



The Black Country Geological Society

NEWSLETTER NO. 133 FEBRUARY 1999

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 in the Banquet Room (Dudley Suite) at the Ward Arms Hotel, Birmingham Road. Phone (01384) 458070. 7.30 p.m. for 8 o'clock start.

SUNDAY 21st FEBRUARY 1999 Please note, not Saturday as previously announced! Conservation work at Hay Head SSSI, Walsall. Meet at the Three Crowns Pub on the Sutton Road, Walsall. (SP 049 981) at 10.00 am. See Conservation Column in December's newsletter for more details.

MONDAY 8th MARCH

7.45 pm. ANNUAL GENERAL MEETING Followed at 8.0 pm. (approx.) by Lecture: "The Failed Sellafield Deep Nuclear Waste Repository Project." by Colin V. Krupe, B.Sc., C. Eng. C. Geol. M I Min.E. MIMM, F.G.S., Senior Partner, Johnson, Poole and Bloomer, Land Consultants.

Colin Krupe was appointed by the Department of the Environment to be the Technical Assessor to assist the Inspector and Assistant Inspector at a planning inquiry into the refusal by Cumbria County Council to permit U.K. Nirex, the national nuclear waste disposal executive, to construct a deep underground exploratory mine in the Borrowdale Volcanics at Sellafield. This "Rock Characterisation Facility" was intended to be a large scale test bed for the construction and hydro-geological modelling of a deep nuclear waste repository. The 66-day enquiry heard evidence on an amazing array of geological and other scientific research relating to the site and its suitability over a time scale of millions of years to host a waste repository. On the strength of the Inspector's and Colin's reports the Secretary of State, John Gummer, rejected the scheme in March 1997 throwing the whole future of U.K. nuclear waste disposal into turmoil.

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Monday 29th March 1999 Dr. Anthony Cooper: "Permian Seas, Triassic Deserts, Devensian Ice and Houses in Holes in North Yorkshire." Permian and Triassic sequences crop out along the western margin of the Vale of York. They illustrate the evolution from a desert land surface to the enclosed evaporitic Zechstein Sea (with several cycles of evaporite deposition) through to the desert environment of the Triassic sandstones.

Partially concealing the solid rock, the Quaternary deposits along the margin of the Vale of York record the evolution of the Devensian glaciation. Buried and diversionary valleys cut through the Permo-Triassic sequence exposing the rocks in places like the Knaresborough gorge. Moraines and eskers parallel the margins of the ice sheet and give a distinctive morphology to the area.

The geological legacy of the Devensian buried valleys and the presence of two thick gypsum sequences in the Permian succession results in spectacular natural catastrophic ground subsidence. This is caused by gypsum dissolution underground and the collapse of caves, especially around Ripon, North Yorkshire. Here holes up to 35 metres across and 20 metres deep have appeared often without warning! In the past 150 years, 30 major collapses have occurred, houses have fallen into holes and locally about a million pounds worth of damage has occurred in the last decade.

Dr. Cooper has 22 years experience in the investigation, interpretation, engineering geology and hazard assessment of subsidence caused by gypsum dissolution. He is advisor to industry and government on investigating and planning for gypsum geo-hazards.

Sunday 18th April 1999 An introduction to Black Country Geology. Part 1: The first 100 Million Years
Leaders: Graham Worton and Alan Cutler.

Meet at 9.45am. at the crest of Darbys Hill Road, Rowley Regis (NGR SO 966 895) where commanding views of the surrounding country will set the scene. We will then move to the Wrens Nest National Nature reserve to see some classic exposures of the Silurian Dudley Limestone (Much Wenlock Limestone formation) and introduce World Heritage. Lunch will be taken at the Dry Dock Pub, Windmill End, Netherton (NGR SO 953 881) where refreshments will be available (and toilets). The afternoon session will be a visit to Saltwells Nature Reserve (SO 936875) to see Upper Silurian/ Devonian Strata and the Basal Coal Measure Succession. If time allows the afternoon will finish in a local Quarry to view other Carboniferous exposures. Part 2 of the Introduction to Black Country Geology will be announced later in the year.

Saturday 4th May 1999 Field Meeting to Northwich to study the Mercia Mudstone Group, Northwich Halite and other mudstone formations overlain by Pleistocene strata. Observation of salt subsidence features such as terraces, flashes, linear valleys and brine springs. Leader: Dr. John Stanley (Earth Science Department, Keele University).

Sunday 20th June 1999 Field Meeting to Derbyshire. Itinerary to be confirmed at a later date. Leader: Spencer Mather.

Sunday 25th July 1999. Family Meeting to Clearwell Caves, Cinderford, in the Forest of Dean. The largest working ore mine in England, now open to the public. Guided Tours provided. Details to be published at a later date. Limited spaces available.

Sunday 12th September 1999. Conservation: Protected sites within the Black Country. Itinerary to be confirmed. Leader: Graham Worton.

Autumn 1999 (Dates to be arranged).

October Dr. Roger Dackombe "The Quaternary of the Isle of Man: the problems of deciphering the glacial history of the Northern Irish Sea Basin".

November Dr. Charles Turner "The Ice Age Fauna and Flora of England".

EDITORIAL

The gestation period of the newsletter is a long one. First there is the interval between my requesting an item and its receipt. I'm not sure about the longest wait but a few have been amazingly quick. I suspect that Andrew Rochelle holds the record for the speediest reply! Items are due to me on the twelfth of the month preceding that of publication. I set aside dates between the twelfth and the seventeenth for typing the items received, posting the completed newsletter on disc to Sue Fairclough by the eighteenth. Sue does any further typing, arranges the layout and prints a fair copy, (sometimes it is necessary to return it to me for some proof reading,) sending this to Graham Worton who prints as many copies as are needed. Ann Nicholds, as secretary, has meantime arranged the supply and labelling of envelopes which Graham fills and posts. (Ann sends out newsletters and membership packs to enquirers throughout the year.) A lot of midwives and labour are involved and we are lucky to have such a supportive team. I have now edited forty six newsletters and I don't think, so far, we have failed to deliver in the appropriate month though I do here murmur about it being late. (Can these people possibly be subscribers to 'Geology Today?') No doubt you can see how the whole process could be speeded up, but please do not comment unless you are willing to do the work yourself! It is all too easy to see how others could work more efficiently. PS. Since I finally put this newsletter to bed in the post in January I received the sad news of Sue Fairclough's illness. The newsletter eventually returned to my desk for me to format as best I can. You will see from the differences how much Sue is needed. As I type, she is in the Critical Care Unit of the Neurosurgical Department at the Q.E. The forecast is that she will make a good recovery. We send her and husband Bob our very best wishes. It is a tribute to B.C.G.S. that the pair have so many geology friends to support them, and her medical care is of the very best, being overseen by a member and former Treasurer of the Society. As proof that the newsletter is read, I was very pleased to receive a very positive comment on my editorial of last December from Alan Filmer, Secretary of the East Midlands Geological Society who wrote "I find most T.V. Science programmes superficial and with too much "WOW" but they are designed for a mass audience and not for the specialist. For this we must be grateful if we are to spread the excitement of science to the wider public. The companion series "The essential guide to rocks" was even more superficial but these series have been mentioned by a number of people who have recently contacted me in order to join the E.M. Geological Society, the GA and Rockwatch."

REPORT

Lecture "The Importance of Black Country Geology" 5 October 1998, presented by Graham Worton and Colin Reid.

Britain is a truly wonderful place if you happen to be interested in Geology. In a few very special places evidence of the passage of hundreds of millions of years and dramatic changes in the planet are recorded in the rocks. One such special place is The Black Country.

The Black Country is approximately synonymous with the South Staffordshire coalfield, and occupies an area some 10 miles in width by 20 miles in length, centred roughly on the town of Dudley. Within this tiny area, windows in the rocks reveal the history of the planet from the Cambrian Period (circa 550 my.) through to the Triassic Period (circa 210 my.) Also recorded is the final carving of the landscape in the Great Ice Age.

An immense period of time represented in the rocks of such a small area is very unusual in itself but the extensive range of geological phenomena, and the quality with which they are preserved make the area exceptional on a world

scale. These phenomena were discussed, the wide range of rock types, structures, past environments and extinct life forms were described and examples of exceptional features were given. In particular, the beautifully preserved conifers found in ashes on the flanks of the Dudley volcano, the incredible diversity of life in the Wenlock limestone, and the vertebrate and invertebrate faunas of the Coal Measures were recalled.

Colin Reid stepped in to report on how the exceptional local geology was at the very heart of Dudley Metropolitan Borough's World Heritage Bid. He described the Wenlock Limestone of Dudley as the most fossiliferous rock in the British Isles, almost 700 species having been identified from this horizon alone! The life preservation of these fossils, including rare preservation of soft tissues, sets these rocks apart as an example of a lagerstätten of which there are very few in the world. Dudley's Bid has attracted worldwide support from leading authorities in palaeontology. Almost one hundred written responses were received and the final decision concerning the bid should be made in the next few months.

Graham concluded the evening by looking at what we can do to preserve and enhance this special heritage. We can find, record and photograph sites and inform the society. We must record and label our own collections and make provision for them after we are gone. He presented a visionary view of how the geological importance of the area could be brought across to a wider public from a new dynamic, spectacular centre for Earth Science called ORIGINS. The concept was to establish within the World Heritage site an attraction of such quality and design to promote curiosity and excitement while putting all the heritage aspects of the limestone hills of Wrens Nest and Castle Hill into context. He proposed a huge trilobite-like structure containing a range of spectacular chambers used for interpreting the local geology and processes forming the local features. This included a planetarium, an indoor volcano and a custom built underground excavation and SSSI! The key to the centre would be its ability to change and house temporary exhibitions covering many aspects of heritage. The seeds of the imagination have been sown in the rich geological ground of the Black Country.

Graham Worton

CONSERVATION COLUMN

Join me at the Three Crowns Inn in Walsall (NGR SP.049 981) on Sunday 21st February 1999 at 10.00 am to begin 1999's active Conservation Programme. BCGS are participating in a scheme to set up a geological trail around the old quarries in the Barr Limestone. This will be the first in a number of visits. Bring a flask, your wellies and some enthusiasm.

Colin Reid and his staff have almost completed a refit of the basement of Dudley Museum. This will double the fossil storage and provide much needed workspace. This undoubtedly marks an important step forward for the Dudley collection.

Supporters from sixteen countries have written to the Heritage Secretary and Dudley MBC in support of Dudley's World Heritage Bid.

Dudley Museum is about to be invaded by Sea Dragons from the Jurassic. After a sneak preview I can report that this is going to be something special!

Graham Worton

NEWS IN BRIEF

THANK YOU to Paul Ryan, who responded to my plea in the June Newsletter. Paul generously donated not just a printer to replace the broken one which had given sterling service to the Black Country Geological Society for many years, but a complete Amstrad PCW8256. This consists of a monitor, keyboard, printer, handbook and lots of spare discs. Thanks Paul.

Hon. Secretary.

'Hotline' is the complimentary magazine for Virgin Train passengers. The colourful winter edition is filled with a variety of short articles accompanying good colour photographs or cartoons where appropriate. Now if there is one thing that trains do rather well it is to chug over, or under or around lots of Geology. Obvious, isn't it? However it was surprising to find a section headed 'Geology' in this magazine. A photograph showed the piece of 'Millennium Rock' currently aboard Mir space station but due to go on show at the Potteries Museum next year. Any member offering a short item for publication could approach John Brown Contract Publishing Tel. 0171 565 3000

Welcome to new member. Mr. J. M. Shirley of Coseley.

Dudley Museum will present 'World of The Sea Dragons': Monster fossils from the Jurassic seas from 13th. March until 4th. September 1999.

180 million years ago, while dinosaurs roamed the land, the Jurassic seas were ruled by ferocious, dragon-like reptiles, some as large as a whale. At Dudley museum you will encounter porpoise-like ichthyosaurs, a long necked plesiosaur, shark, crocodile and a pliosaur, one of the largest and most frightening of sea dragons.

The centre-piece of the exhibition will be a unique 'twin' display of Britain's most complete pliosaur and the country's only complete Jurassic crocodile embroiled in battle on the sea bed. The crocodile skeleton bears the 200 million year old memento of a pliosaur bite - a tooth embedded deep in its tailbone.

A fossil feast and not to be missed!

Introduction to the British Geological Survey. In connection with the flyer you have been sent, any further information, including possible individual visits to consult the library etc., should be made to Joanna Thomas, BGS, Keyworth, Notts. (0115) 9363100. Joanna Thomas, then Joanna Davis, was a member of BCGS in its early days when she was a pupil at Brierley Hill School.

Geological Trip to Malta. 4-11 May 1999 organised by the Hertfordshire Geological Society. BCGS members are invited to join. The visit is organised by Dr. John Catt who led our joint weekend to St. Albans. The cost is £350, flying from Luton. A Maltese will lead the trip and bookings should be made through Dr Catt, 27 Watling St., St Albans, Herts. 01727 831545.

Proceedings of the first U.K.Rigs Conference are now available price £7.50 plus £2.00 postage from Herefordshire and Worcestershire RIGS Group, Geology records Centre, University College, Worcester, Henwick Grove, Worcester, WR2 6AJ.

Gordon Hensman requires further questions for the Brainstrust and suggestions for future meetings.

An Account of Rajasthan Rocks by Gordon Hensman

Early retirement has enabled me to fulfil some of my desires to travel the globe. I recently toured Rajasthan and Haryana States in India.

The topography suggests an ancient peneplain with the Aravalli Hills running almost north-east south-west dividing Rajasthan into two distinct regions. These hills reach 5650 feet in the south and descend northwards to disappear beneath the alluvial plains of the Jumna (Yamuna River around Delhi. They belong to the Dharwar-Aravelli series which include a great variety of metamorphosed, sedimentary and igneous material, possibly as old as the granites and gneisses of the Peninsular shield and of Archaean age. i.e. Precambrian. Lead, zinc, copper and rock phosphate are mined.

To the east is a region of lower relief developed on Vindhyan sandstones and archaean gneiss

To the west is the Thar Desert underlain by Peninsular Shield rocks similar to those of the Aravelli Range. Much of the surface is sand arranged in dune formation, in many areas fixed by scanty vegetation. Rocky inliers provided good strategic sites for fortifications, often of spectacular proportions, built by the many local warlords, maharajas,

nabobs etc. of Rajputan, such as Bikaner, Jodhpur, Jasailmer and Jaipur. It is difficult to identify the stones used in many of these structures but a fine grained red sandstone is found widely. The fort at Agra is largely built of this rock with a superstructure of white marble - a rock much favoured by the Mughal Emperors. The Red Fort in Delhi and the deserted Fatehpur Sikri are similarly of this rock. Those of you who have visited the Taj Mahal at Agra are likely to have been as impressed as I was with the superlative proportions of this architectural wonder. Dazzling white marble fashioned into such beauty, decorated with delicate carvings and inlays of semi -precious and precious (originally) jewels - Pietra Dura - rendered normally loquacious yours truly speechless. Accompanying this brief article are some of the decorative features of pietra dura which you may like to colour according to the minerals used.

Gordon Hensman

Gordon believes we should have more jokes in the newsletter and sends this sample.

What do you call a one-eyed dinosaur? I don't know. What do you call a one eyed dinosaur?

A do-u-think-ee-saurus!

(Surely you can do better!)

A number of people have approached me much too late for material to be included in the newsletter. As my editorial shows, we have a deadline for receipt of material. It is the twelfth of the month preceding publication. In practice this time interval has been proved necessary. Do you think you can do better?

Editor

K.M.Ashcroft
48 Worcester Lane
Sutton Coldfield
B75 5NB

Tel. 0121 308 6783

Secretary

Ann Nicholds
38 Poplar Road
Dorridge
Solihull
B93 8DB

Tel. 01564 778 181

Internet presence: <http://www.kanwar.demon.co.uk./bcgs/>

Email: bcgs@kanwar.demon.co.uk

REMINDER

Subscriptions are due in January each year along with the snowdrops! A few have not yet emerged, so please clip the form below and send it with your subscription to ensure that BCGS continues to flourish. Please note that yet again the rates of subscription have not sprung up -

RATES: Individual - £10. Family/Multiple - £14. Student - £3. Group - £28

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Cheques payable to THE BLACK COUNTRY GEOLOGICAL SOCIETY.

Send to the Treasurer: Mrs Joan Savage, 7 Sherbourne Road, Cradley Heath. B64 7PU

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