



Express Preliminary UXO Risk Assessment

Client GEA Ltd

Project Blackburn Road

Site Address 13 Blackburn Road, London, NW6 1RZ

Report Reference EP10053-00

Date 05/11/19

Originator EL

1st Line Defence Limited

Unit 3, Maple Park, Essex Road, Hoddesdon,

Herts, EN11 0EX

Tel: +44 (0)1992 245 020

E-mail: info@1stlinedefence.co.uk

Company No: 7717863 VAT No: 128 8833 79

www.1stlinedefence.co.uk

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the Blackburn Road site. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.













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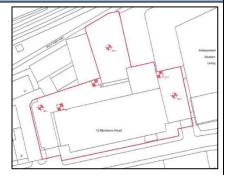


Risk Assessment Considerations

Site location and description/current use

The site is located in West Hampstead, in the London Borough of Camden.

The site is comprised of multi storey residential properties known as *The Clockwork Factory Apartments*, and car parking spaces. The site is bound by Billy Fury Way in the north, and Blackburn Road in the south. Structures on the south side of Blackburn Road separate the site from West Hampstead Tube Station. Immediately east of the site is multi



storey student accommodation, and west of the site are terraced houses.

The site is approximately centred on the OS grid reference: TQ 25614 84714

Are there any indicators of current/historical military activity on/close to the site?

Available in-house records do not indicate that the proposed site has any previous military use. There is no evidence to suggest any features such as WWII defensive positions, encampments or firing ranges were located on or near the sites. Furthermore, no evidence presents itself that shows ordnance being stored, produced or disposed of within the site boundaries.

The closest Heavy Anti-Aircraft (HAA) battery was situated approximately 3km north west of the site, in Gladstone Park. Conditions in which unexploded anti-aircraft ordnance may have fallen unrecorded within the proposed site are analogous to that of German aerial delivered ordnance – see below.

What was the pre- and post-WWII history of the site?

Pre WWII OS mapping from 1935 shows the site to be comprised largely of open land. There is a structure of unspecified use in the north of the boundary.

Post WWII OS mapping from 1954 indicates that the site remains comprised of open land. The structure present in pre WWII OS mapping in the north is now labelled as *Ruins*. A small structure is shown to have been developed in the south west corner of the site. Structures immediately north west of the site boundary are now labelled as *Tower Royal Works (Engineering)*.

Was the area subject to bombing during WWII?

During WWII the site was located in the Metropolitan Borough of Hampstead, which received an overall very high bombing density. 321 high explosive (HE) bombs, 6 parachute mines, 31 oil bombs, 5 phosphorous bombs, 10 V1 pilotless aircrafts, and 3 V2 rockets were recorded in the borough, totalling an average of 166 items of ordnance recorded per 1,000 acres.

London Bomb Census mapping held in house does not record any strikes directly on site. However, several strikes are recorded in close proximity to the site. Furthermore, the Hampstead Bomb Map records one bomb strike on the site's southern boundary.

Is there any evidence of bomb damage on/close to the site?

Post WWII OS mapping from 1954 labels a structure in the north of the site boundary as *Ruins*. This may indicate damage due to bombing. Despite this, London County Council Bomb Damage Mapping does not record damage within the site; given the site was mostly undeveloped during the war, it is not thought damage may have been recorded within the site on this map.

























To what degree would the site have been subject to access?	It is likely that access to the site would have been limited due to its undeveloped nature during WWII. It is therefore considered likely that the site would not have been subject to post-raid checks for items of UXO.
To what degree has the site been developed post-WWII?	Post WWII the site has been developed from open land to include a multi storey residential property, <i>The Clockwork Factory Apartments</i> , and its associated car parking spaces.
What is the nature and extent of the intrusive works proposed?	The nature and extent of works proposed are thought to include two 25m boreholes and one 35m borehole. As well as window sampling and hand excavating three trial pits.

Summary and Conclusions

During WWII the site was located in the Municipal Borough of Hampstead, which received an overall very high bomb density with 166 items of ordnance recorded per 1,000 acres.

Whilst no bomb strikes are recorded on site according to London Bomb Census Mapping, one strike is recorded on the site's southern boundary in local bomb mapping. The building in the north of the site is recorded as 'ruins' on post-war historic OS mapping, which may indicate bomb damage.

At this preliminary stage, given the lack of detailed records, it is not possible to ascertain the degree of damage the site sustained, and whether the site was directly affected by bombing.

Recommendations

Further research is recommended in the form of a **Detailed UXO Risk Assessment** in accordance with CIRIA guidelines. Further investigation would entail the analysis of data such as WWII-era aerial photography and historical OS mapping as well as any available written records r. The report would also outline work-specific UXO risk mitigation measures.

Prior to or in lieu of a Detailed Assessment, it is recommended that appropriate UXO Risk Mitigation Measures are provided for intrusive works proposed.

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.























APPENDIX - PART 1B

Ground Investigation

Site Plan

Borehole Records

Trial Pit Records

Monitoring Records

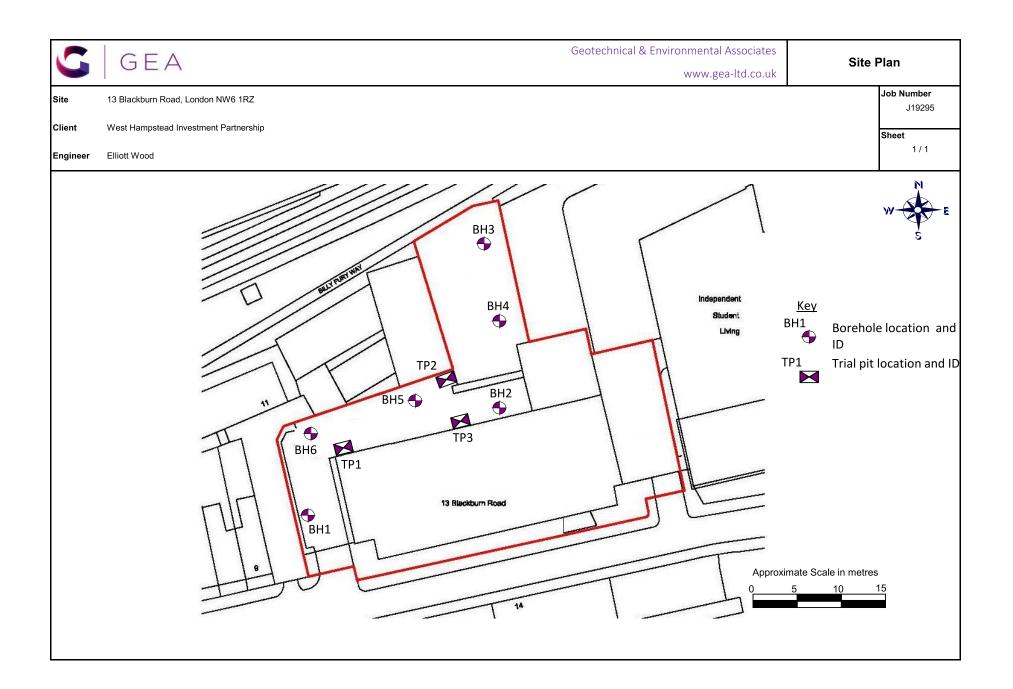
Laboratory Testing

Geotechnical Laboratory Test Results

Chemical Analyses (Soil)

Generic Risk Based Screening Values







Project						BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ				BH1
Job No	Date	Groun	d Level (m OD)	рпт		
J19295	14-11-19			E 525,582.0	N 184,703.0	
Client			Engineer			Sheet
West Hampstead	Investments Partner	ship	Elliott Woo	od		1 of 4

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Depth	Type No	Test Result	Water	Reduced Level	Legent	Depth (Thick- ness)	DESCRIPTION		Instrument / Backfill
0.40	D1				P	(1.30)	Concrete with reinforcing MADE GROUND (concrete, carbonaceou brick rubble and grey clay).	s material,	
1.20	D3	1,0/1,0,0,1 N60 = 2				1.40	Firm becoming stiff fissured moderate st becoming high strength brown CLAY with grey mottling and selenite crystals.	rength n occasional	
-1.90 2.00	D4 U1001								
2.50	D5								
2.80	D6 D7	1,1/2,2,2,3 N60 = 10							
3.70	D8					: <u> -</u> - -			
Date: 3 April 2020	U1002					· 			
4.50	D9					- 			
Uibrary: GEA LIBRARY: GEB	D10 D11	2,3/4,4,4,5 N60 = 18							
GPJ Libra	U1003					(10.20)			
N ROAD, LONDON,GPJ	D12					. (10.20)			
3 BLACKBURN ROAD,	D13	3,3/4,5,5,6 N60 = 21				· - - - - - - - - - - - - - - - - - - -			
Boring	Progre	ss and Water Ol	se	rvation			GENERAL		
Boring Depth I Depth I All dimension Scale	Date	Time Casir Depth I	ng Dia.	mm D	ater epth	Standpipe Groundw of 8.8 m a	REMARKS ent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.5 m plain ater seepage encountered at a depth of 9. after a period of 20 minutes; likely to be as of claystones at this depth.	0 m and rising t	o a depth
All dimension Scale	ons in met e 1:50	res Method/ Plant Used Ca	able	e Percu	ssion			Logged By JW	

Bori	ng Progi	ress and	Water 0	Observat	ions
Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth
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Project						BOREHOLE No	
13 Blackburn	13 Blackburn Road, London NW6 1RZ						
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()		BH1	
J19295	14-11-19			E 525,582.0	N 184,703.0		
Client	Client			Engineer			
West Hampstead	l Investments Partner	ship	Elliott Wood		2 of 4		

CANADI EC O TECTO	CTDATA	
SAMPLES & TESTS Type Test To Reduced Depth	STRATA	mer ckfill
Depth No Result Reduced Legend (Thick-ness)	DESCRIPTION	Instrument / Backfill
9.90 D14 10.00 U1004 10.40 D15 10.50 D16 3,4/5,5,6,7 N60 = 25	m becoming stiff fissured moderate str coming high strength brown CLAY with ey mottling and selenite crystals.(contin	occasional 니ㅠ니다
11.70 D17 - 11.60 Stiff	ff becoming very stiff fissured very high remely high strength grey CLAY.	
12.00 U1005	nemery mgn serengan grey ezh m	
12.50 D18		
12.00 U1005		
9 15.50 D20		
Boring Progress and Water Observations	GENERAL	
Depth Date Time Casing Water Depth Dia. mm Depth	REMARKS	
1 hour spent ti Standpipe inst. Groundwater s	cidying up and bagging spoil. talled to a depth of 5.0 m; 1.5 m plain a seepage encountered at a depth of 9.0 a period of 20 minutes; likely to be ass aystones at this depth.	m and rising to a depth
All dimensions in metres Scale 1:50 Method/ Plant Used Cable Percussion	L	ogged By JW

Bori	ng Progi	ress and		Observat	ions
Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth
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Project						BOREHOLE No
13 Blackburn	Road, London NW6 1	RZ				рц1
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()		BH1
J19295	14-11-19			E 525,582.0	N 184,703.0	
Client	Client			Engineer		
West Hampstead	l Investments Partner	ship	Elliott Woo	od		3 of 4

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	SAI	MPLES 8	& TESTS	5	- i		1	Depth	STRATA		men kfill
De	epth	Type No		Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		Instrument / Backfill
- 16.5	50	D21	5,5 N6	/6,6,7,8 60 = 29					Stiff becoming very stiff fissured very hi extremely high strength grey CLAY.(con	gh becoming tinued)	
- 18.0 - 18.5		U1007						(13.40)			
April 2020	50	D23	5,5 N6	/6,7,8,8 60 = 31							
LONDON.GPJ Library: GEA LIBRARY.GLB Date: 3 April 2020		U1008									
	50	D25	6,7, N6	/8,8,9,10 60 = 37							
5 - 13	Borino	Progre	ucc and	Water O	hsa	rvation	c	<u>: </u>	CENEDAL		
Dep		Date	Time	Casi Depth	ng Dia	mm N	/ater		GENERAL REMARKS		
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Report ID	dimensio Scal	ons in me e 1:50		ethod/ ant Used C	able	e Percu	ssion		-	Logged By JW	

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Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth
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Project						BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ				BH1
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()		рпт
J19295	14-11-19			E 525,582.0	N 184,703.0	
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West Hampstead	Investments Partner	ship	Elliott Wood		4 of 4	

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Depth	Type No		Test esult	Wate	Reduced Level	Legenc	Depth (Thick- ness)	DESCRIPTION		Instrument / Backfill
24.50 25.00	U1009						25.00	Stiff becoming very stiff fissured very hig extremely high strength grey CLAY.(cont	th becoming inued)	
23.00	D20						-			
							-			
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مر مراز ال	sions in me	tres Me	ethod/						Logged By	

295	Bori	ng Progi	ress and	Water C	Observat	ions	GENERAL
: 119	Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth	REMARKS
CABLE PERCUSSION Project							1 hour spent tidying up and bagging spoil. Standpipe installed to a depth of 5.0 m; 1.5 m plain and 3.5 m slotted. Groundwater seepage encountered at a depth of 9.0 m and rising to a depth of 8.8 m after a period of 20 minutes; likely to be associated with the presence of claystones at this depth.
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Project						BOREHOLE No
13 Blackburi	n Road, London NW6 1	RZ				BH2
Job No	Date 15-11-19	Groun	d Level (m OD)	Co-Ordinates ()		рпΖ
J19295	18-11-19			E 525,618.0	N 184,722.0	
Client			Engineer			Sheet
West Hampstea	nd Investments Partner	ship	Elliott Woo	od		1 of 5

west n	ampstea	ad Investments f	arı	nersnip	,	Elliott W	000	1 of	
SAI	MPLES 8	k TESTS				, ,	STRATA) Hent
Depth	Type No	Test Result	Water	Reduced Level	Legend	ness)	DESCRIPTION		Instrument
0.50	D1					(0.80)	MADE GROUND (topsoil, brick rubble, coreworked brown clay).	oncrete and	
1.00 1.20	D2 U1001					0.90	Firm becoming stiff fissured moderate st becoming high strength brown CLAY with grey mottling.	rength n occasional	_
1.70	D3					<u> </u> 			
2.00	D4	1,1/2,2,2,3 N60 = 10							
2.70	D5								
3.00	U1002					†- 			
3.50	D6								
3.80 4.00	D7 D8	1,1/2,2,3,3 N60 = 11				-			
4.70	D9					(8.00)			
5.00	U1003					(8.00)			
5.50	D10								
6.00	D11	3,4/4,5,5,6 N60 = 21							
4.70 -5.00 -5.50 -6.00	U1004								
Boring	Progre	ss and Water O	bse	 rvation	s		GENERAL		
		Time Casi Depth	ng Dia.	mm D	/ater epth		REMARKS		
						Standpipe	spent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.2 m plain ater not encountered.	and 3.8 m slotte	d.
All dimensi	ons in met e 1:50	tres Method/ Plant Used C	able	e percu	ssion			Logged By JW	

Boring Progress and Water Observations												
	Depth	Date	Time		sing Dia. mm	Water Depth						
				•		•						



Project						BOREHOLE No
13 Blackburn	Road, London NW6 1	RZ				BH2
Job No	Date 15-11-19	Groun	d Level (m OD)	Co-Ordinates ()		рпи
J19295	18-11-19			E 525,618.0	N 184,722.0	
Client			Engineer			Sheet
West Hampstea	d Investments Partner	ship	Elliott Woo	od		2 of 5

SAI	MPLES 8	k TESTS	- La			11	STRATA		nent
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		Instrument
8.00 -8.90 9.00	D12	4,4/5,6,7,7 N60 = 27				8.90	Firm becoming stiff fissured moderate st becoming high strength brown CLAY with grey mottling. (continued) Stiff becoming very stiff fissured very high extremely high strength grey CLAY.	h occasional	
10.50	U1005								
	D16	4,5/6,6,7,8 N60 = 29							
13.50 14.00	U1006								
15.00	D18	5,5/6,7,8,8 N60 = 31							
Boring	Progre	ss and Water Ok	 ose	rvation	s		GENERAL		
		Casir Time Depth [ng Dia.	mm De	ater epth	1.5 hour s Standpipe Groundw	REMARKS spent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.2 m plain ater not encountered.	and 3.8 m slotte	d.
All dimension	ons in met e 1:50	tres Method/ Plant Used Ca	abl.	p percus	sion			Logged By JW	

- 567	Bori	ng Progi	ess and	Water C	Observat	ions	GENERAL
. 119.	Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth	REMARKS
CABLE PERCUSSION Project						·	1.5 hour spent tidying up and bagging spoil. Standpipe installed to a depth of 5.0 m; 1.2 m plain and 3.8 m slotted. Groundwater not encountered.
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Project						BOREHOLE No
13 Blackburr	n Road, London NW6 1	RZ				BH2
Job No	Date 15-11-19	Groun	d Level (m OD)	Co-Ordinates ()		рпΖ
J19295	18-11-19			E 525,618.0	N 184,722.0	
Client	-		Engineer			Sheet
West Hampstea	d Investments Partner	ship	Elliott Woo	od		3 of 5

SAI	MPLES 8	k TESTS	er				nent		
Depth	Type No	Test Result	Water	Reduced Level	Legeno	Depth (Thick- ness)	DESCRIPTION		Instrument
16.50	U1007						Stiff becoming very stiff fissured very hig extremely high strength grey CLAY.(cont	th becoming inued)	
18.00	D20	6,6/7,8,8,9 N60 = 34							
19.50	U1008								
21.00	D22	6,7/8,9,10,10 N60 = 39							
22.50	U1009					(26.10)			
Boring	Progre	ss and Water Ob	se	rvation	s	<u>.t</u>	GENERAL		
Depth		Casin Depth D	ig Dia.	mm De	ater epth	1.5 hour s Standpipe Groundw	REMARKS spent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.2 m plain ater not encountered.	and 3.8 m slotte	d.
All dimensi	ons in met e 1:50	tres Method/ Plant Used Ca	1- 1		<u> </u>			Logged By JW	

- 567	Bori	ng Progi	ess and	Water C	Observat	ions	GENERAL
. 119.	Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth	REMARKS
CABLE PERCUSSION Project						·	1.5 hour spent tidying up and bagging spoil. Standpipe installed to a depth of 5.0 m; 1.2 m plain and 3.8 m slotted. Groundwater not encountered.
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Project					BOREHOLE No
13 Blackbur	n Road, London NW6 1	1RZ			рцэ
Job No	Date 15-11-19	Groun	d Level (m OD)	Co-Ordinates ()	BH2
J19295	18-11-19			E 525,618.0 N 184,722.0	
Client	,		Engineer		Sheet
West Hampste	ad Investments Partne	rship	Elliott Woo	od	4 of 5

IAS	MPLES 8	t TESTS	er			<u> </u>	STRATA		nen:
Depth	Type No	Test Result	Wate	Reduced Level	egend	Depth (Thick- ness)	DESCRIPTION		Instrument
24.00	D24	7,8/9,10,11,12 N60 = 45				, 	Stiff becoming very stiff fissured very hig extremely high strength grey CLAY.(cont	th becoming inued)	_
25.50	U10010								
26.00	D25					+ - - - - - - - - - - - - - - - - - - -			
27.00	D26	8,8/10,11,12,14 N60 = 50							
28.50	U10011								
29.00	D27	8,8/10,12,13,14 N60 = 52							
31.50	U10012			- - - - -					
		ss and Water Ob	se	rvations			GENERAL		
Depth	Date	Time Casin Depth D	ig Dia.	Mat mm Dep	ter hth	1.5 hour s Standpipe Groundw	REMARKS spent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.2 m plain ater not encountered.	and 3.8 m slotte	d.
All dimensi	ons in met e 1:50	res Method/ Plant Used Ca	1.1.					Logged By JW	

119295 -	Bori	ng Progr	ess and	Water C)bservat	ions	GENERAL
	Depth	Date	Time	Cas Depth	ing Dia. mm	Water Depth	REMARKS
CABLE PERCUSSION Project:						·	1.5 hour spent tidying up and bagging spoil. Standpipe installed to a depth of 5.0 m; 1.2 m plain and 3.8 m slotted. Groundwater not encountered.
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Project						BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ				BH2
Job No		ВΠΖ				
J19295	15-11-19 18-11-19			E 525,618.0	N 184,722.0	
Client			Engineer			Sheet
West Hampstead	5 of 5					

SAI	MPLES 8	k TESTS					STRATA		nent
Depth	Type No	Test Result	Water	Reduced Level	Legenc	Depth (Thick- ness)	DESCRIPTION		Instrument
32.00	D28	8,9/11,13,13, N60 = 55	15			,	Stiff becoming very stiff fissured very hig extremely high strength grey CLAY.(cont	gh becoming inued)	
34.50	U10013					*			
35.00	D30					35.00			
Porin	Progra	ss and Water	Obso	runtion			CENTERAL		
Depth	Date	Time Depth	asing Dia.	mm D	/ater epth		GENERAL REMARKS		
						1.5 hour s Standpipe Groundw	spent tidying up and bagging spoil. e installed to a depth of 5.0 m; 1.2 m plain ater not encountered.	and 3.8 m slotted	d.

392	Bori	ng Progr	ess and	Water C	bservat	ions	GENERAL
t: J19295	Depth	Date	Time	Cas Depth	ing Dia. mm	Water Depth	REMARKS
D: CABLE PERCUSSION Project							1.5 hour spent tidying up and bagging spoil. Standpipe installed to a depth of 5.0 m; 1.2 m plain and 3.8 m slotted. Groundwater not encountered.



Project					BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ			ВН3
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()	рпэ
J19295	14-11-19			E 525,614.0 N 184,752.0	
Client			Engineer		Sheet
West Hampstead	Investments Partner	ship	Elliott Woo	od	1 of 1

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SA	MPLES 8	k TESTS	ڀ				STRATA		lill fill
Depth	Type No	Test Result	Water	Reduced Level	Legenu	Depth (Thick- ness)	DESCRIPTION		Instrument / Backfill
-					944 9	1 0.21	Concrete slab, 213 mm thick.		100
-						0.35	Concrete fill, weak and fine clasts of concr		L
0.50	D1				$\stackrel{\times}{\times}\stackrel{\times}{\times}$	0.60	Possible MADE GROUND (reworked soft o sandy clay with a single fragment of plastic	range-brown c).	
0.80	D2				× ×	<u> </u>	Initially soft, then firm becoming stiff fissu	red orange	
-		1,1/2,3,2,3			× ×	<u>}</u>	brown occasionally mottled light grey slight with occasional fine selenite.	ntly silty CLAY	
F		N60 = 11			<u>* * </u>	<u>}</u>	With 6333350 har time selectives		194
- 1.50	D3				<u>*</u> * * -	<u>-</u>			
-					× ×	+			6
-		1,2/2,3,3,4			× ×	₹ -[COL
-		N60 = 14			X X	}			
2.40	D4				×	<u> </u>	2.40 - 3.80light grey mottling more freq	uent between	19 E
					× ×	- - - - - (4.40)	depths of 2.40 m and 3.80 m.		
-		1.2/2.2.4.4			× ×	(-110) -			PAT I
-		1,2/3,3,4,4 N60 = 16			× ×	<u> </u>			
[X X	<u>{</u>			
3.50	D5				× ×	7.			
50					× × -	<u>-</u>	3.80silt absent from a depth of 3.80 m.		
8 - = -		2,3/3,3,5,5 N60 = 18			× ×	<u> </u>			
3 Ap		1,000 10			× ×	₹ -			
ੜੂ- 4.50	D6				X X	<u>}</u>			
					×	5.00			
		2,3/4,5,6,6 N60 = 24				-			
BRAR -		N60 = 24				-			
- - -						-			
9 [: <u>:</u> -						-			
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<u></u>						-			
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13 81					<u> </u>	-			
Borin Depth	ng Progre	ss and Water Ob					GENERAL		
Depth	Date	Time Casir Depth [ıg Dia.	mm D	/ater epth		REMARKS		

9295 -	Bori	ng Progi	ess ar	nd Water 0	Observat	ions	GENERAL	
. 119	Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth	REMARKS	
): CABLE PERCUSSION Project							Standpipe installed to a depth of 5.00 m; 0.50 m pl Groundwater not encountered.	ain and 4.50 m slotted.
Report ID		nsions in m cale 1:50	netres	Method/ Plant Used (Opendriv	ve Sampl	er	Logged By JW



Project						BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ				BH4
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()		рп4
J19295	14-11-19			E 525,617.0	N 184,740.0	
Client			Engineer			Sheet
West Hampstead	Investments Partner		1 of 1			

	<u> </u>	d Investments F	art	nership)	Elliott W		1 of	
SAI	MPLES &	TESTS	er			D	STRATA		nent Kfill
Depth	Type No	Test Result	Water	Reduced Level		ness)	DESCRIPTION		Instrument / Backfill
						, vi==	Concrete slab, 215 mm thick.		
0.40	D1	1,1/0,1,2,2 N60 = 6				0.40	\occasional fine brick fragments. Gravel is	avel with fine to coarse	
0.10		1400 0				(0.40) 0.80	\of flint).	/	
-					× ×	2_	\sandy clay).	/	惴
1.20	D2	1,1/1,1,1,2 N60 = 6			× ×	<u> </u>	Initially soft, then firm becoming stiff fiss brown occasionally mottled light grey slip	ured orange	
1.20					× ×	1	with occasional fine selenite.	gilliy silty CLAT	
1.70	D3				* <u>*</u> *	<u> </u>			
		12/4422			× ×	-			
2.20	D4	1,3/4,4,3,3 N60 = 16			× × ·	<u> </u>			
					X X	}			
2.70	D5				<u> </u>	1			
		1 2/1 2 3 4			x x	(4.20)			
		1,2/1,2,3,4 N60 = 11			× ×	} _			
					<u>×</u> ×	<u> </u>	3.50decayed rootlets absent from a de	enth of 3.50 m.	
3.70	D6				× × ×	-	3.80silt absent from a depth of 3.80 m		
		2,2/3,3,4,4			× × -	<u>\$</u>	3.80siit absent from a depth of 3.80 m	•	
		N60 = 16			X X	}			
					<u>x</u>	1			
4.70	D7				× ×				
		2,3/4,4,6,5			<u> </u>	5.00			11=11
		N60 = 22				- - -			
						-			
						-			
•						-			
						-			
						-			
						-			
						-			
						-			
						-			
						-			
		ss and Water O	bse	rvation			GENERAL		
Depth	Date	Time Casi Depth	Dia.	mm D	/ater epth	Cua	REMARKS		
						Groundw	ater not encountered.		
All dimensi	ons in met	res Method/						Logged By	
Scal	e 1:50	Plant Used O	per	ndrive S	Sample	r		JW	

295 - 1	Bori	ng Progr	ess and	Water C	bservat	ions	GENERAL
119	Depth	Date	Time	Cas Depth	sing Dia. mm	Water Depth	REMARKS
Project				·			Groundwater not encountered.
=							
PERCUSSION							
EKCO							
CABLE P							
<u>8</u>							



Project						BOREHOLE No
13 Blackburn I	Road, London NW6 1	RZ				BH5
Job No	Date	Groun	d Level (m OD)	Co-Ordinates ()		ВПЭ
J19295	14-11-19			E 525,603.0	N 184,725.0	
Client			Engineer			Sheet
West Hampstead	Investments Partner	ship	Elliott Woo	od		1 of 1

Client						ngineer		Sheet	
	•	Investments F	art	nership		Elliott W		1 of :	
SAN	MPLES & T	TESTS	- Eer			Depth	STRATA		ment
Depth	Type No	Test Result	Water	2010.		d (Thick- ness)	DESCRIPTION		Instrument / Backfill
• •						0.22	Concrete slab, 225 mm thick. MADE GROUND (whole brick and brick fi	ragments) /	
0.50	D1					(0.55)	MADE GROUND (dark greyish green, rew	orked sandy I of subangular	
0.80	D2				× × ×	7 	0.50 - 0.80possible hydrocarbon odou depths of 0.50 m and 0.80 m.	r between	
1.50	D3			2	× × × × × × × × × × × × × × × × × × ×	1.60	\ and 1.10clayey GRAVEL between de \ and 1.10 m. \ 1.40 - 1.60clayey GRAVEL between de	medium flint. pths of 0.80 m	
2.50	D4				× × × × × × × × × × × × × × × × × × ×		\and 1.60 m. Firm becoming stiff fissured orange brow CLAY with occasional fine selenite crysta occasional decayed rootlets.	vn slightly silty Is and	
3.50	D5				× × × × × × × × × × × × × × × × × × ×	7 	3.50decayed rootlets absent from a de	epth of 3.50 m.	
4.50	D6			2	X X X X X X X X X X X X X X X X X X X				
					<u>~</u> <u>~</u> *	5.00			
						- - - -			
						-			
						-			
						- - -			
		and Water Ol	ose	rvations	ater		GENERAL		
Depth	Date Ti	me Casir Depth I	Ďia.	mm De	pth	Groundw	REMARKS ater not encountered.		
All dimension	dimensions in metres Scale 1:50 Method/Plant Used O				1			Logged By JW	



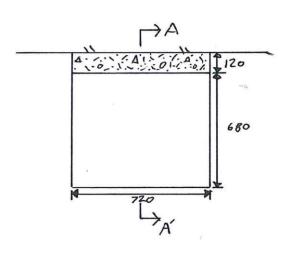
Project	BOREHOLE No						
13 Blackburn F	вн6						
Job No	Date	рпо					
J19295	14-11-19			E 525,582.0	N 184,718.0		
Client			Engineer			Sheet	
West Hampstead	Investments Partner	Elliott Woo	od		1 of 1		

West Hampstead Investments P			art	nership Elliott Wood		1 of	1		
SAMPLES & TESTS			Ι.	STRATA				ent	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		Instrument / Backfill
-						0.20	Concrete slab, 200 mm thick.		
0.50	D1					(0.50) - 0.70	material).	occasional bonaceous	
1.20	D2	2,1/2,3,5,5 N60 = 17				-	Firm becoming stiff fissured orange browr grey silty CLAY.	n mottled light	
- 2.20	D3	1,3/3,4,3,4 N60 = 16				-			
- 3.20	D4	1,2/3,3,4,4 N60 = 16				(4.30)	3.00occasional very fine selenite crystal depth of 3.00 m, becoming coarser with d 3.40light grey mottling absent from a dom.	epth.	
4.20	D5	1,3/3,4,4,5 N60 = 18				-			
		3,3/4,4,5,5 N60 = 20				5.00 - -			
; - - - - - -						- - - -			
						- - - -			
						- - - - -			
						-			
						-			
Boring Progress and Water Observations Depth Date Time Casing Water Depth Dia. mm Depth					ater		GENERAL REMARKS		
Deptil	Depth Date Time Depth Dia. mm Depth								

te: 3 April 2020	4.20	D5	1,3 N(9/3,4,4,5 60 = 18							
Report ID: CABLE PERCUSSION Project: J19295 - 13 BLACKBURN ROAD, LONDON.GPJ Library: GEA LIBRARY.GLB Date: 3 April 2020			3,3 N	6/4,4,5,5 60 = 20				5.00			
95 - 13	Bori	ng Progre	ess and	Water C	bse	rvati			GENERAL		
ct: J192	Depth	Date	Time	Cas Depth	ing Dia.	mm	Water Depth		REMARKS		
D: CABLE PERCUSSION Projec									vater not encountered.		
Report	All dimer So	nsions in me cale 1:50	etres M Pla	ethod/ ant Used (per	ndrive	Sample	er		Logged By JW	

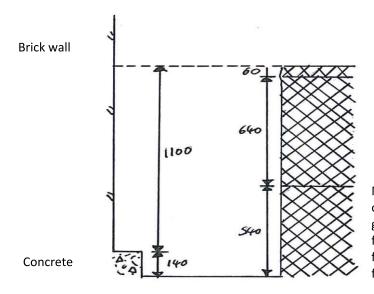
Excavation Method	Dimensions	Ground Level (mOD)	Location
Manual	800 x 720 x 1240		

Plan





Section A - A'



Made ground (gravel) Made ground (dark brown gravelly sand with whole brick and smaller brick fragments. Gravel of fine to coarse flint, sand is coarse).

Made ground (reworked orange brown mottled grey gravelly sandy clay. Gravel of fine to medium fint, sand is fine to coarse. Occasional fine brick fragments).

Remarks:	Scale:
All dimensions in millimetres	1:20
All sides of the excavation remained stable during the investigation	Logged by:
Groundwater encountered at a depth of 1.1 m	JW