Bulletin Number 87 October 2008

Please note that all lectures are held in the School of Earth Sciences and Geography, William Smith Building at Keele University unless otherwise stated.

The committee invites you to join them for a meal at the COMUS restaurant to entertain the speaker before each lecture (except the AGM). Please make your own booking with the restaurant mentioning that you wish to join the NSGGA party. The cost is £8 95 for a two course meal (starter and main course with vegetarian option or main and dessert) not including wine or coffee. The COMUS restaurant telephone number is 01782 734121
If you wish to dine meet in the restaurant at 6 00 pm.

WINTER LECTURES 2008/2009

9th October 2008 7.30 pm **Speaker: Christine Blackmore**, **Wardell Armstrong**
" *Landfill Engineering – protecting the Environment*".

6th November 2008 7.30 pm **in the Gemmell lecture theatre at Keele University.**
The Professor Wolverson Cope Annual Lecture
Speaker: Professor Aubrey Manning, Emeritus Professor of Natural History, University of Edinburgh and well known TV personality. ***"2008 - UN International Year of Planet Earth."***

" IYPE is concerned with 'the earth sciences and society.' Together with biology, recent advances in the earth sciences help us to understand something of how our planet 'works.' The histories of life and the Earth have been intertwined for almost 4 billion years - 8/9ths of the solar system's existence - and it is 3 billion years since the existence of life began to affect the structure of Earth's crust. These effects have continued and the planet's dynamic nature has, in turn, profoundly affected the course of life's evolution. Life has not always been given an easy ride. There have been several periods when conditions across the globe have been very hostile and there have been mass extinctions. The causes of these events - almost certainly multiple causes - still leave us with some fascinating geological and biological questions to answer. The gradual unfolding of life and the Earth's history together ought to allow us to look more objectively at prospects for the future. Quite obviously the gigantic increases in human numbers and human technology over the past century are threatening the Earth's age-old life support systems. We shall need to pay more heed to the health of our planetary home. The great opportunities for research and education provided by IYPE will not only offer some solutions to our dilemmas but hopefully too will inspire us better to cherish our beautiful planet and learn not to take it for granted."

2008 is the 150th Anniversary of the founding of the Geologists' Association and the 60th Anniversary of the formation of our Group. This lecture will celebrate both events. Not to be missed. Apply on the attached flyer **TO AVOID DISAPPOINTMENT.**

4th December 2008 7.00 pm **Christmas Social & buffet** with a talk by **Bob Roach** "*Travels of a young geologist in North America: Reconnaissance Mapping in the Canadian Shield with the Geological Survey of Canada"* The buffet will be £9 00 per person including wine, please book on the attached flyer by post enclosing the necessary payment by **Friday 21st November 2008.**

8th January 2009 7.30 pm **Speaker: Dr Ian Stimpson, Keele University**
"*The 2004 Boxing Day Earthquake and Tsunami*"

th

5 February 2009 7 30 pm **Speaker: Professor David Siveter, University of Leicester**.
"*Silurian soft-bodied sensations: a unique window on the evolution of life*".

5th March 2009 7:30pm AGM and **Chairman's Address "***Shark Bay to Wave Rock***".**
Some of the interesting landforms of Western Australia by Elizabeth Hallam. There will not be a meal beforehand.

CORRECTION OF GERALD FORD'S REPORT ON THE LAPWORTH VISIT

In my note about the Lapworth visit I made an error (I would not be surprised if there were not more than one) which Mike Rosenbaum (of the Shropshire GS) has pointed out. Please could you therefore include the following correction in the next bulletin?

"The reference to Charles Lapworth being the engineering geologist for the Howden Dam is incorrect. Mike Rosenbaum has provided the following note; it was Charles son, Herbert, who was in fact the engineering geologist for this project, Charles Lapworth being already well established as the Professor at Mason College. Engineering Geology was not recognised as such at this time but Herbert had previously been working on the tunnelling for the Elan Valley Aqueduct scheme, which is presumably why his services were then requested for the Derwent project. A few years later Herbert gave a course of lectures in London which is now recognised as the first formal tuition in the subject in the UK."

RECENT NEW NSGGA MEMBERS

The NSGGA would like to welcome new members who have joined since the last Bulletin:
Ryan Marek, Barbara Kleiser, Brian and Julia Holt, Jane Essex, Emma Naden, Ian Fedden, Richard Moakes and Lorraine Droogmans.

We look forward to meeting them at our winter lectures.

RESTORATION OF THE BATEMAN GEOLOGICAL GALLERY AT BIDDULPH GRANGE

A meeting took place with National Trust Property Manager Paul Baker and Project Co-ordinator Sara Burnett at Biddulph Grange on Saturday 5th September 2008.

James Bateman, the Victorian collector, and owner of Biddulph Grange, built The Gallery. It has been suggested that it was designed to refute the ideas propounded in Charles Darwin's " Origins of Species" and was Bateman's attempt to reconcile theology and geology. The National Trust acquired the Gallery in 2002. The rocks are displayed as a frieze with their associated fossils displayed above. They are divided into the first six days of creation as described in the Bible. Day 7 is missing. Many of the Fossils and rocks have disappeared, but a number of gaps and casts remain on the wall, indicating where they were and in some cases suggesting what they were.

The NT having conducted a feasibility study, archaeological and architectural surveys, are now anxious to restore the Gallery.

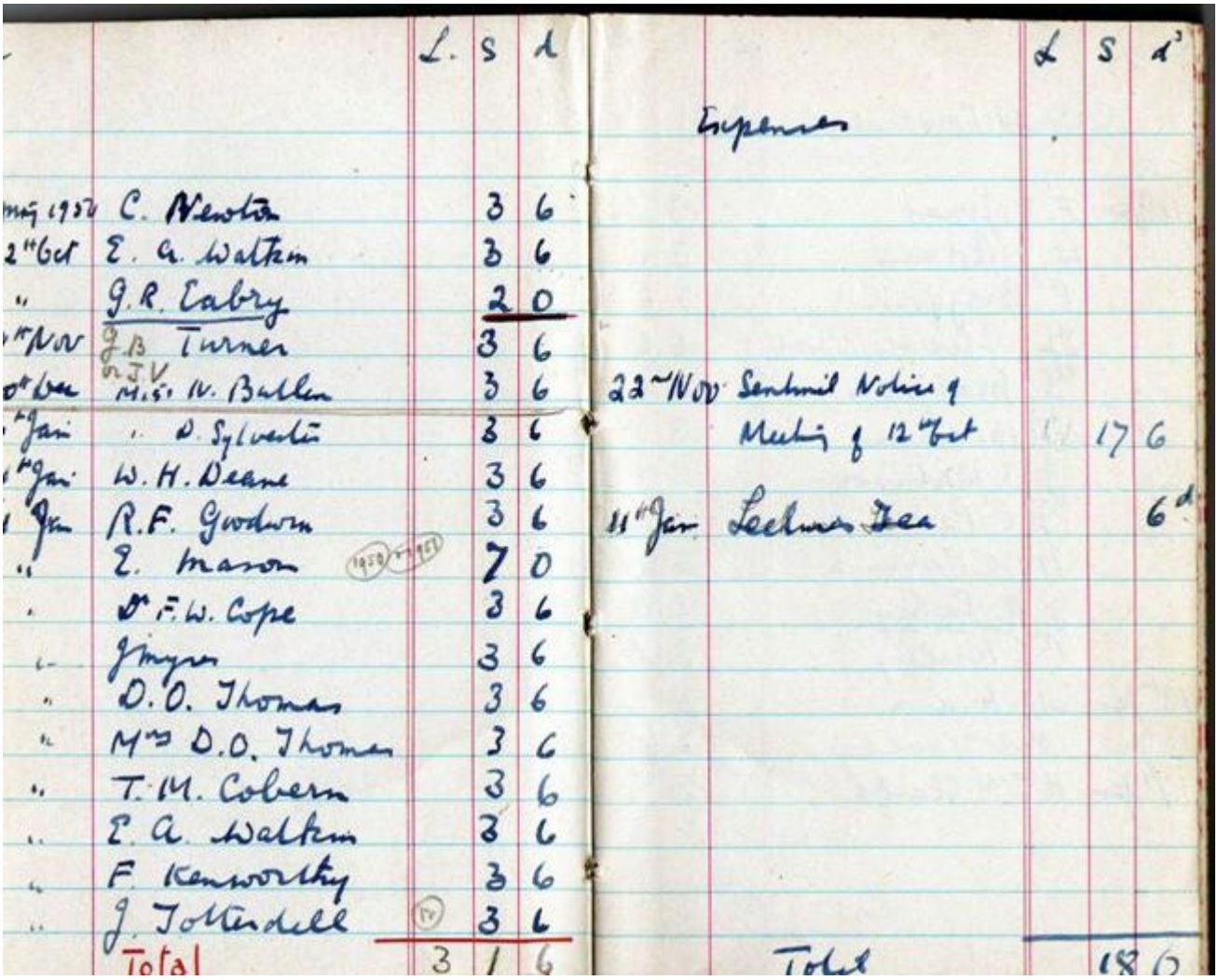
Research by the NT has so far, been unable to discover a detailed description of the original specimens in the Gallery, but the whereabouts of some of the missing fossils is known. Some are in an un-catalogued store at the Grange and others are at Keele University. Whether they will be replaced as real fossils or as replicas has not yet been decided.

NSGGA undertook to assist the NT with this project and to provide a letter of support for the restoration of the Gallery, to be used to support an application to the Heritage Lottery Fund for funding.

We will keep you informed of developments.

Below is an extract from the subscription book for 1950

Note Dr FW Cope, J Myers and EA Watkin (Ted) who is the longest serving member (58 years) and still a regular attendee at our lectures.
Subscriptions were 3 shillings and sixpence for adults (17.5 pence) and 2 shillings (10p) for students.



	£	s	d
C. Newton		3	6
E. A. Walters		3	6
G.R. Cabry		2	0
G.B. Turner		3	6
Miss N. Bullen		3	6
D. Sylvester		3	6
W.H. Deane		3	6
R.F. Goodwin		3	6
E. Mason		7	0
F.W. Cope		3	6
J. Myers		3	6
D.O. Thomas		3	6
Mrs D.O. Thomas		3	6
T.M. Cobern		3	6
E.A. Walters		3	6
F. Kenworthy		3	6
J. Tattersall		3	6
Total	3	1	6

Expenses

	£	s	d
22nd Nov Sentmil Notice of Meeting of 12th Oct		17	6
11th Jan Lecture Fee			6
Total		18	0

Report on Field Trip Sunday 18th May, North Stiperstones, Pontesbury to Poles Coppice. Leader Andrew Jenkinson Shropshire Geological Society

The May meeting was held in Shropshire as a joint venture with the Shropshire Geological Society. Starting at the County Council's Poles Coppice Nature reserve (Grid Ref: SJ 385042) in the introduction one of the themes outlined was of geo-conservation, copies of a simplified geological map showing the Ordovician rocks in the vicinity and earlier photographs of some of the sites were circulated. About six years ago a geo-conservation plan for the North Stiperstones was carried out, supported financially by the Aggregates Levy Scheme. The sites subsequently visited by the group demonstrated the need for and practical benefits of conserving geological exposures for educational and research purposes. A geo trail of the area is in the course of preparation; allied to the geology are the extensive remains of the mining and quarrying industries in this part of the County. Before moving off, David Pannett gave a brief outline and interpretation of the landscape from its underlying solid geology and the effect of glaciation on the relief where the Shropshire Hills meet the Shropshire plain, describing it as an 'exhumed landscape'. The main localities visited were as follows:

1. Granham's Moor Quarry (SJ 389037)

A heavily folded Stiperstones Quartzite with a historically famous unconformity with the Habberley Shales (Tremadoc Series). The SSSI description (from NE website, date of last revision 1963) stating that it provided "the only clear exposure in the area of the junction between the Cambrian and Ordovician Systems. The basal Ordovician Stiperstones Quartzite here rests upon fossiliferous Cambrian shales of the Tremadoc Series, the junction between the two being discordant. This discordance is developed over much of Wales and is of considerable importance. This is the only clear exposure demonstrating this feature and is thus a key geological locality". With the reclassification of the Tremadoc into the Ordovician this particular significance has now been lost. David Smith then explained the research being undertaken to identify the original exposure referred to in the literature where it was identified as being in a trench. Owned by the Forestry Commission, the ten metre (or so) section exposed by David varied from hard shales in the west to a grit band in the middle and soft shales at the easterly end. A GCR site, (the Geological Conservation Review was undertaken by the Nature Conservancy Council between 1977 and 1990 with the object of sampling the whole range of British Cambrian – Ordovician stratigraphy and in particular to indicate those sites most needing conservation). The unconformity is inferred now to be at the base of the Arenig or top of the Tremadoc series.

Following the track down past the foundations of quarrying plant (crusher etc.) and trial exposures made during the recent research into the unconformity, we paused at the entrance of Eastridge Wood where looking eastward, David Pannett pointed out

the position of the Pontesford - Linley Fault, Habberley village and Earl's Hill (Dolerite and Uriconian rhyolite and tuffs).

2. Poles Coppice Quarry (SJ391047)

Returning to Poles Coppice the group took lunch in the quarry and studied the effects of large scale quarrying on the Stiperstones Quartzite (Arenig epoch), thought to be largely for roadstone. The quarry face was approximately 200 metres across and 20 metres high, the massive bedding being almost vertical (dip W) and exposed across the strike, some of the bedding planes exhibiting ripples and in the rubble examples of trace fossils were found of worm tubes. Depth of deposition discussed. NB, quartzite is a misnomer as it is not metamorphic but a hard quartz sandstone. A RIGS site, the quarry had become totally overgrown following its closure and has since been cleared of vegetation to improve access.

3. Viewpoint at the edge of Callow Quarry (SJ 387048)

Here the Mytton Flags Formation that overlies the Stiperstones Quartzite is exposed. Moderately well laminated pale and dark grey siltstones and sandstones (a greywacke) laid down in a deepening marine shelf, contains fossils according to the books but very difficult to find in practice. The trend of faulting being described by David Pannett as converging on the Nags Head at Pontesbury! Worked for roadstone, now owned by Tarmac but currently mothballed as the quality has declined. A vertical basic dyke runs into the quarry, the associated mineralisation has been exploited (a lead mine shaft is shown on the map); galena is exposed in the quarry and the uncommon zeolite Heulandite (a hydrous silicate of Ca and Al) occurs alongside the dyke.

4. Returning to the car park we then travelled to Snailbeach (SJ 373023) where Andrew gave an outline of the history of lead mining and the 'classic' view of the mineralisation process. The mineral veins run east to west and dip steeply to the south following faults and joints in the Mytton Flags which are strong enough to stay open and enable mineral fluid to circulate and be deposited in zones of falling temperature during the late Devonian / early Carboniferous. Discrete settlements occurring where the veins approach the surface both to the west of the Stiperstones and at Shelve Hill (further to the west) where they are brought to the surface by an anticline i.e two outcrops. Lead was mined in the Roman period (ingots have been found), the peak of production was in the 19th C. but finished by the early 20th C. due to the higher costs of deeper working and the declining price of lead. Barytes production continued into the post WW 2 period, as did working of the tips (calcite and quartz – gangue minerals) for pebbledash in the 1970s. Walking uphill past the foundations of a Halvans Engine house that was used to drive a crusher for reworking the tips in the early 20th C. we examined rock samples in an area that had been left following a major restoration of the tips in the 1990's as a geo conservation resource for the future. Previously, the white tips had been a significant landscape feature, remaining unvegetated due to their heavy metal content.

At the visitor centre (where they kindly stayed open late) there were examples of the various minerals found and displays of equipment explaining the mining and extraction process. A superb video included underground scenes showing the scale of the underground caverns created. Many of the old mine buildings have been conserved. We returned via the track of the Snailbeach District Railway that connected to the main line at Pontesbury. In this now quiet rural area, the combination of displays, industrial remains (chimneys, mine shafts, adits etc) intermixed with "squatter" type cottages gave an insight into what it would have been like when over 500 people worked at the mine. Website for the Snailbeach Mine at Minsterley is http://snailbeachmine.org.uk

Thanks are due to Andrew Jenkinson for leading such an interesting day and to David Pannett and David Smith for their invaluable contributions.

Ref: Geology of Shropshire (2nd Edition) by Peter Toghill.

Further reading: The Habberley Formation: youngest Tremadoc in the Welsh Borderlands by R.A. Fortey & R. M. Owens. Geol. Mag. 129 (5), 1992, pp 553 – 566.

Gerald Ford

Field report for 20 July 2008 – Geology around Crummack Dale
Leader: Alan Diggles, NW Group of the OUGS

Location

Six intrepid members meet Alan in the village of Austwick, near Settle, for a geological tour through the local dales. Luckily, minor rain did not detract from the wonderful vistas of geology and landscape.

Objectives

To examine and trace the unconformable boundary between the horizontal Carboniferous Limestone and the underlying folded Lower Palaeozoic sediments. Furthermore we saw the effects of the last ice age in the form of a large strewn field of glacial erratics on the pavement and scarp platforms of the Carboniferous Limestone.

Geological setting

Crummack Dale, together with Ingleton and Horton-in-Ribblesdale, represent inliers of Lower Palaeozoic sediments within the Carboniferous Limestones of the Askrigg Block. The block is bounded to the south by the North Craven Fault and to the west by the Dent Fault, and owes its stability to the underlying, concealed, Devonian Wensleydale Granite.

The Lower Palaeozoic is composed of turbiditic sandstones and mudstones of Ordovician and Silurian age which were folded and cleaved during the Caledonian orogeny. Subsequently, thick beds of Carboniferous Limestone were deposited from shallow seas that flooded the irregularly eroded topography of the Lower Palaeozoics. Ultimately glaciation covered the area leaving behind

scattered Silurian erratics on the Carboniferous Limestone exposures.

Localities

1. Norber Plateau. This upland area represents the remnants of a limestone pavement now covered with a strewn field of large Silurian sandstone erratic blocks left by the retreating ice some 10,000 years ago. A number of good examples of “perched blocks” were seen with large sandstone blocks balanced on small limestone columns. The bed-rock source of the Silurian sandstones were seen higher up Crummack Dale later in the day.

2. Nappa Scars. Within a 100m ridge face is seen a text-book example of an angular unconformity. The basal Carboniferous, resting on dipping Ordovician siltstones (~35-40^{o} to the SE), is composed of a clast-supported conglomerate with moderately-sorted and rounded mudstone flakes and blades, together with minor volcanic material and vein quartz. In other parts of the basal sequence the Ordovician mudstone blocks are much larger (up to 30-40 cm) in size. Upwards in the sequence, and way from the unconformity, the basal conglomerate becomes matrix-supported before being replaced by massive limestones with no pebbles. The irregular trace of the unconformable surface in the local area suggests that the limestone seas were depositing material on a heavily eroded topography. The locality is representative of a palaeo-valley side with deposition of material in an active beach-type environment.

3. Norber Brow-White Stone Lane. In the adjacent fields were seen well-bedded Silurian sandstones/siltstones of the Austwick Formation (Wenlockian) forming part of the plunging Studrigg syncline. Keeping an eye on the dip of the rocks we were able to make out the closure of this structure and confirm its synclinal nature. We were able to examine more closely the turbiditic sandstones at lunchtime – huddled against them in the rain!

4. Moughton Whetstone Hole. Here in two small stream beds were seen the most unusual rocks of the day. The Moughton Whetstone is a thin horizon at the base of the Silurian Horton Formation and as the name suggests was originally used as a whetstone for horning cut-throat razors. But what intrigued us was that the greenish grey mudstone invariably exhibited alternating green and purple bands or circular patterns, some very delicate in structure. It became clear that the coloured bands were not bedding, but, as well penetrating the body of the rock, were common on joint surfaces. It is considered likely that the rhythmic and concentric banding was a consequence of post-lithification oxidation (the purple colouration representing ferric iron) possibly formed by Liesegang ring-type processes. An interesting outcrop (see photograph below).

5. View of scar from Moughton Lane. Excellent view of the angular unconformity in the escarpment face with dipping Silurian Austwick Grit Formation and overlying horizontal Carboniferous Limestone above. The undulating nature of the unconformity could be traced up the scarp face for a considerable distance.

6. South of Austwick Beck. Axis of the Studrigg-Studfold syncline was pointed out in the Horton Formation flags (cleaved and laminated mudstones and siltstones). A good example of cleavage/bedding relationships was also seen in the finer-grained sediments of the crag, whereas the coarser units were largely uncleaved. Many of the thinner 10-25 cm bedded units were graded turbiditic sandstones/siltstones with convolved (and cleaved) mudstone tops.

After an excellent day the party finally walked back to Austwick for a rewarding cup of tea.

Peter Floyd

Perched glacial erratic of Silurian siltstone on Carboniferous Limestone column [Photo: Bob Fletcher]

Carboniferous-Ordovician angular unconformity, with basal Carboniferous conglomerate on dipping Ordovician sandstones [Photo: Mary Yate]

See Peter Floyd's report above.
It is considered likely that the rhythmic and concentric banding was a consequence of post-lithification oxidation (the purple colouration representing ferric iron) possibly formed by Liesegang ring-type processes.

Above are two Carboniferous tree stumps on display at the Apedale Mining Heritage Centre. This and the NSGGA permanent display of the geology of Newcastle-under-Lyme can be viewed whenever the museum is open (Every day 10 30 am to 4 00 pm.) Mine tours (Saturday and Sunday 1st tour 11 00 am).
See below.

NSGGA DISPLAY AT APEDALE MINING HERITAGE CENTRE

The NSGGA now has a permanent display at Apedale Mining Heritage Centre. The main features are the geological and historical topographical maps produced by Ian Stimpson for the Cadman lecture given by Hugh Torrens last November. Peter Floyd kindly laminated them and produced other posters. We will have a permanent site for a copy of our Bulletin and any other posters that we will wish to place there. Many thanks to Apedale Mining Heritage Centre for providing this space.

EMMA HUNT AND THE EUGEN CONFERENCE IN SWITZERLAND

During August I took part in a conference called the European Geoscience students Network (EUGEN), which was held in Domat/Ems, Switzerland. This combined geological fieldtrips with lectures on the geology of Switzerland and presentations from the participants about their home universities and countries. The programme also allowed for opportunities to meet fellow geoscientists and discuss differences between degree programmes within Europe.
I took part in field trips to Lukmanier, Glarner Land and Alp Flix. The Lukmanier excursion was organised by Filippo Schenker, ETH Zurich and took place along the Lukmanier pass at the border of the cantons of Grisons and Ticino where the metamorphic section through three tectonic units was seen. This was through the northern meta-magmatic Gotthard Massif; over its parautochthonous Mesozoic cover; to a higher-grade meta-sedimentary Lucomagno Massif in the south. The section along the pass showed the metamorphic transition from greenschist to amphibolite facies through four mineralogical zones, from chloritoid-chlorite-kyanite up to biotite-staurolite-garnet-chlorite-kyanite. Along with the metamorphic aspect the excursion also focused on the structural geology of the pass and the crustal upwelling at the Leopontine Dome as well as the stacking of nappes, which could be seen along the pass. The highlight of the field trip was the final outcrop where the amphibolite facies could be seen with the presence of amphibolite crystal up to 5cm in length!

The second field trip was to Glarner Land led by Dr. Mark Feldmann, this covered one of the most famous thrust faults in the world – the Glarner Hauptüberschiebung Helvetic thrust, as well as 300 million years of sedimentary deposits – the most complete sedimentary record in Switzerland. During this excursion we viewed the contact between the Eocene shales and the overthrust Griesstock Jurassic limestones and mylonisation that occurred at the thrust zone contact. Further stops were at the Stachelberg sulphur springs caused by the water draining through the sulphate rich gypsum and the slate/flysch quarries where many fish, turtle and bird fossils have been found. The highlight was the stop at the Hauptüberschiebung thrust where the Verrucano has been thrust over Eocene flysch and the intervening Lochseitenkalk mylonite and gouge seam can also be seen.

The third and final field trip was to Alp Flix, led by Peter Neivergelt, ETH Zurich. The excursion covered the Malpass area in which can be seen rock units from the former continental margin and ocean lithosphere of the Tethys Ocean. The excursion focused on examining the exposed rock units vertically up the alp to determine the reconstruction of successions that were distorted by the Alpine orogeny. It was determined that the Platta Ophiolites (ocean basalts and gabbros) had been deposited in the Jurassic and then the alpine compression overthrust the Austroalpine units onto the south Penninic ophiolitic units, forming the Austroalpine nappe stack. The highlight of this excursion was seeing pillow lavas that had been formed in the Tethys Ocean at over 2000m above sea level on the alp.

Taking part in this conference was a great experience. I learnt a lot of the general geology of Switzerland as well as more in depth knowledge of the areas I visited during the fieldtrips. It was a great opportunity to meet other geoscience students from around Europe and exchange ideas as well as gaining new friends. I also enjoyed the experience of giving a presentation about Keele University together with an overview of the geology of Britain, which led to me being asked to consider organising the conference in England in the future.

Emma Hunt

OTHER SOCIETIES' NEWS AND MEETINGS

East Midlands Geological Society Diary Dates 2008

Saturday 25th October 2008, 6.30 pm. **Speaker Roger Suthren.**
'Geology of the Languedoc Wine Country, Southern France'.
The lecture will be followed by a wine tasting - please bring your own wine glasses.

Saturday 15th November 2008, 6.30 pm. **Speaker Will Watts.**
'The Rotunda Museum - its role in the birth of geology on the Dinosaur Coast and its redevelopment'.

Saturday 13th December 2008, 6.00 pm. **Speaker Tony Waltham.**
Salt Terrains of Iran.
The lecture will be followed by our Annual Cheese and Wine Evening.

Meetings take place in lecture theatre B3 of the Biology Building at the University of Nottingham. Members of the NSGGA would always be welcome.

Secretary: Mrs Janet Slatter, 100 Main Street, Long Whatton, Loughborough, Leicestershire LE12 5DG
e-mail: j.slatter@zoom.co.uk tel. no. 01509 843297

Black Country Geological Society Diary Dates 2008

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 26th October 2008 (*Field meeting*)
This next fieldtrip will be a return to ***Whitman's Hill Quarry***

Monday 27th October 2008 (*Indoor meeting*)
The latest developments in the effort to remove CO_2 from the gases released when coal, gas or oil are burnt. Speaker: Christopher Rochelle BGS

Monday 1st December 2008 (*Indoor meeting)*
Members evening.

For further details contact BCGS Hon. Secretary: Sarah Worton, 158 Oakham Road, Oldbury B69 1QQ
Tel 01384 235946 or email: sarah.worton@atkinsglobal.com

Manchester GA Diary Dates 2008

8 Nov 1.00 pm Seminar Karst Landscapes

Saturday 6th December 2008 1 30 pm "The Welsh Basin: Some New Thoughts"
Lectures will be in the Samuel Alexander (Arts) Building at Manchester University Campus until further notice. If you want a copy of the Campus map please contact Mike Fereday for a copy.
More details from website www.mangeolassoc.org.uk

Institute of Materials, Minerals and Mining 2008

All meetings will be held at **The Ramada Hotel** (formerly Clayton Lodge), Clayton Road, Newcastle under Lyme (unless otherwise stated)

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Monday 6th October 2008 at 7.30pm
Crossing the Bosphorous *Douglas Madsen – PB World*

Monday 3rd November 2008 at 7.30pm
Future Directions in Nuclear Waste Immobilisation Dr Ewan R Maddrell – Nexia Solutions Sellafields

Monday 1st December 2008 at 7.30pm *to be held at Keele University including after lecture buffet*
T**he Minosus underground hazardous-waste disposal facility**
Steve Reece (Salt Union) and Paul Campbell (Veolia (Waste Management Services)

For further details contact Secretary: Mrs Christine Blackmore Telephone: 0845 111 *777 email*: **cblackmore@wardell-armstrong.com**

OLD PIT COULD MINE NEW COAL

Report published in the Sentinel 09:40 - 27-August-2008
Volunteers have been digging deep to uncover a piece of mining history. JCB and Keele University are involved in a project at Apedale Heritage Centre aiming to rediscover the entrance to a pit - almost 10 years after it was sealed up.
Volunteers at the centre believe the old number seven shaft is causing stability problems at the site, so they have come up with a plan to dig it up. A lack of funds threatened to derail the project, but Rocester-based JCB came to the rescue by donating machines and lending members of its display team.
Members of Keele University's geology department have also volunteered their time and expertise in locating the entrance to the drift mine.
While the initial plan was to fill in the shaft to prevent future subsidence, it may be that it will become productive once again, due to the recent surge in demand for coal.
Heritage centre volunteer Peter Johnson said: "It's taken two or three years to get to this stage. This drift was the last to be closed in 1999, but now it seems to be causing stability problems. "There were two ideas. One was to fill it in with quick-drying cement, and the other to bring it back into use. I thought we could just go and have a look at it, and then decide."
Russell Amos, mining and site manager at Apedale, said: "Once we find the entrance we won't actually be able to go in ourselves, and so we'll probably have to ask a mine rescue team to go and have a look for us.
"We don't have a licence to extract coal but that might be something we would look at in the future."
Throughout the week, the JCB team is expecting to shift up to 600 tons of earth as it digs straight through the debris covering the drift. Yesterday afternoon, the team was coming close to breaking through into the
shaft. JCB demonstrator Duncan Weekes said: "This is on the charitable side of what we do.
It's something we want to do because it will help this museum keep going."
While maps of the pit complex and former miners helped suggest a general location for the shaft entrance, the task of pinpointing it fell on Keele University's geology department.
Geology masters student Steve Banham said: "If the mine does become productive again it could also provide an ideal location for other students to learn geological surveying techniques."

The latest situation report
The JCB digger couldn't find the entrance; it was too deep as apparently the team doing the collapsing pulled out the supporting arches with chains.
Plan B is now to go through the floor of No. 4 shaft (used for tours) to access No. 7 shaft which lies ~ 4m below it.
Keele have found the position of No. 7 using electrical resistivity surveying in No. 4.
Once in No. 7, they will then dig back up to the surface.

STOP PRESS – Announcement made on 24th September 2008

Great news for the Wren's Nest National Nature Reserve near Dudley, they have been awarded nearly £800 000 from the Heritage Lottery Fund for the "Ripples through Time" project.

NSGGA - Next Committee Meeting

- **Thursday, 20th November** at **7.00pm**
  in the School of Earth Sciences and Geography, Keele University

Staffordshire RIGS Group

For details about the Group and meetings, contact:
SRIGS Secretary: Sue Lawley
c/o Staffordshire Wildlife Trust, The Wolseley Centre, Wolseley Bridge, Stafford ST17 0WT
☎ 01889 880100 email: slawley@staffswt.cix.co.uk

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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; David Osborn; Janet Osborn; Don Steward; John Reynolds.
Executive Committee (co-opted):
Dean Rigby (Keele Geol. Soc), Nick Hulley

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