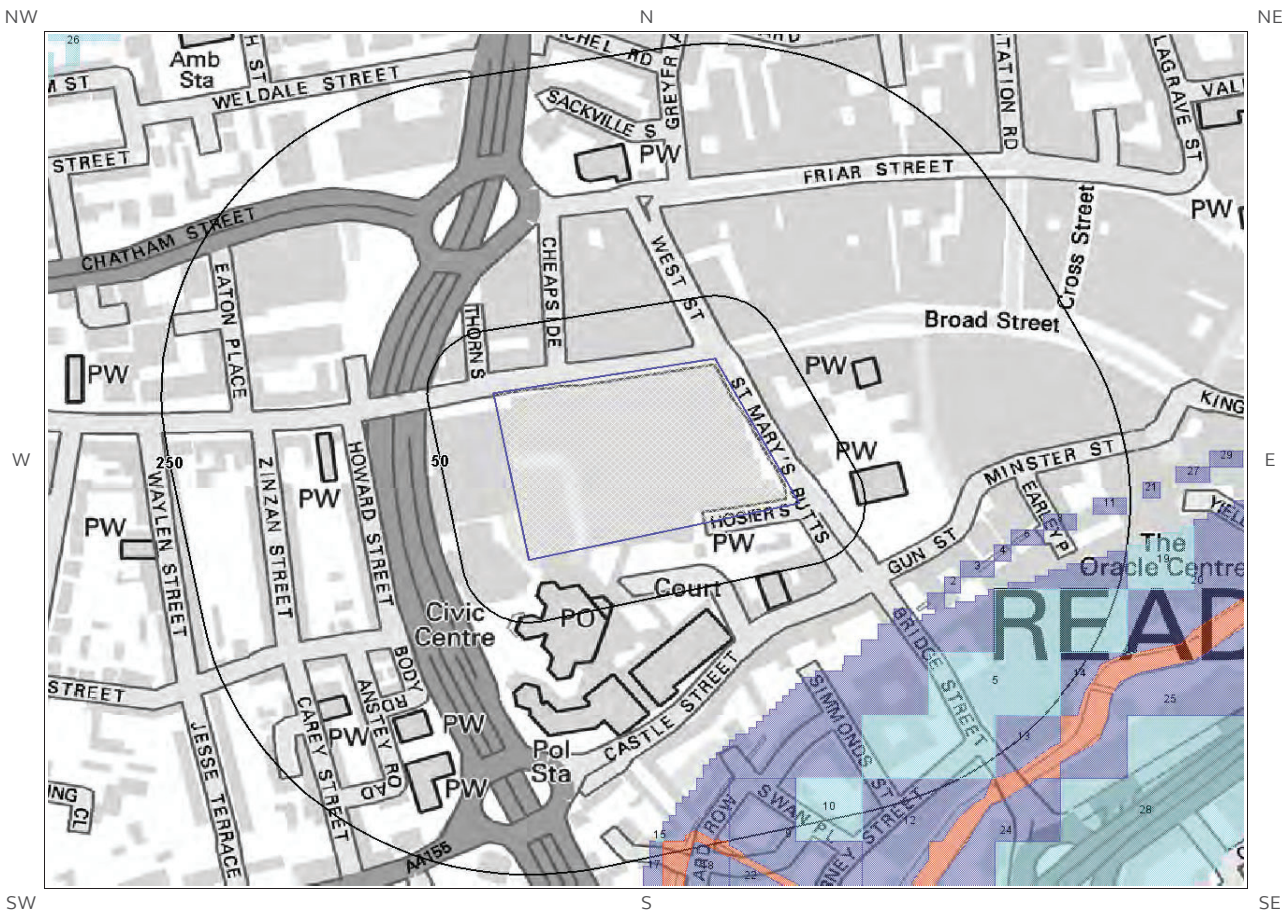
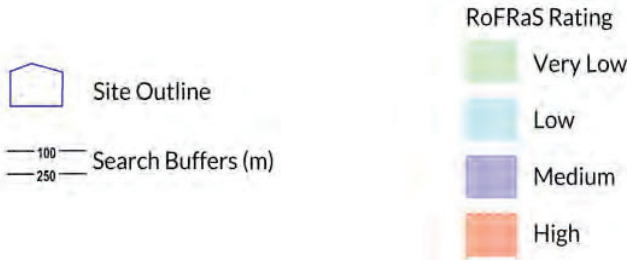


7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m Identified

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	110	SE	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
2E	124	SE	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
3H	130	E	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
4I	150	E	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
5	161	E	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
6L	184	E	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
7N	222	E	29-May-2018	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m Identified

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	110	SE	30-May-2018	Zone 3 - (Fluvial Models)
2E	113	SE	30-May-2018	Zone 3 - (Fluvial Models)
3H	118	SE	30-May-2018	Zone 3 - (Fluvial Models)
4I	120	SE	30-May-2018	Zone 3 - (Fluvial Models)
5	124	SE	30-May-2018	Zone 3 - (Fluvial Models)

6L	126	S	30-May-2018	Zone 3 - (Fluvial Models)
7N	130	E	30-May-2018	Zone 3 - (Fluvial Models)
	135	S	30-May-2018	Zone 3 - (Fluvial Models)
	145	S	30-May-2018	Zone 3 - (Fluvial Models)
	150	E	30-May-2018	Zone 3 - (Fluvial Models)
	154	S	30-May-2018	Zone 3 - (Fluvial Models)
	161	E	30-May-2018	Zone 3 - (Fluvial Models)
	164	S	30-May-2018	Zone 3 - (Fluvial Models)
	173	S	30-May-2018	Zone 3 - (Fluvial Models)
	180	S	30-May-2018	Zone 3 - (Fluvial Models)
	184	E	30-May-2018	Zone 3 - (Fluvial Models)
	202	S	30-May-2018	Zone 3 - (Fluvial Models)
	211	S	30-May-2018	Zone 3 - (Fluvial Models)
	222	E	30-May-2018	Zone 3 - (Fluvial Models)
	233	S	30-May-2018	Zone 3 - (Fluvial Models)
	241	SE	30-May-2018	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

Highest risk of flooding onsite Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Flood Defences within 250m of the study site None identified
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site Identified

Clearwater Flooding or Superficial Deposits Flooding Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

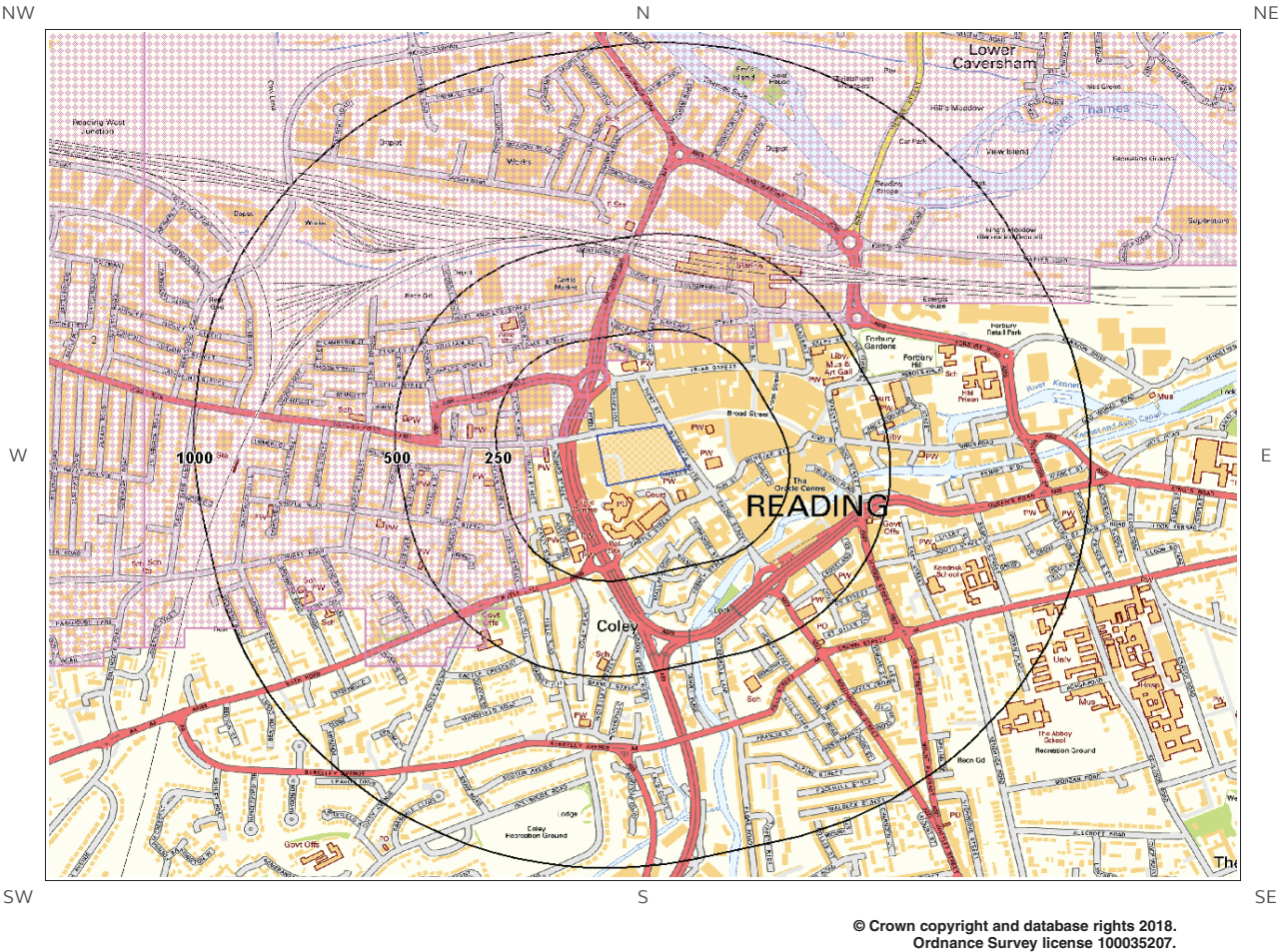
7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site Identified

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

Database searched and no data found. 0

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

Database searched and no data found. 0

8.8 Records of World Heritage Sites within 2000m of the study site:

Database searched and no data found. 0

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

Database searched and no data found. 0

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

Database searched and no data found. 0

8.11 Records of National Parks (NP) within 2000m of the study site:

Database searched and no data found. 0

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

Database searched and no data found. 0

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

3

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	50	NW	Existing	DEFRA
2	1123	W	Existing	DEFRA
Not shown	1858	E	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

Database searched and no data found. 0

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell** hazard rating identified on the study site Negligible

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

Hazard
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.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site Very Low

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

Hazard
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.

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site High

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

Hazard
Very significant soluble rocks are present, with a high possibility of localised subsidence occurring naturally or in adverse conditions such as high surface or subsurface water flow. Obtain specialist advice to advise on need for stabilisation work and/or land management plan to maintain stability. Do not dispose of drainage into the ground. For new build a specialist land stability assessment is necessary. Investigation, remediation and/or mitigation works may be necessary to stabilise the area. Construction work may cause subsidence. Surface drainage must not affect the karst system or groundwater. Increased construction costs are likely. For existing property increase in insurance risk due to potential soluble rocks hazards. Potential of groundwater pollution.

* This indicates an automatically generated 50m buffer and site.

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Client Reference: 2206

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site Negligible

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

Hazard
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.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site Very Low

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

Hazard
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.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site Very Low

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

Hazard
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.

* This indicates an automatically generated 50m buffer and site.

Report Reference: GS-5187835
Client Reference: 2206

9.2 Radon

9.2.1 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 site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

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

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site
None identified
Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary
Identified

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

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Chalk	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site
Guidance: No Guidance Required.
None identified

Contact Details

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info@groundsure.com

British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web:www.bgs.ac.uk
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk

Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

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DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
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SO16 0AS
Tel: 08456 050505

Local Authority
Authority: Reading Borough Council
Phone: 0118 937 3787
Web: <http://beta.reading.gov.uk/>
Address: Civic Offices, Bridge Street, Reading, RG1 2LU

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
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Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England/Natural Resources Wales who retain the Copyright and Intellectual Property Rights for the data.
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Groundsure's Terms and Conditions can be viewed online at this link:

<https://www.groundsure.com/terms-and-conditions-may25-2018>



BJB Consulting Limited

Head Office, Unit 7, Calder Close, Calder Park,
WAKEFIELD, WF4 3BA

Groundsure Reference: GS-5187836

Your Reference: 2206

Report Date 2 Jul 2018

Report Delivery Method: Email - pdf

Geo Insight

Address: 54 BROAD STREET MALL, BROAD STREET, READING, RG1 7QE

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** 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,

Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Address:

54 BROAD STREET MALL, BROAD STREET, READING, RG1 7QE

Date:

2 Jul 2018

Reference:

GS-5187836

Client:

BJB Consulting Limited

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2.2 Superficial Deposits and Landslips.....

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Aerial Photograph Capture date: 20-Apr-2015

Grid Reference: 471248,173368

Site Size: 2.44ha

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Overview of Findings

The Groundsure Geo Insight 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 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal 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 1:10,000 Scale		
1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslide within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	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 of linear features within 500m of the study site boundary at 1:10,000 scale?	No
Section 2: Geology 1:50,000 Scale		
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslide within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features	2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?	Yes
	2.3.3 Are there any records of linear features within 500m of the study site boundary?	No

Section 3: Radon

3. Radon	3.1Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
	3.2Radon Protection	No radon protective measures are necessary.

Section 4: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
----------------------------	---------	-------	--------	---------	----------

4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	20	24

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
--	---------	-------	--------	---------	----------

5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	1	0	1	2	5
5.4 Non-Coal Mining*	1	0	5	29	13
5.5 Non-Coal Mining Cavities	0	0	0	11	22
5.5 Natural Cavities	0	1	5	18	18

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Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0

Section 6: Natural Ground Subsidence	On-site
--------------------------------------	---------

6.1 Shrink-Swell Clay	Negligible
6.2 Landslides	Very Low
6.3 Ground Dissolution of Soluble Rocks	High
6.4 Compressible Deposits	Negligible
6.5 Collapsible Deposits	Very Low
6.5 Running Sand	Very Low

Section 7: Borehole Records	On-site	0-50m	51-250
-----------------------------	---------	-------	--------

7 BGS Recorded Boreholes	14	16	96
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Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250
--	---------	-------	--------

8 Records of Background Soil Chemistry	1	0	0
--	---	---	---

Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500
---------------------------------	---------	-------	--------	---------

9.1 Tunnels	0	0	0	Not Searched
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched
9.3 Historical Railways	0	0	0	Not Searched
9.4 Active Railways	0	0	0	Not Searched
9.5 Railway Projects	0	0	0	1

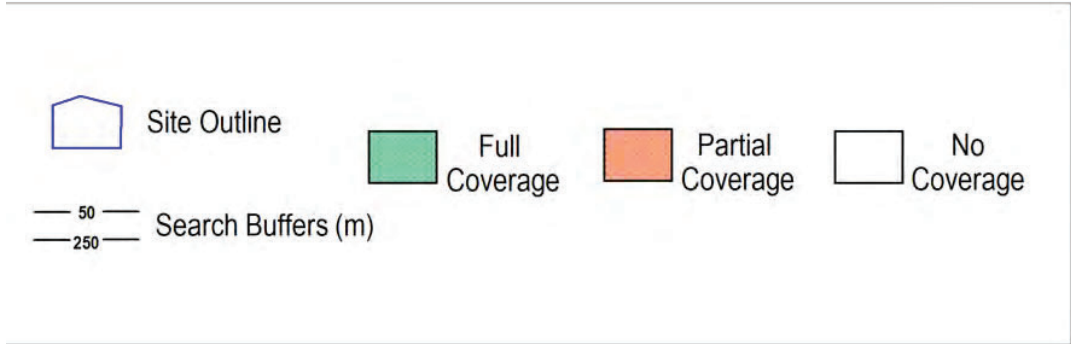
Report Reference: GS-5187836
Client Reference: 2206

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

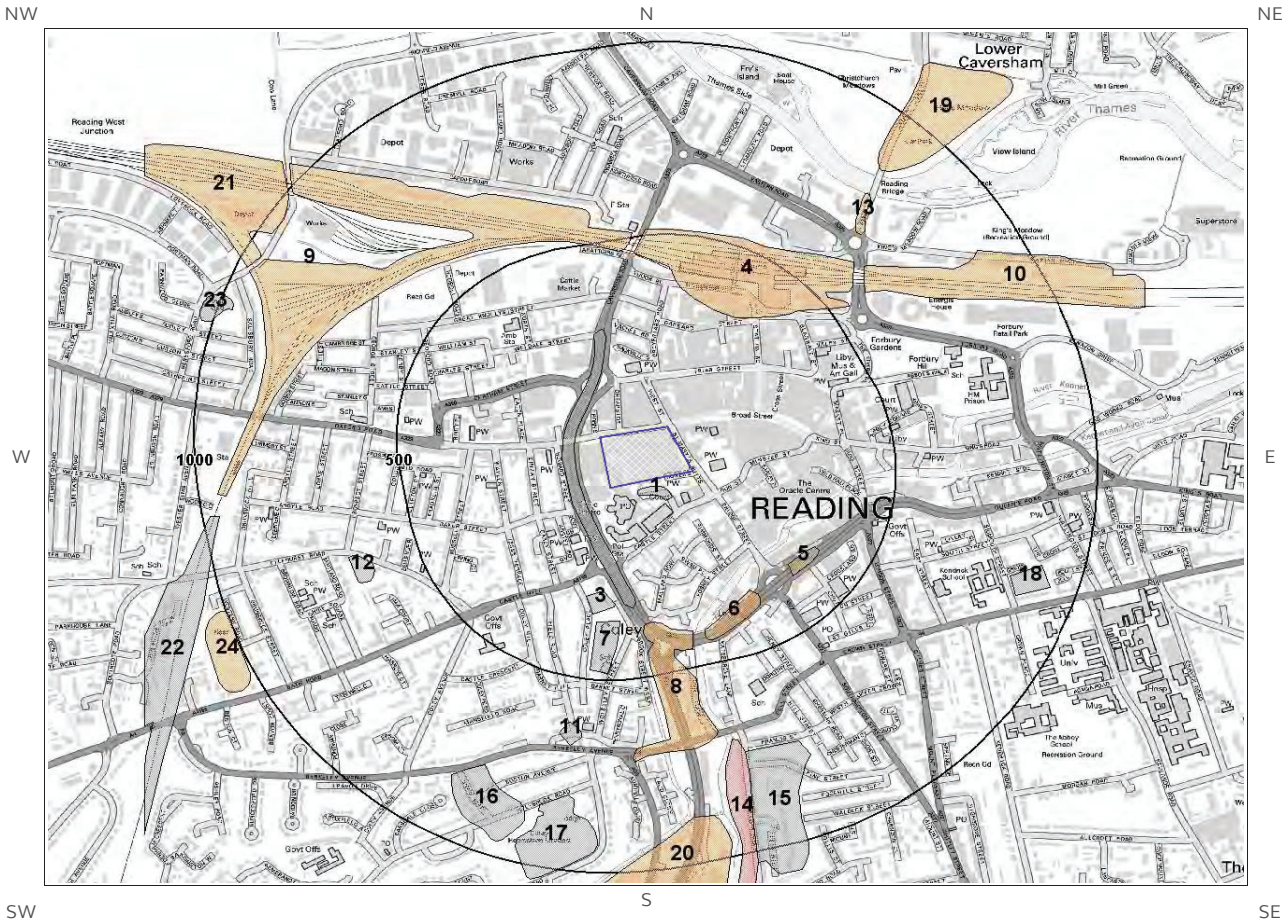
ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	No coverage
2	1123.0	Some deposits are mapped	Full	Full	No coverage
N3	1567.0	Some deposits are mapped	Full	Full	No coverage
N4	1950.0	Some deposits are mapped	Full	Full	No coverage

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

1 Geology (1:10,000 scale).
1.1 Artificial Ground map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

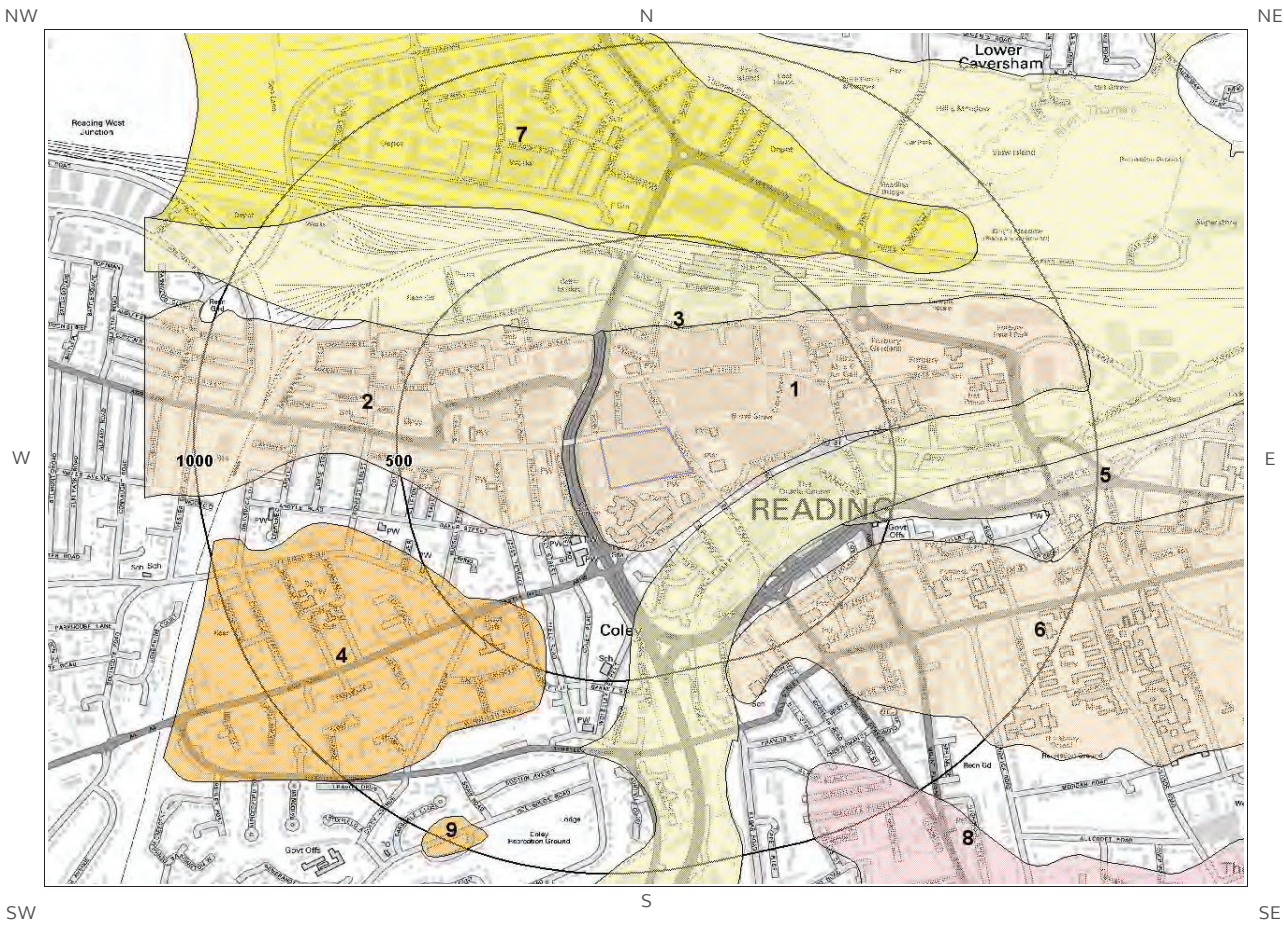
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	17.0	S	WGR-VOID	Worked Ground (Undivided)	Void
2	59.0	W	WGR-VOID	Worked Ground (Undivided)	Void
3	269.0	S	WGR-VOID	Worked Ground (Undivided)	Void
4	323.0	N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	337.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	340.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	347.0	S	WGR-VOID	Worked Ground (Undivided)	Void
8	360.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	470.0	N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

1.2 Superficial Deposits and Landslips map (1:10,000 scale)



Artificial Ground Legend

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Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale?

Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel
2	88.0	W	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel
3	124.0	SE	ALV-Z	Alluvium - Silt (unlithified Deposits Coding Scheme)	Silt
4	378.0	SW	LHGR-XSV	Lynch Hill Gravel Member - Sand And Gravel	Sand And Gravel
5	389.0	E	KPGR-XSV	Kempton Park Gravel Formation - Sand And Gravel	Sand And Gravel
6	405.0	SE	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel
7	486.0	N	LASI-XCZ	Langley Silt Member - Clay And Silt	Clay And Silt

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

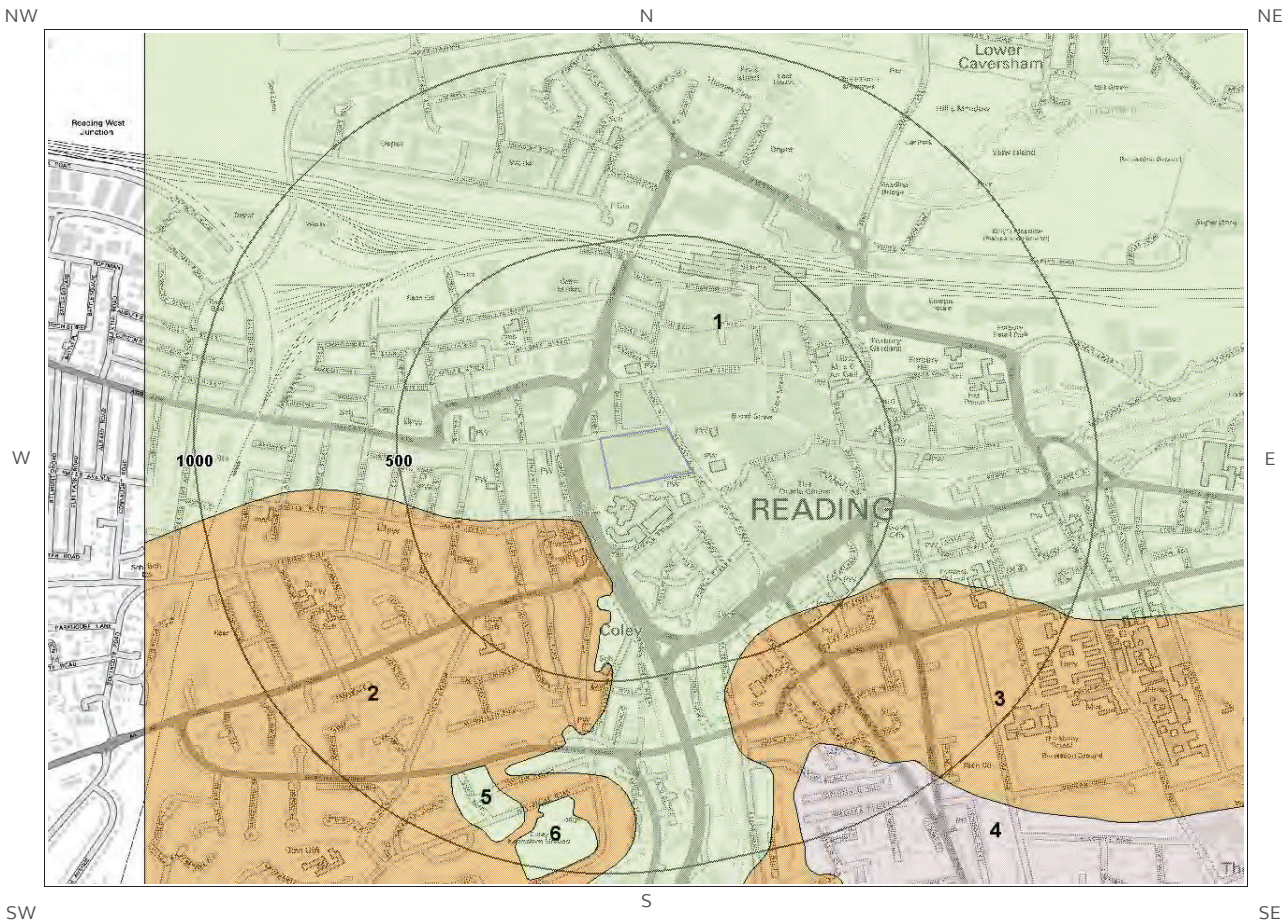
No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

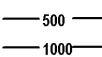
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and linear features map (1:10,000 scale)



Bedrock and linear features Legend

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-  Site Outline
-  Search Buffers (m)

1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LSNCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian Age
2	114.0	SW	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	Paleocene Epoch
3	440.0	SE	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	Paleocene Epoch

1.3.2 Linear features

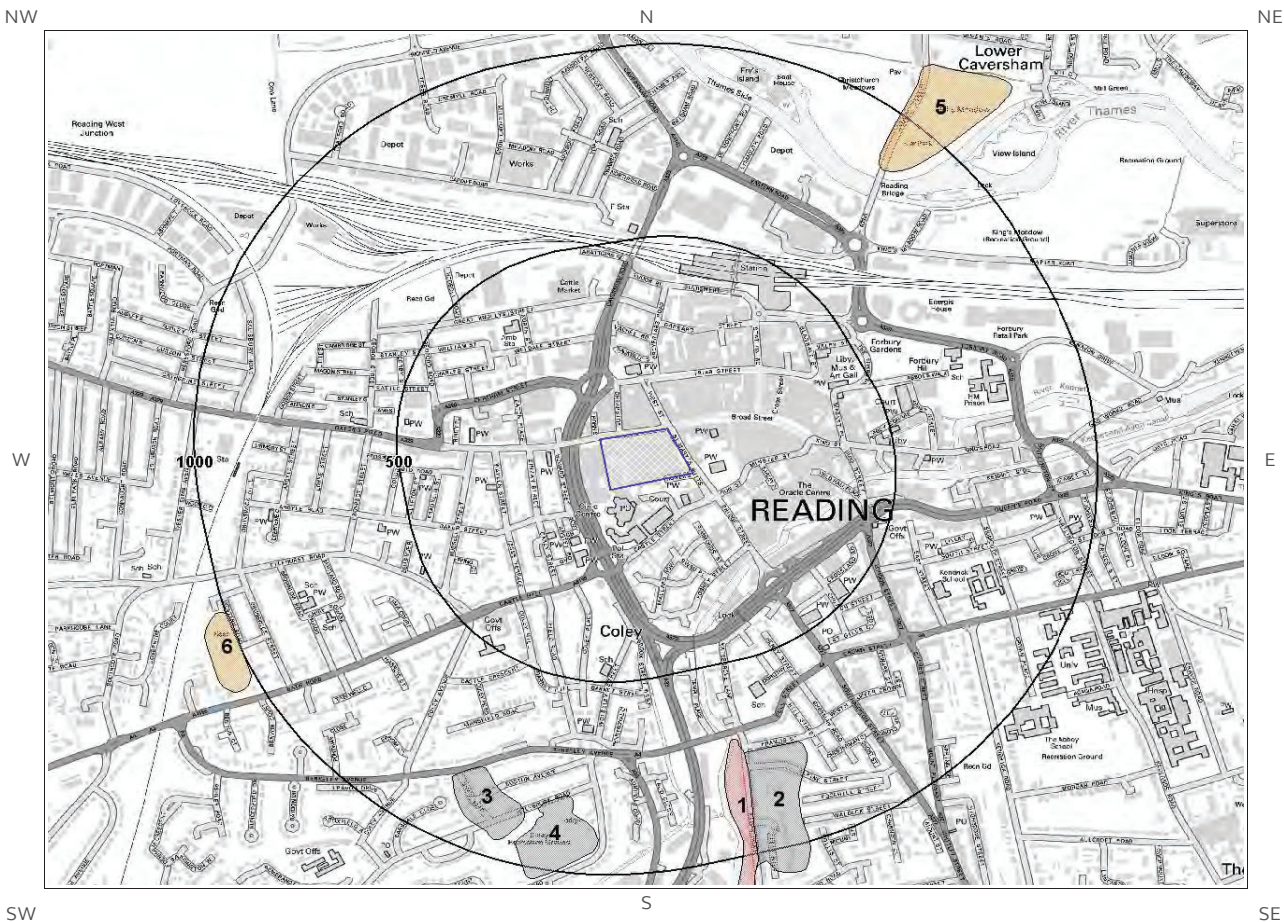
Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 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.

2 Geology 1:50,000 Scale
2.1 Artificial Ground map



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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 268

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? No

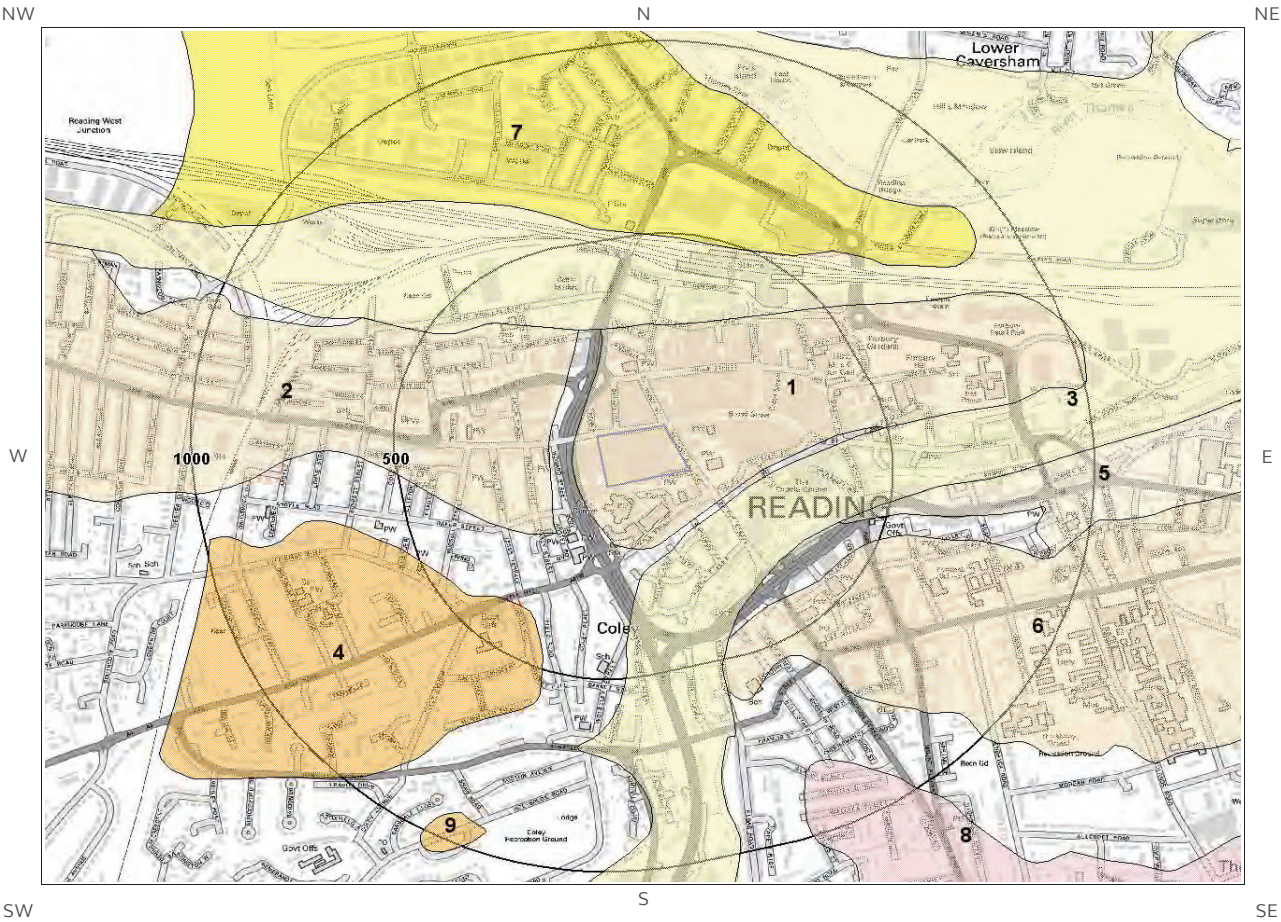
Database searched and no data found.

2.1.2 Permeability of Artificial Ground

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

Database searched and no data found.

2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL
2	114.0	W	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL
3	125.0	SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	375.0	SW	LHGR-XSV	LYNCH HILL GRAVEL MEMBER	SAND AND GRAVEL
5	390.0	E	KPGR-XSV	KEMPTON PARK GRAVEL MEMBER	SAND AND GRAVEL
6	402.0	SE	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL
7	484.0	N	LASI-XCZ	LANGLEY SILT MEMBER	CLAY AND SILT

2.2.2 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	Very High	High

2.2.3 Landslip

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

Database searched and no data found.

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

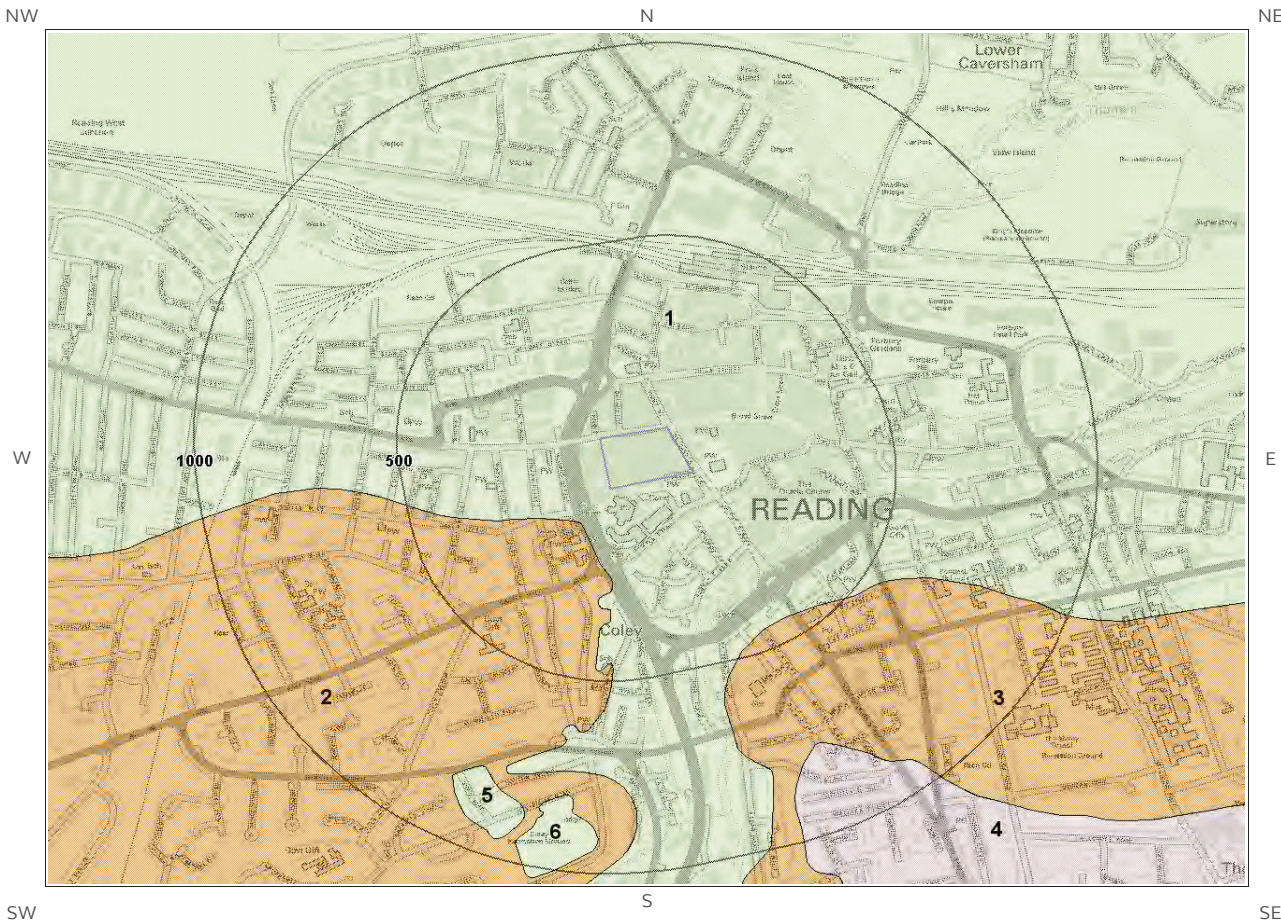
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

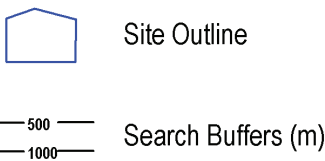
Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

2.3 Bedrock and linear features map
(1:50,000 scale)



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2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 268

2.3.1 Bedrock/Solid Geology

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

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	SNCK-CHLK	SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CONIACIAN
2	116.0	SW	LMBE-XCZS	LAMBETH GROUP - CLAY, SILT AND SAND	THANETIAN
3	440.0	SE	LMBE-XCZS	LAMBETH GROUP - CLAY, SILT AND SAND	THANETIAN

2.3.2 Permeability of Bedrock Ground

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

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Very High	Very High

2.3.3 Linear features

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

Database searched and no data found.

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

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

3 Radon Data

3.1 Radon Affected Areas

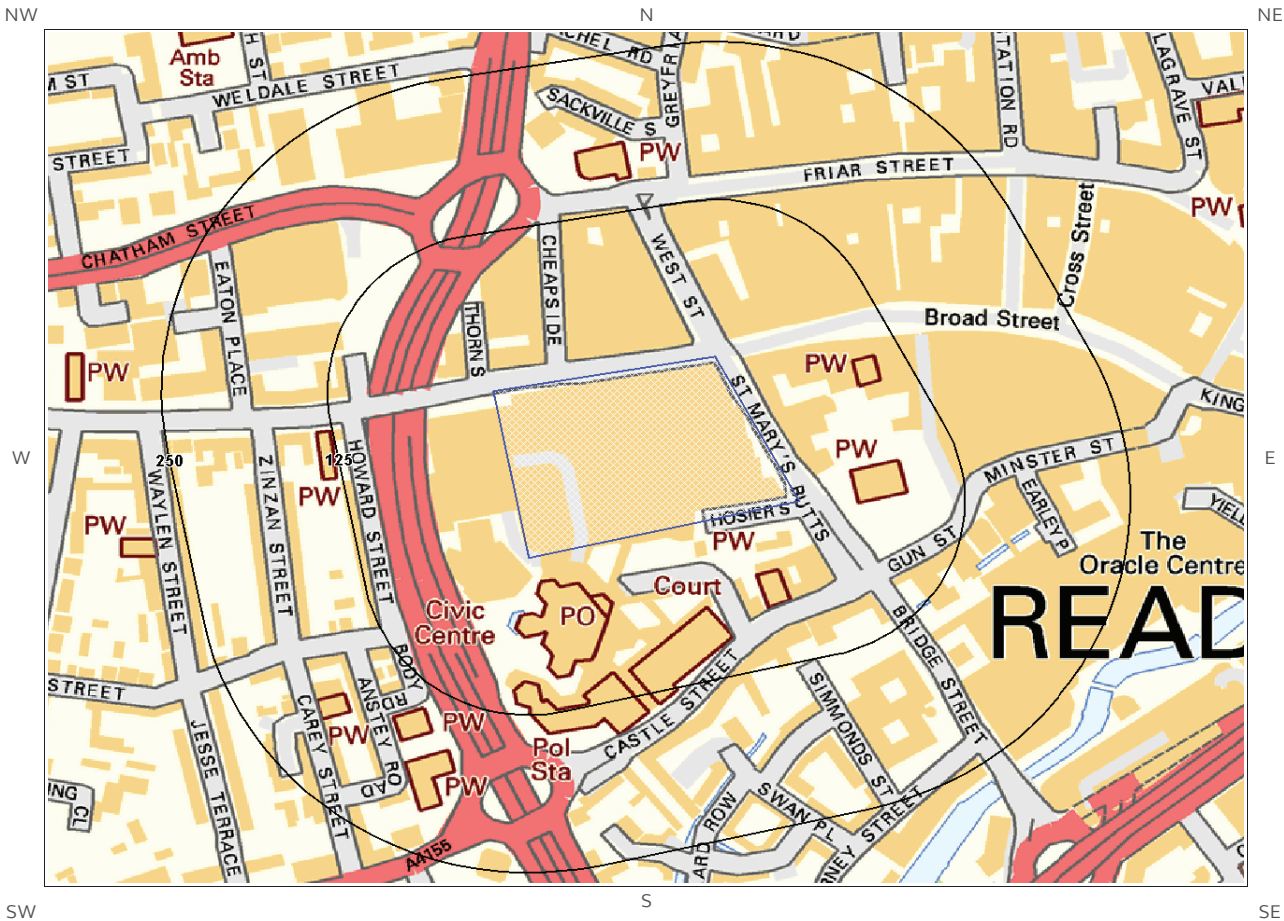
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

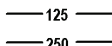
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

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

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

Database searched and no data found.

4.2 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? No

Database searched and no data found.

4.3 Current Ground Workings

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

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

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

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	314.0	SW	471023 172986	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	314.0	SW	471002 172996	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	316.0	S	471076 172966	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	338.0	SW	470991 172974	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	351.0	S	471021 172946	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	366.0	S	471079 172914	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	378.0	SW	470938 172960	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	411.0	SW	470981 172898	Chalk	Neuk & Bramley Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	413.0	S	471067 172868	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	418.0	S	471017 172877	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	418.0	SW	470964 172898	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	430.0	SW	470968 172883	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	442.0	S	471070 172838	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	470.0	S	471002 172827	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	470.0	S	471021 172821	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	471.0	S	471066 172810	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	478.0	S	470978 172827	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	484.0	S	471030 172804	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	487.0	S	471074 172792	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	495.0	S	471010 172798	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	503.0	S	471033 172784	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	512.0	S	470959 172798	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	518.0	SW	470946 172797	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	527.0	S	471018 172763	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	549.0	S	471053 172733	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	551.0	S	471031 172735	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	556.0	S	470985 172742	Chalk	Reading Chalk Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased