

DORSET LOCAL GEOLOGICAL SITES SURVEY

Site Number G SY99/11

Site Name KNOLL MANOR CLAY PIT, CORFE MULLEN

Summary description:

Geology: Tertiary, Palaeogene, London Clay, West Park Farm Member

Several sections, dependent on working situation, have shown undivided London Clay sand and clay units in the West Park Farm Member. An iron-cemented sandstone pebble bed, with *Turritella* and bivalves, as well as occasional shark teeth, previously referred to the London Clay Basement Bed, has been collected. (Dorset County Museum). The clay dug is in three red clay units of the West Park Farm Member, with intervening waste clays. The pit has been in use since 1780 for bricks, pots and pipes, and was until recently used for the manufacture of tiles at Pilkington's in Poole. It is now used as a cover for waste material in another pit, and to create flood defences

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The clay pit at Red Lane, Corfe Mullen has been in work since 1780. Bricks were made in a kiln on the site by the Blaney Brick Co., but the kiln has been demolished. Kinson Pottery owned the site up to 1966 and made bricks, chimney pots, agricultural pipes and water pipes from the upper clay and gardenware from the lowest in their pottery on the Ringwood Road in Parkstone. Pilkingtons bought the site in 1966 and have since made tiles from the clay in their Hamworthy factory.

Previously recorded as Reading Beds clay, recent work by the British Geological Survey has shown that "gamma ray logs of the reddened strata show coarsening-upwards cycles characteristic of the London Clay". This lowest part of the London Clay is now called the West Park Farm Member. The beds of clay were described by the quarry manager in 1982 as follows:-

18ft	overburden (sand/gravel)	Note: K1, K2 & K3 denotes their suitability for various types of
16-18ft	red clay (K1)	manufacture - K2 is the most plastic and K3 has to be mixed with
5-6ft	blue clay	either K1 or K2 as it is not good enough on its own. Handpotters
6 ft	red clay (K2)	use K2.
1-2 ft	useless clay	
5 ft	red clay (K3)	

On a field meeting in April 1975 John Cooper, Jeremy Hooker & David Ward recorded the following at SY972977:

9.	Gravel capping.....	c 10-12 ft	0 in
8.	Buff sand, ironshot in streaks and layers.....	up to	8 ft
7.	Brown soapy sandy clay.....	up to	0 6 in
6.	Glaucanitic sand band.....		1.5in
5.	Decalcified ironsand shell bed lenticle.....	up to	4 in
4.	Burrowed brown/green glauconitic sand.....		4 in
3.	Pebble bed with molluscan moulds and sharks' teeth	1 ft.	
2.	Blue silver-sand bed.....	up to	8 in.
1.	Red and green mottled plastic clays seen to	20 ft.

Bed 3 was noted as being similar to the London Clay Basement Bed at Clapham Common, Sussex.

Other sections were recorded by Bristow CR & Freshney EC and published in 1986:

SY9742 9770.

London Clay

Sand, very fine-grained, buff, interbedded with grey clay. Sand is dominant in beds up to 0.4m thick; clays are thinner and up to 12 cm thick, but with fine-grained sand laminae; thin lateritic layers. 2m.

Sand, very clayey, laminated 1m.

SY9739 9767.

Head

Clay, gravelly 0.6m

London Clay

Clay, greyish brown, with fine-grained sand partings. 0.4m

Sand, fine-grained, buff 0.3m

Clay, grey, with fine-grained sand partings 1.0m

Sand, fine-grained with thin (up to 10cm) clay partings. 1.0m

Sand, fine-grained, clayey, glauconitic 0.6m

Unexposed 0.6m

“Reading Formation”

Clay, mottled red and grey 2.0m +

SY9736 9766

London Clay

Clay and fine-grained sand, poorly exposed. 4.0m

Sand, clayey, highly glauconitic 0.6m

Pebble bed of small (generally less than 2cm) well-rounded flints, shelly with common *Turritella* and bivalves – locally laterite cemented. Spring at base 0.1m

“Reading Formation”

Clay, mottled red and grey 2.0m+

The fossils, identified by C.J. Wood from the shelly pebble bed in the above section includes *Ditrupa plana*, *Rotularia bogneriensis*, *Ancistosyrinx sp.*, *Euspira glaucinoides*, *Turritella cf. interposita*, *Caestocorbula sp.*, *Callista (Microcallista) proxima*, *Corbula sp.*, *Dosiniopsis bellovacina*, *Glycymeris brevirostris*, *Nemocardium plumstedianum*, *Nucula sp.*, *Orthocardium cf. subporulosum* and *Striatolamia macrota*.

NB The above reference to “Reading Formation” should now be read as “West Park Farm Member”.

A sample of the sandstone with pebbles and fossils including a shark’s tooth, was collected from a spoil heap in the 1980s and is now in the Dorset County Museum, with samples of clay and some tiles made by Pilkingtons. In 1998 only the mottled red and grey clay, with the underlying deep purple clay, was visible. The overburden which has proved of greatest interest to visiting geologists had been graded into a bank on the southern side.