



# Buckinghamshire Earth Heritage Group

Newsletter No. 25 August 2014

## AGM – Saturday 24<sup>th</sup> May 2014



Following the AGM those present were provided an opportunity to examine assorted geological finds brought in by members before heading out to explore Whiteleaf Cross Hill, quarry and barrow. The inclement weather, however, forced a change of plans as everyone decided to stay dry and explore the Museum Resource Centre instead.

Several members brought along their finds for the assembled group to look at and discuss. The prize for most specimens brought in went to Tony Britten whose finds included some nice fossil sponges collected at Wicklesham Quarry, (Photo below) one of a group of quarries in the Lower Greensand around Farringdon.



Mike Palmer brought out a number of items collected locally using a metal detector and brought in to the Museum as enquiries. These included a pockmarked *Stigmara* fragment found at Wing Airfield (disused). *Stigmara* was the name given these plant fossils before it was realized that they were actually the roots of a giant *Lepidodendron* Club Moss. These tree-like

relatives of the ferns thrived in the Carboniferous and so predate Buckinghamshire's surface geology by some 100 million years. Its occurrence in Bucks therefore, is probably down to an advancing ice sheet half a million years ago. After perusing many more specimens the group headed down to the Museum's geology store (photo below). The Museum's collection has around 6,000 objects mainly dating from 190 million years ago to the last ice age.



With over 300 drawers to choose from Mike opted to focus on those containing Chalk rocks, minerals and fossils to tie in with the original plan for the day. Echinoids, bivalves and sponges abounded (Photo below right) along with some interesting mineral specimens including an elongated Marcasite nodule, a fantastically preserved plant-like dendrite of Manganese oxide and two flint nodules containing colourful Chalcedony crystals. (Photo below left).



The general consensus was that this event was successful and should be repeated in the near future.

Mike Palmer

## ***HG Matthews Visit – Wednesday 30<sup>th</sup> July 2014***

On a beautiful summer day our party of 11 were taken on a factory tour of the H.G. Matthews Bellingdon brickworks site, led by Trisha White.

The success of the brickworks lies in Mr Henry George Matthews' understanding of the need for an abundant local resource and his policy of acquiring surrounding land as and when it becomes available. The bricks are made from the Clay-with-Flints Formation, an intermittent residual deposit overlying the Chalk in the Chiltern Hills. It is predominantly an orange to red-brown sandy clay containing abundant angular, pebble and nodular flints.



The clay is dug from relatively shallow small pits (photo above) then moved to the yard to be exposed to the weather, which breaks it down making it more friable. Next the clay is mixed with water and anthracite, the added carbon reduces the external fuel requirement during firing. The clay is then fed onto a conveyor and large flints removed whilst smaller ones are crushed through a system of rollers. The clay is now malleable and ready for moulding; it is pressed into wooden moulds by an 80 year old machine and turned out by hand. These 'traditional' bricks are in high demand for conservation or restoration projects of historic building renovation or for customers looking for a characteristic finish.

At this stage each brick contains around one pint of water and before firing they need to be dried to drive off the excess moisture that could expand and crack them during firing. H.G. Matthews are very proud of their new biofuel burner/boiler system that fuels the drying rooms and runs on locally sourced wood chips and significantly reduces their dependency on hydrocarbon fuel.



Up to 70,000 bricks are loaded in each of the four oil fired kilns. Once the kiln is fully loaded the corrugated iron roof is removed and the top sealed with a layer of fired bricks. The range of brick colours H.G. Matthews produce is predominantly due to the effect of differing temperatures from their placement in the kiln. Different colours are hand sorted after firing (Photos above and below). Bespoke cut and bond service are also offered to produce specials shaped bricks and they are increasingly experimenting with a range of glazed finishes to match those of historic brickwork and fulfil new demand from designers.

H.G. Matthews are keen to stress their commitment to restoring all land used for digging clay back to agriculture, wildlife areas and native woodland. So we finished the tour having a look at some restored land adjacent to the office buildings.



We would like to extend our thanks to all our hosts at H.G. Matthews who were so generous with their time in showing us around and answering all our questions.

If you missed this event you can see an interesting short video on their website at:

[www.hgmatthews.com/brickmaking/about/video.html](http://www.hgmatthews.com/brickmaking/about/video.html)

Nicky Muizelaar



---

## **BEHG Minutes of AGM – Bucks County Museum Resource Centre, Halton,**

### **Saturday May 24<sup>th</sup> 2014**

---

#### **Present**

Tony Britten, Julia Carey, Philip Clapham, Jill Eyers, Joe Ibbett, Nicky Muizelaar, Mike Palmer (minutes), Judith Stanton

#### **1. Apologies**

Graham Hickman, Ian Hudson, Mick Oates, Rodney Sims, Madge Wilson

#### **2. Minutes of previous AGM, 27th April 2013**

Agreed as a correct record. No matters arising

#### **3. Membership report**

Julia reported that membership currently stood at 27. Those not renewing from last year comprised two individual members and a family membership of 5. There was no feedback on why and so it is uncertain whether this was for a specific reason or simply be changing circumstances. Mike recounted brief discussions from the Group's last committee meeting looking at ways to both maintain and boost membership including publishing as far as possible a complete programme of events prior to membership renewal requests, ensuring a balance between membership recruitment events and members' exclusive events with particular emphasis on gaining access to sites normally out of bounds. A range of other ideas were put forward including asking members what they want, joint meetings with neighbouring groups and trips further afield. The committee will work on these ideas as part of a review of Group workings and activities at the next committee meeting

#### **4. Review of the previous 12 months**

##### **4.1 Rocks & You**

Jill reported on the success of the project with expectations surpassed in many categories: 21 talks promised, 25 delivered; 10 walks promised, 21 delivered; 5 family events promised, 12 delivered (including a week at Stowe), 13 school sessions delivered; 49 training sessions, 29 days worth of mobile displays along with a large graphic display at College Lake to be installed soon. The project is now signed off with the HLF particularly impressed with the high degree of volunteer input. Nicky spoke for all present in congratulating Jill on completing the large amount of work involved in the project

##### **4.2 Conservation**

Julia reported on the major revamping of Coombs Quarry to make the site both safer to use and clearer to interpret. The main face had been cleared and re-shaped in a stepped manor to facilitate easier and safer cleaning in future. Extra land in the field above the face had also been fenced off to enable future face management. Some large rock slabs had been removed from the face to provide teaching opportunities along with spoil heaps for fossil hunting. Management is currently with Bucks County Council but future transfer to the parish council

Julia also reported that a substantial number of fall trees have been removed from the Northmoor Hill swallow hole.

Jill noted that access to Bugle Pit was still problematical pending probate.

A small tidy at Buckingham Sandpit had also taken place.

##### **4.3 Events**

As has already been recorded the Rocks and You project generated a large number of successful events. In addition, a number of other events took place including Dr Haydon Bailey's talk on Chalk at the Bucks County Museum which attracted a large audience. It was also noted that unfortunately a small number of events had to be cancelled due to a lack of bookings. The committee will review the past years events and associated timings and publicity with a view to increasing future bookings

##### **4.4 Newsletter and Website**

It was widely agreed that both the newsletter and website continued to provide interesting content and useful communication to members. In Graham's absence, Mike noted that content for the newsletter and ideas and improvements for the website are always welcome.

#### **5. Treasurer's Report**

Jill had produced an account of the Group's income and expenditure for the year ending 31<sup>st</sup> March 2014 for checking by Joe Ibbett in advance of the meeting. The accounts were circulated to members present for comment. It was noted that the Group's finances are currently in good shape (see attached report) and Jill was congratulated for her hard work.

Continued next page...

Buckinghamshire Earth Heritage Group		
Income and Expenditure Account for year ending 31 <sup>st</sup> March 2014		
Income:	£	£
Book Sales	24.80	
Membership	204.00	
Rocks and You, Lottery Fund Grant	58.00	
		286.80
Expenditure:		
UK RIGS subscription	10.00	
Insurance	110.12	
Web Domain	8.38	
Web Hosting	129.17	
Rocks and You expenditure	6,842.85	
		7,100.52
Excess of Expenditure over Income		6,813.72
		=====
Opening Bank Balance		12,674.85
Less Late Payments and unrepresented cheques as at 31 March 2013		153.30
Add Late Credits as at 31 March 2013		10.00
		12,531.55
Less Excess of Expenditure over Income		6,813.72
Less Late Credit (see above)		10.00
Balance as per Bank Statement (31 March 2014)		£5,707.83

## 6. Election of Officers

Mike reported Jill's intention to stand down as Treasurer after this AGM but would continue in an acting capacity until a replacement had been found. Mike also noted that he was happy to continue in the role of acting Secretary pending the appointment of a member to this position. All other members were prepared to stand in their current capacities. Judith Stanton, offered to stand as a new committee member.

Accordingly, the committee, as described below, was unanimously voted *en masse* to serve for the period up to the next AGM.

### Officers

- Chairman – *Mike Palmer*
- Secretary (acting) – *Mike Palmer*
- Vice Chair and Membership Secretary – *Julia Carey*
- Treasurer (acting) – *Jill Eyers*

### Other Committee members

- Webmaster and Newsletter Editor – *Graham Hickman*
- Committee members - *Philip Clapham, Jill Eyers, Ian Hudson, Nicky Muizelaar, Mick Oates, Judith Stanton*

The committee will endeavour to find replacements for current acting positions and co-opt new committee members where appropriate to support the activities of the Group.

## 7. Any other business

Tony Britten enquired as to whether BEHG members' emails were shared with other Groups. Julia confirmed that all Group mailings go out as blind copies and so emails would not be visible to other members. Furthermore, any requests for contact details would always be passed to the member concerned so that they could decide whether or not they wanted to provide their details to the enquirer.

## 8. Date of next Meeting

May 2015 (exact date and venue to be confirmed nearer the time)

End of minutes.

---

## ***Winkling out LGS from thickets (LGS = Local Geological Sites)***

---

Recently Jill sent out a list of 43 LGS sites and asked members to volunteer to visit a few and monitor their condition. I volunteered to monitor and update a modest 7 sites. Easy, I thought I'll start with the **Bradenham sarsens and pudding stones**. Nice walk on a sunny afternoon. They are always visible out of the window of a passing car, so no problem. Unfortunately, all that rain in the winter and all that sunshine in the summer caused vegetation to flourish. The bracken is almost ten feet high. Out of the grass lurked some of the stones – buried up to their necks in dirt. They aren't going anywhere and will be visible until the cows come home - or whenever the NT is able to start grazing the field once again.

One down and on to the next one – **Wycombe Pit**. Never heard of it. The notes located it behind a tile warehouse on a small industrial estate at the back of Morrison's supermarket. A long search and enquiries with the employees of the tile house and Beeks the builders produced no Chalk face, I was directed to where they were building a new unit but that was just chalk foundations soon to be covered over by another warehouse.

Next stop **Beacon Hill at Ellesborough** – somewhere I know quite well. I've never been to the top of Beacon Hill and it is only since Open Access was introduced that it has been possible legally. In old photographs there was a tree growing on the top of the hill, but there are now two depressions. One seems to be where the tree disturbed the chalk and then another one, appears to be the site of countless beacon fires from times gone by. The hill is an elongated affair – almost conical at the front but having the shape of a Fox's glacier mint from a sideways position.

Next, to **Wendover Woods**, and according to the notes, a chalk face in a layby on the drive-in road towards the car park, cafe and the Go Ape swinging in the trees platform capers. The first two pull-in places had some vague chalk outcrops but the third one came up trumps, a nice chalk face that was mostly covered in summer vegetation. However, these can be described as herbs and wild flowers – nothing that might bite back. Fully visible in the winter I would think.

Next place, a few days later, was **Cliveden Caves** – never heard of them either! This too is NT woodland, including the chalk cliff that overlooks the Thames. At the old clay quarry there were lots of nettles once again, and loose soil and spoil that had to be clambered over – but nothing too daunting for the young and fit. Jill lists five locations at Cliveden (with OS reference numbers) and I followed a sign post for the Duke's statue, which brought me to the precipice at the top of the chalk cliff. These caves could be anywhere on the almost sheer drop. I looked at the notes again and it mentioned some steps. I found them a little further on and after a short scramble through undergrowth found a cave in sparkling white tip top condition, courtesy of some badgers.



Planning to find another cave I proceeded along the top of the chalk cliff, peering over every now and again, when I was accosted by a well spoken old lady sitting on a bench and enjoying the sunshine filtering through the canopy. Thirty minutes later I eventually got away and by then a cup of tea at the Orangery seemed a good idea, and a piece of cake, the kind that Jill makes a beeline for after a walk and talk. I shall have to pay another visit.

...

Phil Clapham

---

## Recent Fossil Find

---

**Mick Oates writes:** Lesley Maddox of the Green Dragon Rare Breeds and Eco Centre, at Quainton has recently brought an interesting fossil discovery to our attention. She wrote that the Centre has been involved in much building work on the project and had kept an eye out for any fossil specimens that could provide an interesting educational exhibit. She had already come across an oyster shell with what appeared to be an ammonite attached to it. The fossil, of a Jurassic Oyster *Deltoideum delta*, is pictured below, alongside an example of the ammonite, *Amoeboceras* sp.



Oysters with impressions of unrelated species are not uncommon, and provide a fascinating insight into the nature of the seafloor and the life history of the shell. Oysters start life, like most marine molluscs, as tiny planktonic creatures. When they eventually settle, they need a hard substrate to which they can attach themselves. This Jurassic Oyster juvenile found an ammonite shell as its attachment object (after all, there were few opportunities to stick to something hard in the soupy Ampthill or Kimmeridge Clay seafloor). For a while, the oyster would have remained attached, with one valve growing across the contours of the substrate. This valve would have exhibited a mould of the substrate, while the “free” valve (which is pictured above), grew as an exact opposite, with the exact appearance of the ammonite shell upon which it was growing. Eventually, when it was big enough to be supported by its large flat shell on the soft muddy seabed, the oyster fell off and led a life of its own.

Where is the ammonite now? Ammonite shells were composed of a different form of  $\text{CaCO}_3$  called *aragonite* (mother of pearl), in contrast with Oysters which are of a much more stable form, *calcite*. Aragonite corrodes easily in the thick subsoil zone above unweathered Upper Jurassic Clay. Calcite, on the other hand, weathers up into the soil more or less unchanged.

The ammonite upon which the Oyster settled was probably an *Amoeboceras*, from the Upper Oxfordian (Ampthill Clay). Ammonites like this are as good as coins to an archaeologist in estimating the age of the enclosing sediment. As ammonites are made of the less stable aragonite, some stratigraphers have used Oyster moulds like this in the absence of the dissolved ammonites themselves, to date the rock units. This is particularly useful in sediment deposited in deeper oceanic environments where the primary dissolution of aragonite is more prevalent.

The Oyster is a *Deltoideum delta* (originally described and named as “*Ostrea*” *delta* by William Smith, the Father of English Geology). It occurs commonly in a band around the top of the Ampthill Clay into the lowest part of the Kimmeridge Clay. Field walking north of Aylesbury will often turn up these shells, the distribution of which has been used in recent years to map the junction of these two Upper Jurassic formations at outcrop.

The attachment surface of oysters, even today, gives away what they grew on initially. There is a further branch of palaeontology that has grown in recent years, which studies the small epibiontic life-forms that pre-existed on the shell that was over-grown. This is called bioimmuration, and includes the moulds of microscopic soft-bodied animals that would otherwise never be preserved. The oyster attachments could easily be valuable in this respect as well.

Mick Oates



---

## News: Jurassic Coast fossils online

---

Almost 1,000 fossils from Dorset and East Devon's museums are now accessible to everyone thanks to a new online database.

<http://jurassiccoast.org/fossilfinder>

Click the link above and explore.

The project run by the Jurassic Coast Museums Partnership, and supported by Arts Council England, Natural England and Dorset County Council, is one of several exciting initiatives to enhance the appeal of the museums.

The Jurassic Coast Fossil Finder showcases the fossils held by museums along the Dorset and East Devon Coast World Heritage Site. Each fossil has been professionally photographed, some of them as 360 degree rotations.

They are presented with a description and fact file of scientific details. It is possible to search in a variety of ways and to display the results in geological order which gives a very visual representation of the nature of the fossil record in this part of the World.



Example above: Crinoid (*Apiocrinites elegans*)

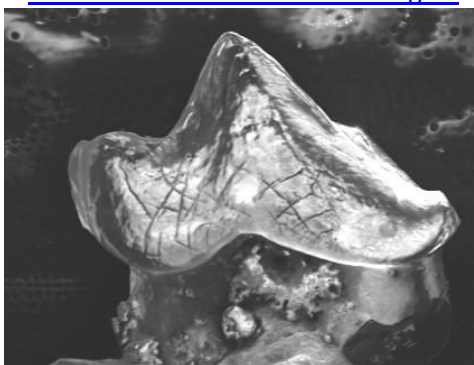
---

## Searching for Jurassic mammal teeth in Buckinghamshire

---

During July volunteers from BEHG met at the depot next to Coombs Quarry to wet sieve the samples of marl which had been collected from the quarry face by Julia Carey during the restoration work (see last newsletter).

The process of wet sieving is being undertaken in order to recover other samples of rare Jurassic mammal teeth – one having been found by Dr Adrian Rundle around 2001. Photo below, see article in [Newsletter December 2011 - Page 4](#)



Samples of the marl were placed in buckets and hydrated to form an oozy liquid. This was gradually passed through sieves of increasingly smaller meshes with the help of constant running water. Solids collected from each mesh size were then cleaned and collected in labelled trays for



BEHG volunteers wet sieving marl samples.

drying. Among the grit and wood fragments microfossils will be present. With the naked eye crinoid ossicles were visible even at this stage. The next stage is examining the dried samples under a microscope and to collect and identify the different microfossil component.

Volunteers and those experienced in identifying microfossils are encouraged to join us later in the year when the group meets again at the museum centre at Halton.

Jill Eyers

## 2014 Future Programme –

Further trips and talks will be scheduled as the year progresses. Please check the BEHG website or email the organisers before any event, for the latest update.

**Tuesday August 26th, 10:30am, Northmoor Hill Denham.** meet 10.30 in the car park for the clean-up of the swallow hole area. Just turn up to help and bring picnic lunch, expected end 2pm. For further details or information contact Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com))

**Thursday August 28th, 10:00am, Geo-archaeological and nature walk of Moorend Common.** with Jill Eyers and Katy Dunn with the Lane End Conservation Group. Start at the Prince Albert pub Frieth. For further details or information contact Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com))

**Saturday August 30<sup>th</sup>, 10:00am, Pitstone droving & geological Walk.** Meet at Stocks Road car park 10.30am (on the side of Pitstone Hill). Route via Incombe Hole, Clipper Down, Barley End, Medieval fields to Pitstone Hill, flint mines (?) then walk along bank of Grimm's Ditch where there are good views of quarry and a chalk face, and back to car park. Walk includes geology, archaeology and droving. To book a place contact Phillip Clapham ( email: [carolflip@talktalk.net](mailto:carolflip@talktalk.net) )

**Sunday September 7th, 10:30am, Whiteleaf Quarry clean-up, then picnic and geo-walk.** Meet Whiteleaf car park 10.30, just turn up. For further details Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com))

**Tuesday September 16th. TBA, Photography workshop at Pitstone Green Museum, Pitstone.** Free event run by Jill and professional photographer, Hayley Watkins. Great fun. Come and learn how to take wonderful photos - any camera, even your mobile phone will do. To book a place or information contact Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com))

**Sunday Sept. 21st. 10:30am, 10:30am, Ivinghoe village walk, building stones, bricks and archaeology.** Meet 10.30am, for walk followed by lunch in cafe, then visits to the windmill and/or the watermill (you will need my tickets to get in free of course!). To book a place or information contact Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com))

**Sat & Sun September 27th & 28<sup>th</sup> TBA. ESTA conference being hosted at the Open University at Milton Keynes** - Earth Science teachers conference day 27th with Jill speaking on Rocks and Soils. 28th is the field day with trip to Coombs Quarry with Jill. Book attendance place with ESTA.

**Thursday October 2nd. TBA, Hillforts of the Chilterns conference.** 'How did Chilterns Hillforts fit into Iron Age life?' To book a place (£30) contact [office@chilternsaonb.org](mailto:office@chilternsaonb.org) Tel 01844 355500

**Sunday October 13th, 10:30am-4:00pm, Coombs Quarry and Buckingham Sand Pit** with the Kent OU Geological Society. Followed by a quick look at building stones in Buckingham lunchtime. Meeting at 10.30 at Buck Sand Pit, then visit Coombs in afternoon . Contact Jill Eyers (email: [j.eyers@btopenworld.com](mailto:j.eyers@btopenworld.com)) to be on the list.



# Membership

A thank you to those that have already renewed their subscriptions for this year, 2014 and a reminder to those that have yet to renew to forward on their membership fee as soon as possible please to Julia.

Annual membership runs from 1st January. Individual membership for the 2014 calendar year is **£7.50** and family membership is **£12**.

A copy of the membership form (Page 9 ) is available on our website:  
[www.bucksgeology.org.uk/pdf\\_files/BEHGMembershipForm2014.pdf](http://www.bucksgeology.org.uk/pdf_files/BEHGMembershipForm2014.pdf)

If you would like to join please complete and send the application form together with payment to:

Membership Secretary, Julia Carey, c/o BMERC. Place Service 9th Floor, County Hall,  
Aylesbury. Bucks. HP20 1UY

email: [jcarey@buckscc.gov.uk](mailto:jcarey@buckscc.gov.uk)

Alternatively, you can pay your subscription direct to the **BEHG** account at :  
Lloyds TSB (White Hart Street, High Wycombe)  
**Sort code: 30-94-28 Account no. 00744003**

Confirmation of receipt will either be by email or by post. The BEHG welcomes all new members.

---

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

---

Website: [www.bucksgeology.org.uk](http://www.bucksgeology.org.uk)

For general enquiries please contact:

Mike Palmer, Tel: 01296 624519  
email: [mpalmer@buckscountymuseum.org](mailto:mpalmer@buckscountymuseum.org)  
Bucks County Museum Resource Centre,  
Tring Road, Halton,  
Aylesbury, Bucks HP22 5PN



Affiliated to the Geologists' Association

