



Buckinghamshire Earth Heritage Group

Newsletter No. 15 September 2011

Event: Ice Age to the Tropics in Buckingham – leader Jill Eyers
Saturday June 18th 2011

The joint Open University Geological Society and BEHG trip started at the 14th century bridge near Thornborough. Jill Eyers pointed out a variety of features as we progressed along Padbury Brook to the main focus of the day's trip, Coombs Quarry. These included Bronze Age landscapes, Roman Temple and burial mounds to the Medieval use of local limestones.

Coombs Quarry was probably once used as a local source of building stone, but from the evidence of the ruined kilns, was last used as a source of lime. The exposures of this 165 million year old Jurassic limestone, the eastern equivalent of the Cotswolds stone, are beautifully presented following the recent clean-up.

The group found the reddened and bored upper surface of the Ardley Member particularly interesting as it shows evidence of oxidation and erosion above sea-level, overlain by a widespread thin clay bed (the Fimbriata-Waltoni Bed) with a high density but low diversity fossil shell fauna suggesting low salinity, possibly salt-marsh deposits.



The White Limestone beds were all nodular and contained marine shells, suggesting an actively burrowed marine sea-floor, whereas the overlying Blisworth Clay sediments, comprising thin, planar-bedded mudstones interbedded with the clay, suggested an unburrowed environment less hospitable to bottom-dwelling life, consistent with its interpretation as an intertidal nearshore mud.

Keen fossil hunters were not left disappointed, with several impressive coral, bivalves and gastropods being found.

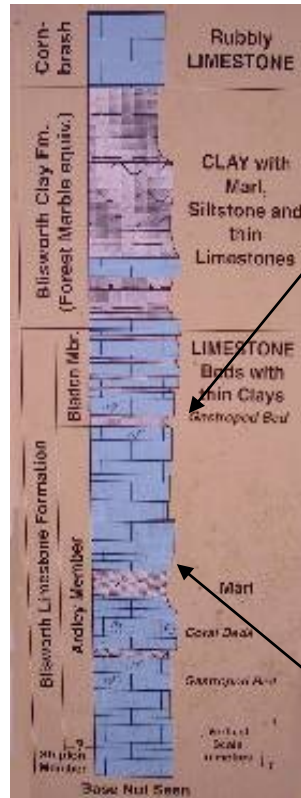


Photo below:
examining the Ardley member



Coombs has also yielded the only Buckinghamshire Mesozoic mammal fossils and on a thin limestone in the Blisworth Clay from a couple of miles distant, some Theropod dinosaur tracks have been found, demonstrating the near shore, sometimes emergent environment of deposition.

After a brief lunch stop, the group moved up the sequence to the Quaternary till with outwash sands and gravels exposed in the sandpit of Page Hill, Buckingham.

Both sites are under local authority stewardship. Buckingham Sandpit is under the care of Aylesbury Vale District Council and Coombs Quarry has been maintained for public use by the Bucks County Council's Countryside Management Service although greater BEHG involvement is anticipated in future due to recent council personnel cuts. Both sites are accessible to the public, although the sandpit only by prior arrangement as it is protected by a locked gate.

Dr Michael Oates

Walk: 'Burnham Beeches- Hydrology and Geology' by Graham Hickman

Saturday July 2nd 2011

This was the second year that this walk was offered in conjunction with the Burnham Beeches summer walks program and proved to be just as popular with around 25 people taking part.

Graham Hickman (**photo below**) started by explaining the local geology and how this affects the surface water and groundwater systems, which in turn affects the natural habitat and biodiversity.



To demonstrate the reason why springs occur where they do in Burnham Beeches, Graham set a small experiment in motion to show how quickly water drains through the gravels as compared with the underlying clays. The Quaternary gravels are part of the Winter Hill Terrace and represent an ancient flood plain of the Ice Age Thames river. They overlay the Reading Formation clays and sands, which in turn overlay the Chalk.

Two small streams cross Burnham Beeches, one called the Nile Stream and the other called the Withy stream. The group examined how the Withy rises as a number of springs in the Mire area and is dammed downstream forming the attractive Upper and Middle ponds (**photo below**).



The group then followed the Nile Stream across the clay until it disappeared into the ground at a large sink hole where the Chalk is presumed to be close to the surface.



The group examined the gravels close-up at the small quarry (**photo above**) which is used to supply the site with material for path repair. Characteristic pebbles were identified including worn flints, bunter quartzite and vein quartz. Some of these are quite far travelled, coming from the English Midland, while most of the flints may be more local.



A number of water observation boreholes have been drilled within Burnham Beeches as part of a monitoring network associated with a nearby gravel extraction permit. The water table within the boreholes has been monitored for over 20 years and the correlation with local rainfall can be easily assessed. The group opened up one of these boreholes and measured the water level with the gravels then walked down slope to see a active spring at about the same elevation.

Following the walk a tea and cakes were enjoyed in the Eco-friendly Burnham Beeches café.

Coombs Saves the Day – Munday's Hill Quarry visit.

Saturday August 13th 2011.

As many of you are aware we were set to visit Munday's Hill Quarry in Leighton Buzzard. It was devastating to be told (just one week before the visit) that the quarry would no longer allow visits from the public. The trip that day was to be a BEHG/Open University Geological Society joint event and the OU people were coming over from East Anglia, Essex, and Cambridge amongst other places. Some had already made travel arrangements and had booked accommodation.

There was no time to lose. Coombs was our only hope of a quarry locality which could be visited at short notice. But it needed a clean-up! Julia Carey had done a brilliant job of clearing the walkways into the site, so John Lawrence, a professional landscape gardener, was put into action with a brush-cutter to remove ash saplings, hawthorn bushes, brambles, nettles and more from the quarry floor. Followed with Jill, on secateurs, clearing the faces.

The group from both BEHG and Open University, **photo right**, had a brilliant day out. For such a tiny quarry it was amazing what you can discover and how 3 hours can disappear in no time at all!

We found lots of fossils and with the help of the sediments, and discussions involving the bedding sequence, everyone was able to deduce the 165 million year old palaeo-environment very accurately (even the lady that had never done geology before and had been dragged there by a friend. She's coming back by the way!) In fact, several of the group said they were keen to come back and help on our other sites when we do a site clearance or more conservation work. It shows we are doing a good job I think as they have 2 to 3 hours travel time to get to us!

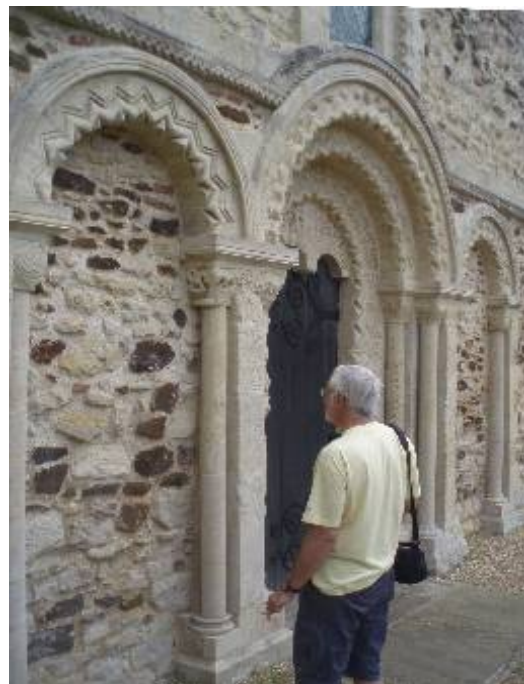


Jill Eyers

Members Letters:

The geology of Buckinghamshire Churches - Michael Oates

The geology of Buckinghamshire Churches is a fascinating subject. I was recently invited by a local historian to the Norman period St. Michael and All Angels Church, Stewkley to comment on the construction. Stewkley lies about eight miles north of Aylesbury, half way to Milton Keynes. Although most of the coarse fabric used to build Buckinghamshire Churches will not change much from area to area, it is interesting to see just how far Portlandian and Middle Jurassic limestones travelled from their outcrops and what exotic stones were used for the finer work, such as window tracery. On top of that, the use of glacial erratic boulders could probably chart the southern limit of the Anglian ice sheet. Internally there is also the sculpture and ornament, while externally, the gravestones tell a story of initial local derivation, followed by outside influence as first the canals and then the railways brought more choice at a reasonable transport cost. Perhaps this could be the subject of a day trip across Buckinghamshire as a future BEHG event or perhaps a evening lecture? Michael Oates



Rocks - and You!What's it all about?

The project 'Rocks - and You' is a way of combining three key elements:

1. Conservation work ensuring we keep a geology heritage for the future,
2. Research into key themes such as the Ice Age and Chalk streams
3. Educate the public and scientific communities from visits, workshops and published papers.

The idea is to provide the link showing that everyone is hugely dependant on geology in every aspect of every part of our lives - from the raw materials for our houses, tools, cars, roads, or heating, to our clothes, soils, makeup and medicines - we even eat rocks (honest!).

As a group interested in our local geology we can see for ourselves that we have lost key sites as industries close – the brick pits, sand and gravel quarries, chalk pits and cement works. Old pits get filled with waste and rock exposures degrade or become overgrown. Even fresh cuttings for new roads are landscaped and seeded with grass or flowers rather than leave a little of the local rock showing for geologists!

We know there is a demand and growing interest in geology and the natural world in general - we can see this from the response to our previous events and where we have talked to the public. There is a growing interest in all aspects of our heritage - and geology naturally fits into all of them. We can therefore engage a

wide variety of people from rock-climbers, to ornithologists, to walkers, gardeners, farmers, archaeologists or fisherman! There is no age limit for interest - from the most elderly to the tiniest children - a fascination for all aspects of geology can be found in every age group and from every cultural background. Lastly, but not least – where are we going to train our future geologists if all the quarries are totally backfilled?

This lottery funded project hopes to address some of these issues by providing sites for visits, interpreting these sites and providing a range of information from general interest accounts for non-geologists to professional papers for the geological journals. We have £49,300 to put towards it and just need some willing people to help. That's where you come in..... the events lists will be updated regularly with interesting things to do. We have two years to complete the programme.

Jill Eyers



rocks

Can't see the ~~wood~~ for the trees!



Coombs Quarry at its best, with fascinated people enjoying the rocks.

2011 Programme Changes

As Jill has described above there have been a number of last minute changes made to the programme for a variety of reasons. Please check website www.bucksgeology.org.uk for the latest updates and check with the organisers if you are unsure. The HLF project 'Rocks - and You' will generate many new events for the group and the committee will be meeting in September to discuss the remaining 2011 programme and the new 2012 programme. The committee would be pleased to hear and ideas or suggestions you have.

2011 Future Programme

NEW* Sunday August 28th 2011, 1pm - 5pm. Rocks and You - Launch. Whiteleaf Nature Reserve. Displays, walk trail, guided visit to quarry, dino trail for youngsters with prizes. For further details contact Jill Evers at j.eyers@btopenworld.com or call 01494 881325 (daytime only).

NEW* Tuesday Sept 13th, 10am Visit to HG Matthews, Chesham, to see the traditional method of brick-making from Reading Formation clays. Weekday visit as part of our Chalk livelihoods project. Please contact Jill Evers to book a place - j.eyers@btopenworld.com or call 01494 881325 (daytime only).

Wednesday Sept 14th 12:30am – 1pm. Lunch time talk – 'Treasures from the Geology Collections' Mike Palmer, Bucks County Museum, Aylesbury. Email mpalmer@buckscc.gov.uk for more information.

Date Change* Sunday September 18th 2011, – All day. Recording the sequence at Home Farm Gravel Pit, Stowe. This intriguing glacial gravel locality needs interpreting. Jill and the other geologists will show how to do this and, hopefully, by the end we will have more to say about how these gravels formed. To book contact Jill Evers at j.eyers@btopenworld.com or call 01494 881325 (daytime only).

Postponed. Milton Keynes Area walk – geological walk & Olney church yard building stones. This event will be rescheduled as part of the future 2011/12 programme.

Sunday September 25th 2011, Walk Goring to Hartslock. Landscape and livelihoods. 5 miles including one steep hill. To book contact Jill Evers at j.eyers@btopenworld.com or call 01494 881325 (daytime only).

Sunday October 2nd 2011, 10.40am to 4pm ish. Vale of the White Horse. Geology and archaeology. Visiting Wayland Smithy, Ridgeway, Uffington Castle, the White Horse and Woolstone. Further details contact Jill Evers at j.eyers@btopenworld.com or call 01494 881325 (daytime only).

Saturday November 5th 2011, 10am – 4pm. Festival of Geology at University College London, Gower Street, London WC1E 6BT. This free event held by the Geologists' Association is hugely popular. Geological talks, exhibits and vendors. The BEHG are planning to have a presence.

November, Indoor lecture. Joint meeting with Bucks Archaeology Society. Bucks County Museum, Aylesbury. Contact Mike Palmer at mpalmer@buckscc.gov.uk or call 01296 624519 for more information.

Membership

Membership of the BEHG is open to anyone with an interest in geology. Membership subscription runs annually from January 1st. Individual membership for 2011 is £5 and family membership is £8.

A copy of the membership form is available on our website: www.bucksgeology.org.uk

If you would like to join please complete and send the application form together with payment to: Membership Secretary, Lindsay Hiles 4 Phoenix Close, Leighton Buzzard Beds LU7 3YW email: behg.membership@btinternet.com

The Buckinghamshire Earth Heritage Group aims to record, conserve and promote the geology of Buckinghamshire and Milton Keynes.

Website: www.bucksgeology.org.uk

For general enquiries please contact:

Mike Palmer, Tel: **01296 624519** email: mpalmer@buckscc.gov.uk

Bucks County Museum Resource Centre, Tring Road, Halton, Aylesbury, Bucks HP22 5PN