

# Bulletin

## Number 93

### April 2010



#### **SUMMER FIELD PROGRAMME 2010**

Each person attending field meetings does so on the understanding that they attend at their own risk. The NSGGA has public liability insurance through a GA insurance policy that also carries limited personal accident cover for members attending meetings or field trips. Non-members pay £2 to cover temporary membership giving them insurance cover.

A field fee of £2 per head is normally charged for members and non-members to cover leader's expenses.

#### **Field Day: Ecton Hills and the Ecton Hills Field Studies Association.**

**Saturday 17th April 2010:**

**Leader: Peter Kennett and Peter Lane**

Meet at 10:00 am at the lay-by below the centre (Grid Ref. SK 097583 – O.S.1:50,000 Sheet 119). Please visit the EHFSA website for all the details ([www.ectonhillfsa.org.uk](http://www.ectonhillfsa.org.uk)). The outing will cost £10 per head as an entry fee only (no field fee is applicable). Further details are to follow from the centre nearer to the date but the excursion will include the folding at Apes Tor, the underground visit (but not the deeper section), a surface tour and a mineral search amongst the waste tips. The day will conclude around 16:00 hours.

#### **Field Weekend: North Wales**

**Saturday & Sunday May 15-16: Leader Richard Waller.**

This weekend field excursion will explore the impact of past glacial activity on the spectacular landscapes of North Wales. **This field weekend is now fully booked.**

#### **Field Day: Longcliffe Quarry / National Stone Centre**

**Saturday 5th June 2010:**

**Leaders: Nigel Weedon (Longcliffe) & Geoff Selby-Sly (National Stone Centre)**

Meet at 09:15 (for a 09:30 prompt start) at the Car Park of the Longcliffe Quarry Longcliffe Quarry, Brassington, Derbyshire, DE4 4BZ (01629 540284)

Website: [www.longcliffe.co.uk](http://www.longcliffe.co.uk)

(detailed information on many aspects of the quarry as well as video and downloads)

This is a high quality calcium carbonate extraction and processing quarry. The tour will take in various sections of the working quarry as well as the process plants. Topics covered will be mineral planning, quarry working methods, processing, product quality, markets, restoration, ecology, etc. **Hard hats must be brought with you in order to comply with H&S rules for the Quarry.** The tour will conclude at 12:30

Afternoon: Meet at The National Stone Centre Car Park at 13:30 for a prompt start. The National Stone Centre, Porter Lane, Middleton by Wirksworth, Derbyshire, DE4 4LS (01629 824833). Website: [www.nationalstonecentre.org.uk](http://www.nationalstonecentre.org.uk)

A tour at the NSC will cover three of the six disused quarries on the NSC site, covering some history of the site from lead mining, lime burning through quarrying and dry-stone walling to the natural recolonisation of one of the quarries. It will also include the site geology and how fossil are indicators of the local environment 290 Ma. The extension of the walk will be along a quarter mile section of the High Peak Trail, a disused rail track of the Cromford and High Peak Railway that was last used by the railways in the 1960s. Visit the Black Rocks outcrop with lead mine spoil heaps and gritstone outcrop. Following (if desired) a walk to the viewpoint over looking Dene Quarry, a current working quarry for limestone. Walk back through lead rakes to the NSC. The tour will take between 3 to 4 hours.

The day is subject to a maximum number of 25 members attending and a minimum age of 18 years is required in order to comply with health and safety rules of the working quarry. **Those wishing to attend must contact the field secretary, Nick Hulley** at either [nicholas.hulley@btinternet.com](mailto:nicholas.hulley@btinternet.com) or 01538 722017 and places will be allocated on a first come/first served basis.

### **NON-NSGGA FIELD TRIPS (The NSGGA is not responsible for these trips)**

#### **Wood Mine, Alderley Edge**

**Saturday 17th and 18th April**

**Leader: Derbyshire Caving Club**

Wood mine on Alderley Edge was worked between 1857 and 1877, the product of this mine was chiefly copper carbonate but lead in the form of galena and cerussite was often found in viable quantities. Timed tickets will be available for booking before the Open Weekend but you can also get your ticket at any time on the day, giving you an opportunity to take a walk before you visit the mine. To book timed tickets on-line (up to the Friday before or until all slots are full) go to [www.derbyscc.org.uk/alderley/current\\_open\\_days.php](http://www.derbyscc.org.uk/alderley/current_open_days.php). There are charges for admission.

#### **Behind the scenes at Oxford Museum**

**Sunday 9th May 2010: 2–4 pm**

**Leaders: Philip Powell and Nina Morgan**

This is a rare opportunity to visit the historical archives behind the scenes at the Oxford University Museum of Natural History (OUMNH). The Museum is home to some of the largest collections of maps, letters, diaries and other material related to important nineteenth century geologists, including William Smith, John Phillips and William Buckland. The material that will be on show is rarely displayed to the public.

This event – which is open to all – is organised by The History of Geology Group (HOGG), a group affiliated with the Geological Society of London (see: [www.geolsoc.org.uk/hogg](http://www.geolsoc.org.uk/hogg)). Cost & booking: A minimum of 5 people are needed for this visit to go ahead. For space reasons, numbers will be limited to 10. Cost is free to HOGG members, £15 to all others, to include a year's membership of HOGG. (It is not necessary to be a Fellow of the Geol. Soc. to join HOGG). For more information or to register for the visit, e-mail: Nina Morgan: [ninamorgan@lineone.net](mailto:ninamorgan@lineone.net).

## FIELD REPORTS

### Notes of the field meeting to Fauld Mine, British Gypsum (Saint-Gobain) 28<sup>th</sup> May 2009

Upon arrival, as if to raise expectations even further, we were given a full safety briefing with an induction video on the use of the Self Rescuer (for CO) and kitted out with the necessary PPE. Noel Worley (Minerals and Estates Manager) then gave an illustrated talk on evaporite geology, depositional environments, the palaeogeography of the Permian /



Triassic and the gypsum/anhydrite cycle. At about 237 Ma when the UK was north of the equator and part of Pangaea, next to a sedimentary basin with evaporative conditions, salt formed in the Cheshire – Staffordshire basin. At the end of the Triassic subsidence rates lowered and the environment was dominated by lakes and rivers. Gypsum formed sub-aerially within the sediment in sabkhas. Geologically the deposits consist of the Mercia Mudstone Group with Tutbury Sulphate beds.

The group then went underground in two landrovers to the Newchurch syncline area of the workings to visit the current production area. There are some 12 square km of workings; due to heave in the floor of the roadways this was a ride to be remembered. The extraction process is highly mechanised and worked on a room and pillar system to take out 75% of the seam, leaving square pillars to support the roof and surface properties. The working



face is drilled to a depth of 1.8m with a series of shot holes that are then charged for blasting with a mixture of 85kg of ammonium nitrate / diesel and detonated to bring down ~ 130 tonnes at a time. Extraction is done in two lifts of about 2.5 - 3m to give a working face of 5 – 6m in height. A feeder breaker with rotating rollers to reduce particle size is used to load the product onto conveyors for transportation back to the surface stockpile. An electromagnet on the feeder removes the iron detonation wires from the product that consists of a mix of 40% mudstone, 40%

gypsum and 20% anhydrite. The feeder breaker was observed and the different forms of gypsum examined and samples eagerly collected.

The section being mined was described as nodular sulphate and mudstone at the top, over mudstone, over sulphate. In the roof were examples of sulphate monoliths where it had broken through the mudstone in diapiric fashion. On the edge we get shearing and foliated sulphate with anhydrite in the centre; foliated gypsum when carved giving a wonderful texture. The lateral stress is induced by preferential hydration when there is a 40% increase in volume with respect to the mudstone. Above is a red brown mudstone with gypsiferous layer. Underneath lies Sherwood Sandstone. The area is overlain by a glacial drift > 30m in places, consisting of fluvial glacial sand and gravel that is saturated in water. Pumping is required continuously. The output from the mine is sold to the cement industry to control setting time.

We then returned to the surface for our sandwiches and study of specimens from the mine, Gypsum ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ) occurring as selenite (colourless, transparent), satin spar (fibrous, massive, granular) and alabaster (a fine grained variety).

Extraction of gypsum and anhydrite at Fauld has a long history, gypsum being used for a plasterboard factory at Fauld until 1989. The mine was famous for alabaster, used for ornamental sculpture since mediaeval times, having a unique translucent quality and coloured veining. As it occurs in large blocks and can be carved in three dimensions it was ideal for monumental work.

Thanks must go to the Company for their hospitality and for enabling the group to visit a fascinating working mine and in particular Noel Worley for giving so generously of his time and geological expertise. Photo. Credit – David & Janet Osborn.

Gerald Ford

## **Extreme Gardening II – The Return of the Wire Brush** **SRIGS Site clearance: Lees Cutting, Manifold Valley**

On Saturday February 6<sup>th</sup>, 2010, a number of enthusiastic people, including several NSGGA members gathered at Ecton for the second of SRIGS site clearance days. After an explanation of the geology and health & safety instructions from leaders Pat Cossey and Sarah Taylor, we set to work on clearing the vegetation from the Lees Cutting section of the Hamps and Manifold Geotrail. After several hours hard scrubbing and scraping the Ecton Limestone turbidites emerged from underneath a blanket of moss, plants and soil. This photo from the south end of the cleared section gives a good impression of the state of the exposure before and after the clearance.



SRIGS will be hosting some future site clearance days next winter. These will be advertised in the NSGGA bulletin and all members are more than welcome to join us.

Ian Stimpson

## **NSGGA NEWS**

### **Haiti Earthquake Appeal**

NSGGA members raised £100 from a collection at the February evening meeting towards the earthquake disaster appeal for the Haiti earthquake in January. The NSGGA committee agreed to donate a further £200 from NSGGA funds. Together with other personal donations from committee members, this brings the total donated by the group to almost £400.

Ian Stimpson

### **Membership Renewal Reminder**

Just a reminder, if you haven't done so already, to renew your membership for 2010. Please complete the attached flyer and return it to the membership secretary with your payment. Ordinary Membership is only £13, with Family Membership at £15 and Pensioner/Unwaged at £10. Student Membership is a bargain at only £3.

[www.esci.keele.ac.uk/nsqga/forms/renew2010.pdf](http://www.esci.keele.ac.uk/nsqga/forms/renew2010.pdf)

### **Staffordshire Hoard Update**

The £3.3 million fund-raising target to purchase the hoard and keep it in 'Mercia' has been achieved, Stoke-on-Trent and Birmingham Museums will each house half of the 1,500+ items discovered. The c. £2 million already raised by private and corporate donations was topped up by a grant from the National Heritage Memorial Fund worth £1,285,000. The next stage in fundraising, with a target of £1.7 million, has now started and will be used for the conservation, research and display of the treasure.

52,500 visitors viewed 118 items at the Potteries Museum during a 23-day exhibition from 13 February and it is not too late to get a glimpse of the Hoard as 59 pieces can be seen in the museum's archaeology gallery until 18 April.

Don Steward

## **OTHER SOCIETIES NEWS**

### **East Midlands Regional Group of the Geological Society Diary Dates 2010**

**Lecture:** Room T008, Kedleston Road Campus, University of Derby. Lecture starts at 6.30.

**Wednesday 21st April** Ediacaran Enigmas Dr Mike Howe, BGS.

**East Midlands Geological Society Diary Dates 2010****Field Trips:**

<b>Sunday 9th May</b>	The Clitheroe Area
<b>Wednesday 2nd June</b>	Evening to Bradford Dale
<b>Sat/Sun 3/4th July</b>	Weekend to the Yorkshire Coast
<b>Sunday 5th September</b>	Afternoon Visit to Chatsworth House
<b>Sat/Sun 17/18th Sept.</b>	Charnwood
<b>Sunday 17 October</b>	Coal Mining Museum at Wakefield

More Details at [www.emgs.org.uk](http://www.emgs.org.uk)

Secretary: Mrs Janet Slatter, 100 Main Street, Long Whatton, Loughborough, Leicestershire LE12 5DG ☎ 01509 843297 e-mail: [janet.slatter@btinternet.com](mailto:janet.slatter@btinternet.com)

**Black Country Geological Society Diary Dates 2010****Field Trips:**

<b>Saturday 24th April</b>	Visit to the Cotswolds to view the Jurassic. Led by Dave Owen of the Gloucestershire Geological Trust. Meet at 10:30am at Car Park Quarry, Cleeve Hill (SO 989 271).
<b>Monday 26th April</b>	(Indoor Meeting) Lapworth Museum: West Midlands Fossil and Mineral Collections. Speaker: Jon Clatworthy.
<b>Saturday 8th May</b>	Building Stones of Birmingham. Led by Eric Robinson. Meet at the foot of the ramp outside the Palisades shopping centre, next to the HSBC Bank at 10.15am. Please call Andy Harrison to confirm details.
<b>Saturday 19th June</b>	Buxton Area Volcanics. Led by Chris Arkwright. Meet at approx 10:15am in Miller's Dale Station pay & display car park (SK137 733) for 10:30am start. Bring a packed lunch.
<b>Saturday 24th July</b>	Martley area led by Dr. Paul Olver. Meet at Martley Village Hall (SO 753 599) at 10.30am.

More details [www.bcggs.info](http://www.bcggs.info)

**Manchester GA Diary Dates 2010**

<b>Saturday 17th April</b>	Inner City Salford - Geology and Urban Geomorphology led by Dr. Tony Adams
<b>Sunday 23rd May</b>	Carboniferous Limestone, Llangollen led by Dr. Jacqui Malpas.
<b>Sunday 4th July</b>	MGA Open day at Styal
<b>Saturday 17th July</b>	Jumbles Country Park & Bolton Museum led by David Craven.
<b>Saturday 14th August</b>	Goodluck Lead mine, Matlock led by Paul Chandler.
<b>Saturday 4th September</b>	Dovedale - The Fred Broadhurst Memorial Walk led by Jane Michael.

More Details at [www.mangeolassoc.org.uk](http://www.mangeolassoc.org.uk)

Field trips: Contact Marjorie Mosley [gmrigs@hotmail.com](mailto:gmrigs@hotmail.com)

## Shropshire Geological Society Diary Dates 2010

- Saturday 17 April** (morning *Rockhop* meeting, commencing 10.00 am): **Secret Stones (Craven Arms)**, to be led by Michael Rosenbaum. (Booking [frankhay@waitrose.com](mailto:frankhay@waitrose.com))
- Saturday 15 May** (all day meeting, commencing 10.00 am): **Ludlow Building Stones and their Silurian setting**, to be led by Michael Rosenbaum. (Booking [frankhay@waitrose.com](mailto:frankhay@waitrose.com))
- Monday 17 May** (evening *Rockhop* meeting, commencing 18.30 am): **Gold Panning**, to be led by David C Smith. (Booking [kah22@btinternet.com](mailto:kah22@btinternet.com))
- Monday 21 June** (evening *Rockhop* meeting, commencing 18.30 pm): **Lee Brockhurst / Marchamley**, to be led by Chris Rayner. (Booking [frankhay@waitrose.com](mailto:frankhay@waitrose.com))
- Wednesday 23 June** (evening meeting): **The Quaternary of Wenlock Edge**, to be led by Andrew Jenkinson, to look at Quaternary glacial (not Silurian!) features exposed in various quarries (Tel. 01743 850 773 or mobile 07986 558 683 to reserve a place)
- Saturday 10 July** (all day meeting): **Brymbo Fossil Forest**, to be led by Dr. Jacqui Malpas (Geodiversity Officer, Clwydian Range AOB). Numbers limited to 20. (Booking [kah22@btinternet.com](mailto:kah22@btinternet.com))
- Monday 19 July** (evening *Rockhop* meeting, commencing 18.30 pm): **All Stretton (Batch Volcanics)**, to be led by Keith Hotchkiss. . (Booking [kah22@btinternet.com](mailto:kah22@btinternet.com))

More Details at [www.shropshiregeology.org.uk/SGS/SGSintro.html](http://www.shropshiregeology.org.uk/SGS/SGSintro.html)

Secretary: Karen Whitaker: [herts\\_and\\_flowers@hotmail.com](mailto:herts_and_flowers@hotmail.com)

## North West Regional Group of the Geological Society

Lecture meetings start at 6.30pm unless otherwise stated

- Thursday 22nd April** Landslide Assessment & Management Venue. Ian Nettleton (Coffey) Park Royal Hotel, Stretton
- Wednesday 28th April** Site Investigation Steering Group Specification for Site investigation. Derek Smith (Coffey). Williamson Lecture Theatre, Manchester University
- Tuesday 25th May** Field Trip 'A Walk through the Desert' Styal Country Park. Quarry Bank Mill, Styal Trip is 2 to 2.5 hours. 5.30pm prompt start (Booking [chrisberryman@terraconsult.co.uk](mailto:chrisberryman@terraconsult.co.uk))
- Tuesday 15th June** Oil exploration : Unlocking Value by Technical Innovation. Mike Bowman (BP Exploration). The Centre Lecture Theatre, Birchwood Park, Warrington.

More details at <http://www.geolsoc.org.uk>

Secretary: Chris Berryman [chrisberryman@terraconsult.co.uk](mailto:chrisberryman@terraconsult.co.uk)

## Liverpool Geological Society Diary Dates 2010

See website [liverpoolgeologicalsociety.org.uk](http://liverpoolgeologicalsociety.org.uk) for details of the programme of meetings and field trips.

For the field meetings contact Tom Metcalfe [t.metcalfe@blueyonder.co.uk](mailto:t.metcalfe@blueyonder.co.uk)

Hon. Secretary: Joe Crossley [igsjoecrossley@hotmail.com](mailto:igsjoecrossley@hotmail.com)

### NSGGA - Next Committee Meeting

**Thursday 20th May 2010, at 7.00pm** in the William Smith Building, Keele University

### Contacts List: NSGGA Committee 2010-11

#### Chairman: Dr Ian Stimpson

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#### Vice-chairman: David Osborn

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#### General Secretary: Eileen Fraser,

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#### Treasurer: Brenda Kay,

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#### RIGS Liaison Officer: Dr Richard Waller,

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#### Executive Committee (honorary):

**Dr. Colin Exley; Terry Jones; David Thompson; Ted Watkin.**

#### Honorary Life Member: Ann Myatt

#### Executive Committee (elected):

**Dr Lloyd Boardman; Dr Peter Floyd; Janet Osborn (Minutes Secretary); Gerald Ford; Vicky Tunstall (John Myers Awards); Elizabeth Hallam, Carol Fereday; Mike Fereday**

#### Executive Committee (co-opted):

Don Steward, John Reynolds

**Why not visit the NSGGA web pages:** [www.esci.keele.ac.uk/nsgga](http://www.esci.keele.ac.uk/nsgga)