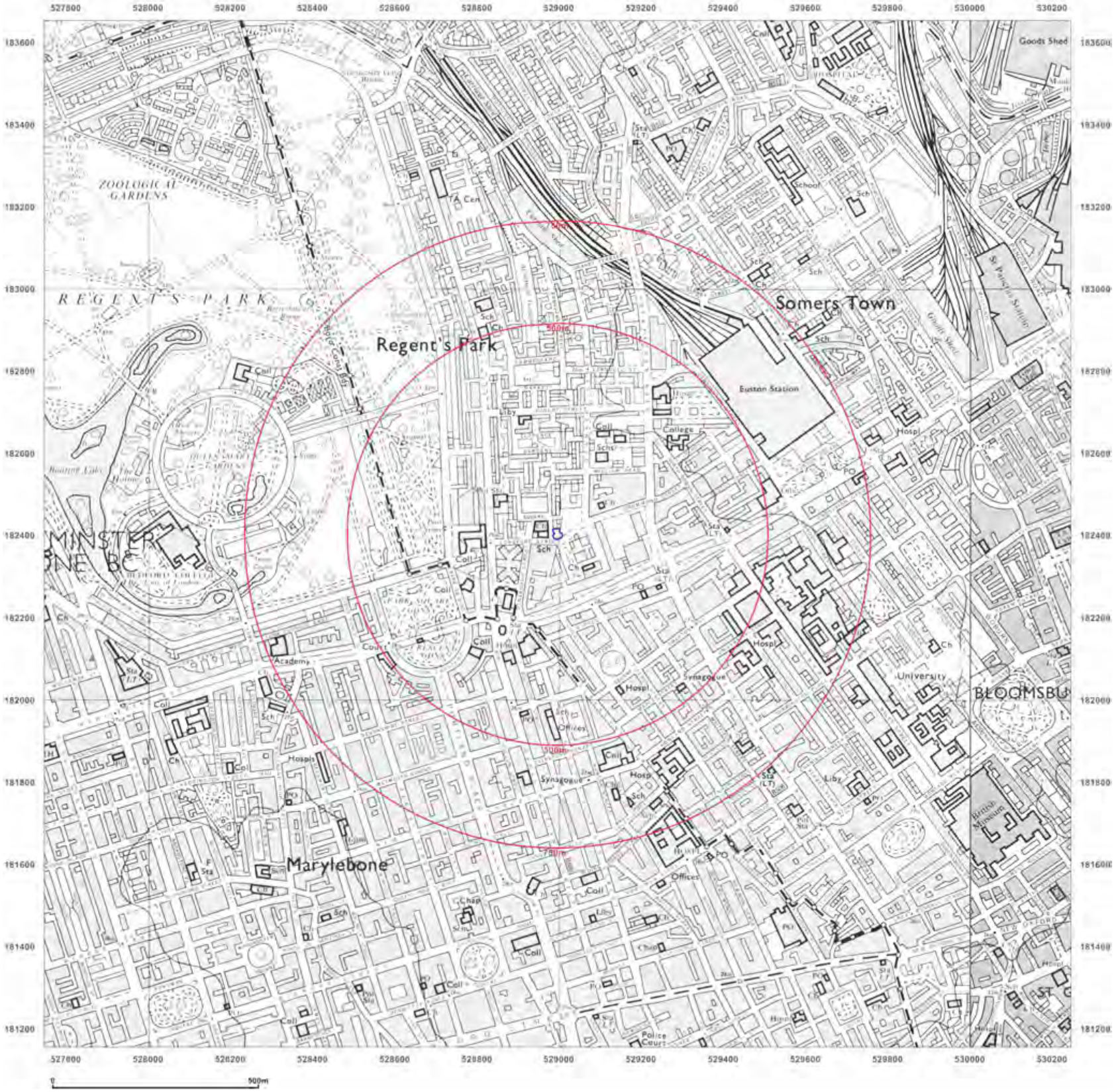

CGL

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ST. ANNES CHURCH, LAXTON PLACE, LONDON, NW1 3PT

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Report Ref: CGL01-3083561
Grid Ref: 528996, 182405

Map Name: National Grid

Map date: **1971-1973**

Scale: 1:10,000

Printed at: 1:10,000

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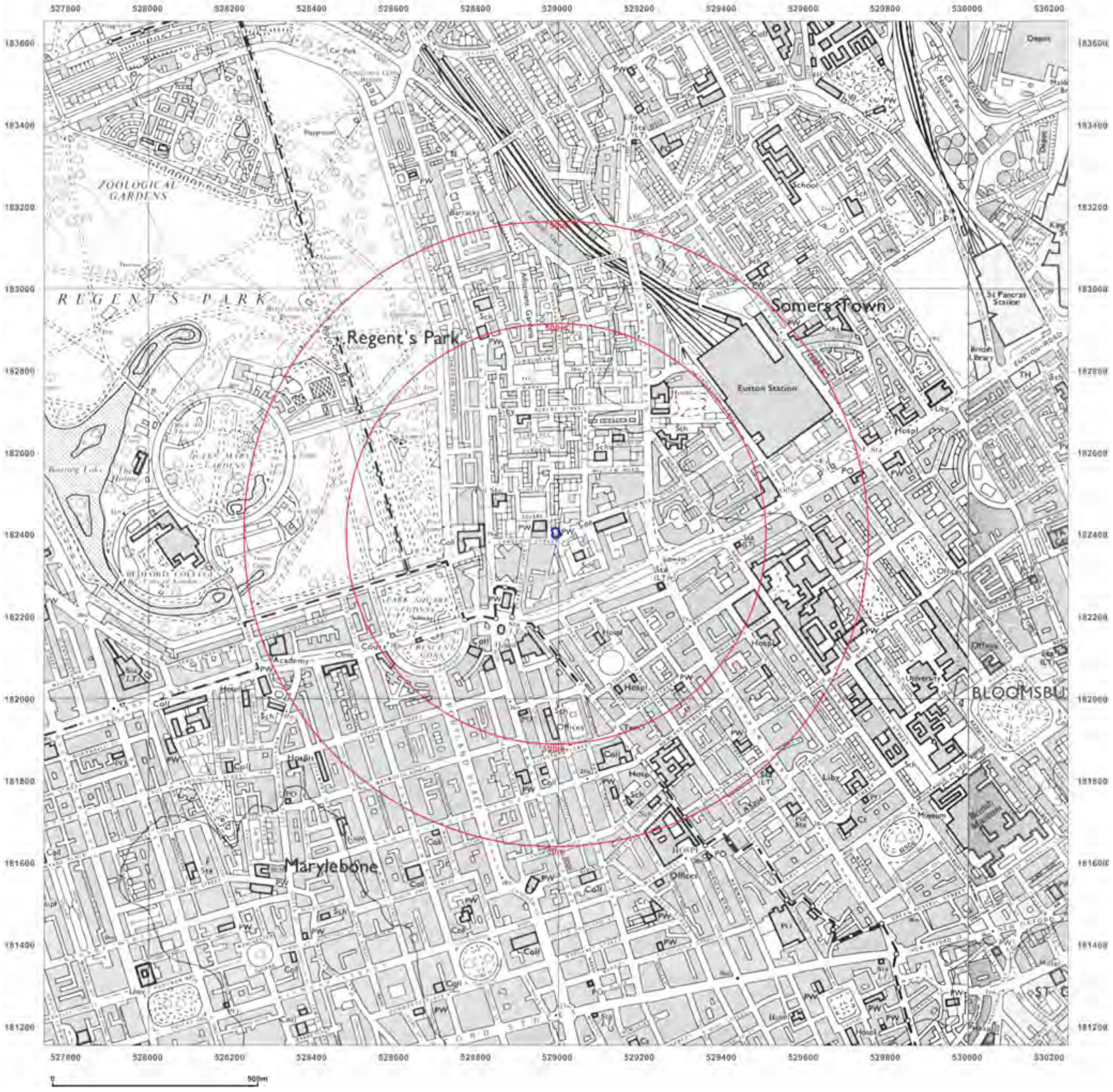
W: www.groundsure.com

Production date: 22 June 2016

To view map legend click here *Legend*



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Report Ref: CGL01-3083561
Grid Ref: 528996, 182405

Map Name: National Grid

Map date: **1989-1994**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1987
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1994
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

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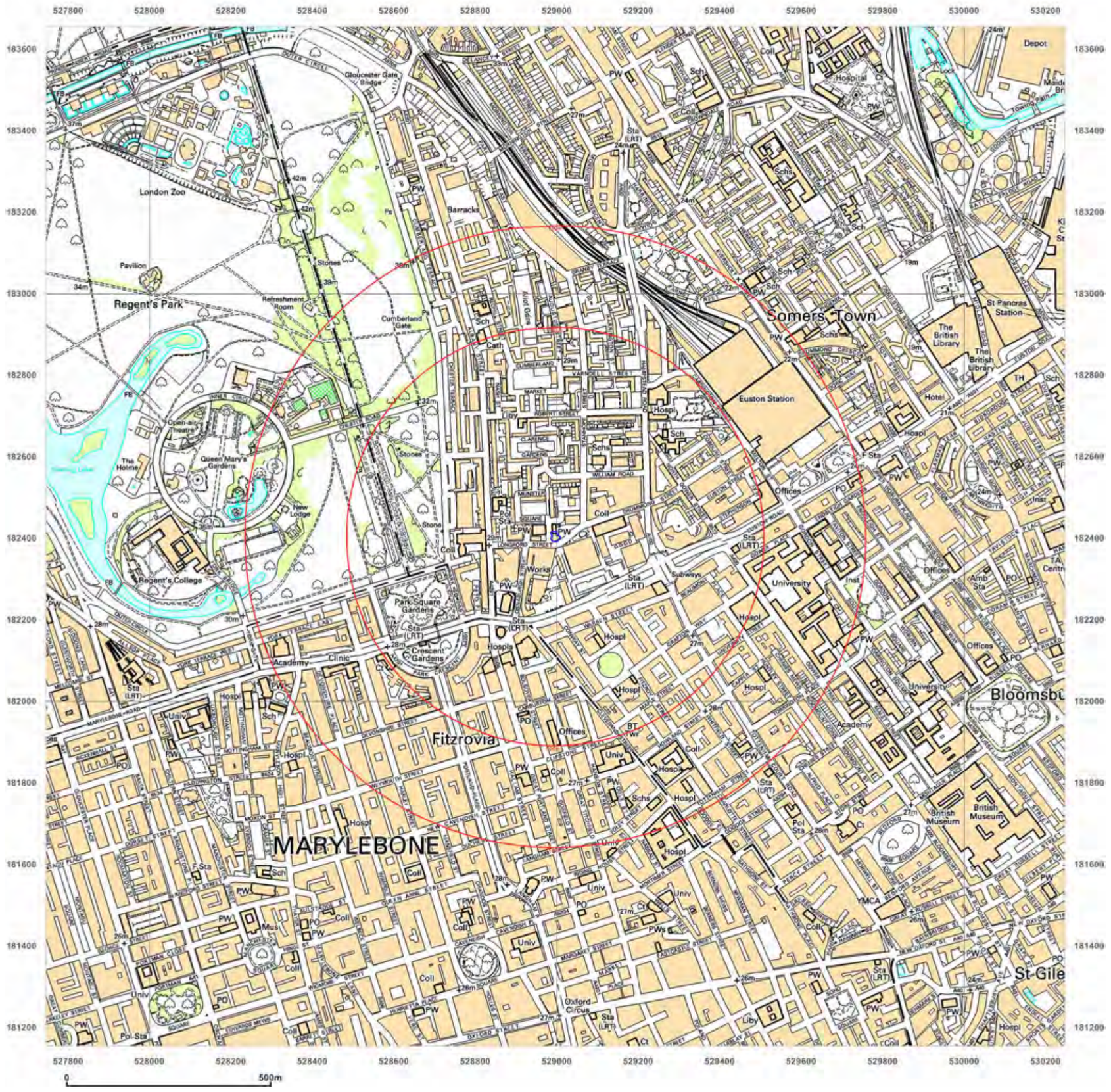
Production date: 22 June 2016

To view map legend click here *Legend*



Site Details:

ST. ANNES CHURCH, LAXTON PLACE, LONDON, NW1 3PT

Client Ref: PO3358
Report Ref: CGL01-3083561
Grid Ref: 528996, 182405

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

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T: 08444 159000
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W: www.groundsure.com

Production date: 22 June 2016

To view map legend click here *Legend*

Site Details:

ST. ANNES CHURCH, LAXTON PLACE, LONDON, NW1 3PT

Client Ref: PO3358
Report Ref: CGL01-3083561
Grid Ref: 528996, 182405

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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Groundsure INSIGHTS

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Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Powered by OS

Production date: 22 June 2016

To view map legend click here *Legend*

CGL

Site Details:

ST. ANNES CHURCH, LAXTON PLACE, LONDON, NW1 3PT

Client Ref: PO3358
Report Ref: CGL01-3083561
Grid Ref: 528996, 182405

Map Name: National Grid

Map date: **2014**

Scale: 1:10,000

Printed at: 1:10,000

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Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Powered by OS

Production date: 22 June 2016

To view map legend click here *Legend*

Appendix B

Extracts from Envirocheck Report

EXPLANATION OF SIGNS
USED ON
INSURANCE PLANS OF TOWNS & CITIES

CHAS. E. GOAD, LTD. CIVIL ENGINEERS — 56 CROUCH HILL LONDON N.4.

ABBREVIATIONS

ASB. Asbestos
CORR. Corrugated Iron
D.I.D. Double Iron Doors
DRA. Drapery
D Dwelling
ELECT. Electrician
(E.M.) Electric Motors
(ENG.) Steam Engine
FURNE. Furniture
GAR. Garage
(G.E.) Gas Engine
H.W. Hardware
I.COLS. Iron Columns or Steel Stanchions
JWLY. Jewellery
M.CL. Metal Clad
M.W. Manchester Warehouse
m.l. Match (or wood) lined
OIL Oil & Color
(O.E.) Oil Engine
P.H. Public House
S. Shop
S.I.D. Single Iron Doors
S.I.S. Single Iron Shutters
TAI. Tailors
TENS. Tenements
W.G. Wired Glass
W.N. Wire Netting over Glass.

COLORS

Brick, Stone or Concrete
Wood
Areas cleared due to enemy action
Skylights on 1 & 2 Story Buildings
Skylights on higher Buildings
Metal Buildings.
Timber piled or stacked

WALLS

Party Wall 2 Stories or over, a probable Fire Cut off
Entire Wall, but doubtful as fire cut off
Defective Wall — Imperfect
Wall above, Iron Cols: under
Wall some floors only (or wood or plaster partition)
Above roof 6' to 1'-6"
— Dº — 1'-6" to 2'-6"
Match or wood lined
Wood Clad with Corrugated Iron

OPENINGS

Passage under
On all floors
Some floors only — Unprotected
All floors (Protected)
All floors (some Protected) — Single Iron Doors
Some floors only (Protected)
All floors (some Protected)
All floors (Protected) — Double Iron Doors
Some floors only (Protected)
Wood loading door
Iron loading door

WINDOWS

On all or most floors
More than usual
Overlooking — Unprotected
Nearly all Glass
Openings thro' & Windows over
On some floors only
Protected by wired glass
Protected by Single Iron Shutters
Protected by Double Iron Shutters.
Windows in Front & Rear of Buildings understood unless otherwise shown

FLOORS

1.2.3.3½ &c on Buildings are number of Stories above ground (3½=3 Floors & Attic)
2&2B Means 2 Stories & 2 Basements Bast & Sub-Basement.

SKYLIGHTS

Λ Less than 50 Square Feet (Say 10'x5', or 7'x7')
Openings through 2 Floors under (each stroke denotes an opening.)
With well hole through 3 Floors
Lant. Lantern Light, sides only glass. — Over 50 Sq: Ft. to Scale
or Vent. or raised Ventilator

HOISTS & LIFTS

Open
Open (Wood flaps to floors)
Enclosed Wood or Plaster
Open to Street
Enclosed Brick or Fire Resisting Wired Glass Doors
Iron Doors shown as explained under "Openings"

ROOFS

ASB Asbestos
C Concrete
CORR. Corrugated Iron
Metal
P Patent (Felt &c)
O Slate
T Tile

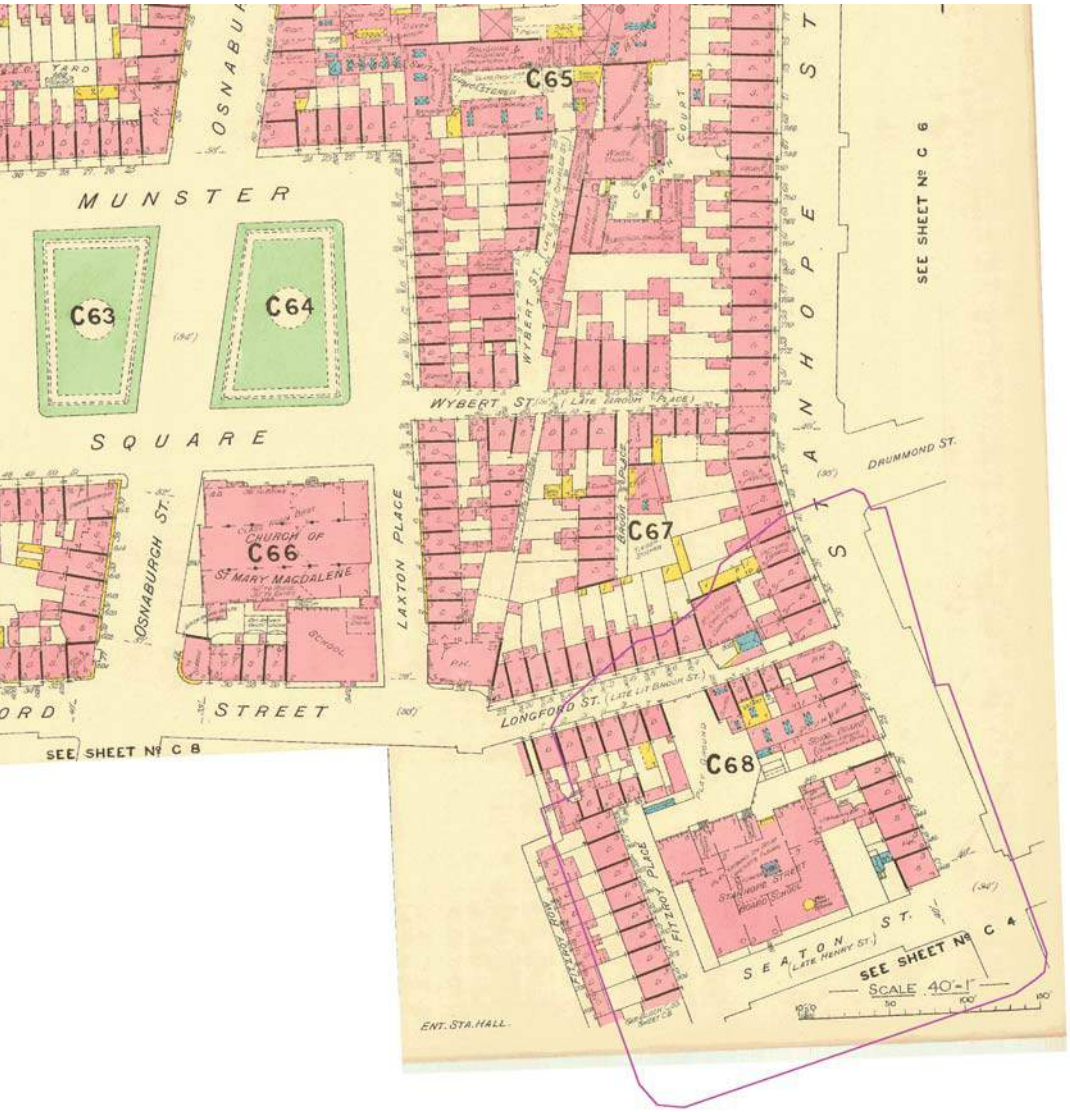
Profiles
With North Lights

SUNDRIES

Steam Boilers
—n— Boiler set in Brick
Factory Chimneys
(ENG.) Steam Engine
Overhanging Wood Cornice
Fire Alarm Box
—— Dº —— On key plan
Hydrant
Hydraulic Hydrant
Private Hydrant or Stand Pipe
Double Hydrant
Salt Water Hydrant
Sprinkler or Auto Alarm Bell

REFERENCE NUMBERS

Numbers Parallel with Street are existing Street Nºs
Where two sets of Street Nºs in same Block coincide, additional Arbitrary Nºs are given to one set (500 & upwards)
Where Buildings to which they applied are demolished, Street & Arbitrary Nºs are shown & crossed through on Revision
—48'— Are Street Widths.
(37') Are heights of ground above Ordnance Datum
Height in feet of adjoining Buildings where Stories differ in height
Sizes of Water Mains supplying Hydrants



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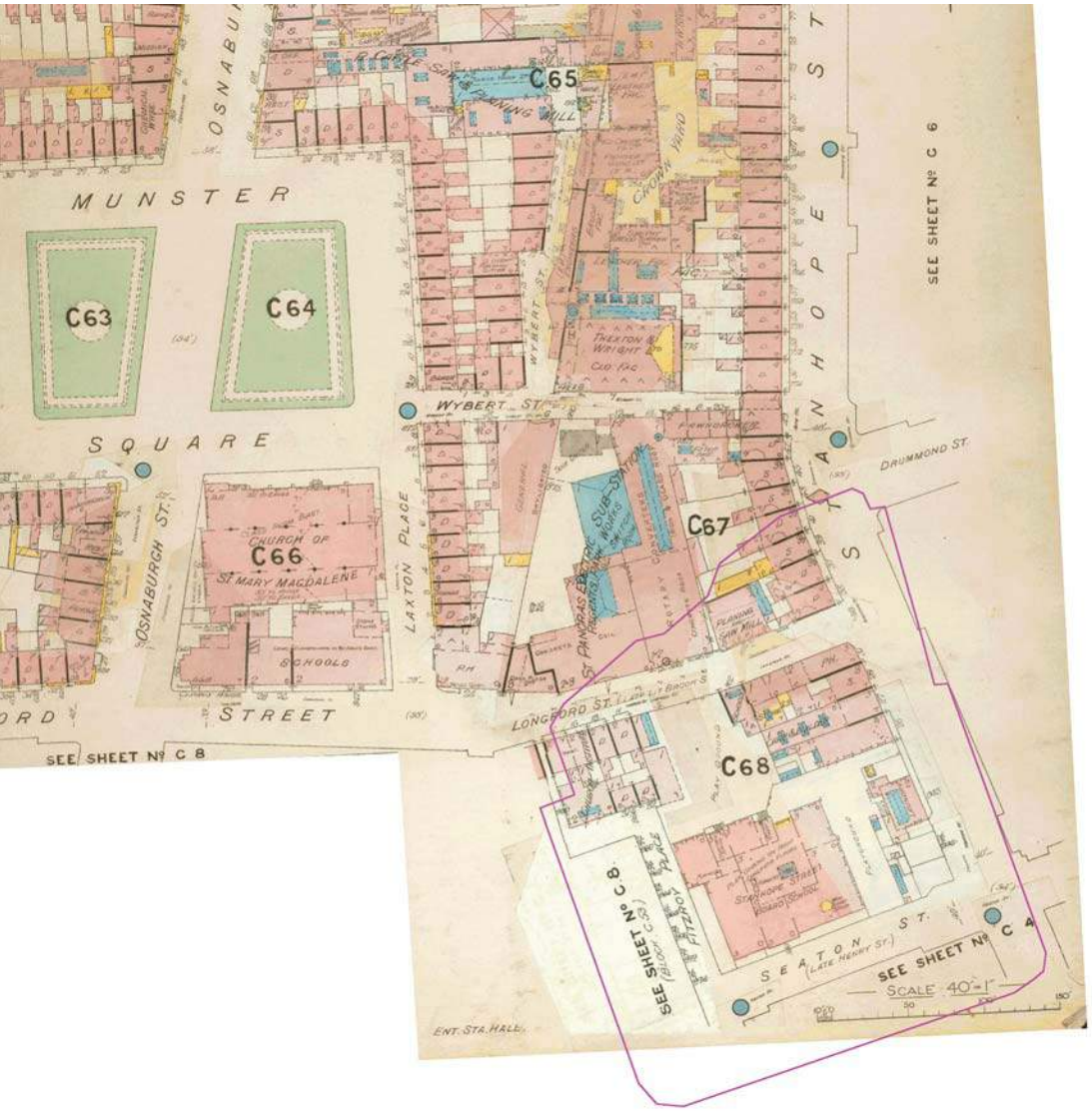

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Published Date : 1963

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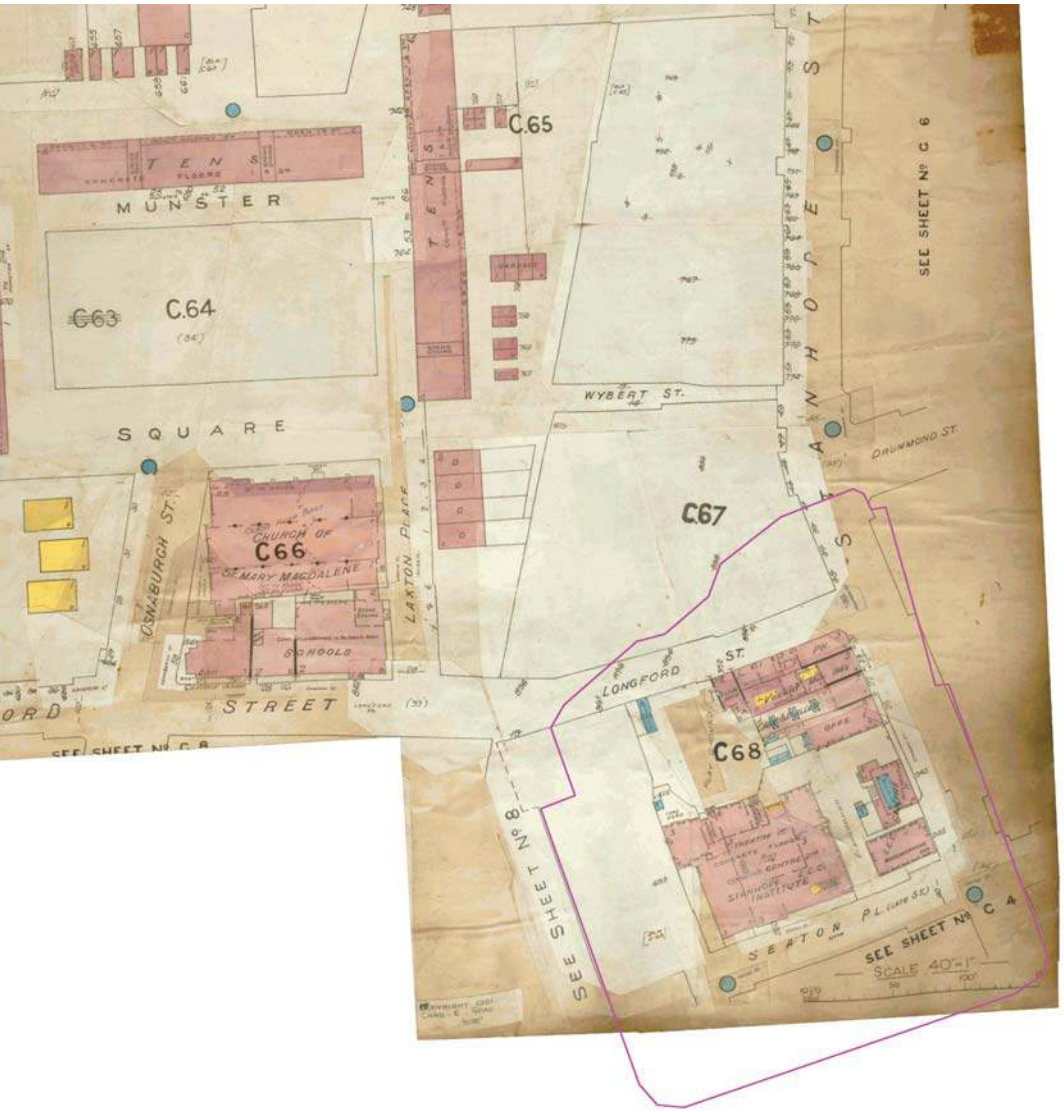

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Appendix C

Concept (2017) Phase 1 Factual Report

SITE INVESTIGATION REPORT

1 Triton Square, Ground Investigation, Phase 1

ISSUE 03

SITE INVESTIGATION REPORT

1 Triton Square, Ground Investigation, Phase 1

Prepared for: British Land

Concept: 17/2961 - FR 03 29/06/2017

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DOCUMENT ISSUE REGISTER			
Project Name:	1 Triton Square, Ground Investigation, Phase 1		
Project Number:	17/2961		
Document Reference:	17/2961 - FR 03	**Current Issue**	Issue 03
Document Type:	Site Investigation Report		

Development	**Name**	**Signature**	**Date**
Prepared by:	O Beal		29/06/2017
Checked by:	O Savvidou		29/06/2017
Approved by:	I Penchev		29/06/2017

Issued to:	Arup

Date	**Issue**	**Amendment Details/ Reason for issue**	**Issued to**
17/05/17	Issue 00		Arup
05/06/17	Issue 01	Updated with comments and lab results	Arup
20/06/17	Issue 02	Updated with comments	Arup
29/06/17	Issue 03	Updated with comments	Arup

Notes:

CONTENTS

1. PROJECT PARTICULARS

Site Location:	1, 4, 7 Triton Square, London, NW1 3HG
Client:	British Land
Investigation Supervisor:	Ove Arup & Partners Ltd
Fieldwork:	03/04/2017 – 26/04/2017
Laboratory Work:	27/04/2017 – 05/06/2017

2. PURPOSE AND SCOPE OF WORKS

The purpose of the investigation was to provide information on the geometry and condition of existing substructure, the groundwater regime at the site and confirm geotechnical parameters for the design of new foundations with Limited geo-environmental monitoring, sampling and testing.

The site currently comprises a multi-story building used for commercial and office space with a single storey basement.

The development will involve addition of three floors and a ten storey infill in the buildings central atrium.

The scope of the works comprised the following:

- 1 No. Cable Percussion Borehole to a depth of 31.50m;
- 12 No. Diamond Cored Coreholes to a maximum depth of 2.05m;
- 3 No. Diamond Cored Coreholes followed by Hand Auger to a maximum depth of 2.00m;
- 1 No. Stich-drilled Trial Pit followed by Hand Excavation to a depth of 0.90m;
- 3 No. Dynamic Probe Tests;
- 1 No. Mackintosh Probe Test;
- Permeability Test;
- Instrumentation Monitoring and Sampling;
- Geotechnical Chemical and Concrete Laboratory Testing.

Table 1 – Exploratory Hole List

Hole ID	Hole Type	Depth (m)
BH101	CP	31.50
CH01-DP	DP	4.00

Hole ID	Hole Type	Depth (m)
CH02-DP	DP	3.50
CH03-DP	DP	3.50

Hole ID	Hole Type	Core length (m)	Inclination (°)
CH01	DC	0.50	0
CH02	DC	0.51	0
CH03	DC	0.62	0
CH04	DC/HA	2.00	0
CH05	DC/HA	1.80	0
CH06	DC/HA	2.00	0
CH07	DC/HA	2.00	0
CH08	DC	0.35	90
CH09	DC	0.95	90
OP01I	DC	2.05	45
OP01SP	TP	0.90	0
OP01V1	DC	1.80	0
OP01V2	DC	0.90	0
OP02I	DC	1.48	45
OP02V1	DC	1.93	0
OP02V2	DC	0.45	0

Key

CP –Cable Percussion Borehole

DC –Diamond Cored Corehole

DC/HA – Diamond Cored Corehole followed by Hand Auger

DP –Dynamic Probe

TP –Stich-drilled Trial Pit followed by Hand Excavation

3. DESCRIPTION OF WORKS

The works were carried out in accordance with the Ove Arup & Partners Ltd Ground Investigation Specification and Tender Document "1 Triton Square Specification for Ground Investigation - Phase 1" with reference: 246868/SPEC/001, dated 28th March 2017 and the Concept Method Statement.

The site is located at 1, 4 and 7 Triton Square (147 Triton Square), approximately 150m to the north west of the junction of Euston and Hampstead Road and forms part of a wider Regent's Place/Triton Square development bounded by Drummond Street, Longford Street, Osnaburgh Street, Euston Road and Hampstead Road. It is centred at approximate National Grid Reference TQ290823.

The locations of all exploratory holes are shown in the Exploratory Hole Location Plan presented in Section 7 of this report.

4. INVESTIGATION METHODS

4.1 Cable Percussion Drilling

1 No. Cable Percussion Borehole was drilled to a depth of 31.50m using a standard cable percussion rig (Dando 1000) with 200mm and 150mm diameter casing as appropriate.

4.1.1 Sampling and Testing during Cable Percussion Drilling

Bulk samples were taken at regular intervals in the Made Ground and thereafter at each change in strata. Undisturbed 102mm (U100) nominal diameter samples were taken using a down-hole sliding hammer in cohesive material at specified intervals or as instructed by the Investigation Supervisor.

Standard Penetration Tests (SPT) were carried out at specified intervals or as otherwise instructed by the Engineer. The resulting SPT "N" blowcount values are presented in the relevant borehole records. Where an SPT using a split spoon sampler was not possible, due to the granular nature of the material, a solid cone was used.

Small, disturbed samples were retrieved from the cutting shoe of the U100 sampler, the SPT split spoon sampler and at intervals specified by the Investigation Supervisor.

Environmental samples (tubs, jars and vials) were taken for chemical analysis in the Made Ground or at each change of strata and where visual or olfactory evidence of contamination was noted or as instructed by the Investigation Supervisor. All samples taken for chemical analysis were screened for volatiles using a Phocheck Tiger photoionization detector.

The cable percussion borehole logs are presented in Section 8 of this report.

4.2 Diamond Coring/Hand Augering/Hand Excavation

16 No. diamond cored coreholes were carried out using a water-cooled diamond coring rig Hilti DD350.

10 No. coreholes were carried out internally from basement level, 2 No. coreholes (CH08-CH09) were formed through the basement walls to a maximum length of 0.95m and 4 No. coreholes (OP01SP, OP01I, OP01V1 & OP01V2) were carried out externally from ground level.

Further Dynamic (see section 4.3) and Mackintosh probing was carried out from the base core CH01, CH02 and CH03 to investigate the depth of the London Clay deposit.

CH04, CH05, CH06 and CH07 were followed on by hand auger to a maximum depth of 2.00m to assess and sample the material beneath.

Upon completion of CH08 core a lateral probing was carried out to 1.2m form the face of the basement wall in an attempt to confirm the presences of a sheet pile wall. The attempt was unsuccessful. Sheet pile wall was confirmed in position CH09 and sample was retrived.

Mackintosh Probe testing was carried out with in CH01 to a depth of 1.10m. A 4.5 kg free fall hammer is lifted and dropped through a height of 500mm to drive a steel cone Ø30mm into the soil. The cone is advanced into the soil by standard blows from the drop weight and the number of blows for 100mm penetration is counted.

OP01SP was stich-drilled with 3 No. Ø300mm vertical diamond cores followed by hand excavation to 0.90m depth to confirm the underside of the pile cap and the presence and dimensions of the sheet pile wall.

Ø19mm drive-in piezometers were installed from the base of CH01, CH02 and CH03.

The corehole logs are presented in Section 9 of this report and the monitoring results in Section 12.

4.3 Dynamic Probing

3 No. Dynamic DPSH probes (CH01-DP, CH02-DP & CH03-DP) were carried out using a electrically powered tracked "geo" rig with a 63.50kg drop hammer falling over 750mm. Solid 90º 15 cm^2, 50.5mm diameter sacrificial cones were used, and the numbers of blows were recorded for each 100mm of penetration.

Where the probe results record zero or a low blowcount, this may be indicative of very weak or loose soil. It is possible that very weak or loose soil can be penetrated under the weight of the dynamic probing rods themselves and that a single blow may advance the rods over one or more 100mm increments. Where this occurs zero blowcounts may not be indicative of the presence of voids.

The dynamic probing test records are provided in section 10.

4.4 Permeability Testing

During drilling falling head permeability test was carried out within borehole BH101 at 6.00m depth. The results are presented in Section 11 of this report.

4.5 Standpipe Installations

Monitoring wells with flush stopcock covers were installed in the boreholes as follows:

Table 2 – Monitoring Installation Details

Hole ID	Base of Borehole (m bgl)	Diameter of Installation (mm)	Type of Installation	Base (m bgl)	Top RZ (m bgl)	Bottom RZ (m bgl)
BH101	31.50	50	SPG/GW	2.40	1.00	2.40
		50	SPGW	7.85	3.40	7.85
CH01	0.50	19	SPIE*	1.73	0.50	1.73
CH02	0.51	19	SPIE*	2.13	0.51	2.13
CH03	0.62	19	SPIE*	2.05	0.62	2.05

KEY
SPG/GW – Gas & Groundwater Standpipe
SPGW – Groundwater Standpipe
RZ – Response Zone

*Standpipe piezometer driven into the ground at the base of the corehole

The boreholes were backfilled with bentonite pellets, with gas/groundwater response zones backfilled with a 10mm pea shingle filter. All installations were finished with concrete and a lockable stopcock covers flush with the ground. All coreholes were reinstated with C30 mixed on site concrete with Sika 2 Waterproofing additive.

4.6 Instrumentation Monitoring

Gas and groundwater monitoring and sampling was carried out by Concept subsequent to completion of the boreholes.

Ground water in the standpipes was monitored using a Geosense dipmeter and the gas concentrations were recorded using a Gas data GFM436 gas monitor. The accuracy of the instrument is summarised in Section 12 where the gas monitoring reports and groundwater results are presented.

4.7 Logging / Laboratory Testing

Logging of all soil samples was carried out in accordance with BS 5930:2015.

Geotechnical testing is performed at Concept Site Investigations laboratory in accordance with BS1377:1990 unless otherwise stated in the report. Concept is accredited by UKAS for tests where the UKAS logo is appended to the individual test report or summary. Approved signatories for laboratory testing are as follows:

- LG – Lynn Griffin (Quality Manager)
- KM – Kasia Mazerant (Laboratory Manager)

Where subcontracted analysis has been carried out, the details of the laboratory (and accreditation where applicable) are shown in the individual test report or summary.

The results are presented in tabular format in Section 13 of this report.

Concrete core testing was carried out by Sandberg Ltd and the results are presented in Section 14.

All chemical testing was specified and scheduled by Ove Arup & Partners Ltd and carried out by i2 Analytical Ltd in accordance with the requirements of UKAS ISO17025 and MCERTS. The results are presented in tabular format in Section 15 of this report.

4.8 Setting Out

The locations of all exploratory holes were agreed with the Investigation Supervisor and set out prior to commencement of the site works.

Following completion of the ground works the locations and elevations of the boreholes and pits were established by Concept's specialist subcontractor Msurv using total survey and GPS equipment.

The co-ordinates and levels of the as-built locations of the boreholes are shown in the Exploratory Hole Location Plan presented in Section 7 of this report.

5. GEOLOGICAL GROUND PROFILE

The geological strata encountered during the investigation are summarised in the table below. The Top and Bottom of the strata noted in the table indicates the highest and lowest boundaries encountered in all exploratory holes.

Table 3 - Geological Ground Profile (External)

STRATUM	TOP (moD)	BASE (moD)	DESCRIPTION
MADE GROUND	28.02	25.97	Concrete over firm, dark grey and orangish brown sandy gravelly silty CLAY. Gravel comprises subangular to subrounded fine to coarse flint and rare brick and concrete fragments. Sand is fine to coarse. Orangish brown and grey slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel comprises angular to subangular fine to coarse concrete, brick and rare clinker fragments. Light grey and orange sandy GRAVEL with low cobble content. Gravel comprises angular to subangular fine to coarse concrete and brick fragments. Sand is fine to coarse.
RIVER TERRACE DEPOSITS	25.84	20.14	Medium dense, orangish brown slightly clayey silty sandy subangular to subrounded fine to coarse flint GRAVEL. Sand is fine to coarse.
LONDON CLAY	20.14	-0.51	Firm to very stiff, dark bluish grey to orangish brown slightly sandy slightly gravelly CLAY with rare pockets of grey silty fine sand and rare selenite crystals. Gravel is angular to subrounded fine to coarse flint and claystone fragments.
HARWICH FORMATION	-0.51	-1.01	Very Stiff, greenish grey sandy silty CLAY. Sand is fine to coarse and glauconitic.
LAMBETH GROUP	-1.01	Extent Not Proven	Very stiff, greenish grey to blue CLAY.

Table 4 - Geological Ground Profile (Internal/Basement)

STRATUM	TOP (moD)	BASE (moD)	DESCRIPTION
MADE GROUND	24.54	21.14	CONCRETE over grey to greyish brown sandy GRAVEL. Gravel comprises angular to subangular fine to coarse flint and concrete fragments. Sand is fine to coarse.

STRATUM	TOP (moD)	BASE (moD)	DESCRIPTION
			Greyish brown to orangish brown silty gravelly fine to coarse SAND. Gravel comprises angular to subangular fine to coarse flint with occasional brick and concrete fragments.
LONDON CLAY	24.54	Extent Not Proven	Firm to stiff, bluish grey to orangish brown CLAY with rare selenite crystals.

REFERENCES

British Standards Institution, (2015) Code of practice for ground investigations, British Standard BS5930: 2015, BSI, London

British Standards Institution, (2011) Investigation of potentially contaminated sites, British Standard BS10175: 2011, BSI, London.

UK Specification for Ground Investigation, (2011) Site Investigation Steering Group, Thomas Telford, London

British Geological Survey (1996) London and the Thames Valley 4th Edition, London HMSO.

British Standards Institution BS EN ISO 22475-1, (2006) Geotechnical Investigation and Testing – Sampling Methods and Groundwater Measurements – Part 1: Technical Principles for Execution

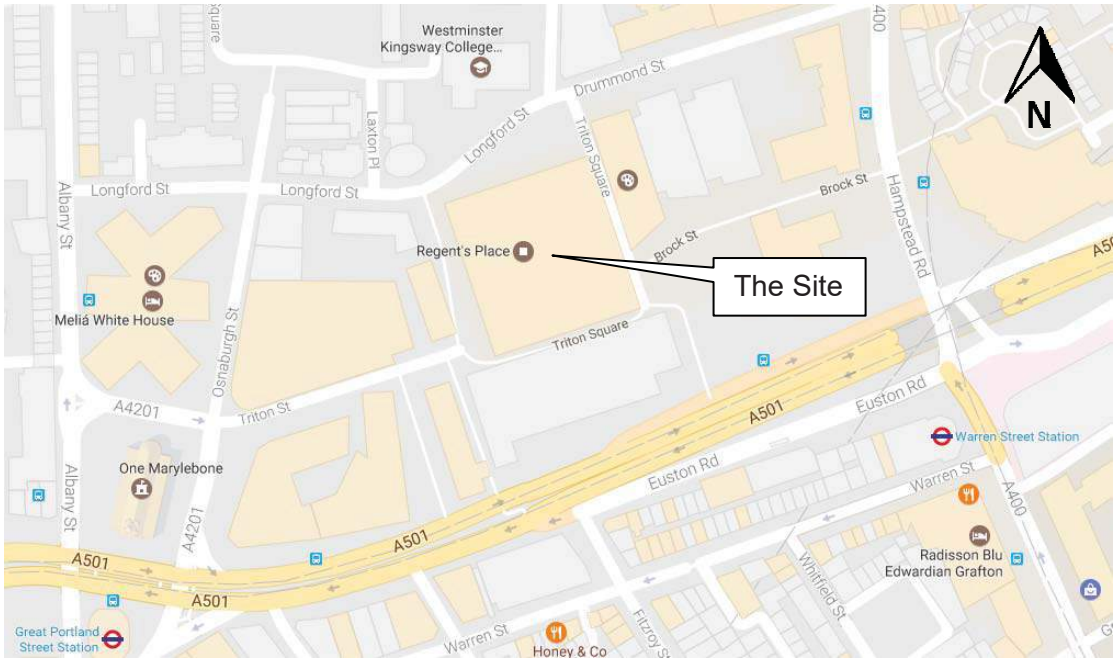
British Standards Institution BS EN 1997:1 (2004) EuroCode 7 - Geotechnical Design. Part 1 – General Rules.

British Standards Institution BS EN 1997:2 (2007) EuroCode 7 - Geotechnical Design. Part 2 - Ground Investigation and Testing.

King C. (1981) The stratigraphy of the London Basin and associated deposits. Tertiary Research Special Paper, Vol. 6, Backhuys, Rotterdam, p158.

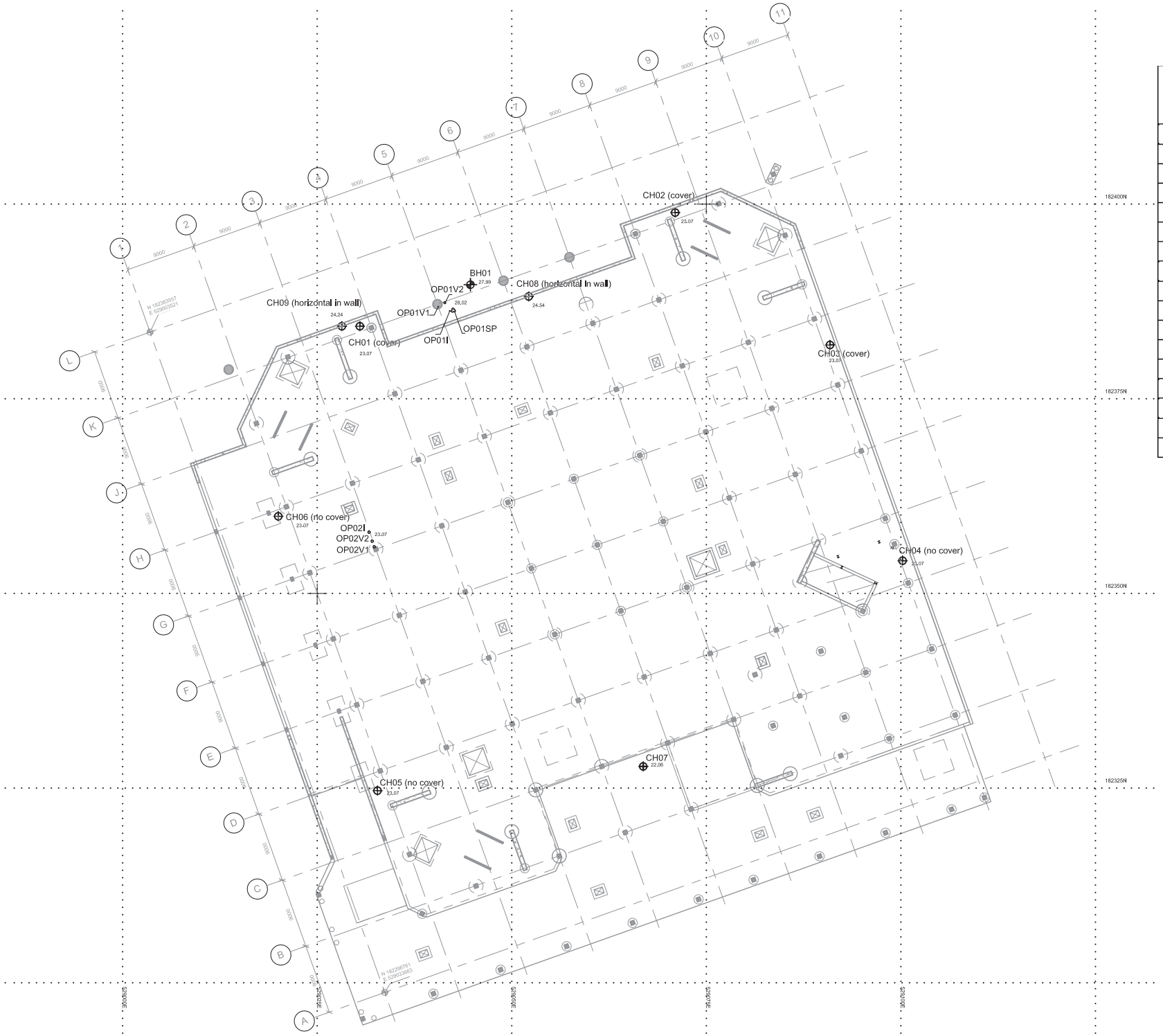
Entwisle N D C, Hobbs, P R N, Northmore, K J, Skipper, J, Raines, M R, Self, S J, Ellison, R A & Jones L D (2013) Engineering Geology of British Rocks and Soils - Lambeth Group. British Geological Survey Open Report, OR/13/006. 316pp.

6. SITE LOCATION PLAN



Not to Scale © Crown Copyright reserved

7. EXPLORATORY HOLE LOCATION PLAN



NOTES

1. This drawing should not be scaled, only use annotated dimensions.

HOLE	Easting (m)	Northing (m)	Elevation (m)
BH01	529044.69	182389.64	27.99
CH01	529030.48	182384.31	23.07
CH02	529071.00	182398.91	23.07
CH03	529090.89	182381.91	23.07
CH04	529100.22	182354.21	23.07
CH05	529032.75	182324.67	23.07
CH06	529020.01	182359.91	23.07
CH07	529066.90	182327.78	22.06
CH08	529052.18	182388.14	24.54
CH09	529028.18	182384.32	24.24
OP01I	529042.05	182386.28	28.02
OP01SP	529042.49	182386.35	28.02
OP01V1	529040.57	182386.83	28.02
OP01V2	529041.40	182387.33	28.02
OP02V1	529032.34	182356.00	23.07
OP02V2	529032.08	182356.72	23.07
OP02I	529031.67	182357.87	23.07

KEY

- BH- Cable Percussion Borehole
- CH- Concrete Core Horizontal
- OP - Concrete Core Vertical/ Inclined

No	Revision	Drawn	Checked	Passed	Date

CONCEPT SITE INVESTIGATIONS

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www.conceptconsultants.co.uk

Client:	British Land
Project:	1 Triton Square, Ground Investigation, Phase 1
Title:	Exploratory Hole Location Plan
Dwg. No:	172961/00
Status:	Issue
Scale:	NTS

Drawn	Checked	Passed	Date
RD	IP	MD	May 2017

8. CABLE PERCUSSION BOREHOLE LOG

CONCEPT
Unit 8 Warple Mews, Warple Way
London, W3 0RF
Telephone: 0208812880_
E-mail: si@conceptconsultants.co.uk

Borehole No

BH101

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	10/04/17	27.99	E 529044.7 N 182389.6	31.50m
	Date Completed 13/04/17			

Client

British Land

BOREHOLE SUMMARY

Top (m)	Base (m)	Type	Date Started	Date Ended	Crew	Logged By	Core Barrel (mm)	Core Bit	Plant Used/ Method	SPT Hammer Reference
0.00	1.20	IP	10/04/2017	10/04/2017	UN	OJ			Hand Excavted	
1.20	31.50	CP	11/04/2017	13/04/2017	SW	OJ			Dando 1000	SW68

WATER STRIKES

Strike at (m)	Rise to (m)	Time to Rise (min)	Casing Depth (m)	Sealed (m)
6.20	5.44	20	5.20	

WATER ADDED

From (m)	To (m)
2.40	7.00

CHISELLING / SLOW DRILLING

From (m)	To (m)	Duration (hr)	Remarks
9.00	9.20	0:15	Claystone
9.75	10.25	1:00	Claystone
15.00	15.20	0:15	Claystone
16.10	16.40	0:45	Claystone

HOLE

Depth (m)	Diameter (mm)
0.00	200
14.00	200
31.50	150

CASING

Depth (m)	Diameter (mm)
0.00	200
8.00	200
14.50	150

ROTARY RECOVERY

From (m)	To (m)	Blows	Recovery (%)

ROTARY FLUSH DETAIL

From (m)	To (m)	Flush Type	Flush Return (%)	Flush Colour

INSTALLATION DETAILS

Type	Diameter (mm)	Depth of Installation (m)	Top of Response Zone (m)	Bottom of Response Zone (m)	Date of Installation
SPG/GW	50	2.40	1.00	2.40	13/04/2017
SPGW	50	7.85	3.40	7.85	13/04/2017

BACKFILL DETAILS

Top (m)	Bottom (m)	Material	Backfill Date
0.00	0.50	Concrete / Flush Cover	13/04/2017
0.50	1.00	Bentonite pellets	
1.00	2.40	Pea shingle	
2.40	3.40	Bentonite pellets	
3.40	7.85	Pea shingle	
7.85	31.50	Bentonite pellets	

CONCEPT
Unit 8 Warple Mews, Warple Way
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Borehole No

BH101

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	10/04/17	27.99	E 529044.7 N 182389.6	31.50m
	Date Completed 13/04/17			

Client

British Land

PROGRESS

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)	Remarks
10/04/17	0.00		Dry	
10/04/17	1.20		Dry	
11/04/17	1.20		Dry	
11/04/17	3.20	3.20	2.90	...Water added
11/04/17	4.20	4.20	3.80	
11/04/17	5.20	5.20	4.90	
11/04/17	6.20	6.20	6.20	...Water strike
11/04/17	7.20	7.20	5.80	
11/04/17	8.00	8.00	Dry	
11/04/17	12.50	8.00	Dry	
12/04/17	12.50	8.00	Dry	
12/04/17	14.50	14.50	Dry	
12/04/17	30.50	14.50	Dry	
13/04/17	30.50	14.50	Dry	
13/04/17	31.50	14.50	Dry	

SPT DETAILS

Type	Depth (m)	N Value	Blow Count / 75mm	Casing Depth (m)	Water Depth (m)
C	1.20	N3	1, 0 / 1, 0, 1, 1		Dry
C	2.20	N26	3, 5 / 6, 6, 7, 7		Dry
C	3.20	N34	3, 5 / 6, 8, 9, 11	3.20	2.90
C	4.20	N32	3, 4 / 6, 8, 8, 10	4.20	3.80
C	5.20	N38	3, 5 / 7, 9, 9, 13	5.20	4.90
C	6.20	N17	2, 3 / 3, 4, 5, 5	6.20	5.44
C	7.20	N14	2, 3 / 3, 4, 3, 4	7.20	5.80
S	8.50	N19	2, 3 / 3, 5, 5, 6	8.00	Dry
C	9.00	N39	18, 6 / 18, 11, 5, 5	8.00	Dry
C	9.80	N50/0.015	25 / 50	8.00	Dry
S	11.00	N21	2, 3 / 4, 5, 5, 7	8.00	Dry
S	12.00	N23	2, 3 / 5, 5, 6, 7	8.00	Dry
S	13.00	N24	2, 3 / 5, 6, 6, 7	8.00	Dry
S	14.00	N27	3, 4 / 6, 6, 7, 8	8.00	Dry
C	15.00	N50/0.145	25 / 38, 12	14.50	Dry
S	16.00	N50/0.035	3, 22 / 50	14.50	Dry
S	17.00	N26	2, 4 / 5, 6, 7, 8	14.50	Dry
S	18.00	N29	3, 5 / 6, 7, 8, 8	14.50	Dry
S	19.00	N30	3, 4 / 6, 7, 8, 9	14.50	Dry
S	20.00	N34	3, 5 / 7, 8, 9, 10	14.50	Dry
S	21.00	N36	4, 5 / 7, 8, 10, 11	14.50	Dry
S	22.00	N39	4, 5 / 8, 9, 11, 11	14.50	Dry
S	23.00	N40	4, 6 / 8, 9, 11, 12	14.50	Dry
S	24.00	N36	3, 6 / 8, 8, 10, 10	14.50	Dry
S	25.00	N39	3, 6 / 8, 9, 10, 12	14.50	Dry
S	26.00	N40	4, 7 / 9, 9, 11, 11	14.50	Dry
S	27.00	N43	5, 7 / 9, 10, 11, 13	14.50	Dry
S	28.00	N39	4, 7 / 8, 10, 10, 11	14.50	Dry
S	29.00	N48	4, 5 / 9, 11, 14, 14	14.50	Dry
S	30.00	N50	5, 7 / 10, 12, 13, 15	14.50	Dry
S	30.95	N50/0.205	8, 11 / 14, 16, 20	14.50	Dry

GENERAL REMARKS

1. Water seepage encountered at 6.20m depth rising to 5.84m (5min), 5.60m (10min), 5.48m (15min) and 5.44m (20min).

KEY

SAMPLES

ES - Environmental Sample (Tub, Vial, Jar)
U - 100mm Diameter Undisturbed Sample
UT - 100mm Diameter Thin Wall Undisturbed Sample
U38 - 38mm Diameter Undisturbed Sample
D - Disturbed Sample, B-Bulk Sample, LB- Large Bulk Sample, BLK-Block Sample
C - Core Sample, W-Water Sample, R-Root Sample

INSTALLATION DETAILS

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe
VWP - Vibrating Wire Piezometer
ICM - Inclinometer

HOLE TYPES

IP -Inspection Pit, TP-Trial Pit TT - Trial Trench
CP -Cable Percussion, RC-Rotary Coring, R/S-Rotary/Sonic
DS -Dynamic Sampling, DS/R-Dynamic Sampling /Rotary
DC -Diamond Coring, CP/R-Cable Percussion Rotary follow on

TESTS S/C-SPT / CPT, V-Shear Vane, PP-Pocket Penetrometer, MP-Mackintosh Probe, VOC-Volatile Organic Compounds

Note: All depths are in metres, all diameters in millimetres, water strike rise time in minutes. For details of abbreviations see Key

Issue No: 01	Checked By: OS	Approved By: AN	Log Print Date & Time: 17/05/2017 17:19

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Borehole No

BH101

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	10/04/17	27.99	E 529044.7 N 182389.6	31.50m
	Date Completed 13/04/17			

Client	Method/ Plant Used	Sheet
British Land	Cable Percussion	1 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
10/04/17		Dry	27.92		0.07	CONCRETE screed.					
			27.49		(0.43) 0.50	CONCRETE recovered as: light grey GRAVEL with cobble content. Gravel is angular to subangular fine to coarse concrete fragments. Cobbles are concrete.	0.50	ES01		... VOC 0.0ppm	
							0.50	B02			
			26.99		(0.50) 1.00	0.20 ... with steel rebar in 20 x 20mm grid	1.00	ES03		... VOC 0.0ppm	
10/04/17		Dry	26.79		1.20	Light grey and orange sandy GRAVEL with low cobble content. Gravel comprises angular to subangular fine to coarse concrete and brick fragments. Sand is fine to coarse. (MADE GROUND)	1.00	B04			
11/04/17		Dry	26.54		1.45		1.20		N3	1, 0 / 1, 0, 1, 1	
							1.20-1.70	B05			
							1.50	ES06		... VOC 0.0ppm	
							1.70-2.15	U07	18 blows	100% Recovery	
					(0.70)	Orangish brown and grey slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel comprises angular to subangular fine to coarse concrete, brick and rare clinker fragments. (MADE GROUND)	2.00	ES08		... VOC 0.0ppm	
			25.84		2.15		2.20		N26	3, 5 / 6, 6, 7, 7	
							2.20	D09			
							2.20-2.70	B10			
							2.50	ES11		... VOC 0.0ppm	
						Firm, dark grey and brown slightly sandy slightly gravelly silty CLAY. Gravel comprises subangular to subrounded fine to coarse flint and rare brick and concrete fragments. (MADE GROUND)	2.80	D12			
11/04/17	3.20	2.90					3.20		N34	3, 5 / 6, 8, 9, 11	
							3.20-3.70	B13			
						Firm, orangish brown gravelly sandy silty CLAY. Gravel is subangular to subrounded fine to coarse flint. Sand is fine to coarse. (MADE GROUND)	3.80	D14			
11/04/17	4.20	3.80					4.20		N32	3, 4 / 6, 8, 8, 10	
						Medium dense, orangish brown slightly clayey silty sandy subangular to subrounded fine to coarse flint GRAVEL. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	4.20-4.70	B15			
						2.40 ... with no clay or silt	4.80	D16			
					(5.70)						
11/04/17	5.20	4.90					5.20		N38	3, 5 / 7, 9, 9, 13	
						5.20 - 5.70 ... becoming greyish brown and orange	5.20-5.70	B17			
							5.80	D18			
11/04/17	6.20	6.20					6.20		N17	2, 3 / 3, 4, 5, 5	
							6.20	W19			
							6.20-6.70	B20			
							6.80	D21			
11/04/17	7.20	5.80					7.20		N14	2, 3 / 3, 4, 3, 4	
							7.20-7.70	B22			
			20.14		7.85		7.85-8.00	B23			
11/04/17	8.00	Dry	19.89		8.10	Firm to stiff, orangish brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse flint. Sand is fine to coarse. (THAMES GROUP: WEATHERED LONDON CLAY)	8.00-8.45	U24	30 blows	100% Recovery	
							8.00	ES25		... VOC 0.0ppm	
							8.50		N19	2, 3 / 3, 5, 5, 6	
							8.50	D26			
						Stiff, extremely closely fissured grey CLAY with rare pockets of grey silty fine sand (<30mm) and occasional fine to medium sand sized selenite crystals. Fissures randomly orientated, planar, rough. (THAMES GROUP: LONDON CLAY FORMATION - B)	8.50-8.95	D27			
							8.50-9.00	B28			
							9.00		N39	18, 6 / 18, 11, 5, 5	
							9.00	B29			
							9.50-9.75	U30	80 blows	56% Recovery	
						8.50 - 9.10 ... with frequent partings of silty fine sand and occasional pockets of fine sand (<20mm)	9.80		N50/ 15 mm	25 / 50	
						9.00 - 9.20 ... with a band of claystone	9.80	D31			
						9.75 - 10.25 ... with light grey strong gravel size claystone fragments	9.80-10.30	B32			
							10.50-10.95	U33	40 blows	100% Recovery	
						10.25 ... becoming silty					
							11.00		N21	2, 3 / 4, 5, 5, 7	

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Borehole No

BH101

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	10/04/17	27.99	E 529044.7 N 182389.6	31.50m
	Date Completed 13/04/17			

Client	Method/ Plant Used	Sheet
British Land	Cable Percussion	2 of 3

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
						11.00 - 11.45 ... with frequent partings and pockets of silty fine sand (<10mm)	11.00	D34			
							11.00-11.45	D35			
							11.50-11.95	U36	38 blows	100% Recovery	
					(7.00)	11.50 - 12.45 ... with occasional pockets of dark grey silt (<20mm)					
							12.00		N23	2, 3 / 5, 5, 6, 7	
							12.00	D37			
							12.00	D38			
11/04/17	8.00	Dry					12.50-12.95	U39	42 blows	100% Recovery	
12/04/17	8.00	Dry									
							13.00		N24	2, 3 / 5, 6, 6, 7	
						13.00 ... with rare partings of silty fine sand	13.00	D40			
							13.00-13.45	D41			
							13.50-13.95	U42	52 blows	100% Recovery	
							14.00		N27	3, 4 / 6, 6, 7, 8	
							14.00	D43			
							14.00-14.45	D44			
12/04/17	14.50	Dry					14.50-14.95	U45	80 blows	100% Recovery	
							15.00		N50/ 145 mm	25 / 38, 12	
			12.89		15.10	15.00 - 15.10 ... with a band of claystone					
						Very stiff, grey slightly sandy slightly gravelly CLAY with rare pockets of silty fine sand (<20mm). Gravel is subangular to subrounded fine to coarse claystone fragments. (THAMES GROUP: LONDON CLAY FORMATION - A3ii)	15.00	D46			
							15.00-15.30	B47			
							15.50-15.95	U48	46 blows	100% Recovery	
					(1.90)		16.00		N50/ 35 mm	3, 22 / 50	
						16.00 ... with rare bioturbation	16.00	D49			
						16.10 - 16.40 ... with a band of claystone	16.00-16.22	D50			
							16.10-16.50	B51			
							16.50-16.95	U52	48 blows	100% Recovery	
			10.99		17.00		17.00		N26	2, 4 / 5, 6, 7, 8	
						Stiff, dark grey CLAY with occasional pockets of silt (<10mm). (THAMES GROUP: LONDON CLAY FORMATION - A3i)	17.00	D53			
							17.00-17.45	D54			
					(1.00)		17.50-17.95	U55	50 blows	100% Recovery	
			9.99		18.00		18.00		N29	3, 5 / 6, 7, 8, 8	
						Very stiff, brownish grey micaceous slightly sandy silty CLAY with occasional pockets of dark grey silty fine sand (<20mm). (THAMES GROUP: LONDON CLAY FORMATION - A2)	18.00	D56			
							18.00-18.45	D57			
							18.50-18.95	U58	54 blows	100% Recovery	
							19.00		N30	3, 4 / 6, 7, 8, 9	
						19.00 ... becoming sandy with frequent partings and pockets of silty fine sand (<30mm) and rare foraminifera	19.00	D59			
							19.00-19.45	D60			
							19.50-19.95	U61	76 blows	100% Recovery	
							20.00		N34	3, 5 / 7, 8, 9, 10	
							20.00	D62			
							20.00-20.45	D63			
							20.50-20.95	U64	72 blows	100% Recovery	
							21.00		N36	4, 5 / 7, 8, 10, 11	
						21.00 ... becoming very sandy with frequent partings and pockets of dark grey silty sand (<30mm)	21.00	D65			
							21.00-21.45	D66			
							21.50-21.95	U67	70 blows	100% Recovery	
							22.00		N39	4, 5 / 8, 9, 11, 11	

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Borehole No

BH101

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	10/04/17	27.99	E 529044.7 N 182389.6	31.50m
	Date Completed 13/04/17			

Client	Method/ Plant Used	Sheet
British Land	Cable Percussion	3 of 3

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
						22.00 ... with occasional pockets of black organic material (lignite) and pyrite nodules	22.00	D68			
							22.00-22.45	D69			
							22.50-22.95	U70	80 blows	100% Recovery	
					(9.00)						
							23.00		N40	4, 6 / 8, 9, 11, 12	
							23.00	D71			
							23.00-23.45	D72			
							23.50-23.95	U73	72 blows	100% Recovery	
							24.00		N36	3, 6 / 8, 8, 10, 10	
						24.00 ... with occasional foraminifera	24.00	D74			
							24.00-24.45	D75			
							24.50-24.95	U76	70 blows	100% Recovery	
							25.00		N39	3, 6 / 8, 9, 10, 12	
						25.00 ... with rare pockets of silty fine sand	25.00	D77			
							25.00	D78			
							25.50-25.95	U79	78 blows	100% Recovery	
							26.00		N40	4, 7 / 9, 9, 11, 11	
						26.00 ... with rare bioturbation	26.00	D80			
							26.00-26.45	D81			
							26.50-26.95	U82	80 blows	100% Recovery	
			0.99		27.00		27.00		N43	5, 7 / 9, 10, 11, 13	
							27.00	D83			
							27.00-27.45	D84			
						Very stiff, dark grey slightly sandy silty CLAY with occasional pockets and partings of silty fine sand (<30mm). (THAMES GROUP: LONDON CLAY FORMATION - A2)	27.50-27.95	U85	76 blows	100% Recovery	
					(1.50)	27.00 ... with occasional foraminifera					
							28.00		N39	4, 7 / 8, 10, 10, 11	
						28.00 ... becoming very sandy	28.00	D86			
							28.00-28.45	D87			
			-0.51		28.50		28.50-28.95	U88	94 blows	100% Recovery	
					(0.50)	Very Stiff, greenish grey sandy silty CLAY. Sand is fine to coarse and glauconitic.					
			-1.01		29.00	(THAMES GROUP: HARWICH FORMATION - Swanscombe Member)	29.00		N48	4, 5 / 9, 11, 14, 14	
							29.00	D89			
						Very stiff, greenish grey to blue CLAY. (LAMBETH GROUP: READING FORMATION: Upper Mottled Beds)	29.00-29.45	D90			
							29.00-29.50	B91			
							29.50-29.95	U92	90 blows	100% Recovery	
						29.00 - 29.50 ... becoming mottled reddish brown and bluish grey					
							30.00		N50	5, 7 / 10, 12, 13, 15	
							30.00	D93			
					(2.50)		30.00-30.45	D94			
12/04/17	14.50	Dry					30.50-30.90	U95	100 blows	89% Recovery	
13/04/17	14.50	Dry									
							30.95		N50/ 205 mm	8, 11 / 14, 16, 20	
							30.95	D96			
13/04/17	14.50	Dry	-3.51		31.50		30.95-31.40	D97			
						End of Borehole					

Issue No: 01	Checked By: OS	Approved By: AN	Log Print Date & Time: 17/05/2017 17:19

9. DIAMOND CORING LOGS AND SKETCHES

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Core No

CH01

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	03/04/17	23.07	E 529030.5 N 182384.3	0.50m
	Date Completed 26/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				STRATA	**SAMPLES & TESTS**			
			(0.42)	Medium strong, light grey CONCRETE, clasts are angular to subangular and rare subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm). 0.07 ... with Ø10mm rebar 0.25 ... with subhorizontal break 0.30 ... with Ø20mm rebar 0.36 ... with cold joint	0.00-0.25	C01		
	22.65		0.42					
	22.57		0.50	Weak, grey CONCRETE, clasts are angular to subangular fine to medium gravel sized flint and occasional brick and rare glass fragments. Aggregate spacing 1-8mm. Occasional air voids (<5mm). End of Core				Mackintosh Probe blows per 0.10m 0.50-0.60m : 10 blows 0.60-0.70m : 35 blows 0.70-0.80m : 80 blows 0.80-0.90m : 49 blows 0.90-1.00m : 50 blows 1.00-1.10m : 75 blows

GENERAL REMARKS

1. Ø100mm vertical diamond core carried out internally within the basement of the property to 0.50m depth, followed by mackintosh probe from base of CH01 to 1.10m depth. Dynamic probe carried out from 1.10m to 4.00m depth.
2. Slight water seepage at the base of the corehole (0.50m depth).
3. Ø19mm drive-in piezometer installed at 1.73m below basement level on 26/04/17.
4. Corehole reinstated with concrete and made good upon completion.
5. Also refer to CH01-DP record.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No

CH02

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	03/04/17	23.07	E 529071.0 N 182398.9	0.51m
	Date Completed 21/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
			(0.45)	Strong, light grey CONCRETE, clasts are angular to subangular fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm). 0.05 ... with Ø10mm rebar 0.25 ... with two Ø20mm rebars 0.33 ... with subhorizontal break	0.00-0.33	C01		
	22.62		0.45					
	22.56		0.51	Medium strong, grey CONCRETE, clasts are angular to subangular fine to coarse gravel sized flint and occasional brick fragments. Occasional air voids (<5mm). End of Core				

GENERAL REMARKS

1. Ø100mm vertical diamond core carried out internally within the basement of the property to 0.51m depth, followed by dynamic probe to 3.50m.
2. Corehole was dry.
3. Ø19mm drive-in piezometer installed at 2.13m below basement level on 21/04/17.
4. Corehole reinstated with concrete and made good upon completion.
5. Also refer to CH02-DP record.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No
CH03

Project
1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	03/04/17	23.07	E 529090.9 N 182381.9	0.62m
	Date Completed 26/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				STRATA	**SAMPLES & TESTS**			
				Strong, light grey CONCRETE, clasts are angular to subangular occasionally subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm).	0.07-0.40	C01		
			(0.62)	0.07 ... with subhorizontal break				
				0.40 ... with cold joint				
				0.51 ... with subhorizontal break				
	22.45		0.62	0.62 ... with Ø10mm rebar				
				End of Core				

GENERAL REMARKS

1. Ø100mm vertical diamond core carried out internally within the basement of the property to 0.62m depth, followed by dynamic probe to 3.50m.
2. Corehole was dry.
3. Ø19mm drive-in piezometer installed at 2.05m below basement level on 26/04/17.
4. Corehole reinstated with concrete and made good upon completion.
5. Also refer to CH03-DP record.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No

CH04

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	04/04/17	23.07	E 529100.2 N 182354.2	2.00m
	Date Completed 04/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring/ Hand Auger	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				Strong, light grey CONCRETE, clasts are angular to subangular fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm).	0.00-0.36	C01		
				0.05 ... with Ø20mm rebar				
			(0.70)	0.31 ... with Ø20mm rebar 0.36 ... with cold joint				
				0.50 ... with subhorizontal break				
	22.37		0.70					... Hand augered below 0.70m depth
	22.27		0.80	Soft to firm, orangish brown slightly sandy CLAY. (THAMES GROUP : WEATHERED LONDON CLAY FORMATION)	0.80-2.00	B02		
				Firm to stiff, bluish grey CLAY. (THAMES GROUP : LONDON CLAY FORMATION)	1.00	ES03		
			(1.20)					
	21.07		2.00					
				End of Core				

GENERAL REMARKS

1. Ø100mm vertical diamond core carried out to 0.72m depth and hand auger from 0.72m to 2.00m depth internally within the basement of the property.
2. Corehole was dry.
3. Corehole backfilled with bentonite pellets between 2.00m and 0.70m depth, reinstated with concrete between 0.70m and surface level and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No
CH05

Project
1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	Date Completed 04/04/17	23.07	E 529032.8 N 182324.7	1.80m

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring/ Hand Auger	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				Strong, light grey CONCRETE, clasts are subangular to subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm).				
				0.10 ... with Ø20mm rebar				
			(0.63)	0.31 ... with Ø20mm rebar				
				0.34 ... with Ø20mm rebar				
				0.39 ... with cold joint				
	22.44		0.63					
	22.42		0.65	Greyish brown slightly silty gravelly fine to coarse SAND. Gravel comprises subangular to angular fine to coarse flint with rare brick and concrete fragments. (MADE GROUND)	0.65-1.00 0.70 0.70	B01 ES02	V94kPa	... Hand augered below 0.65m depth ... VOC 0.0ppm
				Firm to stiff, bluish grey CLAY with rare fine to medium sand size selenite crystals. (THAMES GROUP : LONDON CLAY FORMATION)	1.00-1.60	B03		
			(1.15)					
					1.60-1.80	B04		
	21.27		1.80					
				End of Core				

GENERAL REMARKS

1. Ø300mm vertical diamond core carried out to 0.65m depth and hand auger from 0.65m to 1.80m depth internally within the basement of the property.
2. Corehole was dry.
3. Corehole reinstated with concrete and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No

CH06

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	05/04/17	23.07	E 529020.0 N 182359.9	2.00m
	Date Completed 05/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring/ Hand Auger	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				Strong, light grey CONCRETE, clasts are subangular to subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm).	0.00-0.76	C00		
			(1.35)	0.75 ... with cold joint				
				1.23 ... with subhorizontal break				
	21.72		1.35		1.35-1.50	B01		... Hand augered below 1.35m depth
			(0.15)	Greyish brown slightly silty sandy GRAVEL. Gravel comprises subangular to angular fine to coarse flint, brick and concrete fragments. (MADE GROUND)	1.50-1.60	B02		... VOC 0.0ppm
	21.57		1.50		1.50	ES03		
	21.47		1.60	Orangish brown slightly gravelly clayey silty fine to coarse SAND. Gravel comprises subangular to angular flint with occasional brick and concrete fragments. (MADE GROUND)	1.60		V50kPa	
					1.60-2.00	B04		
					1.70	ES05		... VOC 0.0ppm
			(0.40)	Orangish brown CLAY. (THAMES GROUP : WEATHERED LONDON CLAY FORMATION)				
	21.07		2.00					
				End of Core				

GENERAL REMARKS

1. Ø100mm vertical diamond core carried out to 1.35m depth, followed by Ø300mm stitch drilling to facilitate hand auger from 1.35m to 2.00m depth internally within the basement of the property.
2. Corehole was dry.
3. Corehole reinstated with concrete and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No

CH07

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	07/04/17	22.06	E 529066.9 N 182327.8	2.00m
	Date Completed 07/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring/ Hand Auger	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
				STRATA	**SAMPLES & TESTS**			
			(0.65)	Medium strong, light grey CONCRETE, clasts are subangular to subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm). 0.05 ... with Ø10mm rebar 0.46 ... with Ø10mm rebar 0.50 ... with cold joint	0.00-0.30	C01		
	21.41		0.65		0.65	ES02		... Hand augered below 0.63m depth
			(0.15)	Dark grey sandy GRAVEL with low cobble content. Gravel comprises angular to subangular fine to coarse flint and concrete fragments. Cobbles are brick. Sand is fine to coarse. (MADE GROUND)	0.65-0.80	B03		... VOC 0.0ppm
	21.26		0.80		0.80		V54kPa	... VOC 0.0ppm
					0.80	ES04		
				Dark grey CLAY with rare fine to medium gravel size selenite crystals. (THAMES GROUP: LONDON CLAY FORMATION)	0.80-1.40	B05		
			(1.20)		1.40-2.00	B06		
					1.50	ES07		... VOC 0.0ppm
	20.06		2.00					
				End of Core				

GENERAL REMARKS

1. Ø250mm vertical diamond core carried out to 0.65m depth and hand auger from 0.65m to 2.00m depth internally within the basement of the property.
2. Corehole was dry.
3. Corehole reinstated with concrete and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No

CH08

Project

1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	07/04/17	24.54	E 529052.2 N 182388.1	0.35m
	Date Completed 07/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring	1 of 1

STRATA					SAMPLES & TESTS			
Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
			(0.35)	Strong, light grey CONCRETE, clasts are angular to subangular fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm). 0.07 ... with Ø20mm rebar	0.00-0.28	C01		
	24.19		0.35	0.28 ... with subhorizontal break 0.29 ... with Ø15mm rebar				
				End of Core				

GENERAL REMARKS

1. Ø100mm horizontal diamond core carried out internally within the basement of the property.
2. Corehole was dry.
3. Corehole reinstated with concrete and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

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Core No
CH09

Project
1 Triton Square, Ground Investigation, Phase 1

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Length
17/2961	06/04/17	24.24	E 529028.2 N 182384.3	0.95m
	Date Completed 06/04/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring	1 of 1

Water	Level (mOD)	Legend	Length (Thickness)	Strata Description	Depth	Type No	Test Result	Field Records
			(0.85)	Medium strong, light grey CONCRETE, clasts are angular to subrounded fine to coarse gravel sized flint. Aggregate spacing 1-5mm. Occasional air voids (<5mm). 0.06 ... with Ø15mm rebar 0.27 ... with Ø30mm rebar 0.35 ... with Ø20mm rubber membrane	0.15-0.35	C01		
	23.39		0.85					
	23.29		0.95	Greyish brown slightly sandy subangular to subrounded fine to coarse flint GRAVEL. (MADE GROUND)				
				... Sheet Pile Wall encountered End of Core				

GENERAL REMARKS

1. Ø100mm horizontal diamond core carried out internally within the basement of the property.
2. Sheet pile wall encountered at the base of the core.
3. Corehole was dry.
4. Corehole reinstated with concrete and made good upon completion.

Issue No: 01	Drilled By: UN	Logged By: OJ	Checked By: OS	Approved By: OS	Log Print Date & Time: 17/05/2017 17:24

12. INSTRUMENTATION MONITORING RESULTS

Borehole	Depth of Installation (mbgl)	Date of Installation	Type	Top (mbgl)	Bottom (mbgl)	Date & Time	Water Level (mbgl)	Water Level (mOD)	Remarks
BH101	2.40	13/04/2017	SPG/GW	1.00	2.40	28/04/2017 10:35:00	Dry		
	2.40	13/04/2017	SPG/GW	1.00	2.40	05/05/2017 11:10:00	Dry		
	2.40	13/04/2017	SPG/GW	1.00	2.40	11/05/2017 12:30:00	Dry		
	2.40	13/04/2017	SPG/GW	1.00	2.40	18/05/2017 10:32:00	Dry		
	7.85	13/04/2017	SPGW	3.40	7.85	26/04/2017 10:40:00	5.85	22.14	
	7.85	13/04/2017	SPGW	3.40	7.85	05/05/2017 11:15:00	5.76	22.23	
	7.85	13/04/2017	SPGW	3.40	7.85	11/05/2017 12:30:00	5.85	22.14	
	7.85	13/04/2017	SPGW	3.40	7.85	18/05/2017 10:30:00	5.85	22.14	
CH01	1.73	26/04/2017	SPIE	0.50	1.73	03/05/2017 10:27:00	1.03	22.04	
	1.73	26/04/2017	SPIE	0.50	1.73	05/05/2017 10:00:00	1.01	22.06	
	1.73	26/04/2017	SPIE	0.50	1.73	11/05/2017 13:14:00	0.95	22.12	
	1.73	26/04/2017	SPIE	0.50	1.73	18/05/2017 10:51:00	1.01	22.06	
CH02	2.13	21/04/2017	SPIE	0.51	2.13	03/05/2017 10:20:00	0.79	22.28	
	2.13	21/04/2017	SPIE	0.51	2.13	05/05/2017 09:11:00	0.77	22.30	
	2.13	21/04/2017	SPIE	0.51	2.13	11/05/2017 13:35:00	0.78	22.29	
	2.13	21/04/2017	SPIE	0.51	2.13	18/05/2017 10:53:00	0.76	22.31	
CH03	2.05	26/04/2017	SPIE	0.62	2.05	03/05/2017 10:00:00	0.67	22.40	
	2.05	26/04/2017	SPIE	0.62	2.05	05/05/2017 08:23:00	0.69	22.38	
	2.05	26/04/2017	SPIE	0.62	2.05	11/05/2017 13:52:00	0.64	22.43	
	2.05	26/04/2017	SPIE	0.62	2.05	18/05/2017 10:59:00	0.64	22.43	

KEY

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe

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GROUNDWATER MONITORING

Job No: 17/2961

Project: 1 Triton Square, Ground Investigation, Phase 1

Client: British Land

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	Triton			**Engineer:**	AP + HP
Date:	28/04/2017	**Job Number:**	17/2961	**Time:**	10:45

METEOROLOGICAL AND SITE INFORMATION											
State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	1013				Temperature (°)	13					

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuaracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)	Time (secs)	Depths to GW (m)	aP (mb) After	dP (mb)	Flow rate	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH101		Dry	1013	0	0.0							
Short	5					0.0	0.0	0.0	20.9	0.0	0.0	
	30					0.0	0.0	0.0	21.0	0.0	0.0	
	60					0.0	0.0	0.0	20.9	0.0	0.0	
Long	5					0.0	0.0	0.0	21.1	0.0	0.0	
	30					0.0	0.0	0.0	20.9	0.0	0.0	
	60					0.0	0.0	0.0	20.9	0.0	0.0	
Circulation Short	60					0.0	0.0	0.0	20.9	0.0	0.0	
	120					0.0	0.0	0.0	20.9	0.0	0.0	
	180					0.0	0.0	0.0	20.8	0.0	0.0	
	240					0.0	0.0	0.0	20.8	0.0	0.0	
	300					0.0	0.0	0.0	20.8	0.0	0.0	
	360					0.0	0.0	0.0	20.8	0.0	0.0	
	420					0.0	0.0	0.0	20.7	0.0	0.0	
	480					0.0	0.0	0.0	20.7	0.0	0.0	
	540					0.0	0.0	0.0	20.7	0.0	0.0	
	600					0.0	0.0	0.0	20.7	0.0	0.0	
Short	5					0.0	0.0	0.0	20.8	0.0	0.0	
	30					0.0	0.0	0.0	20.8	0.0	0.0	
	60					0.0	0.0	0.0	20.8	0.0	0.0	
Long	5					0.0	0.0	0.0	20.9	0.0	0.0	
	30					0.0	0.0	0.0	20.8	0.0	0.0	
	60					0.0	0.0	0.0	20.8	0.0	0.0	

KEY

aP: Atmospheric Pressure NR: Not Recorded

dP: Differential Pressure

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	Triton			**Engineer:**	AP
Date:	05/05/2017	**Job Number:**	17/2961	**Time:**	10:45

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1017				Temperature (°)		13			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuaracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)	Time (secs)	Depths to GW (m)	aP (mb) After	dP (mb)	Flow rate	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH101		Dry	1017	0	0.0							
Short	5					0.0	0.0	0.0	20.7	0.0	0.0	
	30					0.0	0.0	0.0	20.5	0.0	0.0	
	60					0.0	0.0	0.0	20.5	0.0	0.0	
Long	5					0.0	0.0	0.0	20.7	0.0	0.0	
	30					0.0	0.0	0.0	20.5	0.0	0.0	
	60					0.0	0.0	0.0	20.5	0.0	0.0	
Circulation Short	60					0.0	0.0	0.0	20.5	0.0	0.0	
	120					0.0	0.0	0.0	20.6	0.0	0.0	
	180					0.0	0.0	0.0	20.5	0.0	0.0	
	240					0.0	0.0	0.0	20.5	0.0	0.0	
	300					0.0	0.0	0.0	20.5	0.0	0.0	
	360					0.0	0.0	0.0	20.5	0.0	0.0	
	420					0.0	0.0	0.0	20.5	0.0	0.0	
	480					0.0	0.0	0.0	20.5	0.0	0.0	
	540					0.0	0.0	0.0	20.5	0.0	0.0	
	600					0.0	0.0	0.0	20.5	0.0	0.0	
Short	5					0.0	0.0	0.0	20.5	0.0	0.0	
	30					0.0	0.0	0.0	20.5	0.0	0.0	
	60					0.0	0.0	0.0	20.5	0.0	0.0	
Long	5					0.0	0.0	0.0	20.5	0.0	0.0	
	30					0.0	0.0	0.0	20.5	0.0	0.0	
	60					0.0	0.0	0.0	20.5	0.0	0.0	

KEY

aP: Atmospheric Pressure NR: Not Recorded

dP: Differential Pressure

CONCEPT

Gas Monitoring Results

JOB DETAILS

Location:	Triton			**Engineer:**	AP
Date:	11/05/2017	**Job Number:**	17/2961	**Time:**	12:30

METEOROLOGICAL AND SITE INFORMATION

State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong			Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	992				Temperature (°)		13				

INSTRUMENTATION USED

Gas concentration:	Gas Data LMSxi G3.18, Accuaracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%	
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X

Tick Instrument used

BH (No.)	Time (secs)	Depths to GW (m)	aP (mb) After	dP (mb)	Flow rate	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH101		Dry	992	0.03	0.1							
Short	5					0.0	0.0	0.1	20.8	0.0	0.0	**PID (ppm)**
	30					0.0	0.0	0.1	20.4	0.0	0.0	**Short**
	60					0.0	0.0	0.1	20.5	0.0	0.0	15 0.0
Long	5					0.0	0.0	0.1	20.4	0.0	0.0	30 0.0
	30					0.0	0.0	0.1	20.1	0.0	0.0	45 0.0
	60					0.0	0.0	0.1	20.1	0.0	0.0	60 0.0
Circulation Short	60					0.0	0.0	0.1	20.0	0.0	0.0	75 0.0
	120					0.0	0.0	0.1	20.0	0.0	0.0	90 0.0
	180					0.0	0.0	0.1	20.0	0.0	0.0	105 0.0
	240					0.0	0.0	0.1	20.0	0.0	0.0	120 0.0
	300					0.0	0.0	0.1	20.0	0.0	0.0	
	360					0.0	0.0	0.1	20.0	0.0	0.0	**Long**
	420					0.0	0.0	0.1	20.0	0.0	0.0	15 0.2
	480					0.0	0.0	0.1	20.0	0.0	0.0	30 0.1
	540					0.0	0.0	0.1	20.0	0.0	0.0	45 0.1
	600					0.0	0.0	0.1	20.0	0.0	0.0	60 0.1
Short	5					0.0	0.0	0.1	20.0	0.0	0.0	75 0.1
	30					0.0	0.0	0.1	20.0	0.0	0.0	90 0.1
	60					0.0	0.0	0.1	20.0	0.0	0.0	105 0.1
Long	5					0.0	0.0	0.1	20.1	0.0	0.0	120 0.1
	30					0.0	0.0	0.1	20.1	0.0	0.0	
	60					0.0	0.0	0.1	20.1	0.0	0.0	

KEY

aP: Atmospheric Pressure NR: Not Recorded

dP: Differential Pressure

CONCEPT

Gas Monitoring Results

JOB DETAILS

Location:	Triton			**Engineer:**	AP
Date:	18/05/2017	**Job Number:**	17/2961	**Time:**	10:00

METEOROLOGICAL AND SITE INFORMATION

State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	1009				Temperature (°)	14					

INSTRUMENTATION USED

Gas concentration:	Gas Data LMSxi G3.18, Accuaracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%	
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X

Tick Instrument used

BH (No.)	Time (secs)	Depths to GW (m)	aP (mb) After	dP (mb)	Flow rate	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH101		Dry	1009	0.00	0.0							
Short	5					0.0	0.0	0.0	20.2	0	0	**PID (ppm)**
	30					0.0	0.0	0.2	19.3	0	0	**Short**
	60					0.0	0.0	0.2	19.3	0	0	15 0.0
Long	5					0.0	0.0	0.0	20.8	0	0	30 0.0
	30					0.0	0.0	0.2	19.3	0	0	45 0.0
	60					0.0	0.0	0.2	19.3	0	0	60 0.0
Circulation Short	60					0.0	0.0	0.2	19.2	0	0	75 0.0
	120					0.0	0.0	0.2	19.2	0	0	90 0.0
	180					0.0	0.0	0.2	19.2	0	0	105 0.0
	240					0.0	0.0	0.2	19.3	0	0	120 0.0
	300					0.0	0.0	0.2	19.3	0	0	
	360					0.0	0.0	0.2	19.3	0	0	**Long**
	420					0.0	0.0	0.2	19.3	0	0	15 0.0
	480					0.0	0.0	0.2	19.2	0	0	30 0.0
	540					0.0	0.0	0.2	19.3	0	0	45 0.0
	600					0.0	0.0	0.2	19.3	0	0	60 0.0
Short	5					0.0	0.0	0.1	19.9	0	0	75 0.0
	30					0.0	0.0	0.2	19.3	0	0	90 0.0
	60					0.0	0.0	0.2	19.3	0	0	105 0.0
Long	5					0.0	0.0	0.0	20.8	0	0	120 0.0
	30					0.0	0.0	0.2	19.4	0	0	
	60					0.0	0.0	0.2	19.7	0	0	

KEY

aP: Atmospheric Pressure NR: Not Recorded

dP: Differential Pressure

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**Triton**
Job No.:	**17/2961**
Date:	**05/05/2017**
Technician:	**AP**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	**Base of well (mbgl)**	**Top of slotted response zone (mbgl)**	**Depth to GW (mbgl)**	**Purge Volume (L)**	**Time**	**Temp (°C)**	**DO (mg/L)**	**SPC (ms/cm)**	**pH**	**Redox Potential (mV)**	**Sample Detail (Colour/Odour/ Turbidity**
BH101	7.85	3.40	5.85	2	12:32	16.0	3.030	0.97	8.39	34.9	
				4		15.8	1.330	0.96	8.21	35.5	
				8		15.7	0.840	0.96	8.05	35.6	
				12		15.7	0.710	0.96	7.92	35.5	

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**Triton**
Job No.:	**17/2961**
Date:	**05/05/2017**
Technician:	**AP**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	**Base of well (mbgl)**	**Top of slotted response zone (mbgl)**	**Depth to GW (mbgl)**	**Purge Volume (L)**	**Time**	**Temp (°C)**	**DO (mg/L)**	**SPC (ms/cm)**	**pH**	**Redox Potential (mV)**	**Sample Detail (Colour/Odour/ Turbidity**
CH02	2.13	-	0.77	0.8	09:11	13.7	9.180	0.01	10.95	27.1	
					Recharge rate very slow						

Form SI 080

Rev 0/08 - July 2008

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**Triton**
Job No.:	**17/2961**
Date:	**05/05/2017**
Technician:	**AP**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	**Base of well (mbgl)**	**Top of slotted response zone (mbgl)**	**Depth to GW (mbgl)**	**Purge Volume (L)**	**Time**	**Temp (°C)**	**DO (mg/L)**	**SPC (ms/cm)**	**pH**	**Redox Potential (mV)**	**Sample Detail (Colour/Odour/ Turbidity**
CH03	2.05	-	0.69	0.17	13:30	15.3	5.270	0.29	8.40	8.0	
				0.35		15.4	2.320	0.54	10.76	33.3	
				0.70		15.4	1.600	0.58	211.25	-46.3	
				1.0		15.4	1.070	0.70	11.52	-57.9	

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**Triton**
Job No.:	**17/2961**
Date:	**11/05/2017**
Technician:	**AP**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	**Base of well (mbgl)**	**Top of slotted response zone (mbgl)**	**Depth to GW (mbgl)**	**Purge Volume (L)**	**Time**	**Temp (°C)**	**DO (mg/L)**	**SPC (ms/cm)**	**pH**	**Redox Potential (mV)**	**Sample Detail (Colour/Odour/ Turbidity**
BH101	7.85	3.40	5.85	2	12:32	16.0	3.03	0.97	8.39	34.9	Slightly turbid
				4		15.8	1.33	0.96	8.21	35.5	
				8		15.7	0.84	0.96	8.05	35.6	
				12		15.7	0.71	0.96	7.92	35.5	

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**Triton**
Job No.:	**17/2961**
Date:	**11/05/2017**
Technician:	**AP**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	**Base of well (mbgl)**	**Top of slotted response zone (mbgl)**	**Depth to GW (mbgl)**	**Purge Volume (L)**	**Time**	**Temp (°C)**	**DO (mg/L)**	**SPC (ms/cm)**	**pH**	**Redox Potential (mV)**	**Sample Detail (Colour/Odour/ Turbidity**
CH03	2.13	-	0.64	0.17	13:30	15.3	5.27	0.29	8.40	8.0	Turbid brown
				0.35		15.4	2.32	0.54	10.76	33.3	
				0.70		15.4	1.60	0.58	11.25	-46.3	
				1.0		15.4	1.07	0.70	11.52	-57.9	

15. CHEMICAL LABORATORY TEST RESULTS

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Analytical Report Number : 17-45957

Project / Site name:	Triton Square	**Samples received on:**	14/04/2017
Your job number:	17-2961	**Samples instructed on:**	18/04/2017
Your order number:	CL1018	**Analysis completed by:**	27/04/2017
Report Issue Number:	1	**Report issued on:**	27/04/2017
Samples Analysed:	3 leachate samples - 4 soil samples		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-45957

Project / Site name: Triton Square
Your Order No: CL1018

Lab Sample Number				736095	736096	736097	736098	
Sample Reference				BH101	BH101	BH101	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.50	1.00	2.50	8.00	
Date Sampled				11/04/2017	11/04/2017	11/04/2017	11/04/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	13	17	4.2	16	
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	9.5	8.7	8.2	7.7	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	1	
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.6	0.6	0.2	0.2	
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.08	< 0.05	< 0.05	
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05	< 0.05	
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.08	< 0.05	< 0.05	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	< 0.05	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.8	2.0	< 1.0	2.4	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	13	8.2	13	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.61	0.73	0.48	1.0	
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	1.5	0.7	1.2	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	< 0.2	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	36	23	33	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30	28	13	22	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	120	15	17	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	0.8	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	23	22	47	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	43	29	57	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	89	27	77	

Analytical Report Number: 17-45957

Project / Site name: Triton Square
Your Order No: CL1018

Lab Sample Number				736095	736096	736097	736098	
Sample Reference				BH101	BH101	BH101	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.50	1.00	2.50	8.00	
Date Sampled				11/04/2017	11/04/2017	11/04/2017	11/04/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	3.4	< 2.0	2.5	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	23	
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	11	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	10	< 10	29	
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	10	< 10	40	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	4.1	< 2.0	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	12	< 10	< 10	
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	12	< 10	< 10	
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 081	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 105	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 114	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 123	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 126	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 156	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 157	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 167	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 169	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
PCB Congener 189	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	
Total PCBs	mg/kg	0.012	NONE	< 0.012	< 0.012	< 0.012	< 0.012	

Analytical Report Number: 17-45957

Project / Site name: Triton Square

Your Order No: CL1018

Lab Sample Number				736099	736100	736101		
Sample Reference				BH101	BH101	BH101		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	1.00	8.00		
Date Sampled				11/04/2017	11/04/2017	11/04/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
10:1 WAC Leachate								
Arsenic	mg/l	0.0011	ISO 17025	0.0086	0.0049	< 0.0011		
Barium	mg/l	0.00005	ISO 17025	0.0105	0.0099	0.0023		
Cadmium	mg/l	0.00008	ISO 17025	< 0.0001	< 0.0001	< 0.0001		
Chromium	mg/l	0.0004	ISO 17025	0.0026	0.0008	0.0007		
Copper	mg/l	0.0007	ISO 17025	0.020	0.025	0.0034		
Mercury	mg/l	0.0005	ISO 17025	< 0.0005	< 0.0005	< 0.0005		
Molybdenum	mg/l	0.0004	ISO 17025	0.0042	0.0142	0.0015		
Nickel	mg/l	0.0003	ISO 17025	0.0021	0.0007	0.0004		
Lead	mg/l	0.001	ISO 17025	0.0035	0.0049	0.0019		
Antimony	mg/l	0.0017	ISO 17025	< 0.0017	< 0.0017	< 0.0017		
Selenium	mg/l	0.004	ISO 17025	< 0.0040	< 0.0040	< 0.0040		
Zinc	mg/l	0.0004	ISO 17025	0.0089	0.0058	0.0015		
Chloride	mg/l	0.15	ISO 17025	1.8	1.1	1.4		
Fluoride	mg/l	0.05	NONE	0.16	0.16	0.17		
Sulphate	mg/l	0.1	ISO 17025	7.2	11	6.5		
Total dissolved solids	mg/l	4	NONE	71	96	30		
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010	< 0.010		
Dissolved organic carbon	mg/l	0.1	NONE	2.97	7.36	1.82		

10:1 WAC Leachate

Arsenic	mg/kg	0.011	NONE	0.0518	0.0301	< 0.0110		
Barium	mg/kg	0.0005	NONE	0.0631	0.0612	0.0131		
Cadmium	mg/kg	0.0008	NONE	< 0.0008	< 0.0008	< 0.0008		
Chromium	mg/kg	0.004	NONE	0.016	0.0048	0.0042		
Copper	mg/kg	0.007	NONE	0.12	0.15	0.019		
Mercury	mg/kg	0.005	NONE	< 0.0050	< 0.0050	< 0.0050		
Molybdenum	mg/kg	0.004	NONE	0.0251	0.0872	0.0088		
Nickel	mg/kg	0.003	NONE	0.013	0.0046	< 0.0030		
Lead	mg/kg	0.01	NONE	0.021	0.030	0.011		
Antimony	mg/kg	0.017	NONE	< 0.017	< 0.017	< 0.017		
Selenium	mg/kg	0.04	NONE	< 0.040	< 0.040	< 0.040		
Zinc	mg/kg	0.004	NONE	0.054	0.036	0.0088		
Chloride	mg/kg	1.5	NONE	11	6.9	8.2		
Fluoride	mg/kg	0.5	NONE	0.98	1.0	0.98		
Sulphate	mg/kg	1	NONE	43	68	38		
Total dissolved solids	mg/kg	40	NONE	430	590	170		
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10		
Dissolved organic carbon	mg/kg	1	NONE	17.8	45.3	10.5		

Analytical Report Number : 17-45957

Project / Site name: Triton Square

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
736095	BH101	None Supplied	0.50	Brown clay and sand with gravel and rubble.
736096	BH101	None Supplied	1.00	Brown loam and clay with gravel and rubble.
736097	BH101	None Supplied	2.50	Brown gravelly sand.
736098	BH101	None Supplied	8.00	Brown clay and sand.

Analytical Report Number : 17-45957

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

Analytical Report Number : 17-45957

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

CONCEPT LIFE SCIENCES

Concept Life Sciences is a trading name of Scientific Analysis Laboratories registered in England and Wales (No 2514788)

Concept Life Sciences

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2404

Report Number: 652368-1

Date of Report: 12-May-2017

Customer: i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Croxley Green
Hertfordshire
WD18 8YS

Customer Contact: Project Management

Customer Job Reference: 17-47458
Customer Purchase Order: 8853, 17-47458
Customer Site Reference: Triton Square
Date Job Received at Concept: 08-May-2017
Date Analysis Started: 10-May-2017
Date Analysis Completed: 12-May-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with Concept SOPs

Report checked
and authorised by :
Lauren Clarke
Project Manager

Issued by :
Lauren Clarke
Project Manager

Concept Reference: 652368
Project Site: Triton Square
Customer Reference: 17-47458

Gas Bag Analysed as Gas Bag
Hydrogen Sulphide

Concept Reference	**652368 001**
Customer Sample Reference	**744164 (BH101)**
Test Sample	**AR**
Date Sampled	**05-MAY-2017**

Determinand	Method	LOD	Units	Symbol	
Hydrogen sulphide	GC/MS (DI)	10	ppm	N	<10

Concept Reference: 652368
Project Site: Triton Square
Customer Reference: 17-47458

Gas Bag Analysed as Gas Bag
Bulk Gas Screen

Concept Reference	**652368 001**
Customer Sample Reference	**744164 (BH101)**
Test Sample	**AR**
Date Sampled	**05-MAY-2017**

Determinand	Method	LOD	Units	Symbol	
Carbon Dioxide	GC/TCD	0.01	%	N	**0.06**
Carbon Monoxide	GC/TCD	0.01	%	N	<0.01
Hydrogen	GC/TCD	0.01	%	N	<0.01
Methane	GC/TCD	0.02	%	N	<0.02
Nitrogen	GC/TCD	0.01	%	N	**78**
Oxygen	GC/TCD	0.01	%	N	**22**

Index to symbols used in 652368-1

Value	Description
AR	As Received
N	Analysis is not UKAS accredited

Evangelos Kafantaris
Concept Site Investigations
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Warple Way
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i2 Analytical Ltd.
7 Woodshots Meadow,
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WD18 8YS

t: 01923 225404
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Analytical Report Number : 17-47458

Project / Site name:	Triton Square	**Samples received on:**	05/05/2017
Your job number:	17-2961	**Samples instructed on:**	05/05/2017
Your order number:	CL1036	**Analysis completed by:**	16/05/2017
Report Issue Number:	1	**Report issued on:**	16/05/2017
Samples Analysed:	1 gases sample - 3 water samples		

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 17-47458

Project / Site name: Triton Square

Your Order No: CL1036

Lab Sample Number				744161	744162	744163		
Sample Reference				CH02	CH03	BH101		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				05/05/2017	05/05/2017	05/05/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	11.0	11.3	7.5		
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Sulphate as SO_4	µg/l	45	ISO 17025	136000	27900	81500		
Chloride	mg/l	0.15	ISO 17025	110	73	96		
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	5600	5000	140		
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	14.6	31.4	3.89		
Nitrate as N	mg/l	0.01	ISO 17025	0.30	0.24	2.18		
Nitrate as NO_3	mg/l	0.05	ISO 17025	1.33	1.06	9.67		
Hardness - Total	mgCaCO3/l	1	ISO 17025	185	47.6	253		
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	23	< 10	< 10		
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16	< 0.16		
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	2.6	0.8	0.6		
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.87	5.32	0.60		
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1		
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.04		
Calcium (dissolved)	mg/l	0.012	ISO 17025	67	19	90		
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0		
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.6	1.5	0.4		
Copper (dissolved)	µg/l	0.5	ISO 17025	6.7	34	2.5		
Lead (dissolved)	µg/l	0.2	ISO 17025	0.6	0.9	< 0.2		
Magnesium (dissolved)	mg/l	0.005	ISO 17025	4.6	0.072	6.7		
Manganese (dissolved)	µg/l	0.05	ISO 17025	27	2.2	100		
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.14	0.09	0.17		
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.7	7.1	2.9		
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.7	3.5	5.7		
Vanadium (dissolved)	µg/l	0.2	ISO 17025	3.8	93	2.2		
Zinc (dissolved)	µg/l	0.5	ISO 17025	32	120	4.5		

Analytical Report Number: 17-47458

Project / Site name: Triton Square

Your Order No: CL1036

Lab Sample Number				744161	744162	744163		
Sample Reference				CH02	CH03	BH101		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				05/05/2017	05/05/2017	05/05/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	1000	< 10	< 10		
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	1000	< 10	< 10		
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	1000	< 10	< 10		
TPH-CWG - Aromatic >C5 - C7	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >C7 - C8	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >C8 - C10	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10		

Analytical Report Number: 17-47458

Project / Site name: Triton Square

Your Order No: CL1036

Lab Sample Number				744161	744162	744163		
Sample Reference				CH02	CH03	BH101		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				05/05/2017	05/05/2017	05/05/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		

Analytical Report Number: 17-47458

Project / Site name: Triton Square

Your Order No: CL1036

Lab Sample Number				744161	744162	744163		
Sample Reference				CH02	CH03	BH101		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				05/05/2017	05/05/2017	05/05/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Phenol	µg/l	0.05	NONE	1.1	0.73	< 0.05		
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2-Methylphenol	µg/l	0.05	NONE	25	1.5	< 0.05		
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
4-Methylphenol	µg/l	0.05	NONE	5.2	< 0.05	< 0.05		
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2,4-Dimethylphenol	µg/l	0.05	NONE	0.43	1.5	< 0.05		
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 17-47458

Project / Site name: Triton Square

Your Order No: CL1036

Lab Sample Number				744164				
Sample Reference				BH101				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				05/05/2017				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Gas Analysis								
Gas Analysis (Subcontracted)	NONE	N/A	N/A	See Attached				

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 17-47458

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Gas Subcon to SAL	Subcontracted.	Subcontracted analysis		W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025

Analytical Report Number : 17-47458

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L0102B-PL	W	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

CONCEPT LIFE SCIENCES

Concept Life Sciences is a trading name of Scientific Analysis Laboratories registered in England and Wales (No 2514788)

Concept Life Sciences

Certificate of Analysis

Hadfield House
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Manchester
M16 9FE
Tel : 0161 874 2400
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Report Number: 654103-1

Date of Report: 19-May-2017

Customer: i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Croxley Green
Hertfordshire
WD18 8YS

Customer Contact: Project Management

Customer Job Reference: 17-48117
Customer Purchase Order: 8879, 17-48117
Date Job Received at Concept: 16-May-2017
Date Analysis Started: 18-May-2017
Date Analysis Completed: 19-May-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with Concept SOPs

Report checked
and authorised by :
Lauren Clarke
Project Manager

Issued by :
Lauren Clarke
Project Manager

Concept Reference: 654103
Customer Reference: 17-48117

Gas Bag Analysed as Gas Bag
Bulk Gas Screen

Concept Reference	**654103 001**
Customer Sample Reference	**747654**
Test Sample	**AR**
Date Sampled	**11-MAY-2017**

Determinand	Method	LOD	Units	Symbol	
Carbon Dioxide	GC/TCD	0.01	%	N	**0.10**
Carbon Monoxide	GC/TCD	0.01	%	N	<0.01
Hydrogen	GC/TCD	0.01	%	N	<0.01
Methane	GC/TCD	0.02	%	N	<0.02
Nitrogen	GC/TCD	0.01	%	N	**79**
Oxygen	GC/TCD	0.01	%	N	**21**

Index to symbols used in 654103-1

Value	Description
AR	As Received
N	Analysis is not UKAS accredited

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Concept Site Investigations
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Warple Way
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W3 0RF

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WD18 8YS

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Analytical Report Number : 17-48117

Project / Site name:	Triton Square	**Samples received on:**	12/05/2017
Your job number:	17-2961	**Samples instructed on:**	12/05/2017
Your order number:	CL1044	**Analysis completed by:**	22/05/2017
Report Issue Number:	1	**Report issued on:**	22/05/2017
Samples Analysed:	1 gases sample - 4 water samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 17-48117

Project / Site name: Triton Square

Your Order No: CL1044

Lab Sample Number				747650	747651	747652	747653	
Sample Reference				CH01	CH02	CH03	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				11/05/2017	11/05/2017	11/05/2017	11/05/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.5	7.8	11.1	7.3	
Total Cyanide	µg/l	10	ISO 17025	-	-	< 10	< 10	
Sulphate as SO_4	µg/l	45	ISO 17025	350000	172000	38700	85200	
Sulphate as SO_4	mg/l	0.045	ISO 17025	350	170	39	85	
Chloride	mg/l	0.15	ISO 17025	130	78	88	97	
Ammoniacal Nitrogen as N	mg/l	0.015	NONE	-	-	5.0	0.39	
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	-	-	27.5	3.99	
Nitrate as N	mg/l	0.01	ISO 17025	0.64	0.50	0.43	2.60	
Nitrate as NO_3	mg/l	0.05	ISO 17025	2.82	2.23	1.91	11.5	
Hardness - Total	mgCaCO3/l	1	ISO 17025	-	-	79.2	318	
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	-	-	< 10	< 10	
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Acenaphthylene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Fluorene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Phenanthrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	NONE	-	-	< 0.16	< 0.16	
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	-	-	2.1	0.7	
Arsenic (dissolved)	µg/l	0.15	ISO 17025	-	-	6.36	0.60	
Beryllium (dissolved)	µg/l	0.1	ISO 17025	-	-	< 0.1	< 0.1	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	-	-	< 0.02	0.03	
Calcium (dissolved)	mg/l	0.012	ISO 17025	-	-	31	120	
Chromium (hexavalent)	µg/l	5	ISO 17025	-	-	< 5.0	< 5.0	
Chromium (dissolved)	µg/l	0.2	ISO 17025	-	-	1.3	0.4	
Copper (dissolved)	µg/l	0.5	ISO 17025	-	-	44	3.3	
Lead (dissolved)	µg/l	0.2	ISO 17025	-	-	0.8	< 0.2	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	5.3	4.1	0.25	6.7	
Manganese (dissolved)	µg/l	0.05	ISO 17025	-	-	3.0	42	
Mercury (dissolved)	µg/l	0.05	ISO 17025	-	-	< 0.05	0.06	
Nickel (dissolved)	µg/l	0.5	ISO 17025	-	-	9.0	4.3	
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	-	3.0	6.1	
Vanadium (dissolved)	mg/l	0.0002	ISO 17025	-	-	0.0620	0.0027	
Zinc (dissolved)	µg/l	0.5	ISO 17025	-	-	40	9.5	

Analytical Report Number: 17-48117

Project / Site name: Triton Square

Your Order No: CL1044

Lab Sample Number				747650	747651	747652	747653	
Sample Reference				CH01	CH02	CH03	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				11/05/2017	11/05/2017	11/05/2017	11/05/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	-	-	3100	< 10	
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	-	-	710	< 10	
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	-	-	3100	< 10	
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	-	-	3800	< 10	
TPH-CWG - Aromatic >C5 - C7	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aromatic >C7 - C8	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aromatic >C8 - C10	µg/l	1	NONE	-	-	< 1.0	< 1.0	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	-	-	< 10	< 10	
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	-	-	< 10	< 10	

Analytical Report Number: 17-48117

Project / Site name: Triton Square

Your Order No: CL1044

Lab Sample Number				747650	747651	747652	747653	
Sample Reference				CH01	CH02	CH03	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				11/05/2017	11/05/2017	11/05/2017	11/05/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Chloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Bromomethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Vinyl Chloride	µg/l	1	NONE	-	-	< 1.0	< 1.0	
Trichlorofluoromethane	µg/l	1	NONE	-	-	< 1.0	< 1.0	
1,1-Dichloroethene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1-Dichloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
2,2-Dichloropropane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Trichloromethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2-Dichloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1-Dichloropropene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Benzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Tetrachloromethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2-Dichloropropane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Trichloroethene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Dibromomethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Bromodichloromethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,3-Dichloropropane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Dibromochloromethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Tetrachloroethene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2-Dibromoethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Chlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
p & m-Xylene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Styrene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Tribromomethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
o-Xylene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Isopropylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Bromobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
n-Propylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
2-Chlorotoluene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
4-Chlorotoluene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
tert-Butylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
sec-Butylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
p-Isopropyltoluene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Butylbenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
Hexachlorobutadiene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	-	-	< 1.0	< 1.0	

Analytical Report Number: 17-48117

Project / Site name: Triton Square

Your Order No: CL1044

Lab Sample Number				747650	747651	747652	747653	
Sample Reference				CH01	CH02	CH03	BH101	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				11/05/2017	11/05/2017	11/05/2017	11/05/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Phenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2-Chlorophenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
1,3-Dichlorobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
1,2-Dichlorobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
1,4-Dichlorobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2-Methylphenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Hexachloroethane	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Nitrobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
4-Methylphenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Isophorone	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2-Nitrophenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2,4-Dimethylphenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Naphthalene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
2,4-Dichlorophenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
4-Chloroaniline	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Hexachlorobutadiene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
4-Chloro-3-methylphenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2,4,6-Trichlorophenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2,4,5-Trichlorophenol	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2-Methylnaphthalene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2-Chloronaphthalene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Dimethylphthalate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
2,6-Dinitrotoluene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Acenaphthylene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
2,4-Dinitrotoluene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Dibenzofuran	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Diethyl phthalate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
4-Nitroaniline	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Fluorene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Azobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Bromophenyl phenyl ether	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Hexachlorobenzene	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Phenanthrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Carbazole	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Dibutyl phthalate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Anthraquinone	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Butyl benzyl phthalate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	-	-	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	NONE	-	-	< 0.01	< 0.01	

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 17-48117

Project / Site name: Triton Square
Your Order No: CL1044

Lab Sample Number				747654				
Sample Reference				BH101				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				11/05/2017				
Time Taken				None Supplied				
Analytical Parameter	**Units**	**Limit of detection**	**Accreditation Status**					
Gas (subcontracted)	N/A	N/A	NONE	See Attached				

Analytical Report Number : 17-48117

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Gas Subcon to SAL	Subcontracted.	Subcontracted analysis		W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L0102B-PL	W	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 17-48117

Project / Site name: Triton Square

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Appendix D

Concept (2017) Phase 2 Factual Report

SITE INVESTIGATION REPORT

1 Triton Square, Ground Investigation, Phase 2

ISSUE 03

SITE INVESTIGATION REPORT

1 Triton Square, Ground Investigation, Phase 2

Prepared for: British Land

Concept: 17/2961 Phase 2- FR 03 23/10/2017

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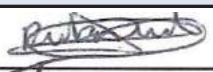
DOCUMENT ISSUE REGISTER			
Project Name:	1 Triton Square, Ground Investigation, Phase 2		
Project Number:	17/2961		
Document Reference:	17/2961 Phase 2 - FR 01	**Current Issue**	Issue 03
Document Type:	Site Investigation Report		

Development	Name	Signature	Date
Prepared by:	R Davila		23/10/2017
Checked by:	I Penchev		23/10/2017
Approved by:	I Penchev		23/10/2017

Issued to:	Arup

Date	Issue	Amendment Details/ Reason for issue	Issued to
01/09/17	Issue 00		Arup
15/09/17	Issue 01	Ferroscan/Covermeter survey results revised; New survey areas added; Additional Breakouts added, Laboratory results added	Arup
13/10/17	Issue02	Revised as per Arup's comments. Detection report revised and annotated to clarify what the different outputs are, drawings reoriented and key site location plan added. Break outs locations in walls added.	Arup
23/10/18	Issue03	Revised as per Arup's comments. Units amended in Sketch C67 and Typo in section 8 Title corrected.	Arup

Notes:

CONTENTS

1. PROJECT PARTICULARS

Site Location:	1, 4, 7 Triton Square, London, NW1 3HG
Client:	British Land
Investigation Supervisor:	Ove Arup & Partners Ltd
Fieldwork:	13/07/2017 – 8/09/2017
Laboratory Work:	27/07/2017 – 7/09/2017

2. PURPOSE AND SCOPE OF WORKS

The purpose of the investigation was to provide information on the geometry and condition of existing substructure, the groundwater regime at the site and confirm geotechnical parameters for the reuse of the existing structural element in the proposed new development.

The site currently comprises a multi-story building used for commercial and office space with a single storey basement.

The development will involve addition of three floors and an 8-storey (L2-L9) infill in the buildings central atrium.

The scope of the works comprised the following:

- 4 No. Horizontal Diamond Cored Coreholes to a maximum depth of 0.21m through 4 no reinforced concrete columns;
- 4 No. Horizontal Diamond Cored Coreholes to a maximum depth of 0.21m through 4 no reinforced concrete walls;
- 5 No. Vertical Diamond Cored Coreholes to a maximum depth of 0.25m through 4 no reinforced concrete slab panels;
- 1 No. Vertical Diamond Cored Coreholes to a maximum depth of 0.25m through 4 no reinforced concrete slabs;
- 8 No. Dimensional and Covermeter survey on reinforced concrete columns;
- 7 No. Dimensional and Covermeter survey on reinforced concrete walls;
- 4 No. Covermeter surveys on the soffit of reinforced concrete slab panels;
- 3 No. Reinforcement exposure
- 3 No. Covermeter survey on reinforced concrete slab
- 1 No 300mm diamond corehole to a depth of 0.50m followed by a hand excavated pit to 1.60m to enable the installation of a water monitoring standpipe and the recovery on samples for geotechnical and chemical laboratory testing
- Geotechnical, Chemical and Concrete Laboratory Testing.

Table 1 – Exploratory Locations and Type of Investigations

Location Reference	Structure Type	Core Hole	Core length (m)	Core Orientation (° from Vertical/ Down)	Covermeter Survey	Dimensional Survey	Comments
C2 Face A	Column		-	-	Yes	Yes	
C2 Face B	Column		-	-	Yes	Yes	
C11B Face A	Column		-	-	Yes	Yes	
C11B Face B	Column		-	-	Yes	Yes	
C50 Face A	Column				Yes	Yes	Reinforcement Exposure
C50 Face B	Column	CC–C50	0.20	90	Yes	Yes	
C58	Column	CC-C58	0.21	90	Yes	Yes	Access to one face only
C59	Column	CC-C59	0.20	90	Yes	Yes	Access to one face only
C67 Face A	Column	CC-C67	0.21	90	Yes	Yes	
C67 Face B	Column				Yes	Yes	
C90 Face A	Column	-	-	-	Yes	Yes	
C90 Face B	Column	-	-	-	Yes	Yes	
C103	Column	-	-	-	Yes	Yes	
W1 Face A	Wall	CC-W1	0.21	90	Yes	Yes	Long Face
W1 Face B	Wall	CC-W1	0.21	90	Yes	Yes	Narrow Face
W2 Face A	Wall				Yes	Yes	Long Face
W2 Face B	Wall				Yes	Yes	Narrow Face
W2 Face A	Wall				Yes	Yes	Long Face
W2 Face B	Wall				Yes	Yes	Narrow Face
W3 Location 1	Wall				Yes	Yes	Long Face
W3 Location 2	Wall				Yes	Yes	Long Face
W4 Location 1	Wall				Yes	Yes	Long Face
W4 Location 2	Wall				Yes	Yes	Long Face
W6 Face A	Wall				Yes	Yes	Long Face
W6 Face B	Wall				Yes	Yes	Narrow Face
W7 Face A	Wall				Yes	Yes	Long Face
W7 Face B	Wall				Yes	Yes	Narrow Face
W8 Face A	Wall				Yes	Yes	Long Face
W8 Face B	Wall				Yes	Yes	Narrow Face
P1	Slab Panel	CC-P1	0.22	180	Yes		
P2	Slab Panel	CC-P2	0.20	180	Yes		
P3	Slab Panel	CC-P3-1	0.09	180			Core aborted on Rebar
P3	Slab Panel	CC-P3-2	0.21	180	Yes		
P4	Slab Panel	CC-P4	0.25	180	Yes		
Slab_Loc1	Floor Slab				Yes	Yes	
Slab_Loc2	Floor Slab				Yes	Yes	
Slab_Loc3	Floor Slab				Yes	Yes	
CH10	Floor	CH10	0.48	0	Yes		Hand excavation to 1.60m depth below core and Monitoring Standpipe Installed

3. DESCRIPTION OF WORKS

The works were carried out in accordance with the Ove Arup & Partners Ltd Ground Investigation Specification and Tender Document "1 Triton Square Specification for Ground Investigation - Phase 1" with reference: 246868/SPEC/001, dated 28th March

2017, the Supplemental Structural Survey Notes SK-S-006 rev. C and the Concept Method Statement.

The site is located at 1, 4 and 7 Triton Square (147 Triton Square), approximately 150m to the north west of the junction of Euston and Hampstead Road and forms part of a wider Regent's Place/Triton Square development bounded by Drummond Street, Longford Street, Osnaburgh Street, Euston Road and Hampstead Road. It is centred at approximate National Grid Reference TQ290823.

The locations of all exploratory holes are shown in the Exploratory Hole Location Plan presented in Section 6 of this report.

4. INVESTIGATION METHODS

4.1 Diamond Coring

13No. 75mm diameter diamond cored coreholes were carried out using a water-cooled diamond coring rig Hilti DD350 through walls, columns and slab panels (see Table 1) to recover samples for laboratory testing at locations specified by Arup following a covermeter survey (see Section 8) to minimise the risk of damaging reinforcement.

Corehole CC-P3-1 was aborted at 0.08 depth when the lead driller suspected presence of rebar. After the removal of the already cut concrete, the presence of 10mm diameter rebar was confirmed. Following further investigation, it was confirmed that the core bit penetrated 4mm into the bar.

The cores from the slab panels were recovered from the soffit and the works were carried out from a mobile tower scaffold.

All coreholes were reinstated with Weber 5 Start Concrete Repair.

All corehole logs are presented in in section 7 in this report

1No 300mm diameter diamond cored coreholes was carried out using a water-cooled diamond coring rig Hilti DD350 through floor slab at location, specified by Arup to a depth of 0.48m. Upon completion, a pit was hand excavated from the surface to a depth of 1.60m to confirm the undelaying soil types. Soil samples were recovered for geotechnical and chemical laboratory testing. A monitoring stand pipe was installed (see Section 4.5)

All findings are presented in the corehole log CH10 in section 7 in this report

4.2 Covermeter Survey

Covermeter Survey was carried in the locations listed in Table 1 in accordance with BS1881-2004 and Elcometer 331 Concrete Covermeter Model user manual, in an attempt to investigate the concrete cover and the reinforcing bar sizes, avoiding any intrusive works which could potentially compromise the longevity of the structural elements.

In addition, covermeter survey was carried ahead of any coring so that the risk of damaging reinforcement is minimised.

The survey was carried out in three stages using three different instruments:

- Hilti PS38 Multidetector to located the reinforcement and provide indicative concrete cover

- Elcometer 331 Concrete covermeter Model SH with standard and narrow scanning heads for determining the concrete cover and the reinforcing bar diameters.
- Hilti PS200 S Ferroscan to map the positions of the reinforcement in the surveyed areas so a better estimate of the cover and diameter of reinforcement are made. In order for the determination of the concrete cover, the reinforcing bar diameters were assumed to be equal to the reinforcing bars exposed in the local breaking outs:
    - for walls 16mm (horizontal and vertical as confirmed in the local breakouts in W1 and W4 and also observed in the corehole in W7 (see Section) 4.3
    - for Columns 40mm vertical and 10mm horizontal as confirmed in the local breakout in C50

Where no intrusive works were carried out, the diameters of the reinforcing bars and the concrete covers are only estimated.

The surveys of the columns and the walls were carried out at ~2.00m above the floor level (at mid high), where it was expected that the density of the reinforcement will be minimal.

The accuracies of the Elcometer 331 and the Hilti PS200 S Ferroscan.

- Accuracy of depth measurement for rebar:± 1 mm
- Localisation accuracy: ±3 mm
- Max. depth for determining rebar diameter: 60 mm
- Max. depth for determining depth of coverage 160 mm

Other factors, that affect the accuracy of the scans are:

- if the rations Cover:Specing is less than 2:1
- Presence of other steel objects.

The results of the surveys are presented in Section 8

4.3 Reinforcement Exposure

The concrete cover at location agreed with Arup on site was locally removed from Column C50, Wall W1 and Wall W4 using a lightweight breaker Hilti TE 700-AVR. The uncovered reinforcement was in sound condition. The findings are presented in the C50 sketches in Section 8.

The reinforcement in Wall 7 was observed and recorded in a service corehole drilled by others

The concrete was reinstated with Weber 5 Start Concrete repair

4.4 Dimensional Survey.

Dimensional surveys, comprising direct measurement of the sections of the columns and the walls at high, medium and low level, together with a plumb bob survey were carried out where practically possible.

They are presented in the relevant drawings in Section 8 of this report.

4.5 Standpipe Installations

Monitoring wells with flush stopcock covers were installed in the boreholes as follows:

Table 2 – Monitoring Installation Details

Hole ID	Base of Borehole (m bgl)	Diameter of Installation (mm)	Type of Installation	Base (m bgl)	Top RZ (m bgl)	Bottom RZ (m bgl)
CH10	1.60	50	SPIE*	1.50	0.80	1.50

KEY
SPG/GW – Gas & Groundwater Standpipe
SPGW – Groundwater Standpipe
RZ – Response Zone

*Standpipe piezometer driven into the ground at the base of the corehole

The pit was backfilled with bentonite pellets, with groundwater response zone backfilled with a 10mm pea shingle filter. The installation was finished with concrete and a lockable stopcock cover flush with the ground. The corehole was reinstated with C30 mixed on site concrete with Sika 2 Waterproofing additive.

4.6 Logging / Laboratory Testing

Logging of all soil samples was carried out in accordance with BS 5930:2015.

Geotechnical testing is performed at Concept Site Investigations laboratory in accordance with BS1377:1990 unless otherwise stated in the report. Concept is accredited by UKAS for tests where the UKAS logo is appended to the individual test report or summary. Approved signatories for laboratory testing are as follows:

- LG – Lynn Griffin (Quality Manager)
- KM – Kasia Mazerant (Laboratory Manager)

Where subcontracted analysis has been carried out, the details of the laboratory (and accreditation where applicable) are shown in the individual test report or summary.

The results are presented in tabular format in Section 9 of this report.

Concrete core testing was carried out by Sandberg Ltd and the results are presented in Section 10.

All chemical testing was specified and scheduled by Ove Arup & Partners Ltd and carried out by i2 Analytical Ltd in accordance with the requirements of UKAS ISO17025 and MCERTS. The results are presented in tabular format in Section 11 of this report.

4.7 Setting Out

The locations of all exploratory holes were agreed with the Investigation Supervisor and set out prior to commencement of the site works.

The investigation locations were set out from salient features. The approximate coordinates were estimated by plotting the location on the OS plan generated for the first phase 1 of the investigations. Also, it was assumed that the floor slab was at +23.07mOD as per the results from the surveying, carried out during the Phase 1.

The approximate co-ordinates and levels of the as-built locations of the boreholes are shown in the Exploratory Hole Location Plan presented in Section 7 of this report.

REFERENCES

British Standards Institution, (2015) Code of practice for ground investigations, British Standard BS5930: 2015, BSI, London

British Standards Institution, (2011) Investigation of potentially contaminated sites, British Standard BS10175: 2011, BSI, London.

UK Specification for Ground Investigation, (2011) Site Investigation Steering Group, Thomas Telford, London

British Geological Survey (1996) London and the Thames Valley 4th Edition, London HMSO.

British Standards Institution BS EN ISO 22475-1, (2006) Geotechnical Investigation and Testing – Sampling Methods and Groundwater Measurements – Part 1: Technical Principles for Execution

British Standards Institution BS EN 1997:1 (2004) EuroCode 7 - Geotechnical Design. Part 1 – General Rules.

British Standards Institution BS EN 1997:2 (2007) EuroCode 7 - Geotechnical Design. Part 2 - Ground Investigation and Testing.

King C. (1981) The stratigraphy of the London Basin and associated deposits. Tertiary Research Special Paper, Vol. 6, Backhuys, Rotterdam, p158.

Entwisle N D C, Hobbs, P R N, Northmore, K J, Skipper, J, Raines, M R, Self, S J, Ellison, R A & Jones L D (2013) Engineering Geology of British Rocks and Soils - Lambeth Group. British Geological Survey Open Report, OR/13/006. 316pp.

British Standards Institution BS 1881-204 (1988) Testing Concrete – Part 204: Recommendations on the use of electromagnetic covermeters

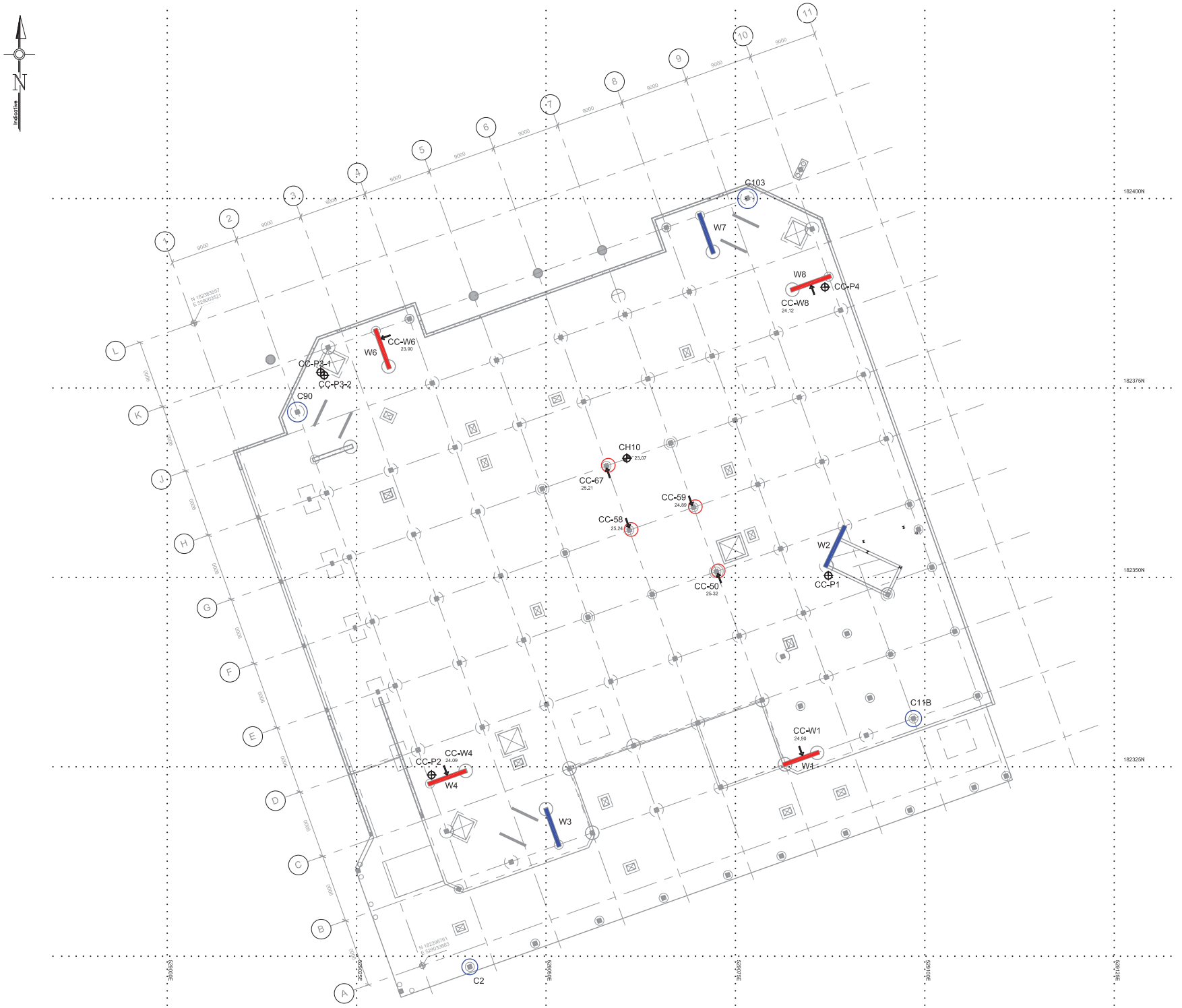
Elcometer Limited Doc.No. TMA-0384 Issue 06 Text with Cover No: 19754 - Elcometer 331 Concrete covermeter Model SH User Manual

ORIGINAL OPERATING INSTRUCTIONS PS 250 ferroscan system/ PS 200 S ferroscan: https://www.hilti.co.uk/medias/sys_master/documents/h1f/9182632706078/Operating-Instruction-PS-250-PS-200-S-01-EN-Operating-Instruction-PUB-5135462-000.pdf

5 SITE LOCATION PLAN

Not to Scale © Crown Copyright reserved

6 EXPLORATORY HOLE LOCATION PLAN



NOTES

1. This drawing should not be scaled, only use annotated dimensions.

HOLE	Easting (m)	Northing (m)	Level (mOD)
CC-C50	529072.65	182350.57	25.32
CC-C58	529061.00	182356.51	25.24
CC-C59	529069.32	182359.46	24.90
CC-C67	529057.98	182364.45	25.21
CC-CH10	529060.67	182365.72	23.07
CC W1	529083.87	182376.43	24.90
CC-W4	529036.99	182323.87	24.09
CC-W6	529028.18	182381.51	23.90
CC-W8	529084.97	182388.59	24.12
CC-P1	529087.27	182350.24	27.46
CC-P2	529034.89	182323.93	27.46
CC-P3-1	529020.26	182377.07	27.46
CC-P3-2	529020.73	182376.68	27.46
CC P4	529086.82	182388.31	27.45

KEY

- CH- Concrete Core Vertical (Basement Slab)
- CC- Concrete Core Vertical (Underside Ground floor Slab)
- CC- Concrete Core Horizontal
- Concrete Coring Covermeter and Dimensional Survey
- Covermeter and Dimensional Survey

No	Revision	Drawn	Checked	Passed	Date

CONCEPT SITE INVESTIGATIONS

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Client:	British Land
Project:	1 Triton Square, Investigation Phase 2
Title:	Exploratory Hole Location Plan
Dwg. No:	172961/00
Status:	Issue
Scale:	NTS

Drawn	Checked	Passed	Date
RD	IP	MD	August 2017

7 DIAMOND CORING LOGS

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Trial Pit No

CH10

Project

1 Triton Square, Ground Investigation, Phase 2

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/2961	21/07/17	23.07	E 529060.7 N 182365.7	1.60m
	Date Completed 26/07/17			

Client	Method/ Plant Used	Sheet
British Land	Diamond Coring/Hand Excavated	1 of 1

Water	Level (mOD)	Legend	Depth (Thickness)	Stata Description	Depth	Type No	Test Result	Field Records
				STRATA	**SAMPLES & TESTS**			
	22.73		(0.34) 0.34	Strong, light grey reinforced CONCRETE, clasts are subangular to subrounded fine to coarse flint (average spacing between aggregate 3mm). Occasional air voids (<16mm). 0.03 ... with 1No Ø14mm rebar and 3No Ø16mm rebar 0.05 ... with 2No Ø16mm rebar 0.26 ... with 3No Ø20mm rebar 0.28 ... with 1No Ø14mm rebar and 1No Ø16mm rebar	0.00-0.34	C01A		
	22.59		(0.14) 0.48					
	22.27		(0.32) 0.80	Strong, light greyish brown CONCRETE, clasts are subangular to subrounded fine to coarse flint (average spacing between aggregate 3mm). Occasional air voids (<8mm). (MADE GROUND)	0.50-0.65 0.50-0.65 0.65-0.80 0.65-0.80	ES01 B02 ES03 B04		
▼	21.95		(0.32) 1.12	Brown silty very sandy GRAVEL with high cobble content, occasional black plastic membrane fragments and occasional wood fragments. Gravel comprises angular to subrounded fine to coarse flint, brick and concrete fragments. Cobbles are brick. Sand is fine to coarse. (MADE GROUND) 0.65 - 0.80 ... with no cobbles	0.80-1.12 0.80-1.12	ES05 B06		... Water level at 1.00m depth on 24/07/17
	21.67		(0.28) 1.40	Brown very sandy angular to well rounded fine to coarse flint GRAVEL with slight hydrocarbon odour. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	1.12-1.40 1.12-1.40	ES07 B08		
	21.47		(0.20) 1.60	Firm to stiff, brown mottled orangish brown micaceous CLAY with occasional black flecks. (THAMES GROUP: WEATHERED LONDON CLAY FORMATION)	1.40-1.50	B09		
				Firm to stiff, grey occasionally mottled brown micaceous CLAY. (THAMES GROUP: LONDON CLAY FORMATION)	1.50-1.60 1.50-1.60	ES10 B11		
				End of Trial Pit				

GENERAL REMARKS

1. Ø300mm vertical diamond core carried out internally within the basement of the property to 0.48m depth, then hand excavated to 1.60m depth.
2. Pit collapsing between 21/07/2017 and 24/07/2017 from 1.60m to 1.23m depth (re-excavated to 1.60m depth). Water encountered at 1.00m depth on 24/07/2017.
3. Ø50mm groundwater standpipe installed at 1.50m depth, slotted between 0.80m and 1.50m depth.
4. Corehole backfilled with pea shingle between 1.60m and 0.80m depth and bentonite pellets between 0.80m and 0.50m depth. Concrete with flush cover installed between 0.50m and ground level.
5. Refer also to photographs of concrete cores and soil samples.

Issue No: 00	Drilled By: FT	Logged By: RD	Checked By: OS	Approved By: OS	Log Print Date & Time: 01/09/2017 12:01

11 CHEMICAL LABORATORY TEST RESULTS

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Analytical Report Number : 17-55222

Project / Site name:	Triton Square	**Samples received on:**	24/07/2017
Your job number:	17-2961	**Samples instructed on:**	24/07/2017
Your order number:	CL1128	**Analysis completed by:**	31/07/2017
Report Issue Number:	1	**Report issued on:**	31/07/2017
Samples Analysed:	1 leachate sample		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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