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## **Home Counties North Regional Group FULL-DAY GEOLOGY FIELD TRIP**

**Sunday 26<sup>TH</sup> April 2015 10.00 – 17.00 approx**

### **Geology and Stratigraphy of the Grey Chalk Subgroup (former Lower Chalk) and the White Chalk Subgroup (Former Middle Chalk and Upper Chalk), and building stones in Dunstable/ Houghton Regis and Totternhoe in South Bedfordshire.**

**Led by John Wong FGS**

**Meet:** At 10.00 outside Tesco Supermarket side entrance next to bus stop shelter, Skimpot Road, Dunstable LU5, (off Luton Road - A505) - Grid reference TL043224.

In the morning we go up to near the highest elevation in Dunstable at the top of Blows Downs S.S.S.I. Nature Reserve where we can see the panoramic view of north Dunstable and north Luton, and the low lying hills of glacial sand and gravel deposits perched on the Gault Clay vale. The geology at Blows Downs Nature Reserve is the former Upper Chalk; to the south of the northwest-facing Blows Downs escarpment is the dip slope of the Chilterns covered with a thick layer of Quaternary silty clay-with flints deposits, there are also gully combe deposits in the disused quarry.

John will discuss the development from 1833 to the present day of the terminology applied to the stratigraphy of the chalk in the field trip area, the distribution of the concealed chalk onshore and offshore, and the major structural elements influencing chalk sedimentation during the Upper Cretaceous period in the area.

The second locality is Dunstable Priory where the annulment of Katherine of Aragon's marriage to King Henry VIII was announced in 1533. We will examine the effects of weathering on the 12<sup>th</sup> Century Norman building stones and the 15<sup>th</sup> Century Medieval building stones of the Priory.

In the afternoon we travel to Totternhoe village for lunch at the Cross Keys pub. The inn is regarded as an ancient monument because it has a fireplace, which dates back to 1433. The heavy oak beams are so hardened that nails cannot be driven in their dowelled joints and irregular lines depict the medieval carpenters' skill.

After lunch we travel to Totternhoe Knolls Nature Reserve S.S.S.I, a former disused quarry, the geology there is the mainly Grey Chalk Subgroup where you can see the Melbourne Rock Formation at the boundary between the former Lower Chalk and the former Middle Chalk. There are some tectonic faults to be seen as well. In the Totternhoe Stone, with luck, one can find a variety of brachiopods, gastropods, ammonites, shark teeth, and fish scales and bones.

We then go to the highest point at Totternhoe onto the summit of Castle Hill, where there is the remains of a late 11th or early 12th century Norman motte and bailey castle enclosed by ditches of

more than 4m deep. On a clear day, one can see the 'gap' towns such as Wendover and Tring, which developed close to the spring line in the valleys formed by glacial meltwater.

Before we depart Totternhoe village, we will go to see the Church of St Giles, a Grade I listed building which was built using the stones from the local quarries. The church building began in the 14<sup>th</sup> century and was not completed until the 16<sup>th</sup> century.

The last locality is Houghton Regis Nature Reserve S.S.S.I. where we can examine the upper sequence of the former Lower Chalk, Totternhoe Stone, Melbourne Rock and Plenus Marl.

You can bring a packed lunch or you can have lunch at the pub.

The B.G.S. geology map Leighton Buzzard sheet 220 is a useful reference.

There is a maximum of 25 participants for this field trip with priority given to Fellows, Candidate Fellows and Juniors of the Geological Society who are members of the Home Counties North Regional Group.

Please book your places on a first-come-first-served basis by e-mail to [homecountiesnorthregionalgroup@gmail.com](mailto:homecountiesnorthregionalgroup@gmail.com)

Attendees will be asked to sign the usual indemnity form for field trip insurance purposes before the start of the walk.

For more information on the Home Counties North Regional Group visit the website

<http://www.geolsoc.org.uk/hcnrg>

