GLA 78 Wimbledon Common

Grid Reference: TQ 2301 7245 (for Windmill)	Site Type: Gravel plateau with bedrock geology exposed in places
Site Area (hectares): 206.82	Current use: Recreational
Site ownership: Wimbledon and Putney Commons Conservators	Borough: London Boroughs of Merton and Wandsworth
Field surveyors: Diana Clements, Allan Wheeler, Laurie Baker, Paul Rainey	Date: July 2019
Current geological designation: Recommended by Partnership as a LIGS	Other designation: Biological SSSI (part) ; SAC (UK0030301); Metropolitan SINC (Wimbledon Common and Putney Heath)

Site Map

Stratigraphy and Rock Types

Time Unit: Pleistocene	Rock unit: Black Park Gravel Member, Thames Valley Formation (oldest deposit assigned to post-Anglian diversion of River Thames).
Rock Type: Sand and gravel	Sand and gravel, mostly angular flint, some rounded with minor vein quartz and quartzite.
Time unit: Eocene	Rock unit: Bagshot Sand Formation, Bracklesham Group
Rock type: sand	Variable sands often iron-rich, deposited near shore (current bedding)
Time unit: Eocene	Rock unit: Claygate Member of London Clay Fm Thames Group
Rock type: sandy clay, clayey sand and silt	Details: Clay, silt and fine-grained sand deposited in shallow seas.
Time Unit: Eocene	Rock Unit: London Clay Formation Thames Group
Rock Type: Clay	Details: Grey clay that weathers brown, sandy at top. Five cycles of marine transgression

Site Description

The geology of Wimbledon Common is similar to that of adjoining Putney Heath, and nearby Richmond Park and Kingston Hill which are separated from the Common by the Beverley Brook, a south bank tributary of the Thames. There are four main lithologies. London Clay lies at the base, passing up into the sandier Claygate Member (both Thames Group). In a small area in the southern part of the common, the Claygate Member is

succeeded by the Bagshot Formation (Bracklesham Group). This is the only exposure known in South London. All are Paleogene (Eocene) in age. The highest ground, which forms a flat plateau, is covered by the Quaternary Black Park Gravel Member of the Thames Valley Formation. This Member is the oldest of the post-diversion Thames gravels, deposited as the Anglian ice sheet began to retreat (c.450,000 years ago). They are thus the oldest deposits of the Thames in its present course through Greater London. On the lower slopes towards the Beverley Brook are lobes of gravel mapped by BGS as 'undifferentiated' and several valleys descending to the Beverley Brook contain Head. Alluvium occurs in the Beverley Brook valley.

Drakeford A. & Sutcliffe U. (Eds) 2000. *Wimbledon Common & Putney Heath. A Natural History.* Wimbledon and Putney Commons Conservators.

Grist C.I., 1917. Excursion to Richmond Park, Kingston Hill and Wimbledon Common, May 19th, 1917. *Proc. Geol. Assoc. Vol. 28 Part 2*

Monckton, H.W., 1900. Excursion to Wimbledon and Kingston, Sat. April 28th, 1900. *Proc. Geol. Assoc. Vol 16: 443-445*

Assessment of Site Value

Geodiversity topic: lithostratigraphy, geomorphology

Access and Safety

Aspect	Description
Safety of access	From bus stops on Wimbledon Park Side (A219). Car park near the Windmill (access road from A219). Café, toilets. Network of paths, and bridleways which also carry cycle traffic. Golf course on part of common with need to watch out for players.
Safety of exposures	Exposures safe to access with some off-track but still reasonably accessible. Safety of exposures themselves is good; some slopes.
Permission to visit	Open access,
Current condition	Variable. Scattered small exposures of gravel. Pits degraded; one gravel pit flooded though more gravel is exposed after a dry spell. Bagshot Sand in horse training circuit.
Current conflicting activities	Golf course on part of common.
Restricting conditions	Lack of decent exposure except in horse training circuit.
Nature of exposures	Mainly gravel is visible on the ground and in banks; Clay/sandy clay exposures are degraded to varying degrees.

Culture, Heritage & Economic

Aspect	Description	Rating
Historic, archaeological & literary associations	Limited archaeological fieldwork; stray finds (*Archaeology of Greater London, MOLA 2000*). Iron Age fort. Wimbledon Society for literary associations.	8
Aesthetic landscape	Largest area of heathland in Greater London. High quality habitats associated with acidic soils include both wet and dry heath; one of London's very few valley bogs; extensive areas of acid grassland, woodland and scrub; several ponds and a section of the Beverley Brook. Views across the Beverley Brook valley to Kingston Hill and Richmond Park from western side.	8
History of Earth Sciences	Geologists' Association field trips in 1900 (*Whitaker, 1889*), 1917 (*Grist, 1917*) and 2017.	8
Economic geology	Former brickmaking and gravel extraction shown on OS maps	6
GeoScientific Merit		
Geomorphology	Relationship of geology to topography; comparisons with Putney Heath (GLA25) which adjoins at the Common's northern boundary, and with nearby Richmond Park (GLA 70) and Kingston Hill.	6
Sedimentology	Depositional environment of sediments.	5
Palaeontology	Fossils from the London Clay have been found in past temporary commercial excavations for building works (*Ellison, 2004, pp 47-50*).	4

	A number of flint fossils from the gravels have been deposited in the Wimbledon Museum.	
Igneous/mineral/ Metamorphic Geology	None except for mineral content of sediments.	2
Structural Geology	No known structures within the common but the NE-SW Wimbledon Fault cutting Paleogene strata lies beyond the southern boundary (*Drakeford & Sutcliffe, 2000*).	3
Lithostratigraphy	Encompasses four separate rock units. The Bagshot Sand has not been encountered in the adjoining areas and is the only exposure located in south London. Relationship of gravels with bedrock.	6
Potential use	Research; school and higher education, geotrail.	
Fragility	Overgrowth.	
Current Site Value		
Community	Valuable open space used daily	10
Education	Potential for Geotrail to include adjacent Putney Heath	7
Geodiversity value		
Recommended by Partnership as a LIGS: Black Park Gravel Member (oldest post-diversion Thames terrace) resting on London Clay Formation., Claygate Member & Bagshot Sand Formation. Springs, and ponds. It is the only southwest London location to include Bagshot Sand.		5
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Wimbledon Common boundary stone and windmill

Former Bluegate Gravel Pit in the Black Park Gravel

Spring near Caesar's Well, flowing towards Beverley Brook

Bagshot Sand Formation in base of Horse Exercise Ring

Photos: Allan Wheeler, July 2019