The Black Country Geological Society

NEWSLETTER No. 185
OCTOBER 2007

The Society provides limited personal accident cover for members attending meetings or field trips. Details can be obtained from the Secretary. Non-members attending society field trips are 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.

COPY DATE FOR NEXT NEWSLETTER IS 3RD DECEMBER 2007

In this edition:

FUTURE PROGRAMME

Lecture meetings are held at Dudley Museum, St James's Road, Dudley.
Phone (01384 815575)
7.30 for 8 o' clock start unless stated otherwise.

SUNDAY 28TH OCTOBER 2007 (*Field meeting*)

Whitmans Hill Quarry – Malvern Hills

Whitmans Hill Quarry is administered by the Herefordshire and Worcestershire Earth Heritage Trust. It is mainly Much Wenlock Limestone with some rocks from the Ludlow Series. It was worked until 1990 and has some excellent exposures. It is also a haven for wildlife.

The entrance to the quarry is in Storridge which is on the junction of the A4103 and B4219 GR:SO748484 and we will meet 10.30 – 11.00ish.

MONDAY 29TH OCTOBER 2007 (*Indoor meeting*)

Spencer Mather: **Caledonian Crystal Collecting**

Spencer is well known to you as one of our members, and a prodigious mineral/crystal expert. He will give an account of mineral scavenging amongst the remnants of the Caledonides. An entertaining evening is assured.

MONDAY 26th NOVEMBER 2007 (*Indoor meeting*)

Members' evening

A pot pourri of contributions from our members. Bring along your specimens, pictures, maps and questions. Give a short talk; paint a picture; compose a poem; or even a song, extolling the importance of geology.
To enable me to produce a programme, please e-mail me with your contribution. gwjhensman@aol.com

MONDAY 28th JANUARY 2008 (*Indoor meeting*)

Joint meeting with the West Midlands Regional Group of the Geological Society

Where was the Devensian Ice Margin in the West Midlands?
Speaker yet to be confirmed.

Gordon Hensman and Andy Harrison

OTHER SOCIETIES

NORTH STAFFORDSHIRE GROUP OF THE GEOLOGISTS' ASSOCIATION

Thursday 11th October 2007
Volcanic Geology and Bronze Age Minoan Archaeology of Santorini, Cyclades, Greece, Part 2
Speaker: Dr Bob Roach
7.30pm start, School of Earth Sciences and Geography, Keele University

Saturday October 20th, 2007
10.00am - 4.00pm Rock around Staffordshire Children's Event: Potteries Museum & Art Gallery, Hanley. Activities will include a mock mining tunnel and a spoil heap mineral search (£1.00 for children)

Sunday October 21st, 2007
Rock around Staffordshire "Field trip" to the Apedale Heritage and Mining Museum, with underground tours and exhibitions of the region's geological heritage. Geo-tours of Apedale Country Park Rock, Fire, Ice & Water led by Drs Ian Stimpson & Peter Knight. (50p for adults)

November 22nd, 2007
Oil, The Potteries and the Works of Sir John Cadman. Speaker: Professor Hugh Torrens (Keele University)
This is also the annual Prof Cope Memorial Lecture. 7.30pm start, Alan Gemmell lecture theatre, Huxley Building, Keele University

More details are available by following the links at www.esci.keele.ac.uk/nsgga

WEST MIDLANDS REGIONAL GROUP of the GEOLOGICAL SOCIETY

October 9th 2007
Victoria Griffiths, Blom Aerofilms: 'Aerial Photography and Airborne Laser Scanning for Geologists'
Dome Lecture Theatre, Geology Department, Birmingham University; 6.30pm.

December 11th 2007
AGM followed by: Professor Rae Mackay, Birmingham University: 'Urban Groundwater and Applications'.
Dome Lecture Theatre, Geology Department, Birmingham University; 6.30pm.

For further details please contact the Secretary, Adrian Jones, 0121 252 3100: Adrian.jones18@firstengineering.co.uk

LAPWORTH LECTURES
Autumn 2007

All lectures commence at 5.00pm in the Palaeo. Lab., Earth Sciences, University of Birmingham.

Monday 8th October 2007
Graham Worton; (Keeper of Geology, Dudley Museum & Art Gallery)
'Mining the heritage seam'.

Monday 22nd October 2007
Professor Ian Fairchild; (School of Geography, Earth & Environmental Sciences, University of Birmingham.)
'Snowball, Slushball or Zipper-rift: the Earth system as a roller-coaster in Neoproterozoic times'.

Monday 5th November 2007
Dr David Large; (School of Chemical & Environmental Engineering, the University of Nottingham)
'Million year peat bogs – a new view on peatland evolution'.

Monday 19th November 2007
Professor Richard Lisle; (School of Earth Sciences, Cardiff University) 'Origami tectonics'.

Monday 3rd December
Professor Paul Smith; (School of Geography, Earth & Environmental Sciences, University of Birmingham.) 'Geol. Soc. Bicentenary, Local Heroes Lecture: Charles Lapworth'

For further details/information contact:-
Jon Clatworthy, Curator of the Lapworth Museum of Geology.
0121 414 7294
J.C.Clatworthy@bham.ac.uk

EDITORIAL

I find it fascinating when reading about the history of geology, to see how ideas develop when they are counter to the accepted facts of the time. In the last 100 years we have seen the idea of Continental Drift that ultimately led to Plate Tectonics having to fight for recognition as it ran against the contrary, generally accepted ideas about the earth's structure. Then there was the 'fact' that you could not have high energy sediments formed in deep seas, overturned as the nature of turbidity currents, carrying their coarse material to the depths of the ocean was uncovered. The greatest controversy of this nature was of course Darwin's ideas about evolution which heralded the concepts of geological time, and this had to fight against beliefs not confirmed by science.

What about the extinction of the dinosaurs by a bolide impact? This is now a widely believed scenario, school children will tell you it is true, they have seen the film 'Armageddon' with Bruce Willis; and many geologists, particularly in the USA will say that it is a 'fact'. It is a beautiful idea, easy to comprehend, supported by the frequency that these events have taken place in geological time; and in Chicxulub they have found the impact crater, an end of Cretaceous event. Argument over, end of story!

But geologists know that the argument is never over, and it should be simple to check it out using modern, detailed stratigraphic research. This is exactly what has been done. Despite the problems encountered when you are researching an idea that goes against generally accepted 'facts'. You have to have your research published and need access to the conference circuit, which can prove difficult. Despite this Professor Gerta Keller of Princeton University has shown that the Chicxulub impact did not wipe out the dinosaurs, indeed it happened about 300,000 years before the K/T boundary and seems to have had no effect on life whatsoever. This is based on detailed stratigraphy, backed by evidence from sedimentology, palaeontology, mineralogy and geochemistry using sequences in Brazos, Texas where the effects of the impact can be studied in sediments that have not been disturbed. These sediments also contain a detailed fossil record.

So the jury is still out with regard to the K/T boundary event, as with the other mass extinctions in the geological column; but don't tell Bruce Willis.

Ref: Geoscientist Vol 17, No 9. September 2007. 'Chicx comes home to roost' p6-7. 'Impact factor' p8-9.

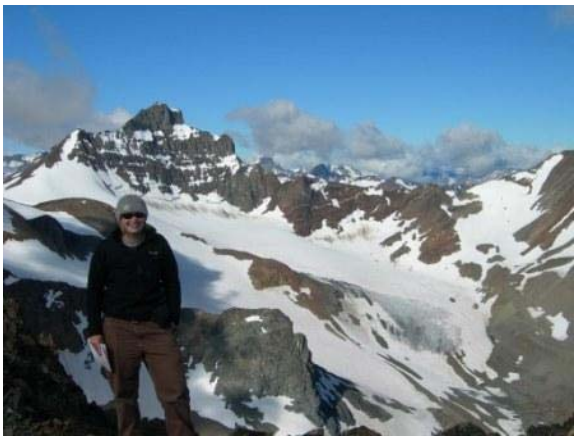
Bill Groves

ROCK AND FOSSIL FESTIVAL

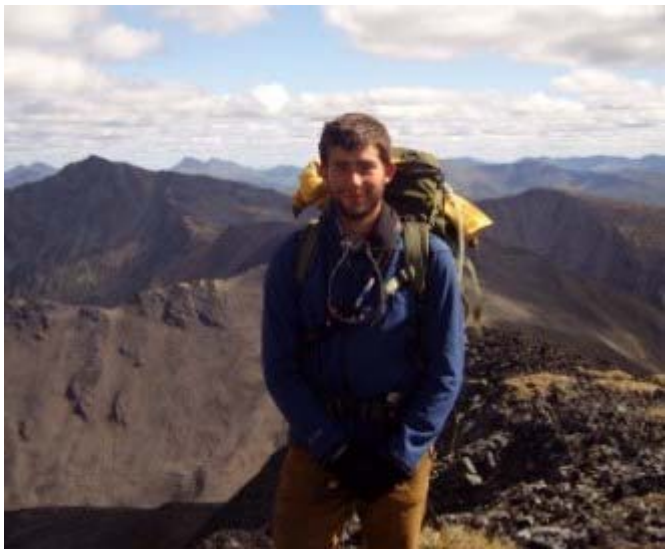
Many thanks to those members that kindly volunteered to help at this year's fair. As always the fair was a great success and having the 'ask and expert' desk as part of our stand meant we got to see some very interesting specimens! It was a great weekend all round and a lot of fun talking to folks about our wonderful subject. I hope some more members will join us next time round, which is likely to be 2009.

Sarah Worton

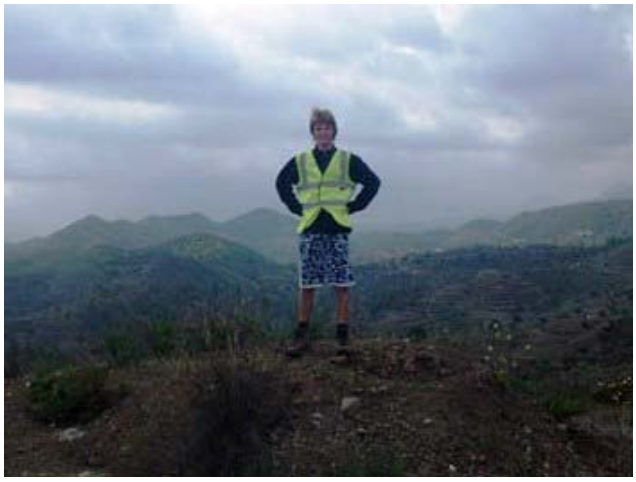
FROM OUR MEMBERS



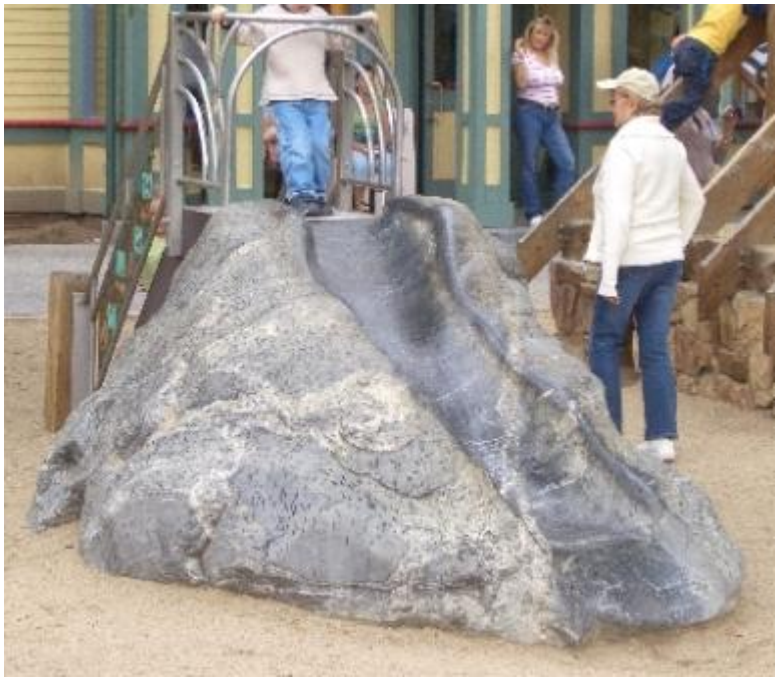
Lucy Hollis has emailed from Canada. Some of you may remember that Lucy joined the society whilst studying for her A-levels at King Edward VI College, Stourbridge. She then took a geology degree at Birmingham, and spent one year of the course at Vancouver University. It was only natural that she should go back to Canada for her post graduate doctorate. She is investigating the porphyry metal complexes in the British Columbian mountains, a beautiful environment to work in, and where this photograph was taken. She says, "*I just love that I get to travel and work outside, whilst balancing that with work here in head offices in Vancouver.*



One of our current young members is ***Ben Jones*** who is in the middle of his studies at King Edward School Five Ways, Birmingham, another excellent A-level geology centre. Ben won a place on the British Schools Exploring Society's five week expedition to the Yukon in Canada. BCGS was pleased to be one of his sponsors. Part of his time was pure exploration, climbing 6,500ft+ mountains and wilderness trekking and camping, the other half of the time was collecting data on the geology. He writes; "*One phase, during our week on the lake involved panning the inlet streams to all the smaller lakes. This allowed us to suggest the kinds of "heavies" coming from the Davidson range. The most common materials that we found were essentially iron rich. These included magnetite, haematite and occasionally some galena."* He was close to an area of mineralization where silver was mined in 'gold rush' times. The general geology sounds complex in a metamorphosed and thrusted sedimentary basin.

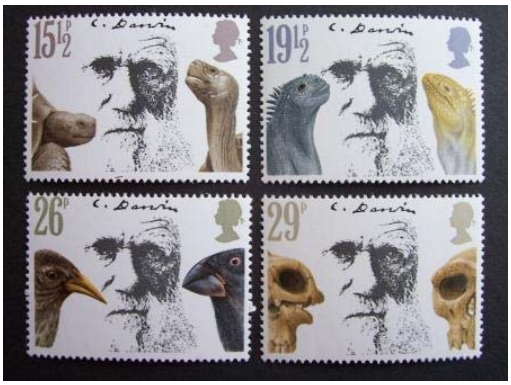


At the Rock and Fossil Festival recently I met up again with another of our younger members ***David Miller.*** He is also a former A-level student of King Edward VI College, Stourbridge and has just completed his M.Sci. at Bristol University. He is a metamorphism specialist and has been researching subduction zones. He is about to start on his doctorate at the Institute of Mineralogy and Petrology in Zurich. I naively asked him which subduction zones he would be looking at for his research and he said he was looking at the Kokchetav Massif of northern Kazakhstan, Dabie Shan Mountain Range, Central China, Dora Maira massif, Western Alps, Italy, and Central Massachusetts and south-western New Hampshire. These are all areas of partially melted rocks in eclogite facies terrains. Unfortunately I am too old to be his field assistant! However, it does give me another excuse for printing a third picture of a geologist in his/her natural environment, this photograph of David is taken in the Troodos mountains, Cyprus.



And finally, an interesting email from ***Graham Hickman,*** who writes; **"***I took this photo while on holiday in Brekenridge Colorado. A large glacial erratic boulder has been carved to form a children's slide and placed in a small park along the main shopping area. The boulder is of pre-cambrian metamorphic origin with a number of quartz veins running through it. My first impression was 'no way', it must be a fibre glass moulding. But having touched and knocked the boulder I can assure you it's real stone. It must have been quite a task to carve and smooth, but who ever did it made a great job of it."*

GEOLOGY IN STAMPS



Quite naturally a set of stamps were produced in 1982 to commemorate the centenary of the death of Charles Darwin. The Post Office also sold them as part of a commemorative pack with a descriptive leaflet. As can be seen from the stamps it is his work as a biologist that is celebrated, both on the *Beagle* along with 'Origin of Species' published in 1859. However, geology is not completely ignored in this leaflet; he wrote a great amount and made a massive contribution to our science. Biology is close to geology anyway, or as one geologist once told me; 'biology is merely scratching the surface of palaeontology'.

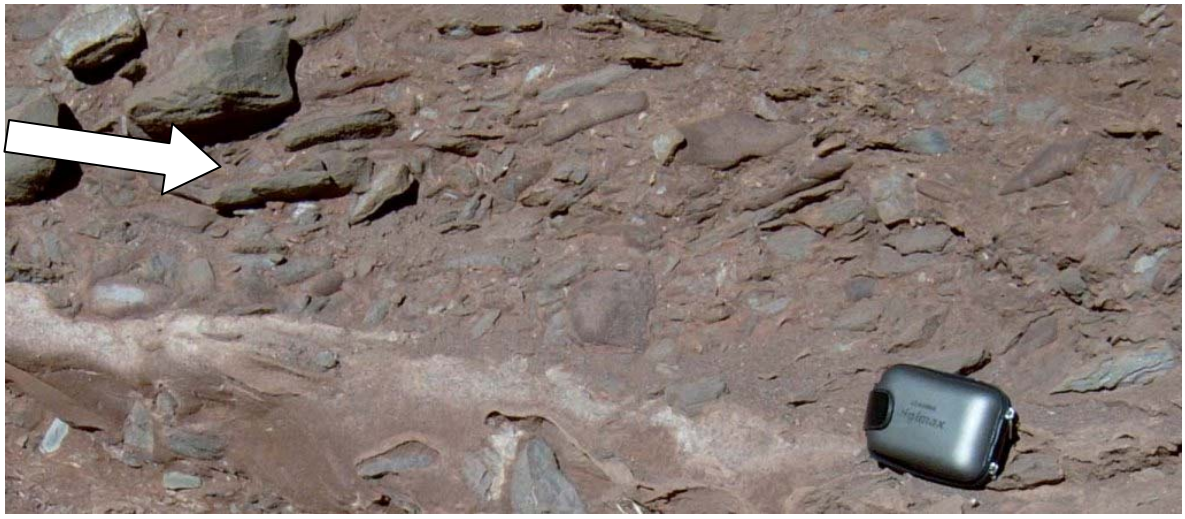
Bill Groves

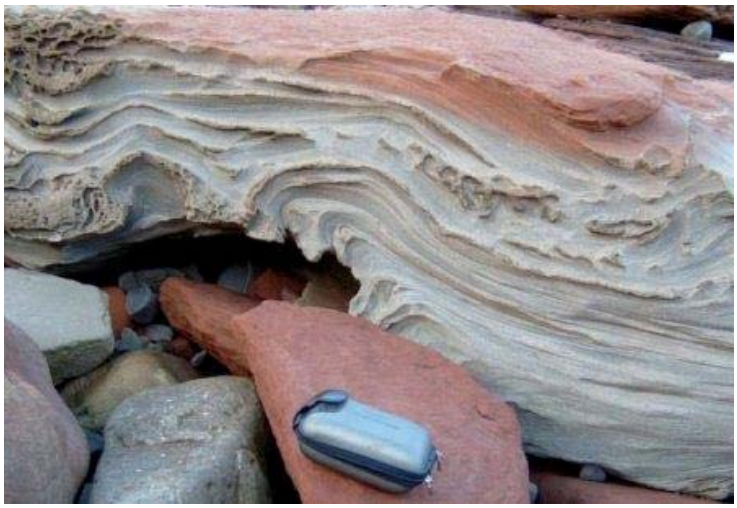
GEOLOGICAL PLACES

Siccar Point

I read April's newsletter with particular interest as it included a small article about 'Hutton's Unconformity'. I was somewhat shocked to discover however that the article was about a location in Arran, when I had been expecting to read about Siccar Point! I now know that James Hutton had more than one unconformity to his name and Arran was the first to be observed, back in 1786. It wasn't until 1788 that he went to Siccar Point in the Scottish Borders. For those of you who haven't had the chance to see it, here are a couple of pictures. As G. Y. Craig states in the

Scottish Borders Geology Excursion Guide 'Siccar Point speaks eloquently for itself and needs little introduction. It is spectacular at any stage of the tide.'





The unconformity lies between the basement of near vertical Silurian greywackes and shales and the gently dipping Lower Devonian breccia and sandstone above. Each end of the line of the unconformity is marked by a white star. The breccia is fantastic and you can see examples of imbricate structure in the clasts (see picture). The arrow indicates the line and direction of the current forming the imbricate structure. The sandstones have some wonderful soft sediment deformation features.

Sarah Worton

GEOBABBLE

When writing the editorial about the demise of the dinosaurs I used the term **bolide** for the object that collided with the earth, but I cannot remember when this noun was introduced, or why. **Meteorite** was a perfectly good term, or even **meteor.** However, the generic term is apparently none of these; a **meteoroid** consists of sand to boulder size debris flying around in the solar system. It is difficult to find an upper size limit; I have seen figures from 10m to 50m used before the object takes on another name such as **asteroid.** A **meteor** refers to a visible event when a **meteoroid** or **asteroid** enters the earth's atmosphere, and then we could have a **fireball** which is a very bright **meteor.** The word **meteorite** is reserved for part of a **meteoroid** or **asteroid** that actually reaches the earth's surface without being destroyed. So each one of these terms means something slightly different, and the impactor that caused Chicxulub is a large **meteorite.**

So where does **bolide** fit in? It seems that a new term was needed for the very large impactors that formed big craters to differentiate them from the small fry. Its use was promoted by geologists and astronomers and used by the United States Geological Survey when large craters are found but the precise nature of the impactor is not known. They say on their website that "there is no consensus on its definition" but it implies that it is an extraterrestrial body between 1-10km that hits the earth at a speed of 20-70km/sec and explodes on impact to leave a large crater. So it is an **asteroid** or **comet**…….but I am stopping there before I pick up even more Geobabble.

Bill Groves

CONTACT US

As ever we would love to hear your news and views, for any part of the Newsletter, so please put pen to paper or fingers to keyboard and give us your thoughts. We are often able to print photographs that are sent by email or colour print. Notices that appear in this Newsletter will remain in future editions until the date of the related meeting or event has passed. In order to include material in the December Newsletter, please send or give it to one of the Editorial Team by ***Monday 3rd December 2007.***

EDITORIAL TEAM		
Hon. Secretary: Sarah Worton 158 Oakham Road Oldbury B69 1QQ Tel 01384 235946 Or email: sarah.worton@atkinsglobal.com	Graham Worton Dudley Museum and Art Gallery 1 St James' Road Dudley DY1 1HU Tel 01384 815574 Or email: graham.worton@dudley.gov.uk	Bill Groves 23 Churchward Grove Wombourne Wolverhampton WV5 9HB Or email: bill.groves@dudley.gov.uk billgroves300@btinternet.com

Copy date for December Newsletter is **Monday 3rd December 2007**

BCGS Website at www.bcgs.info