NEWSLETTER NO. 125

OCTOBER 1997

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 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, Dudley. Phone: (01384) 458070. 7.30 p.m. for 8 o'clock start.

SUNDAY 12th OCTOBER. Field meeting to Aust Cliff (near the Severn Bridge) and Hock Cliff near Frampton-on-Severn. Leader: Andrew Mathieson (Bristol City Museum).

Meet 10.30 a.m. at Aust by the road junction to the disused ferry jetty (grid ref: 564889) near the original (1966) Severn Bridge. NOTE that the original Severn Bridge now carries the M48 motorway (NOT the M4 which goes over the new bridge). Coming from the M5, follow the signs for Chepstow M48, then exit from the M48 at junction 1 (Severn View Services), turn south along the A403 signposted to Avonmouth; the first right turn leads to the meeting point.

See map in the August newsletter describing this field meeting.

Andrew Mathieson writes: "Aust Cliff is a 'classic' geological site with an excellent sequence through the Triassic to the base of the Jurassic. Although the site is an SSSI, collection of fossils is allowed because there is continuous erosion of the cliff and there is plenty of material to find on the beach.

The top of the cliff is capped by Lias limestones rich in bivalves and the first Jurassic ammonites. Below are Upper Rhaetic beds with "Crazy" Cotham Marble, then the Lower Rhaetic with many bivalves, fish and reptile teeth and bones, with many intriguing trace fossils. The "Bone Bed" is thick and the origin of its concentration of coprolites, pebbles and (some) bones remains satisfyingly elusive. The lower cliff is Mercia Mudstone with much gypsum, some celestite and a few casts of halite crystals".

ANDREW MATHIESON has been the geology specialist in Bristol Museums Education Service for over 20 years, having previously been geology curator at Leicester Museums. He has concentrated on introducing people of all ages to geology, particularly through fieldwork, and is also very much concerned with geological site conservation.

There will be a lunch stop at a local pub, probably the Bell Inn at Frampton-on-Severn.

AFTER LUNCH we will visit Hock Cliff (GR. 730090) alongside the River Severn at Fretherne near Frampton-on-Severn. Hock Cliff is in the Lower Lias and shows bands of limestone and shale; it is particularly famous for its fossil bivalve GRYPHAEA ARCUATA *(or 'Devil's Toenail')* found in the cliff and along the beach. There can also be ironstone nodules, fragments of ammonites, and pyritised specimens of Gryphaea.

AS BOTH SITES CAN BE VERY MUDDY AND WE WILL BE VISITING AT LOW TIDE, VISITORS SHOULD WEAR BOOTS, OR PREFERABLY WELLINGTONS.

MONDAY 27th OCTOBER Lecture "The Story of HERON, a high pressure/high temperature oil field in the Central North Sea" by Dominic McCormick (Shell Exploration & Production Aberdeen).

Dr. McCormick writes: "The main aim of the story will be to demonstrate how the geology governs the design and execution of the drilling wells in the North Sea. The lecture will start with an introduction to North Sea geology and will cover timings, source rocks, seals and reservoirs. Then I will explain a little on seismic acquisition and interpretation, and describe well design and how it is governed by the geology. Finally an explanation of how the exploration/appraisal wells of the HERON field were drilled, followed by a quick overview of the production well planning/execution that is now ongoing".

Dr. DOMINIC McCORMICK started in the oil industry as an exploration team assistant then completed a BSc degree with Birkbeck College, University of London in 1984. Since then he has worked as an exploration team geologist and operations geologist in London and Aberdeen. He obtained his PhD at Aberdeen University working on the Cromer Knoll Group of the Central Graben and is currently involved in exploration/appraisal and development drilling of High Pressure/High Temperature wells in the Central North Sea.

MONDAY 24th NOVEMBER. Lecture "Collecting trilobites in the U.K. - a 'Cooks Tour' of productive sites by Dr. R.J. Kennedy (Birmingham City Museum).

Dr. Kennedy writes:"Trilobites are among the most popular treasures of the fossil hunter, but their popularity has resulted in many of the classic sites becoming degraded, and their landowners exasperated with the sheer number of visitors. Some sites have been afforded protection by law others have been deliberately obscured to deter collecting. But it is not all bad news, for many new sites have been discovered or 'old' sites rediscovered through quarrying or other forms of excavation.

The lecture will meander through the Palaeozoic parts of the country ripe for trilobite hunting, and will demonstrate some of the common, not so common, and once in a lifetime finds that I have unearthed".

DR. BOB KENNEDY is joint Principal Curator of Natural History at Birmingham City Museum & Art Gallery. He is Birmingham born and bred, educated at The Open University, Aston University and Birmingham University, obtaining a BSc in Natural Sciences and MPhil and PhD degrees for his work in Trilobite Systematics and Biostratigraphy. His career has included a variety of lecturing posts and he is currently (since 1983) Associate Lecturer for the Open University.

MONDAY 19th JANUARY 1988. Lecture on Greenland Geology by Dr. Paul Smith (Birmingham University).

MONDAY 23rd FEBRUARY Annual General Meeting followed by lecture 'Laterites can be fun' by Dr. Des Bowden (Society member/Newman College, Birmingham).

THURSDAY 19th MARCH. This additional meeting will NOT now take place.

MONDAY 23rd MARCH. Lecture: Environmental geology - examples from Finland and the UK. By Dr. Roger Dackombe (Wolverhampton University).

MONDAY 27th APRIL. Lecture on Carboniferous Corals by Dr. John Nudds (Manchester Museum).

MAY - field meeting to be arranged.

FRIDAY 12th - SUNDAY 14th JUNE. WEEKEND FIELD MEETING to Hertfordshire, probably based at St. Albans. Leader: Dr. John Catt (Quaternary Geologist, Rothampstead Experimental Station, Harpenden).

This geological weekend will give us a chance to see horizons not normally available to those of us living in the West Midlands, in particular we will visit exposures from the Cretaceous, Tertiary and Quaternary periods. These will include Lower, Middle and Upper Chalk at Totternhoe and other sites, the famous Hertfordshire Puddingstone in situ and in buildings. Lower Greensand at Leighton Buzzard/Woburn Sands and a range of glacial features.

EDITORIAL

Thirty eight of our members were on duty at the Rock and Fossil Fair. Of our membership of about one hundred that is a high proportion and I'm sure that other members would have liked to help had they been able. I thoroughly enjoyed my stint talking to young enthusiasts on the society stall. Will BCGS still exist when those young people are old enough to be active members? So many of the stalls were designed for children's participation and groups like Rockwatch do great work in channelling their interest. How good it was on our stall to be able to say 'Feel free to touch' as parents tried to stop tiny hands from exploring. I hope we didn't create too many problems for stall holders with more valuable and delicate items. (I realise that manning the disabled entrance was not quite so stimulating as the BCGS stand and hope those on the less exciting stations managed to enjoy their visit.)

Colin Reid asks if there are any volunteers available on weekdays to help with cataloguing, storing and generally curating Dudley's geological collection. Contact Colin at Dudley Museum on 01384 815574 if you are available and willing to help.

REPORTS

Sunday 6th July. Visit to the Ironbridge area led by Adrian Collings

The objective of the field meeting was to examine the still visible historical mining features of Ironbridge in the context of the local geology.

The meeting commenced in the car park of the White Horse Hotel, adjacent to Lincoln Hill. Lincoln Hill is formed by an outcrop of Silurian Much Wenlock Limestone which has been extensively quarried and mined underground to provide limestone for the adjacent iron furnaces. The details of the geology of Lincoln Hill, obtained from boreholes sunk to investigate the underground limestone workings, were discussed. It was noted that the 'Limestone Fault' did not exist as a major feature. Instead, the Silurian and unconformably overlying Coal Measures were observed to have been folded into a 'monoclinal flexure' with some minor faulting. This folding had steepened the Silurian strata to an angle of 50° to 60°.

Details of the underground workings were reviewed using photographs taken during inspection of the mine workings in the 1980s. The inspection indicated that the mine was unstable and the underground workings were subsequently infilled.

The party made its way across a heavily overgrown quarry trench and along the upstanding ridge of Lincoln Hill to a viewpoint at the end of the ridge, which gave a commanding view across the Severn Gorge.

From the viewpoint the party descended to examine part of the former Lincoln Hill Limestone Quarry. An outcrop of the Much Wenlock Limestone dipping steeply to the south west provided some examples of the richly fossiliferous strata, particularly in weathered fallen blocks. Adjacent to this outcrop, a depression marked the position of a mine shaft, which is believed to have allowed limestone from the quarry to be transported underground towards the River Severn via a horizontal connecting tunnel. The entrance to this tunnel was briefly inspected as the party made its way south westwards across ground underlain by the Carboniferous Lower Coal Measures towards the location of a mine entrance on the horizon of the Crawstone Ironstone.

The horizontal mine entrance (adit) and an adjacent brick structure were visited by kind permission of the owner of the garden within which the mine entrance is located. Details of the underground mine workings accessible from the adit were reviewed using photographs taken during inspections of the mine. It was not safe to enter the mine for even a short distance due to bad air. A survey of the mine workings indicated that they extended for several hundred metres in a north easterly direction. The interesting adjacent brick structure is thought to have provided a store and shelter for the miners. There are no records of the mine and its adjacent building. However they are thought to be of mid nineteenth century age.

The party then made its way westwards approximately along the strike of the Coal Measure strata to examine another visible mine adit, on the horizon of the Pennystone Ironstone, pausing on the way to examine some richly fossiliferous

Wenlock limestone blocks in a garden wall. The Pennystone entrance was barely visible behind dense undergrowth. Details of the mine workings accessible from the entrance were again reviewed using photographs taken during inspections. Beyond the entrance a tunnel about 150 metres long gave access to a former working face of the Pennystone Ironstone, more or less as the nineteenth century miners had left it. Part of the tunnel is now partially flooded and several roof falls have occurred in places.

The outcrop of the Pennystone Ironstone was followed westwards towards the starting point at the White Horse. At one point several possible blocked mine entrances were noted, completely concealed by vegetation. Many further horizontal mine entrances (adits) are likely to be present in Ironbridge, giving access to old mine workings. However these entrances are thought to be concealed by retaining walls or cellars of old properties in Ironbridge and await future discovery.

Adrian Collings.

CONSERVATION COLUMN

I've no Conservation logos for this edition but a friend has written a poem which might spur you to try your hand at verse.

The Fossil

They were a fossil hunter's dream!
The ammonites, huge as manhole covers
Were built into a wall,
Their ridged coils showed dark among the limestone
Tempting the boy to thieving.
Surely this one lying so near the top
Could be replaced, and nobody would mind.
He moved an upper rock and the ammonite was perfect.
He longed to take it home.
His fingers traced the spiral, following the grooves.
He was certain he could cycle with the fossil on his carrier.
Just to test it, not to take it, he dragged the stone towards him
And found it heavy: heavier than he'd thought.
Staggering he dropped it and it shattered into pieces
Now no longer a collector's item,
Nor a key in a dry stone wall,
It was just broken lumps of rock
With no value at all.

Mavis Mottram

ITEMS IN BRIEF

1. Thank You.
   I would like to offer my thanks to the 38 Society members who volunteered their services for the Dudley Rock and Fossil Fair. I managed to thank some people directly but others had 'gone off' whilst I was looking the other way! There is no doubt that because of financial constraints it would have been impossible to run the Fair without volunteer help. So - thank you all.

   Judith Shilston.

2. Welcome to new members
   Kat Clifford of Oxley, Wolverhampton.
   A very welcome return to former member Spencer Mather of Halesowen.

3. News Item.
   Congratulations to Society Member COLIN REID (Keeper of Geology, Dudley Museum) on his two recent appearances in the BBC2 TRACKS programme, one on the mineral Blue John in Derbyshire and the other about the Giant's Causeway.

   The picture shows Colin as he appeared on the TV screen.

3. Microscope for sale
   A 'Student' type petrological microscope is for sale, and the owner has suggested that one of our members might be interested. The microscope details are:
   C&D make, with 1 - objective and 1 - eyepiece. With polariser and rotating stage.
   The asking price is £75 and anyone interested should contact:
   John Williams, 161 Ombersley Road, Worcester WR3 7BX phone: (01905) 610084

4. Rock 'n' Gem Show
   Cheltenham Racecourse 18/19 October1997. For more information 'phone 01628 21697.

5. Friends of the Wren's Nest
   It haas been proposed to form a 'Friends of the Wren's Nest' group in the spring of 1998. If you are interested please notify Mr. D. T. Davies, c/o Ms Sue Timms, Planning and Leisure Dept, 3 St James Rd, West Midlands DY1 1HZ.

6. Geology Guides
   Study geology in London? BGS has prepared Holiday Geology guides to St Paul's Cathedral and Westminster: the Abbey, Houses of Parliament and Westminster Bridge. Holiday Geological Guides are beautifully produced on card, each priced at £1-95 and can be obtained from the Sales desk, BGS, Keyworth, Nottingham, NG12 5GG.
   Tel 0115 936 3241.

7. Congratulations
   Congratulations to Vice Chairman, Graham Worton, on his marriage to Sarah Lidgley which took place in Northumberland on Saturday 27th September. We wish them every happiness - and blame Graham for the late arrival of this newsletter. We don't know where he is!

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