Bulletin of the North Staffordshire Group of the Geologists' Association

Number 143 : January 2026

Dates for Your Diary

Winter Lecture Programme 2026

Room WS0.06, William Smith Building, Keele University unless indicated otherwise

Thursday 15 January @ 19:30 pm	**Zoom Lecture:** *Ammonites – from Mythology & Folklore to Geological Relevance* – Dr. Mick Oates (Geologists Association Council).
Thursday 19 February @ 19:30 pm	**Lecture:** TBC
Thursday 12 March @ 19:30 pm	**Chair's Address & AGM: See below.**

Summer Field Programme 2026:

Sunday 26 April @ 10:30	**Lathkill Dale:** Leader – Dr Vanessa Banks (BGS)
May	**TBC**
Wednesday 15 July @ 19:00	**Weaver Hills:** Leader - TBC
Saturday 12 September @ 10:30	**Bradgate Park (including Precambrian outcrops with Charnia fossils):** Leader - Dr. J. Carney (BGS)

Winter Lecture Programme 2026

Date: Thursday 15 January 2026 at 19:30 via ZOOM.

Ammonites: from Mythology & Folklore to Geological Relevance – Dr. Mick Oates

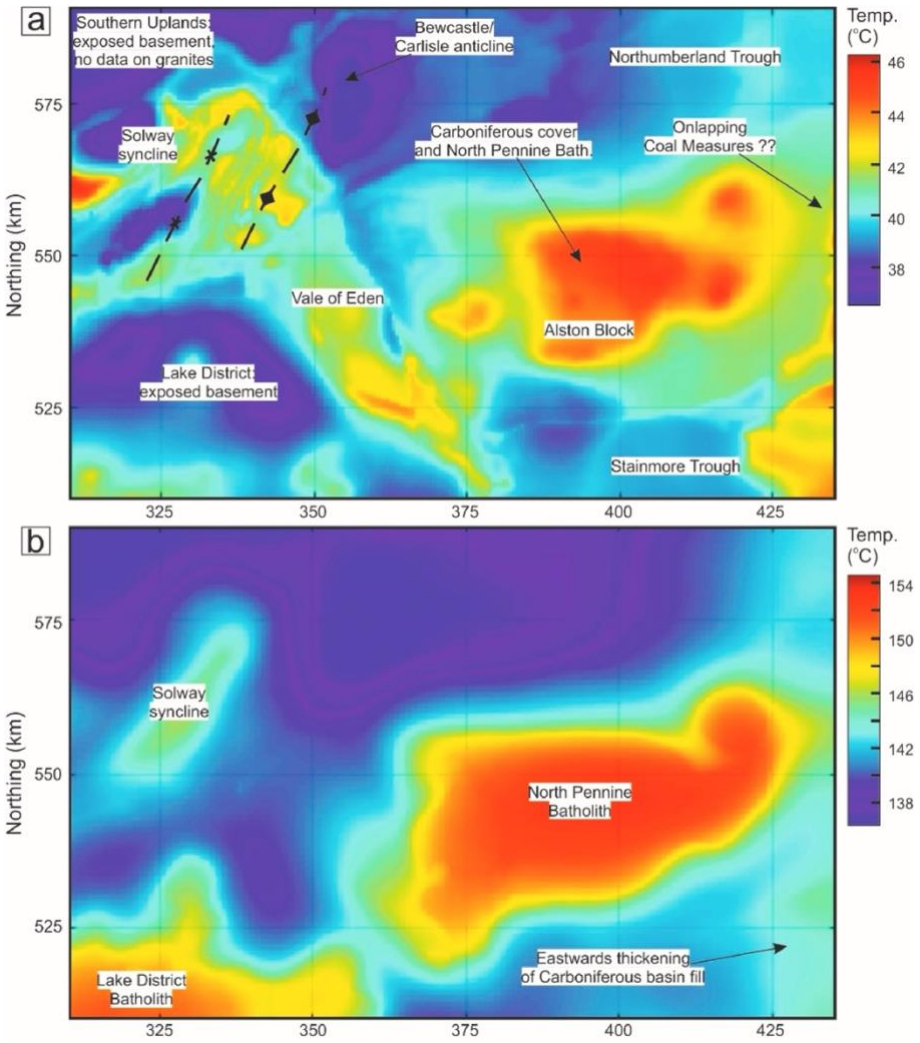
Venue: Online via Zoom. (The relevant Zoom link will be provided in January)
Fossils have fascinated and inspired since earliest times; not least the coiled extinct family of molluscs called Ammonites. Even their name is derived from ancient history. The talk will explain how they were once perceived, how they evolved, up to the latest research which has tried to deduce how they worked as biological entities and their role in Jurassic and Cretaceous ecosystems. And yet despite their abundance, without direct modern analogues, we still have many unanswered questions about their living appearance and anatomy.
Dr Mick Oates is a retired professional geologist who has had a lifelong enthusiasm for rocks and fossils and in particular ammonites! His collection is now housed at the Barrow upon Humber Geology Museum, a two-story annex to his home. Mick gained a BSc in Geology and PhD, from University College, London before working as a geologist in oil and gas exploration/development for about 40 years. He served on various Natural Environment Research Council review and advisory committees; the University of London Board of Studies (Geology), Imperial College MSc external examiner and is a Fellow of the Geological Society and member of the UK Stratigraphy Commission. He has served on the Geologists' Association Council and Rockwatch committee since 1992.

Date: Thursday 12th March 2026 at 19:00.
AGM & Chair's Address

Deep Geothermal Energy in the UK: Insights from the Pennine and Cheshire Basins

Stuart Egan (Keele University)

In the aftermath of the Paris Climate Agreement (2016), reducing the consumption of hydrocarbons has been framed as a long-term solution to carbon neutrality. However, with an ever-increasing energy demand, this places a significant burden on finding alternative energy resources. Geothermal energy, even in areas with relatively modest geothermal potential, can help bridge the energy gap left behind by hydrocarbons. This talk will provide an overview of the deep geothermal energy potential of the UK with emphasis on understanding the thermal structure of the crust using 3D numerical/computer modelling techniques. The model, developed by researchers at Keele University, has been applied to provide insights into the geothermal potential of the Pennine Basin, northern England, where both sedimentary basins and ancient granite bodies contribute to potential geothermal resources. This case study will be compared to the Cheshire Basin, northwest England, which is an example of a low-enthalpy geothermal system based on extracting heat energy from hot sedimentary aquifers within the Permo-Triassic basin infill.



Temperature maps for 1 km and 5 km below the surface of northern England produced from a numerical 3D regional temperature model (adapted from Howell, L., Brown, C.S. and Egan, S.S. 2021. Deep geothermal energy in northern England: insights from 3D finite difference temperature modelling. Computers and Geosciences, 147).

Field Reports

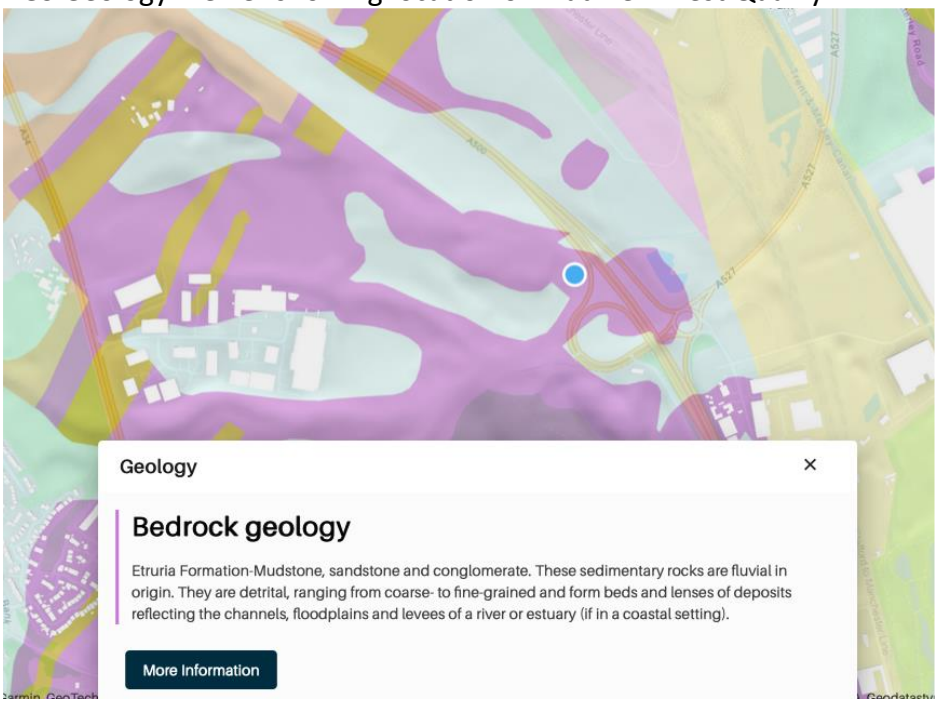
NSGGA Evening Field Trip to Bradwell West Quarry (Etruria Marls)
Thursday 26th June 2025

Leader: Dr. Bernard Besly

A large group of members attended this meeting in addition to guests from EMGS.

The objective of this trip was to examine some typical features of the Etruria Formation, a red-bed mudstone succession quarried in the coalfield areas of the West Midlands as 'Etruria Marl', the raw material for an important brick and tile making industry. Because of the concentration of the industry into fewer, larger units there are now only a few, generally very large, quarries to which access is rendered difficult by security and health and safety issues.
Bradwell West is a small independently run pit into which evening access is possible. It displays a limited range of Etruria Formation facies in the middle to upper part of the formation. In addition to examination of the basic facies, the trip allowed discussion of the problems encountered in appraising and developing a brownfield site in which an apparently simple succession contains subtle geological variations that affect the quarried product.

BGS Geology Viewer showing location of Bradwell West Quarry:



BGS: Etruria Formation-Mudstone, sandstone and conglomerate. These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).

Views of the Quarry

Fresh exposure of deposits.

Field Report by Adrienne Noble (NSGGA) with photos taken by Gordon McEown (NSGGA).

NSGGA News

GA Conference 2025 Report

Report by **Ray Pratt (WGCG)** with minor amendments/additions by the editor.

The photos of the speakers in Ray's report have been replaced with those supplied by the guest speakers for the conference booklet (Miranda Goodby has subsequently supplied one for this bulletin).

The annual Geologists' Association (GA) 2025 event was well attended – there were 86 delegates registered - and well received. Each delegate received a copy of the ***GA Guide No. 8 - the area around Stoke-on-Trent*** (re-issued specially for the conference) in addition to their conference booklet.

Day 1 (evening only) of the Conference:

In spite of the atrocious weather, the Friday evening geowalk around the campus, led by **Ian Stimpson** of Keele University, went ahead and was attended by some very sturdy souls.

The leader (Ian) describing the different types of stone cladding used on the exterior of the Dorothy Hodgkin Building. The green rock is from the Borrowdale Volcanic sequence of the Lake District. (Photo by P. Jones)

GA delegates examining an assemblage of quartzitic 'Bunter' cobbles derived from the Triassic Sherwood Sandstone Group. Location: William Smith Building. (Photo by P. Jones)

Others chose the option to take in the displays in the William Smith Building hosted by **John Reynolds** (NSGGA). There were local rock specimens (from the University collection) and the NSGGA displayed archive material from its 75+ year history. C19 maps and sections relating to the field visits to NT Biddulph Grange Garden and Apedale Mine, scheduled on the Sunday, were also on show. The displays were also available during the lunch break on Saturday.

All the delegates then reconvened for an informal social in the Chancellor's Building. This provided an opportunity to mingle and catch up with old friends.

Day 2 of the Conference:

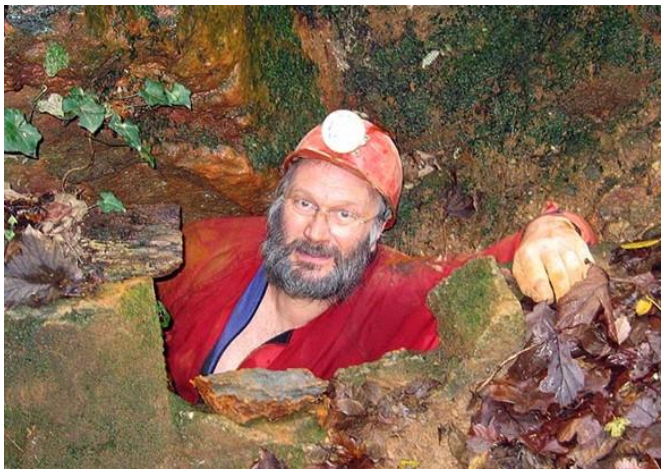
Refreshments and snacks were provided in the Chancellor's Building from 08:30.

At 09:00, everyone assembled in the Conference lecture theatre where the Technical Programme of talks for the day were held.

The welcome address was given by the Chair of the Organising Committee - **Stuart Egan** of Keele University.	 Stuart Egan

 Ian Stimpson	The Keynote lecture for the morning session was delivered by **Ian Stimpson,** of Keele University, on the topic of: ***"The Geology of North Staffordshire and its geothermal potential"***

Ian described the unique structural setting of North Staffordshire. North Staffordshire is situated at a geological crossroads, above the fusion of ancient terranes at the northern apex of a basement high that controls much of the structure of northern England. His talk discussed how the region's deep geological structure has evolved and helped to locally create a hotter than average temperature gradient, making the area a potential target for several different types of clean, sustainable, geothermal energy. His key point was that the legacy of coal mining in the area could now be the primary source of geothermal heat to be harvested from the abandoned mine workings.


Richard Shaw

Next up was **Richard Shaw** who gave a talk on:

"Geology and mineralisation of the Ecton Copper mines"

Richard Shaw of Ecton Mine Education Trust, formerly of BGS, addressed us on the copper mining history of the Ecton area in the east of the county. This started on Ecton Hill during the Bronze Age, about 3500 years ago. There was some small-scale lead mining during the Middle Ages but it was not until copper had been rediscovered in the mid seventeenth century that mining started in earnest. Today the mines are used for educational purposes. Richard spoke passionately on the history of mining in the area, and showed some amazing photographs of the folding and structures within the Carboniferous Limestone that were discovered underground within the mines. The mineralisation, which occurred in 3 or 4 phases, is post Variscan. Deep Ecton Mine has been flooded since the mid 1850's and Clayton Mine since 1889. While there are some contemporary accounts of the geology and mineralisation of these pipe vein deposits, no modern geological examination of the flooded workings has been possible until the EC funded UNEXMIN project deployed experimental submersibles in the flooded workings of Deep Ecton in 2019. This has enabled a better understanding of the geology of the deposit to be developed.

During the break delegates swarmed to the Posters and Displays area where food and refreshments were laid on. This provided an opportunity to mingle, catch up with old friends and peruse the exhibits put on by North Staffs Group of the Geologists' Association (hosts of the event), East Midlands Geological Society, Hertfordshire Geological Society, National Trust Biddulph Grange Garden, the Geologists' Association (Rockwatch), Warwickshire Geological Conservation Group, Indus Experiences and The University of the 3rd Age (u3a).

WGCG Desk manned by Kathrin & Claire

NT Biddulph Grange Garden display with manager Helen Wilshaw, volunteer Katherine and the BGG Ichthyosaur.
(Photo A. Noble)

u3a display staffed by Adrienne Noble (leader of Macclesfield u3a Geology Group). Poynton u3a Geology group also had a display (no photo available).

Following the break **Chris Brown** of BGS gave a talk:

"Exploring the heat beneath UKGEOS Cheshire: Geothermal energy"

Chris provided an update on the Cheshire basin monitoring system. The UK Geoenergy Observatory, located in Cheshire and commissioned during 2024, facilitates open- and closed-loop testing in the Chester Formation, which is part of the Sherwood Sandstone Group. The infrastructure consists of 21 vertical boreholes drilled to 100 m depth, equipped with distributed temperature sensors, electrical resistance tomography, thermistors, distributed acoustic sensing and data loggers.

Geothermal and underground thermal energy storage are essential to decarbonisation in the UK and internationally. To reach net zero emissions targets, subsurface infrastructure and geological risk must be investigated and mitigated through innovative testing. Data recorded from the world class sensing equipment provides crucial insights into the behaviour of subsurface heat and fluid flow, enabling the safe and efficient deployment of geothermal and underground thermal energy storage systems. Initial findings demonstrate the technical capabilities of the site, and improved understanding of how open and closed-loop geothermal systems will behave when extracting and storing thermal energy.

Next up was **Jamie Pringle** of Keele University with a talk:

"Forensic geoscience non-invasive detection and characterisation of underground 20th Century military complexes".

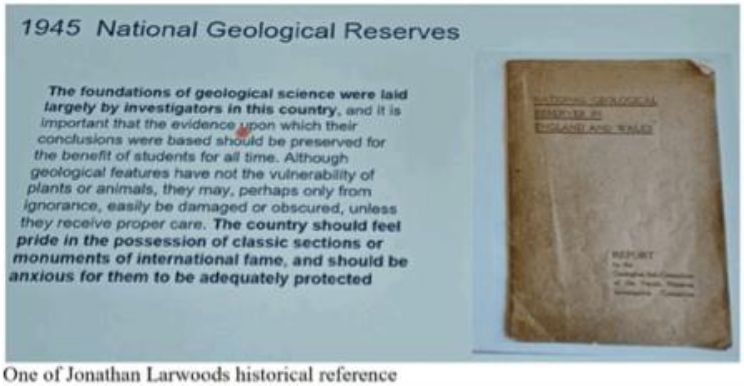
Jamie talked about technology for identifying underground 20th century military complexes.
Recent events in conflict zones have shown that the successful detection and characterisation of buried military complexes is vitally important for geo-forensic investigators globally to reduce or solve criminal activities, address national security threats and avoid potential terrorist attacks. However, this can often prove difficult, particularly in urban areas. Generally, desktop studies assess pre-existing information that then informs appropriate survey design and technique(s) selection. Survey results then produce accurate plans of sub-surface targets, with numerical modelling and correction for above ground infrastructure provide confidence in interpretations. All investigations are of course unique and require individual phased investigative approaches to improve detection rates of such important buried targets.

The final session of the morning was delivered by **Jonathan Larwood** of Natural England:

"Conserving Geoheritage: in (and out) of Staffordshire"

Jonathan Larwood

Geoconservation has its origins in the post-war 1949 National Parks and Access to the Countryside Act. This established geology as a core value in statutory nature conservation that remains today. This presentation explored these origins and the wider value placed on our 'geoheritage'. From the earliest imaginings of past geological worlds and those 19th Century Geologists' Association Field Excursions into Staffordshire, our geoheritage and the geological sites we value most have become Sites of Special Scientific Interest, National Nature Reserves, Local Geological Sites, UNESCO World Heritage Sites and UNESCO Global Geoparks. Geoheritage enables us to understand our past, our present and our future. It is a defining part of nature and nature's recovery. Outlining the history of Geoconservation and emphasising the role it plays is important in today's LNRS where biodiversity is often dependent upon geodiversity.



One of Jonathan Larwoods historical reference


Bernard Besly

After lunch, **Bernard Besly** of Keele University gave the Keynote lecture of the afternoon, a riveting talk entitled:

"Coal, Clay and Iron: the resource geology of the Potteries Industrial base viewed in the context of Westphalian climate and basin evolution".

The importance of geology in the industrial and urban development of North Staffordshire is usually reduced to a truism. Workable clays occurring with hot burning, long-flame coal gave the early potters a unique set of resources, and in consequence the pottery towns are developed along the line of their outcrop, reinforcing this fact given by Ian Stimpson earlier in the day.

But why did this happen in North Staffordshire rather than the many other coalfield areas that have ample of clay and coal? And how is this related to North Staffordshire's other resource-based industries – iron and steel and petrochemicals? To answer these questions we need to investigate the wider geological history and context: the controls on Carboniferous basin evolution that led to the deposition of the unusual Coal Measures facies association of thick palaeosols, algal rich coals and lacustrine ironstones; the role of Variscan deformation and subsequent Mesozoic rifting in creating a wide range of coal types and maturities and allowing the deposition of the nearby Cheshire halites; and, finally, the ways in which Tertiary uplift and denudation of the Variscan fold structures gave rise to juxtapositions of raw materials that led to the localisation of mining, pottery making and iron making in distinct sub-areas within the coalfield.

Miranda Goodby, a local historian, followed with a talk on the topic: ***"An abundance of raw materials: North Staffordshire and the Pottery Industry"***.


Miranda Goodby

Miranda provided delegates with an insight into the development of the area over the last 300 years and showed pictures of the Potteries industry at its peak, unrecognisable today. For the last three hundred years the concentration of pottery making in North Staffordshire has led to the district being known as 'The Potteries'. But although there are huge local deposits of coal and of red clay suitable for the coarse wares of the 17th century, and for making bricks and tiles, by the early 18th century fashionable consumers wanted white Chinese porcelain (or an affordable imitation). With almost no white-firing clay in Staffordshire the potters had to find and bring white clay to Stoke-on-Trent or watch their industry disappear. Yet the district thrived and by the mid-19th century there were over 300 pottery factories operating simultaneously in Stoke-on- Trent, with their products, including bone china and transfer-printed earthenware, sold across the world. This talk explained how the industry developed in north Staffordshire, and why it thrived despite the obstacles relating to raw materials and transport.

Holly Elliot of BGS then gave an interesting talk on critical minerals and how these are defined here in the UK:
"A spotlight in criticality"


Holly Elliot

The UK Critical Minerals Intelligence Centre is led by the British Geological Survey and supported by the Department for Business and Trade, with an overall aim of aiding the UK economy by delivering data, information, and analysis to develop sustainable supplies of critical minerals. Many of these raw materials are imperative in the quest to decarbonise our future, including the manufacture of wind turbines, solar panels, and electric vehicles. This presentation delved into what makes a mineral or raw material critical, the challenges and opportunities surrounding critical minerals, and provided a UK perspective on domestic deposits.


Bethany Cleaver

The penultimate talk of the day was given by **Bethany Cleaver** on the topic:

"Mineral Safeguarding in Staffordshire"

Bethany is a Chartered Mineral Surveyor of Wardell Armstrong - SLR which involves the management of mines and quarries throughout the United Kingdom, as well as providing technical advice to mineral operators and commercial developers. In line with this, Bethany routinely prepares Mineral Resource Assessments, which specifically relate to mineral safeguarding and a development's compliance with Mineral Planning Policy. Mineral safe-guarding is an important consideration in planning applications and for future developments. There are important mineral resources which are deserving of protection, but how do we ensure that mineral safeguarding areas are fit for purpose, whilst ensuring the protection of these mineral resources. This talk focused upon mineral resources and the mineral safeguarding areas in Staffordshire, and how it is applied by local government.

The final talk of the day was delivered by **Angie Turner** of Keele University on the topic:

"Constraining the Late Devensian glaciation in North Staffordshire".

The glacial history in this region is complex and since the early 1900's a series of conflicting ice limits have been proposed in this eastern sector of the Irish Sea ice sheet. Clarity has been hampered due to a lack of natural exposures and depositional landforms which are traditionally used to determine the limit of former ice masses. Angie's research focusses on multiparametric methods, combining geomorphological mapping, sedimentology and geochemistry of field and geotechnical samples to investigate the provenance of till deposits, ice flow direction and ice margins within the area of the south-west Pennines.

This was a very successful conference and enjoyed by all those attending which included the GA president (**Dr. Liam Gallagher**) and members from a number of geological societies including the GA, NSGGA, EMGS, WGCG, MGA, BCGS and OUGS.

A number of delegates attended the Conference Dinner at 19:00 which was held at Keele Hall, Keele University.

Many thanks to Ray Pratt for his comprehensive report of the first two days of the conference.

GA Conference 2025 Field Trip Reports - Sunday 5th October

The numbers for the field excursions were as follows:

- Mow Cop / BGG had 20 attendees.
- Ecton Mine and Apes Tor had 6 attendees.
- Apedale Mine and Heritage Centre had 16 attendees.
- Brown End and Froghall Wharf had 6 attendees.

Mow Cop and Biddulph Grange Garden Field Excursion

Leaders: Haydon Bailey, Stuart Egan and Gordon McKeown - Mow Cop; Adrienne Noble and Barbara Kleiser - Biddulph Grange Garden

This field excursion was attended by 20 conference delegates. It began with a visit to Mow Cop Castle which sits on a prominent hill (335m) composed of Carboniferous sandstone that also affords panoramic views of the surrounding landscape. The castle is a folly built in 1754 by the Wilbraham family, who owned Rode Hall which lies approximately 1.5 miles to the west. It has never been a fortification, but it has always been a site of local historic importance. In the early eighteenth century, the early Primitive Methodists chose the site as the location for their first religious "camp meetings" and the leaders of this group, Hugh Bourne and William Clowes, held revivalist meetings here which were popular with the early working class labour movement in the area.

Conference delegates studying the geology around Mow Cop Castle (Photo S. Egan)

Quarrying of Millstone Grit (Photo S. Egan)

The field excursion provided an opportunity to study the sedimentology and geological structure of the Mow Cop ridge as well as the regional geology of the Stoke-on-Trent area. Mow Cop castle stands on rocks that are Namurian age (approx. 320Ma). The location is part of a major syncline structure related to compressional deformation due to the Variscan orogeny that has created the undulating, hilly topography forming the surrounding landscape. To the West, however, the landscape is much flatter representing lithologies from a younger geological period, the Triassic. So what is the cause of this varied geology? Using BGS geological maps, it was explained that geological faults, the Wem and Red Rock fault system, have caused the contrasting geology between the western and eastern part of the area. There has been extensional movement along this fault

system such that the older Carboniferous sequences have been displaced and then buried by the deposition of Triassic sediments.

The second part of the excursion took place at the National Trust, Grade 1 listed, Gardens at Biddulph Grange. However, there was a short stop enroute to Biddulph on Congleton Edge that provided far-ranging views of the landscape and regional geology. Gordon McKeown led discussion on the local conditions that gave rise to extensive mining and quarrying and a surprisingly industrial landscape in the recent past.

Biddulph Grange (Photo S.Egan)

The Geological Gallery (Photo A.Noble)

'Triassic' Chirotherium footprint - trace fossil from the BGG Collection (Photo A.Noble)

The highlight of the visit to Biddulph Grange was the Geology Gallery, a Victorian curiosity, created by James Bateman between 1856 and 1862. Bateman was a devout Christian but also keenly interested in the new theories of evolution being offered by developments in Geology and Botany. The Gallery contains a selection of fossils and rocks in chronological order (Precambrian to Quaternary) in an attempt to reconcile mid-19th century geological knowledge with the Christian story of Genesis. The form in which the fossils are displayed – separated into bays numbered according to the days of creation – makes the structure unique. For example, Day 1 of the Genesis story is illustrated by fossils and rocks from the Precambrian era. The Gallery fell into disrepair in the 20th century and many of the geological specimens went missing. The Gallery was purchased by the National Trust in 2002 and has since been professionally restored and generates considerable interest. Many of those attending the excursion also took the opportunity to explore the gardens at Biddulph Grange which have been described as 'A masterpiece of Victorian garden design - a quirky, playful paradise'.

Report by Stuart Egan (NSGGA).

Ecton Mine Field Excursion

Leaders: Stephen Addison (NSGGA) and Tim Colman (Ecton Mine Educational Trust)

Tim Colman, our host for the day, met the group as pre-arranged at 1030. First of all, Tim provided a very comprehensive history of the mine and the surrounding area.

This was followed by a tour of Ecton Mine via the Salts Level. The Salts Level enters the mine at dressing floor level close to the education centre. It runs through competent rock to the main winding shaft and then the 'pipe deposit'. Tim explained that the Salts Level was used to bring ore out to surface. As we made our way to the 'pipe deposit', Tim pointed out several features, including gunpowder shot-holes and stone sleeper blocks for an iron plateway that was laid for mine tubs. In addition, we saw various examples of faulting, folding etc. We were able to look down the deep shaft and view impressive mineral workings. Tim was also able to point out several different minerals which were present in the vicinity of the 'pipe deposit'.

We were underground for approximately one hour and thoroughly enjoyed ourselves. In addition to Tim whose background in Exploration Geology and Mining from his early career in Australia and subsequent work with the BGS, the various attendees also had a wide range of geological knowledge which was willingly shared with everyone and made the visit even more enjoyable.

We then stopped for tea and refreshments and an inspection of the various geological specimens in the field centre. Following this we then went to look at the structural folding of Apes Tor, where again the discussions were wide ranging and interesting.

The main structure in the Ecton area is the large Ecton anticline which extends for 9 km. It has a marked NNW plunge and is strongly asymmetric with a steep eastern limb, showing near vertical and locally overturned beds. In the axial part of the structure, intense subsidiary folding occurs, as seen at the Apes Tor quarries, here the folds are of concentric type and minor thrust faulting, veining and brecciation are common around the hinges. Marked slippage along the bedding planes is visible.

We spent some time discussing the geological and engineering geological aspects, i.e. we were adjacent to a minor road but the potential for some form of rock slope failure is evident.

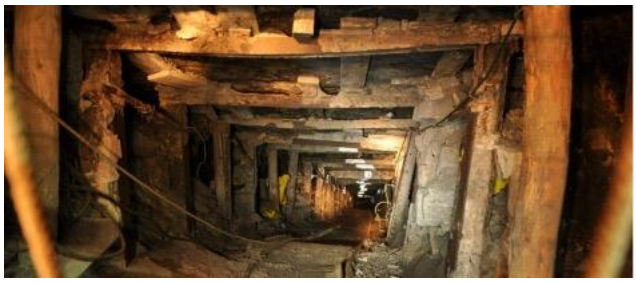
We then walked back towards the centre said our goodbyes to Tim and thanked him for a very enjoyable day.

Report by Stephen Addison (NSGGA).

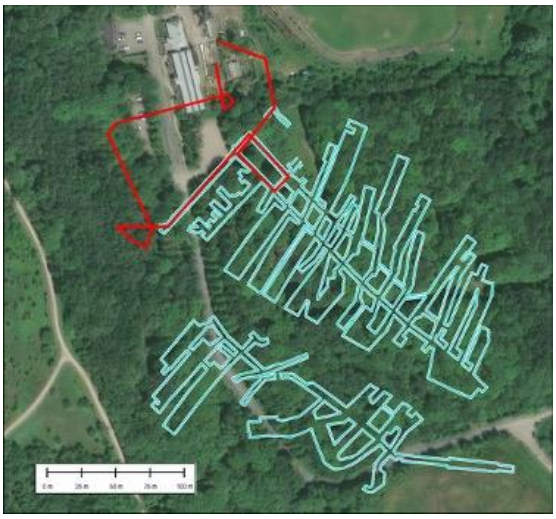
Apedale Mine Field Excursion

Leader: Bernard Besly

Apedale Colliery was a drift mine that existed between 1942 and 1998. For a period in the 1960's it was run as a modern colliery using high output retreating longwall faces. When these were exhausted in 1971 the mine was re-opened as a small lo-tech mine, using pillar and stall mining methods little changed from those of a century before. After final closure in 1998 the shallower parts of the mine were conserved and turned into an underground museum.



No photos were taken on the visit as cameras aren't allowed in the mine.
This image is a copy of one from the Heritage Centre



The mine plan superimposed on an aerial photo of the site (produced by Bernard Besly).

Because of restrictions on the number of people that can fit around the leaders in the confined space under ground, the party split into two groups of 6, one going down the mine before the lunch and the other after. Suitably equipped with hard hats and lamps each group convened around the entry of the Apedale No. 4 Drift for a summary of the history of mining in the area and then set off into the darkness. A short dog-leg involving a ladder allowed the group to drop down into the No. 7 Drift which we then followed to its intersection with the Cannel Row coal seam. At this point a significant fault was crossed. This was not directly visible as the fault plane is hidden behind the tunnel lining, but it could be inferred from minor structures. This part of the mine tour allowed the group to examine the variation in coal type in two of the major seams (Great Row and Spencroft), one of them associated iron ore beds, and a few glimpses of the sediments between the coal seams. It also allowed the knowledgeable and highly experienced miners co-leading the trip to start explanations of the different types of mining that took place in the colliery during its long life. After a rest and chat near the deepest accessible point in the mine we returned up section (both topographically and geologically) to examine the workings in the Bassey Mine seam in the adjoining fault block. Here the visit was more concerned with mining than with the geology. We crawled through roadways linking the 'pillar and stall' workings, and gained from the miners a realistic feeling of what it was really like to work underground.

The hour and a half trip proved remarkably strenuous, so participants were not ungrateful to emerge back out into daylight - clutching their complementary coal samples – to enjoy tea and oatcakes in the Museum café. A big thank-you is due to the volunteers at the Apedale Heritage Centre who provided the guides and enabled this visit.

Report by Bernard Besly (NSGGA).

Brown End Quarry and Froghall Wharf Field Excursion

Leader: Ian Stimpson

This field excursion began at Peak District Waterhouses Car Park, a short walk from Brown End Quarry, in the valley of the River Hamps. This is a SSSI and geological nature reserve maintained by Staffordshire Wildlife Trust who maintain a comprehensive set of information boards. The site contains exposures of steeply dipping calc-turbidites of the Milldale and Hopedale Limestones and displays a rare example of the Tournaisian-Visean boundary.

The second part of the excursion took place around Froghall Wharf in the deeply incised Churnet Valley glacial meltwater channel. This is a significant geologically-related industrial site with ironstone and coal workings, large lime kilns and a former copper works. It was an important transport hub for geological materials and arguably has the oldest official railway bridge in the world!

Brown End Quarry – Tournaisian-Visean Boundary. (Photo P. Jones)

Froghall Wharf – Lime Kilns (Photo P. Jones)

Report by Peter Jones (NSGGA).

Membership Renewal

NSGGA Membership runs from October to October so you should have renewed your membership for 2025/2026 by now. Full membership remains £13; family membership £15; retired/unwaged £10. (Student membership is £3 and lasts for the duration of the course)

The simplest way to renew is by electronic money transfer to the NSGGA Account, using the reference part to indicate what you are paying for.
Sort Code: 20-59-23
A/C Number: 60494704
Account Name: North Staffs Group of the Geologists Association
Reference: *What you are paying for, e.g.* "1xFull Member"

If you wish to pay by cheque, or indeed join the NSGGA, please complete the form at the end of the Bulletin.

NSGGA Committee

The new NSGGA Committee will be elected at the AGM in March 2026. We are always on the look-out for "new blood" to join the executive committee. If you would like to stand for a particular position, just join the committee in an ex-officio role to see it in action first, or are just curious as to what it might involve, please contact the Chair, Stuart Egan (nsgga.cha@gmail.com

Events of Other Societies

Geologists' Association
Lectures at The Geological Society, Burlington House, Piccadilly W1V 0JU.

Friday January 9 @ 18:00	**Online:** *Reconstructing the Cretaceous Greenhouse* - Prof. Andy Gale (University of Portsmouth)

More details at www.geologistsassociation.org.uk

Black Country Geological Society
Indoor meetings at Lamp Tavern at 116 High Street, Dudley, DY1 1QT.

Sunday 19 January @ 20:00	**Lecture:** *Bringing Forward the Past: Black Country Geology Past, Present and Future* - Graham Worton (BCGS Chair and Keeper of Geology for Dudley)
Saturday 14 February @ 10:00	**Field Event:** Smestow Valley and Wightwick Manor Erratics
Monday 16 February @ 20:00	**Lecture:** *Spicomellus: the punk dinosaur of the Jurassic* – Prof. Richard Butler (Birmingham University)
Saturday 14 March @ 10:00	**Geoconservation Day:** Portway Hill, Rowley
Monday 16 March @ 20:00	**AGM, Lecture:** *Conserving Geoheritage: in (and out) of Staffordshire* – Dr. Jonathan Larwood (Principal Officer - Geodiversity Natural England)

Saturday 11 April @ 10:00 **Field Event:** Ercall Quarries, Shropshire – Leader David Smith (SGS)

More details at www.bcgs.info

Cumberland Geological Society.
Winter 2025/26 talks will be themed on updating our understanding of the geology of the Lake District. For further information please visit the website: https://www.cumberland-geol-soc.org.uk/

East Midlands Geological Society
Indoor meetings at the Clive Granger Building, University of Nottingham. NG7 2RD and start at 18:00.

Saturday January 10 **Lecture:** *Late Ordovician subduction, super-eruptions and closure of the Tornquist Sea* - Dr Tim Pharaoh (BGS)

Saturday February 14 **Lecture:** *Mineralogy in art - President's Evening* - Dr Chris Duffin (NHM)

Saturday March 14 **Lecture:** *Microbially-mediated carbonates in the Mesoproterozoic Stoer Group; earliest evidence of life in Britain?* - Dr Peter Gutteridge (Manchester University)

Saturday April 11 **Lecture:** *Hunting dinosaurs from space* - Emeritus Prof David Martill (Portsmouth Uni)

More details at www.emgs.org.uk

East Midlands Regional Group of the Geological Society
De La Beche Conference Suite, British Geological Survey, Keyworth, Nottingham
More details at www.geolsoc.org.uk/emrg
See entry below for **North West Regional Group of the Geological Society**

Liverpool Geological Society
All talks for 2026 will take place at the Central Teaching Hub, University of Liverpool and start at 19:30.

Tuesday January 20 **Lecture:** *Volcanic hazard response* - Dr. Iestyn Barr (Manchester Metropolitan University)

Tuesday January 27 **Lecture:** *High Specification Aggregates for Skid-Resistant Roads: – a geological explanation and the North Wales Granite Conundrum* - Dr. Alan Thompson (Cuesta Consulting)

Tuesday February 3 **Lecture:** *Triassic* - Dr. Neil Meadows (Redrock Associates)

Tuesday February 10 **Lecture:** *The Himalayas* - Professor Yani Najman (University of Lancaster)

Tuesday February 17 **Practical session, the Hazel Clark memorial practical:** *Volcanic ash* - Dr. Maggie Williams & Dr. Lis Rushworth (University of Liverpool)

Tuesday March 3 **Lecture**: *Ascension Island: volcanology and eruptive history of an active UK Overseas Territory* - Dr. Katy Chamberlain (University of Liverpool).

More details at liverpoolgeologicalsociety.org

Manchester Geological Association
Indoor meetings at the Williamson Building, University of Manchester.

Saturday 17 January @ 13:00 — **Lectures:** There will be 3 lectures including '*Hard times in Cheshire's Triassic Badlands*' from Gordon McKeown (Vice-Chair of the NSGGA)

More Details at www.manchestergeology.org.uk

North West Regional Group of the Geological Society
More details at www.geolsoc.org.uk/Groups-and-Networks/Regional-Groups/North-West
Lectures available for public access at Burlington House, W1J 0BG, or via Zoom.
https://www.geolsoc.org.uk/events/

Shropshire Geological Society
Meetings currently hybrid via ZOOM and at Shrewsbury Colleges Group, London Road, Shrewsbury SY2 6PR

Wednesday 14 January @ 19:15 — **Hybrid: Geology of the Core-Mantle Boundary.** - Prof Sebastian Rost (University of Leeds).

Wednesday 11 February @ 19:15 — **Hybrid: Darwin Week Public Lecture: 'Darwin and Wallace'** – John Fraser King.

More details at www.shropshiregeology.org.uk/SGS/SGSintro.html

Warwickshire Geological Conservation Group
Indoor meetings at Kenilworth St Francis of Assisi Church, Kenilworth CV8 1LQ and via Zoom.

Thursday January 15 @ 19:30 — **Hybrid:** *The Charnwood Terrane Revisited* – Dr. Tim Pharoah (BGS).

Register in advance to attend virtually:
https://us02web.zoom.us/meeting/register/WNDsw2L8Q1CYSg_AUxmBxQ

More details at www.wgcg.co.uk

West Midlands Regional Group of the Geological Society
More details at www.geolsoc.org.uk/Groups-and-Networks/Regional-Groups/West-Midlands
See entry above for **North West Regional Group of the Geological Society**

Western Institute of Mining and Minerals
Indoor meetings are held at the William Smith Building, Keele University, 7.00pm - 9.00pm, and via Zoom.

Monday February 2 — **Lecture:** *Hydrogeology* – Rik Ingram (SLR Consulting)

Monday March 2 — **Lecture:** *Underground Containment Facilities* – Oliver Colbeck (Nuclear Waste Services)

Monday March 30 — **Lecture:** *Automation in Underground Mining* – Speaker TBC (Komatsu Mining Group)

Contact WIMM for details of how to join the Zoom sessions:

www.iom3.org/group/western-institute-of-mining-and-minerals-wimm/meetings.html

NSGGA - Next Committee Meeting:
Thursday January 8, 2026 at 13:00 via Zoom.

NSGGA Committee
Chair: Stuart Egan (e-mail: nsgga.cha@gmail.com)
Vice-Chair: Gordon McKeown
General Secretary: Stephen Addison (email: nsgga.sec@gmail.com)
Treasurer: Tony Marks (4 Scarratt Drive, Forsbrook, Stoke-on-Trent, ST11 9AN; email: welsh_tony@tiscali.co.uk)
Membership Secretary: Janet Osborn (Stretton, 2 Croyde Place, Meir Park, Stoke-on-Trent, ST3 7XD; email: janetmosborn@googlemail.com)
Speakers Secretary: Peter Jones (e-mail: p.f.jones@derby.ac.uk)
Field Secretary: Steve Alcock (Longfields, Park Lane, Cheddleton, near Leek ST13 7J; e-mail: steves261@aol.com)
GeoConservation Staffordshire Liaison Officer: Dr Ian Stimpson (e-mail: igs@nsgga.org)
Bulletin Secretary: Adrienne Noble (e-mail: nsgga.bul@gmail.com)
Social Media Secretary: Will Shaw

Honorary Life Member: Ann Myatt

Executive Committee (elected): Bernard Besly, John Reynolds,

NSGGA web pages: www.nsgga.org

Produced for the NSGGA by Adrienne Noble, NSGGA Bulletin Secretary

NSGGA MEMBERSHIP 2025/2026. Subscriptions due from October 1st

Membership Rates

Ordinary (Full)	£13.00	❒
Family *	£15.00	❒
Retired/Unemployed	£10.00	❒
Student **	£ 3.00	❒ Course: ……
Voluntary Contribution to Myers Award:	£…..	

The John Myers Award is presented annually to a student at Keele University. John Myers gave a 60-year contribution to the understanding of Geology in North Staffordshire and beyond. From 1927 he taught at Wolstanton Grammar School for 40 years and began evening classes at "Stoke Tech" [now Staffordshire University], encouraging members to join the Geologists' Association of London. Thus was born the NSGGA in 1948. In the 1950s and 60s he helped Keele University Postgraduate Certificate of Education students with a teaching methods course, joining the staff of the Education Department in 1967 on his retirement from teaching. Also, in 1967, he was a Founding Father of the Association of Teachers of Geology that had its inaugural meeting at Keele, at which he was elected Treasurer, a post he held for 10 years. His daughter Ann has generously funded the John Myers Awards in his memory.

Continuing Members (New Members please see below)

You can renew automatically by sending a direct electronic payment:
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New Members

Please complete the form both above for membership type and below for UK GDPR and return to the membership secretary
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You can pay either directly using internet banking (details above) or by cheque (details below)
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Janet Osborn (NSGGA Membership Secretary),
Stretton, 2 Croyde Place, Meir Park, Stoke-on-Trent, ST3 7XD.
e-mail: janetmosborn@googlemail.com