

SGI 13 Pinner Hill Golf Course

London Borough of Harrow

Pinner Hill Golf Course, South View Road, Pinner Hill, Middlesex HA5 3YA

Grid reference: TQ 109 915

Pinner Golf Course

Pinner Golf Course in the London Borough of Harrow is noted for its small exposures of Stanmore Gravel. It was not deemed worthy of geological protection as the Type Area, Site of Special Scientific Interest (SSSI) can be found not far away in Harrow Weald (GLA 18). However, it is of sufficient interest to be mentioned as a Site of Geological Interest (SGI). While most of the course is London clay, the higher ground in the vicinity of the club house is Stanmore Gravel.

Stanmore Gravel

The Stanmore Gravel is composed of gravels and sand, with a clayey matrix. The gravels are mostly flints with a little quartz/quartzite and Lower Greensand Chert in the fine fractions. The clay matrix is orange brown or pale grey. It has been difficult to date as it does not contain fossils but it is believed to have been laid down sometime between 2 million and 500,000 years ago. The origin of the gravels has long been debated. They have been interpreted as fluvial in origin, either laid down by the precursor of the modern Thames, which flowed up through the Vale of St Albans, or north flowing tributaries of this proto-Thames the Mole/Wey. Alternatively, a marine origin has been suggested, laid down off-shore or as beach gravels. The presence of Lower Greensand Chert pebbles within the gravel informs us that at least some of the clasts came from the south where the uplifted dome of the Weald had been eroded to expose these early Cretaceous strata and transport them across what is now the London Basin.

An example of the gravel was well-exposed in 2014 in the roots of an upturned tree at the western edge of the golf course. Other indirect evidence of its existence is the presence of the moat that is positioned on the natural spring line at the junction of the gravel and underlying London Clay. Water always takes the easy route and the nearly impermeable London Clay forces groundwater to the surface. Below this is a change of slope, another indicator that we have stepped off the gravel plateau.

London Clay

Most of the golf course is composed of London Clay under the turf, but a small temporary exposure was encountered near the northern edge of the golf club, down slope from the moat. Although London Clay underlies most of London it is often difficult to see as it erodes easily and is quickly vegetated. Grave yards and temporary exposures are the most likely encounters. It is described as a 'blue clay' but close to the surface the iron in the clay weathers to a rusty orange. The London Clay was laid down between 55 and 51 million years ago in a relatively deep sea fed by large rivers from land in approximately the position of the Midlands today. As well as clay eroded from the existing land surface at the time the rivers brought with them wood and seeds from land plants and occasional land animals and birds, mostly disarticulated. Nautiloids and fish swam in the sea and bivalves and snails were the most common bottom dwellers, along with a liberal sprinkling of crabs and lobsters. This was the dawn of the mammals after the end-Cretaceous extinction of the dinosaurs and ammonites. From the seeds the climate is interpreted to be comparable to Malaysia today with *Nipa* palms. The presence of *Magnolia* and other seasonal plants implies there was some seasonality.

A time gap of about 50 million years exists between the laying down of the clay and the gravels during which time Africa collided with Europe, closing the Jurassic Tethys sea to the remnant Mediterranean we have today, pushing up the Alps and their extension of a small 'crumple' in the south of England. There are likely to have been younger sediments that have subsequently been eroded.

Access

The golf course is difficult to reach by public transport and so car travel is recommended. There is a car park but permission to visit should be sort from the golf club.

References

Bridgland, D.R. 1994. *The Quaternary of the Thames*. Chapman and Hall.

Ellison, R.A. 2004. *Geology of London. Special Memoir for 1:50,000 Geological sheets 256 (North London), 257 (Romford), 270 (South London) & 271 (Dartford)*. British Geological Survey



Moat at spring line between Stanmore Gravel and London Clay



View over London with Harrow on the Hill and St. Mary's Church on the right-hand side
Photos: : D. Clements 2014