WGCG

Autumn 2008 newsletter

Issue No 16

Charnwood

Newhurst

Bradgate

Roundberry

Hill Farm

Corley Rocks

Withybrook

Ansty

Field trips 2008

Warwickshire Geological Conservation Group

From the Chair

The Autumn meetings have been organised by the 'Education committee'. It is suggested that the name be changed to the 'Programme committee'. At the AGM there is the opportunity for members to join one of our committees or to volunteer to help take foward aspects of WGCG activities. This past year many members have made very real contributions. I would especially thank Colin Frodsham who assisted John Crossling with the Mancetter Project as well as renewing our display in Brueton Park, Solihull . With Paul Akers, Colin advised the Management Committee on financial control and organisational aspects. A geological society needs to be businesslike, allowing us to push foward our aims and gain funding for our conservation and education projects.

We currently have our Local Geodiversity Action Plan being prepared by Jon Radley and Christine Hodgson, and an English Heritage Building Stones project with Hugh Jones assisted by Nigel Harris. Ian Fenwick is about to start a project to monitor the condition of our RIGS sites (see page 13). Volunteers will be given training and have the opportunity to visits sites around the county with travel costs covered plus free lunches! How can you refuse this offer!

The committee have also proposed buying a small library of books for members to borrow. In the office we have a complete set of 1:50,000 maps of the county as well as those of many other areas. Do we have a volunteer who would organise a WGCG bookbox to be available at meetings as at Open Studies classes?

Chris King is now taking over as director of the Warwick University Earth Science Certificate, with a new climate change course starting this autumn. Also this autumn there is a new hydrology and wetlands course at the Wildlife Trust.

WGCG was inaugurated at a meeting convened by Andy Tasker, director of Warwickshire WIldlife Trust. We have now agreed to advise the Trust on their geology policy (see page 7) speaking on behalf of their 17,000 members, hopefully including some of you.

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Autumn 2008

Charnwood Forest field trip

19th April 2008 - Brian Ellis

We met for the first in our summer programme of field trip trips on a gloomy April Saturday, threatening rain and with a biting cold wind that seemed to come straight out of Siberia. Even the depths of Newhurst Quarry didn't offer very much shelter. But the quarry offered lots of geological interest, interpreted for us with great enthusiasm by Keith Ambrose from the BGS. There were 26 of us including some new WGCG members and visitors from other geological societies.

The quarry exposes three main rock components. The country rocks are of Upper Precambrian age, (which I suppose we should now call the Neoproterozoic Era) and date from about 600 million years ago. They represent the products of volcanic activity in an island arc, similar to the Indonesian Islands of the present day. Most of the rocks were formed by pyroclastic flows raining ash and dust down into the sea and so cut across the normal sedimentary/igneous classification. Their most striking gross features were the massiveness of the structures and the steepness of the dips, which contrasted with the subtlety of the colour variations and the delicacy of the internal structure of the siltstones and sandstones as the dust and ashes were graded during the deposition.

The central section of the quarry is dominated by a 50 - 60m thick intrusion of the North Charnwood Diorite. The massive and relatively coarse texture of the diorites display crystals of quartz, plagioclase feldspars and a range of ferromagnesian minerals making it contrast strongly with the country rock into which it was intruded. This was a great location for people wanting to add to their rock and mineral collections.

These Precambrian rocks have undergone successive folding, faulting and uplift ultimately forming the eroded landscape of the Triassic deserts. Rocks of the Triassic Mercia Mudstone Group, very familiar to us locally, lie uncomformably on the Precambrian rocks. This unconformity was particularly well illustrated in the upper part of the Morley Quarry which was the location of our second visit. These rocks illustrate the variety of conditions found in desert climate sedimentation from screes and breccias resulting from mass wasting and mass movement to sandstones from turbulent, temporary river flows to siltstones and mudstones from more placid depositional conditions.

The future of the now abandoned Newhurst Quarry is uncertain, but much of it looks destined for landfill. However, the Morley quarry is well conserved with interpretation boards, safety fencing and a car park, shared with the local cricket club. The steep faces of the quarry are so unstable that they have needed the insertion of rock bolts to stabilise them. Given the capital investment obviously made in the conservation it seems a pity that it is not well advertised or signposted.

In the afternoon Ian Fenwick and Christine Hodgson turned our attention to the landscapes formed on these rocks in Bradgate Park in the Old John and Sliding Stones Enclosure area. What is most striking in that area, given the massive nature of the rocks we had seen in the quarries, is how little rock outcrops at the surface. This led to much speculation and discussion. The outcrops are largely restricted to the hill tops and we examined how they represented the weathered tips of the steeply dipping strata below and show many of the detailed structures we had seen in the quarries. But between the hills the landforms are much gentler. This led us to considerations of the effects of the cold climates of the Pleistocene and subsequent frost shattering, to solifluction and head deposits, to rock slides, to comparisons with tors in Devon and Derbyshire, and to the effects of warmer climates in the Trias and the Tertiary. This brought a stimulating and interesting day to a lively and interactive conclusion and then an escape to the warmth of our cars.

Roundberry Quarry field trip

14th May 2008 - Colin Frodsham

It is thought that during the early Triassic a mighty river flowed northwards from the region known today as Brittany, conveying vast quantities of sediments and pebbles that were gradually deposited to form extensive conglomerates known historically as the Bunter pebble beds. Fine examples of the fluvial gravel deposits that formed conglomerates can be seen today at Budleigh Salterton, South Devon, and at many exposed sites across the Midlands region. Such a site was the subject of a well-attended field visit led by Dr Jon Radley in May to Roundberry Quarry, Wharton village, near Polesworth.

Under Jon's direction, the quarry exposures of alternate layers of mainly medium to coarse-grained sandstones and quartzitic pebble beds were placed in a geological timescale and tectonic context that provided a glimpse of the environment and extreme weather conditions that existed when successive layers of Triassic sediments and pebbles were deposited in the British Midlands 230 to 220 million years ago. The conglomerates, clearly exposed today in the disused quarry faces, form a commonly- seen geological feature of the Midlands landscape, particularly in those areas where the commercial extraction of sand and gravel has significantly contributed over the last two centuries to the prosperity of the region. It is likely that these deposits of fluvial sediments and rounded pebbles were laid down by a northwards-flowing river and by emphemeral river systems typical of an arid desert environment. An interesting feature of the gravel deposits in Roundberry Quarry is the imbrication structure of the pebbles beds on the north-eastern face of the quarry. Resembling a row of up-ended, tilted dominoes, the pebbles provide evidence of the direction of water flow when they were originally deposited, a 'fossilised' record of the event.

Everyone enjoyed Jon's explanation of the geology exposed within the disused quarry and the visit provided an opportunity to exchange ideas and theories. Earlier in the year, Jon, together with Ian Fenwick, produced a comprehensive Site Management Plan (SMP), commissioned by UKRIGS, for the future conservation and interpretation of the quarry's geology. Following the visit to Roundberry Quarry, we were able to appreciate why the Triassic exposures are well-worth saving from further deterioration. Our thanks to Jon for a most informative and interesting visit.

Hill Farm & Corley Rocks field trip

11th June 2008 - Jim Passmore

On arrival at Hill Farm in Maxstoke, the leader, Jon Radley proceeded to hand out a sheet which provided a brief explanation of the Western Boundary Fault and its adjacent geology. The area is known as the Meriden Formation. The Hill Farm member, just to the East of the fault, consists of conglemorates and sandstones.

The group was first directed to a number of large boulders at the north of the farm used to support a field boundary. Upon examination these were found to be of a fairly coarse conglomerate. Nearby one could find outcrops of similar lithology underfoot.

Some metres further east was the sandstone rock cliff which some members had assisted in cleaning last year. Although some vegetation had regrown the coarse, light brown sandstone, with evidence of false bedding, could easily be studied. Now disused, this had been a quarry in the past providing material for buildings in the local area.

The group then moved further to the east to look at the Keresley member of the Meriden Formation, Corley Rocks. Here Martyn Bradley gave us an account of these red sandstone cliffs. In the past an ancient hill fort had been erected at the top of these cliffs. This area is noted for the number of pebbles derived from uplands to the east. Some of the pebbles are known to contain brachiopod.

After showing us an example of fossils obtained earlier, we were then provided with a hammer and goggles to search for some ourselves. Around 30 minutes, and many broken pebbles later, we returned from our exploits to show what had been found.

Unlike the trip to Cross Hands quarry last year, where exposed fossils could easily be picked up, only one member had managed to discover a small fossil after having split one of his pebbles.

Our thanks go to Jon and Martyn for an interesting visit.

WWT Geology Policy

Ever since the Group was formed we have been affiliated to the Warwickshire Wildlife Trust and this relationship has been strengthened over the past few months with the group being requested to prepare a Geology Policy for the Trust. This is to complement their other policies covering the range of their activities. By having such a policy, we are hopeful that the WWT will be able to support the cause of geological conservation with vigour. However, in this case, the two bodies are agreed that the practical implementation of this policy will lie with WGCG, effectively acting as agents of the Trust.

Withybrook and Ansty field trip

13th August 2008 - Jim Passmore

In the middle of the day a heavy downpour of rain led to thoughts of another cancellation, by evening however it had cleared.

Around 15 of us met Brian Ellis who led us to the churchyard where he stopped and gave us a brief explanation of the landscape produced during Quaternary. We had been provided with a map showing the area around Withybrook, Shilton, Ansty and Barnicle. This showed the possible SW limits of an ice sheet revealed by deposits of boulder clay or till, in this instance Oadby Till.

Some metres below the Oadby Till are earlier deposits, Thrussington Till on top of which lies Wolston Clay, upon which we were standing, and Wolston Sand. Walking a short distance up a slope from the church we stopped to speak about the landscape. The ground was uneven and undulating, maybe from slumping? However, as Brian explained, this was not the case. He emphasised that, unlike solid geology, one must take account of the impact of man. In this instance the existence of the foundations of houses created the hillocks, with some showing a distinct rectangular shape. These houses had been deserted. In the times of the Black Death (1348 - 1350) many villages had been decimated, but here evidence points to a 15th century displacement of this "deserted village".

The group then moved on, walking uphill on the road to the highest point in the area. Whilst walking, and being especially careful of the traffic, we were able to examine changes in the superficial deposits in patches previously exposed by Brian. The first exposure was of Wolston Clay which was grey/brown in colour with a consistency of plasticine. However, only ten yards further up the hill, was a red sandy loam. This changed to a friable red sand at the next exposure, this being Wolston Sand. The ice melt from the glacial decay resulted in lakes being formed which may have caused the deposition of the sand. At the last exposure it was once again clay, now the Oadby Till. In some areas Dunsmore gravel appears on top of the till.

On reaching the highest point in Withybrook we were standing on the Oadby Till. Underfoot was evidence of ridge and furrow cultivation,

although the field is now used for cattle. Brian was surrounded by both us and the cattle as he explained the reasons for there being a settlement there. The different glacial deposits gave different ecological opportunites with different types of woodland in the valley and on the plateau, some well drained land for building, the supply of fresh spring water and the till plateau used for agriculture.

It was now time to move on to Ansty. The journey between Withybrook and Ansty was along an undulating lane where one drove up onto the Oadby Till and down again onto Wolston Clay. Brian had hoped that we could have stopped in one of the fields on the way to search for limestone clasts dropped by the ice sheet. Unfortunately the wet summer has delayed the harvest and the field still has the corn standing making this impossible.

At Ansty we congregated in a field opposite the Rose & Castle pub. On this occasion some horses joined us to listen to Brian! He explained, that at this point we were at the limit of the Oadby Till. As the land dropped sharply downwards to the Oxford Canal it was Thrussington Till that we could see to the south. The Oadby Till is a watershed with the streams feeding the Trent to the North and the Avon to the South.

After the group thanked Brian for his talk it was time to leave, just as the heavens opened once again.

The Great Rift Valley - Part 3

Due to space restrictions in this issue the final part of the story by Maurice Rogers is being combined with the first two parts and will appear on the group web site

Patricia Percy

Sadly one of our older members, Trish Percy, died in July. Born in 1912 in New Zealand, where her father was professor of geology at Otago University, Dunedin. In 1995, when she came to live in Warwick, she joined the WGCG. She attended many meetings including the last summer's field trip to the island of Colinsay where, together with Sylvia, not one exposure was missed!

Speakers Programme 2008/9

Change of venue

New venue.
All meetings will be held at the Senior Citizens Club in Southbank Road, Kenilworth, unless otherwise stated.

Car parking.
Extensive parking is available in the Abbey End car park, adjacent to the Youth & Community Centre where we met last winter. After 6pm this is free.

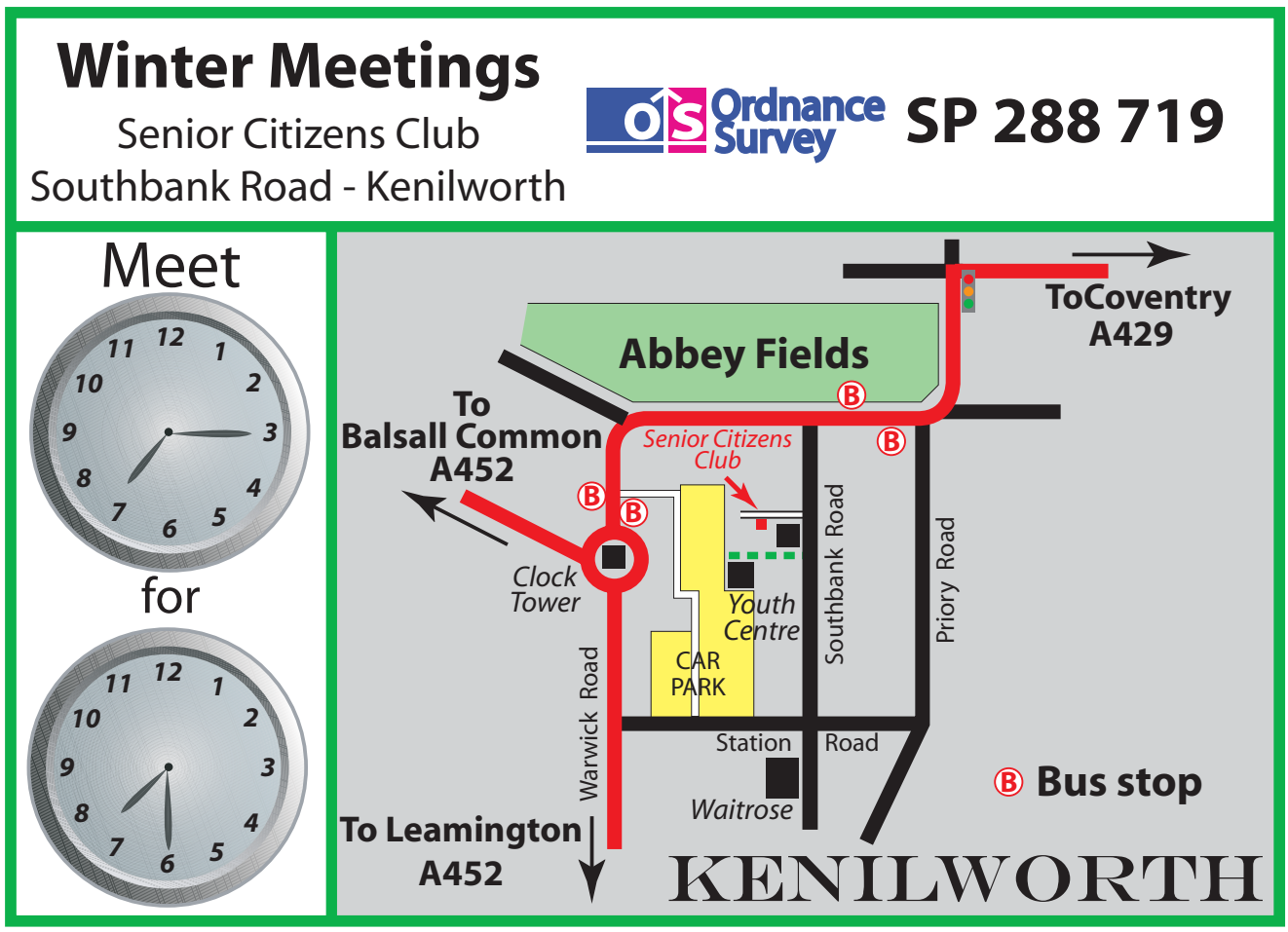
A footpath joins the car park with Southbank Road.

Bus routes.

Route **12** Coventry - Kenilworth - Leamington

Route **X17** Coventry - Kenilworth - Warwick

Times.
Meetings start at 7.15 for 7.30pm



Speakers Programme 2008/9

Meetings

15th Oct. AGM
To be followed by social + presentation 'loop' on summer field trips.

19th Nov. Dr Peter Worsley (University of Reading)
Darwin - a Mercian geologist

Peter has always had a fascination with the historical roots of geology and has worked extensively on the Pleistocene and in modern cold environments. As part of the Darwin bi-centenary celebrations in 2009, he will be leading a Geologists' Assoc. excursion 'In the steps of Darwin' from Shrewsbury tax office (his birth place) to Snowdonia where he made some important early observations on glacial processes.

17th Dec. Christmas soiree and Members' displays

If you would like to lay out a rock or fossil display, produce a 'poster', or show a brief slide presentation, please contact Ian Fenwick (01926-512531)

21st Jan. Brian Ellis (Coventry):
Australia Rocks - life & death of a mountain range.

Brian gave us a splendid talk on the development of waterfalls in southern Africa in January which stimulated many people. This time he will share some of his thoughts on the geological story of the mountains in the vicinity of Adelaide, South Australia.

18th Feb. Dr Sanjeev Gupta (Imperial Colliege):
Formation of the Straits of Dover

Sanjeev gave a thought-provoking paper to the Quaternary Research Association last winter based on his work on the submarine topography of the English Channel. Using sonar he has been able to identifying a system of massive channels which he is suggesting relate to a catastrophic drainage event.

18th March Dr Alan Cook (Consultant geologist, Nuneaton):
The Nuneaton Ridge : a valuable heritage and a future resource

Venue probably Church Hall, Church Lane, Nuneaton. (details tbc)

4th April Visit to BGS Keyworth meeting 10am for 10.30am:
with Dr Mike Howe (Curator of the collections) and
Dr Phil Wilby (BGS Charnwood Field Geologist)

Following on from our visit to Charnwood, Mike will introduce us to the collections of BGS Phil and Mike will talk on some of the work he has done in Charnwood and adjacent areas. In the afternoon, a series of Midlands cores will be open for inspection and then we shall be able to explore some of the delights of the fossil collection, including casts of Charnia & other Ediacaran fossils.

EMERGENCY ARRANGEMENTS

Recently, the Group has acquired a mobile phone so that members can contact the leader of a field trip on the day. However, with the appalling weather conditions on the day of the scheduled visit to the Quarryman's Walk, we found it necessary to try to reach members to inform them of the cancellation. In the end this was done by e-mail and telephone during the afternoon. However, it did highlight the fact that members have not been made aware of a procedure for checking on the state of arrangements.

In future, in extremis change of plans - for field trips or lectures - will be conveyed in three ways:

1. first check the website at **www.wgcg.co.uk** (Field Trips page)
2. via e-mail to be despatched by not later than 3pm
3. by phone to those members without an internet connection (we shall use the landline number currently recorded unless the Membership Secretary is informed otherwise)

If you haven't been able to check your Emails you should phone on the day.

Let's avoid wasted journeys or frustration, or both, by checking out the position using one of the routes mentioned above on the day of any WGCG event.

Please add the WGCG number to your Mobile's list of contacts

07527 204184

Weekend Field Trips Summer 2009

For Summer 2009 the group proposes to organise two weekend field trips, one in early Summer (May) and one in late Summer (September). Full details to follow.

North Somerset Coast - Led by Jon Radley (May)
A classic area for the fossiliferous sequences in the lower Jurassic.

North Norfolk Coast - Led by Martin Bradley (September)
Focussing on the Cretaceous around Hunstanton and the Pleistocene deposits of North Norfolk including the Cromer End Moraine.

Colonsay - August 30th - 6th September 2009
In addition Maurice Rogers is arranging a return trip to Colonsay to build upon the information gained in the 2007 trip. This is being organised independently by him and interested parties should contact Maurice directly.

Tel: **01788 812869** Email: **maurice@mauricerogers.co.uk**

ARE YOU GAME?
A NEW GROUP PROJECT!

Ian Fenwick

As we go to press, the Management Committee has agreed that the Group will participate in a project sponsored by the Geological Trusts (a group of 10 affiliated county organisations) to monitor the condition of many of the RIGS sites across the Midlands. We shall be responsible for some 40 sites in Warwickshire.

The GTs will shortly be bidding for funds from Natural England to support the process with a decision being made during September / October. Hopefully, the bid will be successful, in which case WGCG plans to take the opportunity to build some expertise among members in the nuts and bolts of the management and conservation of geological sites.

For those who would like to get involved in this project, we plan to visit one of our exciting(?) RIGS sites in the early autumn where members will be able to be briefed on-site on the key issues affecting conserved sites. This will be followed up, where necessary, by 'mentoring visits' to build the confidence of members who have little or no background in this sort of work. Hopefully, we shall be able to form a team to tackle the main task over the winter months when visibility of the sections is at its best.

If you might be interested in joining in this project, perhaps you would call Ian Fenwick:

Tel: **01926 512531**
Email: **swift@ianfenwick.f2s.com**

We shall be undertaking this work on a voluntary basis, but we hope to offer real expenses and an allowance for lunch!

FESTIVAL OF GEOLOGY

Saturday 1st November 10.30am - 4.30pm
University College London, Gower Street (Near Euston station)

The WGCG will be taking a stand at this exhibition with a new Rock Box on display. If you would like to help 'man' the stand please contact Maurice Rogers.
Tel: **01788 812869** Email: **maurice@mauricerogers.co.uk**

Open Studies courses / day schools

Day/Term	Start date	End date	Times	No. of meetings
Autumn				
Monday	*29/09/08*	*01/12/08*	*10:30 to 12:30*	*10*
Monday	*29/09/08*	*01/12/08*	*19:00 to 21:00*	*10*
Saturday	*08/11/08*	*08/11/08*	*10;00 to 16:00*	*1*
Spring				
Monday	*12/01/09*	*09/03/09*	*10:30 to 12:30*	*9*
Monday	*12/01/09*	*09/03/09*	*19:00 to 21:00*	*9*
Saturday	*07/03/09*	*07/03/09*	*10;00 to 16:00*	*1*
Summer				
Monday	*20/04/09*	*22/06/09*	*19:00 to 21:00*	*10*

Key to lecturers:

CK = Chris King
LS = Louise Sutherland
MB = Martyn Bradley

* denotes **Earth Science Certificate** Courses

in Earth Sciences 2008-09

Venue/Lecturer	Course ref	Course title
WWT Brandon Barn. MB with LS, WWT Wetlands Officer	*1806/AU08*	*Water, wetlands and wildlife: an introduction to hydrology and wetland habitats*
WCEO.10 Lifelong Learning Building. MB with CK	*1749/AU08 **	*The history of the earth and its' changing climates*
Percival Guildhouse, Rugby. MB	*5161/AU08*	*Geology and scenery - Rugby to Warwick*
Parkridge Centre, Brueton Park, Solihull. MB	*1806/SP09*	*Water, wetlands and wildlife: an introduction to hydrology and wetland habitats*
WCEO.10 Lifelong Learning Building. MB with CK	*1014/SP09 **	*Geology for everyone - How the earth works*
Percival Guildhouse, Rugby. MB	*5167/SP09*	*Geology and scenery - Rugby to Solihull*
WCEO.10 Lifelong Learning Building. MB with CK	*1837/SU09 **	*Landscape and scenery in Warwickshire*

For further details see **www.warwick.ac.uk/cll** or contact Martyn Bradley at:

Centre for Lifelong Learning
University of Warwick
Coventry CV4 7AL

Tel: **02476 523533**
Email: **martyn.bradley@warwick.ac.uk**

Field trip - Ketton (Revised details)

Led by Professor John Hudson

Professor John Hudson, an expert on this site, will be leading our last day field trip of the season.

Directions: *Approaching from Leicester along A 47, turn left at Morcott on to A 6121. Go through Ketton village and turn left down Pit Lane; this is just BEFORE the main Castle Cement works entrance. Continue along Pit Lane for about 1 km, going straight on at a roundabout which gives access to the works to the right, and you will enter the quarry through gates, bearing right down a slight hill. You will find a small group of buildings including the quarry office, and can park there.*

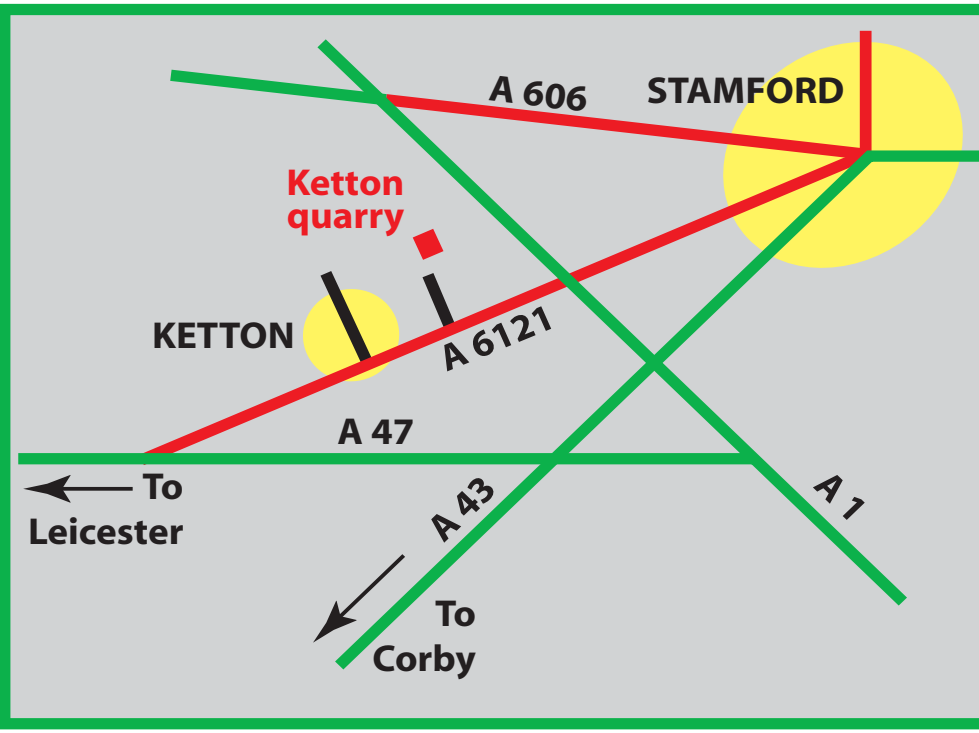
Meeting Point

Ketton Quarry - Pit Lane

Ordnance Survey **SK 973 060**

Time

SUNSET
19:26



Our last day field trip of the season takes the familiar form of recent years, a joint meeting with Leicester Lit. & Phil. Section C. Our friends in Leicester are organising this one, to Ketton near Stamford, a Jurassic limestone quarry producing stone for the cement works. The principal exposures lie in the Lincolnshire Limestone Formation and the Great Oolite Group. Much of the succession is rich in invertebrate and trace fossils.