

Newsletter

Bedford Museum re-opens

By Anne Williams

Two regular volunteers from our Group recently attended the Bedford Museum, now renamed 'The Higgins', for a volunteers' thank you and training day. We had two tours, one to see the new galleries, and one to see the facilities, the latter prominently featuring the many new and impressive toilets!

Workmen were still very hard at work but some galleries contained exhibits and it was possible to see how exciting the new museum and art gallery would be, but unfortunately the Geology section was still unfinished. We had an excellent lunch and realised just how much the volunteers were appreciated.



*Pleistocene display
By kind permission of The Higgins*

The Bedford Museum closed for redevelopment in October 2010 and re-opened on June 21st. During this time the BGG have helped pack up the geological collection, re-catalogue and photograph the specimens and have assisted in selecting exhibits for new geological displays.

On Midsummer's Day the Higgins finally opened at 4.30 am! ('sunrise to sunset' opening) and I believe some people took tours (with breakfast) at that time. Many of the staff never went to bed that night! But appeared beautifully dressed to chat with visitors when opening to the general public at 9.00am. My visit began at 8.15 to see the Bedford Morris Men dance around the castle mound and into the courtyard.

Glynda and I were finally able to see the Geology exhibits. This section seemed smaller than we had envisaged but beautifully presented. The labels on the exhibits and the geology maps were not yet in place, but soon will be. Meanwhile, there is a series of video screens depicting the Jurassic seas with stylised ammonites and plesiosaurs,

which leads you into the development of the Bedfordshire landscape via its geology.

The new Higgins will be a great asset to Bedford and one we will continue to be involved in thanks to the hard work of the members of our group.

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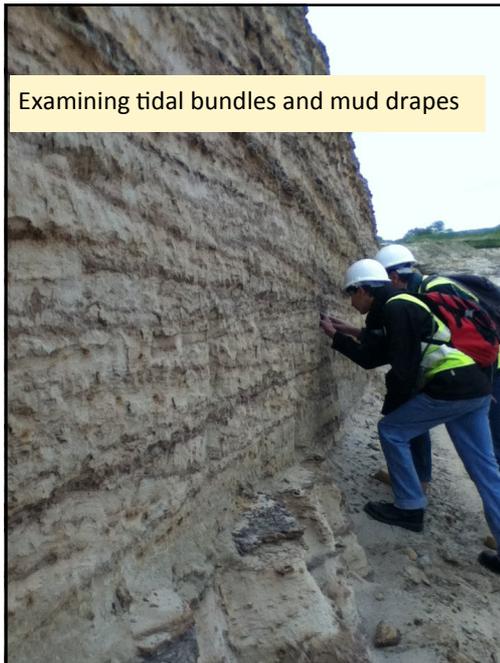
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Frolicking in the sands of Munday's Hill Quarry.....

By Bev Fowlston MSc

On a lovely Saturday in June, 14 intrepid geologists, archaeologists and enthusiasts struck out across the sandy beaches of Leighton Buzzard in search of Shenley Limestone, Cretaceous fossils and evidence of warm tropical seas.

Yes, really! There are ancient remnants of warm, tropical, sandy beaches, the elusive Shenley Limestone and, what is known as, oceanic anoxic events; the result of oxygen depletion in the world's oceans, in the quarries around Leighton Buzzard.



Examining tidal bundles and mud drapes

The group was welcomed by the quarry manager, Tom Wise, who we thank for his support and enthusiasm in allowing us free reign (relatively) in his big sand pit.

We started by clambering down onto the worked area that exposes the Silver Sands of the Woburn Sands formation. In the working faces the evidence for many different environments could be seen including, tidal bundles indicating gentle wave action in a shallow sea; mud drapes showing even calmer but slightly deeper waters; lumps of charred wood indicative of nearby forest fires. We traced a river channel from one side of the worked area to the other indicating that at some point during the formation of the Woburn Sands river channels cut into the underlying sediments providing evidence of changing environments.

After much searching for the still elusive Shenley limestone and the evidence for an oceanic anoxic event, the group clambered out of the worked area, with much hilarity and 'bottom-shoving' to extricate some of us, we worked our way across the very white and beautifully sparse top of the re-worked area. It looked as if the moon landings could have been filmed there!

The group eventually made it to the gault clay infill and.... heads down, eyes peeled, the search began for fossils. Pockets full of belemnites, small ammonites, the odd gryphaea and geologists everywhere were happy as pigs in ****!

A huge thank you to Tom and Garsides Sands for a fascinating look into the best sand pits this side of the Sahara!



Bev with an excellent example of fossilised wood

Kensworth and Landpark site clearances

By Jan Munro

On Saturday May 11th we had a date with the chalk exposure in the Wildlife Trust Nature Reserve at Kensworth Quarry. The mission (which we chose to accept) was to assess the amount of frost damage and clean back the loose chalk to reveal the features beneath. Of course there was also the opportunity to rummage in the debris for fossils. In the past we have carted off such prizes as sponges, echinoids, bivalves and gastropods.

Due to the soft nature of the chalk, this is an annual chore but recently we have had interest from schools & community groups wanting to learn more about geology and hunt for fossils.

Last year, Anne Williams and I were invited by Groundworks (UK), an environmental charity, to help lead a group of children around there from Streetfield Middle School, Dunstable. They hunted for fossils and learnt about chalk and its uses. The teacher was delighted by the level of engagement displayed by the children.



This educational trend is continuing and Anne is due to meet a group of teachers shortly to look at other educational opportunities at the site and the Woburn Sands Formation at Potton Scout Hut. This may be a good way of earning the group an income from fees for these activities. Peter Lally has been working on risk assessments and a scale of fees to this end.

Armed with various weapons of mass destruction namely hoes, rakes, trowels, ladders and brushes, we descended on the task with gusto and soon solution hollows, faults and marl layers were reappearing as if by magic!

After lunch we tackled the Landpark Quarry near Whipsnade Heath. The exposure here shows the middle to lower chalk as opposed to the middle to upper layers at Kensworth.

A couple of years ago, Martin Whiteley led an investigative work party here. He was very excited about the number of fossils that came out, particularly the echinoid *Micraster*.

We were very sad to discover that all his hard work creating access to help people view the strata had been almost completely destroyed by weathering and the encroaching vegetation.

This is another Wildlife Trust reserve and we must be mindful that there are important biodiversity considerations and the geological ones are only part of what makes this site special.

Flint is present in large quantities and the strata is very fossiliferous and therefore desirable for field trips.

It would be good practice if we to liaise closely with the trust with regards to the requirements of their management plans if they have any. We need to be included as part of the management if possible. I understand that Frances Maynard is going to meet with WT representatives in the near future and we will report back to members when we know more.

Landpark is an important site and there is still a tremendous amount of work needed to be done to improve access.

A massive thank you to everyone who helped on the day. They were amazing – coming out time and again for the benefit of the group. As for the weather – we'd just got finished when there was an absolute cloudburst – excellent timing!

Forthcoming events

Event	Date	Where
Bedford Museum Visit An Open event to celebrate the reopening of 'The Higgins Bedford'. A conducted tour followed by a picnic on the embankment.	Sunday July 27th. Tour to start at 11am	The Higgins, Bedford
Walk & AGM Details to be finalised	Sunday 22nd September	Possibly a look at local building materials and Bedford Cemetery stonework, followed by the AGM
Talk on Snowball Earth The Snowball Earth hypothesis posits that the Earth's surface became entirely or nearly frozen at least once, sometime earlier than 650Ma (million years ago).	Friday October 18th	Talk by Ron Elverson at Husbourne Crawley Reading Rooms
Southern Hemisphere Geology A presentation with photos by Glynda Easterbrook based upon her recent travels down under.	November. Date to be confirmed	TBC
Christmas Social A fun evening of talks, presentations, quiz, raffle, food and drink.	Thursday December 12th	Husbourne Crawley Reading Rooms

For each event we will send out a reminder with further details including times, meeting places and maps etc

Do keep your eye on the website: <http://www.bedfordshiregeologygroup.org.uk/events.html> for further details of what is coming up. Finally if you have any ideas for future events (such as interesting sites to visit) **please contact Frances**, the Events Coordinator and she will see if it can be arranged.

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Photo Caption Page

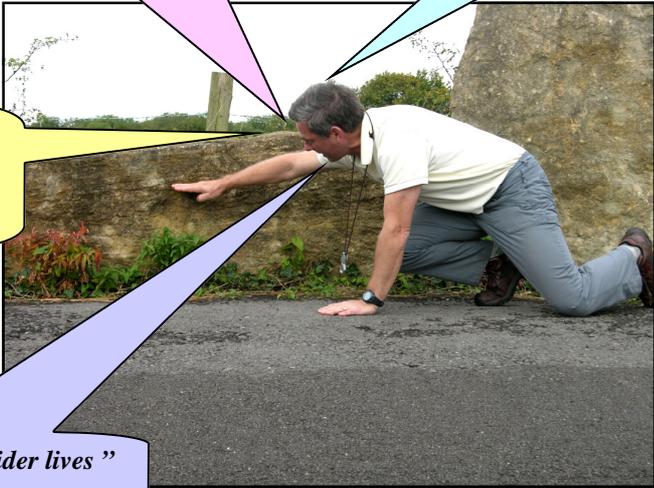
OK, so Martin got down on his knees to explain something geological, but what was he really saying ?
We got a few amusing captions sent in.....

“ Monty Python might have climbed the Uxbridge road back in 1972, but only I can conquer it without using a rope or helmet !” (Maria Carter)

“What’s the craic here!” (Martin Flynn)

“Keep down below this line and they’ll never see us!” (Jane Walters)

“.....and this is where Boris the spider lives ”



*And now we need some witty captions for this photo of Tony Brittan taken at Potton
Please send to henriettaflynn@btinternet.com*

“ ”



Members Page

- **Do you have a story to tell?**
- **A question for the committee or the whole group?**
- **Do you need something to be identified? Send us a photo.**

Birthday dive

*By John Buxton,
our intrepid octogenarian caver*

Yesterday I grew older and possibly wiser. I had my birthday dive in Stewartby Lake. I think caves are out of the question at the moment due to rain. On this occasion it rained all day but I was not deterred.

However I had Audrey and daughter Gillian and her two sons to help !!! Tom even took the photos.

Afterwards we celebrated with local Fish and Chips. Audrey made a cake and Gillian put some candles onand yes I can still managed to blow them out in one single puff !!



Is it a fossil, a rock or even a bone? - an early geological find....

By Henrietta Flynn

A school trip to the Dordogne region of France when I was about eleven years old started an early interest in caves, limestone and geology. Our French teacher, a keen amateur archaeologist was keen to take us to some local sites so we visited the caving system of Lascaux which displays some excellent early cave paintings.



Whilst everyone was busy admiring the amazing cave paintings my attention was drawn to the 'hanging bone like appendages' dripping from the cave ceiling. I was young and inquisitive and couldn't resist touching!!! You guessed it -part of one came away in my hand. On discovering what I had in my hand my teacher was furious, but the tour guide was a bit more understanding.

After a telling off, she went on to explain what I was holding – part of a stalactite, and from then on the tour turned into a geology lesson as she explained how the caves had been formed and how the magnificent shapes around us had been sculptured by water.

After much pleading I was allowed to keep my stalacmite and took it back to school where it became an item of interest for the whole class. Although the trip to France didn't really improve my French it inspired me to study Geology both at school and later at University, and I still have my stalactite today!

BGG & BEHG walk around Great Brickhill and Stockgrove Park *April 10th*

First published in BEHG newsletter. Photo kindly supplied by Clive Rodgers.

The combined group of Bucks Earth Heritage Group and BGG members met on a lovely Spring morning just right for a walk! Clive Rodgers of the BEHG supplied a comprehensive handout with details of the route and information on the local coprolite industry, geology and scenery.

Our first stop was in the beer garden of the Red Lion PH, where we were able to look over the scarp face of the Lower Greensand ridge and take in the panoramic view of the Jurassic clays in the valley. The Greensand Ridge is a low escarpment; the edge of the more resistant sandstone forms a steep scarp face with a gentle dip slopes, parallel to the bedding to the south east. Softer clays erode to form the main valley below the escarpment.

Making our way towards Stockgrove Park we stopped at various points to look some houses with good examples of ferruginous sandstones. It was explained how the iron mineral originated from a nearby land area and was carried into the marine environment in solution eventually precipitating as a hydrated iron carbonate.

Entering Stockgrove, via Cuff Lane, the public footpaths took us past dry river valleys and through woodland and heathland full of acid loving plants. We had a tea break at Stockgrove's Visitor Centre, before making our way back to Great Brickhill. We crossed onto Rannamere Heath and on to join part of the Greensand Ridge Walk.

Arriving back at Great Brickhill we walked on to the Church where we examined the boundary wall which was made up with quite a variety of rocks; Jurassic limestones, chalk as well as the ubiquitous sandstone.

We ended back at the Red Lion PH for a well deserved drink and lunch. Thanks goes to all those who attended and especially to Clive for his expertly led walk and handouts.

View from the scarp crest, at Great Brickhill, looking towards the R. Ouzel and the non-angular unconformity in the valley.



Field Trip to Totternhoe Stone Pits and Quarry

April 20th By Frances Maynard

This was a lovely day for a Fossil Fossick. 22 people attended of which 11 were non-members (including some younger people who particularly enjoyed the fossicking). The weather was very kind to us (considering the site had been covered by snow two weeks earlier when I did a recce).

We looked at the spoil heaps from recent workings in the old lime pit. Here we found examples of fish scales and teeth (see Fig 1) plus trace fossils (burrows), *inoceramus* and mixed small *brachiopods*.

The stone showed considerable weathering having been frost shattered over the winter months but being so light in colour we could bask in the reflected sunshine!



A frost shattered block of Totternhoe stone

After the fossick we walked around the Totternhoe Knolls Wildlife Reserve which had possibly been the site of the mines or adits that had been the original Pits (worked since at least 1200 AD) and now featured vegetated spoil heaps.

We then circumnavigated the more recent 'Hunger Pit' which is now filled in and 'restored' to arable. The highest point of the walk gave the opportunity to look at the expanse of Bedfordshire as well as the further chalk to the south of Totternhoe at Dunstable.

This illustrated the stratigraphy of the area with lower chalk at Dunstable as well as at Totternhoe – forming an 'outlier' of harder chalk which had probably been deposited in an ocean trench and therefore the sediment contained harder or pre-worked chalk from earlier deposits.

The chalk at Totternhoe had been used extensively for buildings (such as The Swan Hotel in Bedford) but as was evident from the frost damage was not suitable for outside faces. It made a good stone for carving and as was seen from one of the blocks waiting processing could be cut with saws in its raw state.

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We are all volunteers and bring together an assortment of skills, interests, experience and geological knowledge (or not, as the case may be!). If you feel we could benefit from your skills and ideas too, we would love to hear from you.

Please go to our website for further BGG information www.bedfordshiregeologygroup.org.uk

And finally.....

It was ice creams all round
for team BGG!

Our volunteers put on an impressive geological display at Poddington Farm Open Day on June 9th.

- Lindsay, Anne and Tony enjoyed a well deserved treat!



Newsletter compiled and edited by Henrietta Flynn
If you have any comments or wish to include an article in the next issue, then please contact me by email at henriettaflynn@btinternet.com