

GLA 76 Rockingham Anomaly	
Grid Reference TQ 3215 7915	Site Type: depression in an urban area
Site Area (hectares): 4.95	Current use: local authority housing estate
Site ownership: London Borough of Southwark	Borough: London Borough of Southwark
Field surveyors: Paul Rainey, Peter Collins, Laurie Baker, Di Clements, Gail Dickerson	Date: November 2017 (field auguring May 2017)
Current geological designation: Recommended by Partnership as a LIGS	Other designation: none
Site Map	OS Topography © Crown Copyright
Stratigraphy and Rock Types	
Time Unit: Holocene	Rock unit: Peat
Rock Type: Peat	Details: accumulation of wet, dark brown, partially decomposed vegetation [generic description]
Time Unit: Devensian	Rock Unit: Kempton Park Gravel Member, Maidenhead Formation
Rock Type: Gravel	Details: Sand and gravel, locally with lenses of silt, clay or peat [generic description]
Time Unit: Eocene, Ypresian	Rock unit: London Clay Formation, Thames Group
Rock Type: clay	Details: bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay [generic description]
Site Description	
<p>The Rockingham Anomaly is visible on the surface as a roughly circular depressed area about 300m across due to significant surface subsidence. It is underlain by an accumulation of peat up to 5.5m deep. This is the upper part of the fill of a deep scour hollow, one of a number of similar hollows close to the Thames in central London. Whilst deposits of peat are common in the flood plain deposits bordering the middle and lower Thames in some places, associated with buried forests, there are few peat deposits inland. The hollow cuts through the Kempton Park gravel and into the London Clay. It is at least 15m deep.</p>	
<p>In May 2017 LGP obtained permission to auger and extracted peat from about 2m depth, primarily for Gail Dickerson to use in her artworks. It has been dated between Late Neolithic to Middle Bronze Age (c.5,500 -</p>	

3,500 years before the present (BP), typical for London). It is thought to be the remains of an alder carr woodland. The presence of lime and elm pollen has been used to date it (see full details in report on LGP website). It is probable that the water came to the surface via a fault that may have penetrated the Lambeth Group sands beneath the London Clay feeding both the peat and osier wetlands. The area is now drained and the peat has compacted to give the 1.5m depression. The current housing estate was built in 1914 but there was earlier housing on the site, some of which was encountered on the auger.

Assessment of Site Value

Geodiversity topic: Rare occurrence of inland peat overlying disrupted Kempton Park Gravel and London Clay, overlying a drift filled (scour) hollow, (ascertained by borehole data, but not mixed up as usually found in most drift filled hollows). A fault appears to cross the area which may have been the cause of the hollow and disturbed sediments, as well as supplying a source of water for peat formation (see cross-section at end).

Access and Safety

Aspect	Description
Safety of access	The site is a short walk from Elephant & Castle. Parking is residents only but there are some public pay bays
Safety of exposure	A local authority housing estate is built over the site which lies in a depression c.1.5m deep.
Permission to visit	None required but permission was obtained from the local authority to auger
Current condition	buried
Current conflicting activities	N/A
Restricting conditions	Buried beneath housing estate
Nature of exposure	Previous wetland now drained so that peat has contracted and sunk

Culture, Heritage & Economic

Aspect	Description	Rating
Historic, archaeological & literary associations	'Stewfen' shown on 1861 map; 'Newhalfpenny Hatch' shown on John Fairburn's 1802, Map – a well-defined circular area in the location of the anomaly that may have been a riding school or circus, The underlying peat may have been particularly suitable for horse riding. five archaeological sites in the area (see detailed report on LGP website).	5
Aesthetic landscape	A 1960s housing estate	2
History of Earth Sciences	None recorded	
Economic geology	None recorded	

GeoScientific Merit

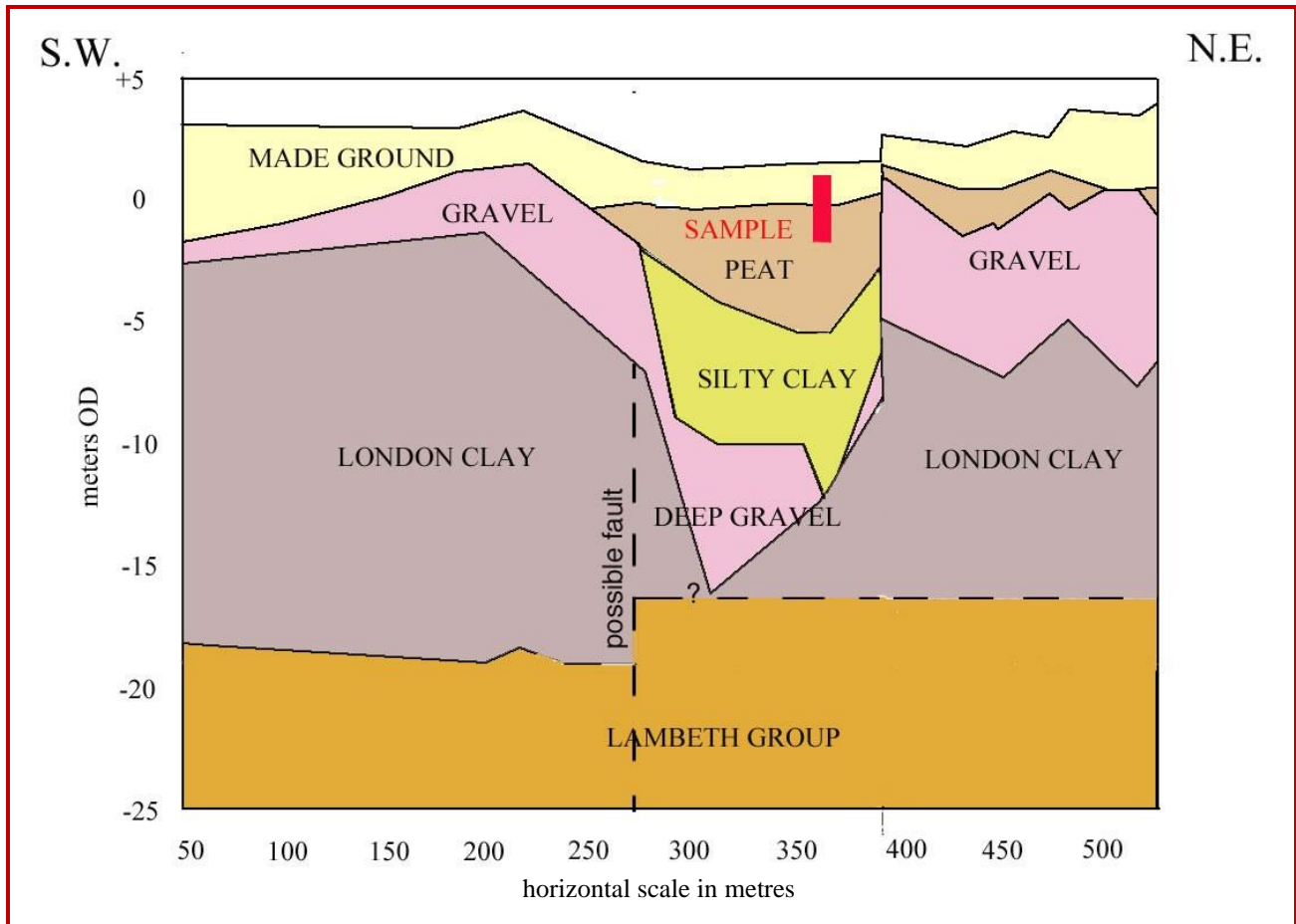
Geomorphology	Depressed area in otherwise flat landscape – probably because of contraction of drained peat	3
Sedimentology	Rare occurrence of inland peat	4
Palaeontology	Pollen dates between 5,500-3,500 BP (common for London) dated on lime & elm. Seeds and insect remains well-preserved (see detailed report on LGP website)	4
Igneous/mineral/ Metamorphic Geology	N/A	
Structural Geology	Overlying a Drift Filled Hollow. A fault appears to cross the area.	3
Lithostratigraphy	Peat overlying Kempton Park Gravel overlying London Clay (borehole data shows considerable disruption)	4
Potential use	The anomaly is adjacent to a proposed route of anomalous 'River Neckinger' and spring from the fault in underlying scour hollow may have provided the water to feed the wetland (and possibly the so-called 'river', although this portion of the proposed route is more likely to have come from man-made drainage ditches in the area)	
Fragility	Seeds within the peat are well preserved and would be worthy of a complete auger through the 5.5 m of the deepest portion of the hollow if that were possible.	

Current Site Value		
Community	Peat obtained by the auger has already been used by Gail Dickerson in her artworks which were displayed locally in November 2018.	4
Education	The only geological site to be described in the LB of Southwark and is worth some acknowledgement locally (originally recommended as a site by LB Southwark)	3
Geodiversity value		
Recommended by Partnership as a LIGS:	Owing to rarity of inland peat even though there is no exposure	4

GLA 76 Rockingham Anomaly



1. Dip down Meadows Road to the Rockingham Anomaly. Photo Diana Clements, 2017



2. Section across the Rockingham Anomaly drawn by M. Hacker after P. Rainey



3. Rockingham Peat Artwork. Gail Dickerson 2017 www.ascstudios.co.uk/2018/02/core-sample