BH1

BH2

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

BH3

BH3 Monitoring Well

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

Location of BH4

Location of BH5 and TP14

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

BH6 Monitoring Well

Location of BH7

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

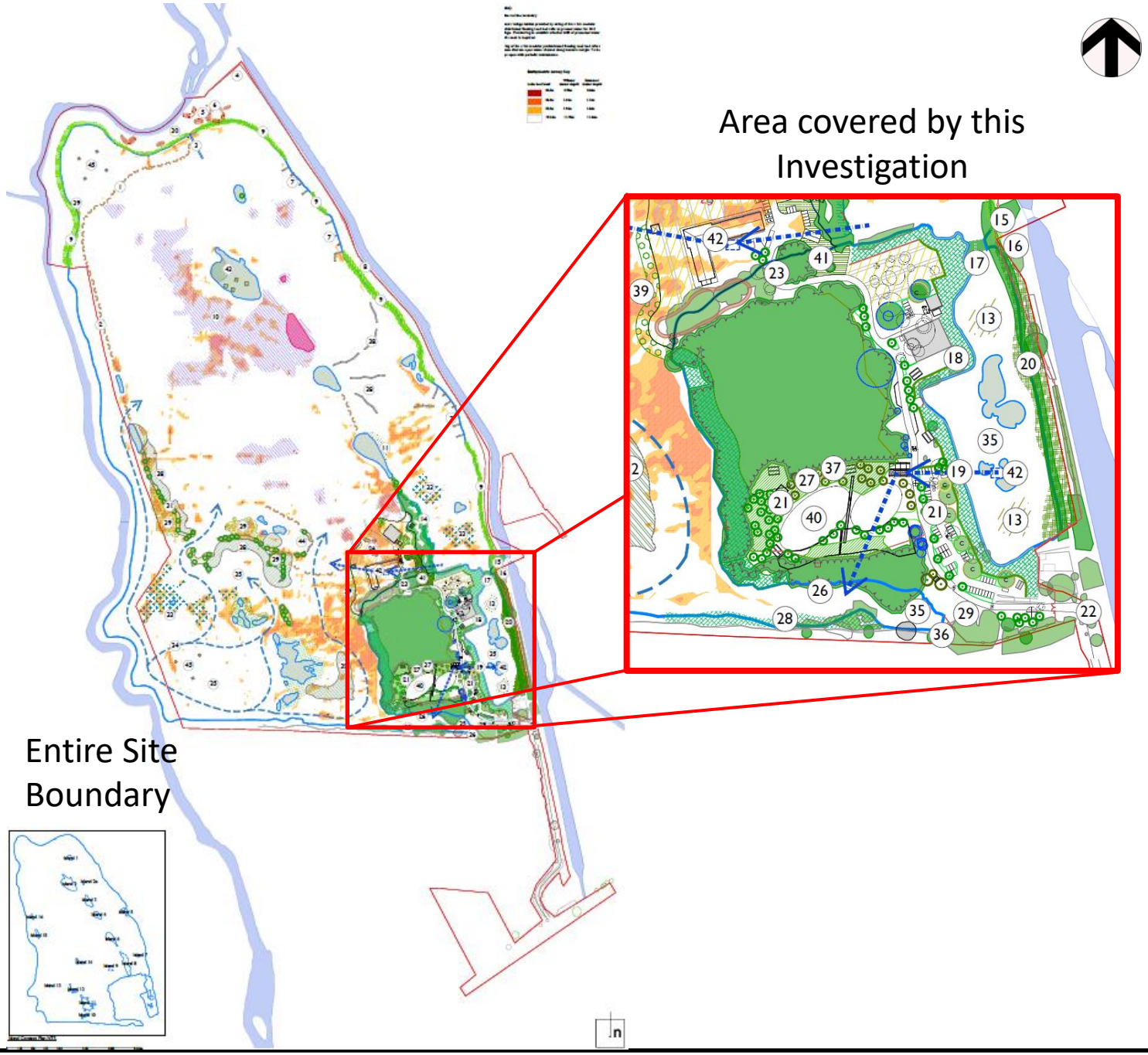
Location of BH8

Location of BH9

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

BH9 Monitoring Well

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk



GEO INTEGRITY

4 Church Street
Maids Moreton
MK18 1QE

Tel:- 01280 816409
Mob:- 07858 367 125
www. geo-integrity.co.uk

Site Boundary Plan

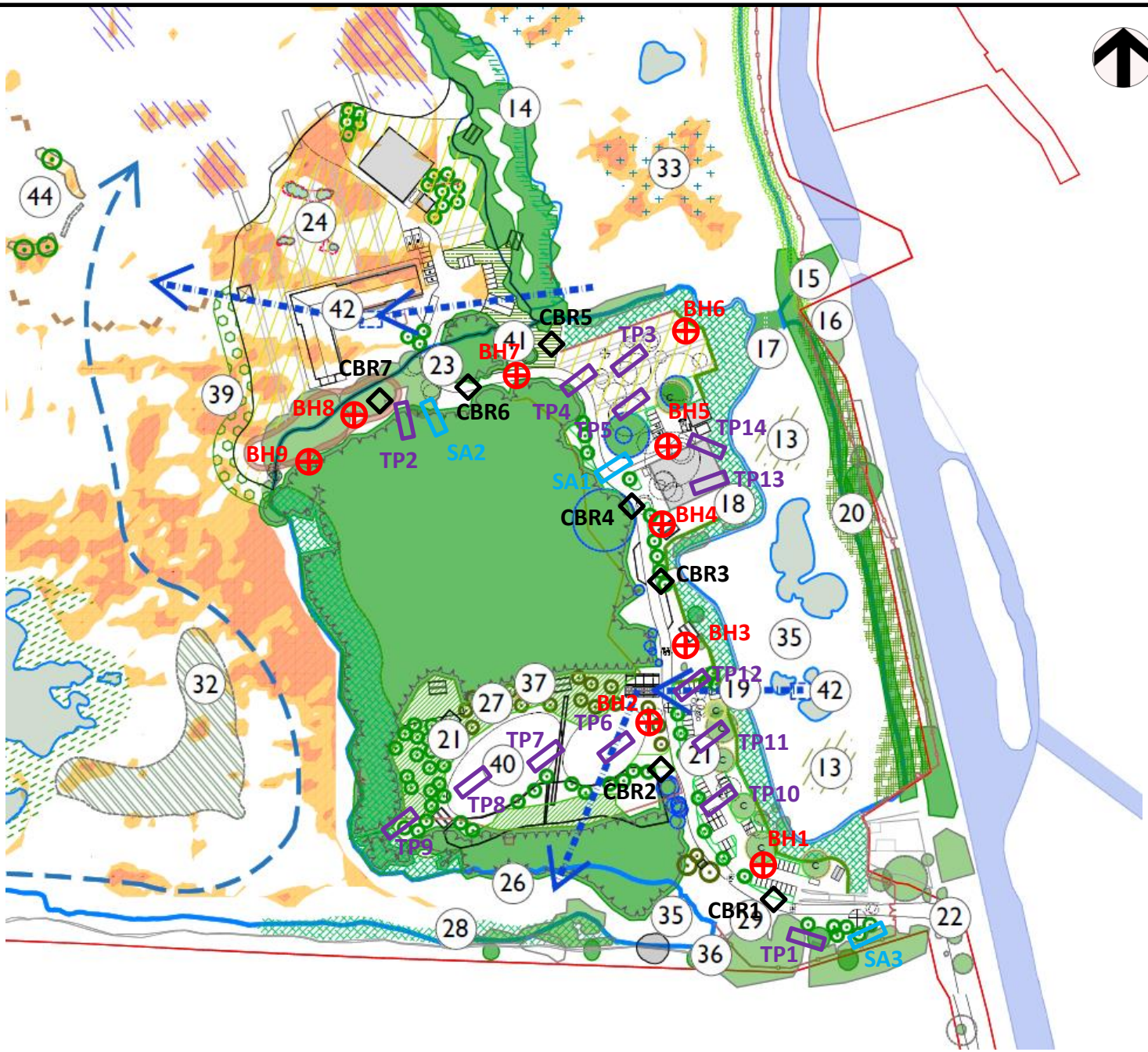
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



Key

- Cable Percussive Boreholes
- Soakaway Pits
- Trial Pits
- Plate Load Test

GEO INTEGRITY

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Maids Moreton
MK18 1QE

Tel:- 01280 816409
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Exploratory Hole Location Plan

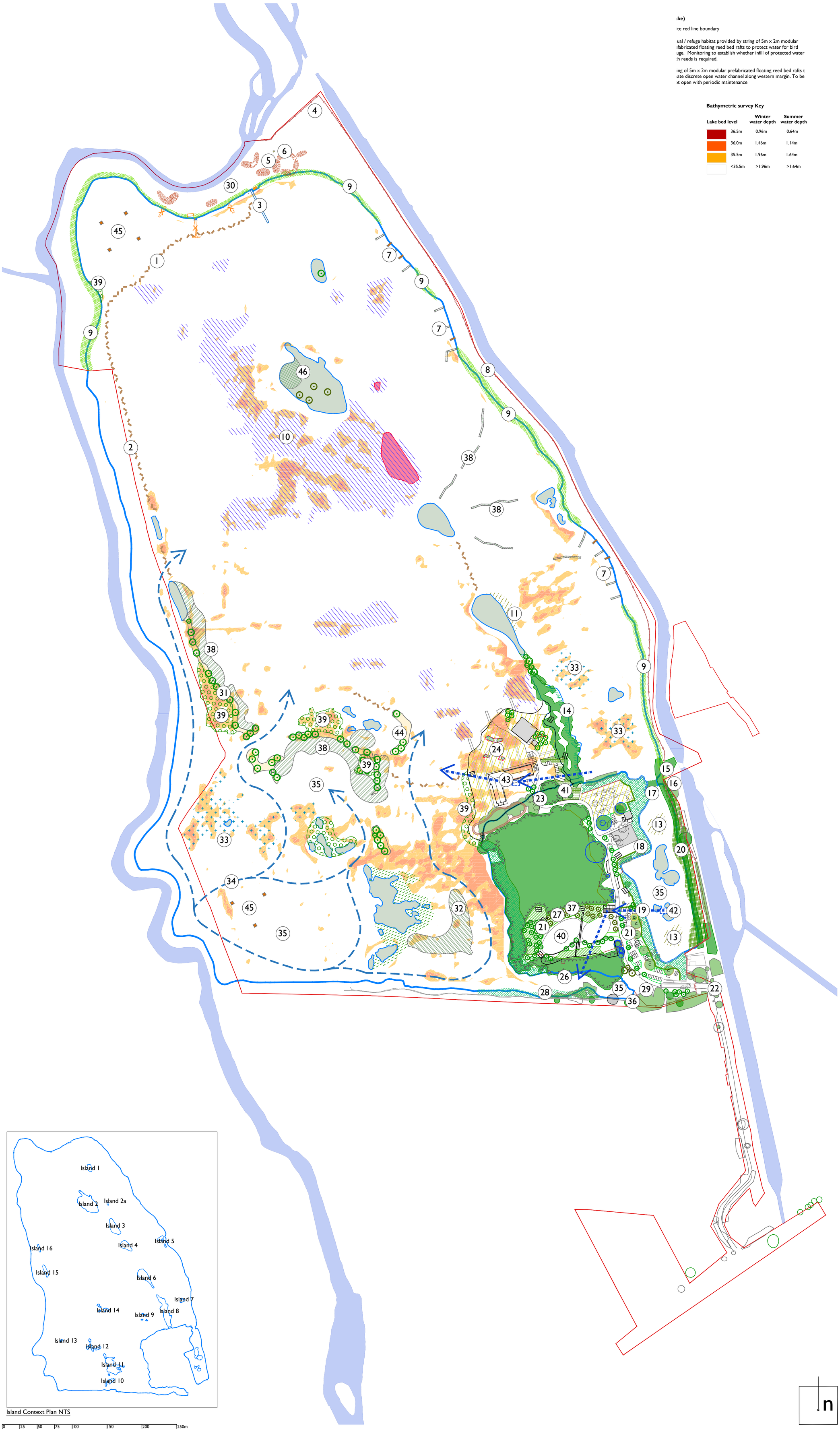
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



ake)

te red line boundary

ual / refuge habitat provided by string of 5m x 2m modular
efabricated floating reed bed rafts to protect water for bird
uge. Monitoring to establish whether infill of protected water
h reeds is required.

ing of 5m x 2m modular prefabricated floating reed bed rafts t
ate discrete open water channel along western margin. To be
t open with periodic maintenance

Bathymetric survey Key

Lake bed level	Winter water depth	Summer water depth
36.5m	0.96m	0.64m
36.0m	1.46m	1.14m
35.5m	1.96m	1.64m
<35.5m	>1.96m	>1.64m

The use of drawings by the Customer acts as an agreement to the following statements. The Customer must not use the drawings if it does not agree with any of the following statements:
All drawings are based upon site information supplied by third parties and as such their accuracy cannot be guaranteed. All features are approximate and subject to clarification by a detailed topographical survey, statutory service enquiries and confirmation of the legal boundaries. Do not scale the drawings. Figured dimensions must be used in all cases. All dimensions must be checked on site. Any discrepancies must be reported in writing to Colour-UDL before proceeding. All drawings are copyright protected. Refer to full Terms & Conditions at www.colour-udl.com

Key (Lake)

Site red line boundary

1. Visual / refuge habitat provided by string of 5m x 2m modular prefabricated floating reed bed rafts to protect water for bird refuge. Monitoring to establish whether infill of protected water with reeds is required.
2. String of 5m x 2m modular prefabricated floating reed bed rafts to create discrete open water channel along western margin. To be kept open with periodic maintenance
3. Extend existing jetty for emergency access (remove adjacent jetties)
4. Keep existing entrance to Broadwater Lake Sailing Club for emergency access & retain track to jetty
5. Remove existing structures :
   - Include two parallel hedgerows 10m apart to create a sheltered grassland 'ride' for bats to forage and commute along (running east-west) and providing a sheltered area for nesting birds, mammals, otter couches etc
   - create a series of inviting mounds of varied orientation, shade and openness with aim for badger setts
   - grassland creation and enhancement in open areas to increase wildflowers
   - include small pond if possible (away from gas main)
   - care to be taken in this area with minimal digging due to the existing underground gas main
6. Anglers' WC to be connected to existing waste water in the location of the Broadwater Sailing Club
7. Floating reedbeds creating bays for young fish and sheltered angling stations.
8. Secure site boundary with Grand Union Canal using a bespoke fence sensitively located amongst existing trees, mindful of root protection zones and augmented with thorned native planting species depending on light conditions. Sections will include fence panel sections, thorny shrub planting, wire fences and trellises, to infill the open areas and strengthen more permeable vegetation. Repair and replace derelict hedgerows with laying / dry hedging techniques dependent on condition and light levels. This approaches retains habitat connectivity and desirable existing light levels
9. Enhance ground flora along the lake margin where reeds aren't proposed. Inland from here include areas of enhanced terrestrial ground flora. Enhancement of ground flora with biodiverse species (both sun loving and shade loving) for invertebrates, bats and birds. Installation of bat and bird boxes on trees in this area. Keep the access road mostly as a dark corridor for wildlife movement, with at least the one sunny spot.
10. Reprofile sediments area to required 2m depth for sailing with turbidity curtain to limit water quality effects until sediment settled
11. Diversify existing habitats on island with perimeter emergent vegetation
12. Number Not in Use
13. Enhance shallows as nursery habitat for coarse fish with artificial reefs
14. Dense barrier vegetation to visually screen eastern shore of islands and the reclaimed land from the north. Wind modeling of the lake and agreement of a minimum distance of natural wind trajectory from jetties should be agreed with sailing club
15. Maintain habitat connectivity with refurbishments or replacement of bridge over canal. Otter spraint was found beneath suggesting it is a landmark used by otters. Implement a watching brief during construction to ensure there is no harm to otters. No mitigation or enhancement for otters is needed or recommended.
16. Bat boxes on trees - here and throughout for maximum benefit
17. Bales of Christmas trees to keep out predatory fish. Monitor water flow and potentially enhance connectivity if climate change adversely reduces water levels.
18. Currently there are mature willows around much of the lagoon edge at the water line (with dense buddleia around and behind) and there are areas of high ground with unsafe steep slopes down to the water edge. High areas to be lowered to approximately 2m above water level and steep slopes reprofiled to 45degrees. Non-native buddleia to be removed and replaced with further willows. A border around the lagoon will be densely planted with native flowering, fruiting and thorny shrubs to prevent visual disturbance or direct human access to the lagoon (discrete viewing will be provided through bird hides). Woven willow panels will be used for instant screening while new planting establishes.
19. Proposed 2 m high thorn hedge to back of car park
20. Restoration to an undisturbed marginal vegetation
21. Break up existing concrete in places for root penetration
22. Main controlled access point for site
23. Existing B category tree group avoided
24. Reclaimed land with scattered native trees to visually break up views of existing building and low fertility dry well drained grass community to boatyards. The seed and plant mix for reclaimed land would only serve to make this area attractive. Although it has low potential to benefit bats (due to lighting), green walls and green roofs if feasible could be installed on buildings for invertebrates and to integrate buildings into the landscape. Judiciously located nectar providing planting would enhance the area although openness is important to minimise potential sheltering of wind for sailing.
25. Number not in use.
26. Up to 10 m wide buffer to prevent access, width will vary depending on existing vegetation, topography, presence of concrete surface, substrate and extent of land available
27. Native fruit trees as orchard / fruit walks within camping and activity area. Create an open mosaic habitat for invertebrates here and elsewhere wherever possible
28. Heron Inlet. Protect and enhance backwater with thorny planting and protective fence as required for the inlet to the south west of the peninsula to remain safe for bird and otter passage. Include some emergent vegetation and some grassland patches going down to the water for water vole and sleeping spots for birds or deer
29. Low key approach to drainage with ditches and filtering attenuation through site. Boatwash to go to foul drainage system
30. Grassland and wildflower enhancement in open areas and alongside paths of activity centre
31. Create islands in shallowest parts of the lake to create protective water to the west of the lake. These will include trees and scrub planting
32. Proposed HS2 floating mitigation island
33. Enhance as dabbling areas for birds with submerged coir matresses
34. Deeper channels for water circulation
35. Include tethered habitat rafts with solar panel to power bubbling aerators in areas of semi-enclosed water. Integrated into the masterplan for climate adaptation based on monitoring of the dissolved oxygen levels across the lake over a period of months / years
36. Restrict access to causeway to avoid public safety hazard of quicksand and disturbance to quiet backwater
37. Wildlife pond for invertebrates and dipping activities on north side of cleaving in sun
38. Floating reedbeds provide shelter for water birds
39. Concrete caissons submerged and filled with silt / substrate and planted with vegetation tolerant of submersion such as reeds and willow
40. Species rich amenity grass
41. Zone for assisted natural regeneration
42. Waterpump for circulation
43. Hot water pump
44. New Island
45. Tern rafts within open water
46. Remodel existing island based on:
    a) retain 4 existing trees
    b) create muddy scrape in north of island at same level as the shingle finger the extends north (Summer water levels)
    c) Artificial Sand Marten habitat

Island Context Plan NTS

0 25 50 75 100 150 200 250m

Rev	Amendments	Date	Drwn	Chkd
10	Updated following comments	22.08.23	DB	PO
09	Updated following comments	16.08.23	DB	PO
08	Updated following workshop on 28.07.23 at LBH, Uxbridge	08.08.23	DB	PO
07	Final QA	22.06.23	JR	PO
06	Amendments to the masterplan	21.06.23	JR	PO
05	Amendments to the masterplan	15.06.23	JR	PO
04	Amendments to the masterplan	30.05.23	JR	PO
03	Amendments to the key	23.03.23	JR	PO
02	Amendments to the key	22.03.23	JR	PO
01	First Issue	16.03.23	TK	PO

Project
HWSFAC

Drawing Title
Ecological Mitigation - Lake

Project No. 2121
Scale @ A1 1:2500
Project Status For planning
Drawing No. HWSFAC-COL-00-XX-DR-L-1010
Revision 10

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Newcastle 0191 24 24 224
York 01904 925 888
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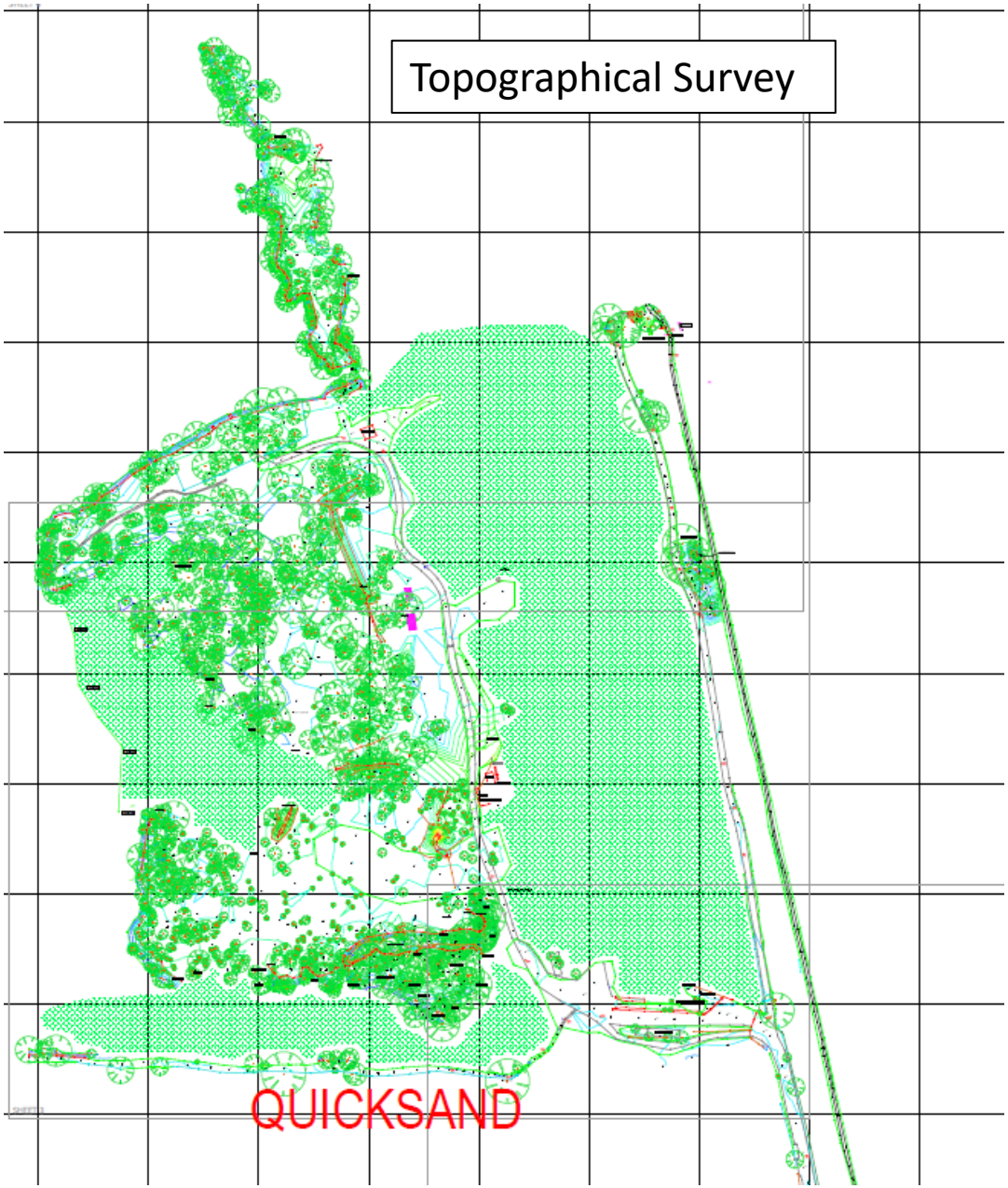

Key

GEO INTEGRITY

4 Church Street
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Topographical Survey

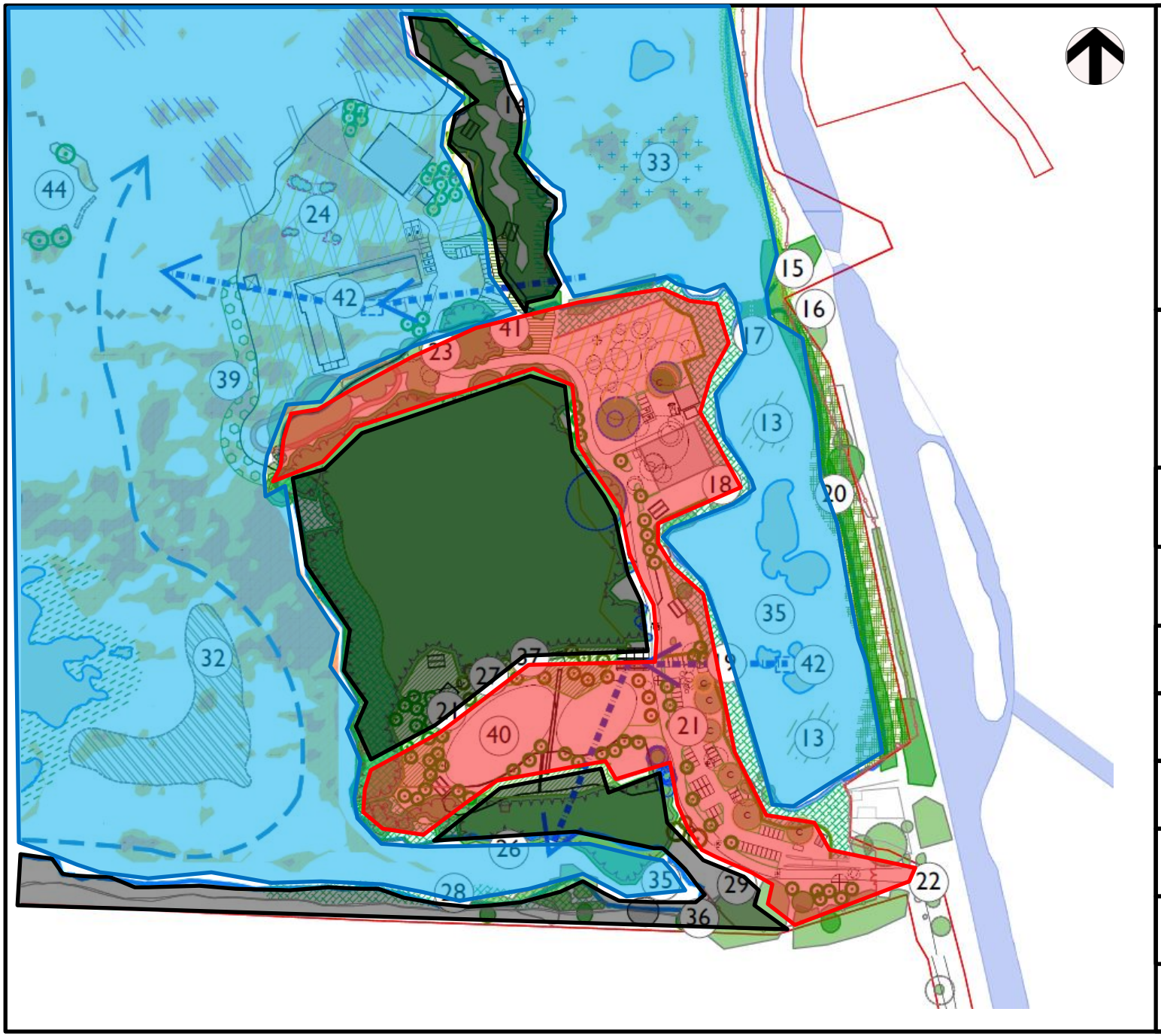
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



Key

- Accessible Areas
- Areas not accessible
- Lake (Not Investigated)

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Area of Investigation Plan

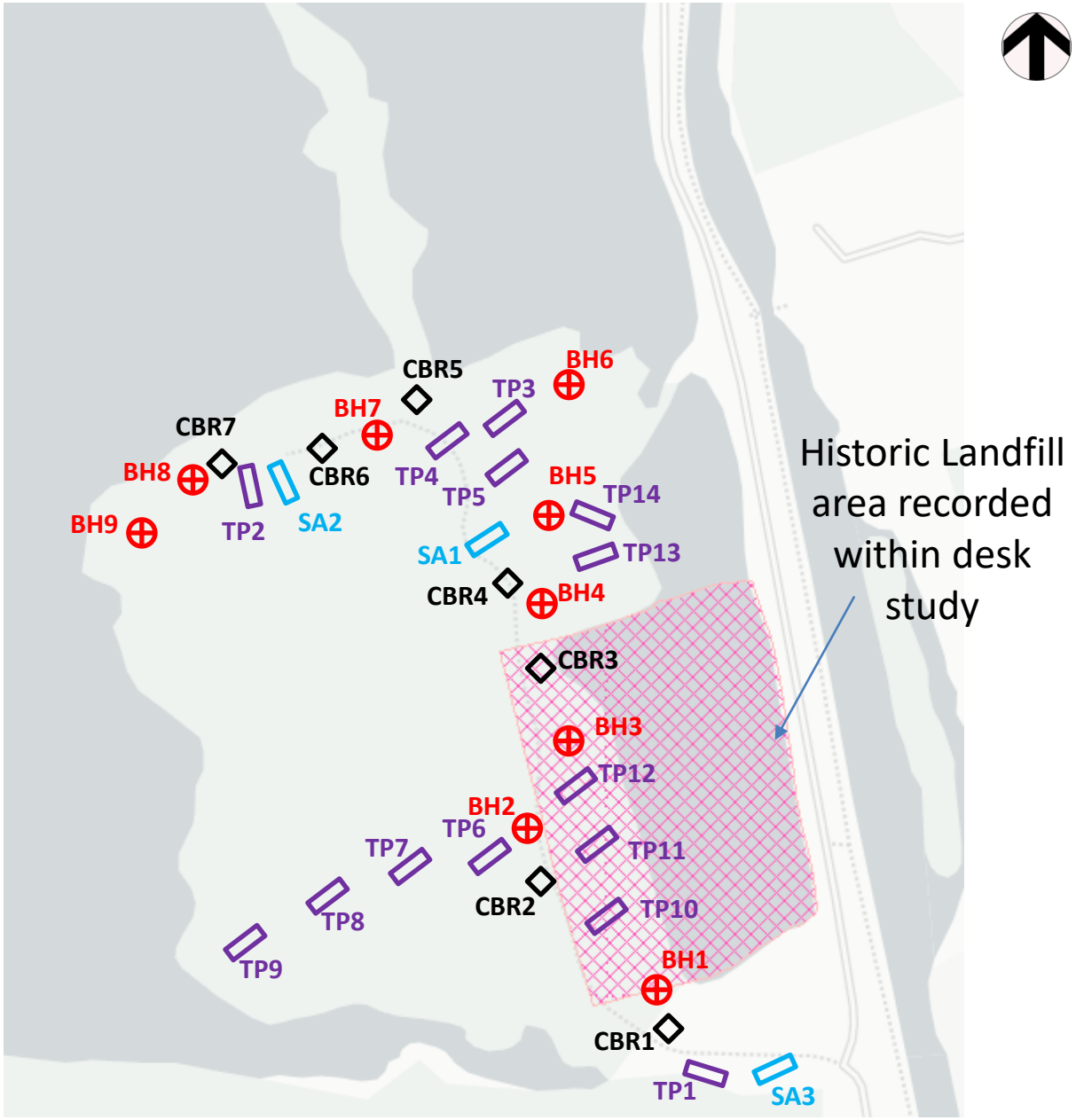
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



Key

- Cable Percussive Boreholes
- Soakaway Pits
- Trial Pits
- Plate Load Test

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Exploratory Hole Location and Historic Landfill Plan

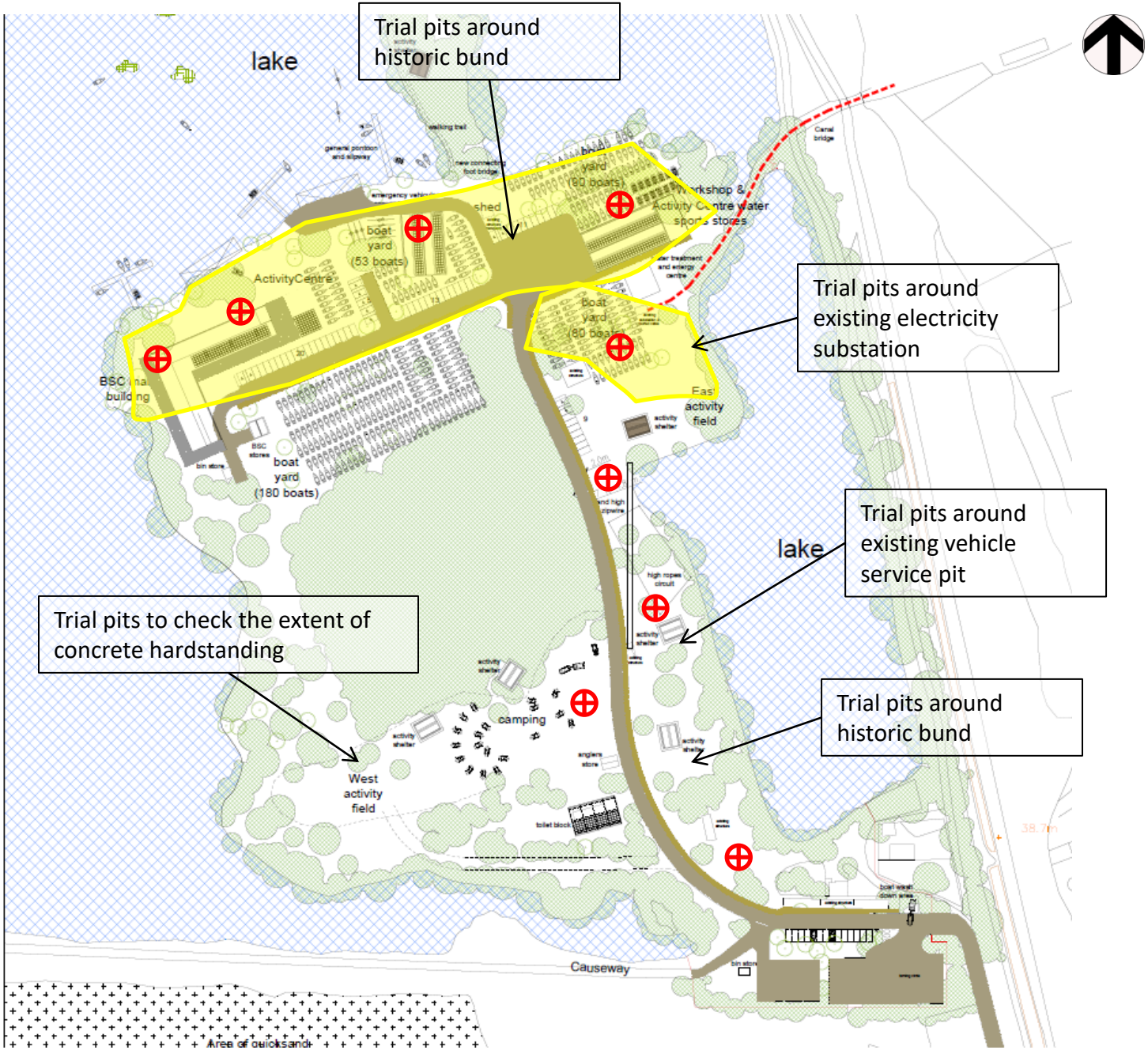
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



Key

Agreed Locations of Cable Percussive Boreholes

Areas which require clearing of invasive species to allow access

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Walkover Plan

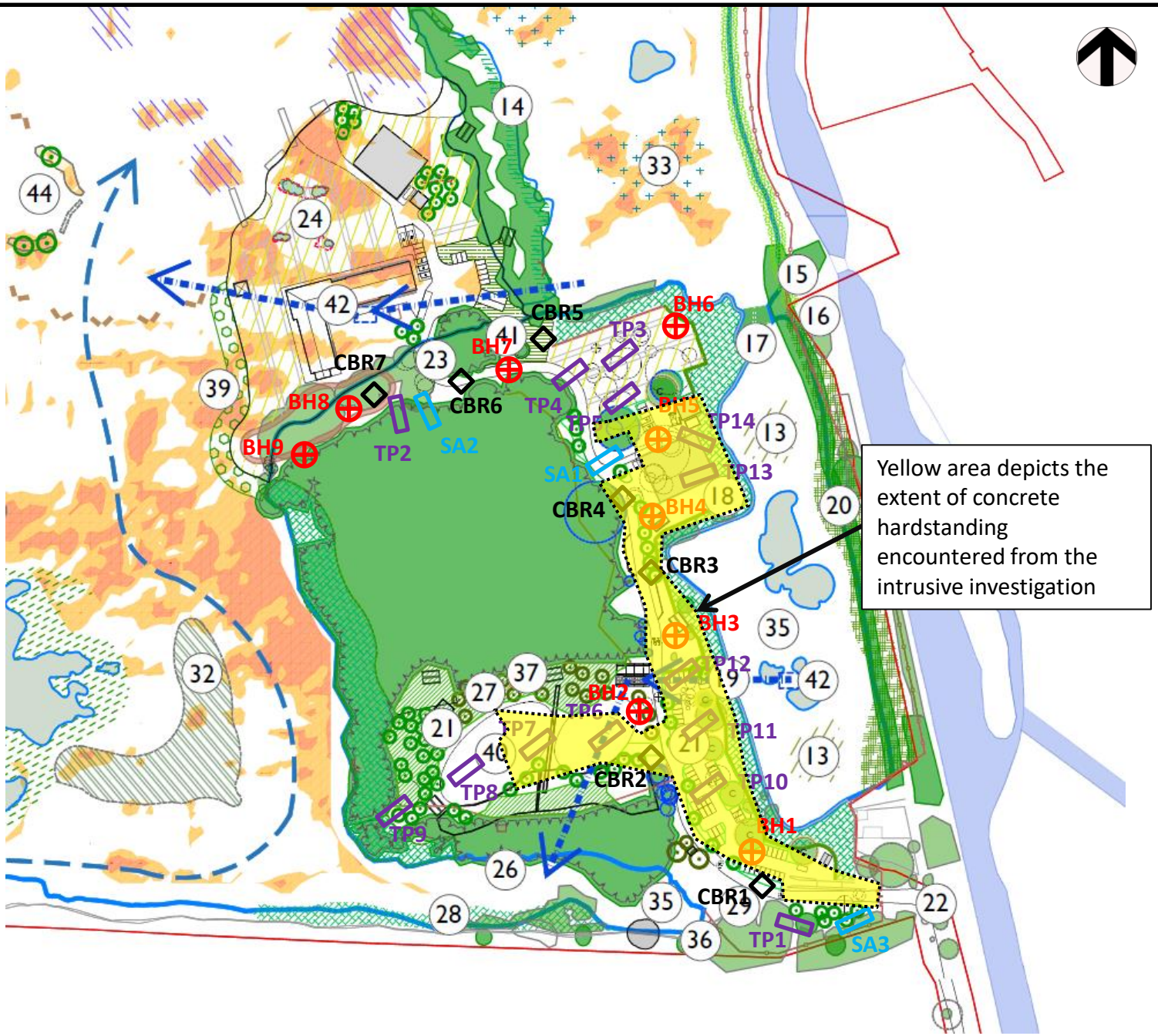
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-01-21

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	DL

Scale: Not To Scale, for indicative purposes only



Key

- Cable Percussive Boreholes
- Soakaway Pits
- Trial Pits
- Plate Load Test

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MK18 1QE

Tel:- 01280 816409
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Hardstanding Plan

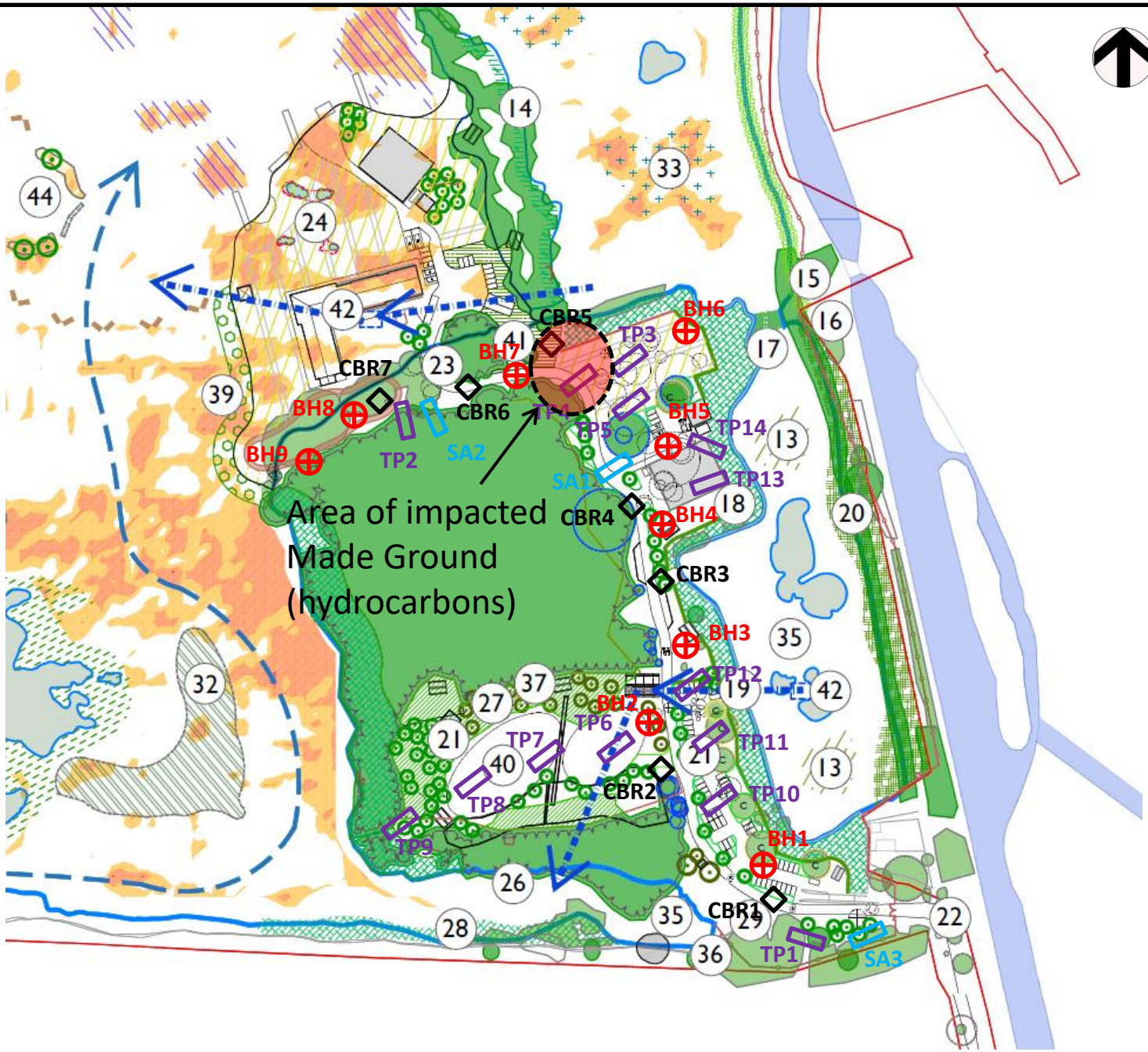
SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only



Key

- Cable Percussive Boreholes
- Soakaway Pits
- Trial Pits
- Plate Load Test

GEO INTEGRITY

4 Church Street
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MK18 1QE

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Remedial Plan

SITE:- Broadwater Lake, Harefield

JOB NO.:- 23-09-03B

CLIENT:- Mace Group and Hillingdon Borough Council

Drawn	Checked
LA	MB

Scale: Not To Scale, for indicative purposes only

APPENDIX B

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

GEO INTEGRITY
www.geo-integrity.co.uk
info@geo-integrity.co.uk
01280 816409

Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 1

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	39.39	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504807.9 E 189071.93 N	16/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					39.29	0.10 (0.20)	TARMAC		
0.10-0.20	D								
0.10-0.30	B				39.09	0.30 (0.20)	MADE GROUND Loose dark brown silty sandy GRAVEL. Gravel is flint, brick, quartz, ash and coal		
					38.89	0.50 (0.50)	MADE GROUND CONCRETE SLAB		
0.80-0.90	D								
0.80-1.00	B				38.39	1.00	MADE GROUND Loose brown black slightly clayey silty sandy GRAVEL. Gravel is fine to coarse concrete, brick, flint and glass		
1.00-1.10	D								
1.00-1.10	D								
1.00-1.20	B								
1.20-1.65	SPT N=4			1,1/1,1,1,1			ALLUVIUM Very soft dark brown black slightly gravelly organic CLAY with peat horizons		▼1
1.20-1.65	B					(1.10)			
2.00-2.45	SPT N=24			3,4/5,5,6,8	37.29	2.10	SHEPPERTON GRAVEL MEMBER Medium dense to dense dark grey sandy GRAVEL		▽1
2.00-2.45	B	2.00		Water strike(1) at 2.10m, rose to 1.57m in 20 mins.		(0.90)			
3.00-3.45	SPT(C) N=25			1,4/4,5,7,9	36.39	3.00	SHEPPERTON GRAVEL MEMBER Medium dense to dense orange brown slightly sandy fine to coarse GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded flint and quartz		
3.00-3.45	B	3.00	2.10						
4.00-4.45	SPT(C) N=29			2,3/4,7,9,9					
4.00-4.45	B	4.00	1.80			(3.10)			
5.00-5.45	SPT(C) N=20			2,3/4,4,5,7					
5.00-5.45	B	5.00	2.25						
6.00	D				33.29	6.10	UPPER CHALK Structureless off-white CHALK comprising slightly gravelly SILT (Grade Dm)		
6.30-6.40	D								
6.40-6.70	B								
7.00-7.45	SPT(C) N=0			1/					
						(2.90)			
8.00-8.10	D								
8.50-8.95	SPT N=4			1,1/1,1,1,1					
8.50-8.95	B	8.00	4.10						
					30.39	9.00	UPPER CHALK Structureless off-white CHALK comprising silty GRAVEL (Grade Dc)		
9.50-9.60	D								
10.00-10.45	SPT N=10			1,2/2,2,3,3					

Remarks

Scale (approx)	Logged By
1:50	LA

Figure No. 23-01-21.BH 1

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 1

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	39.39	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504807.9 E 189071.93 N	16/02/2023	Geo-Integrity	2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
11.00-11.10	D	11.00	5.40						
11.50-11.95	SPT N=14			3,3/3,3,4,4					
						(6.00)			
12.50	D	12.00	6.10						
13.00-13.45	SPT N=21			3,4/4,5,5,7					
14.00-14.10	D								
14.50-14.95	SPT N=31			4,4/6,8,8,9					
14.90-15.00	D	12.00	6.00		24.39	15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	LA

Figure No. 23-01-21.BH 1

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 2

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	39.58	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504744.01 E 189115.55 N	17/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.20 0.10-0.30	D B					(0.60)	MADE GROUND Loose brown silty sandy GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded brick, concrete, flint and ash		
					38.98	0.60			
0.60-0.70 0.60-1.00	D B					(0.40)	MADE GROUND Loose beige gravelly SILT. Weathered concrete with gravels of flint, brick and concrete		
					38.58	1.00			
1.20-1.65 1.20-1.65	SPT(C) N=4 B			2,4/1,1,1,1		(0.65)	MADE GROUND Very soft beige brown silty sandy gravelly slightly organic CLAY. Gravel is concrete, flint and brick		
					37.93	1.65			
1.80-1.90 1.80-2.00 2.00-2.45	D B B						ALLUVIUM Very soft dark brown grey silty slightly organic CLAY. Occasional peat horizons		
3.00-3.45	B					(2.80)			1
4.00-4.45	SPT N=5			1,1/1,1,1,2					
					35.13	4.45			1
4.50-4.60 4.50-4.95	D B	5.00	3.70	Water strike(1) at 4.50m, rose to 3.60m in 20 mins.			SHEPPERTON GRAVEL MEMBER Medium dense to dense beige brown sandy GRAVEL. Gravel is fine to coarse flint and quartz		
5.00-5.45	SPT(C) N=36			3,5/8,9,9,10					
						(2.55)			
6.00-6.10	D								
6.50-6.95	SPT(C) N=9			3,3/2,2,2,3					
6.90-6.95	B	6.40	4.20		32.58	7.00	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT. Gravels are fine to coarse chalk and flint (Grade Dm)		
7.20-7.30	D	7.60	4.50						
8.00-8.45	SPT N=25			1,3/5,5,7,8		(2.00)			
9.00-9.10	D	9.00	5.00		30.58	9.00	UPPER CHALK Structureless off-white CHALK comprising silty GRAVEL. Gravel is coarse chalk (Grade Dc)		
9.50-9.95	SPT N=19			2,3/4,4,5,6					

Remarks

Scale (approx)	Logged By
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Figure No. 23-01-21.BH 2

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 2

Machine : Dando 3000 Method : Cable Percussion	Casing Diameter 150mm to 15.0m	Ground Level (mOD) 39.58	Client Mace	Job Number 23-01-21
	Location (Handheld GPS) 504744.01 E 189115.55 N	Dates 17/02/2023	Project Contractor Geo-Integrity	Sheet 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.60	D	10.00	6.30						
11.00-11.45	SPT N=19			3,4/4,5,5,5					
12.00-12.10	D	12.00	6.00			(6.00)			
12.50-12.95	SPT N=24			1,3/5,5,6,8					
13.50-13.60	D								
14.00-14.45	SPT N=29			2,4/6,6,8,9					
14.00-14.45	B	14.00	6.35						
14.90-15.00	D				24.58	15.00	Complete at 15.00m		

Remarks	Scale (approx)	Logged By
	1:50	LA
	Figure No.	
	23-01-21.BH 2	

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 3

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	40.95	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504753.63 E 189171.17 N	20/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						(0.30)	CONCRETE			
0.20-0.30	D				40.65	0.30	MADE GROUND medium dense brown sandy GRAVEL. Gravel is fine to coarse flint, quartz and concrete			
0.50-1.00	B									
1.20-1.65	SPT(C) N=23			3,4/4,6,6,7		(2.15)				
1.20-1.65	D									
2.00-2.45	SPT(C) N=25			3,3/5,5,7,8						
2.00-2.45	D									
					38.50	2.45	ALLUVIUM very soft dark brown slightly gravelly organic silty CLAY			
2.80-3.30	B									
3.00-3.45	SPT N=3			0,1/0,1,1,1		(1.05)				
3.00-3.45	D									
					37.45	3.50	SHEPPERTON GRAVEL MEMBER Medium dense to dense grey brown slightly sandy GRAVEL Gravel is fine to coarse sub-rounded. Gravel is flint and quartz			
4.00-4.45	SPT(C) N=29			4,5/6,6,8,9						
4.00-4.45	D									
4.50-5.00	B								1	
									1	
5.00-5.45	D	5.00	4.25	Water strike(1) at 4.90m, rose to 4.60m in 20 mins.						
5.00-5.45	SPT(C) N=36			4,6/7,9,9,11		(3.70)				
6.00-6.10	D									
6.50-6.95	SPT(C) N=27			4,5/6,6,7,8						
6.50-6.95	D	6.50	4.00							
					33.75	7.20	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT (Grade Dm)			
7.50-7.60	D									
8.00-8.45	SPT N=17			2,2/3,3,5,6						
8.00-8.45	D	8.00	4.20							
9.00-9.10	D					(3.80)				
9.50-9.95	SPT N=20			2,2/4,5,5,6						
9.50-9.95	D	9.50	4.50							

Remarks

Scale (approx)	Logged By
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Figure No. 23-01-21.BH 3

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 3

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Machine : Dando 3000 Method : Cable Percussion	150mm to 15.0m	40.95	Mace	23-01-21
	Location (Handheld GPS) 504753.63 E 189171.17 N	**Dates** 20/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.60	D									
11.00-11.45 11.00-11.45	SPT N=24 D	11.00	4.50	4,4/5,6,6,7	29.95	11.00	UPPER CHALK Structureless yellow brown CHALK comprising silty GRAVEL (Grade Dc)			
12.00-12.10	D									
12.50-12.95 12.50-12.95	SPT N=25 D	12.50	4.50	3,4/5,6,6,8		(4.00)				
13.50-13.60	D	13.00	4.50							
14.00-14.45 14.00-14.45	SPT N=29 D			3,5/6,7,7,9						
14.50-15.00	B									
15.00-15.45 15.00-15.45	SPT N=33 D			4,5/7,8,8,10	25.95	15.00	Complete at 15.45m			

Remarks

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 4

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	39.35	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504742.13 E 189228.83 N	21/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.20	D				39.05	(0.30) 0.30	CONCRETE		
0.50-1.00	B						MADE GROUND Loose brown slightly sandy GRAVEL. Gravel is fine to coarse flint, brick, quartz and coal		
1.20-1.65 1.20-1.65	SPT(C) N=25 D			3,3/5,6,6,8					
						(3.15)			
2.00-2.45 2.00-2.45	SPT(C) N=25 D			3,4/5,5,7,8					
3.00-3.45 3.00-3.45	SPT N=4 D			3,3/3,0,0,1					
					35.90	3.45	ALLUVIUM Very soft brown silty organic CLAY with occasional peat		
						(1.05)			
4.00-4.45 4.00-4.45	SPT N=31 D			3,5/6,8,8,9					1
					34.85	4.50	SHEPPERTON GRAVEL MEMBER Medium dense to dense grey brown slightly sandy GRAVEL. Gravel is fine to coarse flint and quartz		1
5.00-5.45 5.00-5.45	SPT(C) N=26 D	5.00	4.80	Water strike(1) at 4.60m, rose to 4.35m in 20 mins. 2,4/5,5,8,8					
						(2.50)			
6.00-6.50	B								
6.50-6.95 6.50-6.95	SPT(C) N=9 D	6.50	5.00	3,4/2,2,2,3					
					32.35	7.00	UPPER CHALK Structureless off-white yellow CHALK comprising silty GRAVEL. Gravel is fine to coase chalk and flint (Garde Dc)		
7.50-7.60	D								
8.00-8.45 8.00-8.45	SPT N=19 D	8.00	5.00	2,3/3,3,6,7					
8.50-9.00	B								
9.50-9.95 9.50-9.95 9.50-9.95	SPT N=25 D D	9.50	5.00	2,2/4,6,6,9					

Remarks

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Figure No. 23-01-21.BH 4

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Machine : Dando 3000 **Method :** Cable Percussion	**Casing Diameter** 150mm to 15.0m	**Ground Level (mOD)** 39.35	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504742.13 E 189228.83 N	**Dates** 21/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.60	D								
11.00-11.45 11.00-11.45	SPT N=29 D	11.00	5.00	3,3/6,6,8,9		(8.00)			
12.00-12.10	D								
12.50-12.95 12.50-12.95	SPT N=27 D	12.50	5.50	3,3/5,6,6,10					
13.50-13.60	D	13.00	5.80						
14.00-14.45 14.00-14.45	SPT N=29 D	13.00	6.00	3,4/5,7,7,10					
15.00-15.45 15.00-15.45	SPT N=29 D			3,3/6,6,8,9	24.35	15.00	Complete at 15.45m		

Remarks	**Scale (approx)** 1:50	**Logged By** LA
AGS	**Figure No.** 23-01-21.BH 4	

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 5

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm 15.0m to 15.0m	39.44	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504742.11 E 189290.21 N	22/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					39.14	(0.30) 0.30	CONCRETE		
					38.94	(0.20) 0.50	MADE GROUND Loose dark brown slightly clayey silty GRAVEL. Gravel is concrete, flint and occasional peat		
0.50-0.60	D	1.20	0.80				SHEPPERTON GRAVEL MEMBER Dense grey brown slightly sandy GRAVEL. Gravel is fine to coarse flint, quartz and sandstone		
1.20-1.65	SPT(C) N=6			1,3/1,1,2,2					
1.20-2.00	B	3.00	1.80						
1.70-1.80	D	4.00	1.90						
2.00-2.43	SPT(C) 50/280			7,11/6,11,15,18		(3.50)			
2.50-2.60	D	5.00	2.20						
3.00-3.37	SPT(C) 50/220			10,11/15,18,17,0					▼1
3.50-3.60	D	6.50	5.50						
				Water strike(1) at 4.00m, rose to 3.00m in 20 mins.	35.44	4.00	SHEPPERTON GRAVEL MEMBER Dense grey brown slightly sandy GRAVEL with traces of alluvium. Gravel is fine to coarse flint and quartz		▽1
4.00-4.45	SPT(C) N=8			2,1/1,2,2,3					
4.50-4.60	D	8.00	3.00						
5.00-5.45	SPT(C) N=20			3,4/4,4,5,7					
6.00-6.10	D	9.50	5.50			(4.00)			
6.50-6.95	SPT(C) N=17			3,3/3,4,5,5					
7.00-7.10	D	11.00	4.90						
8.00-8.45	SPT(C) N=24			3,5/5,5,7,7	31.44	8.00	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT. Gravel is chalk and flint		
8.00-9.00	B	12.50	9.80						
9.00-9.10	D	14.00	12.00						
9.50-9.95	SPT(C) N=14			2,2/2,3,4,5					

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Figure No. 23-01-21.BH 5

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Machine : Dando 3000 **Method :** Cable Percussion	**Casing Diameter** 150mm 15.0m to 15.0m **Ground Level (mOD)** 39.44	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504742.11 E 189290.21 N **Dates** 22/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00-10.10	D								
11.00-11.45	SPT(C) N=20			4,4/5,5,5,5					
						(7.00)			
12.00-12.10	D								
12.50-12.95	SPT(C) N=24			2,3/5,6,6,7					
13.00-13.10	D								
14.00-14.45	SPT(C) N=27			1,3/5,6,7,9					
15.00	D				24.44	15.00	Complete at 15.00m		

Remarks	**Scale (approx)** 1:50	**Logged By** LA
AGS	**Figure No.** 23-01-21.BH 5	

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 6

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Machine : Dando 3000 Method : Cable Percussion	150mm to 15.0m	40.94	Mace	23-01-21
	Location (Handheld GPS) 504730.87 E 189330.98 N	**Dates** 23/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						(0.30)	MADE GROUND TOPSOIL			
0.30-0.40	D	5.00	4.70		40.64	0.30	REWORKED GROUND Dense brown slightly sandy fine to coarse GRAVEL. is fine to coarse quartz and flint			
0.50-1.00	B	6.50	5.00							
1.20-1.65 1.20-1.65	SPT(C) N=30 D	8.00	5.00	3,6/6,6,9,9		(2.30)				
2.00-2.45 2.00-2.45	SPT(C) N=26 D	9.50	5.20	4,5/6,6,6,8						
					38.34	2.60	ALLUVIUM Very soft dark brown black organic CLAY			
3.00-3.45 3.00-3.45	SPT N=3 D	11.00	5.20	1,0/0,1,1,1		(0.85)				
					37.49	3.45	SHEPPERTON GRAVEL MEMBER Dense light brown grey GRAVEL. Gravel is fine to coarse flint and quartz			
4.00-4.45 4.00-4.45	SPT(C) N=29 D	12.50	5.00	4,5/6,6,8,9						
5.00-5.45 5.00-5.45	SPT(C) N=33 D	13.00	5.00	5,5/7,8,8,10		(3.15)				
6.00-6.10	D	13.00	5.10							
6.50-6.95 6.50-6.95	SPT(C) N=28 D			3,6/6,6,8,8	34.34	6.60	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT. Gravel is flint and chalk (Grade Dm)			
7.50-7.60	D									
8.00-8.45 8.00-8.45	SPT N=19 D			2,3/3,5,5,6						
9.00-9.10	D									
9.50-9.95 9.50-9.95	SPT N=23 D			2,4/4,5,7,7						

Remarks

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Figure No. 23-01-21.BH 6

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 6

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Dando 3000	150mm to 15.0m	40.94	Mace	23-01-21
Method Cable Percussion	**Location** (Handheld GPS) 504730.87 E 189330.98 N	**Dates** 23/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.60	D					(8.40)				
11.00-11.45 11.00-11.45	SPT N=26 D			3,4/5,5,8,8						
12.00-12.10	D									
12.50-12.95 12.50-12.95	SPT N=29 D			3,3/5,7,8,9						
13.50-13.60	D									
14.00-14.45 14.00-14.45	SPT N=26 D			3,4/5,5,8,8						
15.00-15.45 15.00-15.45	SPT N=33 D			4,5/5,8,9,11	25.94	15.00	Complete at 15.45m			

Remarks

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Figure No. 23-01-21.BH 6

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 7

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	39.67	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504673.94 E 189305.85 N	24/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					39.57	0.10 (0.20)	MADE GROUND TOPSOIL		
0.20-0.30	D	4.00	3.80		39.37	0.30	MADE GROUND Soft brown silty gravelly CLAY. Gravel is fine to coarse brick, flint and coal		
1.20-1.65 1.20-1.65	SPT(C) N=26 D	5.00	4.40	2,2/5,5,8,8		(2.15)	REWORKED GROUND Medium dense to dense light brown grey sandy GRAVEL. Gravel is fine to coarse flint and quartz		
1.65-2.00	D	6.50	4.80						
2.00-2.45 2.00-2.45	SPT(C) N=32 D	8.00	4.80	3,5/5,8,9,10					
					37.22	2.45	ALLUVIUM Very soft dark brown organic silty CLAY. Horizons of peat throughout		
3.00-3.45 3.00-3.45	SPT(C) N=4 D	9.50	5.00	3,5/2,1,0,1		(1.75)			▼1
4.00-4.45	D	11.00	5.20	Slow(1) at 4.00m, rose to 3.55m in 20 mins.					∇1
					35.47	4.20	SHEPPERTON GRAVEL MEMBER Medium dense to dense GRAVEL. Gravel is coarse rounded to sub-rounded flint		
4.00-4.45	SPT N=23			1,2/4,6,6,7					
5.00-5.45 5.00-5.45	SPT(C) N=29 D	12.50	5.20	3,3/6,6,8,9		(2.00)			
6.00-6.10	D	12.50	5.40						
					33.47	6.20	UPPER CHALK Structureless off-white CHALK comprising silty GRAVEL. Gravel is chalk and flint (Grade Dc)		
6.50-6.95 6.50-6.95	SPT(C) N=11 D	12.50	5.50	2,2/2,3,3,3					
7.00-7.50	B								
8.00-8.45	SPT N=18			3,3/3,4,5,6					
9.00-9.10	D								
9.50-9.95 9.50-9.95	SPT N=25 D			3,4/6,6,6,7					

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Figure No. 23-01-21.BH 7

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 7

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Dando 3000	150mm to 15.0m	39.67	Mace	23-01-21
Method Cable Percussion	**Location** (Handheld GPS) 504673.94 E 189305.85 N	**Dates** 24/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.60	D					(8.80)			
11.00-11.45	SPT N=27			3,4/5,5,8,9					
11.00-11.45	D								
12.00-12.10	D								
12.50-12.95	SPT N=28			2,4/4,7,7,10					
12.50-12.95	D								
13.50-13.60	D								
14.00-14.45	SPT N=31			3,4/6,6,9,10					
14.00-14.45	D								
15.00-15.45	SPT N=35			4,4/6,8,10,11	24.67	15.00	Complete at 15.45m		
15.00-15.45	D								

Remarks

Scale (approx)	Logged By
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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 8

Machine : Dando 3000	Casing Diameter	Ground Level (mOD)	Client	Job Number
Method : Cable Percussion	150mm to 15.0m	41.29	Mace	23-01-21
	Location (Handheld GPS)	**Dates**	**Project Contractor**	**Sheet**
	504595.54 E 189286.92 N	27/02/2023	Geo-Integrity	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.45)	MADE GROUND RED BRICK		
0.20-0.30	D	4.00	3.60		40.84	0.45	REWORKED GROUND Medium dense to dense light brown sandy GRAVEL. Gravel is fine to coarse flint and quartz		
0.50-1.00	B	5.00	4.50						
1.20-1.65	SPT(C) N=19			3,3/3,5,5,6					
1.20-1.65	D	6.50	4.80			(2.45)			
2.00-2.45	SPT(C) N=27			3,4/6,6,7,8					
2.00-2.45	D	8.00	5.00						
					38.39	2.90	ALLUVIUM Very soft dark brown black green slightly gravelly organic CLAY (Peat). Gravel is fine to coarse flint		▼1
3.00-3.45	SPT N=7			1,0/0,1,1,5					
3.00-3.45	D	9.50	5.10						∇1
				Water strike(1) at 3.60m, rose to 3.00m in 20 mins.		(1.55)			
4.00-4.45	SPT(C) N=30			3,5/5,8,8,9					
4.00-4.45	D	11.00	5.30						
					36.84	4.45	SHEPPERTON GRAVEL MEMBER Dense medium to coarse GRAVEL. Gravel is fine to coarse flint and quartz		
5.00-5.45	SPT(C) N=32			4,5/5,8,9,10					
5.00-5.45	D	12.00	5.30						
						(2.35)			
6.00-6.10	D	12.00	5.50						
6.50-6.95	SPT(C) N=30			3,5/5,8,8,9					
6.50-6.95	D	12.00	5.60						
					34.49	6.80	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT. Gravel is fine to coarse chalk and flint (Grade Dm)		
7.00-7.50	B								
8.00-8.45	SPT N=16			2,2/3,3,5,5					
8.00-8.45	D								
9.00-9.10	D								
9.50-9.95	SPT N=20			3,3/3,5,6,6					
9.50-9.95	D					(5.70)			

Remarks

Scale (approx)	Logged By
1:50	LA

Figure No. 23-01-21.BH 8

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	Site Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	Borehole Number **BH 8**
Machine : Dando 3000 **Method :** Cable Percussion	**Casing Diameter** 150mm to 15.0m	**Ground Level (mOD)** 41.29	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504595.54 E 189286.92 N	**Dates** 27/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50	D								
11.00-11.45 11.00-11.45	SPT N=25 D			3,3/5,5,7,8					
12.00-12.95	D								
12.50-12.95	SPT N=27			4,4/4,7,8,8	28.79	12.50	UPPER CHALK Structureless off-white CHALK comprising silty GRAVEL. Gravel is fine to coarse chalk and flint (Grade Dc)		
13.50-13.60	D					(2.50)			
14.00-14.45 14.00-14.45	SPT N=35 D			4,5/8,8,9,10					
15.00-15.45 15.00-15.45	SPT N=37 D			4,5/6,9,10,12	26.29	15.00	Complete at 15.45m		

Remarks

Scale (approx)	Logged By
1:50	LA

Figure No. 23-01-21.BH 8

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 9

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Dando 3000	150mm to 15.0m	42.96	Mace	23-01-21
Method Cable Percussion	**Location** (Handheld GPS) 504570.97 E 189263.99 N	**Dates** 28/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					42.66	(0.30) 0.30	MADE GROUND			
0.40-0.50	D	5.00	4.50			(0.90)	REWORKED GROUND Medium dense to dense GRAVEL. Gravel is fine to medium flint and quartz			
1.20-1.65 1.20-1.65	SPT N=23 D	6.50	4.70	2,5/5,6,6,6	41.76	1.20	REWORKED GROUND Medium dense GRAVEL. Gravel is coarse sub-rounded flint			
2.00-2.45 2.00-2.45	SPT(C) N=25 D	8.00	4.80	3,5/5,5,7,8		(2.05)				
3.00-3.45 3.00-3.45	SPT(C) N=14 D	9.50	5.00	3,4/4,5,4,1	39.71	3.25	ALLUVIUM Very soft dark brown organic CLAY		▼1 ▽1	
4.00-4.45 4.00-4.45	D SPT N=22	11.00	5.00	Water strike(1) at 3.80m, rose to 3.40m in 20 mins. 2,3/3,6,6,7		(1.20)				
					38.51	4.45	SHEPPERTON GRAVEL MEMBER Medium dense to dense GRAVEL. Gravel is coarse sub-rounded flint			
5.00-5.45 5.00-5.45	SPT(C) N=27 D	12.00	5.20	4,4/5,5,8,9		(1.85)				
6.00-6.10	D	12.00	5.20							
					36.66	6.30	UPPER CHALK Structureless off-white CHALK comprising gravelly SILT. Gravel is fine to coarse chalk and flint (Grade Dm)			
6.50-6.95	SPT(C) N=30			3,5/5,8,8,9						
7.50-8.00	B	12.00	5.30							
8.00-8.45 8.00-8.45	SPT N=14 D			2,3/3,3,4,4						
9.00-9.10	D									
9.50-9.95 9.50-9.95	SPT N=21 D			3,4/4,5,6,6						

Remarks

Scale (approx)	Logged By
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Figure No. 23-01-21.BH 9

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Site	Borehole Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	BH 9

Machine	Casing Diameter	Ground Level (mOD)	Client	Job Number
Dando 3000	150mm to 15.0m	42.96	Mace	23-01-21
Method Cable Percussion	**Location** (Handheld GPS) 504570.97 E 189263.99 N	**Dates** 28/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.60	D					(8.70)				
11.00-11.45	SPT N=31			3,5/6,8,8,9						
11.00-11.45	D									
12.00-12.10	D									
12.50-12.95	SPT N=27			4,4/5,5,8,9						
12.50-12.95	D									
13.50-13.60	D									
14.00-14.45	SPT N=33			3,5/7,7,9,10						
14.00-14.45	D									
15.00-15.45	SPT N=34			5,5/6,8,9,11	27.96	15.00	Complete at 15.45m			
15.00-15.45	D									

Remarks

Scale (approx)	Logged By
1:50	LA

Figure No. 23-01-21.BH 9

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 1

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		39.39	Mace	23-01-21
	Location (Handheld GPS) 504835.68 E 189033.61 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				39.34	0.05	MADE GROUND Loose dark brown clayey gravelly sandy SILT. Gravel is flint, brick, coal, ash and slag		
					(0.75)	MADE GROUND Loose brown orange silty sandy GRAVEL. Gravel is flint, ash, brick, quartz and slag		
0.50	D							
0.80	D			38.59	0.80	MADE GROUND Loose brown silty sandy cobbly slightly bouldery GRAVEL. Gravel is flint, quartz, slag, concrete with boulders of concrete		
					(0.70)			
			Water strike(1) at 1.30m, fell to 2.10m in 5 mins.					▽1
1.50	D			37.89	1.50	ALLUVIUM Very soft dark brown black grey silty slightly gravelly organic CLAY. Gravel is fine to coarse flint		
					(0.80)			
2.00	D							▼1
				37.09	2.30	Complete at 2.30m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 1

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 2

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		40.67	Mace	23-01-21
	Location (Handheld GPS) 504609.54 E 189281.43 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND Loose dark brown clayey gravelly organic SILT. Gravel is brick, flint, concrete and quartz		
				40.47	0.20	MADE GROUND Loose light brown slightly silty gravelly SAND. Gravel is flint and quartz. Occasional boulders of concrete and brick		
0.50	D				(1.00)			
1.20	D			39.47	1.20	MADE GROUND Soft to firm brown grey silty sandy gravelly CLAY. Gravel is flint and brick		
					(0.70)			▼1 ▽1
1.90	D		Water strike(1) at 1.80m, rose to 1.70m in 5 mins.	38.77	1.90	Complete at 1.90m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 2

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 3

Machine : JCb 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		40.60	Mace	23-01-21
	Location (Handheld GPS) 504714.7 E 189322.4 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND Loose brown orange silty SAND AND GRAVEL. Gravel is fine to coarse flint, brick and concrete		
0.20	D			40.30	0.30	MADE GROUND Very dense weathered concrete comprising silty sandy GRAVEL. Gravel is fine to coarse brick, flint, slate, concrete and rare fragments of wood		
					(1.30)			
1.20	D							
			Refusal at 1.60m	39.00	1.60	Complete at 1.60m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 3

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **TP 4**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.91	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504696.86 E 189316.11 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND Loose brown silty slightly clayey sandy GRAVEL. Gravel is fine to coarse flint, brick and ash		
0.20	D			39.61	0.30	MADE GROUND Loose grey gravelly sandy SILT. Gravel is fine to coarse flint and brick. Distinct hydrocarbon odour and significant staining		
					(0.70)			
0.75	D							
				38.91	1.00	MADE GROUND Loose grey silty sandy GRAVEL. Gravel is fine to coarse flint and brick with pieces of metal loose boulders of cement and brick. Distinct hydrocarbon odour and signifcant staining		
1.20	D							
					(1.00)			
2.00	D			37.91	2.00	Complete at 2.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 4

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Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.98	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504710.04 E 189309.74 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D				(1.00)	MADE GROUND Loose dark grey silty sandy GRAVEL. Gravel is fine to coarse flint, brick and slag with weathered concrete		
				38.98	1.00	Complete at 1.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 5

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Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.54	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504726.99 E 189118.96 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				39.49	0.05	MADE GROUND CONCRETE		
						MADE GROUND Dense light brown beige slightly clayey sandy gravelly SILT. (Weathered concrete)		
0.50	D				(1.05)			
			Water strike(1) at 1.00m.					∇1
				38.44	1.10	Complete at 1.10m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 6

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Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.83	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504685.83 E 189099.52 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	CONCRETE		
				39.53	0.30	MADE GROUND Dense light brown beige slightly clayey sandy gravelly SILT. (Weathered concrete)		
0.50	D				(0.50)			
				39.03	0.80	Complete at 0.80m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 7

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 8

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		39.70	Mace	23-01-21
	Location (Handheld GPS) 504658.26 E 189095.62 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D				(0.20)	MADE GROUND Soft light brown silty gravelly organic CLAY. Gravel is flint, concrete and brick		
				39.50	0.20	MADE GROUND Dense light bron beige sandy gravelly SILT. Gravel is concrete, flint and brick (concrete matrix)		
0.50	D				(0.70)			
				38.80	0.90	MADE GROUND Loose orange brown silty sandy GRAVEL. Gravel is flint, quartz, sandstone and rare cobbles of concrete		▽1
			Water strike(1) at 1.00m, fell to 1.20m in 20 mins.					▼1
					(0.70)			
1.40	D							
				38.10	1.60	Complete at 1.60m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 8

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 9

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		42.16	Mace	23-01-21
	Location (Handheld GPS) 504621.91 E 189080.64 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				42.11	0.05	MADE GROUND Soft dark brown silty sandy gravelly organic CLAY. Gravel is flint, brick and concrete		
					(0.65)	Loose light brown beige sandy gravelly SILT. Gravel is flint, concrete, brick in a matrix of weathered concrete		
0.50	D							
				41.46	0.70	MADE GROUND Soft to firm dark brown black green silty gravelly CLAY. Gravel is fine to coarse concrete, flint, slate, fragments of wood		
					(0.95)			
1.40	D							
				40.51	1.65	Complete at 1.65m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 9

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 10

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		40.15	Mace	23-01-21
	Location (Handheld GPS) 504776.78 E 189107.98 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.70)	CONCRETE		
				39.45	0.70			
0.80	D				(0.30)	MADE GROUND Soft to firm brown grey silty sandy gravelly CLAY. Gravel is fine to coarse flint, iron, brick and slag		
				39.15	1.00	Complete at 1.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 10

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Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.61	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504759.44 E 189133.45 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	CONCRETE		
				39.11	0.50	MADE GROUND Loose grey orange brown silty sandy GRAVEL. Gravel is fine to coarse flint, bick, concrete and ash		
0.75	D				(0.40)			
				38.71	0.90	ALLUVIUM Very soft dark brown grey green organic silty slightly gravelly CLAY with peat		
1.20	D							
			Water strike(1) at 1.40m.		(1.20)			∇1
1.80	D							
				37.51	2.10	SHEPPERTON GRAVEL MEMBER Loose grey slightly silty sandy GRAVEL. Gravel is fine to coarse flint and quartz		
2.20	D				(0.20)			
				37.31	2.30	Complete at 2.30m		

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Remarks

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Scale (approx)	Logged By	Figure No.
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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 12

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		39.55	Mace	23-01-21
	Location (Handheld GPS) 504756.27 E 189148.68 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	CONCRETE		
				39.40	0.15	MADE GROUND Loose orange brown silty sandy GRAVEL. Gravel is fine to coarse brick, flint, concrete with occasional boulders of concrete		
					(0.95)			
0.80	D							
				38.45	1.10	ALLUVIUM Very soft dark brown black green grey organic silty slightly gravelly CLAY with peat roots and tree debris. Gravel is fine to coarse flint		∇1
			Water strike(1) at 1.20m.					
					(0.70)			
1.50	D							
				37.75	1.80	SHEPPERTON GRAVEL MEMBER Loose grey slightly silty sandy GRAVEL. Gravel is fine to coarse flint and quartz		
					(0.10)			
				37.65	1.90	Complete at 1.90m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 12

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 13

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		39.52	Mace	23-01-21
	Location (Handheld GPS) 504761.42 E 189243.06 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	CONCRETE		
				38.92	0.60	ALLUVIUM Very soft dark brown black grey organic silty slightly gravelly CLAY with peat and plat??? debris. Gravel is fine to coarse flint		
					(0.70)			
			Water strike(1) at 1.30m.	38.22	1.30	SHEPPERTON GRAVEL MEMBER Loose grey slightly silty sandy GRAVEL. Gravel is fine to coarse flint quartz and chalk		▽1
					(0.30)			
				37.92	1.60	Complete at 1.60m		

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Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.TP 13

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	TP 14

Machine : JCB 3CX Method : Trial Pit	Dimensions	Ground Level (mOD)	Client	Job Number
		39.47	Mace	23-01-21
	Location (Handheld GPS) 504752.33 E 189282.42 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	CONCRETE		
				39.17	0.30	MADE GROUND Loose brown slightly clayey silty sandy GRAVEL. Gravel is fine to coarse flint, brick and concrete		
					(0.50)			
0.60	D							
				38.67	0.80	ALLUVIUM Very soft dark brown black grey green organic silty slightly gravelly CLAY with peat and plant debris. Gravel is fine to coarse flint		
			Water strike(1) at 1.20m.		(0.80)			∇1 ▼2
1.40	D							∇2
			Water strike(2) at 1.50m, rose to 1.30m in 5 mins.	37.87	1.60	SHEPPERTON GRAVEL MEMBER Loose grey silty sandy GRAVEL. Gravel is fine to coarse flint, quartz and chalk		
					(0.30)			
1.80	D			37.57	1.90	Complete at 1.90m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	lee Ashworth	23-01-21.TP 14

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **SA 1**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** 0.60m x 1.50m x 1.50m **Ground Level (mOD)** 39.39	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504719.3 E 189280.9 N **Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND Loose orange brown silty sandy GRAVEL. Gravel is flint and brick		
				39.19	0.20	MADE GROUND Loose dark grey brown black silty sandy GRAVEL. Gravel is fine to coarse flint, ceramic, tarmac and brick		
0.40	D				(0.40)			
				38.79	0.60	POSSIBLE MADE GROUND/ALLUVIUM Very soft dark brown silty slightly gravelly organic CLAY. Gravel is flint and wood with frequent branches and roots		
1.00	D				(0.90)			
1.40	D							
				37.89	1.50	Complete at 1.50m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.SA 1

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	SA 2

Machine : JCB 3CX Method : Trial Pit	Dimensions 0.60m x 1.30m x 0.65m	Ground Level (mOD) 42.74	Client Mace	Job Number 23-01-21
	Location (Handheld GPS) 504614.8 E 189285.19 N	Dates 15/02/2023	Project Contractor Geo-Integrity	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND Loose dark brown clayey gravelly organic SILT. Gravel is brick, flint, concrete and quartz		
				42.54	0.20	MADE GROUND Loose light brown slightly silty gravelly SAND. Gravel is flint and quartz. Occasional boulders of concrete and brick		
0.50	D				(0.45)			
				42.09	0.65	Complete at 0.65m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.SA 2

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Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** 0.60m x 1.50m x 0.55m	**Ground Level (mOD)** 39.24	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504844.26 E 189034.16 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND Loose dark brown slightly clayey sandy gravelly SILT. Gravel is flint, slag, brick and coal		
0.50	D			38.74	0.50	Complete at 0.50m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	Lee Ashworth	23-01-21.SA 3

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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.50m x 1.47m (width x length x depth)

Report No: 23-01-21

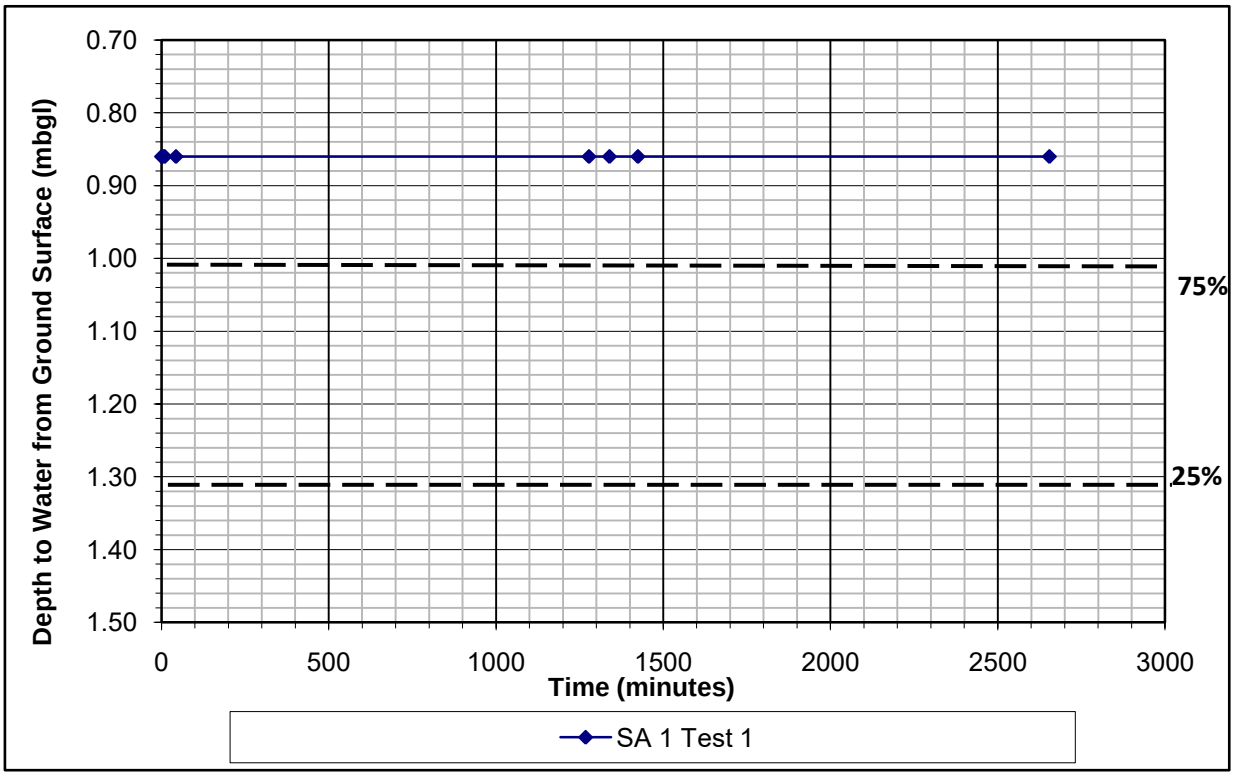
Date Tested: 15/02/23

Test Location: SA 1

Test Response Zone Description - : Made Ground/Alluvium

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.86	2654	0.86		
5	0.86				
10	0.86				
43	0.86				
1278	0.86				
1339	0.86				
1424	0.86				

Unable to Calculate Average Soil Infiltration Rate



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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.30m x 0.63m (width x length x depth)

Report No: 23-01-21

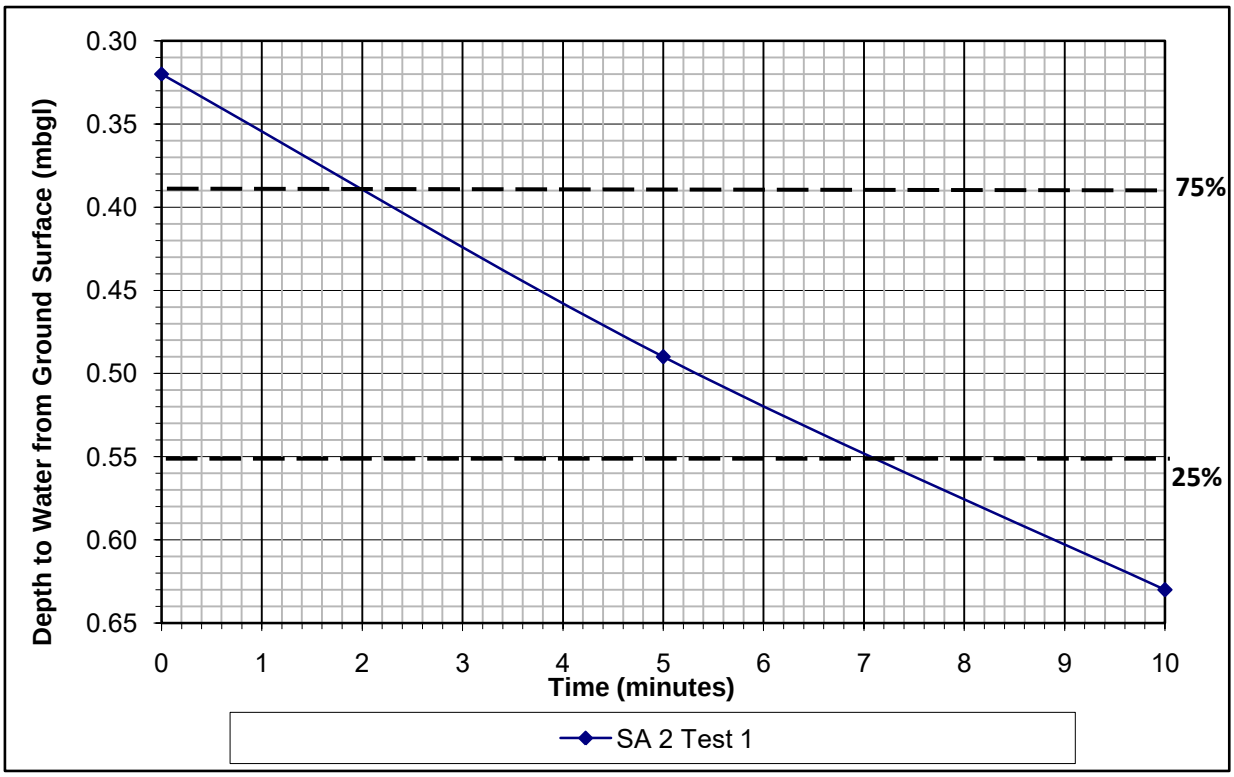
Date Tested: 15/02/23

Test Location: SA 2

Test Response Zone Description - : Made Ground

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.32				
5	0.49				
10	0.63				

Average Soil Infiltration Rate = 2.94 x 10^{-4} m/s



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Trial Pit Infiltration Testing to BRE Digest 365

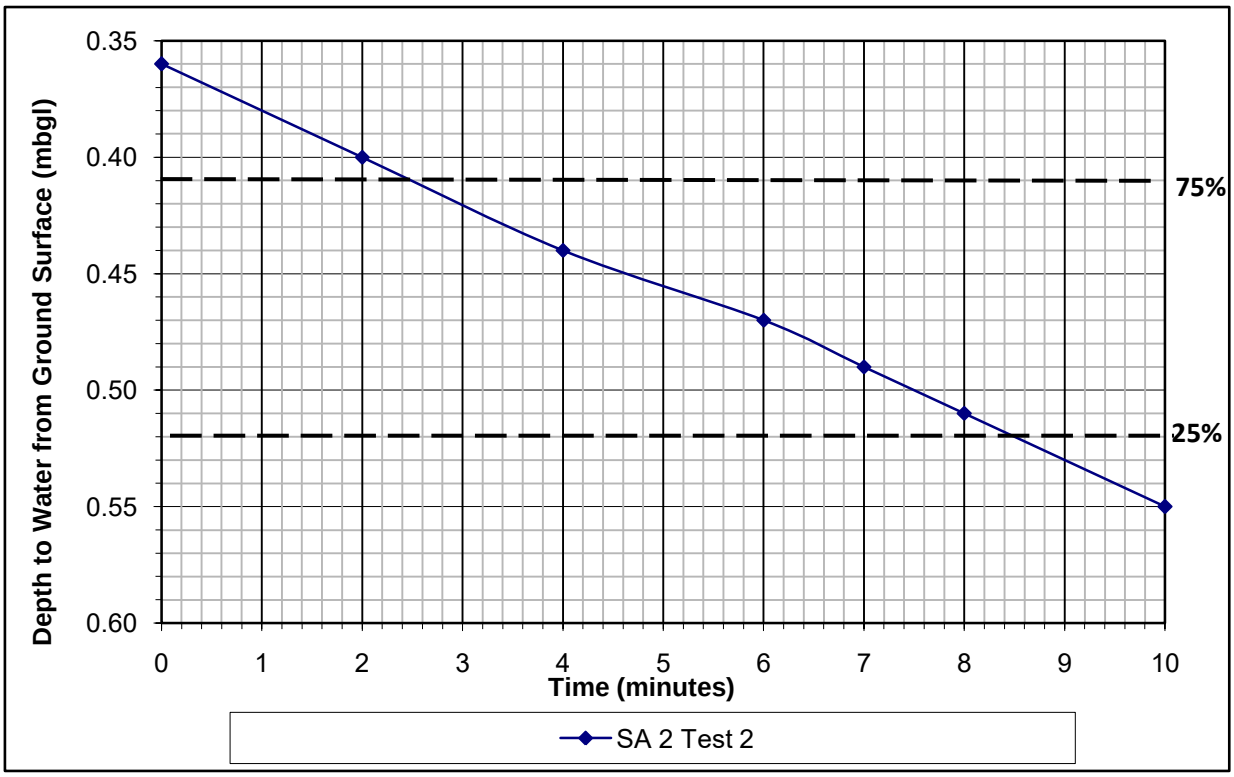
Client: Mace
Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE
Dimensions: 0.60m x 1.30m x 0.58m (width x length x depth)

Report No: 23-01-21
Date Tested: 15/02/23
Test Location: SA 2

Test Response Zone Description - : MADE GROUND

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.36				
2	0.40				
4	0.44				
6	0.47				
7	0.49				
8	0.51				
10	0.55				

Average Soil Infiltration Rate = 1.99 x 10^{-4} m/s



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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.30m x 0.55m (width x length x depth)

Report No: 23-01-21

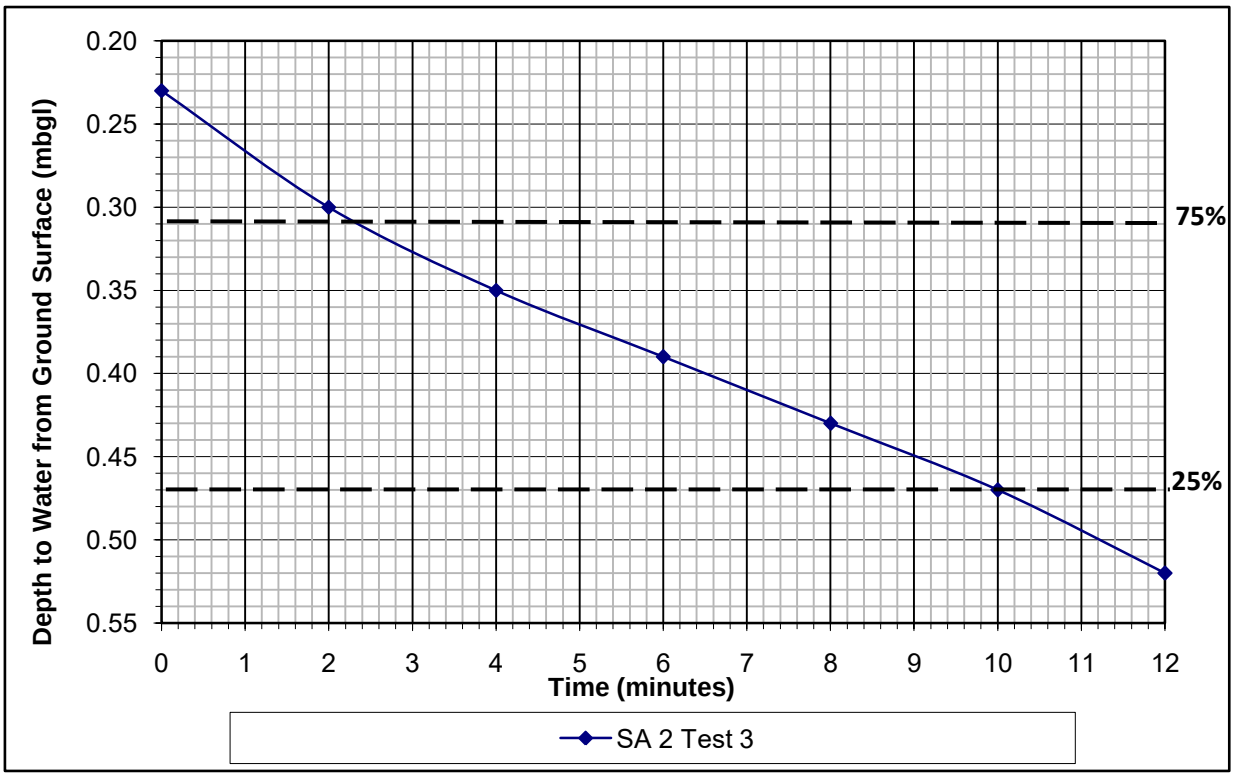
Date Tested: 15/02/23

Test Location: SA 2

Test Response Zone Description - : MADE GROUND

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.23				
2	0.30				
4	0.35				
6	0.39				
8	0.43				
10	0.47				
12	0.52				

Average Soil Infiltration Rate = 1.95 x 10^{-4} m/s



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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.50m x 0.59m (width x length x depth)

Report No: 23-01-21

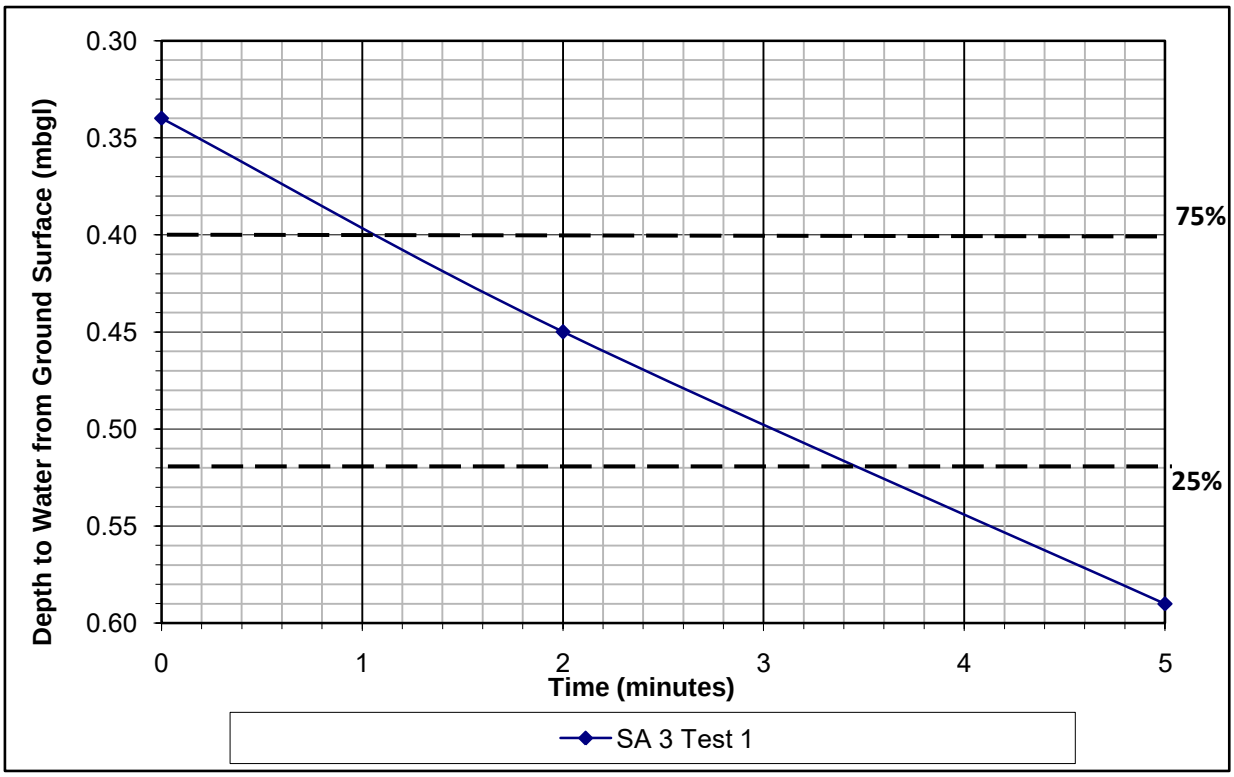
Date Tested: 15/02/23

Test Location: SA 3

Test Response Zone Description - : MADE GROUND

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.34				
2	0.45				
5	0.59				

Average Soil Infiltration Rate = 5.72 x 10^{-4} m/s



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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.50m x 0.55m (width x length x depth)

Report No: 23-01-21

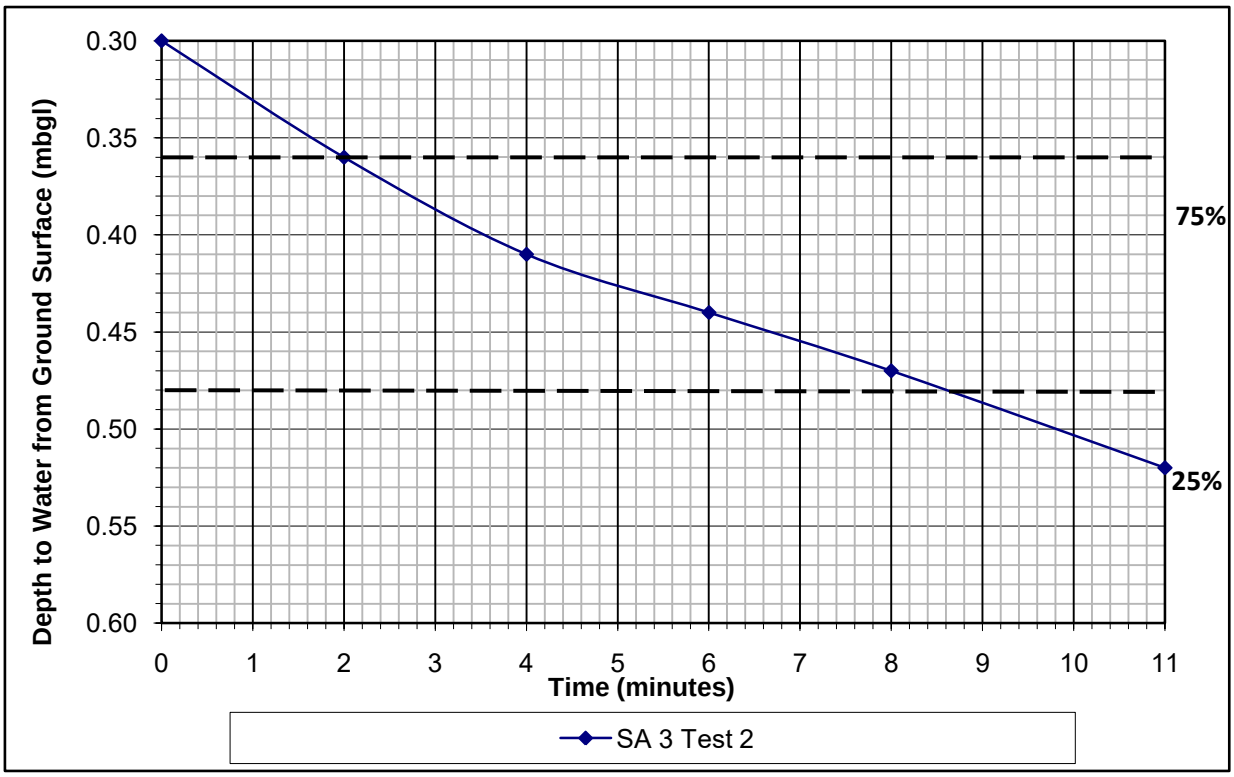
Date Tested: 15/02/23

Test Location: SA 3

Test Response Zone Description - : MADE GROUND

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.30				
2	0.36				
4	0.41				
6	0.44				
8	0.47				
11	0.52				

Average Soil Infiltration Rate = 1.99 x 10^{-4} m/s



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Trial Pit Infiltration Testing to BRE Digest 365

Client: Mace

Site: Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Dimensions: 0.60m x 1.50m x 0.55m (width x length x depth)

Report No: 23-01-21

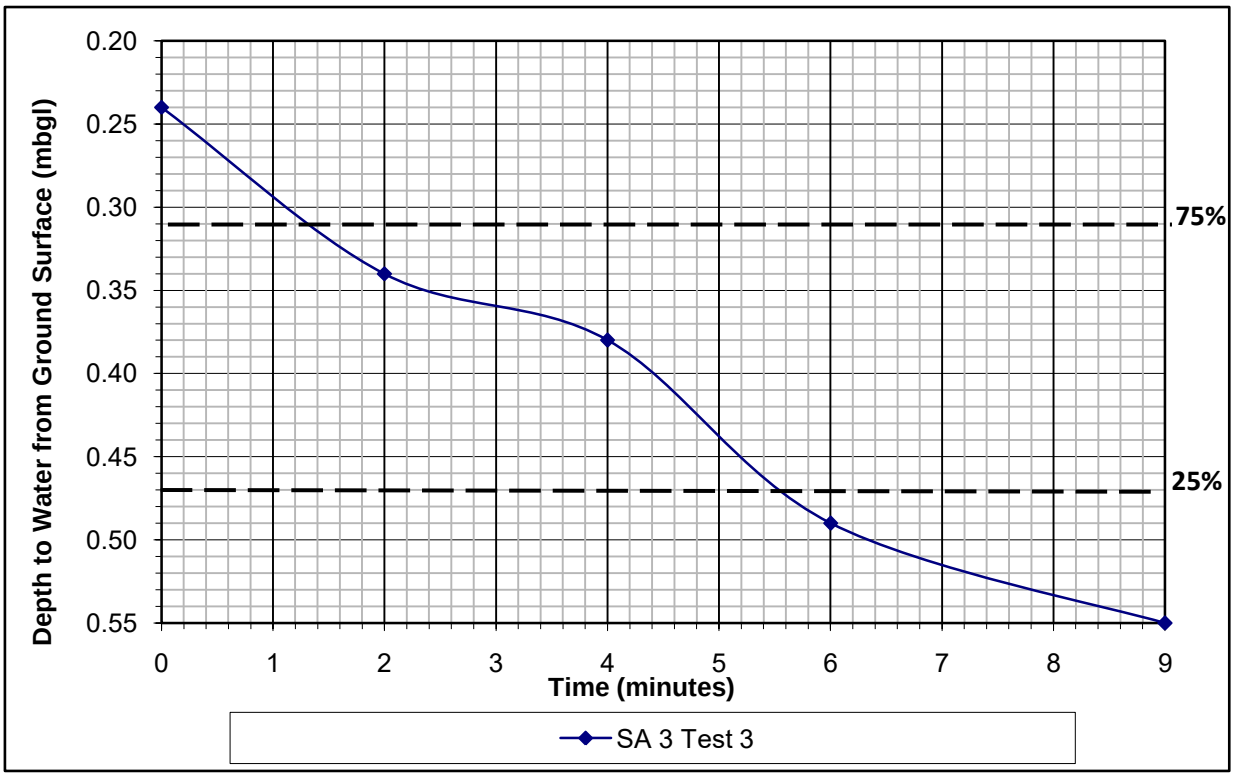
Date Tested: 15/02/23

Test Location: SA 3

Test Response Zone Description - : MADE GROUND

Time	Depth BGL	Time	Depth BGL	Time	Depth BGL
0	0.24				
2	0.34				
4	0.38				
6	0.49				
9	0.55				

Average Soil Infiltration Rate = 3.53 x 10^{-4} m/s



GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR1**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.19	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504797.89 E 189051.27 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND Soft dark brown organic silty slightly sandy gravelly CLAY.		
				38.99	0.20	MADE GROUND Loose light frey silty sandy GRAVEL. Gravel is fine to coarse brick and concrete		
					(0.25)			
				38.74	0.45	Complete at 0.45m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR1

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR2**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.63	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504750.12 E 189115.43 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				39.53	(0.10) 0.10	MADE GROUND Loose orange sandy gravelly SILT. Gravel is flint, brick and cement		
				39.43	(0.10) 0.20	CONCRETE		
						Complete at 0.20m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR2

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR3**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.40	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504744.68 E 189206.12 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				39.30	(0.10) 0.10	CONCRETE Complete at 0.10m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR3

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR4**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.45	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504718.56 E 189276.29 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	MADE GROUND Loose brown orange silty sandy GRAVEL. Gravel is fine to coarse flint brick and concrete		
				39.30	0.15	Complete at 0.15m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR4

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR5**
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 39.86	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504690.04 E 189321.71 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND Loose orange brown silty sandy GRAVEL. Gravel is fine to coarse flint, brick and concrete		
				39.46	0.40	MADE GROUND Loose dark grey silty sandy GARVEL. Gravelis fine to coarse flint brick rubber cocnrete with a distinct hydrocarbon odour and staining		
					(0.49)			
				38.97	0.89	CONCRETE		
				38.96	0.90	Complete at 0.90m		

Plan

Remarks
Excavating from 0.00m.

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR5

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Site	Trial Pit Number
Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	CBR6

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		39.81	Mace	23-01-21
	Location (Handheld GPS) 504648.73 E 189307.1 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND Soft dark brown silty gravelly CLAY. Gravel is fine to coarse brick flint and chalk		
				39.51	0.30	MADE GROUND Loose dark grey mottled white silty sandy GRAVEL. Gravel is fine to coarse brick flint chalk		
					(0.30)			
0.50	D1			39.21	0.60	MADE GROUND Firm dark brown beige silty slightly gravelly CLAY. Gravel is brick and flint		
					(1.00)			
1.40	D2							▼1
			Water strike(1) at 1.50m, no rise after 5 mins.	38.21	1.60			
				38.16	1.65	CONCRETE		
						Complete at 1.65m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR6

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GEO INTEGRITY	www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409	**Site** Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Trial Pit Number** **CBR7**
Machine : JCB 3CX **Method :**	**Dimensions**	**Ground Level (mOD)** 42.64	**Client** Mace	**Job Number** 23-01-21
	Location (Handheld GPS) 504604.51 E 189290.68 N	**Dates** 15/02/2023	**Project Contractor** Geo-Integrity	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND Loose orange brown silty sandy GRAVEL. Gravel is flint brick concrete		
				42.44	0.20	Complete at 0.20m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:20	LA	23-01-21.CBR7

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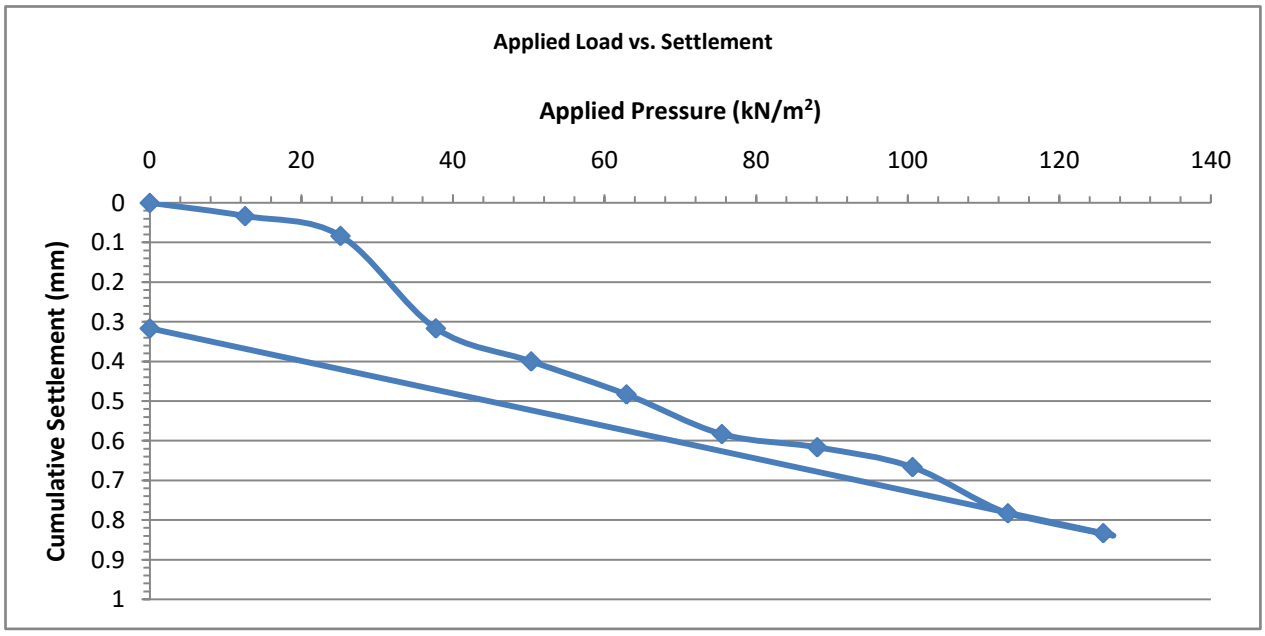
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	KLR Industrial Ltd	**Job No:**	23-01-21
Site:	Farm Complex, Silvesrtone Circuit NN12 8GZ	**Date:**	16/02/2023
Depth (bgl):	0.45 m	**TP No:**	CBR 1
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.03
4	25	0.08
6	38	0.32
8	50	0.40
10	63	0.48
12	75	0.58
14	88	0.62
16	101	0.67
18	113	0.78
20	126	0.83
0	0	0.32
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
132 kN/m^2

Pressure at 1.25mm (kN/m2)
126 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
62.80 MN/m^2/m

Equivalent CBR Value (%)
12.60 %

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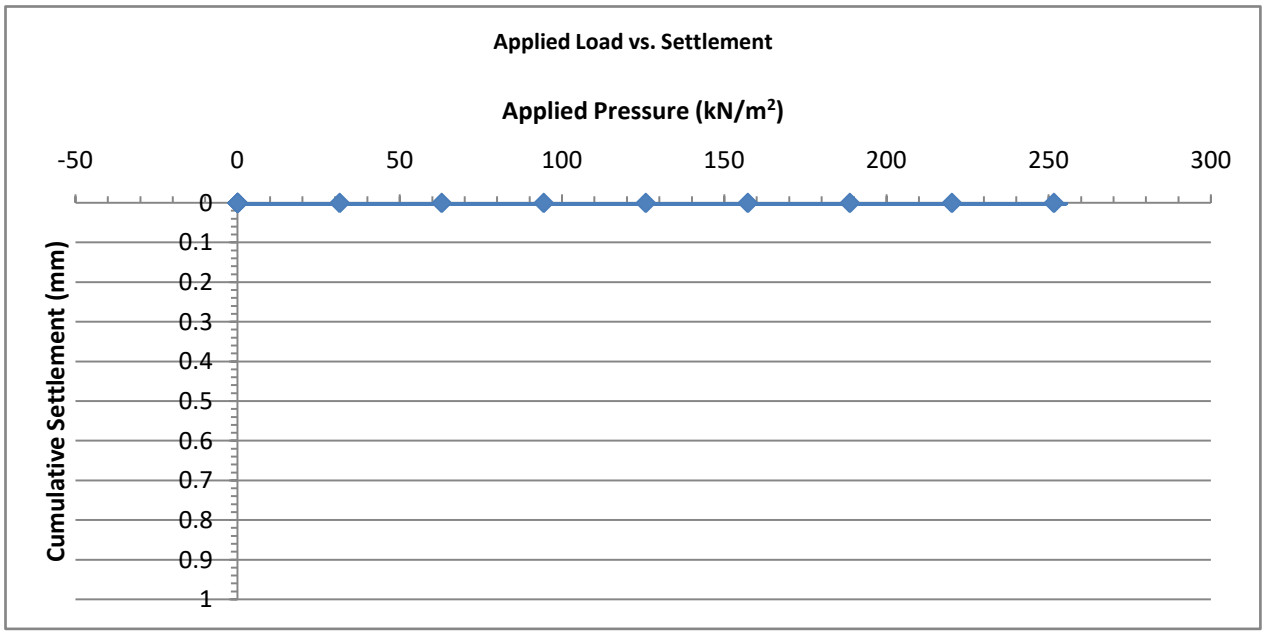
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.2 m	**TP No:**	CBR 2
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
5	31	0.00
10	63	0.00
15	94	0.00
20	126	0.00
25	157	0.00
30	189	0.00
35	220	0.00
40	252	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
252 kN/m^2

Pressure at 1.25mm (kN/m2)
252 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
125.61 MN/m^2/m

Equivalent CBR Value (%)
41.87 %

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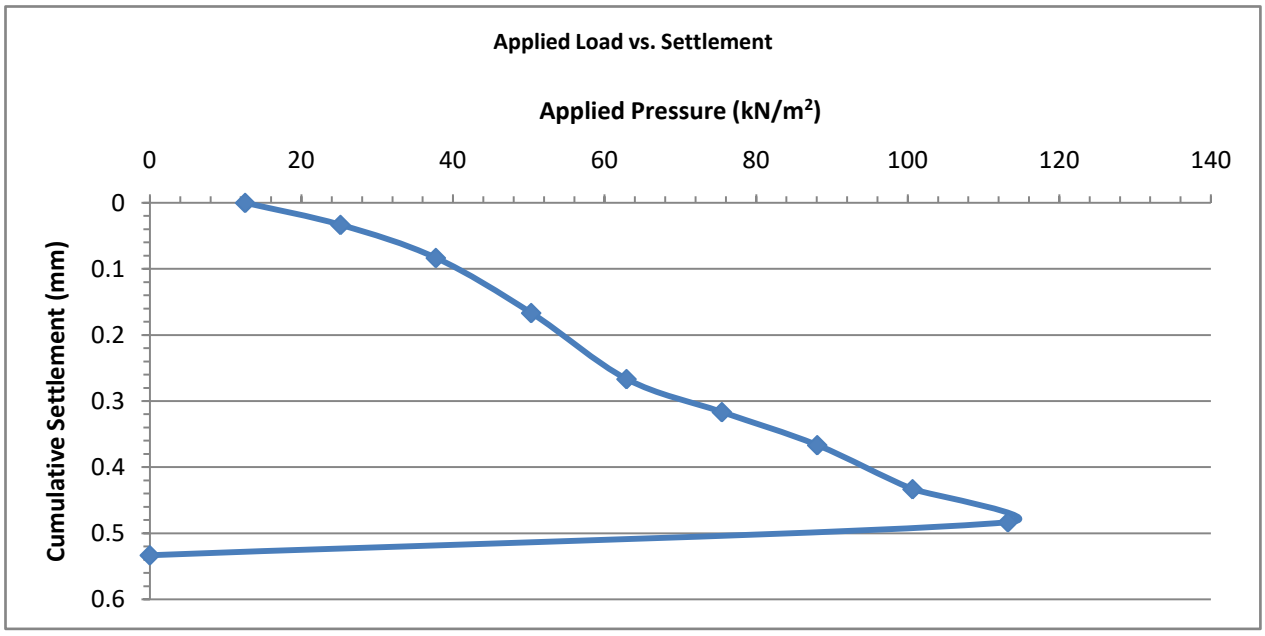
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.1 m	**TP No:**	CBR 3
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.03
4	25	0.08
6	38	0.17
8	50	0.27
10	63	0.32
12	75	0.37
14	88	0.43
16	101	0.48
18	113	0.53
0	0	0.00
0		0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
182 kN/m^2

Pressure at 1.25mm (kN/m2)
113 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
56.32 MN/m^2/m

Equivalent CBR Value (%)
10.43 %

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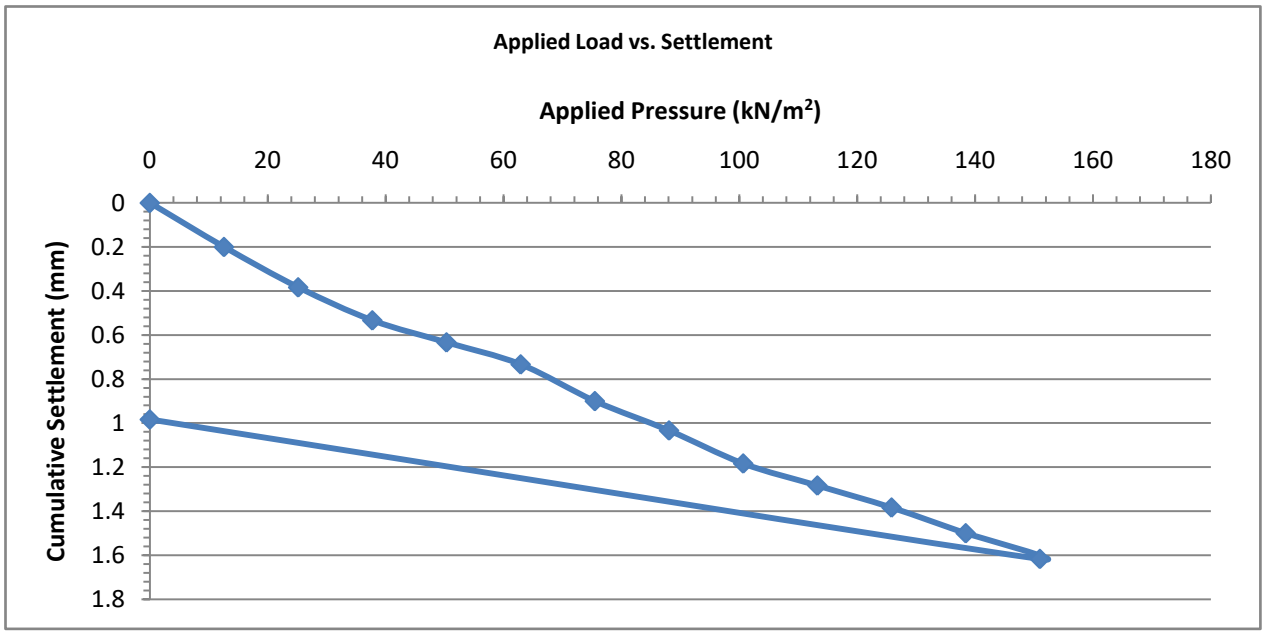
07858 367 125
01280 816409

Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.15 m	**TP No:**	CBR 4
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.20
4	25	0.38
6	38	0.53
8	50	0.63
10	63	0.73
12	75	0.90
14	88	1.03
16	101	1.18
18	113	1.28
20	126	1.38
22	138	1.50
24	151	1.62
0	0	0.98
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
50 kN/m^2

Pressure at 1.25mm (kN/m2)
110 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
54.83 MN/m^2/m

Equivalent CBR Value (%)
9.95 %

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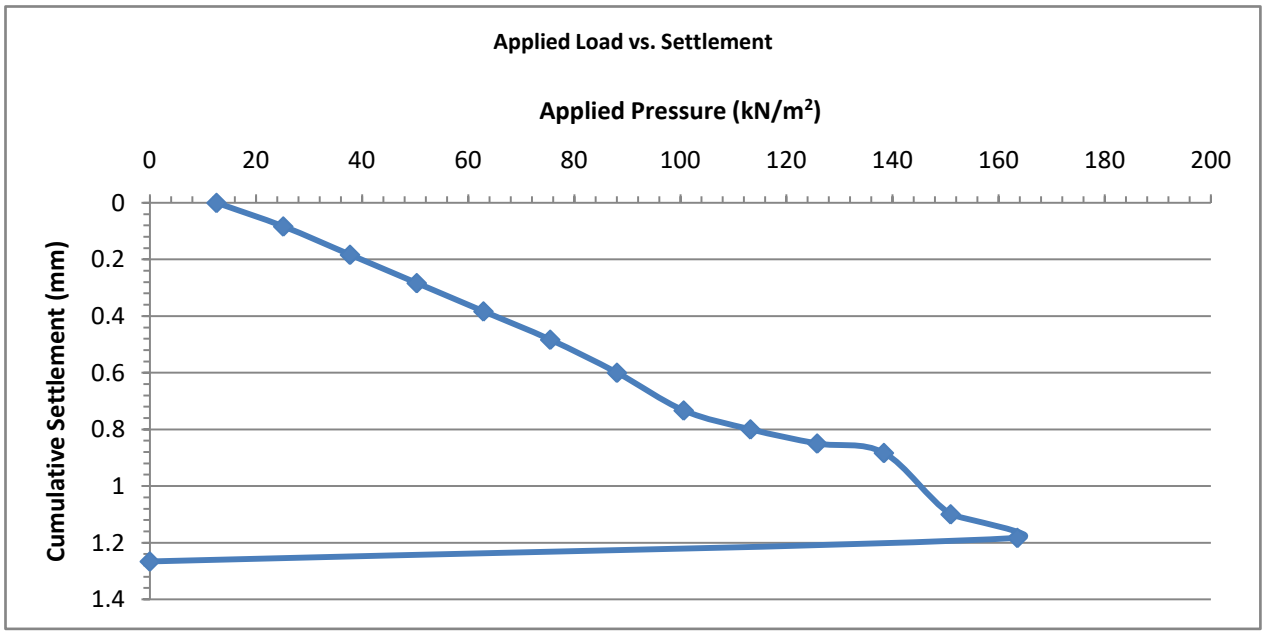
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.15 m	**TP No:**	CBR 5
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.08
4	25	0.18
6	38	0.28
8	50	0.38
10	63	0.48
12	75	0.60
14	88	0.73
16	101	0.80
18	113	0.85
20	126	0.88
22	138	1.10
24	151	1.18
26	164	1.27
0	0	0.82
0	0	0.00

Seating Pressure for 1.5mm initial settlement
63 kN/m^2

Pressure at 1.25mm (kN/m2)
162 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
80.75 MN/m^2/m

Equivalent CBR Value (%)
19.47 %

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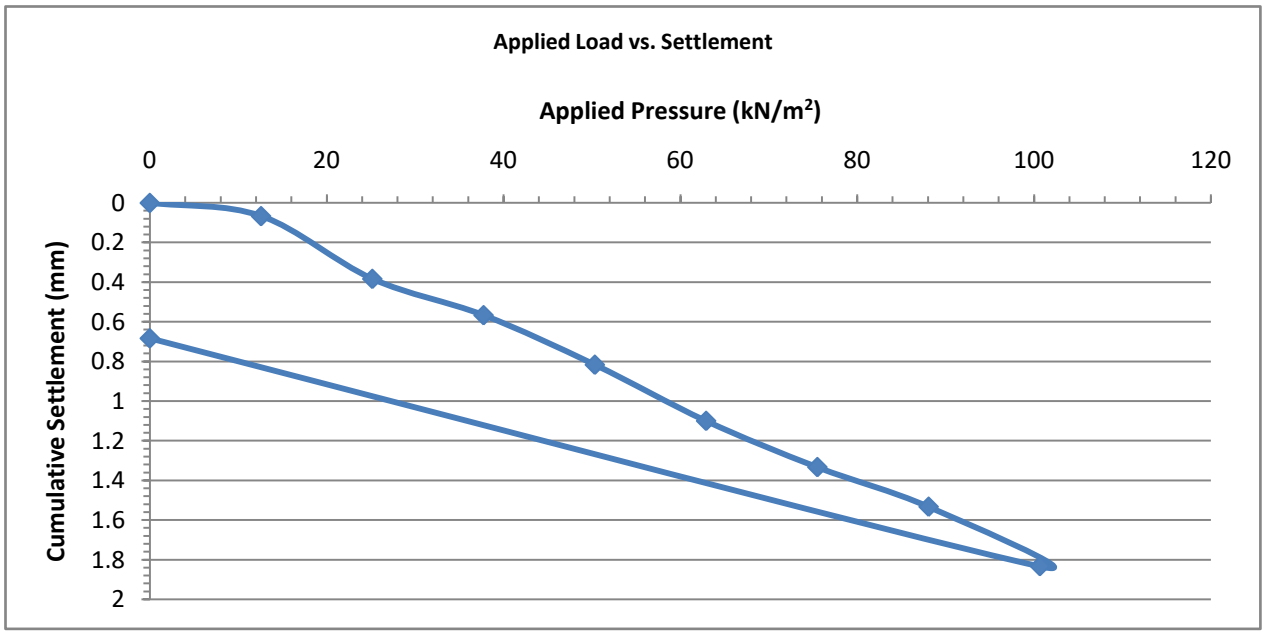
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.2 m	**TP No:**	CBR 6
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.07
4	25	0.38
6	38	0.57
8	50	0.82
10	63	1.10
12	75	1.33
14	88	1.53
16	101	1.83
0	0	0.68
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
94 kN/m^2

Pressure at 1.25mm (kN/m2)
76 kN/m^2

Modulus of Subgrade Reaction (MN/m/m2)
37.88 MN/m^2/m

Equivalent CBR Value (%)
5.24 %

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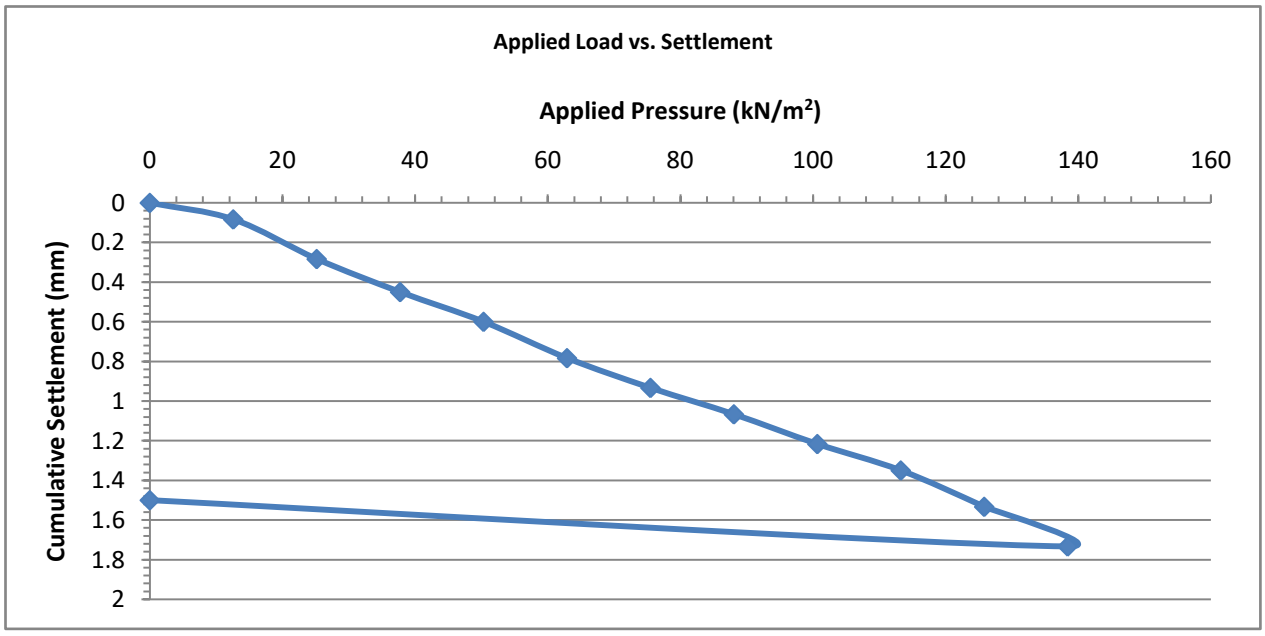
Calculation of Modulus of Sub-Grade Reaction and CBR from Plate Bearing Test

Client:	Mace Group	**Job No:**	23-01-21
Site:	Broadwater Lake, Moorhall Road, Harefield, UB9 6PE	**Date:**	16/02/2023
Depth (bgl):	0.2 m	**TP No:**	CBR 7
Plate Size (m):	0.45 m		



Applied Load (kN)	Applied Pressure (kN/m^2)	Average Settlement (mm)
0	0	0.00
2	13	0.08
4	25	0.28
6	38	0.45
8	50	0.60
10	63	0.78
12	75	0.93
14	88	1.07
16	101	1.22
18	113	1.35
20	126	1.53
22	138	1.73
0	0	1.50
0	0	0.00
0	0	0.00
0	0	0.00

Seating Pressure for 1.5mm initial settlement
57 kN/m^2

Pressure at 1.25mm (kN/m2)
105 kN/m^2

Modulus of Subgrade Reaction (kN/m/m2)
52.34 MN/m^2/m

Equivalent CBR Value (%)
9.18 %

Date	Job No.	BH	CH4(%)	LEL(%)	CO2(%)	O2(%)	H2S (ppm)	CO (ppm)	Hex(%)	PIDCf()	PkFlw (lh)	AP (mbar)	GW (m bgl)	Pmp (s)	Bal(%)
09/03/23	23-01-21	BH 3	0	0	0.3	19.1	0	0	0.027	1	0	986	2.39	69	80.6
09/03/23	23-01-21	BH 6	0.6	15.7	0.2	6.7	0	10	0.043	1.2	0	986	2.27	61	92.7
09/03/23	23-01-21	BH 9	0	0	0.8	16.9	0	0	0.029	1	0	986	0.8	61	82.3
15/03/23	23-01-21	BH 3	0	0	0.6	19.3	0	0	0.026	1	0.27	1011	2.3	62	80.1
15/03/23	23-01-21	BH 6	0.5	13.6	0.1	0.6	0	0	0.041	1.2	0	1011	2.12	61	98.9
15/03/23	23-01-21	BH 9	0	0	0.5	18.4	0	0	0.027	1	0	1011	1.78	61	81.1
20/03/23	23-01-21	BH 3	0	0	0.6	19.2	0	0	0.031	1	0	1010	-	60	80.2
20/03/23	23-01-21	BH 6	0.6	15.4	0.1	3.3	0	0	0.042	1.2	0	1010	-	60	96.1
20/03/23	23-01-21	BH 9	0	0	0.2	19.2	0	0	0.028	1	0	1010	-	60	80.6
29/03/23	23-01-21	BH3	0	0	0.8	19.4	0	0	0	1	0	1003	2.3	61	79.8
29/03/23	23-01-21	BH6	0	0	0	0.9	0	0	0.018	1	0	1002	2.12	63	99.1
29/03/23	23-01-21	BH9	0	0	0.4	19.9	0	0	0	1	0	1002	0.75	62	79.7

APPENDIX C

Geo-Integrity, - 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

GroundTech Laboratories

Geotechnical Testing Facility

Slapton Hill Barn, Blakesley Road, Slapton, Towcester, Northants. NN12 8QD

Telephone:- 01327 860947/860060 Email: lab@listersgeotechnics.co.uk

PROJECT INFORMATION	SAMPLE INFORMATION
Site Location:- Broadwater Lake Harefield	**Laboratory Tests Undertaken:-**
Client Reference:- 23-01-21	
Date Samples Received:- 03 March 2023	
Date Testing Completed:- 10 March 2023	
The results relate only to the samples tested	

TEST TYPE	TEST METHOD	TESTED
Natural Moisture Contents (MC%)	(BS 1377:Part 2:1990 Clause 3.2)	✓
Liquid Limits (%)	(BS 1377:Part 2:1990 Clause 4.3)	✓
Plastic Limits (%)	(BS 1377:Part 2:1990 Clause 5.3)	✓
Plasticity Index (%)	(BS 1377:Part 2:1990 Clause 5.4)	✓
Linear Shrinkage (%)	(BS 1377:Part 2:1990 Clause 6.5)	
PSD - Wet Sieving	(BS 1377:Part 2:1990 Clause 9.2)	✓
Engineering Sample Descriptions	(BS 5930 : Section 6)	
Passing 425/63 (μm)	-	✓
Hydrometer	(BS 1377:Part 2:1990 Clause 9.5)	
Loss on Ignition (%)	-	
Soil Suctions (kPa)	BRE Digest IP 4/93, 1993	
Bulk Density (Mg/m^3)	(BS 1377:Part 2:1990 Clause 7.2)	
Strength Tests	(BS 1377:Part 7:1990 Clause 8 & 9)	
Soluble Sulphate Content (SO_4g/l)	(BS 1377:Part 3:1990 Clause 5.3)	
pH value	(BS 1377:Part 3:1990 Clause 9.4)	
California Bearing Ratios (CBR)	(BS 1377:Part 4:1990 Clause 7)	✓
Compaction Tests	(BS 1377:Part 4:1990 Clauses 3.0-3.6)	

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Laboratory testing in accord with BS EN ISO/IEC 17025-2000 and Quality Management in accord with ISO 9001

Signed on behalf of GroundTech Laboratories:-_____ Technical Signatory

Quality Assured to ISO 9001

GEOTECHNICAL LABORATORY TEST RESULTS

Report No: 23.03.008

GroundTech Laboratories

Geotechnical Testing Facility

Slapton Hill Barn, Blakesley Road, Slapton, Towcester, Northants. NN12 8QD
Telephone: 01327 860947/860060 Fax: 01327 860430 Email: groundtech@listersgeotechnics.co.uk

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SAMPLES				CLASSIFICATION TESTS							CLASSIFICATION TESTS							STRENGTH TESTS					CHEMICAL TESTS	
Test Location	Sample Type	Sample Depth -m	Test Type	WC %	LL %	PL %	PI %	Passing 425 µm %	Modified PI %	Class	Passing 63 µm %	WC/ LL	PL+ 2%	Liquidity Index	Loss on Ignition %	Soil Suction kPa	Bulk Density Mg/m³	Test Type	Cell Pressure kN/m²	Deviator Stress kN/m²	Apparent Cohesion kN/m²	ϕ	pH Value	Soluble Sulphate Content SO4 g/l
BH 01	D	1.00	PI/63	112	66	54	12	92	11	MH	82	1.70	56	4.83										
	D	3.00	PSD																					
BH 02	D	3.00	PI/63	72	53	34	19	96	18	MH	92	1.36	36	2.00										
	D	4.50	PSD																					
BH 03	D	3.00	PI/63	68	52	33	19	81	15	MH	64	1.31	35	1.84										
	D	4.50	PSD																					
BH 04	D	6.00	PSD																					
BH 05	D	1.20	PSD																					
BH 06	D	3.00	PI/63	66	45	26	19	86	16	CI	55	1.47	28	2.11										
	D	4.00	PSD																					
BH 08	D	1.65	PSD																					
	D	3.00	PSD																					

Symbols:

U	Undisturbed Sample	R	Remoulded	PI	Plasticity Index	T	Triaxial Undrained	L	100mm specimen
D	Disturbed Sample	63	Passing 63µm	F	Filter Paper Suction Tests	M	Multistage Triaxial	S	38mm specimen
B	Bulk Sample	H	Hydrometer	CC	Continuous Core	HP	Hand Penetrometer		
W	Water Sample	PSD	Wet Sieving			V	Vane Test		

LABORATORY TEST RESULTS

Project Reference
23.03.008

GroundTech Laboratories

Geotechnical Testing Facility

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Quality Assured ISO 9001

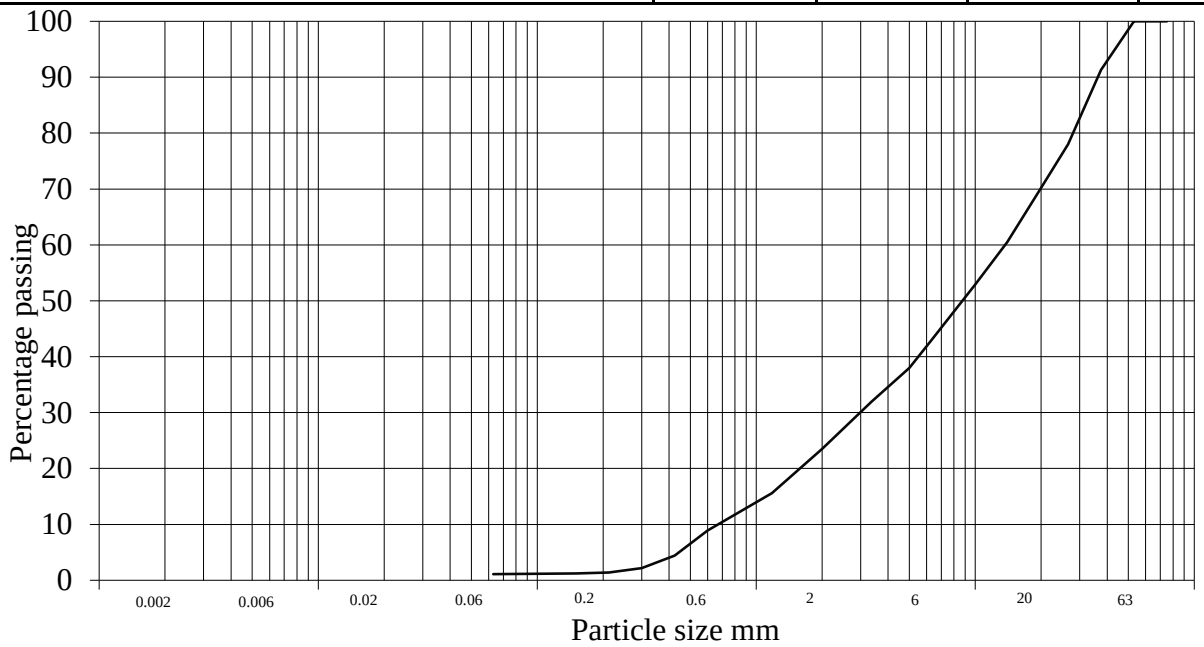
Site: Broadwater Lake
Harefield

Test Location: BH 01
Sample Depth: 3.00m -3.45m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	100.00		
50mm	100.00		
37.5mm	91.30		
26.5mm	78.00		
20mm	70.20		
14mm	60.50		
10mm	52.90		
6.3mm	42.90		
5mm	38.00		
3.5mm	31.90		
2mm	23.50		
1.18mm	15.60		
600µm	8.90		
425µm	4.40		
300µm	2.20		
212µm	1.40		
150µm	1.20		
63µm	1.10		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
1%				22%			77%			0%

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

GroundTech Laboratories

Geotechnical Testing Facility

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Quality Assured ISO 9001

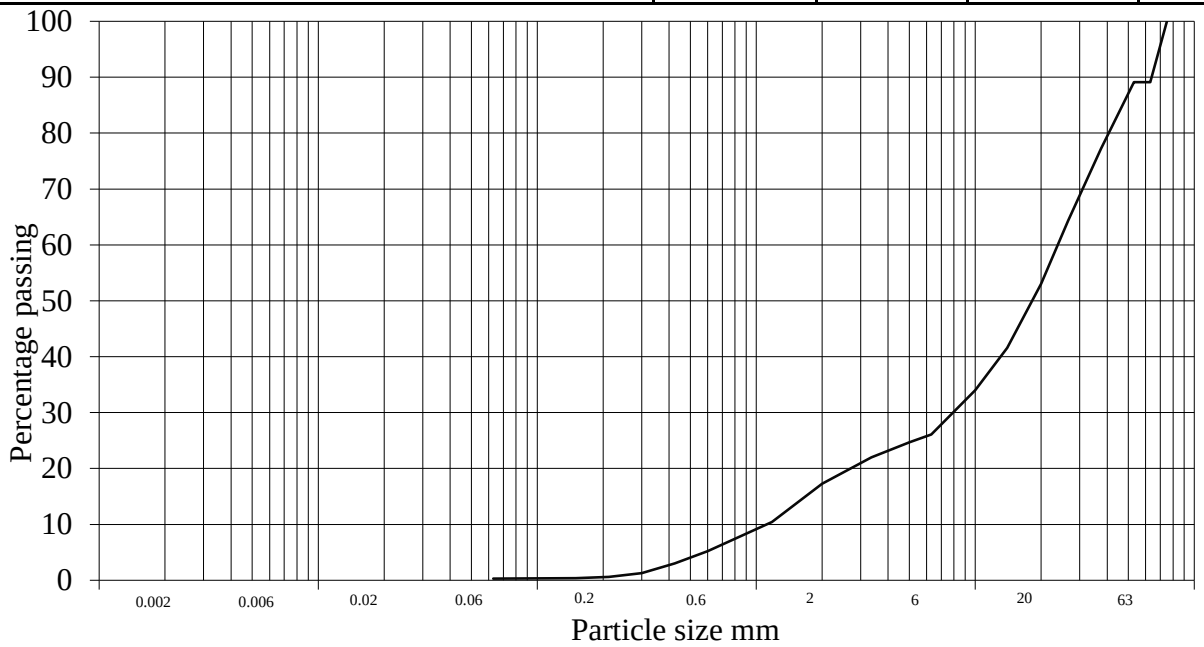
Site: Broadwater Lake
Harefield

Test Location: BH 02
Sample Depth: 4.50m -4.95m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	89.10		
50mm	89.10		
37.5mm	77.20		
26.5mm	64.30		
20mm	53.00		
14mm	41.60		
10mm	34.00		
6.3mm	26.10		
5mm	24.70		
3.5mm	22.00		
2mm	17.30		
1.18mm	10.40		
600µm	5.20		
425µm	3.00		
300µm	1.30		
212µm	0.60		
150µm	0.40		
63µm	0.30		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
(i)0% (ii)0%				(i)17% (ii)19%			(i)72% (ii)81%			11%

(i) Percentage of whole sample (ii) Percentage of sample excluding very coarse soils

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

GroundTech Laboratories

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Quality Assured ISO 9001

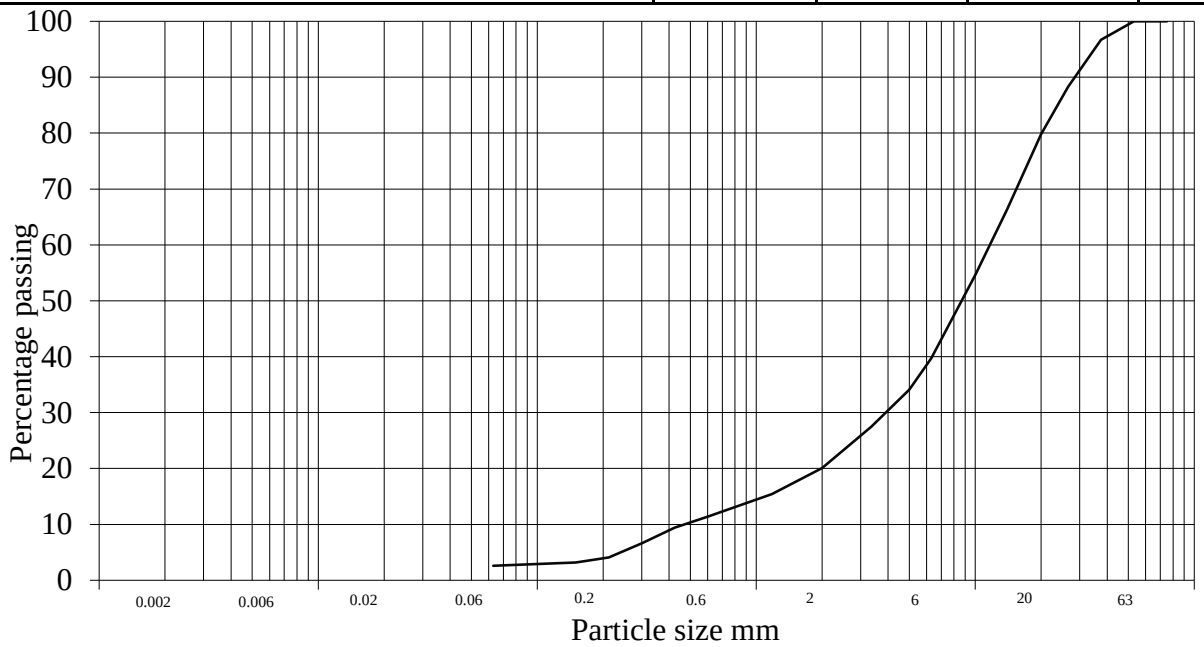
Site: Broadwater Lake
Harefield

Test Location: BH 03
Sample Depth: 4.50m -5.00m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	100.00		
50mm	100.00		
37.5mm	96.70		
26.5mm	88.30		
20mm	79.80		
14mm	66.40		
10mm	54.60		
6.3mm	39.70		
5mm	34.10		
3.5mm	27.50		
2mm	20.10		
1.18mm	15.40		
600µm	11.40		
425µm	9.40		
300µm	6.60		
212µm	4.10		
150µm	3.20		
63µm	2.60		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
3%				18%			80%			0%

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

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Quality Assured ISO 9001

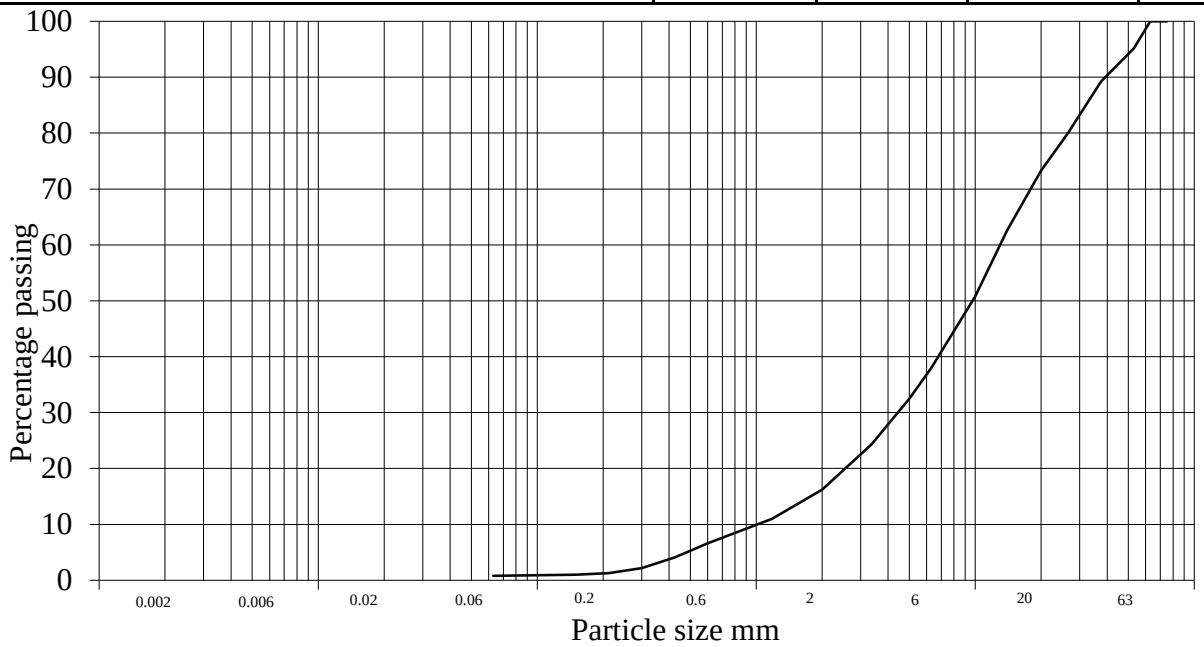
Site: Broadwater Lake
Harefield

Test Location: BH 04
Sample Depth: 6.00m -6.50m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	100.00		
50mm	95.20		
37.5mm	89.20		
26.5mm	80.00		
20mm	73.30		
14mm	62.60		
10mm	50.80		
6.3mm	38.00		
5mm	32.50		
3.5mm	24.30		
2mm	16.20		
1.18mm	11.00		
600µm	6.60		
425µm	4.10		
300µm	2.20		
212µm	1.30		
150µm	1.00		
63µm	0.80		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
1%				15%			84%			0%

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

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Quality Assured ISO 9001

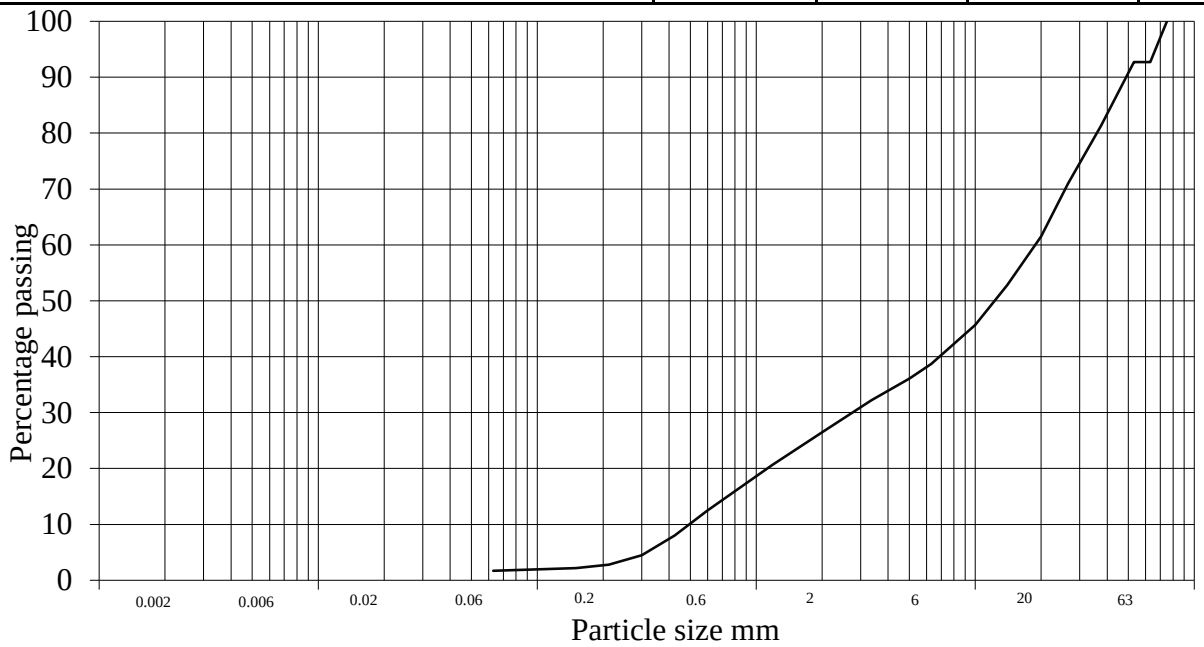
Site: Broadwater Lake
Harefield

Test Location: BH 05
Sample Depth: 1.20m -2.00m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	92.70		
50mm	92.70		
37.5mm	81.30		
26.5mm	71.00		
20mm	61.50		
14mm	52.80		
10mm	45.70		
6.3mm	38.70		
5mm	36.10		
3.5mm	32.20		
2mm	26.50		
1.18mm	20.60		
600µm	12.50		
425µm	8.00		
300µm	4.50		
212µm	2.80		
150µm	2.20		
63µm	1.70		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
(i)2% (ii)2%				(i)25% (ii)27%			(i)66% (ii)71%			7%

(i) Percentage of whole sample (ii) Percentage of sample excluding very coarse soils

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

GroundTech Laboratories

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Telephone: 01327 860947/860060 Fax: 01327 860430 Email: groundtech@listersgeotechnics.co.uk

Quality Assured ISO 9001

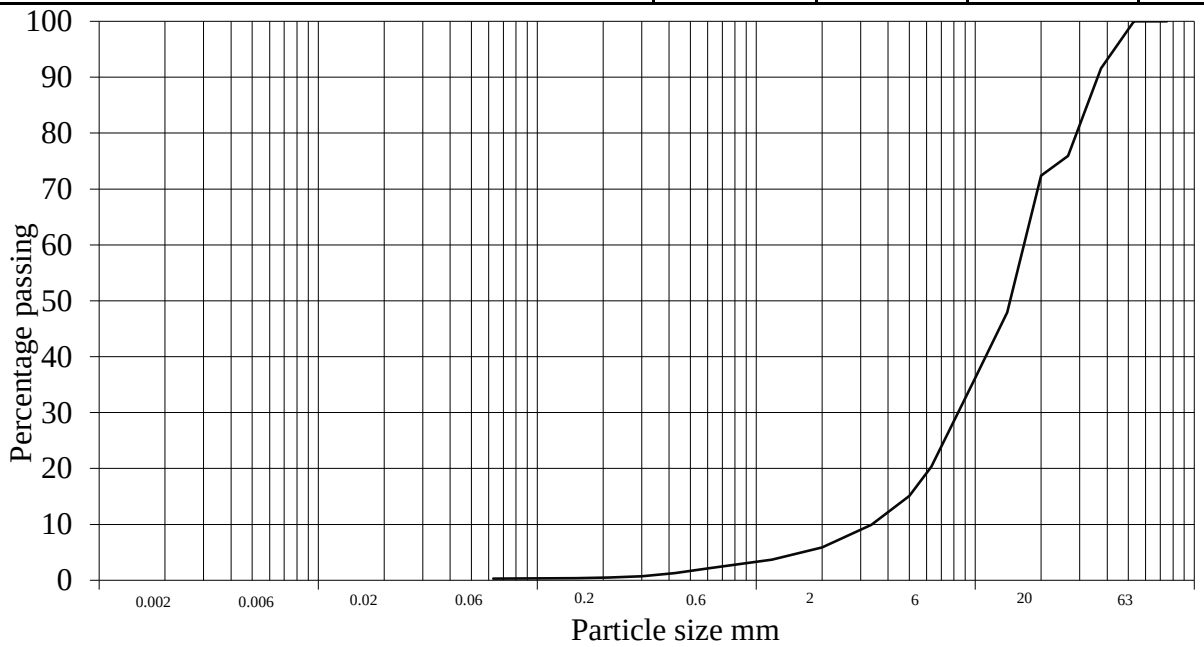
Site: Broadwater Lake
Harefield

Test Location: BH 06
Sample Depth: 4.00m -4.45m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	100.00		
50mm	100.00		
37.5mm	91.60		
26.5mm	75.90		
20mm	72.40		
14mm	47.90		
10mm	36.20		
6.3mm	20.30		
5mm	15.10		
3.5mm	9.90		
2mm	5.90		
1.18mm	3.70		
600µm	2.10		
425µm	1.30		
300µm	0.70		
212µm	0.50		
150µm	0.40		
63µm	0.30		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
0%				6%			94%			0%

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

GroundTech Laboratories

Geotechnical Testing Facility

Slapton Hill Barn, Blakesley Road, Slapton, Towcester, Northants. NN12 8QD
Telephone: 01327 860947/860060 Fax: 01327 860430 Email: groundtech@listersgeotechnics.co.uk

Quality Assured ISO 9001

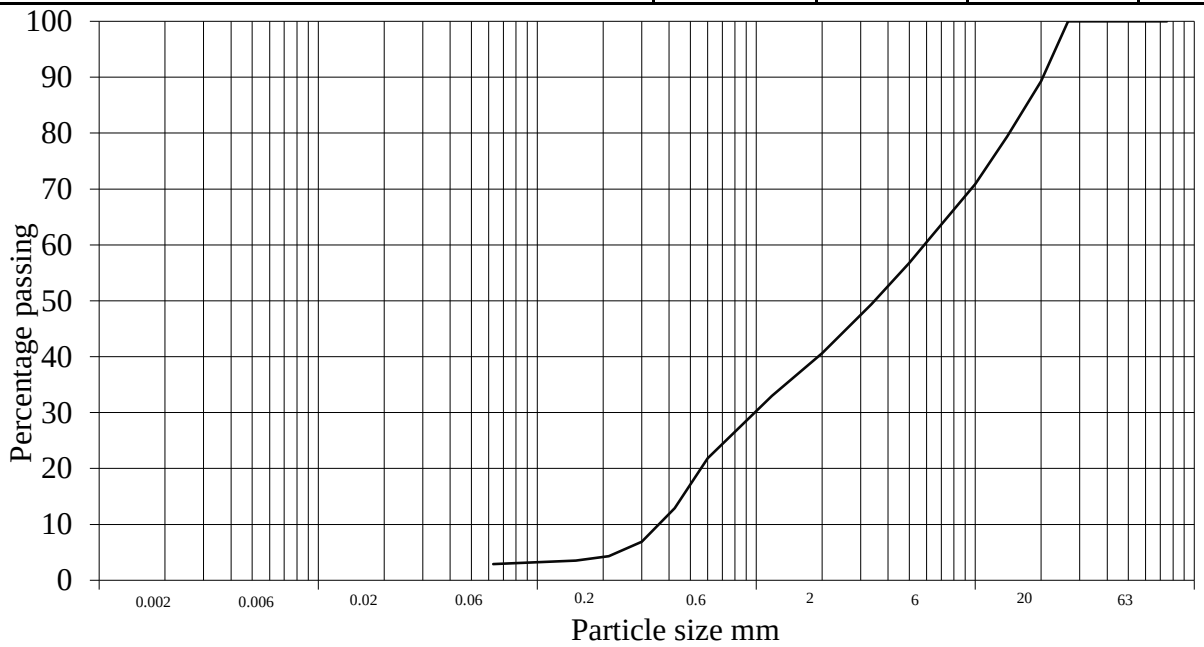
Site: Broadwater Lake
Harefield

Test Location: BH 08
Sample Depth: 1.65m -2.00m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	100.00		
50mm	100.00		
37.5mm	100.00		
26.5mm	100.00		
20mm	89.30		
14mm	79.40		
10mm	70.90		
6.3mm	61.50		
5mm	56.80		
3.5mm	49.40		
2mm	40.60		
1.18mm	33.00		
600µm	21.80		
425µm	12.90		
300µm	6.90		
212µm	4.30		
150µm	3.50		
63µm	2.90		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
3%				38%			59%			0%

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

GroundTech Laboratories

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Telephone: 01327 860947/860060 Fax: 01327 860430 Email: groundtech@listersgeotechnics.co.uk

Quality Assured ISO 9001

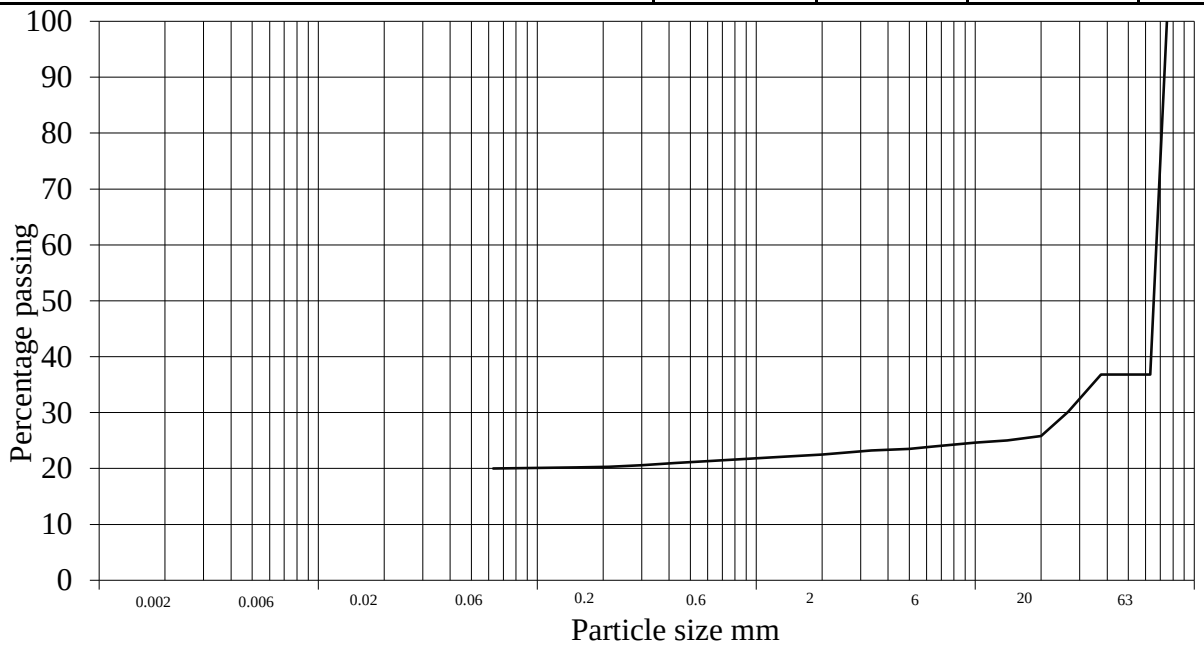
Site: Broadwater Lake
Harefield

Test Location: BH 08
Sample Depth: 3.00m -3.45m
Sample Description:

Hydrometer No.:
SG Gs:
Water Visc. (N):
Dry Mass of Soil after pretreatment (g):

Test Method: BS 1377 : Part 2 : 1990 : 9.2

BS test sieve	Cumulative Passing - %	Hydrometer Particle Diameter	Cumulative Passing - %
75mm	100.00		
63mm	36.80		
50mm	36.80		
37.5mm	36.80		
26.5mm	30.10		
20mm	25.80		
14mm	25.00		
10mm	24.60		
6.3mm	23.90		
5mm	23.50		
3.5mm	23.20		
2mm	22.50		
1.18mm	22.00		
600µm	21.30		
425µm	21.00		
300µm	20.60		
212µm	20.30		
150µm	20.20		
63µm	20.00		



CLAY	SILT			SAND			GRAVEL			COBBLES
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	
(i)20% (ii)54%				(i)3% (ii)7%			(i)14% (ii)39%			63%

(i) Percentage of whole sample (ii) Percentage of sample excluding very coarse soils

PARTICLE SIZE DISTRIBUTION

Project Reference
23.03.008

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Test Location	Depth (m)	C.B.R. Value % Top:	Base	Final Water Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Remarks
BH 02	0.10	0.5	4.1	15	2.23	1.95	Grey silty, sandy GRAVEL. Gravel is fine to coarse subangular to angular flint.
BH 04	0.50	10.9	22.1	5	1.95	1.86	Grey brown, slightly sandy GRAVEL. Gravel is fine to coarse subangular to subrounded flint and rare quarzitic gravel.
BH 06	0.50	42.3	35.3	13	2.13	1.89	Grey silty sandy GRAVEL. Gravel is fine to coarse, subrounded to angular flint and rare quarzitic gravel.
BH 07	0.50	37.1	73.4	6	2.09	1.96	Grey sandy GRAVEL. Gravel is fine to coarse, subrounded to angular flint and rare quarzitic gravel.

Samples recompacted using standard compaction
Surcharge 8kg

CALIFORNIA BEARING RATIO	Report No. 23.03.008

GroundTech Laboratories

Geotechnical Testing Facility

Slapton Hill Barn Blakesley Road Slapton Towcester Northamptonshire NN12 8QD

Telephone: 01327 860947/860060 Fax: 01327 860430

Test Location	Sample				Spec Ref.	SWC	Intact Bulk Density	Intact Dry Density	CIRIA C574 Density Sclae
	Ref	Top	Base	Type		%	Mg/m³	Mg/m³	
BH 01	3	9.50	9.60	D	1	21	2.09	1.73	H
BH 02	7	9.00	9.10	D	1	23	2.05	1.67	M
BH 03	10	12.50	12.95	D	1	25	2.02	1.62	M
BH 07	18	7.50		D	1	27	1.97	1.57	M
BH 08	21	12.50	12.95	D	1	25	2.02	1.62	M

Date		Report No.	
10/03/2023	**SATURATION WATER CONTENT**	23.03.008	L: Low M: Medium H: High VH: Very High
Tested in accordance with BS1377 : Part 2 : 1990, clause 3.3 unless annotated otherwise.			

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-06239-1		
Initial Date of Issue:	08-Mar-2023		
Client	Geo Integrity		
Client Address:	Units 7 Burcote Wood Farm Business Park Wood Burcote Towcester NN12 8TA		
Contact(s):	Lee Ashworth		
Project	23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE		
Quotation No.:	Q21-23824	**Date Received:**	23-Feb-2023
Order No.:		**Date Instructed:**	23-Feb-2023
No. of Samples:	15		
Turnaround (Wkdays):	7	**Results Due:**	03-Mar-2023
Date Approved:	08-Mar-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Leachate

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**		23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**		1595876	1595888
				Sample Location:		TP1	TP2
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.50	0.50
				Date Sampled:		15-Feb-2023	15-Feb-2023
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Arsenic (Dissolved)	U	1455	10:1	µg/l	0.20	1.6	3.1
Cadmium (Dissolved)	U	1455	10:1	µg/l	0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	10:1	µg/l	0.50	2.3	4.8
Copper (Dissolved)	U	1455	10:1	µg/l	0.50	12	4.1
Mercury (Dissolved)	U	1455	10:1	µg/l	0.05	< 0.05	< 0.05
Nickel (Dissolved)	U	1455	10:1	µg/l	0.50	5.5	5.3
Lead (Dissolved)	U	1455	10:1	µg/l	0.50	1.9	0.91
Selenium (Dissolved)	U	1455	10:1	µg/l	0.50	2.4	0.66
Zinc (Dissolved)	U	1455	10:1	µg/l	2.5	8.3	25

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
				Sample Location:	TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
				Date Sampled:	15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-	-	-	-	-		-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	48	18	13	18	21	11	8.8	5.2	6.3
Arsenic	M	2455	mg/kg	0.5	17	10	4.7	4.5	13	14	15	14	12
Cadmium	M	2455	mg/kg	0.10	0.50	0.19	0.14	< 0.10	0.21	0.10	0.44	0.38	0.24
Chromium	M	2455	mg/kg	0.5	38	24	9.7	11	25	20	30	28	24
Copper	M	2455	mg/kg	0.50	40	27	12	4.8	20	4.7	27	23	27
Mercury	M	2455	mg/kg	0.05	0.26	0.09	< 0.05	< 0.05	0.35	< 0.05	0.08	0.08	0.09
Nickel	M	2455	mg/kg	0.50	36	19	10	7.8	21	11	21	21	20
Lead	M	2455	mg/kg	0.50	76	50	29	7.6	120	9.8	57	58	51
Selenium	M	2455	mg/kg	0.25	4.4	0.66	0.39	0.25	1.1	0.43	0.76	0.77	0.70
Zinc	M	2455	mg/kg	0.50	72	67	31	22	95	13	91	85	67
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05									
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05									
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05									
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05									
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25									
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00									
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00									
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00									
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00									
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00									
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00									
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00									
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05									
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05									
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05									
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25									
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00									
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00									
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00									
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00									
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00									
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00									
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00									
Total VPH >C5-C10	M	2780	mg/kg	0.50									

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
				Sample Location:	TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
				Date Sampled:	15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Total EPH >C10-C35	M	2690	mg/kg	10.00									
Total EPH >C10-C40	N	2690	mg/kg	10.00									
Fraction of Organic Carbon	M	2625		0.0010	0.092					0.015			0.013
Total Organic Carbon	M	2625	%	0.20									
TPH >C5-C6	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C6-C7	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C7-C8	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	N	2670	mg/kg	1.0	17	< 1.0	< 1.0	< 1.0	10	< 1.0	< 1.0	27	8.1
TPH >C16-C21	N	2670	mg/kg	1.0	40	< 1.0	< 1.0	< 1.0	20	< 1.0	< 1.0	86	20
TPH >C21-C35	N	2670	mg/kg	1.0	160	< 1.0	< 1.0	< 1.0	40	< 1.0	< 1.0	70	37
Total TPH >C5-C35	N	2670	mg/kg	10	220	< 10	< 10	< 10	70	< 10	< 10	180	65
Naphthalene	M	2700	mg/kg	0.10	0.50	0.90	< 0.10	< 0.10	1.1	< 0.10	0.65	0.62	0.72
Acenaphthylene	M	2700	mg/kg	0.10	0.21	0.35	< 0.10	< 0.10	0.31	< 0.10	0.45	0.41	0.20
Acenaphthene	M	2700	mg/kg	0.10	0.15	0.40	< 0.10	< 0.10	0.19	< 0.10	0.24	0.21	0.31
Fluorene	M	2700	mg/kg	0.10	0.17	0.26	< 0.10	< 0.10	0.16	< 0.10	0.40	0.18	0.23
Phenanthrene	M	2700	mg/kg	0.10	0.87	1.4	< 0.10	< 0.10	0.79	< 0.10	0.78	0.68	1.2
Anthracene	M	2700	mg/kg	0.10	0.34	0.36	< 0.10	< 0.10	0.27	< 0.10	0.44	0.75	0.39
Fluoranthene	M	2700	mg/kg	0.10	2.5	1.4	< 0.10	0.52	1.5	0.12	1.5	1.2	1.2
Pyrene	M	2700	mg/kg	0.10	2.6	1.6	< 0.10	0.65	1.6	0.29	2.0	1.7	1.5
Benzo[a]anthracene	M	2700	mg/kg	0.10	1.5	0.88	< 0.10	< 0.10	0.86	< 0.10	1.2	0.93	0.74
Chrysene	M	2700	mg/kg	0.10	4.4	1.1	< 0.10	< 0.10	2.7	< 0.10	1.5	1.1	0.92
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	1.8	0.93	< 0.10	< 0.10	1.2	< 0.10	1.7	1.2	0.87
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	0.76	0.56	< 0.10	< 0.10	0.59	< 0.10	0.62	0.58	0.63
Benzo[a]pyrene	M	2700	mg/kg	0.10	1.5	0.83	< 0.10	< 0.10	0.84	< 0.10	1.5	0.98	0.67
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	1.3	0.60	< 0.10	< 0.10	0.67	< 0.10	1.1	1.1	0.53
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	0.18	0.11	< 0.10	< 0.10	0.16	< 0.10	0.25	0.44	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	2.5	0.95	< 0.10	< 0.10	1.3	< 0.10	1.6	1.2	0.86
Total Of 16 PAH's	M	2700	mg/kg	2.0	21	13	< 2.0	< 2.0	14	< 2.0	16	13	11
Dichlorodifluoromethane	U	2760	µg/kg	1.0		< 1.0			< 1.0				
Chloromethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Vinyl Chloride	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Bromomethane	M	2760	µg/kg	20		< 20			< 20				
Chloroethane	U	2760	µg/kg	2.0		< 2.0			< 2.0				
Trichlorofluoromethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,1-Dichloroethene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0		< 1.0			< 1.0				

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
				Sample Location:	TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
				Date Sampled:	15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
1,1-Dichloroethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Bromochloromethane	U	2760	µg/kg	5.0		< 5.0			< 5.0				
Trichloromethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,1,1-Trichloroethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Tetrachloromethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,1-Dichloropropene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0		< 2.0			< 2.0				
Trichloroethene	N	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2-Dichloropropane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Dibromomethane	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Bromodichloromethane	M	2760	µg/kg	5.0		< 5.0			< 5.0				
cis-1,3-Dichloropropene	N	2760	µg/kg	10		< 10			< 10				
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10		< 10			< 10				
1,1,2-Trichloroethane	M	2760	µg/kg	10		< 10			< 10				
Tetrachloroethene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,3-Dichloropropane	U	2760	µg/kg	2.0		< 2.0			< 2.0				
Dibromochloromethane	U	2760	µg/kg	10		< 10			< 10				
1,2-Dibromoethane	M	2760	µg/kg	5.0		< 5.0			< 5.0				
Chlorobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0		< 2.0			< 2.0				
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Tribromomethane	U	2760	µg/kg	1.0		< 1.0			< 1.0				
Isopropylbenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Bromobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2,3-Trichloropropane	N	2760	µg/kg	50		< 50			< 50				
N-Propylbenzene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
2-Chlorotoluene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
4-Chlorotoluene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
Tert-Butylbenzene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Sec-Butylbenzene	U	2760	µg/kg	1.0		< 1.0			< 1.0				

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
				Sample Location:	TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
				Date Sampled:	15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
1,3-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
4-Isopropyltoluene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
1,4-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
N-Butylbenzene	U	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2-Dichlorobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50		< 50			< 50				
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0				
Hexachlorobutadiene	N	2760	µg/kg	1.0		< 1.0			< 1.0				
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0		< 2.0			< 2.0				
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0		< 1.0			< 1.0				
N-Nitrosodimethylamine	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Phenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Chlorophenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50		< 0.50			< 0.50				
1,3-Dichlorobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
1,4-Dichlorobenzene	N	2790	mg/kg	0.50		< 0.50			< 0.50				
1,2-Dichlorobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Methylphenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Hexachloroethane	N	2790	mg/kg	0.50		< 0.50			< 0.50				
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Methylphenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Nitrobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Isophorone	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Nitrophenol	N	2790	mg/kg	0.50		< 0.50			< 0.50				
2,4-Dimethylphenol	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2,4-Dichlorophenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Naphthalene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Chloroaniline	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Hexachlorobutadiene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Methylnaphthalene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Nitrophenol	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50		< 0.50			< 0.50				
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50		< 0.50			< 0.50				

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
				Sample Location:	TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
				Date Sampled:	15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
2-Chloronaphthalene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Nitroaniline	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Acenaphthylene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Dimethylphthalate	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2,6-Dinitrotoluene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Acenaphthene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
3-Nitroaniline	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Dibenzofuran	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Chlorophenylphenylether	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2,4-Dinitrotoluene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Fluorene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Diethyl Phthalate	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Nitroaniline	M	2790	mg/kg	0.50		< 0.50			< 0.50				
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Azobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Hexachlorobenzene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Pentachlorophenol	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Phenanthrene	M	2790	mg/kg	0.50		1.2			1.1				
Anthracene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Carbazole	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Fluoranthene	M	2790	mg/kg	0.50		0.80			2.9				
Pyrene	M	2790	mg/kg	0.50		0.67			2.4				
Butylbenzyl Phthalate	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Benzo[a]anthracene	M	2790	mg/kg	0.50		< 0.50			1.2				
Chrysene	M	2790	mg/kg	0.50		< 0.50			1.4				
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50		< 0.50			< 0.50				
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Benzo[b]fluoranthene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Benzo[k]fluoranthene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Benzo[a]pyrene	M	2790	mg/kg	0.50		< 0.50			1.3				
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50		< 0.50			0.72				
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50		< 0.50			< 0.50				
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50		< 0.50			0.82				
PCB 81	N	2815	mg/kg	0.010							< 0.010		
PCB 77	U	2815	mg/kg	0.010							< 0.010		
PCB 105	N	2815	mg/kg	0.010							< 0.010		

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity			**Chemtest Job No.:**		23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824			**Chemtest Sample ID.:**		1595876	1595877	1595878	1595879	1595880	1595881	1595882	1595883	1595884
			Sample Location:		TP1	TP10	TP12	TP6	TP9	TP13	TP14	TP5	TP3
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.50	0.80	0.80	0.50	1.40	1.30	0.60	0.50	1.20
			Date Sampled:		15-Feb-2023	16-Feb-2023	17-Feb-2023	16-Feb-2023	16-Feb-2023	17-Feb-2023	17-Feb-2023	15-Feb-2023	15-Feb-2023
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
PCB 114	N	2815	mg/kg	0.010							< 0.010		
PCB 118	N	2815	mg/kg	0.010							< 0.010		
PCB 123	N	2815	mg/kg	0.010							< 0.010		
PCB 126	N	2815	mg/kg	0.010							< 0.010		
PCB 156	N	2815	mg/kg	0.010							< 0.010		
PCB 157	N	2815	mg/kg	0.010							< 0.010		
PCB 167	N	2815	mg/kg	0.010							< 0.010		
PCB 169	N	2815	mg/kg	0.010							< 0.010		
PCB 189	N	2815	mg/kg	0.010							< 0.010		
Total PCBs (12 Congeners)	N	2815	mg/kg	0.12							< 0.12		

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595885	1595886	1595887	1595888	1595889	1595890
				Sample Location:	TP4	TP4	CBR5	TP2	TP11	TP14
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.75	2.00	0.75	0.50	1.20	1.40
				Date Sampled:	15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A	-	-	-	-		
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Moisture	N	2030	%	0.020	12	12	10	11	63	43
Arsenic	M	2455	mg/kg	0.5	4.3	6.8	13	7.2		
Cadmium	M	2455	mg/kg	0.10	0.10	0.14	0.33	0.13		
Chromium	M	2455	mg/kg	0.5	11	16	33	17		
Copper	M	2455	mg/kg	0.50	6.1	16	32	15		
Mercury	M	2455	mg/kg	0.05	< 0.05	0.28	0.09	0.28		
Nickel	M	2455	mg/kg	0.50	8.3	12	17	12		
Lead	M	2455	mg/kg	0.50	13	60	120	67		
Selenium	M	2455	mg/kg	0.25	0.31	0.48	0.68	0.46		
Zinc	M	2455	mg/kg	0.50	22	48	120	51		
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	< 0.05	< 0.05				
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05				
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	0.25				
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	1.2	4.3				
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25	1.2	4.6				
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	340	290				
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	2800	1400				
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	3700	1700				
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	1500	570				
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	54	27				
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	8300	4000				
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	8400	4000				
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05				
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	< 0.05				
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	< 0.05	< 0.05				
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25	< 0.25	< 0.25				
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00	100	100				
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00	1600	1200				
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	1500	530				
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00	140	49				
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	2.6	< 1.0				
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00	3400	1800				
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	3400	1800				
Total VPH >C5-C10	M	2780	mg/kg	0.50	1.2	4.6				

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595885	1595886	1595887	1595888	1595889	1595890
				Sample Location:	TP4	TP4	CBR5	TP2	TP11	TP14
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.75	2.00	0.75	0.50	1.20	1.40
				Date Sampled:	15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Total EPH >C10-C35	M	2690	mg/kg	10.00	12000	5800				
Total EPH >C10-C40	N	2690	mg/kg	10.00	12000	5800				
Fraction of Organic Carbon	M	2625		0.0010		0.0075			0.14	
Total Organic Carbon	M	2625	%	0.20						12
TPH >C5-C6	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C6-C7	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C7-C8	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
TPH >C8-C10	N	2670	mg/kg	1.0	76	86	18	1.5		
TPH >C10-C12	N	2670	mg/kg	1.0	490	400	67	6.8		
TPH >C12-C16	N	2670	mg/kg	1.0	4500	2600	600	18		
TPH >C16-C21	N	2670	mg/kg	1.0	6900	2900	1000	20		
TPH >C21-C35	N	2670	mg/kg	1.0	3400	990	1100	46		
Total TPH >C5-C35	N	2670	mg/kg	10	15000	7000	2800	93		
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	4.3	7.3	< 0.10		
Pyrene	M	2700	mg/kg	0.10	< 0.10	5.9	12	< 0.10		
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	2.4	4.7	< 0.10		
Chrysene	M	2700	mg/kg	0.10	< 0.10	4.0	6.5	< 0.10		
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	1.7	6.1	< 0.10		
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.58	2.9	< 0.10		
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	1.5	4.7	< 0.10		
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	1.1	3.8	< 0.10		
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	0.73	1.2	< 0.10		
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	1.8	4.5	< 0.10		
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	24	54	< 2.0		
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0			< 1.0		
Chloromethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Bromomethane	M	2760	µg/kg	20	< 20			< 20		
Chloroethane	U	2760	µg/kg	2.0	< 2.0			< 2.0		
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0		

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595885	1595886	1595887	1595888	1595889	1595890
				Sample Location:	TP4	TP4	CBR5	TP2	TP11	TP14
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.75	2.00	0.75	0.50	1.20	1.40
				Date Sampled:	15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0			< 5.0		
Trichloromethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0			< 1.0		
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0			< 2.0		
Trichloroethene	N	2760	µg/kg	1.0	< 1.0			< 1.0		
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Dibromomethane	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0			< 5.0		
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10			< 10		
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10			< 10		
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10			< 10		
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0			< 2.0		
Dibromochloromethane	U	2760	µg/kg	10	< 10			< 10		
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0			< 5.0		
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0			< 2.0		
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Styrene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Tribromomethane	U	2760	µg/kg	1.0	< 1.0			< 1.0		
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Bromobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50			< 50		
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0			< 1.0		
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	14			< 1.0		
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0			< 1.0		
Tert-Butylbenzene	U	2760	µg/kg	1.0	2.4			< 1.0		
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	11			< 1.0		
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0			< 1.0		

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595885	1595886	1595887	1595888	1595889	1595890
				Sample Location:	TP4	TP4	CBR5	TP2	TP11	TP14
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.75	2.00	0.75	0.50	1.20	1.40
				Date Sampled:	15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
4-Isopropyltoluene	U	2760	µg/kg	1.0	3.6			< 1.0		
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0			< 1.0		
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50			< 50		
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0			< 1.0		
Hexachlorobutadiene	N	2760	µg/kg	1.0	< 1.0			< 1.0		
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0			< 2.0		
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0			< 1.0		
N-Nitrosodimethylamine	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Phenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Chlorophenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50	< 0.50			< 0.50		
1,3-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50			< 0.50		
1,2-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Methylphenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50			< 0.50		
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50	< 0.50			< 0.50		
4-Methylphenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Nitrobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Isophorone	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50			< 0.50		
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2,4-Dichlorophenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Naphthalene	M	2790	mg/kg	0.50	0.96			< 0.50		
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Hexachlorobutadiene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Methylnaphthalene	M	2790	mg/kg	0.50	6.0			< 0.50		
4-Nitrophenol	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50			< 0.50		
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50			< 0.50		

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity				**Chemtest Job No.:**	23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824				**Chemtest Sample ID.:**	1595885	1595886	1595887	1595888	1595889	1595890
				Sample Location:	TP4	TP4	CBR5	TP2	TP11	TP14
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.75	2.00	0.75	0.50	1.20	1.40
				Date Sampled:	15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
2-Chloronaphthalene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Nitroaniline	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Acenaphthylene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Dimethylphthalate	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2,6-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Acenaphthene	M	2790	mg/kg	0.50	2.0			< 0.50		
3-Nitroaniline	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Dibenzofuran	M	2790	mg/kg	0.50	1.1			< 0.50		
4-Chlorophenylphenylether	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2,4-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Fluorene	M	2790	mg/kg	0.50	2.9			< 0.50		
Diethyl Phthalate	M	2790	mg/kg	0.50	< 0.50			< 0.50		
4-Nitroaniline	M	2790	mg/kg	0.50	< 0.50			< 0.50		
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Azobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Hexachlorobenzene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50			< 0.50		
Phenanthrene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Anthracene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Carbazole	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Fluoranthene	M	2790	mg/kg	0.50	3.6			1.2		
Pyrene	M	2790	mg/kg	0.50	3.4			1.1		
Butylbenzyl Phthalate	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Benzo[a]anthracene	M	2790	mg/kg	0.50	0.75			0.66		
Chrysene	M	2790	mg/kg	0.50	0.98			0.74		
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	0.94			< 0.50		
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Benzo[b]fluoranthene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Benzo[k]fluoranthene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Benzo[a]pyrene	M	2790	mg/kg	0.50	< 0.50			0.86		
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50	< 0.50			0.61		
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50	< 0.50			< 0.50		
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50	< 0.50			0.68		
PCB 81	N	2815	mg/kg	0.010						
PCB 77	U	2815	mg/kg	0.010						
PCB 105	N	2815	mg/kg	0.010						

Results - Soil

Project: 23-01-21 Broadwater Lake, Moorhall Road, Harefield, UB9 6PE

Client: Geo Integrity			**Chemtest Job No.:**		23-06239	23-06239	23-06239	23-06239	23-06239	23-06239
Quotation No.: Q21-23824			**Chemtest Sample ID.:**		1595885	1595886	1595887	1595888	1595889	1595890
			Sample Location:		TP4	TP4	CBR5	TP2	TP11	TP14
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.75	2.00	0.75	0.50	1.20	1.40
			Date Sampled:		15-Feb-2023	15-Feb-2023	16-Feb-2023	15-Feb-2023	17-Feb-2023	17-Feb-2023
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
PCB 114	N	2815	mg/kg	0.010						
PCB 118	N	2815	mg/kg	0.010						
PCB 123	N	2815	mg/kg	0.010						
PCB 126	N	2815	mg/kg	0.010						
PCB 156	N	2815	mg/kg	0.010						
PCB 157	N	2815	mg/kg	0.010						
PCB 167	N	2815	mg/kg	0.010						
PCB 169	N	2815	mg/kg	0.010						
PCB 189	N	2815	mg/kg	0.010						
Total PCBs (12 Congeners)	N	2815	mg/kg	0.12						