



Excal Ltd

Capel Hendre, Capel Hendre Ind Est,  
Ammanford, SA18 3SJ

GroundSure Reference: HMD-142-1562458

Your Reference: 234-02-01

Report Date 15 Jul 2014

Report Delivery Method: Email - pdf

## GroundSure Geoinsight

Address: ASSOCIATED BRITISH PORTS,DOCKS,BARRY, CF62 5QS

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

A handwritten signature in black ink, appearing to be "A. J. G.", followed by a large, stylized flourish or mark.

Managing Director  
Groundsure Limited

Enc.  
GroundSure GeoInsight



# GroundSure GeoInsight

Address: ASSOCIATED BRITISH PORTS,DOCKS,BARRY, CF62 5QS  
Date: 15 Jul 2014  
Reference: HMD-142-1562458  
Client: Excal Ltd

NW N NE

W E



SW S SE

Aerial Photograph Capture date: 13-Sep-2009  
Grid Reference: 312998,167344  
Site Size: 31.86ha

# Contents Page

Overview of Findings.....	5
1 Geology.....	8
1.1 Artificial Ground Map.....	8
1 Geology.....	9
1.1 Artificial Ground.....	9
1.1.1 Artificial/ Made Ground.....	9
1.1.2 Permeability of Artificial Ground.....	9
1.2 Superficial Deposits and Landslips Map.....	10
1.2 Superficial Deposits and Landslips.....	11
1.2.1 Superficial Deposits/ Drift Geology.....	11
1.2.2 Permeability of Superficial Ground.....	11
1.2.3 Landslip.....	11
1.2.4 Landslip Permeability.....	11
1.3 Bedrock and Faults Map.....	12
1.3 Bedrock, Solid Geology & Faults.....	13
1.3.1 Bedrock/ Solid Geology.....	13
1.3.2 Permeability of Bedrock Ground.....	14
1.3.3 Faults.....	14
1.4 Radon Data.....	16
1.4.1 Radon Affected Areas.....	16
1.4.2 Radon Protection.....	16
2 Ground Workings Map.....	17
2 Ground Workings.....	18
2.1 Historical Surface Ground Working Features derived from Historical Mapping.....	18
2.2 Historical Underground Working Features derived from Historical Mapping.....	21
2.3 Current Ground Workings.....	21
3 Mining, Extraction & Natural Cavities Map.....	23
3 Mining, Extraction & Natural Cavities.....	24
3.1 Historical Mining.....	24
3.2 Coal Mining.....	26
3.3 Johnson Poole and Bloomer.....	26
3.4 Non-Coal Mining.....	26
3.5 Non-Coal Mining Cavities.....	27
3.6 Natural Cavities.....	27
3.7 Brine Extraction.....	27
3.8 Gypsum Extraction.....	27
3.9 Tin Mining.....	27
3.10 Clay Mining.....	28
4 Natural Ground Subsidence.....	29
4.1 Shrink-Swell Clay Map.....	29
4.2 Landslides Map.....	30
4.3 Ground Dissolution Soluble Rocks Map.....	31
4.4 Compressible Deposits Map.....	32
4.5 Collapsible Deposits Map.....	33
4.6 Running Sand Map.....	34
4 Natural Ground Subsidence.....	35
4.1 Shrink-Swell Clays.....	35
4.2 Landslides.....	35
4.3 Ground Dissolution of Soluble Rocks.....	36
4.4 Compressible Deposits.....	36
4.5 Collapsible Deposits.....	37
4.6 Running Sands.....	37
5 Borehole Records Map.....	39
5 Borehole Records.....	40

6 Estimated Background Soil Chemistry.....	42
7 Railways and Tunnels Map.....	44
7 Railways and Tunnels.....	45
7.1 Tunnels .....	45
7.2 Historical Railway and Tunnel Features .....	45
7.3 Historical Railways.....	48
7.4 Active Railways.....	49
7.5 Railway Projects.....	49

# Overview of Findings

The GroundSure GeoInsight 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?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	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?	Yes
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 in a Radon Affected Area, as between 5 and 10% 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?	Basic 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	24	3	48	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	9	5
2.3 Current Ground Workings	0	2	1	2	0

## Section 3: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	12	12	23

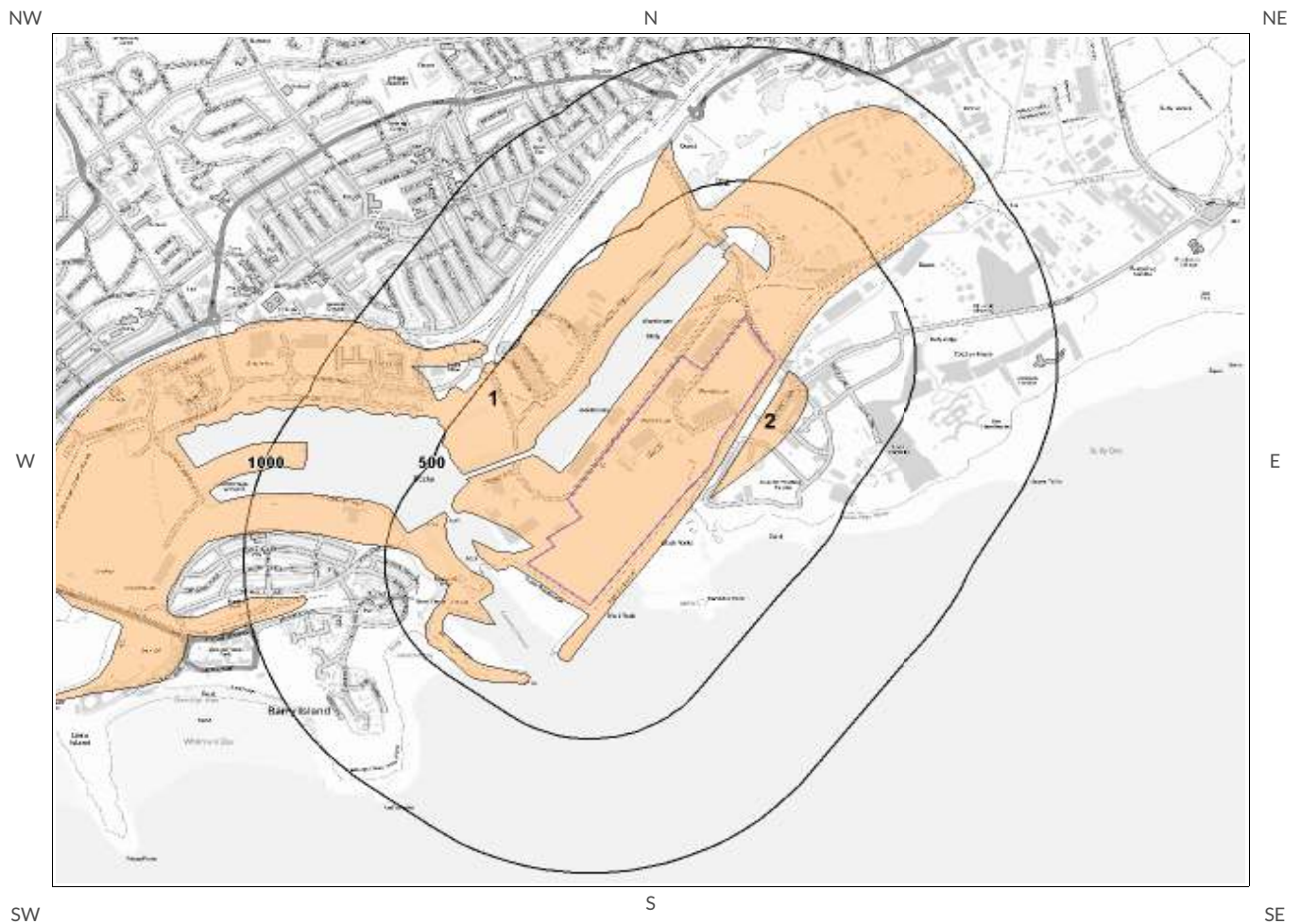
Section 3: Mining, Extraction & Natural Cavities					
	On-site	0-50m	51-250	251-500	501-1000
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	2	1	2	3
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
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	Very Low				
4.2 Landslides	Low				
4.3 Ground Dissolution of Soluble Rocks	Low				
4.4 Compressible Deposits	Moderate				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Moderate				
Section 5: Borehole Records					
	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	6	9		
Section 6: Estimated Background Soil Chemistry					
	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	22	12	34		
Section 7: Railways and Tunnels					
	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	34	13	41	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	1	0	10	Not Searched	

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

---

# 1 Geology

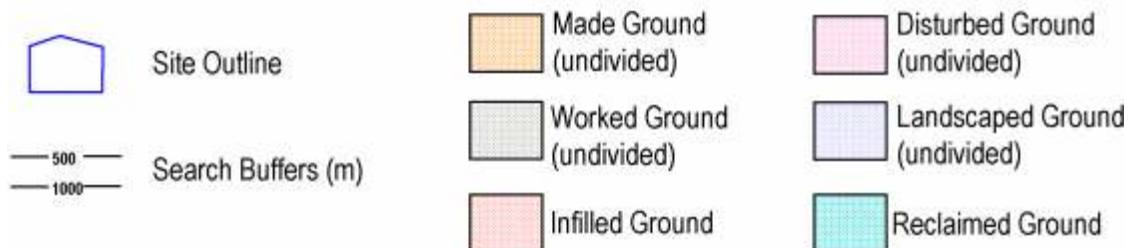
## 1.1 Artificial Ground Map



Artificial Ground Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.







# 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:263

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	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	60.0	SE	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? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	Very Low

# 1.2 Superficial Deposits and Landslips Map



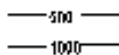
Superficial Deposits and Landslips Legend



© Crown copyright and database rights 2013. Ordnance Survey license 100035207.



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? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TFD-CLSS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
2	0.0	On Site	BSA-SAND	BLOWN SAND	SAND
3	35.0	NW	TFD-CLSS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
4	58.0	W	SUPNM-UNKN	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
5	60.0	SE	BSA-SAND	BLOWN SAND	SAND
6	64.0	SE	TFD-CLSS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
7	342.0	SW	BCHD-SAGR	BEACH DEPOSITS	SAND AND GRAVEL
8	347.0	SE	BCHD-SAGR	BEACH DEPOSITS	SAND AND GRAVEL
9	428.0	W	BSA-SAND	BLOWN SAND	SAND
10	443.0	SW	BCHD-SAGR	BEACH DEPOSITS	SAND AND GRAVEL

## 1.2.2 Permeability of Superficial Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	High
0.0	On Site	Intergranular	Moderate	Very Low
35.0	NW	Intergranular	Moderate	Very Low

## 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.

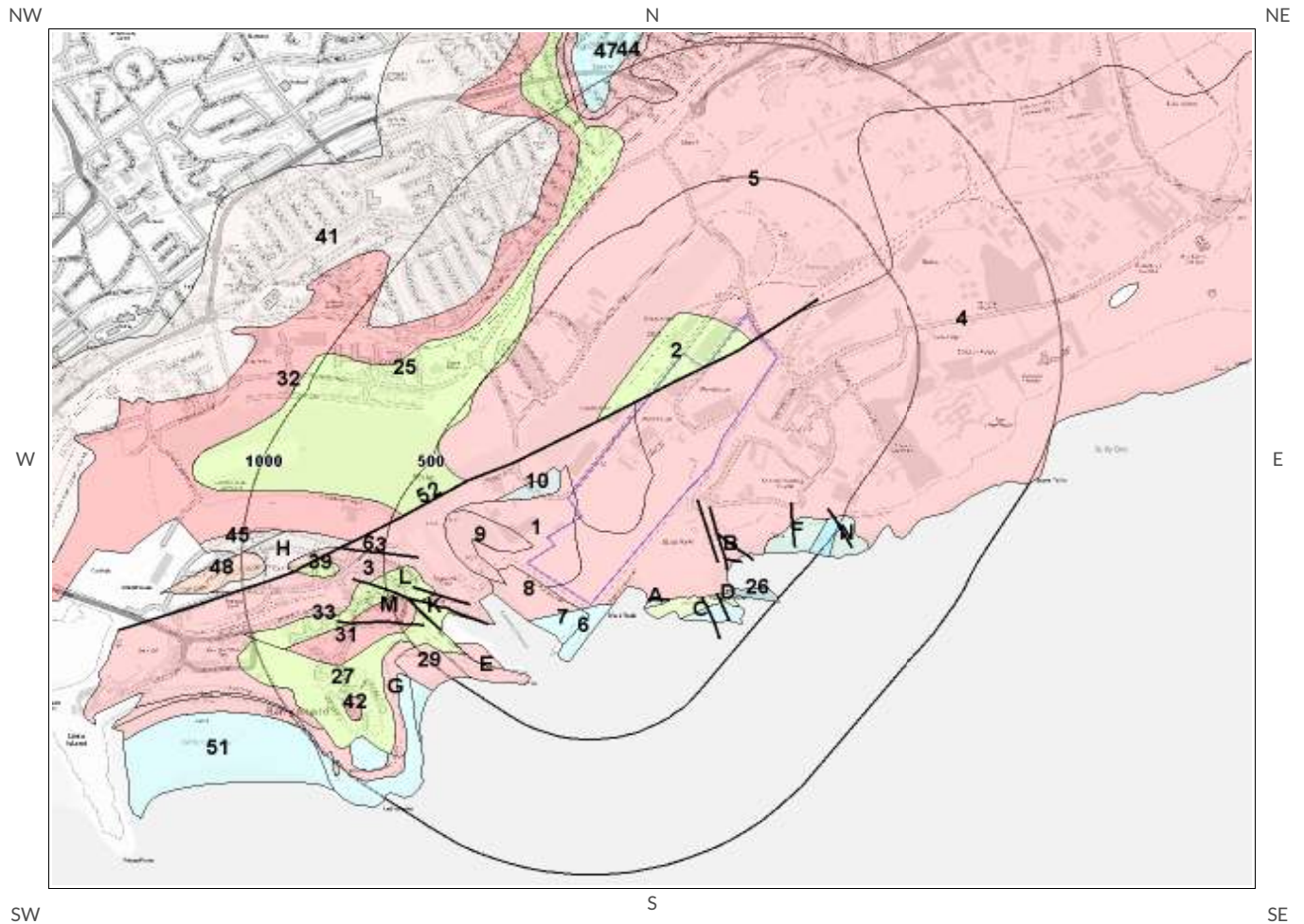
## 1.2.4 Landslip Permeability

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



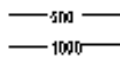
Bedrock and Faults Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.



Site Outline



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:263

## 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	QCG-SCON	Quartz Conglomerate Group (south Wales) - Interbedded Sandstone And Conglomerate	Famennian
2	0.0	On Site	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
3	0.0	On Site	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian / Scythian
4	0.0	On Site	MMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic
5	0.0	On Site	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian / Scythian
6	7.0	S	BHL-LMST	Barry Harbour Limestone Formation - Limestone	Courseyan
7	32.0	SW	FPL-LMST	Friars Point Limestone Formation - Limestone	Chadian / Courseyan
8	32.0	SW	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian / Scythian
9	40.0	NW	MMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic
10	45.0	NW	AVO-LSMD	Avon Group - Interbedded Limestone And Mudstone	Courseyan
11A	144.0	SE	CCM-MDLM	Cwmyniscoy Mudstone Formation - Mudstone And Limestone, Interbedded	Courseyan
12A	155.0	SE	BHL-DLDO	Barry Harbour Limestone Formation - Dolomitised Limestone And Dolomite	Courseyan
13B	181.0	SE	MMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic
14K	264.0	SW	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
15B	265.0	SE	MMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic
16C	277.0	SE	FPL-LMST	Friars Point Limestone Formation - Limestone	Chadian / Courseyan
17C	285.0	SE	BHL-DLDO	Barry Harbour Limestone Formation - Dolomitised Limestone And Dolomite	Courseyan
18D	318.0	SE	BHL-DLDO	Barry Harbour Limestone Formation - Dolomitised Limestone And Dolomite	Courseyan
19D	325.0	SE	FPL-LMST	Friars Point Limestone Formation - Limestone	Chadian / Courseyan
20F	333.0	SE	CCM-MDLM	Cwmyniscoy Mudstone Formation - Mudstone And Limestone, Interbedded	Courseyan
21D	334.0	SE	FPL-LMST	Friars Point Limestone Formation - Limestone	Chadian / Courseyan
22E	339.0	SW	MMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic
23L	340.0	W	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
24E	342.0	SW	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian / Scythian
25	346.0	NW	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
26	347.0	SE	BRL-LMST	Black Rock Limestone Subgroup - Limestone	Chadian / Courseyan
27	388.0	SW	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
28M	425.0	SW	PNG-MDLM	Penarth Group - Mudstone And Limestone, Interbedded	Rhaetian

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
29	443.0	SW	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian / Scythian
30F	455.0	SE	CCL-OOLM	Castell Coch Limestone Formation - Ooidal Limestone	Courseyan
31	467.0	SW	PNG-MDLM	Penarth Group - Mudstone And Limestone, Interbedded	Rhaetian
32	467.0	W	PNG-MDLM	Penarth Group - Mudstone And Limestone, Interbedded	Rhaetian
33	469.0	W	BAN-MDST	Blue Anchor Formation - Mudstone	Rhaetian / Norian
34N	470.0	SE	TGW-LSMD	Tongwynlais Formation - Interbedded Limestone And Mudstone	Courseyan

### 1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site<sup>†</sup> boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Moderate
0.0	On Site	Fracture	Low	Low
0.0	On Site	Fracture	Low	Low
0.0	On Site	Fracture	Very High	Very High
7.0	S	Fracture	Very High	High
32.0	SW	Fracture	Very High	High
40.0	NW	Fracture	Very High	Very High
45.0	NW	Fracture	Very High	Low

### 1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
52	0.0	On Site	FAULT	Normal fault, inferred
53B	48.0	SE	FAULT	Normal fault, observed
54B	97.0	SE	FAULT	Normal fault, observed
55A	144.0	SE	FAULT	Normal fault, observed
56B	181.0	SE	FAULT	Normal fault, observed
57K	250.0	SW	FAULT	Normal fault, observed
58L	264.0	SW	FAULT	Normal fault, inferred
59B	265.0	SE	FAULT	Normal fault, observed
60D	285.0	SE	FAULT	Normal fault, observed
61F	312.0	SE	FAULT	Normal fault, observed
62D	318.0	SE	FAULT	Normal fault, observed
63	378.0	W	FAULT	Normal fault, observed
64K	389.0	SW	FAULT	Normal fault, observed

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

ID	Distance (m)	Direction	Category Description	Feature Description
65M	425.0	SW	FAULT	Normal fault, observed
66N	438.0	SE	FAULT	Normal fault, observed

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.

---

# 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 in a Radon Affected Area, as between 5 and 10% 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?    Basic radon protective measures are necessary

---





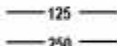


# 2 Ground Workings Map



### Ground Workings Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.

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



## 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? Yes

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	313352 167711	Unspecified Ground Workings	1915
2A	0.0	On Site	313340 167685	Unspecified Pit	1921
3A	0.0	On Site	313340 167685	Unspecified Pit	1947
4	0.0	On Site	312935 167171	Refuse Heap	1991
5	0.0	On Site	312751 167174	Unspecified Ground Workings	1898
6	0.0	On Site	312767 167151	Unspecified Ground Workings	1915
7B	0.0	On Site	313129 167312	Refuse Heap	1973
8B	0.0	On Site	313129 167312	Refuse Heap	1982
9D	0.0	On Site	313253 167447	Cuttings	1982
10E	0.0	On Site	313183 167374	Sand Pit	1982
11C	0.0	On Site	313377 167628	Cuttings	1982
12C	0.0	On Site	313315 167654	Refuse Heap	1973
13A	0.0	On Site	313315 167654	Refuse Heap	1982
14	0.0	On Site	313209 167694	Unspecified Ground Workings	1915
15D	0.0	On Site	313273 167456	Cuttings	1921
16C	0.0	On Site	313377 167628	Cuttings	1991
17E	0.0	On Site	313183 167374	Sand Pit	1991
18D	0.0	On Site	313253 167447	Cuttings	1991
19	0.0	On Site	312764 166966	Pond	1991
20E	0.0	On Site	313183 167374	Sand Pit	1973
21C	0.0	On Site	313377 167628	Cuttings	1973

ID	Distance (m)	Direction	NGR	Use	Date
22D	0.0	On Site	313253 167447	Cuttings	1973
23D	0.0	On Site	313253 167447	Cuttings	1947
24C	0.0	On Site	313377 167628	Cuttings	1947
25F	10.0	NE	313419 167783	Unspecified Heap	1921
26F	10.0	NE	313379 167786	Unspecified Ground Workings	1915
27F	11.0	NE	313389 167797	Unspecified Ground Workings	1947
28F	77.0	NE	313444 167820	Refuse Heap	1915
29	78.0	NW	312431 166994	Dock	1915
30G	101.0	NW	312868 167729	Dock	1915
31G	102.0	NW	312815 167738	Dock	1898
32H	143.0	SE	313493 167524	Pond	1878
33H	146.0	SE	313485 167530	Pond	1915
34H	146.0	SE	313494 167529	Ponds	1921
35	148.0	W	311610 167338	Docks	1915
36J	149.0	N	313282 168123	Timber Pond	1915
37I	150.0	E	313585 167729	Unspecified Old Quarry	1915
38	151.0	W	311732 167331	Dock	1921
39I	151.0	E	313584 167729	Unspecified Old Quarry	1947
40I	151.0	E	313584 167729	Unspecified Old Quarry	1921
41H	153.0	SE	313504 167539	Pond	1915
42J	153.0	N	313276 168134	Timber pond	1898
43M	159.0	NE	313431 168089	Unspecified Ground Workings	1915
44L	161.0	NE	313600 168328	Water Body	1921
45K	162.0	NE	313500 168313	Water Body	1982
46K	162.0	NE	313500 168313	Water Body	1973
47J	164.0	N	313285 168127	Timber Pond	1921
48J	164.0	N	313285 168127	Timber Pond	1947
49	165.0	N	313348 168128	Pond	1991
50L	167.0	NE	313602 168331	Water Body	1947
51M	169.0	NE	313462 168085	Unspecified Pit	1991

ID	Distance (m)	Direction	NGR	Use	Date
52J	170.0	N	313339 168120	Water Body	1982
53J	170.0	N	313291 168128	Water Body	1947
54J	170.0	N	313291 168128	Water Body	1973
55N	190.0	NE	313774 168236	Reservoir	1921
56N	190.0	NE	313774 168236	Reservoir	1947
57N	190.0	NE	313773 168235	Reservoir	1915
58N	191.0	NE	313775 168232	Water Body	1947
59N	191.0	NE	313775 168232	Reservoir	1973
60M	192.0	NE	313512 168116	Unspecified Ground Workings	1898
61O	192.0	NE	313626 168130	Reservoir	1982
62O	192.0	NE	313626 168130	Reservoir	1991
63P	229.0	NW	312716 167620	Coal Tips	1921
64P	229.0	NW	312716 167620	Coal Tips	1947
65P	230.0	NW	312717 167622	Coal Tips	1915
66Q	233.0	NW	312656 167552	Coal Tips	1921
67Q	233.0	NW	312656 167552	Coal Tips	1947
68Q	234.0	NW	312658 167554	Coal Tips	1915
69R	239.0	NW	312762 167701	Coal Tips	1921
70R	239.0	NW	312762 167701	Coal Tips	1947
71R	239.0	NW	312764 167700	Coal Tips	1915
72	243.0	NW	312443 167306	Ponds	1921
73S	248.0	NW	312810 167783	Coal Tips	1921
74S	248.0	NW	312810 167783	Coal Tips	1947
75S	249.0	NW	312809 167782	Coal Tips	1915

## 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
76T	417.0	W	312007 166813	Tunnel	1921
77T	419.0	W	312016 166814	Tunnel	1898
78T	419.0	W	312016 166814	Tunnel	1915
79T	419.0	W	312016 166814	Tunnel	1936
80T	419.0	W	312016 166814	Tunnel	1938
81T	473.0	W	311980 166815	Tunnel	1982
82T	473.0	W	311980 166815	Tunnel	1991
83T	473.0	W	311980 166815	Tunnel	1973
84T	473.0	W	311980 166815	Tunnel	1947
85U	561.0	NW	312516 167957	Tunnel	1982
86U	561.0	NW	312516 167957	Tunnel	1991
87U	561.0	NW	312516 167957	Tunnel	1973
88U	561.0	NW	312516 167957	Tunnel	1947
89U	568.0	NW	312514 167960	Tunnel	1898

## 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
90V	15.0	NW	312750 167300	Marine Sand & Gravel	Barry Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Ceased
91V	15.0	NW	312750 167300	Marine Sand & Gravel	Barry Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
92I	174.0	E	313587 167737	Sandstone	Coed yr Hayes	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
93	301.0	W	312250 166850	Marine Sand & Gravel	Barry Dock	Sea, river or canal wharf where mineral commodities are unloaded and stored	Ceased
94	395.0	NW	312500 167600	Secondary	Woodham Road Railway Embankment	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

# 3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

Mapping sourced from 

© Crown copyright and database rights 2013. Ordnance Survey license 100035207.





# 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? Yes

The following Historical Mining information is provided by GroundSure:

ID	Distance (m)	Direction	NGR	Details	Date
10A	229.0	NW	312716 167620	Coal Tips	1947
11A	229.0	NW	312716 167620	Coal Tips	1921
12A	230.0	NW	312717 167622	Coal Tips	1915
13B	233.0	NW	312656 167552	Coal Tips	1947
14B	233.0	NW	312656 167552	Coal Tips	1921
15B	234.0	NW	312658 167554	Coal Tips	1915
16C	239.0	NW	312762 167701	Coal Tips	1947
17C	239.0	NW	312762 167701	Coal Tips	1921
18C	239.0	NW	312764 167700	Coal Tips	1915
19D	248.0	NW	312810 167783	Coal Tips	1947
20D	248.0	NW	312810 167783	Coal Tips	1921
21D	249.0	NW	312809 167782	Coal Tips	1915
22E	251.0	NW	312862 167856	Coal Tips	1947
23E	251.0	NW	312862 167856	Coal Tips	1921
24E	251.0	NW	312862 167859	Coal Tips	1915
25F	252.0	NW	312587 167490	Coal Tips	1947
26F	252.0	NW	312587 167490	Coal Tips	1921
27G	252.0	NW	312923 167927	Coal Tips	1947
28G	252.0	NW	312923 167927	Coal Tips	1921
29G	254.0	NW	312923 167929	Coal Tips	1915
30F	254.0	NW	312588 167494	Coal Tips	1915



ID	Distance (m)	Direction	NGR	Details	Date
31H	278.0	N	312984 167994	Coal Tips	1947
32H	278.0	N	312984 167994	Coal Tips	1921
33H	280.0	N	312984 167995	Coal Tips	1915
34I	649.0	NW	312107 167500	Coal Tips	1915
35J	652.0	W	311920 167180	Coal Tips	1915
36I	652.0	NW	312099 167493	Coal Tips	1921
37J	654.0	W	311918 167175	Coal Tips	1921
38	707.0	NW	312046 167506	Coal Tips	1915
39K	767.0	W	311806 167198	Coal Tips	1915
40K	774.0	W	311797 167195	Coal Tips	1921
41L	797.0	NW	311950 167514	Coal Tips	1915
42L	798.0	NW	311945 167508	Coal Tips	1921
43M	863.0	NW	311882 167524	Coal Tips	1915
44M	864.0	W	311878 167516	Coal Tips	1921
45	875.0	W	311696 167213	Coal Tips	1915
46N	894.0	NW	311733 167367	Coal Tips	1915
47N	896.0	NW	311736 167364	Coal Tips	1921
48N	920.0	NW	311679 167312	Coal Tips	1915
49Q	928.0	NW	311674 167307	Coal Tips	1921
50O	944.0	NW	311789 167534	Coal Tips	1915
51O	945.0	NW	311784 167527	Coal Tips	1921
52	967.0	W	311599 167211	Coal Tips	1915
53P	970.0	NW	311667 167405	Coal Tips	1915
54P	983.0	NW	311661 167409	Coal Tips	1921
55Q	984.0	W	311611 167304	Coal Tips	1915
56	992.0	W	311606 167301	Coal Tips	1921

### 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? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

---

### 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? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Vein Mineral	Rare - Infrequent minor mining may have occurred but restricted in extent.
2	7.0	S	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
3	45.0	NW	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
4	144.0	SE	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
5	333.0	SE	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
6	347.0	SE	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
7	577.0	SW	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
8	857.0	SW	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
Not shown	916.0	NW	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.

---

### 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 dataset provides information from the Brine Compensation Board which has been discontinued and is now covered by the Coal Authority.

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?

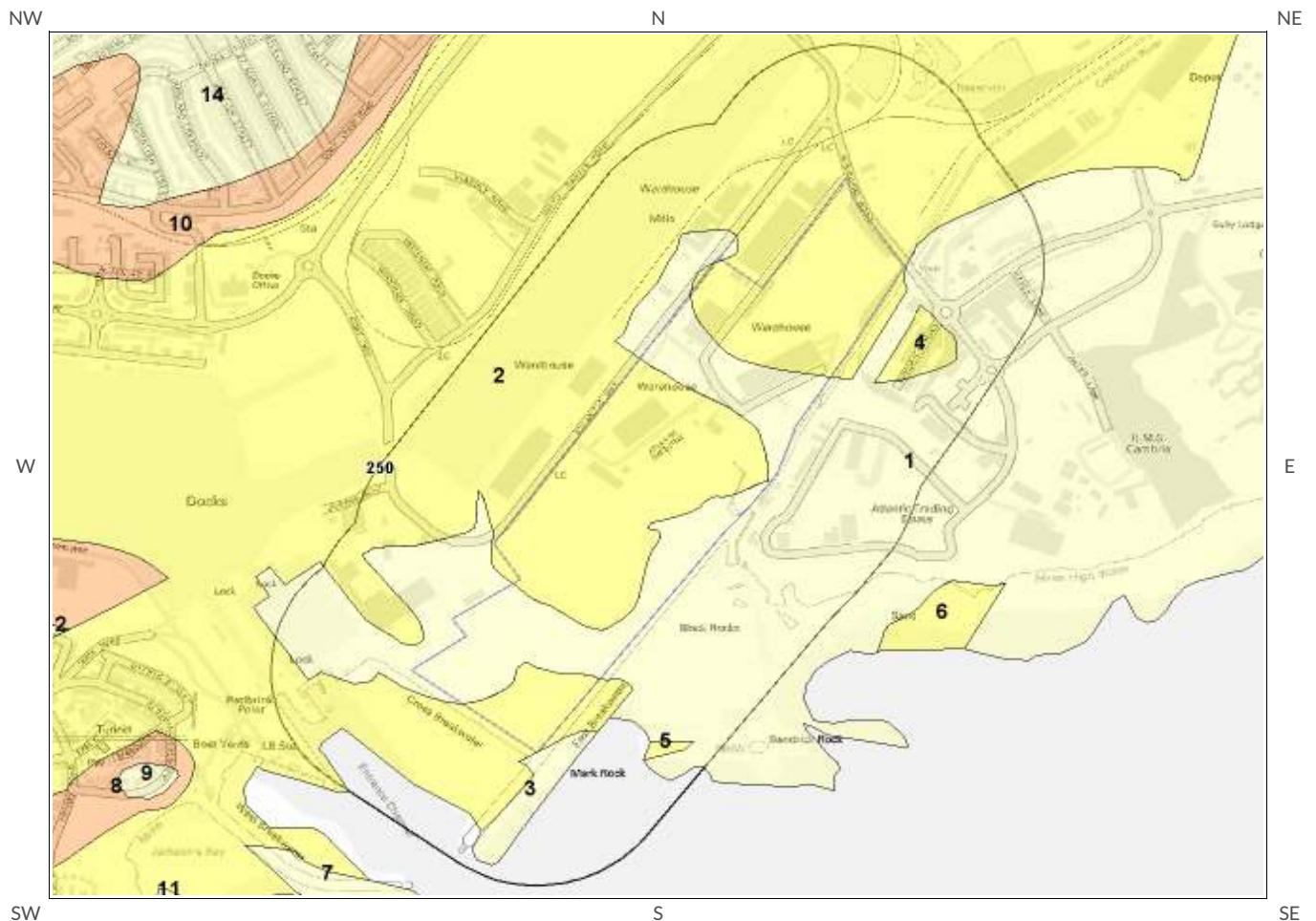
No

Database searched and no data found.

---

# 4 Natural Ground Subsidence

## 4.1 Shrink-Swell Clay Map



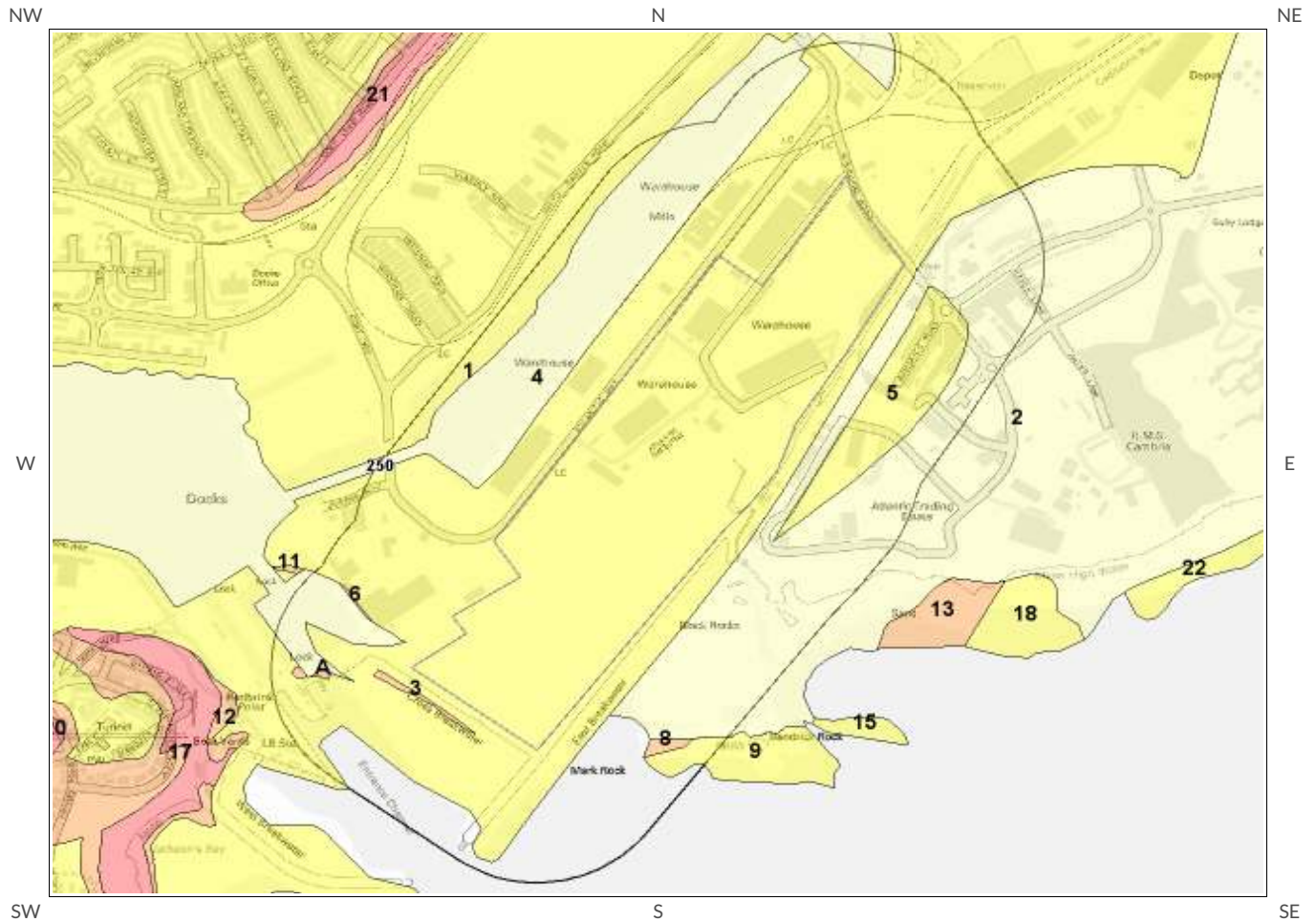
Shrink Swell Clay Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.



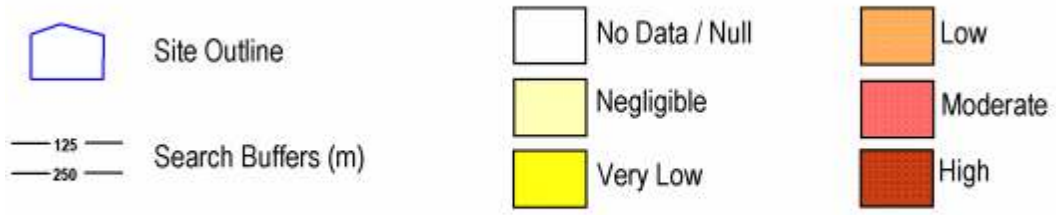
# 4.2 Landslides Map



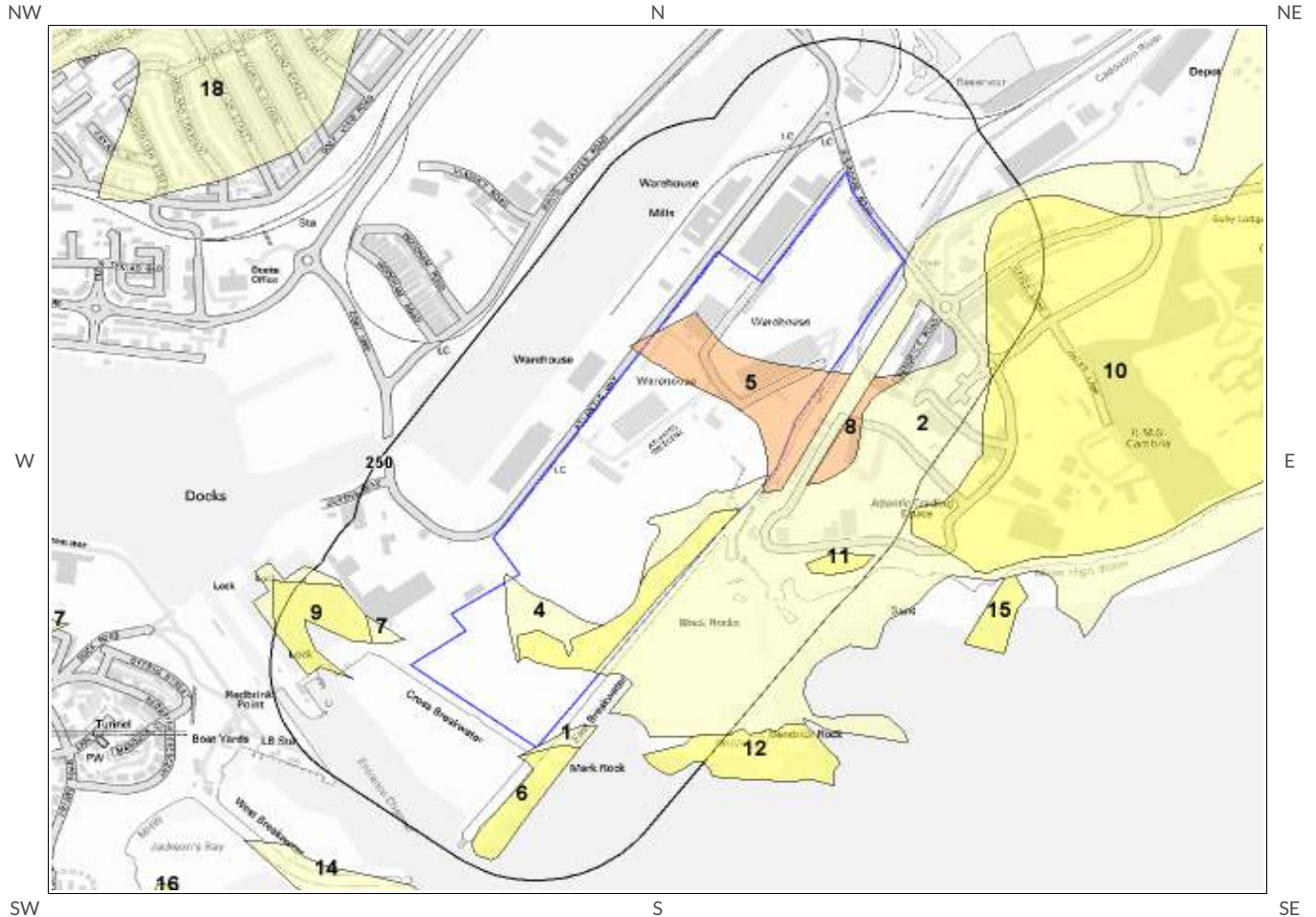
Landslides Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.



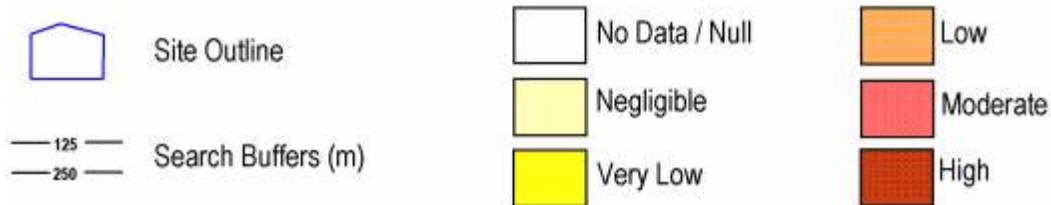
# 4.3 Ground Dissolution Soluble Rocks Map



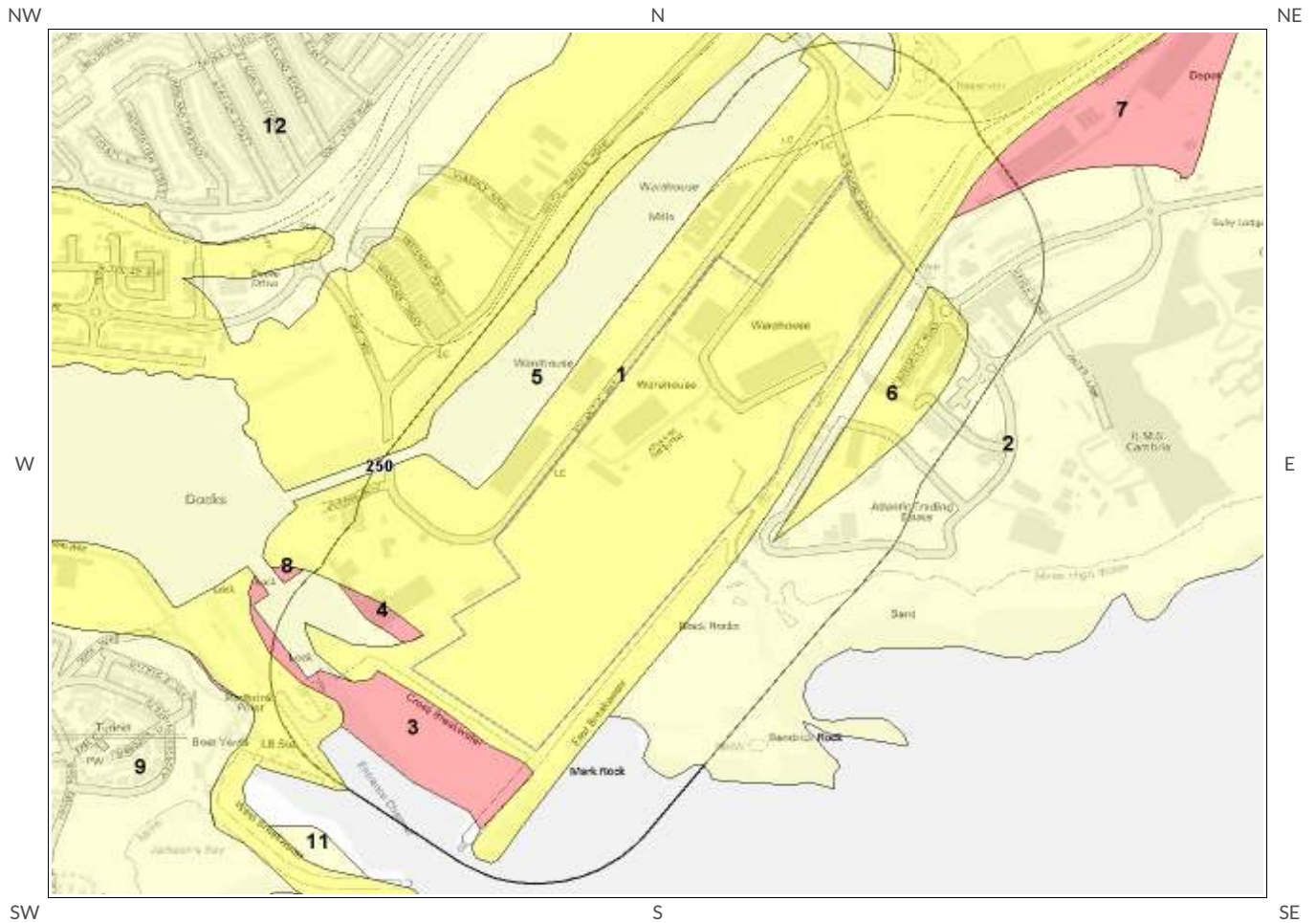
Ground Dissolution Soluble Rocks Legend



© Crown copyright and database rights 2013. Ordnance Survey license 100035207.



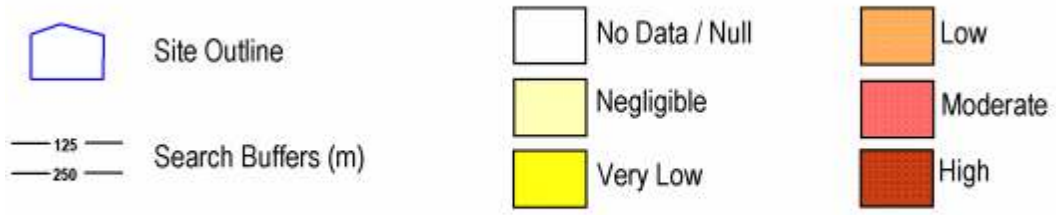
# 4.4 Compressible Deposits Map



Compressible Deposits Legend

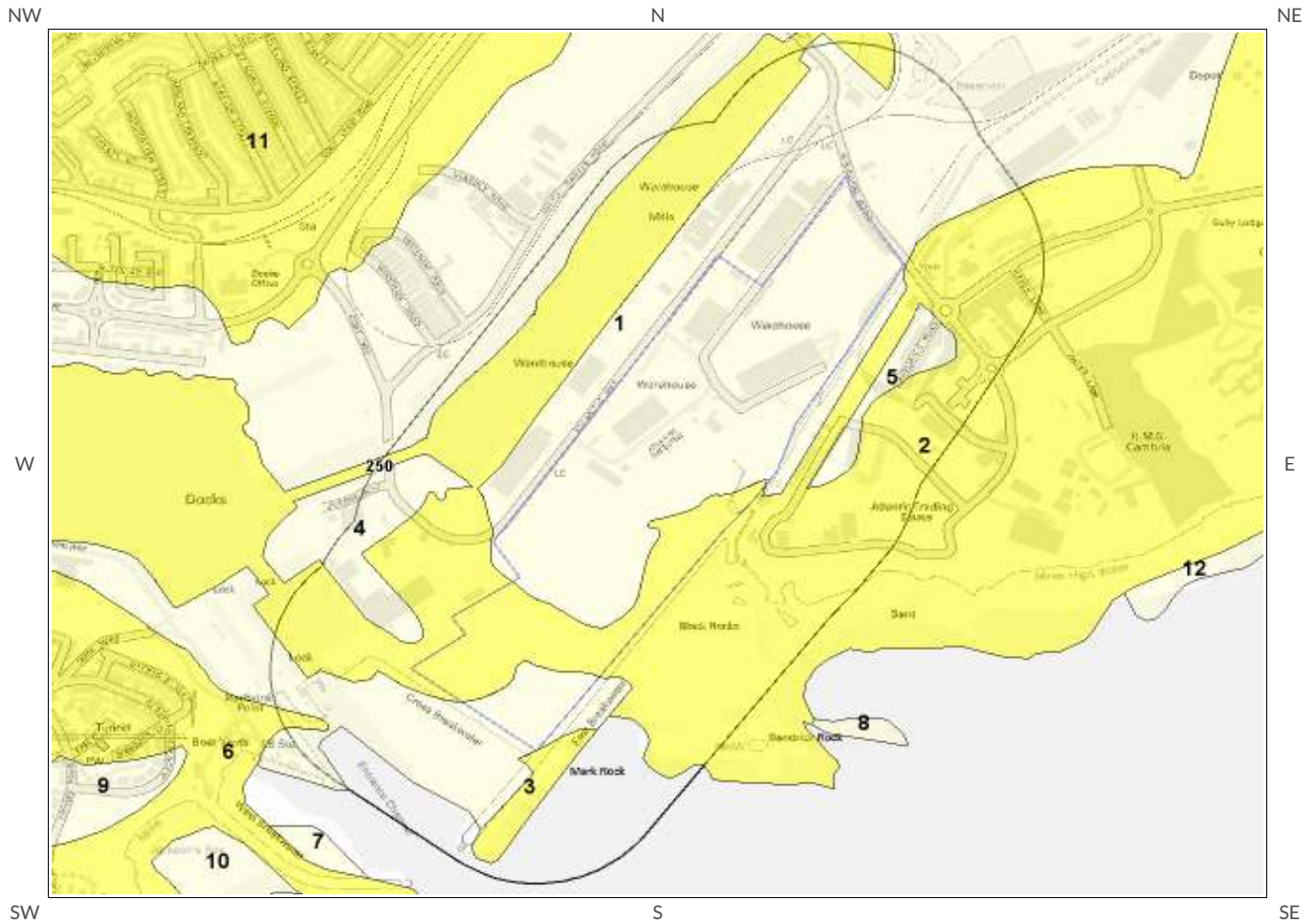


© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.





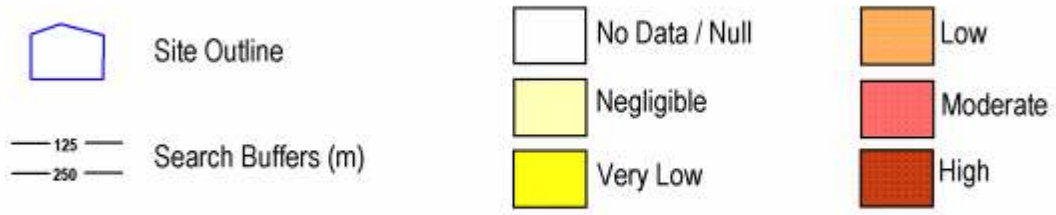
# 4.5 Collapsible Deposits Map



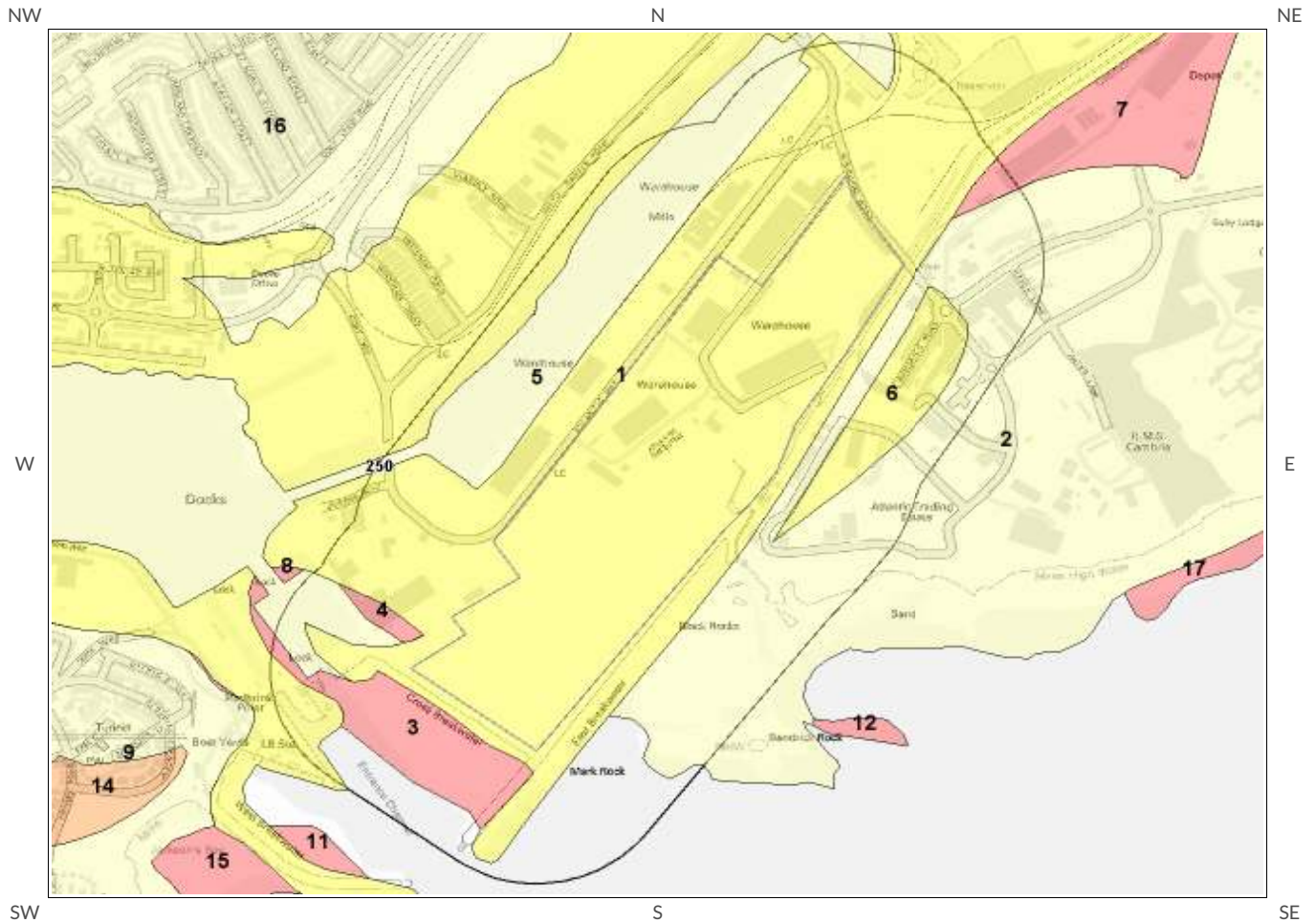
Collapsible Deposits Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.



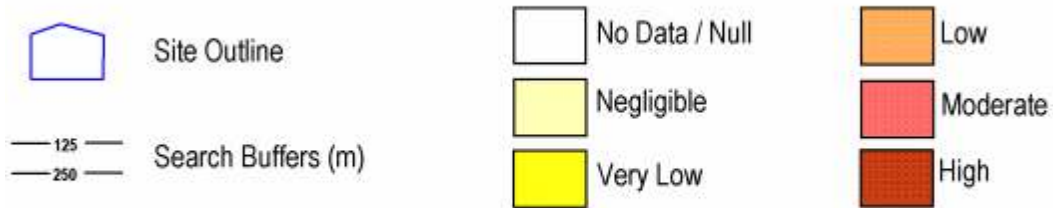
# 4.6 Running Sand Map



Running Sand Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.





# 4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site\*\* boundary? Moderate

## 4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
3	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

## 4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	25.0	SE	Negligible	No indicators for slope instability identified. No special actions required to avoid problems due to landslides. No special ground investigation required and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
3	32.0	SW	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.
4	47.0	NW	Negligible	No indicators for slope instability identified. No special actions required to avoid problems due to landslides. No special ground investigation required and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

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

### 4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
2	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
3	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.
4	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
5	0.0	On Site	Low	Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build - site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property - possible increase in insurance risk due to soluble rocks.
6	7.0	S	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.
7	47.0	NW	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

### 4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
2	25.0	SE	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
3	32.0	SW	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

ID	Distance (m)	Direction	Hazard Rating	Details
4	40.0	NW	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.
5	47.0	NW	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

## 4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
3	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
4	35.0	NW	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

## 4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	25.0	SE	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	32.0	SW	Moderate	Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build - consider the consequences of soil and groundwater conditions during and after construction. For existing property - possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.

ID	Distance (m)	Direction	Hazard Rating	Details
4	40.0	NW	Moderate	Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build - consider the consequences of soil and groundwater conditions during and after construction. For existing property - possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.
5	47.0	NW	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.





# 5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

15

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	30.0	SE	313355 167554	ST16NW63	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 36
2	31.0	SE	313444 167693	ST16NW49	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 35
3	33.0	SE	313124 167189	ST16NW51	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 38
4	34.0	SE	313264 167408	ST16NW50	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 37
5	38.0	NE	313424 167761	ST16NW48	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 34
6	41.0	NE	313400 167800	ST16NW183	-1.0	V.C.M. RAIL SIDING, BARRY. 1-3
7A	51.0	NW	313018 167722	ST16NW71	74.37	J. RANKO CO LTD, BARRY DOCK
8	54.0	NW	312600 167100	ST16NW78	-1.0	BARRY DOCKS AND RAILWAY
9A	54.0	NW	313020 167730	ST16NW364	74.37	BARRY DOCK
10	97.0	NW	312730 167410	ST16NW158	12.7	CRANE BEAM, BARRY DOCKS, NO.3
11	97.0	NW	312850 167570	ST16NW157	14.0	CRANE BEAM, BARRY DOCKS, NO.2
12	98.0	NW	312930 167680	ST16NW156	13.5	CRANE BEAM, BARRY DOCKS, NO.1
13	186.0	W	312350 166960	ST16NW114	22.8	BTDB-BREASTING WALL INTO BASIN & JUNCTION CUT S.I.
14	220.0	NE	313528 167928	ST16NW47	1.83	BARRY EASTERN DRAINAGE, SECOND GROUP. 33
15	237.0	W	312304 166893	ST16NW74	17.37	BARRY DOCKS C, PROPOSED DEEP WATER ENTRANCE

Additional online information is available for the following boreholes listed above:

#1: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377930](https://scans.bgs.ac.uk/sobi_scans/boreholes/377930)

#2: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377916](https://scans.bgs.ac.uk/sobi_scans/boreholes/377916)

#3: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377918](https://scans.bgs.ac.uk/sobi_scans/boreholes/377918)

#4: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377917](https://scans.bgs.ac.uk/sobi_scans/boreholes/377917)



#5: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377915](https://scans.bgs.ac.uk/sobi_scans/boreholes/377915)  
#7A: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377938](https://scans.bgs.ac.uk/sobi_scans/boreholes/377938)  
#8: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377945](https://scans.bgs.ac.uk/sobi_scans/boreholes/377945)  
#9A: [scans.bgs.ac.uk/sobi\\_scans/boreholes/378231](https://scans.bgs.ac.uk/sobi_scans/boreholes/378231)  
#10: [scans.bgs.ac.uk/sobi\\_scans/boreholes/378025](https://scans.bgs.ac.uk/sobi_scans/boreholes/378025)  
#11: [scans.bgs.ac.uk/sobi\\_scans/boreholes/378024](https://scans.bgs.ac.uk/sobi_scans/boreholes/378024)  
#12: [scans.bgs.ac.uk/sobi\\_scans/boreholes/378023](https://scans.bgs.ac.uk/sobi_scans/boreholes/378023)  
#13: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377981](https://scans.bgs.ac.uk/sobi_scans/boreholes/377981)  
#14: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377914](https://scans.bgs.ac.uk/sobi_scans/boreholes/377914)  
#15: [scans.bgs.ac.uk/sobi\\_scans/boreholes/377941](https://scans.bgs.ac.uk/sobi_scans/boreholes/377941)

---



# 6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

68

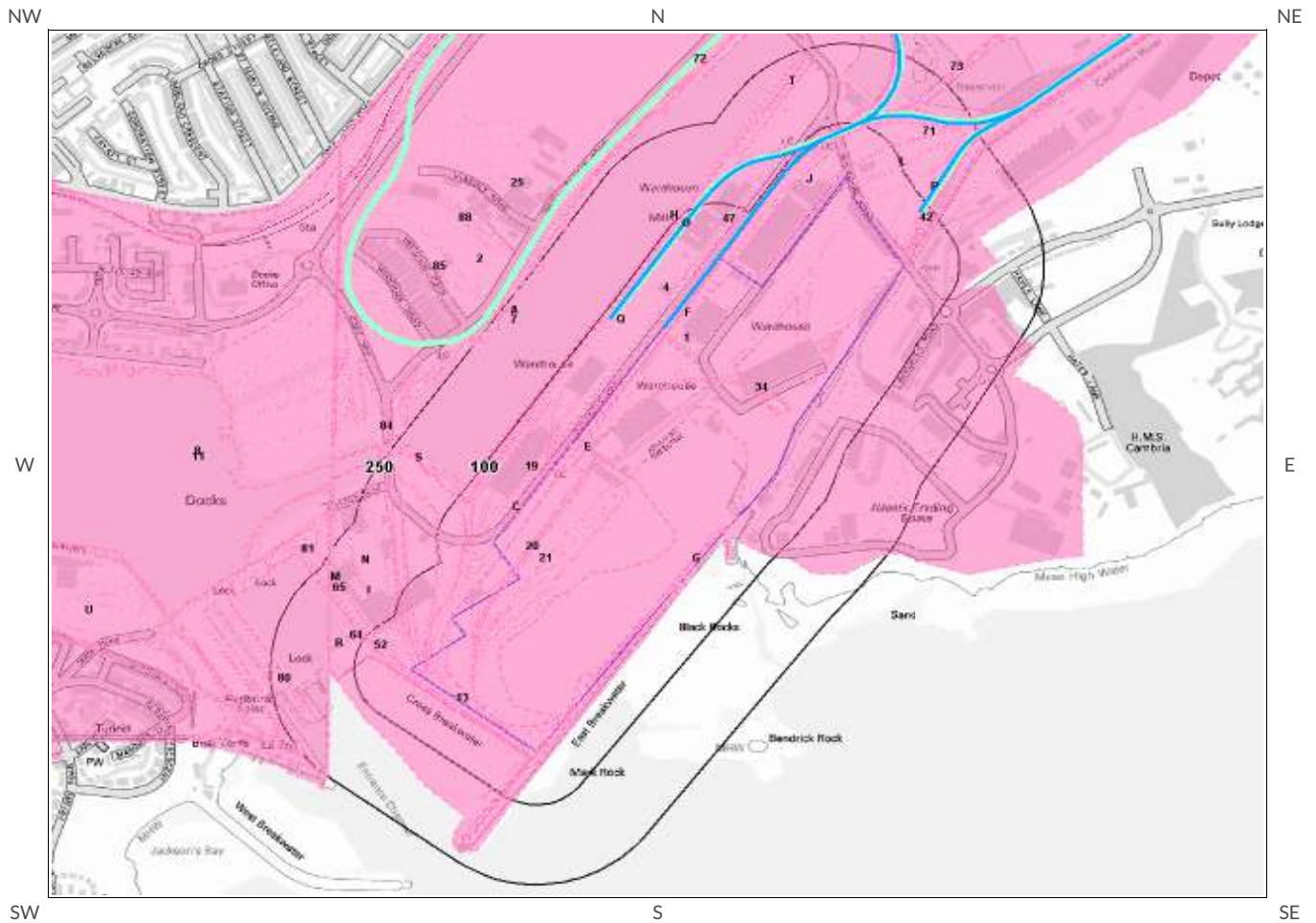
For further information on how this data is calculated and limitations upon its use, please see the GroundSure Geolnsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
7.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	150 - 300 mg/kg
22.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
32.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
32.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
35.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
35.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
40.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
40.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
41.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
42.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
45.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
47.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
56.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
56.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
58.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
60.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
64.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
74.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
78.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
80.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
81.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
83.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
89.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
91.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
93.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
102.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
104.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
106.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
108.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
111.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
127.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
134.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
144.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
145.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
148.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
155.0	SE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	150 - 300 mg/kg
174.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
175.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
181.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
182.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
187.0	SE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	150 - 300 mg/kg
198.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
198.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
206.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
228.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg
242.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<150 mg/kg

\*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.












# 7 Railways and Tunnels Map



Railways and Tunnels Legend



© Crown copyright and database rights 2013.  
Ordnance Survey license 100035207.  
© OpenStreetMapContributors

	Site Outline		Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Search Rail Station		Railway Tunnel (OS Mapping)		High Speed 2
			Advanced or Discontinued Railway (OpenStreetMap)		Crossrail
			Railway Track (OS Mapping)		Railway and/or Tunnel Features from Historical Mapping



# 7 Railways and Tunnels

## 7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

*Any records that have been identified are represented on the Railways and Tunnels Map.*

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

*Any records that have been identified are represented on the Railways and Tunnels Map.*

## 7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? Yes

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	0	On Site	312979 167755	Railway Sidings	1947
2	0	On Site	312639 167857	Railway Sidings	1898
3Q	0	On Site	313322 167727	Railway Sidings	1921
4	0	On Site	313017 167700	Railway Sidings	1915
5A	0	On Site	312672 167805	Railway Sidings	1982
6A	0	On Site	312672 167805	Railway Sidings	1973
7	0	On Site	312328 167624	Railway Sidings	1965
13	0	On Site	312611 166892	Railway Sidings	1954

ID	Distance (m)	Direction	NGR	Details	Date
14	0	On Site	312629 166891	Railway Sidings	1954
15M	0	On Site	312429 167060	Railway Sidings	1900
16	0	On Site	312581 166947	Railway Sidings	1984
17	0	On Site	312817 167144	Railway Sidings	1955
18C	0	On Site	312716 167250	Railway Sidings	1955
19	0	On Site	312752 167384	Railway Sidings	1955
20	0	On Site	312750 167170	Railway Sidings	1955
21	0	On Site	312779 167150	Railway Sidings	1955
22C	0	On Site	312768 167250	Railway Sidings	1971
23D	0	On Site	312703 167349	Railway Sidings	1990
24D	0	On Site	312703 167349	Railway Sidings	1987
25	0	On Site	312825 168120	Railway Sidings	1900
26E	0	On Site	312851 167358	Railway Sidings	1987
27E	0	On Site	312852 167359	Railway Sidings	1990
28F	0	On Site	313041 167617	Railway Sidings	1973
29F	0	On Site	313043 167623	Railway Sidings	1963
30	0	On Site	313064 167565	Railway Sidings	1963
31	0	On Site	313043 167463	Railway Sidings	1963
32G	0	On Site	313045 167148	Railway Sidings	1963
33G	0	On Site	313045 167147	Railway Sidings	1955
34	0	On Site	313168 167473	Railway Sidings	1963
35J	0	On Site	313031 167802	Railway Sidings	1955
36H	0	On Site	312757 168017	Railway Sidings	1920
37H	0	On Site	312757 168017	Railway Sidings	1943
38I	0	On Site	312488 166976	Railway Sidings	1920
39I	0	On Site	312494 166971	Railway Sidings	1943
40J	2	NE	313204 167850	Railway Sidings	1955
41K	9	NW	313257 167825	Railway Sidings	1955
42	9	NE	313462 167795	Railway Sidings	1955
43K	10	NW	313257 167825	Railway Sidings	1963

ID	Distance (m)	Direction	NGR	Details	Date
44L	11	E	313414 167897	Railway Sidings	1955
45J	12	NE	313209 167851	Railway Sidings	1963
46L	12	E	313414 167897	Railway Sidings	1963
47	14	NW	313110 167798	Railway Sidings	1973
48M	36	NW	312525 167139	Railway Sidings	1955
49A	37	NW	312274 167500	Railway Sidings	1955
50M	37	NW	312526 167133	Railway Sidings	1971
51	37	SE	313271 167334	Railway Sidings	1963
52	39	NW	312488 166981	Railway Sidings	1954
53N	64	NW	312437 167123	Railway Sidings	1955
54N	64	NW	312433 167124	Railway Sidings	1954
55O	75	NW	313027 167780	Railway Sidings	1989
56O	75	NW	313027 167780	Railway Sidings	1989
57	77	NW	312415 167250	Railway Sidings	1954
58P	77	NE	313470 167851	Railway Sidings	1989
59P	77	NE	313470 167851	Railway Sidings	1990
60P	77	NE	313470 167851	Railway Sidings	1990
61P	77	NE	313470 167851	Railway Sidings	1991
62P	77	NE	313470 167851	Railway Sidings	1989
63P	80	NE	313471 167851	Railway Sidings	1973
64	91	NW	312433 167008	Railway Sidings	1955
65	103	NW	312404 167099	Railway Sidings	1971
66Q	113	N	313106 167871	Railway Sidings	1989
67Q	113	N	313106 167871	Railway Sidings	1989
68	115	NE	313573 167882	Railway Sidings	1963
69R	116	NW	312404 166988	Railway Sidings	1954
70R	119	NW	312402 166988	Railway Sidings	1954
71	131	NE	313462 167952	Railway Sidings	1973
72	133	N	313167 168211	Railway Sidings	1955
8	144	W	311511 167314	Railway Sidings	1898

ID	Distance (m)	Direction	NGR	Details	Date
9B	145	W	310836 167333	Railway Sidings	1936
10B	145	W	310836 167333	Railway Sidings	1938
11	148	W	311509 167338	Railway Sidings	1915
73	161	NE	313637 168182	Railway Sidings	1955
74S	167	NW	312552 167342	Railway Sidings	1920
75S	167	NW	312552 167342	Railway Sidings	1943
76S	168	NW	312554 167342	Railway Sidings	1900
77T	177	NW	313213 168049	Railway Sidings	1973
78T	178	NW	313214 168050	Railway Sidings	1955
79T	179	NW	313212 168051	Railway Sidings	1955
12B	192	SW	310778 167239	Railway Sidings	1921
80	198	SW	312309 166924	Railway Sidings	1954
81	199	NW	312305 167164	Railway Sidings	1900
82U	201	SW	311185 166920	Railway Sidings	1920
83U	203	SW	310649 166896	Railway Sidings	1936
84	231	NW	312494 167391	Railway Sidings	1971
85	237	NW	312589 167676	Railway Sidings	1955
86V	246	SW	312215 166896	Railway Sidings	1954
87V	247	SW	312218 166897	Railway Sidings	1984
88	247	NW	312652 167778	Railway Sidings	1955

*Any records that have been identified are represented on the Railways and Tunnels Map.*

### 7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

*Any records that have been identified are represented on the Railways and Tunnels Map.*



## 7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? Yes

Have any active railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Name	Type
0	On Site	Not given	Single Track
80	NE	Not given	Single Track
81	NW	Barry Docks Railway	Rail
81	NW	Not given	Single Track
81	NW	Not given	Single Track
86	NE	Not given	Rail
97	N	Not given	Single Track
103	N	Not given	Single Track
105	N	Not given	Rail
139	NE	Not given	Single Track
184	NE	Not given	Single Track

Note: multiple sections of the same track may be listed in the detail above  
 Any records that have been identified are represented on the Railways and Tunnels Map.

## 7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail rail project? No

*Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a **GroundSure HS2 and Crossrail Report**.*

# Contact Details



GroundSure Helpline  
Telephone: 08444 159 000  
info@groundsure.com



## British Geological Survey Enquiries

Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143.  
Fax: 0115 936 3276.  
Email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries



## British Gypsum

British Gypsum Ltd  
East Leake  
Loughborough  
Leicestershire  
LE12 6HX



## The Coal Authority

200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)



## Public Health England

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
<https://www.gov.uk/government/organisations/public-health-england>  
Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000



## Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane  
Brierley Hill, West Midlands  
DY5 3LH  
Tel: +44 (0) 1384 262 000  
Email: [enquiries.gs@jpb.co.uk](mailto:enquiries.gs@jpb.co.uk)  
Website: [www.jpb.co.uk](http://www.jpb.co.uk)



## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS

Tel: 08456 050505

Website: <http://www.ordnancesurvey.co.uk/>



## Getmapping PLC

Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444

Website: <http://www1.getmapping.com/>



## Peter Brett Associates

Caversham Bridge House  
Waterman Place  
Reading  
Berkshire RG1 8DN

Tel: +44 (0)118 950 0761 E-mail: [reading@pba.co.uk](mailto:reading@pba.co.uk)  
Website: <http://www.peterbrett.com/home>



Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Report Reference: HMD-142-1562458

Client Reference: 234-02-01

## Standard Terms and Conditions

### 1 Definitions

In these terms and conditions unless the context otherwise requires:

**"Beneficiary"** means the person or entity for whose benefit the Client has obtained the Services.

**"Client"** means the party or parties entering into a Contract with GroundSure.

**"Commercial"** means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

**"Contract"** means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to GroundSure.

**"Data Reports"** means reports comprising factual data with no accompanying interpretation.

**"Fees"** has the meaning set out in clause 5.1.

**"GroundSure"** means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials"** means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

**"Intellectual Property"** means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

**"Mapping"** means a map, map data or a combination of historical maps of various ages, time periods and scales.

**"Order"** means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

**"Report"** means a Risk Screening Report or Data Report for Commercial or Residential property.

**"Residential"** means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

**"Services"** means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

**"Site"** means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

**"User Guide"** means the user guide, as amended from time to time, available upon request from GroundSure and on the website ([www.GroundSure.com](http://www.GroundSure.com)) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

### 5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

### 6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### **7. Liability: Particular Attention Should Be Paid To This Clause**

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### **8 GroundSure's right to suspend or terminate**

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### **9. Client's Right to Terminate and Suspend**

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

#### **10 Consequences of Withdrawal, Termination or Suspension**

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### **11 Anti-Bribery**

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### **12 General**

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third

Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law