

Norwest Holst Soil Engineering Ltd.

Borehole No.

2

British Geological Survey

F7360B

British Geological Survey

BOREHOLE LOG

British Geological Survey

Contract No. F7360B

Location Kings Terrace

Client London Borough of Camden

Method of Boring Percussion

Diameter of Borehole 150mm

Sheet 2 of 2

Chainage 1172

Ground Level m.A.O.D.

Date 30/3/87

TP 28 SE

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/R.Q.D. %	Daily Progress	
Stiff grey silty CLAY					10.00			
					(70)			
					11.50			
					(70)			
					13.00			
					(70)			
					14.50			
					(80)			
					16.00			
					(80)			
			17.50					
			(80)					
			18.50					
			(80)					
			19.50					
			(90)					
End of Borehole		20.00						

<p>Type of Sample</p> <p>Is S.P.T. Undisturbed</p> <p>Ic. C.P.T. Vane</p> <p>O Jar Water</p> <p>● Bulk Piezometer</p>	<p>Remarks (Observations of Ground Water etc.)</p> <p>() U100 blows</p> <p>Borehole dry during boring</p> <p>Water levels are subject to seasonal or tidal variations and should not be taken as constant</p>
--	--

TERRESEARCH LIMITED

British Geological Survey

British Geological Survey

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BOREHOLE NO. 4

TQ 28SE 1393

NGR 2921 8351

Contract Name Carnock Street.

Report No. S. 500/22

Client W. V. Zinn & Associates,

Site Address Plender Street

Address For the Metropolitan

Borough of Paddington.

Standing Water Level

Diameter 8"

Water Struck None

Method of Boring Shell/Auger

Ground Level 75.25

Start 18.12.62 **Finish** 18.12.62

Remarks:

Description of Strata	Thickness	Depth	Disturbed Samples	'U' Core end
Made ground	1'6"	1'6"	J1832 1'0"	
Soft blue silty clay	3'3"	4'9"	J1833 3'0"	
Light brown clay	6'9"	11'6"	J1835 7'6"	U1834 5'0" U1836 10'0"
Light brown mottled clay with sand layers	5'6"	17'0"	J1837 12'6"	U1838 15'0"
Dark brown clay with sand layers	10'0"	27'0"	J1839 17'6" J1841 22'6"	U1840 20'0" U1842 25'0"
London Blue clay	3'0"	30'0"	J1843 27'6"	U1844 28'6"
TOTALS	30'0"	30'0"		



APPENDIX F GROUNDSURE REPORT



EmapSite

Masdar House,
Eversley, RG27 0RP

Report Reference: EMS-359708_482803

Your Reference: EMS_359708_482803

Report Date 3 May 2016

Report Delivery Method: Email - pdf

Groundsure Geoinsight

Address: The Hope Project, Camden, NW1 7JE,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Geoinsight

Groundsure Geoinsight

Address: The Hope Project, Camden, NW1 7JE,
Date: 3 May 2016
Reference: EMS-359708_482803
Client: EmapSite

NW N NE



SW S SE

Aerial Photograph Capture date: 04-May-2014
Grid Reference: 529242,183411
Site Size: 0.16ha



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Overview of Findings

The Groundsure Geosight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	No
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	No
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

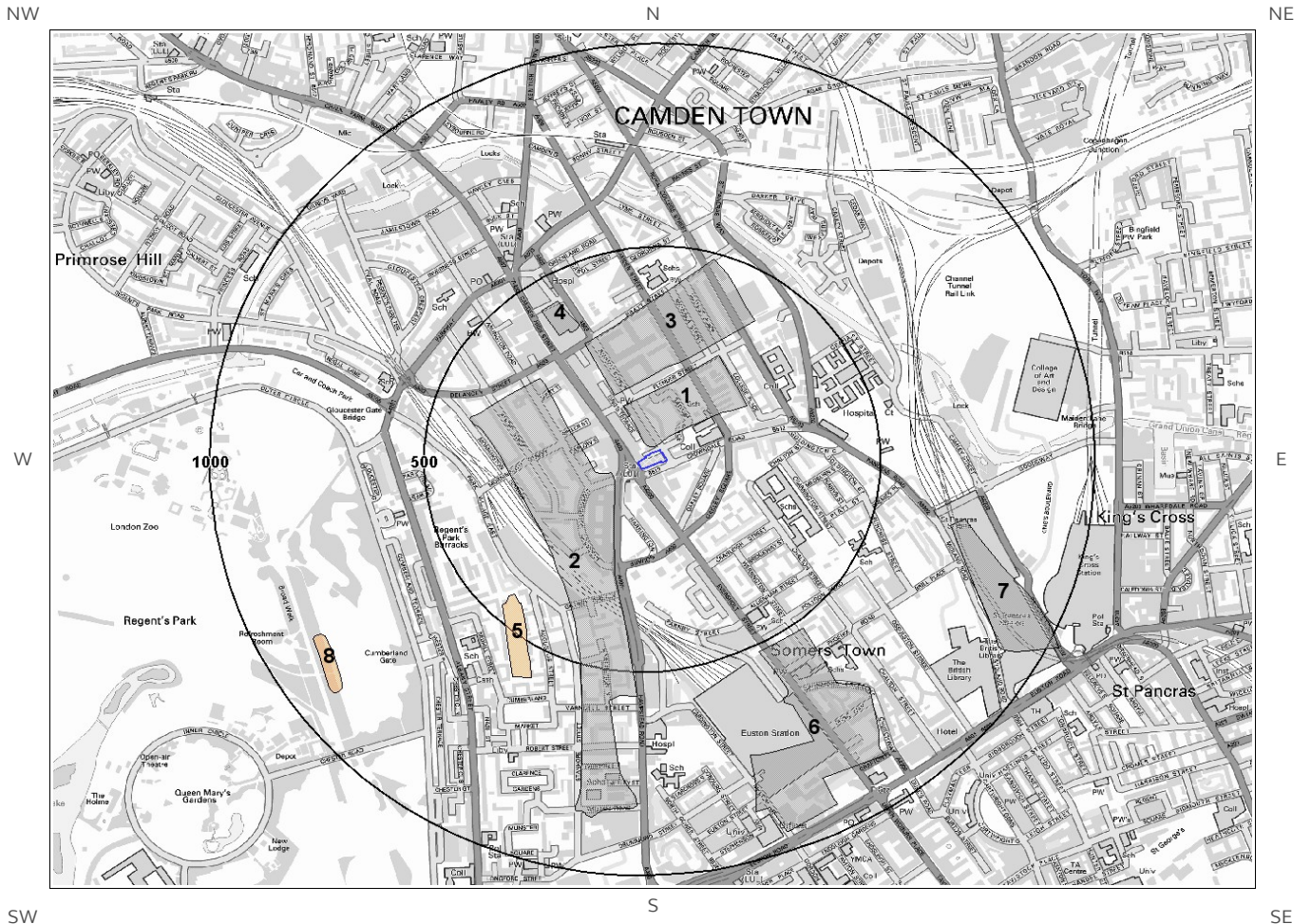
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	26
2.3 Current Ground Workings	0	0	0	0	3

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	3
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence					
	On-site				
4.1 Shrink Swell Clay	Moderate				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Negligible				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Negligible				
Section 5: Borehole Records					
	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	2	33		
Section 6: Estimated Background Soil Chemistry					
	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	1	0	7		
Section 7: Railways and Tunnels					
	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	1	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	6

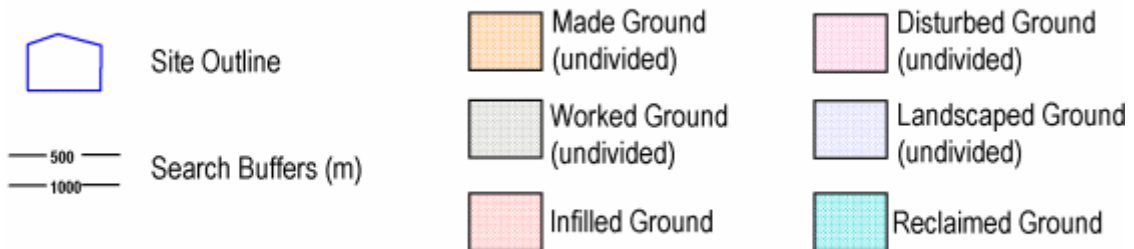
1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:256

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

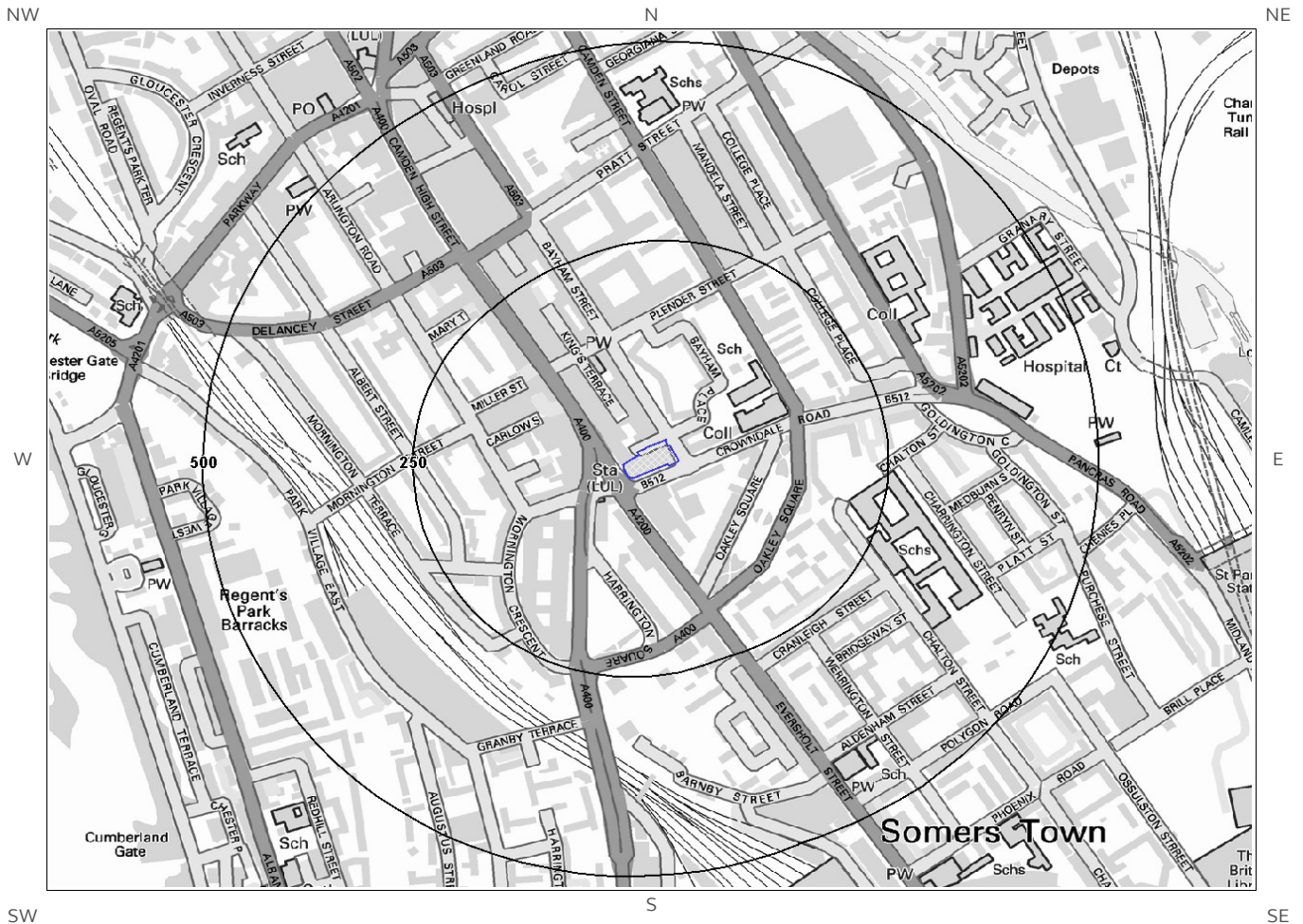
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	12.0	NW	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
2	65.0	SW	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
3	166.0	NW	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
4	350.0	NW	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
5	428.0	SW	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map

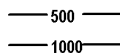


Superficial Deposits and Landslips Legend

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Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? No

Database searched and no data found.

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? No

Database searched and no data found.

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site** boundary? No

Database searched and no data found.


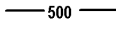

* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



Bedrock and Faults Legend

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-  Site Outline
-  500
-  1000
- Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:256

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	No Details

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Very Low

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

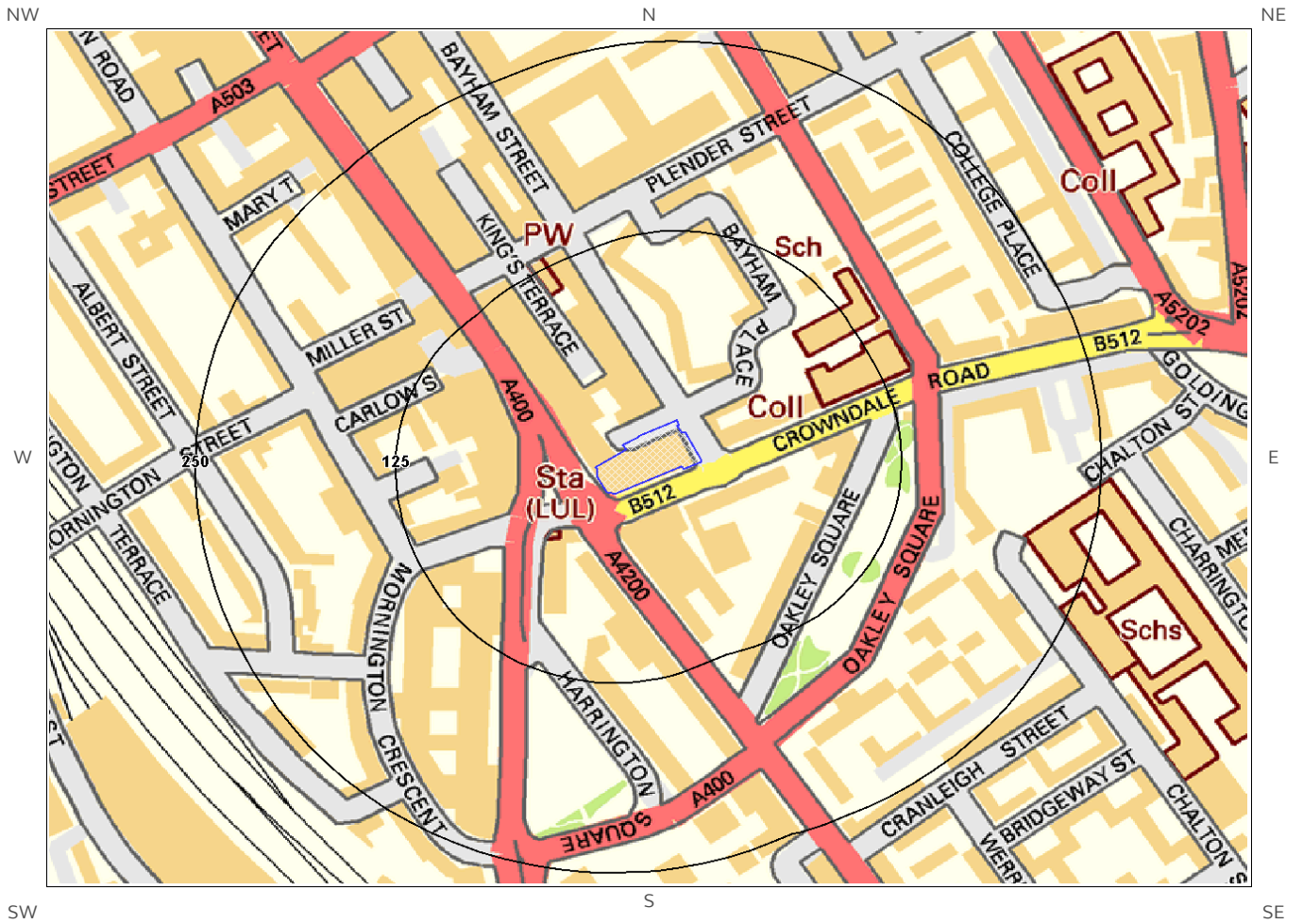
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection



Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

2 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings
-  Search Buffers (m)

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? No

Database searched and no data found.

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	510.0	W	528675 183621	Tunnel	1989
Not shown	510.0	W	528675 183621	Tunnel	1973
Not shown	521.0	W	528658 183631	Tunnel	1938
Not shown	521.0	W	528658 183631	Tunnel	1914
Not shown	548.0	W	528651 183636	Tunnel	1957
Not shown	548.0	W	528651 183636	Tunnel	1940
Not shown	548.0	W	528651 183636	Tunnel	1968
Not shown	560.0	W	528642 183634	Tunnel	1973
Not shown	560.0	W	528642 183634	Tunnel	1989
Not shown	607.0	E	529866 183609	Tunnel	1973
Not shown	668.0	E	529982 183101	Tunnel	1894
Not shown	925.0	E	530174 183067	Tunnel	1894

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	925.0	E	530177 183066	Tunnel	1873
Not shown	925.0	E	530177 183066	Tunnel	1873
Not shown	965.0	E	530261 183691	Tunnel	1938
Not shown	965.0	E	530261 183691	Tunnel	1914
Not shown	967.0	NE	529602 184492	Tunnel	1973
Not shown	967.0	NE	529602 184492	Tunnel	1989
Not shown	967.0	NE	529602 184492	Tunnel	1968
Not shown	969.0	E	530264 183690	Railway Tunnel	1976
Not shown	969.0	E	530264 183690	Railway Tunnel	1971
Not shown	969.0	E	530264 183690	Railway Tunnel	1957
Not shown	969.0	E	530264 183690	Railway Tunnel	1940
Not shown	969.0	E	530264 183690	Railway Tunnel	1966
Not shown	969.0	E	530264 183690	Railway Tunnel	1994
Not shown	996.0	NW	528256 184173	Tunnel	1989

2.3 Current Ground Workings

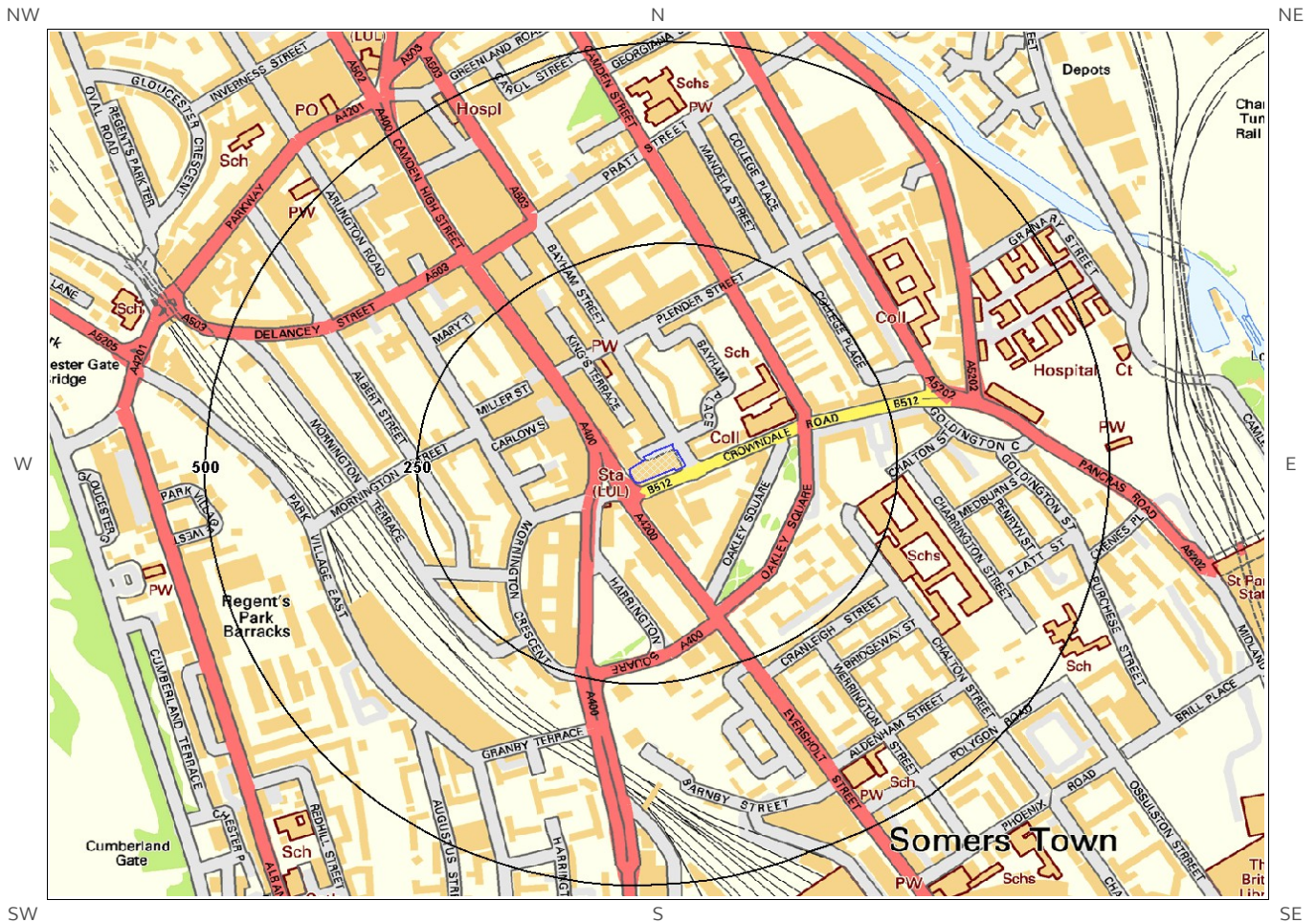
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	903.0	NE	530085 183810	Crushed Rock	Kings Cross Rail Depot	A site where mineral commodities are unloaded from rail trucks and stored	Active
Not shown	904.0	NE	530090 183800	Marine Sand & Gravel	Kings Cross Rail Depot	A site where mineral commodities are unloaded from rail trucks and stored	Active
Not shown	904.0	NE	530090 183800	Crushed Rock	Kings Cross Rail Depot	A site where mineral commodities are unloaded from rail trucks and stored	Active

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? Yes

The following information provided by JPB is not represented on mapping: Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

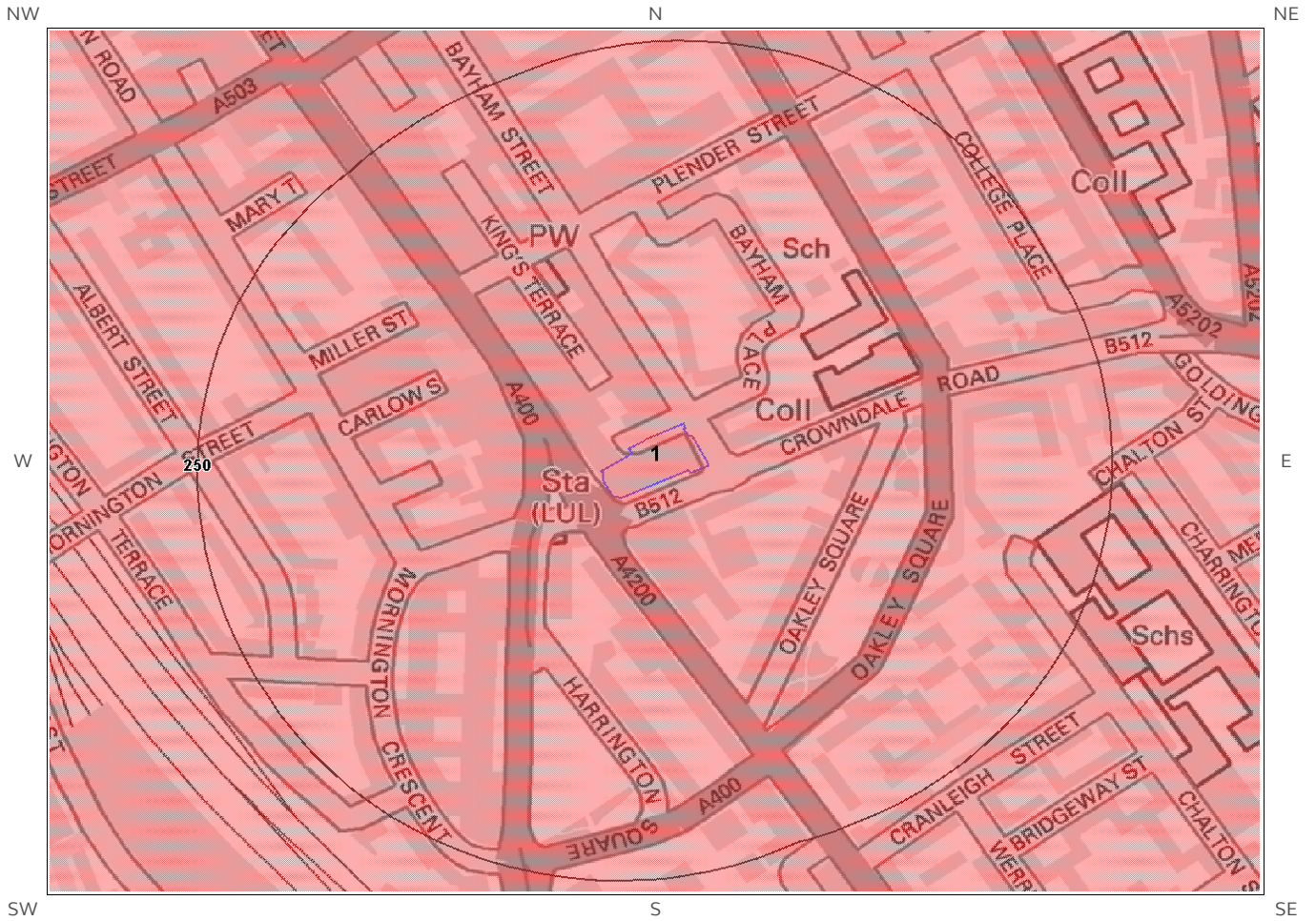
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

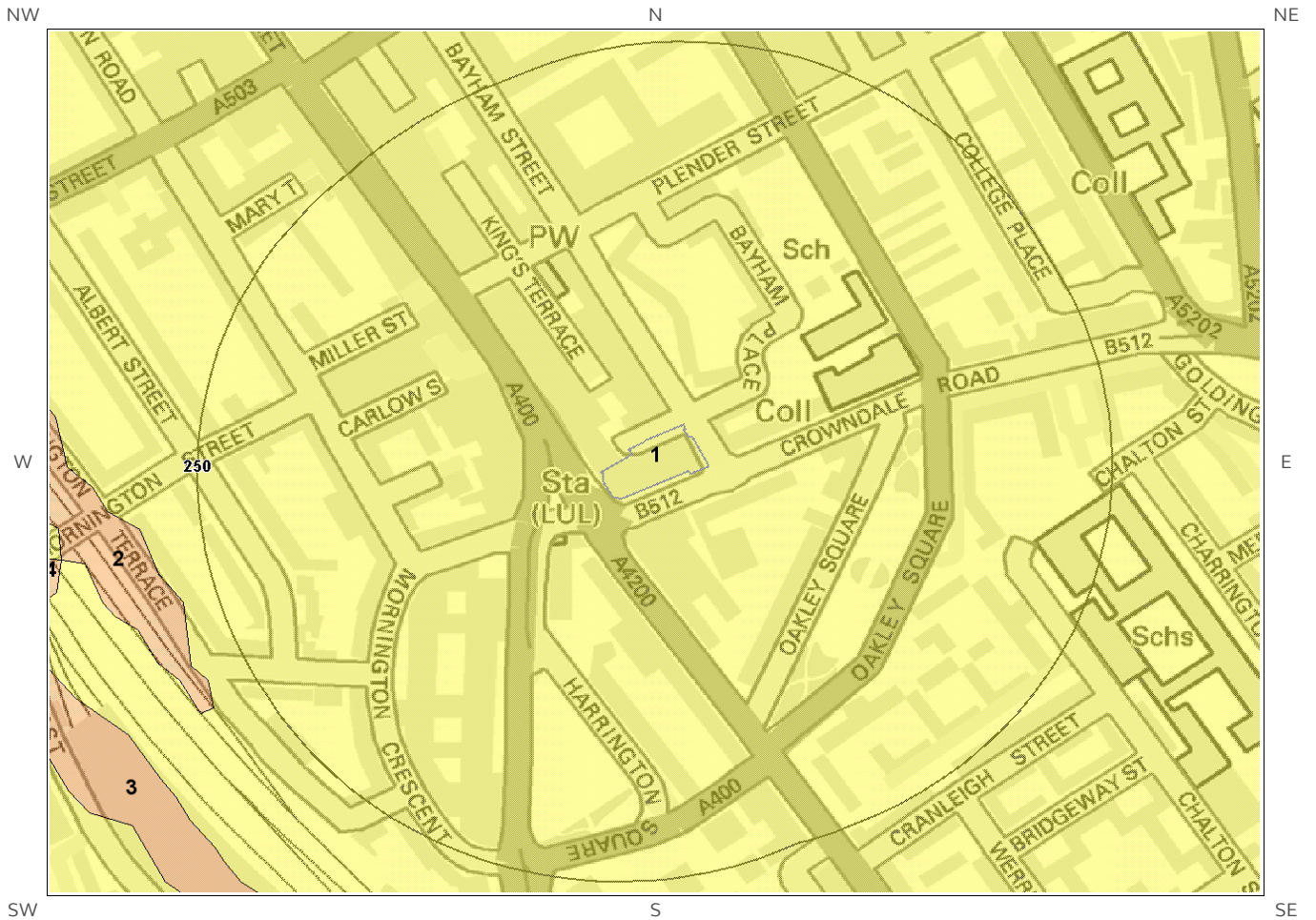


Shrink Swell Clay Legend

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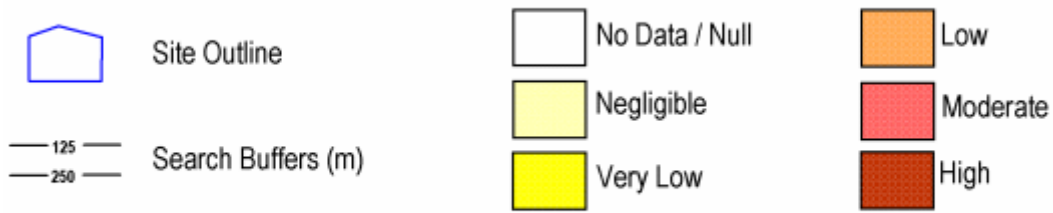


4.2 Landslides Map

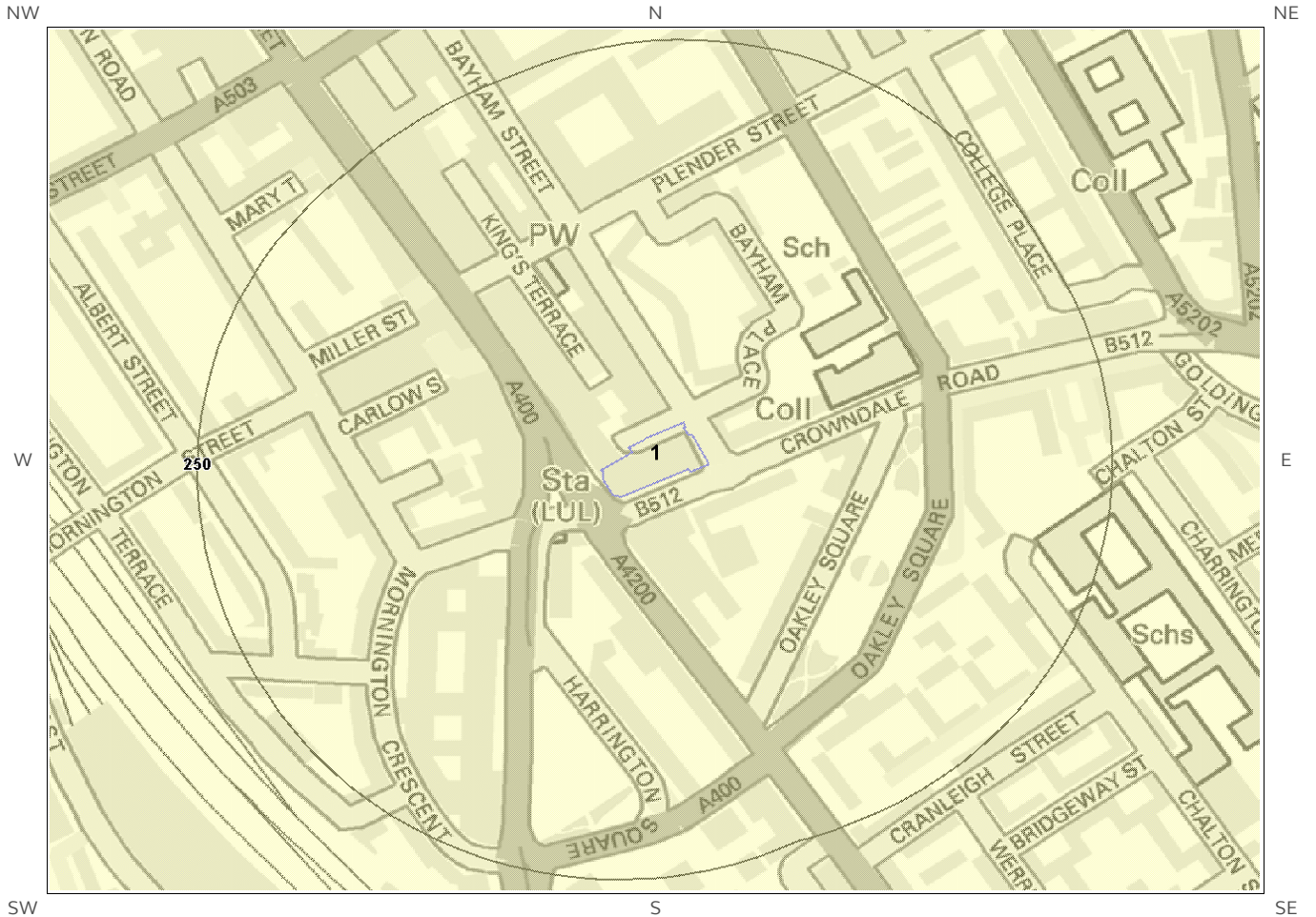


Landslides Legend

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4.3 Ground Dissolution Soluble Rocks Map



Ground Dissolution Soluble Rocks Legend

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