

## SGI 23 Rockingham Anomaly

London Borough of Southwark

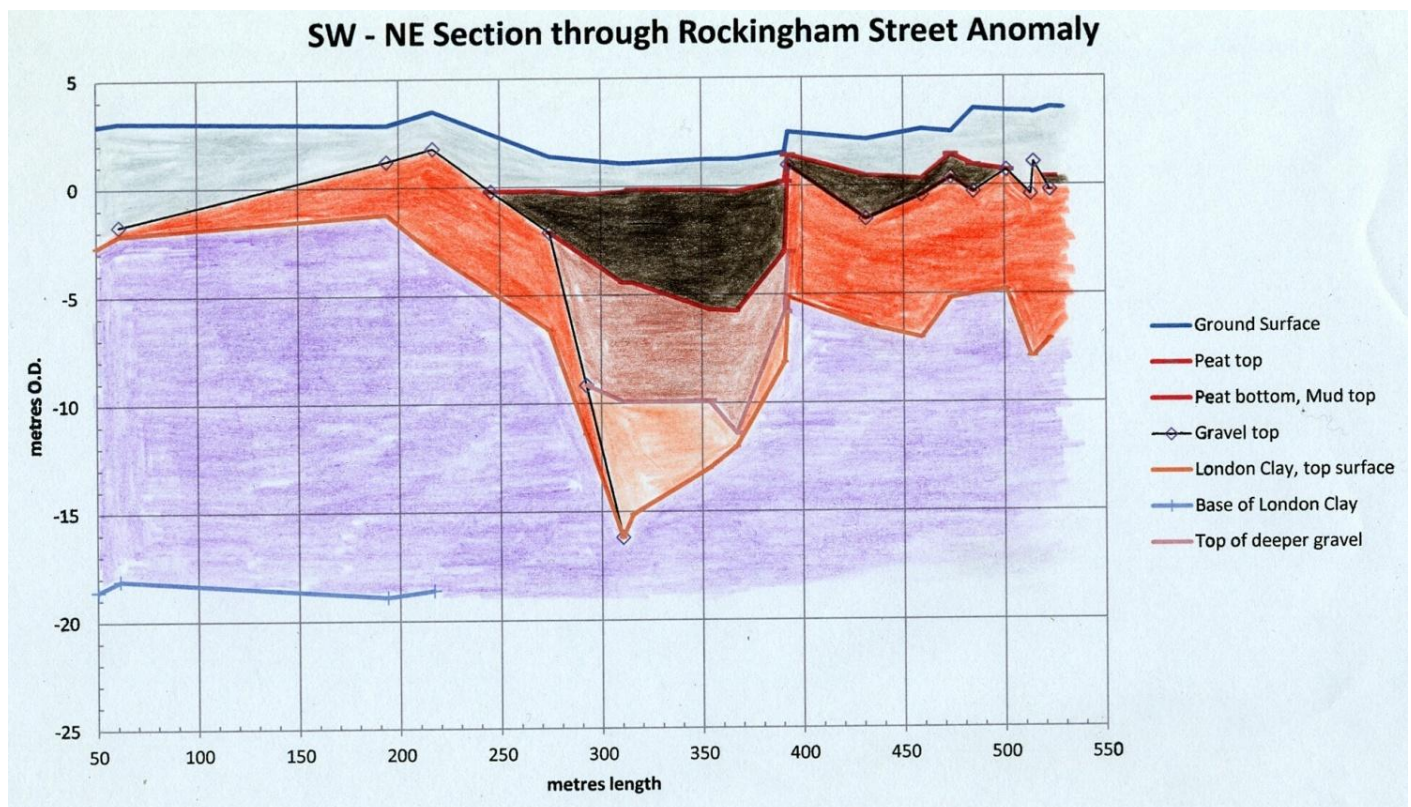
### Rockingham Street Anomaly, Elephant and Castle

Grid reference: TQ 3215 7915.

The Rockingham Anomaly is an area of peat close to Elephant and Castle that is underlain by peat which is unusual on inland sites in London. Why this should be the case has always been a bit of a puzzle. The junction of Rockingham Street and Meadow Row, 0.2 km northeast of Elephant & Castle Overground Railway Station is clearly formed at the foot of a broad hollow about 1.2 m deep and about 300 m across. It was “discovered” during work for the Southwark and Bermondsey Storm Relief Sewer in 1906-08. Boreholes near the junction showed up to 5.9 m of peat overlying 4.2 m of Thames Mud above 6 m of Thames Ballast (Thames Gravel).

On a plan of Walworth Manor of 1681 the site is identifiable as the 12 acre “Stewfen”, an osier ground, which is likely to have been under water for most of the year, “bounded all round by a Common Sewer”. These features are still identifiable on Rocque’s 1746 Map. The New Kent Road was built passing about 100m south of the site in 1754. Further drainage works are suggested by later 18<sup>th</sup> and early 19<sup>th</sup> century maps implying market gardening but by the time of the first detailed Ordnance Survey map of 1872 the whole area was built over. Most of the site is now a Southwark Council housing estate built in about 1914.

In this general area the base of the Thames Gravel (Kempton Park Gravel) is at about -3 to 7 m and lying on London Clay. The base of the London Clay is shown by boreholes about 300m west of the anomaly at -18 m to -23 m OD and about 500 m to the east at about -13 m OD. Boreholes at the centre of this site had not penetrated the Thames Gravel at -16m OD and it is suggested that there the gravel may be lying directly on sands of the Lambeth Group.



The anomaly is defined on the BGS South London map by an area of peat and interpreted by Berry (1979) and Hutchinson (1991) as a scour hollow formed in a cold period by a scour channel being cut deep enough through the London Clay to release artesian water pressure from underlying Lambeth Group sands. During successive warmer periods the spring maintained a hollow or lake in which peat developed. The peat lies immediately to the north of what was thought to have been the route of the lost river Neckinger, itself a bit of an anomaly and it is possible that there may be some connection. An auger has recently (2017) been sunk

2 m to collect a sample, predominantly for artwork by Gail Dickerson. The peat was encountered at 1 m below the surface and a sample for analysis was taken 1 m below that. Pollen found within the peat point to the late-prehistoric, late Neolithic to middle Bronze Age, periods, typical for London. This is based on the presence of dominant woodland which includes lime (*Tilia*) which was largely removed by the middle Bronze



Age at c. 3,500BP. The small numbers of elm (*Ulmus*) indicates a post Neolithic Elm Decline age; that is, after c. 5,500-5,000BP. When the peat accumulated the area was thought to be a damp alder carr woodland (our thanks to Rob Scaife).

Since the first OS levelling of 1848 successive OS surveys show a total subsidence of about 1.5 m with the road level at the Rockingham Street / Meadow Row junction now at about 0.0 m OD. Consolidation of the peat has resulted from under-drainage due to extraction of groundwater from the Terrace Gravels.

### Access

The Rockingham Anomaly underlies a Council housing estate bounded by public streets. The most obvious surface expression of the anomaly is the slope down Meadow Row from New Kent Road towards Rockingham Street where steps have been built up to the front doors. This is a short walk to the northeast of Elephant & Castle shopping centre where there are the Thameslink and Northern Line stations. The Bakerloo Line station is by London Road to the north of the roundabout.

### References

- Berry, F.G. 1979. Late Quaternary scour-hollows and related features in central London. *Quarterly Journal of Engineering Geology* **12**:9-29
- Hutchinson, J. N. 1991. *Theme lecture: Periglacial and slope processes*. From: Forster, A, Culshaw, M.G, Cripps, J.C, Little, J. A. & Moon, C.F. (eds.) Geological Society Engineering Geology Special Publication Journal No 7:283-331.
- Hill, T. 1681 'Plan of the manor of Walworth and parish of St. Mary, Newington' in *Survey of London: Volume 25, St George's Fields (The Parishes of St. George the Martyr Southwark and St. Mary Newington)* ed. Ida Darlington (London, 1955) pp 81 – 90. *British History Online* [www.British-history.ac.uk/survey-london/vol25/](http://www.British-history.ac.uk/survey-london/vol25/) [accessed 20 January 2017]

Data based upon records provided by British Geological Survey:

[http://scans.bgs.ac.uk/sobi\\_scans/boreholes/599539/images/12228421.html](http://scans.bgs.ac.uk/sobi_scans/boreholes/599539/images/12228421.html)  
[http://scans.bgs.ac.uk/sobi\\_scans/boreholes/597069/images/12228576.html](http://scans.bgs.ac.uk/sobi_scans/boreholes/597069/images/12228576.html)  
[http://scans.bgs.ac.uk/sobi\\_scans/boreholes/599149/images/12227557.html](http://scans.bgs.ac.uk/sobi_scans/boreholes/599149/images/12227557.html)

Analysis of the peat by Rob Scaife, Southampton University:

[www.londongeopartnership.org.uk/reports.html](http://www.londongeopartnership.org.uk/reports.html)