



MANCHESTER GEOLOGICAL ASSOCIATION

President: PETER DEL STROTHER

Founded 1925

June 2013

www.mangeolassoc.org.uk

Dear Members,

Welcome to the MGA's June Newsletter!

In the newsletter this time we have some excellent articles on a recent MGA fieldtrip to Pott Shrigley, and two pieces following on from Jack Treagus's article on "The Association" from the March newsletter, as well as the MGA's remaining outdoor programme of events for 2013.

The MGA also requires volunteers to help update the poster boards and to fill some vacancies within the council; this is a great opportunity to get involved in the running of the Association - there are two roles to be filled now and two to be filled after the AGM next year.

Many thanks to all the contributors in this edition of the newsletter. If you have any articles, book reviews, photographs, or anything of geological interest for the next newsletter please email to me before the end of August.

James Jepson

NEWSLETTER EDITOR

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QUICK DIARY

Outdoor:

7th July - Lymm Dam and Helsby Hill
Quarry

10th Aug - Fred Broadhurst Memorial
Field Trip

12th Oct - Skills Day at the
Manchester Museum

MGA NEWS

THE MGA NEEDS YOU!

POSTER BOARD DISPLAY HELP

Marjorie Mosley is not available to update the MGA display boards this year, and we are looking for a volunteer to do this before the Autumn series of lectures begins. For further details or to discuss, please contact Marjorie via Sue Plumb's email, secretary@mangeolassoc.org.uk and she will pass on any messages.

COUNCIL VACANCIES

The MGA has vacancies on the council - if you would like to take an active part in the Association please contact the Secretary, Sue Plumb (email as above).

The current vacancies are:

Membership Secretary

Field Meetings Secretary

At the AGM next year we'll be looking to fill two more vacancies:

Newsletter Editor

Indoor Meetings Secretary

This is a great opportunity to become involved in the running of the MGA.

MGA ON FACEBOOK

Just a reminder that the MGA has its own Facebook group. The group enables members to discuss geology, tell of interesting geological trips, share geology photos, and receive information on the Association's events.

If you are a regular internet user and a member of Facebook please join the MGA's Facebook group.

The groups can be found at:

www.facebook.com/groups/404219199605689/

or

by going to www.facebook.com and searching for "Manchester Geological Association"

ARTICLES

POTT SHRIGLEY FIELD TRIP - SUNDAY 7TH APRIL 2013

On Sunday 11th April 2013, a dry, cold and intermittently sunny day, ten members of the MGA (plus Lucy the dog) were led on an excellent field trip by Paul Aplin to examine the succession of Lower Coal Measures and evidence of former coal mining on and around Bakestonedale Moor, which is situated one mile NE of Pott Shrigley, Cheshire. The walk has previously been detailed in Fred Broadhurst's excursion book (1973).

Pott Shrigley is a very small village in East Cheshire with a population of 220 (2001 Census) whose history includes the founding of a brickworks in 1820. William Hammond took over the business in 1865 when he married into one of the operating families. Colin Hammond of the fourth generation of the family now manages the site as an industrial estate. Hammond's Brickworks in its halcyon days had 120 employees including miners. The three foot Sweet Seam fireclay which extends two miles eastwards succeeds the eighteen inch Lower Foot coal seam beneath. This combination proved to be very profitable for Pott Shrigley in the production of fire bricks, fire backs and fire clay tiles.

An 1881 OS map of Bakestonedale shows lime kilns, brick kilns, coal shafts and a smithy along the narrow Bakestonedale valley road, near to Hammond's brick works. Ultimately brick production and the associated extraction of coal and fireclay became the sole preserve of Hammond's. Peak District National Park planners eventually put a stop to the industry in the mid 1960s. A number of deep mine shafts remained open until the 1970s when they were capped by the then National Coal Board, leaving distinctive concrete obelisks on the shaft tops.



Photograph 1

Our first exercise was to squeeze our cars into a triangular piece of land just off the narrow Bakestonedale Road (Grid Ref: 595795) which we just about managed with a little double parking! (Photo 1)

The group then descended to the stream to the east which parallels Bakestonedale Road and onto one of many stream crossings, which were made successfully by all members with just the occasional wet foot!

On a south facing exposure next to the stream we were able to see thick beds of shale that overlies the Upper Foot Marine band. Concretions of clay ironstone (Siderite) were easily visible as horizons within the shale. Paul explained how the concretions tended to be elongated, rather than round (as in sandstone) due to lateral permeability and was typical of the deltaic facies of the Coal Measures. Siderite formation is favoured by alkaline (pH 9+) and reducing (poorly oxidising) conditions, low dissolved sulphite and a high Iron/Calcium ratio. The evidence for this is derived from boreholes through fresh water marsh and lake muds in the deltaic regions of the Mississippi (Photo 2).

Iron concentration in Siderite must be at least 5% more than calcium (in sea water it is less than 0.1%). The high concentration of iron (Ferrous Carbonate) in Siderite imparts a “ring” on hammering which was aptly demonstrated by the group’s geochemist, Steve Edwards, as in photograph 3.



Photograph 2



Photograph 3

After several more crossings (or vaults, jumps, hauls and splashes!) as we progressed upstream and also down the succession, Paul obtained many fossil specimens for the group from the thin Upper Foot Marine Band which included *Gastrioceras* and *Dunbarella*. He explained that the marine bands became less common after the early part of the Westphalian A due to the decreased frequency of sea transgressions (Photo 4).



Photograph 4

A little further upstream, a good length of stream bed is exposed consisting of “ganister”, which forms at the base of each coal seam. Ganister, like fireclay, is derived from a fossil soil (seat earth - a palaeosol) with roots from swamp plants above in deltaic environments. Ganister is tough, quartz-rich, bleached white sandstone.

Although not exposed, the group was informed about the three foot band of Sweet Seam Fireclay, a very sort after quartz-rich clay which does not shrink excessively in the firing process due to the presence of the quartz. The local coal was used to fire the kilns along Bakestonedale Road.

Several of the group managed to scramble up the north facing bank of the stream to see a coal seam which is situated just south of an old wooden pole marking an entrance to an adit at Grid Ref SD958795 (Photo 5).

At the confluence of two streams just above the water pumping station, a pre-lunch rest was taken by the group whilst details of a nearby borehole were discussed. Full details of this borehole can be found on the BGS website (BGS ID 185764, Bakestonedale Farm, Date of sinking 1949).



Photograph 5

The log indicates that the borehole intercepts the top of the Woodhead Hill Rock at 96 feet and its base at 239 feet (ie.143 feet thick). The Rough Rock, an important aquifer, is not encountered until 324ft and is present until at least the greatest depth of the borehole at 400ft, and thus has a known minimum thickness of at least 76ft.

A short ascent onto the southern flank of Bakestonedale Moor took us to a lunch time “seat with a view”. In the immediate foreground the valley through which the group has ascended and views south over Andrew’s Knob... in 1810 this hill was suspected as being one of several bronze-aged barrows but later shown to consist of Woodhead Rock only! Kerridge Hill to the SSW with bedrock of the Milnrow Sandstone, Alderley Edge to the SWW of Helsby Sandstone (Photo 6).



Photograph 6



Photograph 7

Having ascended further onto the moor, the group spent the last hour with Paul showing us the numerous sealed mine shaft entrances with the nearby horse gin remnants on the ground. These are the remains of a circular horse tract, usually sited adjacent and uphill from the mine shaft. The scarp and dip slopes were pointed out to the east of Lyme Park and as shown in the last picture to the SE of Bakestonedale Moor (Photo 7).

The group thanked Paul for a splendid and informative field trip and also Jane Michael for all the arrangements.

Dr. Stephen Proctor

THE ASSOCIATION - CONTINUED

Continuing on from Jack Treagus' article on the Association from the March Newsletter - articles from Derek Brumhead and John Pollard.

The Manchester Geological Society was founded in 1838 and held its first meeting on 31 October 1839. It had 130 members, and a museum collection and library were started. An outstanding personality in the Society was Edward William Binney (John Pollard gave a talk about him to the MGA in March 2012) and there were other notable members including scientists including James Prescott Joule and Sir William Fairbairn. Many important papers on geology were published in its Transactions. In later years, mining development in the nearby coalfield led to more papers on that subject, the number of coal mining members increased, and in March 1903 the Society acknowledged its existence to the coal industry by changing its name to the Manchester Geological and Mining Society and became incorporated with the Institute of Mining Engineers based in Newcastle-upon-Tyne. Papers from Vols. I to XXVIII of the Transactions of the Manchester Geological Society are held in the library of the North of England Institute of Mining and Mechanical Engineers (see their website for a list*). In 1946 the MGMS lost its lease on its headquarters in Manchester and moved to accommodation at Wigan and District Mining and Technical College. This was a better centre for its mining interests. In the 1970s, with reducing membership, the MGMS became a branch of the IME.

Meanwhile in December 1904 the Manchester University Geologists' Association was founded, and we have programmes of its meetings and excursions in the MGA archives.

In 1924 the question of forming a geological section for furthering the interests of geology within the MGMS was discussed but there were difficulties. Led by Professor O. T. Jones, who was President of the MGMS, it was agreed that a Geological Association completely separate from the MGMS should be formed. To test public opinion a letter was sent to the local press by Professor Jones and a copy of this letter is in the Association's archives. The MGA was founded on 13th January 1925 and Professor Jones became the first President. The first committee consisted of Professor Jones, G. Andrew (he wrote a paper on 'The Imperial Porphyry of Egypt'), L. H. Tonks, N. T. Williams, and J. W. Jackson (Curator of Geology in Manchester Museum) who was still Secretary over 25 years later.

A book has been published on the history of the MGMS by Kenneth Wood, called 'Rich Seams: the Manchester Geological and Mining Society 1838-1988'. It can still be bought cheaply on Amazon. In 1950 'A Retrospect of Twenty-Five years (1925-1950)', a brief history of the Manchester Geological Association by Dr J. W. Jackson was published in the Journal of the MGA Vol 11, Part 1, pp. 51-60 (1950), and offprints of this are in the archives.

Derek Brumhead

*<http://www.mininginstitute.org.uk/>

MANCHESTER GEOLOGICAL AND MINING SOCIETY 1838-1988?

As a fellow honorary member of the MGA with 50 years membership, I am pleased to respond to Jack Treagus's comments on the relationship of the MGA and the Manchester Geological and Mining Society (MGMS). An outline history of the latter society, and some of its landmark papers, are published in the book "Rich Seams: The Manchester Geological and Mining Society 1838-1988" by Kenneth Wood (1988), still available on the internet from £10 to >£20!

From its foundation in 1838 the Manchester Geological Society (MGS) had a strong link with coal mining as expressed in the 1838 'Objects of the Society': "To investigate the mineral structure and organic remains of the Earth, to enquire into the statistics and machinery of mining, to collect books, maps, models and mining records, to publish Transactions of the Society with illustrations, and to form a museum to be open gratuitously to the public".

In the latter half of the 19th century into the 20th century with the increase in local coal mining the number of mining engineers in the MGS increased as the number of active geologists decreased. Consequently by the 1890s there was pressure for the MGS to federate with the Institution of Mining Engineers (IME) founded in 1889. The first attempt in 1894 in the presidency of Mark Stirrup, an eminent local geologist, failed by 24 votes for federation and 84 against. However, the situation was reversed a decade later with 125 for federation and only 3 against. This led to federation and change of the name of the MGS to the MGMS and a change of the crest incorporating miners' picks and a safety lamp as well as a reduced ammonite (see figure)! The MGMS then became the earliest founded society incorporating mining engineers.



First crest



Amended crest

The influence of geologists in the MGMS continued to decrease despite Professor Sir Thomas Holland of Manchester University being president in 1913, and by 1924 the last geologist to be president was Professor O.T. Jones. He tried to re-found a 'Geological Section' within the MGMS, but when this failed he got the Council of MGMS to agree to the founding of the MGA in 1925, which met in the rooms of the MGMS for the nominal fee of £1 per year.

When the MGMS lease on their rooms in Manchester ran out in 1945 the society moved to the Wigan and District Mining and Technical College founded in 1858. The library of the MGMS was transferred to Wigan until 1965 when it was broken up and dispersed between IME library in Newcastle, Lancaster University, National Coal Board archives and Wigan College.

In the 1960s on the amalgamation of the Institute of Mining Engineers with the National Association of Colliery Managers, the MGMS ceased to exist as a separate society and became the Institution of Mining Engineers – The Manchester Geological and Mining Society Branch. The MGMS assets of £9175 were transferred to the Institution of Mining Engineers!

By the time of the 150 year anniversary of the MGMS in 1988 with only five surviving collieries in Lancashire, and only 46 working members, the future of the IEM-MGMS branch was in question with only four meetings a year. With the final closure of the last pits in Lancashire the MGMS appears to have ceased to exist, probably in 1990s. Wigan Mining and Technical College became Wigan College of Technology in 1974 and finally Wigan and Leigh College in 1992, no longer offering any courses in mining.

Sadly as far as we are aware, as suspected by Jack Treagus, the historical minute books of the MGS and MGMS are lost or were transferred to the North of England Institute of Mining and Mechanical Engineers where a set of 28 volumes the Transactions still exists. The MGS museum became the Manchester Museum in 1870 and the true geological heritage survives in the MGA.

John Pollard

GEOLOGISTS' ASSOCIATION EVENTS

The Geologists' Association's Festival of Geology is at University College London (UCL) on Saturday the 2nd of November.

The Festival will consist of:

Geological Exhibitors - fossils, minerals, jewellery, books, maps etc.

Rockwatch activities

Geological Talks by Prof Iain Stewart (University of Plymouth), Prof Jane Francis (Director of British Antarctic Survey), Dr Suzanne Schwezner (Open University) and Dr Maria McNamara (University of Bristol)

Walks and Field Trips including Building stones and Riddlesdown Chalk Pit

Amateur Photographic Competition

Further Details: www.geologistsassociation.org.uk

Geologists' Association 2013 Annual Meeting: Onshore and Offshore Geology - the Vital Link. Saturday 21st September (Conference) and Sunday 22nd September (Field Trip).

Exploration offshore for wind farms, tunnelling, mining and hydrocarbons benefited initially from knowledge of adjacent onshore geology. Subsequently, the detail available from offshore methods of exploration has greatly enhanced our understanding of the onshore geology. This conference illustrates the benefits of this interplay to UK Earth Science.

At the Appleby Lecture Theatre, University of Durham.

More information: <http://www.geologistsassociation.org.uk/conferences2013.html>

OUTDOOR MEETINGS 2013

Lymm Dam and Helsby Hill Quarry

Sunday 7 July 2013

Leader: Fred Owen

Description: To put the landscape in the context of the stratigraphy and structure of the north Cheshire Basin as described in my talk on Triassic Cheshire. We will examine outcrops of the 3 main rock types formed when Britain was located 20 degrees north of the equator and see how weathering has affected them. To examine and interpret sedimentary structures in the Triassic sandstone of the type locality of the Helsby Sandstone Formation. We will examine sandstone deposits formed in sand dunes and a braided river forming Helsby Hill on the mid-Cheshire Ridge. To view the overall structure of the Cheshire Basin from the top of Helsby Hill.

Fred Broadhurst Memorial Field Trip

Saturday 10 August 2013

Leader: Jane Michael

Description: This trip will take the form of following Walk 9 Earl Sterndale -Parkhouse Hill - Chrome Hill

Skills Day at Manchester Museum

Saturday 12 October 2013

Leader: David Gelsthorpe

Time: 10am – 3.30pm

Description:

Fossil Drawing Masterclass:

Participants will have the opportunity to draw and label trilobites, bivalves and brachiopods from the Museum's collection. Use of technical terms and identification guides will be discussed.

Understanding and Interpreting Fossils:

Participants will investigate three of the most common fossil assemblages in the UK. They will be guided through identifying the fossils, interpreting the environment and using the specimens to date the assemblage.

Understanding Quaternary Climate Change in the UK:

Participants will investigate a range of rocks and fossils from the Last Ice Age. Using graphic logs, isotope and pollen data, they will be guided through interpreting the changes in climate at this time.

For further details and booking for any of the above events contact Jane Michael.

IMPORTANT NOTICE: MGA INSURANCE

Each person attending a field meeting does so on the understanding that he/she attends at his/her own risk. The MGA has Public Liability Insurance cover (including member to member cover), for field and indoor meetings and an element of Personal Accident cover.

However, members should always ensure that they have Personal Liability cover (normally part of the standard householder's insurance policy - please check your policy) and comprehensive Personal Accident cover. These are */your/* responsibility. Overseas trips are not covered.

THE MANCHESTER GEOLOGICAL ASSOCIATION COUNCIL 2013-2014



MANCHESTER GEOLOGICAL ASSOCIATION

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Vice President: **DR RAY BURGESS**

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For **Jim Spencer** and **indoor meetings** - lectures@mangeolassoc.org.uk

For **James Jepson** and the **newsletter** - newsletter@mangeolassoc.org.uk

OTHER SOCIETIES AND EVENTS

Manchester Geological Association members are welcome guests at other societies' events, some are listed below:

Black Country Geological Society (www.bcgs.info):

Saturday 20th July (Field meeting): The Building Stones of Worcester. Led by Andy Harrison.

Monday 28th October (Indoor meeting): Of fossils and fracking - a palaeontologist's guide to shale gas.

Speaker: Dr Liam Herringshaw.

Contact: Andrew Harrison –

andrew_harrison@urscorp.com

Lancashire Geological Association (www.lancashire-geologists.co.uk):

Saturday 13th July (Field meeting): Grassington Lead Mining Area. Led by George Williamson.

Saturday 10th August (Field meeting): Settle, Horton and Hoffman Kiln. Led by Peter del Strother and Jennifer Rhodes.

Saturday 7th September (Field meeting): Griggin, North Wales. Led by John Peate.

Contact: Jennifer Rhodes – s_f_rhodes@hotmail.com

Leeds Geological Association

(www.leedsgeolassoc.freemove.co.uk):

Sunday 14th July (Field meeting): Bradford Building Stones. Led by Richard Butcher.

Sunday 11th August (Field meeting): Saltwick Bay to Whitby East, North Yorkshire. Led by Dr Liam Herringshaw.

TBA (Aug. or Sept.) (Field meeting): localities on Geological Sheet 61 - Pateley Bridge. Led by Dr Richard Haslam and Dr Oliver Wakefield.

Contact: Anthea Brigstocke –

anthea.brigstocke@zen.co.uk

Wilmslow Guild (www.wilmslowguild.wikidot.com)

Contact Wilmslow Guild 01625 523903

Liverpool Geological Society

(www.liverpoolgeologicalsociety.org.uk):

Contact: Joe Crossley – 0151 426 1324

North Staffs Geological Association

(www.esci.keele.ac.uk/nsgga):

Tuesday 23rd July (Field meeting): British Geological Survey, Keyworth. Led by David Bailey.

Sunday 8th September (Field meeting): Bradgate Park, Charnwood. Led by Keith Ambrose.

Contact: Eileen Fraser – frasers@netfraser.me

Oldham Geological Society:

Contact: Jo Holt – 01457 874 095

Open University Geological Society North West

Branch (www.ougs.org/index.php?branchcode=nwe):

Wednesday 3rd July (Field meeting): Birkshead Gypsum Mine Tour. Led by Noel Worley.

Sunday 8th September (Field meeting): Trowbarrow Quarry, Silverdale and Heysham Head. Led by Alan Diggles.

Contact: Jane Schollick – 01704 565 751

Russell Society (Mineralogy)

(<http://www.russellsoc.org/nwbranch.html>):

Contacts: Alan Dyer – Aldilp@aol.com or Harry Critchley – 01204 694 345

The Manchester Museum:

Thursday 11th July: How to identify dinosaur bones and eggs. 14:00 - 15:00

Thursday 18th July: Rock Drop: Geology identification sessions. 14:00 - 15:00

Thursday 15th August: Discover Geology: An Augmented Reality Field Trip. 10:00 - 17:00 (Book: Book on 0161 275 2648 or museum@manchester.ac.uk, free)

Wednesday 21st August: How to identify a meteorite. 14:00 - 15:00

Thursday 22nd August: Rock Drop: Geology identification session. 14:00 - 15:00

Website:

<http://www.museum.manchester.ac.uk/whatson/>



MANCHESTER GEOLOGICAL ASSOCIATION

For more details on any of the other societies listed please check their websites