

## GLA 31 North End Pit (Erith Park)

Grid Reference: TQ 515 771	Site Type: brick pit
Site Area (hectares): 0.43	Current use: Housing Estate
Site ownership: LB Bexley	Borough: London Borough of Bexley
Field surveyor: South London RIGS Group	Date: March 2011
Last visited: Laurie Baker, Paul Rainey	Date: September 2015
Current geological designation: RIGS	Other designation: none

### Site Map

OS Topography © Crown Copyright



### Stratigraphy and Rock Types

Time Unit: Pleistocene	Rock Unit: Crayford Silt Formation
Rock Type: Brickearth (silt)	Details: Fine-grained 'rock-flour' suitable for brick-making as it contains Chalk.

### Site Description

A rare site of brickearth. The present housing estate was built on the site of one of the large quarries in the area digging the Crayford Silt. Brickmaking in the area seems to have begun just before 1800. The northern part of Erith Park was worked by J.B White from 1840s as part of the Great Erith Brickearth Pit. The southern part was not worked until later after the Great Pit ceased operations in about 1880. By 1895 permanent kilns were used with fancy brickwork becoming a speciality. Norris' brickyard was famous for their ornamental panel work which can be seen all over London. As the pits became worked out, the brickpits were put to good use for local housing. Operations at North End Pit ceased by 1907. The last pit operating in the area closed in 1933


The Crayford Silt in the area was made famous for its archaeology. Flint tools – often points – have been found throughout the Crayford–Erith area, from near the top of the Crayford Gravel, reflecting activity on the banks of the ancient Thames. The people who left these tools were probably early Neanderthals, our closest human relatives. One of the most remarkable finds was a place where flints lay exactly where they had fallen. The archaeologist, Flaxman Spurrell was able to see the spaces left between the fallen flint flakes outlining the position where a flintworker sat around 200,000 years ago. Archaeologists have fitted the pieces together again, to see what tools Neanderthals wanted. The pieces discarded on the spot were

waste, but particular flakes were carried away to be used elsewhere.		
Unfortunately, the original site of the flint floor is no longer accessible and the RIGS site was moved to the current cliff-face at the back of the re-built Erith Park. During the rebuilding the developers invited a mixture of professionals, the London Geodiversity Partnership and local residents to create a board to be erected explaining the geology		
<b>Assessment of Site Value</b>		
<b>Geodiversity topic:</b> Palaeontology, sedimentology and lithostratigraphy.		
<b>Access and Safety</b>		
<b>Aspect</b>	<b>Description</b>	
Safety of access	Site is fenced in currently without any access gate. Site can be viewed from outside fence. A six-foot board explains the significance of the site.	
Safety of exposure	Exposure is steep and slightly unstable.	
Permission to visit	Site is in a new housing estate and is owned by the London Borough of Bexley.	
Current condition	Considerable overgrowth has occurred, which helps to stabilise the slope but a small amount of exposure remains visible.	
Current conflicting activities	The need to protect the residents from the potentially unstable cliff face has necessitated in a fence being erected around the site	
Restricting conditions	Difficult access.	
Nature of exposure	Site is the last relic of a large brickworks that covered the area now devoted to housing. It is located on a steeply sloping bank and is fenced off.	
<b>Culture, Heritage &amp; Economic</b>		
<b>Aspect</b>	<b>Description</b>	<b>Rating</b>
Historic, archaeological & literary associations	Brickearth has been used for brick making since Roman times. Few exposures now exist. The site was part of a large brickworks, now demolished. Considerable literature is published on the flint worked floor.	8
Aesthetic landscape	An interesting feature within a housing estate. The board has input from the residents and so there is a sense of ownership.	4
History of Earth Sciences	The last major exposure of Crayford Silt Formation.	5
Economic geology	Former brickworks and pit.	4
<b>GeoScientific Merit</b>		
Geomorphology	None.	0
Sedimentology	The deposit is banked up against a steep bedrock slope and consists of fine sand and silt.	4
Palaeontology	Crayford brickearth has long been famous for mammalian and molluscan remains as well as Palaeolithic implements.	4
Igneous/mineral/ Metamorphic Geology	None.	0
Structural Geology	None.	0
Lithostratigraphy	Rare site for brickearth.	6
Potential use	Education and research.	
Fragility	Natural overgrowth and slumping	
<b>Current Site Value</b>		
Community	Site passed by on a daily basis.	7
Education	High value. Details of the 6-foot board can be seen on LGP website: <a href="http://www.londongeopartnership.org.uk/informationboardsandleaflets/#erith">www.londongeopartnership.org.uk/informationboardsandleaflets/#erith</a>	5
<b>Geodiversity value</b>		
RIGS:	An interesting and rare exposure.	<b>6</b>


GLA 31 North End Pit

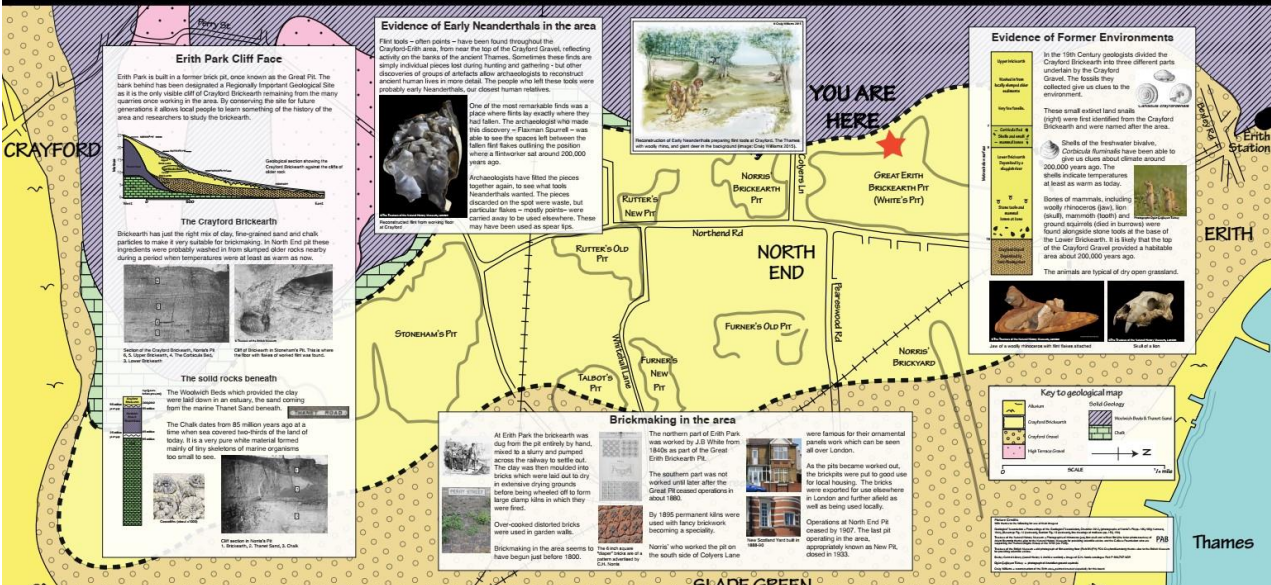


Photo: Laurie Baker, August 2015



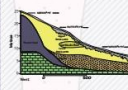
# THE GEOLOGY OF ERITH PARK






### Erith Park Cliff Face

Erith Park is built in a former brick pit, once known as the Great Pit. The same material had been designated a Regionally Important Geological Site as it is the only visible cliff of Crayford Brickearth remaining from the many quarries once working in the area. By observing the site for future generations it allows local people to learn something of the history of the area and researchers to study the brickearth.



### Evidence of Early Neanderthals in the area

Flint tools – often points – have been found throughout the Crayford Erith area, from near the top of the Crayford Canal, reflecting activity on the banks of the ancient Thames. Sometimes these flints are simple individual pieces but during hunting and gathering, but other discoveries of groups of artefacts allow archaeologists to reconstruct ancient human lives in more detail. The people who left these tools were probably early Neanderthals, our closest human relatives.



### Evidence of Former Environments

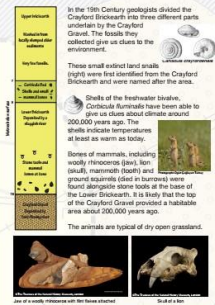
In the 19th Century geologists divided the Crayford Brickearth into three different parts undertaken by the Crayford Canal. The fossils they collected give us clues to the environment.

These small extinct land snails (right) were first identified from the Crayford Brickearth and were named after the area.

Shells of the freshwater bivalve, *Corbicula burnelli* have been able to give us clues about climate around 200,000 years ago. The shells indicate temperatures at least as warm as today.


Bones of mammals, including woolly rhinoceros (left), lion (middle), mammoth (right) and ground squirrels (left) in burrows were found alongside stone tools at the base of the Lower Brickearth. It is likely that the top of the Crayford Canal provided a habitable area about 200,000 years ago.

The animals are typical of dry open grassland.



### The Crayford Brickearth


Brickearth has just the right mix of clay, fine-grained sand and chalk particles to make a very suitable for brickmaking. In North End all these ingredients were probably washed in from slumped older rocks nearby during a period when temperatures were at least as warm as now.



### The solid rocks beneath

The Woodwith Beds which provided the clay were laid down in an estuary, the sand covering from the marine Thanet Sand beneath.

The Chalk dates from 85 million years ago and is a lime which was covered two-thirds of the land of today. It is a very pure white material formed mainly of tiny skeletons of marine organisms too small to see.




### Brickmaking in the area

At Erith Park the brickearth was dug from the pit entirely by hand, moved to a slurry and pumped across the railway to settle out. The clay was then moulded into bricks which were laid out to dry in extensive drying grounds before being pressed off to form large stone kilns in which they were fired.

Over cooked distorted bricks were used in garden walls.

Brickmaking in the area seems to have begun just before 1800.



### YOU ARE HERE

The northern part of Erith Park was worked by J.B. White from 1840s as part of the Great Erith Brickearth Pit.


The southern part was not worked until later after the Great Pit ceased operations in about 1880.

By 1835 permanent kilns were used with fancy brickwork according to a specialty.

Norris' who worked the pit on the south side of Colyers Lane were famous for their ornamental panels work which can be seen all over London.

As the pits became worked out, the bricks were put to good use for local housing. The bricks were exported for use elsewhere in London and further afield as well as being used locally.

Operations at North End Pit ceased by 1907. The last pit operating in the area, appropriately known as New Pit, closed in 1933.



### Key to geological map

- Brickearth
- Woodwith Beds
- Chalk
- Thanet Sand
- Gravel
- Clay
- London Clay

Scale: 1:50,000

Information board unveiled in September 2015