

GLA 71 Hollow Pond, Leyton Flats	
Grid Reference: TQ 393 889	Site Type: Former gravel quarries
Site Area (hectares): 63.53	Current use: recreational ponds within public open space
Site ownership: City of London Corporation	Borough: London Borough of Waltham Forest
Field surveyors: Diana Clements / Peter Collins / Ann Davidson Revisited: Ruth Siddall	Date: November 2013 Date: January 2020
Current geological designation: Recommended by Partnership as a LIGS	Other designation: part of Epping Forest SAC; Metropolitan SINC (Epping Forest North)
Site Map	OS Topography © Crown Copyright
Stratigraphy and Rock Types	
Time Unit: Pleistocene	Rock Unit: Boyn Hill Gravel Member, Maidenhead Formation
Rock Type: Sand and gravel	Details: Sand and pebbles (mostly flint)
Site Description	
<p>Former gravel pits in Boyn Hill Gravel are still visible around the perimeter of the boating pond, particularly where it has been piled up when the gravel pits were joined to make one large pond. The water is fed by natural springs. At TQ 3942 8857 (exposure closest to the big car park on the south side) the gravel appears to be in situ with at least two small ridges within the c.1.5m exposure. The top surface is the same level as Leyton Flats stretching behind to the south. The higher of the two ridges is formed of clasts consolidated into a ferricrete. Some of the clasts are vertical and are likely to have been subject to periglacial processes. The lower of the ridges contained layers of pale and reddish clay. The analysis given for Boyn Hill Gravel (Bridgland, et al, 1995) estimates total flint fraction of 88.9% including 6.6% Tertiary flint, 6.6% quartz, 2.1% quartzite and 2.5% Lower Greensand chert. Observation of the 'in situ' area supported the occurrence of Tertiary flint but the majority of quartz was of a smaller fraction than the analysis. Lower Greensand chert was observed at the mounds 'Beach' area on the north perimeter of Hollow Pond. The flint is approximately half rounded and half angular, and the majority is stained brown. There is an unusually high proportion of red-stained clasts.</p>	

Assessment of Site Value		
Geodiversity topic: Lithostratigraphy; sedimentology.		
Access and Safety		
Aspect	Description	
Safety of access	There are two car parks on the south side of Hollow Pond, the largest at TQ 3935 4648 is closest to the geological interest at TQ 3942 8857	
Safety of exposure	Public access and frequent dog walkers and fishermen keep the exposures clear of vegetation. There is danger of decay of the best in situ exposure.	
Permission to visit	Open access	
Current condition	Well maintained by City of London Corporation. Snack bars at both car parks	
Current conflicting activities	none	
Restricting conditions	Permission required to dig	
Nature of exposure	Ex-Quarry for Boyn Hill Gravel now extended and filled with water. Piles of excavated gravel on northern perimeter	
Culture, Heritage & Economic		
Aspect	Description	Rating
Historic, archaeological & literary associations	Potential research in local archives	3
Aesthetic landscape	Public open space	8
History of Earth Sciences	In relation to Thames Terrace	4
Economic geology	Former gravel extraction	8
GeoScientific Merit		
Geomorphology	Thames Terrace related to MIS 11-10 c. 400,000 – 350,000 years old. Flat terrace feature at 30m above OD (and around perimeter of Pond)	4
Sedimentology	Predominantly flint, including Tertiary flint (Bridgland, et al, 1995). Only small exposure is in situ with ferricrete layer	2
Palaeontology	None known	0
Igneous/mineral/ Metamorphic Geology	None	0
Structural Geology		0
Lithostratigraphy	Boyn Hill Gravel (also visible at Fairlop Complex RIGS GLA 49)	4
Potential use	Research; (off-site education on Thames Terraces)	
Fragility	Overgrown by moss or vegetation	
Current Site Value		
Community	Potential geotrail on Centenary Walk up the staircase of Thames Gravels from Wanstead Flats to High Beech	8
Education	Possible activities in Visitor Centre in Queen Elizabeth Hunting Lodge	6
Geodiversity value		
Recommended by Partnership as a LIGS: This is the best exposure of gravel in the Epping Forest ponds so deserves at least LIGS rating. As Boyn Hill Gravel at Fairlop complex, not far away, is already a RIGS, it is not warranted here		4

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Note cemented horizons. Photo Diana Clements, November 2013



Photos: Ruth Siddall, January 2020