

Bulletin Number 67 October 2003



Winter Programme

All the following meetings are on Thursday nights
and held in the School of Earth Sciences and Geography, Keele University

9 October 2003 , 7.30pm start

The dynamic evolution of desert dune environments: is the answer blowing in the wind?

Dr. Nigel Mountney (Keele University)

There will be the opportunity for Members to join Nigel for a informal meal at the Chancellors Building before the talk.

13 November 2003 , 7.30pm start

Third Professor Cope Memorial Lecture

The mineralogy of Wales - insights into a diverse treasure

Dr. Richard Bevins (National Museum of Wales)

There will be a buffet meal in the Department before the talk, please return the [enclosed form](#) if you wish to attend.

11 December 2003 , 7.00pm start

Christmas Social including: A glimpse of Gondwana geology

Gordon Hillier (NSGGA + Shropshire Geol. Soc.)

There will be a buffet meal in the Department before the talk, please return the [enclosed form](#) if you wish to attend

For more information about the talks please contact NSGGA Secretary - Dorothy Wright

Diary Dates for 2004

15 January 2004 , 7.30pm start

Forensic Geophysics

Dr. Nigel Cassidy (Keele University)

There will be the opportunity for Members to join Nigel for a meal at the Chancellors Building before the talk.

12 February 2004 , 7.30pm start

The day the Earth caught fire

Professor Andy Saunders (Leicester University)

A talk about large igneous provinces

There will be a buffet meal in the Department before the talk, please look out for booking details.

25 March 2004 , 7.30pm start **AGM and Chairman's Address**

including: *The ocean floor on land and under the sea*

Dr. Peter Floyd (NSGGA Chairman)

Please note the unusually late date.

Geowatch (Geology for children)

Saturday, 11 October 2003 ***Magic of Minerals Fun Day***

Potteries Museum, Hanley, 10.30am to 4pm, £1.00 to register

For children aged 5 to 16 and accompanied by an adult

Come along to ***Magic of Minerals Fun Day*** presented by ***Geowatch***.

There will be lots of activities, including:

- make your own mineral identification chart
- identify mineral crystals by feel and shape
- local minerals and their uses in everyday life
- mineral panning, jigging and buddling

For further information and offers of help, please ring Carol or Mike Fereday on 01782 713227 or email on

carol@burnett40.freeserve.co.uk

Request for an Organiser and Ideas for Geowatch Museum Days

Mike Fereday has been doing Geowatch days at the Potteries Museum since August 2000. These have resulted in many requests to attend schools, libraries, youth groups etc. He no longer feels able to organise Geowatch events at the Potteries Museum as he has run out of ideas and feels that as so many of the activities have already been repeated we should try to find some new ones. He is quite happy to continue with visiting schools, libraries etc as activities can be repeated at these new venues.

The committee needs new ideas & someone willing to take on the task of organising the museum days. Carol and Mike will be quite happy to help on the day.

Articles

Fleming, A. & Fleming, Z 2003 **

Shetland - We saw the Moho and returned to tell the tale

GA Magazine of the Geologists' Association 2(3) pp.7-9

A fieldtrip report by NSGGA Members exploring far afield

King, C. 2003 **

Breathing new life into Earth Science teaching

Earth Heritage 20 pp.10-11

Explains the role of Keele's Earth Science Education Unit in facilitating the teaching of Earth Sciences

**Copies available for reference by prior appointment at The Potteries Museum & Art Gallery - 01782 232323

Congratulations to Jon and Mrs Radley

Some of you may know Dr Jon Radley who studied for his PhD at Keele University. He is currently Keeper of geology at Warwick Museum. Carol and Mike Fereday have recently been in contact with Jon and were pleased to receive the news that his wife gave birth to their first child on 4 September; baby Elizabeth Hannah, her mother (and dad) are all doing well. We wish them well for the future.

Volcanics in the Peak District

A new information panel has been unveiled at Litton Mill Railway Cutting (SK159729) - which is on the Monsal Trail and is part of the Wye Valley Site of Special Scientific Interest in Derbyshire. The site has been cleared by the National Park Authority's Countryside Maintenance Team to reveal preserved 'pillow' lava flows in amongst the Carboniferous Limestone deposits. The panel has been developed by a partnership between English Nature and the Peak Park Authority.

Minerals Shows

Weekend, 11 - 12 October 2003 **The Rock Exchange**

Lady Manners School, Shutts Lane, Bakewell, 10.00am to 5.00pm

ring 01629 813542 for further details

Weekend, 22 - 23 November 2003 **Rock 'n' Gem Show**

Uttoxeter Racecourse, Uttoxeter, 10.00am to 5.00pm

ring 01628 621697 for further details

Best Wishes to Keith Harrison

Keith, NSGGA Conservation Secretary, has been very poorly during the summer. We understand that he is feeling better and we wish him a complete and speedy recovery.

Field Trip Review Clitheroe area of Lancashire 13 July 2003

Nine members of the NSGGA made their way up to Clitheroe in Lancashire on a brilliantly sunny day. We passed two large car

boot sales on the way, so were lucky to get so many there! We met at the Salthill quarry where we were greeted by Alan Diggles OUGS who was to lead the field trip.

The aim of the field trip was to examine some of the sediments found in the Craven basin, an area bounded by the Askrigg block to the north east of Clitheroe and stretching south to Derbyshire and North Staffordshire.

The Salt Hill Quarry trail was developed when the quarry was turned into an industrial estate. Local geologists put pressure on the local council to maintain access to the quarry faces. The quarry lies in the lower part of the basin. The first location was an example of a waulsortian mud-mound of Tournaisian age. This is a massive micritic limestone, one of several forming a linear feature in the area. This was overlain unconformably by a bedded limestone of Visean age. In parts very fossiliferous. The second location was a section through the mound at right angles to the first.

The third location was again Visean limestone but extremely fossiliferous. The fossils were mainly crinoid stems. These had been found to act as geopetals (fossil spirit levels). This is where the void in the stem partly fills with mud levelling to the surface at the time. The remainder of the void then fills with sparry calcite preserving the level. Measurement of this level in situ can give an indication of the angle of dip.

We worked our way around the quarry. All the locations were rich in crinoid debris including the occasional calyx as well as the odd coral and brachiopod.

The final exposure in the quarry was evidence of glaciation. Roche moutonnée and deep striations were present.

We then drove up to Nick of Pendle on the ridge below the summit of Pendle Hill. This is where we sat and enjoyed the fantastic views while eating our lunch. Here we were on the Pendle grit of Namurian age. From here we could appreciate the vast thickness of sediments that once filled the Craven trough: up to 2.5KM. The rock was arkose and on one bedding plane showed a good example of ripple marks.

We then moved on to Clitheroe castle and museum. The castle stands on another of the mud mounds. The museum has a good display of the local geology. We were given the privilege of examining some of the museum's collection not normally on display.

We rounded off an excellent day by sampling the local ice cream as we left the castle.

David and Janet Osborn

Call for Field Trip ideas

Elizabeth Hallam and Eileen Fraser have taken over from Janet Fairclough and will jointly organise the 2004 field trip programme. If you know of a leader who would be willing to lead a field trip or have ideas as to where you would like to go on a field trip then please contact Elizabeth on 01260 275616 or e-mail k.hallam@virgin.net

Insurance

Through the auspices of the Geologists' Association, insurance cover for Public Liability, Member to Member and Personal Accident has been arranged with the Zurich Insurance Company. To quote from correspondence from the Geologists' Association:

- **Public Liability** - This covers all the usual activities of groups e.g. indoor lecture meetings and field excursions. The cover is for £5 million.
- **Member to Member** - This is an extension on the Public Liability section of the policy to cover each individual member of the organisation. It allows members to claim against each other under the same policy.
- **Personal Accident** - Zurich will pay the agreed monetary benefit if anyone insured sustains bodily injury by accident or assault whilst engaged on business activities, including commuting.

For those over 75, any cover is limited to payment for death, loss of limbs or eyes or permanent total disablement with a maximum benefit of £10,000."

With regard to the Personal Accident element, your Committee is seeking clarification of this statement from the G.A, in particular with reference to "business activities" and "commuting". Your Committee believes that this refers to NSGGA business and commuting only.

Some notes on a recent visit to Brazil

Brazil is a vast country and the world's largest and most important gemstone province. New discoveries are made every year, the most recent was of a plum-coloured variety of topaz found near to Ouro Preto (Portuguese: Black Gold), Minas Gerais.

Gemstones of Brazil: Geology and Occurrences by Patrick J.V. Delaney, is a very useful publication, which explores the main gemstones, their provinces, and outlines the main areas where these are to be found with useful directions, diagrams and maps.

Of particular importance to the mining of gemstones are the Garimpeiros, itinerant miners who mainly use manual mining methods. From time to time the Government declares certain areas specifically reserved for these groups.

We were mainly based in Belo Horizonte in the highly mineralogically productive Minas Gerais State where the organisation COMIG (Companhia Mineradora De Minas Gerais) was very generous in providing information, geological maps and CD-ROMs on the geology of the State.

The mineralogical specimens of the Professor Djalma Guimaraes Museum, Belo Horizonte and at the School of Mines in Ouro

Preto, both in Minas Gerais, should not be missed.

To the north and south of Belo Horizonte are large iron deposits. Along the major roads, many pig iron smelting furnaces, are fuelled by charcoal, which is transported by massively burdened lorries from forest areas. There are obvious deforestation and ecological implications from these activities.

The landscape of Rio de Janeiro is dominated by (augen) gneiss, eroded highlands. The famous Sugar Loaf is an excellent example of a bornhart, which has been partially submerged; this together with the Mount of Christ the Redeemer offer magnificent views of the local geomorphology.

The road from Vitoria on the east coast of Espirito Sancto to Belo Horizonte passes through a major area for stone cutting. Large blocks (2 metre cubes plus) from many locations and rock types are transported for processing and much is exported including marbles to Italy. It is not uncommon for blocks to fall from their lorries where they remain unless they are considered of "noble" stone and worth salvaging. This concentration of rock cutting industry originated from Italian families who settled in this area and brought their skills with them.

In the southwest of Brazil at its confluence with Argentina and Paraguay are the 2,700 metres wide waterfalls of Foz do Iguacu where the River Iguacu is cutting into Tertiary flood basalts. Nearby is the Itaipu Hydroelectric Project, a joint venture between Brazil and Paraguay, supplies 87% of electricity consumed in Paraguay and 25% of the Brazilian market. Building is in progress to expand capacity. Specialist extended visits can be arranged for engineers and geologists as well as more tourist orientated tours. On the road to the Falls and National Park there is rock-shop advertising (in Portuguese) "rocks at factory prices". This has massive geodes of amethyst, citrine, and many other large mineral specimens cemented into the wall at the entrance! Rocks and minerals are sold by weight.

If I can help by providing further information, especially if you are considering visiting Brazil, please do not hesitate to contact me. I hope to bring the specimens I brought back to the annual get together later in the year.

John Parton

NSGGA - Next Committee Meeting

- **Thursday 27 November 2003 at 7.00pm**
in the School of Earth Sciences and Geography, Keele University

Staffordshire RIGS Group

- **Next meeting - Monday 3 November 2003 at 7.30pm**
at the Staffs. Wildlife Trust offices, The Wolseley Centre, Wolseley Bridge, Stafford ST17 0WT
Contact Laura Cox at the SWT for details ☎ 01889 880100

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Executive Committee (elected):

Laura Cox; Mike Fereday; Eileen Frazer; Elizabeth Hallam;

Jonathan O'Dell; John Reynolds; John Winchester.

Executive Committee (co-opted):

Janet Fairclough; Alastair Fleming; Ken Rout;

in addition a representative from the Staffs. University Geol. Soc. and the Keele Geol. Soc. is invited to attend committee

Why not visit the NSGGA web pages: www.esci.keele.ac.uk/nsgga

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