

NEWSLETTER NO. 136

AUGUST 1999



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

THURSDAY 2nd SEPTEMBER to SATURDAY 4th

SEPTEMBER 1999 Second UK RIGS Conference to be held at University College, Worcester. The theme this year is 'Recording and Protecting Landscapes'. Details are available from Dr Peter Oliver on 01905 855184. As members of a RIGS group (BCGS), you will be entitled to preferential delegate rates if you wish to attend. See news in brief for more details of the conference programme.

SATURDAY 11 SEPTEMBER 8.00 pm. Social Evening and Quiz "The Lamp Tavern" (Batham's Ales) Dudley. A chance for Society members (with non society companions if desired) to mingle and mix in a more informal manner than usual. Arrange a team and register your interest using the form at the end of the newsletter.

MONDAY 20th SEPTEMBER Lecture: "Catch a Falling Star- Meteors and Meteorites" by Barbara Russell (Society Member) Barbara is a past Chairman of the Wolverhampton Astronomical Society (affiliated to the British Astronomical Society and the Junior Astronomical Society).

Meteors and Meteorites form a very satisfying link between Barbara's two hobbies - Astronomy and Geology. Her interest in Astronomy goes back many years with Geology a comparatively new study.

Meteorites have an important role in the formation of the Solar System and the lecture will cover the history of meteors and theories of their origin, their composition and physical dimensions. Barbara will bring a few samples of meteoric material and if anyone has any other samples please bring them along.

Chairman

*Alan 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

Joan Savage M.S.F.

Hon. Sec.

*Ann Nicholds B.A.,
B. Phil. Ed. (V.I.)*

MONDAY 25th OCTOBER "The Quaternary of the Isle of Man and the Northern Irish Sea Basin" by Dr. Roger Dackombe, Senior Lecturer in Environmental Science at Wolverhampton University. He has lectured to us on the Environmental Geology of Finland. His geological interests are Quaternary sediments and Applied Engineering Geology while his particular research interest is in the Isle of Man. He has researched glacial sediments and till sequences in the Isle of Man. He is Geological Consultant to the Manx Government for environmental questions and works with Liverpool University studying Manx archaeology in its geological context.

MONDAY 15th NOVEMBER "The Ice Age Fauna and Flora of Britain". by Dr Charles Turner of the Department of Earth Science at the Open University.

PROGRAMME 2000

MONDAY 31st JANUARY 2000 "Brains Trust" An opportunity for you to bring along your queries, specimens, problems etc. to our panel of experts. Written questions submitted in advance to the Secretary will be welcome. If anyone has a collection of particularly interesting transparencies bring them along and we can arrange to show them during the evening. Non-members welcome.

MONDAY 28th FEBRUARY 2000 "Canadian Appalachians - Ocean Closure and Links with the British Isles" by Dr John A. Winchester, Department of Earth Science, University of Keele

MONDAY 27th MARCH 2000 Dr Hugh Torrens, Society Member, "James Ryan of Dudley (1770 - 1847) and the problems of introducing new ideas (both scientific and technical) in British mines in the early nineteenth century". Dr Torrens of the Department of Earth Sciences, University of Keele, writes that James Ryan settled in Dudley by 1808 and died there in 1847 and it is about time that the spotlight was shone on his achievements as he is so little known.

MONDAY 24th APRIL 2000 Dr Frank Moseley, "Military Geology in the Middle East." Dr Moseley was a WWII R.A.F. pilot, an athletics and rugby champion, Geologist at the Universities of Sheffield, Keele, Cambridge and Birmingham, and former Army Reservist. His assignments included East Africa, Libya, Yemen, Oman and Cyprus. Geological knowledge has always been important to army operations but hydrogeology was crucial to the campaigns of WWII in the deserts of the Middle East. Major Shotton (later Professor Shotton) was put in charge when "dousing" proved "inferior to chance". Since the war a dedicated group of army reservists has provided advice with engineering tasks mostly in Libya and Saudi Arabia.

EDITORIAL

I've been travelling, if not in the footsteps of Sheila Pitts, at least on the ship on which she travelled so often. Even at sea there was no escaping geology. We landed on Canna and climbed terrace upon terrace of basalt flow. Hirta (St Kilda) proved a miniature Skye with rounded granite hill masses set beside jagged, rotting ridges of gabbro. The awesome, massive gabbro sea stacks of Boreray arose saw-edged and terrifyingly sheer from the swelling sea. Sedimentary layers in Foula and Fair Isle provided spectacular cuestas, arches and sea stacks. Only on North Ronaldsay in Orkney, so low lying that it must surely disappear below the waves with global warming, did the bare geological bones beneath the surface fail to dominate the scenery. On earth one cannot escape the influence of geology. Even in Eternity, it seems, there may be no escape. Milton in *Paradise Lost* depicts Hell in terms of volcanic crater and deep mine

'if it were land that ever burned

With solid, as the lake with liquid fire,

And such appeared in hue as when the force
 Of subterranean wind transports a hill
 Torn from Pelorus, or the shattered side
 Of thundering Aetna, whose combustible
 And fuelled entrails, thence conceiving fire,
 Sublimed with mineral fury, aid the winds,
 And leave a singed bottom all involved
 With stench and smoke; such resting found the sole
 Of unblest feet'

and, in the Bible, near the end of the apocalyptic *Book of Revelation*, the holy city, the new Jerusalem, is described as having a wall built of jasper. Its foundations are adorned with jasper, sapphire, agate, emerald, onyx, cornelian, chrysolite, beryl, topaz, chrysoprase, jacinth and amethyst. Its gates are pearls and the streets are pure gold, transparent as glass. Great writers resort to geological imagery to describe both the ultimate in horror and heavenly perfection.

REPORTS

Field Excursion into the Triassic Saltfield between Crewe, Sandbach and Middlewich, Cheshire

Leader: Dr John Stanley 8th May 1999

This excursion had the dubious merit of involving almost no observation of rock. Rather it was an excursion to observe the phenomena attributable to the sub-surface solution of halite either as a result of natural groundwater movement or more commonly, former brine pumping and mining collapse.

The Triassic strata of the Cheshire-Shropshire sedimentary basin contain two salt formations. Their origin as either land-locked saline lakes or lagoons connected, at least intermittently, with contemporaneous seas to the east has long been argued.

Salt mining and later brine pumping has been an industrial activity in this area since the 1600s when salt was discovered when searching for coal. Before that, as early as the Romans, salt was obtained from natural brine seepages and from springs. During the 19th century industrial scale operations began with salt mines. Many early ones involved the leaving of insufficient roof supports and collapses are common. Towards the end of the 19th century brine pumping became common and subsidence gave rise to a whole host of classic phenomena.

The first location of the excursion was a site known as Brook Farm just off the A534. At this site there were obvious signs of subsidence and rising groundwater, as the water in the River Wheelock was almost up to the arches in the bridge, and the adjacent road and fields were under water. Submerged dead trees can be seen and an electrified fence is almost submerged and this was not due to recent rainfall. Rivers overflow their original banks due to the rising groundwater situation resulting in roads and bridges sinking. As an engineering answer to the subsidence problem, all the new bridges have jacking points and the railway embankment across the field is constructed out of a series of culverts to allow the original river to keep flowing when the original bridge has become submerged. Dr Stanley commented that the rate of subsidence within this area is currently at approximately 1ft. in 3 months, and this is an ongoing situation.

At the next site at Muxton Bridge, adjacent to the Shropshire Union Canal, there were clearly signs of engineering methods being used to stop damage to the canal and the overhead railway line by reinforcing the canal banks and jacking points were visible on the bridge.

A short car drive away, the next site was known as Watch Lane Flash, where horizontal subsidence scars were visible, although the grass was slightly too long to see them clearly. The rate of subsidence is faster than the rate of vegetation growth, hence the scars.

A further short drive nearer to Northwich, down a steep hill on Dragons Lane, at a site at the Northern end of Crabmill Flash were obvious subsidence scars along the edge of this 2km major linear flash.

The afternoon session, (following lunch outside Marks and Spencer's, sitting within a wooden art sculpture as though we were the exhibit), was made up of a trip around Northwich town centre, where the buildings were and are specially built from part timber and girders to minimise damage from the subsidence, by allowing for the jacking up of the buildings from the base when the buildings became uneven. We viewed two cantilever bridges built in 1899,

known as the floating bridges.

The day ended with a trip across the area by car, to enable us to get a better view of the current brine extraction areas and what the overall effect on the landscape has been.

Catherine Eales

MONSTER ART at Dudley Museum and Art Gallery until October 2nd.

This is the first exhibition dedicated to the work of a group of British based palaeo-artists. Their work has been used extensively in books, on television and for exhibitions.

Long gone are the days of lifeless depictions of these creatures from our past. Immense research must have been undertaken to provide us with artistic interpretations which convert our familiar and documented piles of bones, skin and footprints into creatures one could easily believe to be alive and roaming the earth.

Here they are shown in breath taking detail as in 'life': on land, in the air and under the seas. Creatures roam, hunt and kill and some await the inevitability of being the next meal.

A single raptor stalks through a lonely wood looking for prey and the night time scenes are in fascinating contrast with the more regular daytime interpretations. Ichthyosaurs and sharks cruise the oceans and a school of ichthyosaurs are shown literally bursting from the crest of a wave pursued by a giant predator.

A red beady-eyed pterosaur eats on the wing one of its own young. One dynamic painting depicts a charging, swerving Pentaceratops and as with a rhino today one feels the urge to swerve and escape its path. The energy in some of the paintings is powerful and these creatures really 'live' in this room in the special gallery we are so lucky to have on our doorstep.

By way of contrast, and as is the case with modern pack creatures, a lone raptor keeps guard while the rest of the group relax for a time. Fierce hunters though they are, they too could be some creatures next intake of protein.

Children, as always, are well catered for and if you haven't already seen the 'World of the Sea Dragons' it is on until the 4th September and is represented artistically and fantastically by one of the artists, local Rob Nicholls.

THIS IS AN EXHIBITION WELL WORTH SEEING, especially as it will be some time before such artistic skill and interpretation will be brought together again under one roof. (A leaflet on the exhibition should be enclosed with this newsletter.)

Hilary Giltrap

CONSERVATION COLUMN

Dudley Museum has completed the basement refit and now has atmospheric controls installed. The computerised database system being developed for documentation of the collections there has been finalised and the commercial possibilities of the software are being examined. Colin Reid is continuing to pursue UNESCO Geopark status for the World Heritage bid area and it is hoped that we will be able to announce something in the next newsletter.

A concept report on the ORIGINS project was given by BCGS to Dudley MBC in July as the first step towards carrying out a feasibility study of the proposals. (You may recall that ORIGINS is the title adopted for the Trilobite building attraction described in the "Importance of Black Country Geology" lecture given at the society a little while ago). This is very much a conservation by promotion scheme.

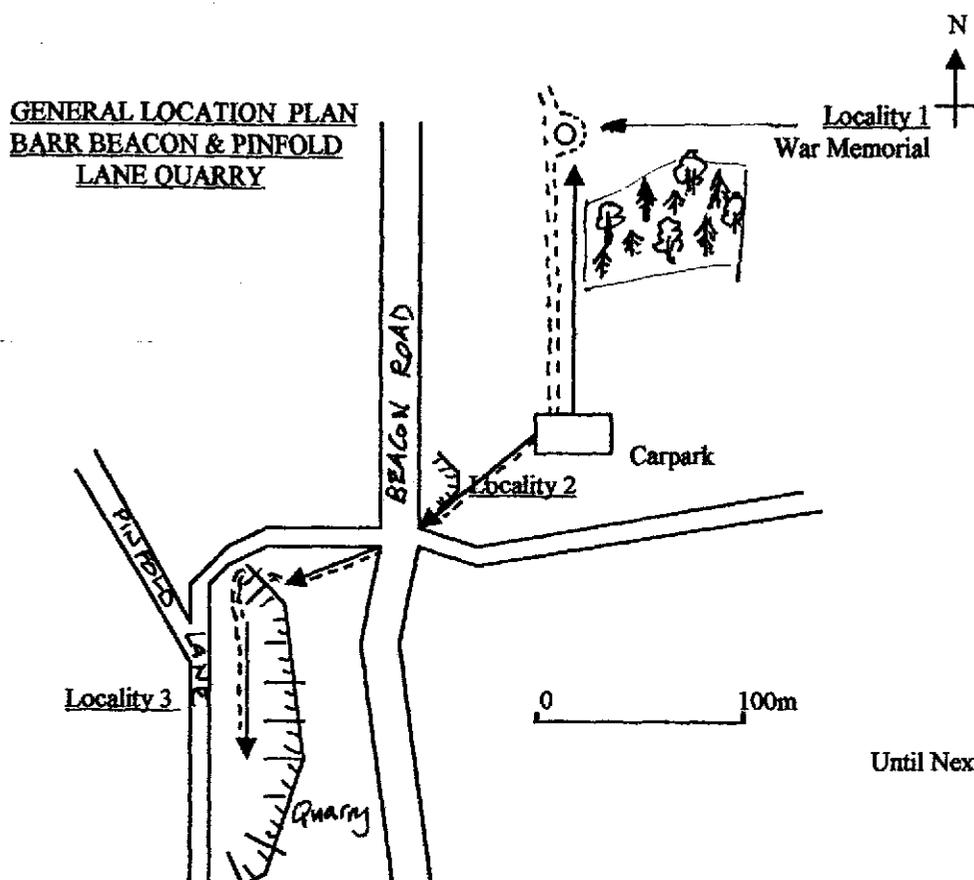
BLACK COUNTRY SITE No 2 : Pinfold Lane Quarry & Barr Beacon-

A short walk from the car park at Barr Beacon Country Park (NGR SP 061 961) to the north takes you to the war memorial from which commanding views to the north across Staffordshire and North Warwickshire and to the south across the hills and valleys of the Black Country are available (shown as locality 1 on the sketch map). The beacon itself is a prominent ridge formed of pebble beds and red sandstones of the basal part of the Sherwood Sandstone Group which is called the Kidderminster Formation (this was formerly known as the Bunter Pebble Beds). These rocks are of Lower Triassic Age some 245 million years or so old.

Walking from the memorial southwards past the car park to the road there is a small cutting or former excavation on the right adjacent to the road (shown as locality 2 on the sketch map). Although now much overgrown the rock face here contains red sandstones and angular breccias belonging to the Bridgnorth Sandstone Formation (formerly known as the Hopwas Breccias). These rocks are of Upper Permian Age of perhaps some 250 million years old..

Crossing the road it is noticeable that line of the ridge has been displaced by a fault. Following the public footpath path across the road to the east and down the hill you enter Pinfold Lane Quarry (shown as locality 3 on the sketch map). Here magnificent long rock faces of the former sand quarry expose a capping of pebble beds with lenses of sandstone which are underlain by the cross bedded and planar bedded sandstones of long vanished desert rivers. The junction of the Permian and Triassic rocks is believed to occur here.

This is a very good site for educational visits although the pebbles in the face are loose and falling stones are a potential hazard.



NEWS IN BRIEF

A Geologists' Association Field trip. Geology and Mineralisation of the Northern Pennines

Sunday 29th August - Saturday 4th September, 1999.

Leaders Dr Bob Symes and Brian Young

Geology and Mineralisation of the Hadrian's wall area (GA Guide No.59), Weardale, Teesdale and Swaledale - some industrial archaeology- Durham Cathedral- museum visits. The final day will be spent in the Killhope area at the Killhope lead mining centre, underground at Park Level Mine and visiting the Grand Mineral Exhibition. Field notes/maps provided. Expect some walking but it will not be over strenuous. Accommodation at St Aidan's College Durham. Dinner, bed and breakfast at £30 per person per night in en suite rooms. Further details and bookings to Lynn Allen, 32 Elmcroft Court, Burnet Close, Hemel Hempstead, Herts. HP3 9ES Tel Fax 01442 267525

Second UK RIGS CONFERENCE, SEPTEMBER 2nd-4th Delegates will be given information relating to best practice in collecting and conservation of specimens, and of site recording techniques. There will be a lecture about the Internet and home based web sites. Papers will also be given on the recording and protection of landscape features such as river channels and coastlines which are constantly being changed by natural processes. A paper on the threats posed to limestone scenery in the uplands will be debated. A field trip to Bredon Hill will show delegates some of the best examples in the U.K. of land slips and mudslides. A tour of the buildings of Worcester will also be included. The final day will show how high quality documentation and publications can be made by voluntary groups and how popular geological trails can be produced. For booking details see our programme section.

Welcome to new members:

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I/We would like to attend the Quiz and Social on SATURDAY 11 SEPTEMBER at 8.00 pm. at "The Lamp Tavern" Dudley. Questions will be Geological, General and Trivia. There will be no buffet (eat before you come) but plenty of ale!

I, (Name)----- wish to register a team (4 or more people) called -----
----- and enclose a cheque for £5.

The people in my team are

OR Name(s)-----

I/We would like to attend, am not part of a team, but would like to take part on the night and enclose £1.25 per person

OR Name(s)----- I/We would like to attend as observer and enclose £1.25 per person

My address is-----

Tel-----

Send cheques made out to Black Country Geological Society to Catherine Eales, 26 Yarnborough Hill, Oldswinford, Stourbridge, DY8 2EB

Photographs from our recent face clearance meeting at Hay Head, Walsall.

a) Augering at Hay Head in an attempt to find the location of the Eastern Boundary Fault

b) Energetic BCGS members helping to clear exposures and identify features for the geological trail to be completed in October/November this year.

