Addison of Wolverhampton Polytechnic.

Dr. Addison began by outlining some of the methods of age determination in glacial stratigraphy and stressed the importance of examining lowland deposits such as those of East Anglia, the mid-Thames, South West England and Kesgrove farm where erratics from the

Berwyn and Arenig Hills are found. Wales was an independent centre (source area) for glaciation and four episodes can be identified. The last episode was around 18,000 years ago. Geographically there are four recognisable glacial zones and in North Wales these are close together:-

- 1 - West of Bala, South of A5 to Trawsfynydd estuary.
 - 2 - Betws-y-coed.
 - 3 - Mountains of Snowdonia.
 - 4 - Lowland, drumlins in Menai strait region - the boundary of Irish Sea and Welsh ice. Cirques were not centres they were marginal as was the Snowdon massif itself.
- In zone 1 where polar ice developed - abraded land exists, there are no sediments and the ice was frozen to the bed rock. Hence there was little erosion or deposition. Striated surfaces exist and the ice was over 1,000 m. thick. This zone is well observed in the Arenig area.

In zone 2 there was more motion with scour troughs beginning as accelerated movement caused*action. This ice was transitional from polar to thermodynamic. Dr. Addison emphasised the danger that global warming could cause decoupling of the basal ice in Antarctica. Zone 3 is the breach areas such as Llanberis Pass where ice was channeled between mountains which acted as a fence. Structural weakness focused the ice into excavation of troughs by scouring. Ogwen was the other major breach. The lowland zone 4, in which lowland ice spread out in a piedmont lobe, occupies the area to the west. Here sediment was discharged as the velocity decreased. Dr. Addison then added detail to some of these features.

A radial pattern of troughs exists spreading from an ice centre with smaller troughs to the NE and SW. Major breeches to W and NW. Ice was 1,000 m. thick and the basal ice was constrained by relief and had to find its way out through the landscape. Hence the ice was squeezed either side of the resistant Snowdon Massif but the upper ice went straight over the top. These glacial breaches pre-date the cirques. In the Carneddau where there are few cirques, ice probably accumulated whereas along the troughs cirques are numerous. In the Glyders fossil tors exist - does this indicate a lack of total inundation?

Finally Dr. Addison described the recent site in glacial deposits near Caernarvan where new evidence has come to light which could have a major impact on Welsh stratigraphy of the Quaternary.

The lecture was stimulating and illustrated with excellent slides which made us wish to re-visit North Wales a.s.a.p. An excellent

*scouring

turn-out provided numerous questions and further discussion. Many thanks to Dr. Addison for such an enjoyable evening.

Andrew Rigby:

BCGS NEWS:

Advance Announcement - Anniversary Dinner 30th November, 1990:

An informal dinner to mark the 15th anniversary of the society has been arranged for Friday 30th November, 1990. It will be held at the University Centre on the Birmingham University campus, and a well-known geological personality has agreed to come and give a light-hearted speech.

It is planned to be an informal and social occasion - further details will follow closer to the event - BUT MAKE A NOTE IN YOUR DIARY. The cost is expected to be £15.

Graham Hickman:

Graham Hickman is a long-standing member who recently spent several years working for BP in Egypt looking for oil. After a spell in England, he is now in Texas. Members who know him will be pleased to learn that his wife Kerry has just presented him with a son, Joseph Peter, born on 30th September, weight 6lb 10oz. Mail can be sent to him via the British Petroleum central mailing:

c/o International Personnel, BP,
Britannic House,
Moor Lane,
LONDON EC2Y 9BU.

Our congratulations to them both.

DUDLEY MUSEUM - ROCK & FOSSIL ROADSHOW 21st October:

This annual event at Dudley Museum was repeated on Saturday 21st October. As usual the Keeper of Geology, Colin Reid, had put in a great deal of work in organising the event. The Roadshow was supported by a number of local societies, including the BCGS, who ran display stands describing their work and interests. There was a lot of interest from the public, who came in considerable numbers throughout the day. There was also a film show, and a stand where experts offered to identify fossils and rock specimens

brought in.

The BCGS stand, put up by Alan Cutler, showed the society's activities, and featured a mammoth's tooth found at Burton-on-Trent. Society Christmas cards and sweatshirts were on sale, and there were several enquiries about joining.

The stand was manned throughout the day by Alan Cutler, Steve Hughes, Chris Jowitt, Paul Shilston and Graham Worton, while members Spencer Mather and Ray Foxall ran their own stands for Minerals and Dudley Cave Rescue Team.

Geological field meetings and study tours in 1990:

Birbeck College, University of London:-

(1) Cretaceous and Quaternary Geology of the coast of N. Norfolk (as in BCGS programme 11-13th May, 1990).

(2) Geology of the Oxford District, 18-20th May, 1990. Dr. J. E. Robinson, £20 + accommodation.

(3) Aspects of London's Geology, 15-17th June, 1990. Dr. J. E. Robinson, £20 + accommodation.

(4) NW Highlands of Scotland (based on Ullapool). One week, Easter, 1990.

Michael Bamlett BA, M.Phil. and Dr. Valerie Moorhouse. Deposit £50.

(5) Turkey - Store for Splendour.

2 weeks. May, 1990. R. H. Roberts B.A.

Deposit £50. This tour will be of interest also to archaeologists, art historians and students of early christianity.

(6) Natural History and Geology of the Soviet Union. 2 weeks in May/June, 1990.

Richard Clarke B.Sc., M.Tech., M.I.Biol. and Michael Bamlett B.A. M.Phil. Deposit £50. This will include visits to mountain, forest, tundra, desert, steppe and wetlands. Cost approximately £800.

(7) Iceland. 2 weeks July, 1990. Michael Bamlett B.A., M.Phil. Deposit £50.

Enquiries for the above to E. M. Clancy, Birbeck College, Centre for Extra-mural Studies, 26 Russel Square, London WC1B 5DQ. Tel: 01 636 8000 ext. 3854 or 3862.

Bilston Community College:-

Modular (5-week) course in

Palaeontology.

Physical Geology.

Structural Geology.

Stratigraphy.

Crystallography.

Economic Geology.

These can be completed on a home study basis or in college where extensive practical material and specimens are available.

Further information contact Paul Dean,
Bilston Community College, Westfield
Road, Bilstone, West Midlands, WV14
6ER. Tel: (0902) 353877.

Publications:

New Memoir. Geology of the country
around Ashbourne and Cheadle: Chisolm,
J.I., Charsley, T.J. and Aitkenhead,
N. 1988 (for sheet 124).

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From the Papers: