

## LSS excursion to Bakers Hole, Kent

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The well-known Levalloisian site of Bakers Hole, in the Ebbsfleet Valley, Kent (NGR TQ 615739), was visited by a party from the *Lithic Studies Society* on Wednesday 30 January 2002. A major programme of fieldwork is being carried out at the site by Oxford Archaeology in advance of the construction of the Channel Tunnel Rail Link. Although many significant Pleistocene deposits containing Palaeolithic evidence have been removed by previous quarrying, field evaluation in 1997 and 2001 showed that the route of the CTRL and the footprint of the new Ebbsfleet International Station impact upon surviving patches of Pleistocene sediments, and that these sediments contain occasional biological evidence and Levallois artefacts. A programme of mitigating works was therefore commissioned by Union Railways (North) Limited to ensure that this evidence was properly investigated in advance of construction. It should be emphasised that the Palaeolithic investigations are just a small part of the archaeological works being undertaken at the site, which also involve the major open-plan excavation of a Roman villa complex and an area of Saxon occupation. The *Lithic Studies Society* visit was, however, only concerned with the Palaeolithic aspect of the site.

The Ebbsfleet is a small tributary stream of the Thames, rising in the Chalk downland that bounds the southern side of the Thames in the Dartford area, and flows north to join the Thames at

Northfleet. The proximity of this Chalk high ground to the navigable Thames Estuary made this part of northwest Kent a focus of Chalk extraction for the cement industry from the mid 19th century. Chalk quarrying in the Ebbsfleet Valley began on a major scale in the 1870s and continued through to the 1960s. The expansion of quarrying exposed sections through the Pleistocene deposits that fill the Ebbsfleet Valley leading to the periodic discovery of Palaeolithic artefacts and faunal remains. One of the key points to bear in mind in the Ebbsfleet Valley is that it, or "Bakers Hole", is not a single Palaeolithic site, but an area filled with a complex suite of Pleistocene deposits that have produced different Palaeolithic evidence at various different locations, investigated at different times from the 1880s to the present day. The early finds were poorly recorded, if at all, and it has only been possible to estimate their locations and stratigraphic context by assiduous archival investigations and reference to the sequence of OS surveys fortunately carried out at regular intervals in the late 19th and early 20th centuries — 1865, 1895, 1907 and 1938.

The earliest finds were made by Spurrell in the 1880s, who recorded Levalloisian cores and flakes from the side of a tramway cutting leading to the Bakers Hole quarry, accompanied by the remains of extinct fauna such as mammoth and rhinoceros (Spurrell 1883). Similar material was then discovered at a different location by Cross in 1908, leading to excavations by the British Museum and the recovery of a substantial lithic artefact collection, including numerous Levallois flakes and cores (Smith 1911). Further discoveries of artefacts and faunal

remains were made by Burchell in the 1930s, investigating further different locations several hundred yards to the west of Cross' site (Burchell 1933 & 1935). One of Burchell's sites is now preserved as a Scheduled Ancient Monument, and consists of an upstanding island of Pleistocene sediment surrounded by a sea of landfill. Burchell's collection includes much material in sharp condition and at least three pairs of refitting lithic artefacts, suggesting the presence of an undisturbed occupation floor. Finally, a body of sediment rich in faunal remains but lacking artefacts was found by Carreck and Marston (of Swanscombe Skull fame) in the northern part of the site in the 1950s, subsequently investigated by Kerney & Sieveking (1977).

The objectives of the recent mitigating works included:

- Investigation of the Pleistocene landscape history and evolution
- Clarification of the sequence and geometry of the Pleistocene units present
- Interpretation of the mode of formation of the Pleistocene units
- Placing the Levalloisian remains previously recovered from the site in better stratigraphic and environmental context
- Identification/excavation of undisturbed landsurfaces with Palaeolithic archaeological evidence
- Sieving of bulk samples to assess the presence and density of transported artefacts
- Sieving of bulk samples to assess for the presence of biological evidence

After a brief introductory talk outlining this background the party progressed to examine the remnant section at the northwest end of the old

New Barn pit (Wenban-Smith 1995, 161: Figure 31, Site E). This may well be the closest surviving body of sediment to Smith's Bakers Hole site, which was in the "northwest angle" of the pit, and cleaning of the section produced several typical artefacts from a chalk solifluction deposit containing Tertiary flint pebbles and broken pieces of flint nodule (the Upper Coombe Rock). This section is, however, unaffected by the CTRL works so no further excavation is being undertaken.

We then moved to examine a section cleared by extraction of landfill from the area to the south of the main area of archaeological works. This area was immediately to the southeast of the Burchell's protected SAM site, and was the probable location of his finds of undisturbed archaeological material. There was no sign in the section however of the shell-rich or artefact-bearing deposits discovered by Burchell. A lively debate took place on whether gravel-rich deposits overlying the Chalk solifluction deposits in places were part of the solifluction event, or contorted evidence of a subsequent fluvial episode. The excursion leader was just about convinced by A. Carrant and S. Parfitt that they were soliflucted, although not by the suggestion that this could be ascertained by the presence of chattermarks on the derived Tertiary pebbles in the gravels, since such chattermarks are equally well-developed on similar pebbles from the fluvial Swanscombe Lower Middle Gravels which outcrop *c.* 500m to the west (cf Wenban-Smith & Bridgland 2001), and which are the likely source of the pebbles in the deposits filling the Ebbsfleet Valley.

Finally the party moved on to examine a long trench that had been excavated in the area of Spurrell's tramway cutting. This revealed a major body of chalk solifluction deposits which sloped uphill to the south, and was clearly equivalent to the artefact-bearing Upper Coombe Rock in the old New Barn pit section. A few Levalloisian artefacts in abraded condition were found in this deposit, mostly at its higher southern end, probably representing the tail end

of a spread of artefacts caught up in chalk solifluction deposits originating from the spur of Chalk quarried away as New Barn pit, and investigated closer to their source by Smith and Cross. The excursion was well attended, with over a dozen members present, and was blessed with unseasonably fine weather to the relief of all parties, particularly those with previous experience of the Ebbsfleet Valley under less clement circumstances.

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