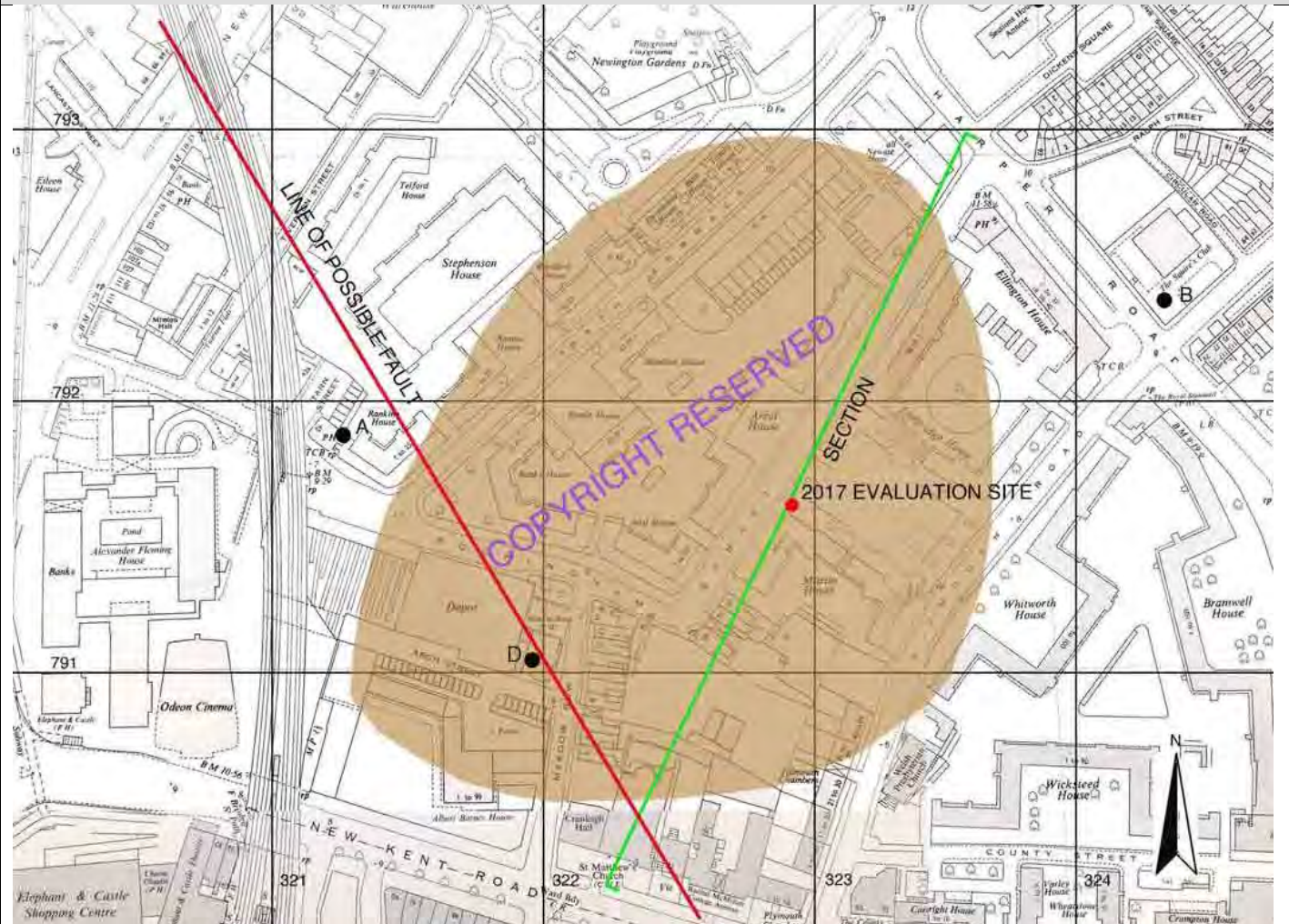


# GLA 76 Rockingham Anomaly

|  |   |
|--|---|
| Grid Reference TQ 3215 7915  | Site Type: depression in an urban area        |
| Site Area (hectares): ?  | 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 designations: SGI 23  | Other scientific: Report (in progress)        |

## Site Map OS Topography © Crown Copyright



Drawn by M. Hacker, after P. Rainey.

## 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

### GEOLOGICAL DESCRIPTION

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.

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 -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 1.5 m 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               | Short walk from Elephant & Castle. Residents parking but some public pay bays                                  |
| Safety of exposure             | None visible. A local authority housing estate is built over the site which lies in a depression c. 1.5 m 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. 5 archaeological sites in the area (see detailed report on LGP website). | 5      |
| Aesthetic landscape                              | Unattractive housing estate   | 2      |
| History of Earth Sciences                        | None recorded   |        |
| Economic geology                                 | None recorded   |        |

### GeoScientific Merit

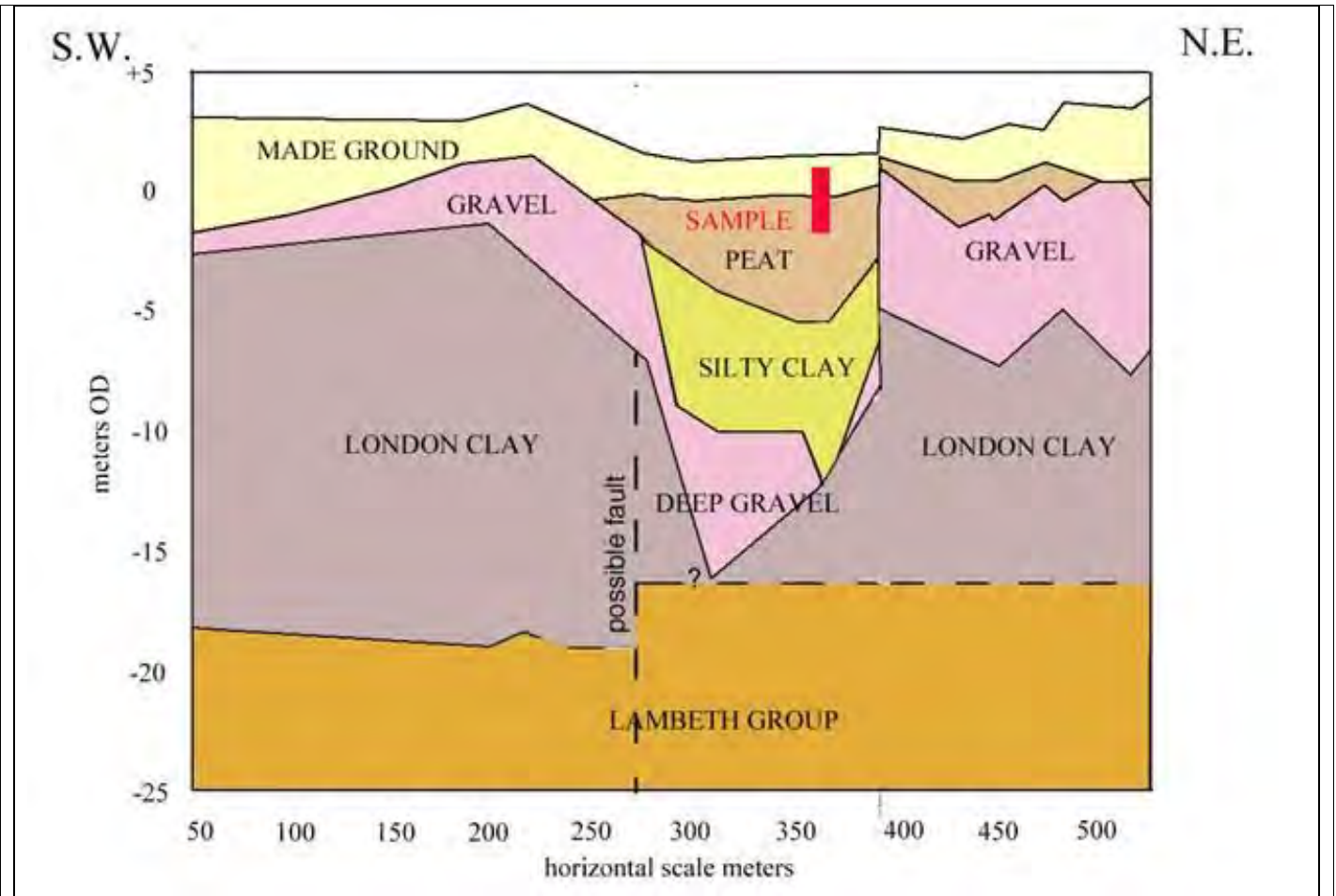
|                                      |  |   |
|--------------------------------------|--|---|
| Geomorphology                        | Depressed area in otherwise flat landscape - probably because of contraction of drained peat   | 3 |
| Sedimentology                        | Rare occurrence of inland 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. |   |
| <b>Current Site Value</b>  |  |   |
| 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 |
| <b>Geodiversity value</b>  |  |   |
| Recommended LIGS owing to rarity of inland peat even though there is no exposure |  | 4 |
| <b>GLA 76 Rockingham Anomaly</b>   |  |   |



Dip down Meadows Road to the Rockingham Anomaly. Photo: D. Clements 2017



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



Rockingham Peat Artwork 3 Gail Dickerson 2017 [www.ascstudios.co.uk/2018/02/core-sample](http://www.ascstudios.co.uk/2018/02/core-sample)