

GLA 47: South Hall Farm/Spring Farm Quarry Complex, Potential RIGS

London Borough of Havering, TQ 535 818

Ownership: Brett Lafarge. Permission to visit must be sought from owner.

South Hall Farm/Spring Farm Quarry Complex

The large area covering South Hall Farm and Spring Farm has been utilised for gravel extraction for a considerable length of time. Now most of it is returned to agricultural land with very little evidence of the former quarries. Quarries visited by members of the London Geodiversity Partnership in June 2011 at South Hall Farm and Spring Farm were exploiting the Taplow Gravel but earlier, backfilled quarries in this area were also quarrying the older, Boyn Hill Gravel. For the quarry owners the age of the gravel does not make much difference and there is a tendency to mix them in the processing plants and screen them on gravel size. Processing was taking place adjacent to the portacabin offices in nearby Launderers Lane.

Taplow Gravel

The Taplow Gravel is the second youngest of the Thames Terraces in East London (see BGS Special Memoir, pp. 59-65). In Central and West London and up the valley of the River Roding in East London, the younger, Kempton Park Gravel can be found but here it is submerged. The Taplow Gravel is dated at around 200,000 years old OIS 7 (Oxygen Isotope Stage 7). Oxygen isotopes relate to the ratio of heavy to light oxygen isotopes measured in the sample. During ice ages the heavier isotopes are more numerous as the lighter ones are locked up in ice sheets. During interglacials when the ice sheets melt the ratio changes and the proportion of light isotopes increases. Very often the system is recorded as Marine Isotope Stages (MIS) as it is from the shells of marine organisms that the measurements are calculated. These stages are then correlated with non-marine deposits such as the Thames Terraces. When comparing the OIS from one location to another, the odd numbers relate to interglacials while the even numbers relate to periods of glaciation. The most extensive of the ice advances in the UK during the last two million years of Ice Age occurred around 450,000 years ago and is known as the Anglian (OIS 12). At that time tongues of ice extended as far as Hornchurch in East London (GLA 19) and Finchley in North London (GLA 2 and 58). Present extraction of Taplow Gravel is in a low-lying area close to the Thames and just inland from Wennington and Rainham Marshes, lying between 5 m and 10 m above sea level. This is rather lower elevation than elsewhere. It is probably only about 3 m deep for the most part in this area but at Dagenham, not far away it is closer to 8 m¹. As with the other Thames Terraces, the clasts are primarily of angular flint, with less than 5% of the rounded, reworked, 'Tertiary' flints (average ratio c. 20:1) and about 5% of exotic clasts². No mammal remains have been recorded from this complex but typical mammal assemblages of this period include a late form of mammoth, horse and the large northern vole. Flint tools are also associated with the interglacial deposits relating to gravels of this age. The Taplow Gravel itself was deposited when the climate was more extreme at the beginning and end of the ice advance. The diagram below shows the relationship of the various Thames Gravels, perceived as a staircase with the oldest at the top and the youngest at the bottom.

References

¹ Bridgland, D.R. 1994. The Quaternary of the Thames. Chapman and Hall, Table 3.2

Quarry showing Taplow Gravel

Source: London's foundations, page 213 (Diana Clements, 2011)



Site Map

Source: London's foundations, page 211

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