

**GLA 37: Mark's Warren Farm Quarry Complex, Potential RIGS**

London Borough of Barking and Dagenham, TQ 488 895

Ownership: Brett Lafarge Ltd. Permission to visit is required from owner (020 8...)

**Mark's Warren Farm Quarry complex**

Mark's Warren Farm Quarry is the last of a large number of quarries in the vicinity extracting Black Park Gravel. Earlier quarries are now backfilled and returned to fields. Landfill is proceeding at this quarry too but other sites within the complex are likely to be exploited. The area has been quarried from c.1898 to 1921. Whilst archaeological remains have been found in other gravel pits in east London, none have been reported from the Mark's Warren complex.

**Black Park Gravel**

The Black Park Gravel is the oldest of the Thames Terraces, dated at over 400,000 years old ([Marine Isotope Stage 12-11](#)). It is characterised by its height above sea level, the origin of the clasts it contains and, rarely, the typical mammal bone assemblage that is found within it. At Mark's Warren no mammal bones have been recorded but at nearly 40m it falls within the height of Black Park Gravel recorded from elsewhere. It can also be seen in the Hornchurch Railway Cutting SSSI (GLA19), about 5 km away, where it overlies the glacial till abandoned by the retreating ice sheet of the biggest of the Ice Age glaciations, the Anglian, the only one to extend as far south as London. Tongues of ice extended down valleys at Hornchurch and Finchley (e.g. Coldfall Wood GLA 58). Being the oldest, this is also the highest of the Thames Terraces, abandoned as the Thames deepened its valley as a result of subsequent periods of glaciations and elevation. It is typified by its rather reddish overall colour and its content of occasional exotic clasts that were carried by the ice sheet from all over the country (>12% including carboniferous chert and igneous), as well as the numerous flints that typify all of the Thames terraces (BGS Special Memoir, pp.61-63)<sup>1</sup>.

**The Mark's Warren boulder**

One of the exotic clasts found in the gravel by the quarry workers was a 0.9 ton boulder which was extracted and placed as a marker stone for landfill lorries to turn into the site. It was noticed by members of the London Geodiversity Partnership on a site visit in June 2011 just before the quarry was due to cease operation. Subsequent examination of the boulder confirmed that it was a glacial erratic composed of an igneous rock, dolerite. The characteristics of the rock, which appears to be a quartz-hypersthene dolerite, indicate that it may well have been derived from the Great Whin Sill, a prominent scarp in Northumberland, much of which is composed of this rock type. If the petrology of the rock is confirmed, this boulder would be one of the furthest travelled, having been transported some 300 miles from its origin. Due to the kind efforts of the quarry operators, Brett Aggregates Ltd, the boulder was transported a few miles to the Visitor Centre at Bedford's Park (GLA 45) where it is on public display.

*References*

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

The Mark's Warren Boulder found in the Quarry in 2011 just before operations ceased.

Source:



Site Map

Source: London's foundations, page 180

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