



BASEMENT IMPACT ASSESSMENT

4 Grove Terrace, London NW5 1PH

CLIENT

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London
W2 6DG

Ref: 4652/2.3F
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CONSULTING ENGINEERS

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1.0 INTRODUCTION

- 1.1 This report has been prepared for Gus Gazzard & Tamara Oppenheimer in relation to 4 Grove Terrace, London NW5 1PH. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.
- 1.2 GTA Civils Ltd. was appointed by its client to provide a Basement Impact Assessment (BIA) as requested by Camden Council in order to achieve Planning Approval at said property.
- 1.3 This report has been structured to cover the topics outlined in Camden's policy document DP27, namely the proposed scheme's impact on local drainage and flooding and on the structural stability of neighbouring properties through its effect on groundwater conditions and ground movement.
- 1.4 The following drawings, submitted with the planning application are referenced by the reader: 001EX Site Plan, 100EX Existing Front Garden, 100PR Proposed Front Garden, 101EX/PR Existing and Proposed Lower Ground Floor, 200EX Existing Front Elevation, 200PR Proposed Front Elevation, 201EX Existing Section A-A, 201PR Proposed Section A-A.

2.0 EXISTING SITE

- 2.1 The site comprises a 5-storey brickwork and stucco dwelling house (lower ground, ground, first, second and third floors) in the London Borough of Camden.
- 2.2 The site is 30m north of the junction with Dartmouth Park Road. An existing site location map and photos of the site are shown in Appendix A.
- 2.3 The BGS online geology map indicates this site's solid (or bedrock) geology is 'London Clay' (clay silt and sand) with no superficial (or 'drift') deposits recorded.
- 2.4 The lower ground floor of the dwelling is to be extended by a nominal 1m² approximately – see the proposed scheme drawings. Note that there is no downward excavation proposed. The proposal is akin to a standard domestic extension at ground floor level, therefore.

3.0 CPG4 SCREENING FLOWCHARTS

3.1 Subterranean (Groundwater) Flow

1A: Is the site located directly above an aquifer?

No, the site is not located above an aquifer.

1B: Will the proposed basement extend beneath the water table surface?

No water was seen in the 3 local boreholes – see Appendix C.

2: Is the site within 100m of a watercourse, well (used/disused) or potential spring line?

No, the site is further away than 100m from the nearest watercourse, well or potential spring line.

3: Is the site within the catchment of the pond chains on Hampstead Heath?

No, it is not near this area.

4: Will the proposed basement development result in a change in the proportion of hard surface/paved areas?

No, there will be no increase in the proportion of hard surfaces or paved areas?

5: As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to ground (e.g. via soakaways and/or SUDS)?

No, the same amount of surface water as at present will discharge to ground.

6: Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level of any local pond (not just the chain of ponds in Hampstead Heath) or spring line?

No, the elevation of the site is higher than the nearest ponds / spring lines to the site.

3.2 Slope Stability

1: Does the existing site include slopes, natural or man-made, greater than 7° (approximately 1 in 8)?

No, the site's gradient is less than 1:8.

2: Will the proposed re-profiling of landscaping at site change slopes at the property boundary to greater than 7° (approximately 1 in 8)?

No, the proposal does not include landscaping that affects the boundaries.

3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?

No, the neighbouring sites are at a similar gradient.

4: Is the site within a wider hillside setting in which the general slope is greater than 7° (approximately 1 in 8)?

No, the wider gradient is less than 1:8.

5: Is London Clay the shallowest stratum on the site?

Yes, London Clay is the shallowest stratum – carry forward to scoping stage.

6: Will any trees be felled as part of the proposed development and/or are there any proposed works within any tree protection zones where trees are to be retained?

No trees are to be felled as part of this proposal.

7: Is there a history of shrink-swell subsidence in the local area and/or evidence of such effects at the site?

No, there is no such evidence.

8: Is the site within 100m of a watercourse, or spring line?

No, the site is further away than 100m from the nearest watercourse or spring line.

9: Is the site within an area of previously worked ground?

Yes, the local borehole records (in Appendix C) show made ground to some metres below ground level – carry forward to scoping stage.

10: Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering will be required during construction?

No, the site is not near an aquifer.

11: Is the site within 50m of the Hampstead Heath ponds?

No, it is significantly further than 50m away from these ponds.

12: is the site within 5m of a public highway or pedestrian right of way?

Yes, carry forward to scoping stage.

13: Will the proposed basement significantly extend the differential depth of basements relative to neighbouring properties?

No, there is only a nominal increase in area to the front of the unit – no significant work to foundations proposed.

14: Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?

No, the site is outside all such exclusion zones.

3.3 Surface Flow and Flooding

1: Is the site within the catchment of the pond chains on Hampstead Heath?

No, the site is well removed from these ponds and outside the catchment area.

2: As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?

No, these will be unaffected as the increase in area is only approximately 1m².

3: Will the proposed basement development result in a change in the proportion of hard surfaces/paved external areas?

No, this proportion will be unaffected as the increase in area is only approximately 1m².

4: Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?

No, there will be no surface water flow off-site as a result of this proposal.

5 Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?

No, there will be no surface water flow off-site as a result of this proposal.

6 Is the site in an area known to be at risk from surface water flooding, such as Hampstead Heath, Gospel Oak and King's Cross, or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?

No, the site is not in an area susceptible to surface water flooding – as per Figure 15 of the Camden Geological, Hydrogeological and Hydrological Study.

4.0 SCOPING STAGE

4.1 Subterranean (Groundwater) Flow

All points have been covered in the screening flowchart – see section 3.1.

4.2 Slope Stability

The presence of made ground in itself does not constitute a cause for concern as the extension to the lightwell is *at* the current ground level. There is no excavation below the current

As London Clay is the only stratum on this site the design of any new footings will take this into account.

The site itself is adjacent to the highway but the small increase in area to the lower ground floor is over 7m from the highway. Therefore there shall be no measurable surcharge pressure from vehicles.

4.3 Surface Flow and Flooding

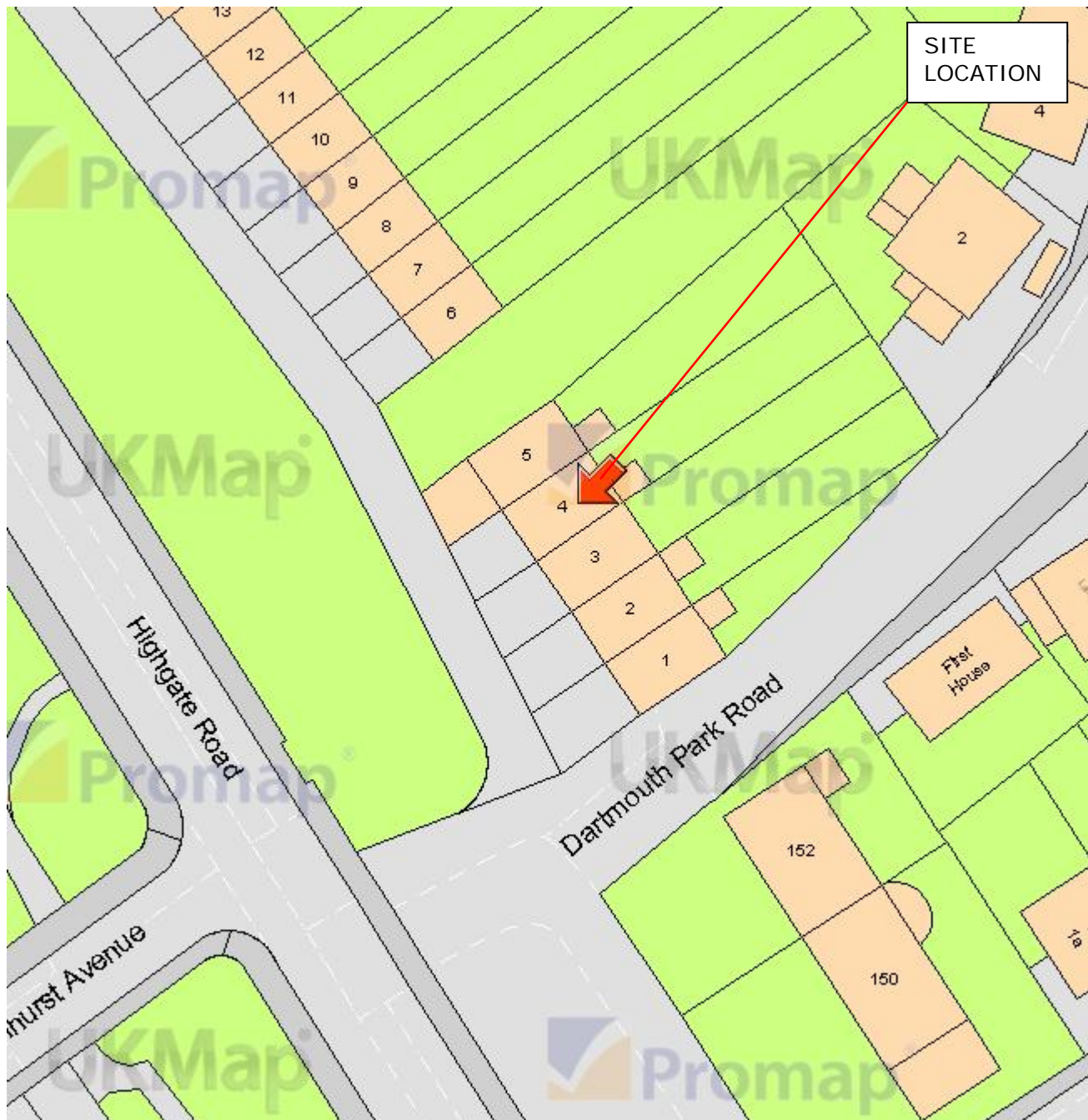
All points have been covered in the screening flowchart – see section 3.3.

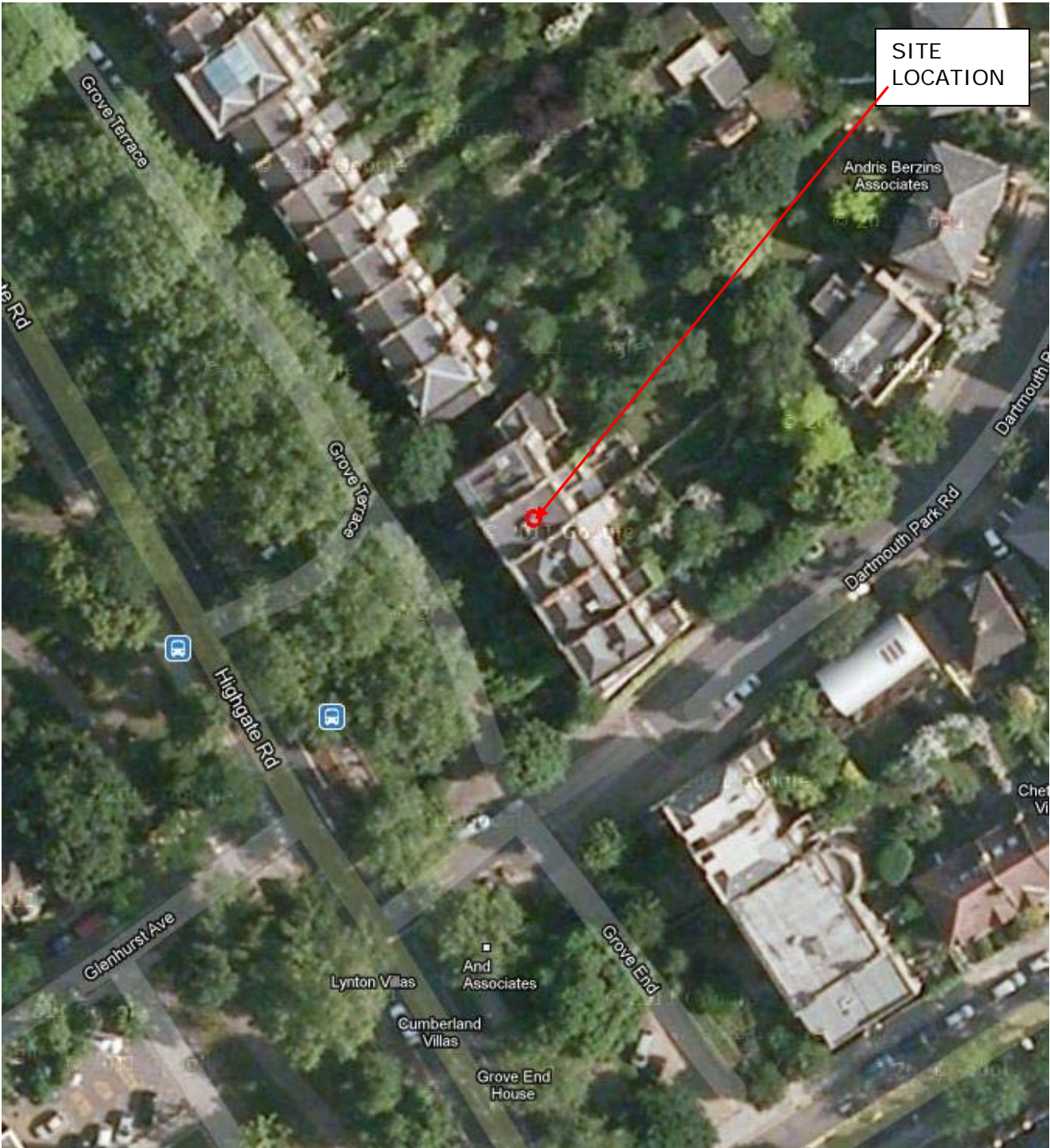
It is concluded that this proposal is safe and all of the points requiring to be covered in Section 1.3 have been dealt with conclusively.

- End of Report -

APPENDIX A

Site Location Map & Aerial Photo





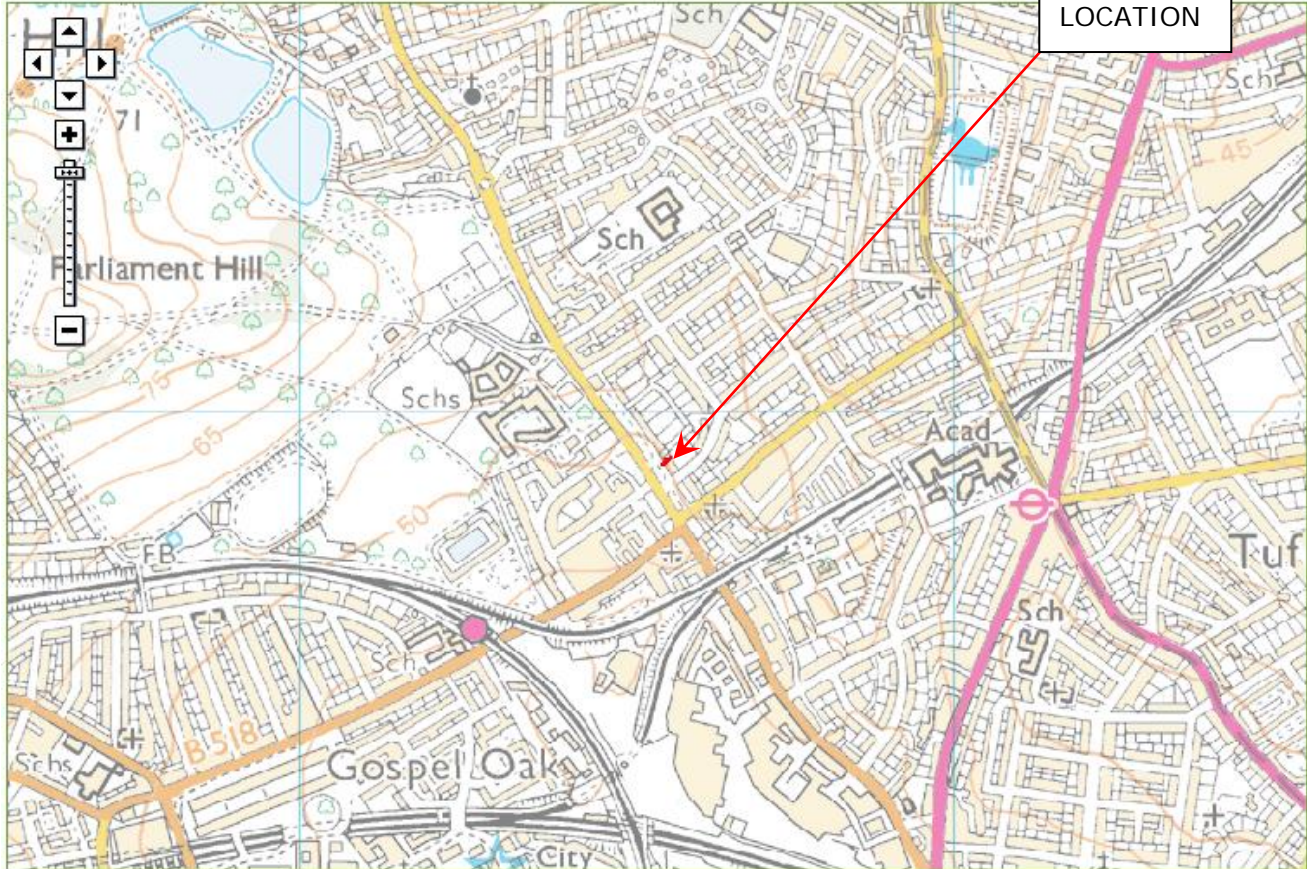
APPENDIX B

Environment Agency's Flood Map

NW5 1PH at scale 1:10,000

Data search

SITE
LOCATION



© Environment Agency copyright and database rights 2012. © Ordnance Survey Crown copyright. All rights reserved. Environment Agency, 100026380.
Contains Royal Mail data © Royal Mail copyright and database right 2012.

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APPENDIX C

Local Soil Borehole Records



WELL BORING at

Junction Chetwynd Rd & Highgate Rd. Kentish Town.

TQ 28 NE: 22 C 5

Geol. map

1 in. map New Series

6 in. map

3 S.W.

Made by

Date

Sunk

feet.

Bored

feet.

Communicated by

L. C. C.

2860.8587

Height above Ordnance Datum

137.70.

Rest level of water

256.

Yield

Quality (with copy of analysis on separate sheet)

1

GEOLOGICAL FORMATION	NATURE OF STRATA	THICKNESS		DEPTH	
		Feet	Inches	Feet	Inches
SUPD	Brown Clay.	5	—		152
LC	Brown gravel.	1	—	6	1.83
	Blue clay.	24	—	30	9.16
	(all dry).				

WELL BORING at *West of Highgate Rd.* N.W.I. County

Geol. map

1 in. map New Series

6 in. map

Made by

Date _____

Sunk

feet.

Bored

feet.

Communicated by

H. C. C.

Rest level of water

2855 8580
256

Height above Ordnance Datum

150.

Yield

Quality (with copy of analysis on separate sheet)

[illegible]

W. S. Ltd. 3,000/11/50.

C. ISLER & Co., LTD.,
ARTESIAN & CONSULTING WELL ENGINEERS
BEAR LANE, SOUTHWARK, S.E.1.

Telegraphic Address: "ISLER, LONDON."
Telephone No.: WATERLOO 7044 (3 lines).

BIRMINGHAM BRANCH: 93, Broad Street.
LEEDS BRANCH: Bardon Chambers, King Street.

British Geological Survey

Bored by B. Wiffen Date Commenced 8-2-51. 195
Water Levels: Standing Dry Ft. Pumping _____ Ft. Completed 8-2-51 195
Supply _____ Galls. per hour. Analysis if made _____
Lined with _____ Ft. _____ Ins. of _____ Ins. Tubes _____ Ft. above
below Surface

Downloaded from <http://ajphaphysiol.phapublications.org/> at University of California, San Diego on September 11, 2015

British Geological Survey

Boring Stage ^{above} _{below} Ground or Street Level.....Ft. Height above Sea Level.....Ft.

Stratum

Thickness.	Total.	Water level.
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BOREHOLE No. 3

British Geological Survey

British Geological Survey

British Geological Survey

Rods in	Rods out
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
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100	100

©

Top Soil.

Clay & Peat.

Wattle Clay (Brown)

Mottle Clay (Blue)

Brown Clay.

U.S. Geological Survey

British Geological Survey

British Geological Survey

British Geological Survey

British Geological Survey

Gullish Grinnell Service

16 FEB 1963