



GroundSure Reference: Ground Stability Specimen
Your Reference: GStab Specimen~1
Report Date: September 4, 2007
Report Delivery Method: Email - pdf
Client Email: info@groundsure.com

GroundSure Ground Stability

Address: Specimen Address

Dear Sir/Madam,

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

From the information within this report we consider it **possible** that Ground Stability Issues may affect the property.

If you need any further assistance, please do not hesitate to contact our helpline on 01273 819700 quoting the above GroundSure reference number.

Yours faithfully,

A handwritten signature in black ink, appearing to read "P. Smith".

Managing Director
Groundsure Limited

Enc.
GroundSure Ground Stability

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Brought to you by GroundSure

Overview of Findings

For detailed guidance on each dataset, please refer to the Summary of Findings sections listed below.

Factor	Assessment	Section
Ground Workings and Infilled land		
Historical Surface Ground Workings	Passed	1.1
Historical Underground Workings	Passed	1.2
Current Ground Workings	Passed	1.3
Mining and Extraction		
Historical Mining	Passed	2.1
Coal Mining	Passed	2.2
Shallow Mining	In Need of Further Assessment	2.3
Mining Cavities	In Need of Further Assessment	2.4
Natural Cavities	Passed	2.5
Brine Extraction	Passed	2.6
Gypsum Extraction	Passed	2.7
Tin Mining	Passed	2.8
Clay Mining	Passed	2.9
Natural Hazards & Additional Factors		
Collapsibles	Passed	3.1
Compressibles	Passed	3.2
Dissolution	Passed	3.3
Running Sands	Passed	3.4
Shrink Swell	Passed	3.5
Slope Instability	Passed	3.6
Landfills		
Operational or non-operational landfills	Passed	4
Geology		
Artificial	None	5.1
Drift	Yes	5.2
Bedrock	Yes	5.3
Boreholes	None	5.4

Expert Assessment

Consultant's Overview and Guidance

From the information within this report we consider it possible that Ground Stability issues may affect the property.

The BGS have identified a moderate potential for shallow mining. This means that the rocks underlying the area are of a type known to have been mined at shallow depth in some parts of the UK, and that such working may be possible in your area. In these cases it is recommended that you seek further advice from a Royal Institute Chartered Surveyor (RICS), the local Building Control Officer, or by ordering a Geological Report from the BGS. It is also recommended that you obtain a Coal Authority mining search, which will provide a comprehensive search of former mining activity, including coal mining at deeper levels. You may wish to check that any structural surveys performed on the property have taken the potential for ground instability into consideration. If such factors have not been considered, you may wish to contact the local Building Regulations Officer, Planning Department and if recently constructed, the site developers. Newer developments may benefit from an NHBC guarantee or other environmental warranty which often covers structural issues.

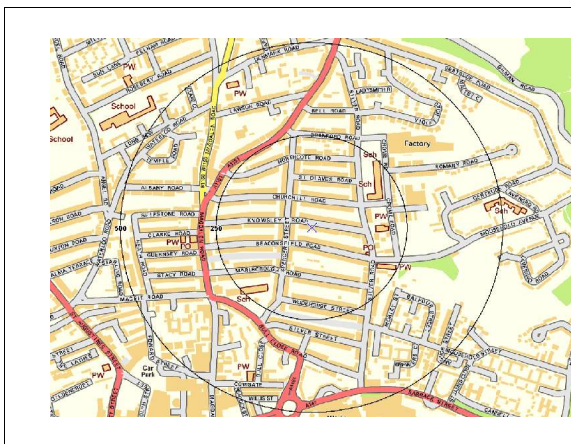
Unless suitable information is available confirming that suitable ground engineering techniques have been used at the site, you may wish to seek further more detailed assessment of stability and / or structural issues through a Chartered Surveyor or Chartered Engineer.

If you need any further assistance, please do not hesitate to contact our helpline on 01273 819700 quoting the above GroundSure reference number.

Aerial Photograph



Aerial photography supplied by Getmapping PLC.
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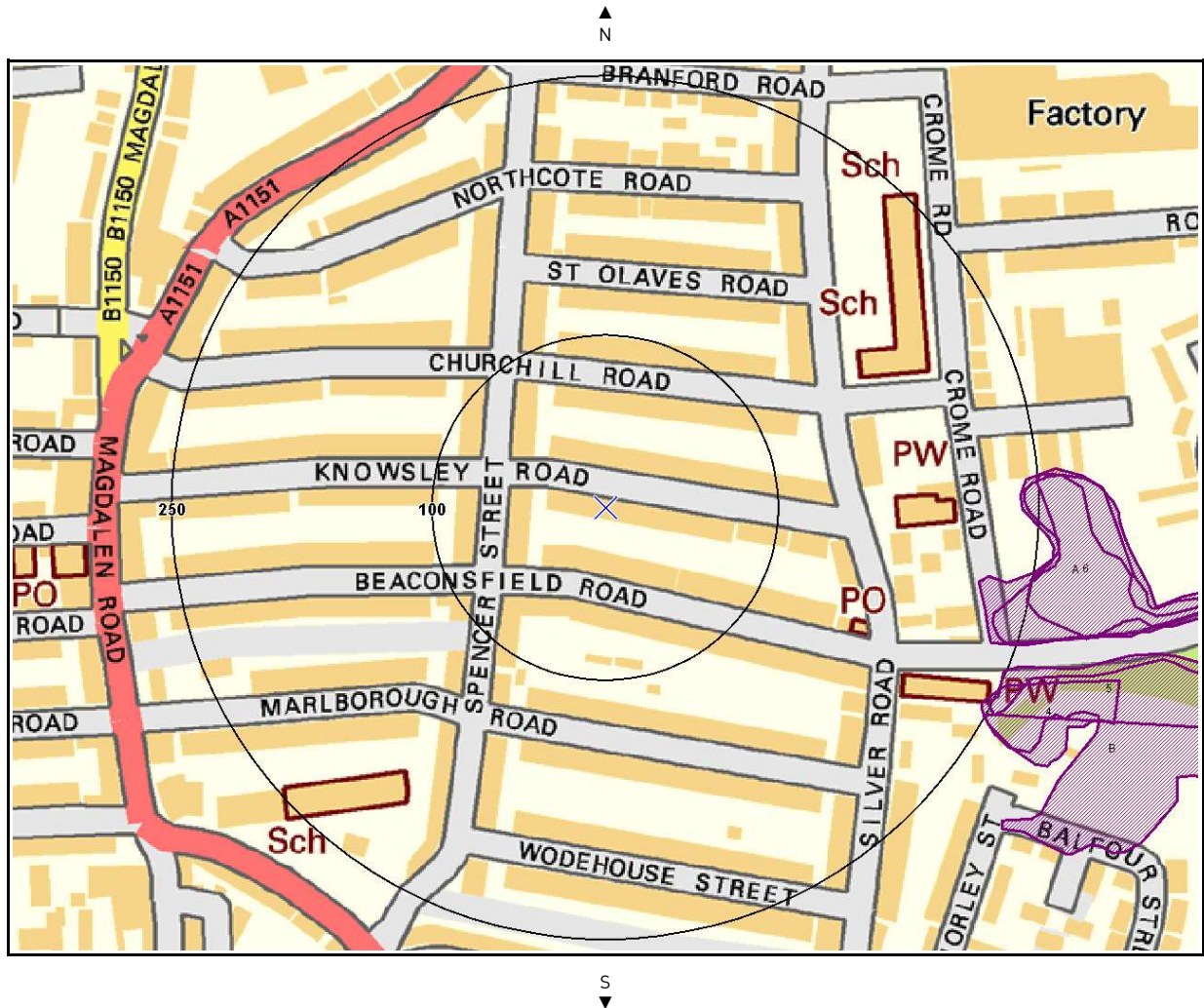


Site Name: Specimen Address

Grid Reference: 623418,309849

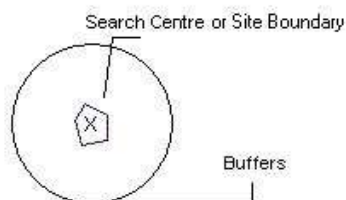
Detailed Findings




1. Ground Workings



Mapping sourced from 

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-  Surface ground workings features
-  Under ground workings features
-  Britpits (Mines and Quarries)

1. Ground Workings

1.1 Historical Surface Ground Working Features derived from the Historical Mapping

This data set is derived from GroundSure's unique Historical Map Land Use Database

Are there any Historical Surface Ground Working Features within 250m of the study site boundary?

Yes

Risk Assessment

Passed

Guidance: No further action required.

The following Historical Surface Ground Working Features derived from the Historical Mapping information is provided by GroundSure:

ID	Distance (m)	Direction	Use	Date
1A	220.0	E	Unspecified Ground Workings	1955
2A	232.0	E	Unspecified Pit	1938
3A	232.0	E	Unspecified Pit	1926
4	245.0	SE	Old Marl Pit	1883
5	248.0	SE	Unspecified Pit	1955
6	249.0	E	Refuse Heap	1912
7B	249.0	SE	Cave	1912
8B	249.0	SE	Cave	1905

1.2 Historical Underground Workings Features from Detailed Mapping

This data set is derived from GroundSure's unique Historical Map Land Use Database

Are there any Historical Underground Working Features within 250m of the study site boundary?

No

Risk Assessment

Passed

Guidance: No further action required.

1.3 Current Ground Workings

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

Are there any Current Ground Workings within 250m of the study site boundary?

No

Risk Assessment

Passed

Guidance: No further action required.

2. Mining and Extraction

2.1 Historical Mining

Are there any Historical Mining features within 500m of the study site boundary? **No**
Risk Assessment **Passed**

Guidance: No further action required.

2.2 Coal Mining

Are there any coal mining areas within 75m of the study site? **No**
Risk Assessment **Passed**

Guidance: The study site is not located on or in proximity to an area which is affected by surface or sub-surface coal mining. No further action is recommended.

2.3 Shallow Mining

What is the maximum hazard of subsidence relating to shallow mining within 175m* of the study site? **Moderate**
Risk Assessment **In Need of Further Assessment**

The following shallow mining information provided by the British Geological Survey is not represented on Mapping:

Distance	Direction	Details
0.0	On Site	Moderate
7.0	W	Negligible

Guidance: Many types of mining such as ironstone or limestone extraction take place close to the surface. These types of mining can pose a subsidence risk as they sometimes cause surface collapses. Where moderate potential is indicated, this means that the rocks underlying the area are of a type known to have been mined at shallow depth in some parts of the UK, and that such working may be possible in your area. In these cases it is recommended that you seek further advice from a Royal Institute Chartered Surveyor (RICS), the local Building Control Officer, or by ordering a Geological Report from the BGS. It is also recommended that you obtain a Coal Authority mining search, which will provide a comprehensive search of former mining activity, including coal mining at deeper levels.

2.4 Mining Cavities

Is the site located in an area of mining cavities? **Yes**
Risk Assessment **In Need of Further Assessment**

The following Non-Coal Mining Cavities information provided by Peter Brett Associates:

Distance (m)	Direction	Address	Superficial Deposits	Bedrock Deposits	Type of Mining
129.0	NW	Norwich, Knowlsey Road, New Catton	Glacial Sand & Gravel	Upper Chalk Formation	Chalk
192.0	NW	Norwich, Churchill Road/ Northcote Road, New Catton	Glacial Sand & Gravel	Upper Chalk Formation	Chalk
192.0	NW	Norwich, Churchill Road, New Catton	Glacial Sand & Gravel	Upper Chalk Formation	Chalk

Guidance: This risk rating is obtained from the mining cavities dataset, which is supplied and digitally combined by Peter Brett Associates. There are records within 250m of the site. Areas that are associated with mining cavities may cause ground stability problems such as subsidence, surface collapses, mass movement and landslides etc, depending on the style of mining used. Unless suitable information is available confirming that suitable ground engineering techniques have been used at the site, it would be prudent to contact the Local Authority Planning department to confirm that suitable design measures were implemented at the site during construction.

2.5 Natural Cavities

* This Includes an automated buffer of 150m.

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Is the site located in an area of natural cavities? No
Risk Assessment **Passed**

Guidance: This risk rating is obtained from the mining cavities dataset, which is supplied and digitally combined by Peter Brett Associates. There are no records within 250m of the site.

2.6 Brine Extraction

Is the site located in an area of brine extraction? No
Risk Assessment **Passed**

Guidance: No further action required.

2.7 Gypsum Extraction

Is the site located in an area of gypsum extraction? No
Risk Assessment **Passed**

Guidance: No further action required.

2.8 Tin Mining

Is the site located in an area of tin mining? No
Risk Assessment **Passed**

Guidance: No further action required.

2.9 Clay Mining

Is the site located in an area of clay mining? No
Risk Assessment **Passed**

Guidance: No further action required.

3. Natural Ground Subsidence

3.1 Collapsibles

What is the maximum potential of collapsible ground within 75m* of the study site? Negligible
Hazard Assessment **Passed**

Guidance: No indicators for collapsible deposits identified. No special actions required to avoid problems due to collapsible deposits.

3.2 Compressibles

What is the maximum potential of compressible ground within 75m* of the study site? Negligible
Hazard Assessment **Passed**

Guidance: No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits.

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Distance (m)*	Direction	Hazard Rating	Details
0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits.

3.3 Dissolution

What is the maximum potential of dissolution within 75m* of the study site? Very Low
Risk Assessment **Passed**

Guidance: Soluble rocks are not present in the search area; No special actions required to avoid problems due to soluble rocks.

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Distance (m)*	Direction	Hazard Rating	Details
0.0	On Site	Very Low	Significant soluble rocks are present, but with few dissolution features and no recorded subsidence. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks.

3.4 Running Sands

What is the maximum potential of running sands within 75m* of the study site? Very Low
Risk Assessment **Passed**

Guidance: 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.

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Distance (m)*	Direction	Hazard Rating	Details
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.

3.5 Shrink Swell

What is the maximum potential of shrink swell within 75m* of the study site? Negligible

*This includes a 50m buffer around the study site.

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Risk Assessment
Passed

Guidance: Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays.

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

Distance (m)*	Direction	Hazard Rating	Details
0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays.

3.6 Slope Instability

What is the maximum potential of slope instability within 75m* of the study site?

Very Low
Risk Assessment
Passed

Guidance: Slope instability problems are unlikely to be present; No actions required to avoid problems due to landslides.

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Distance (m)*	Direction	Hazard Rating	Details
0.0	On Site	Very Low	Slope instability problems are unlikely to be present; No actions required to avoid problems due to landslides.

*This includes a 50m buffer around the study site.

4. Landfill and Waste Sites

4.1 Landfill Sites

Are there any operational or non-operational landfill sites within 500m of the search centre?

Risk Assessment

No
Passed

Guidance: No action required.

4.2 Landmark Landfill Data

Database searched and no data found.

4.3 British Geological Survey / DoE Landfill Site Survey

Database searched and no data found.

4.4 Environment Agency Active Landfill Sites

Database searched and no data found.

4.5 Environment Agency Historic Landfill Sites

Database searched and no data found.

4.6 GroundSure Local Authority Landfill Sites Data

Database searched and no data found.

5. Geology

5.1 Artificial Deposits/Made Ground

Database searched and no data found.

5.2 Superficial Deposits/Drift Geology

Records of Superficial Deposits/Drift Geology within 25m of the study site:

ID	Distance (m)	Direction	Lex Code	Description	Rock Description
1	0.0	On Site	COLO-SAGR	Corton Formation And Lowestoft Formation (undifferentiated)	Sand And Gravel

[Derived from 1:50,000 scale BGS Geological Survey Mapping]

5.3 Bedrock Deposits/Solid Geology

Records of Bedrock Deposits/Solid Geology within 25m of the study site:

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated)	Chalk

[Derived from 1:50,000 scale BGS Geological Survey Mapping]

5.4 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 search centre:

2

Contacts

GroundSure Helpline

Telephone: 01273 819700
info @ groundsure.com

**Environment Agency – Eastern**

Ipswich Office - Cobham Road Lane, Ipswich, Suffolk,
IP3 9JE Tel: (01473) 727 712
Anglian Region Tel: (01733) 371811

**Local Authority -**

Norwich City Council Tel: 01603 212212

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143 www.bgs.ac.uk

**The Coal Authority**

200 Lichfield Lane, Mansfield, Notts NG18 4RG
Tel: 0845 762 6848
DX 716176 Mansfield 5 www.coal-authority.co.uk

**Ordnance Survey**

Romsey Road, Southampton SO16 4GU
Tel: 023 8079 2725

**Getmapping PLC**

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

**CoPSO**

29 Harley Street, London W1G 9QR
Tel: 020 7927 6836
(www.copso.org.uk)

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**Acknowledgements**

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