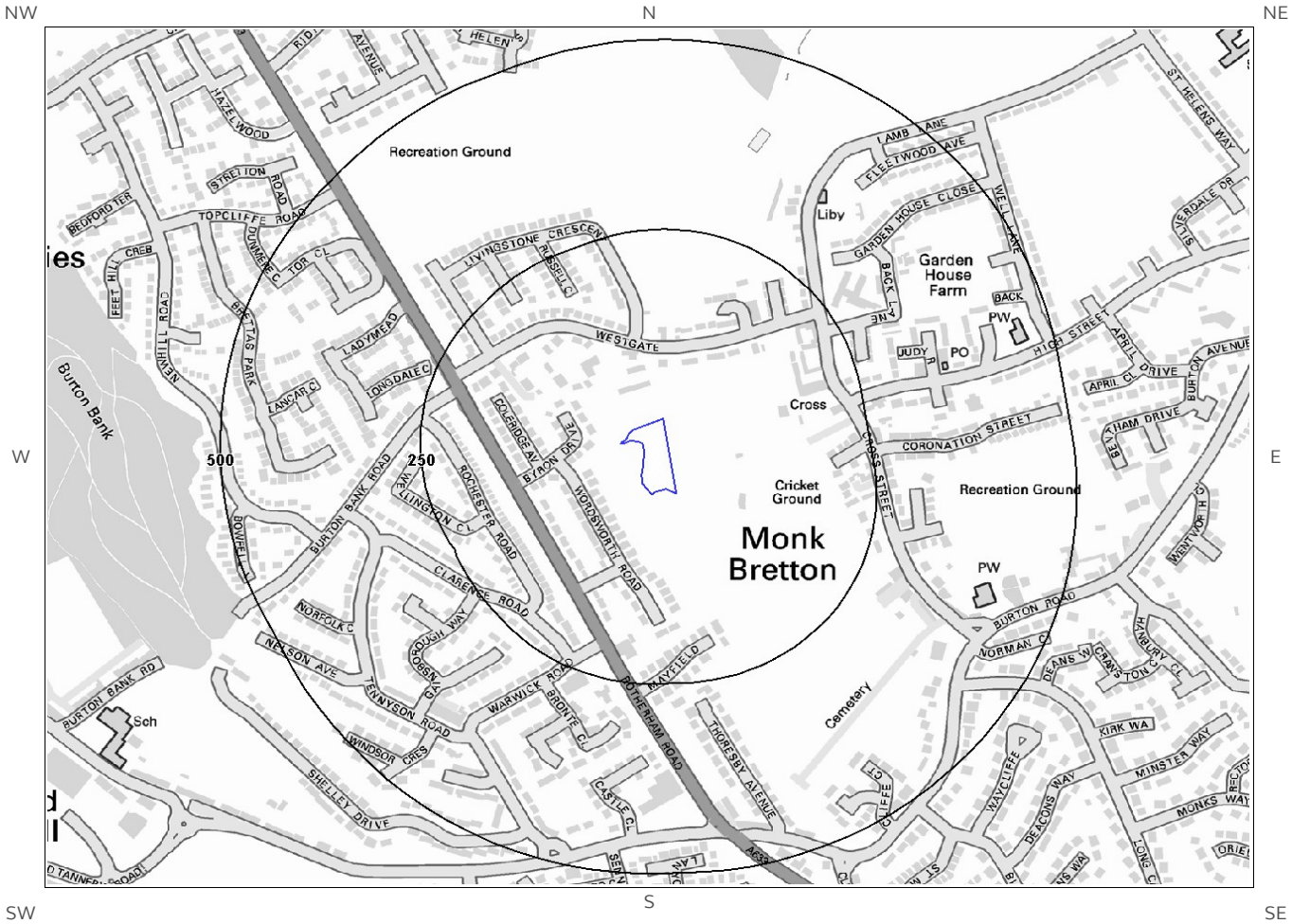
1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

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Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

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

Database searched and no data found.

1.2.2 Permeability of Superficial Ground

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

Database searched and no data found.

1.2.3 Landslip

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

Database searched and no data found.

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

1.2.4 Landslip Permeability

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

Database searched and no data found.

---

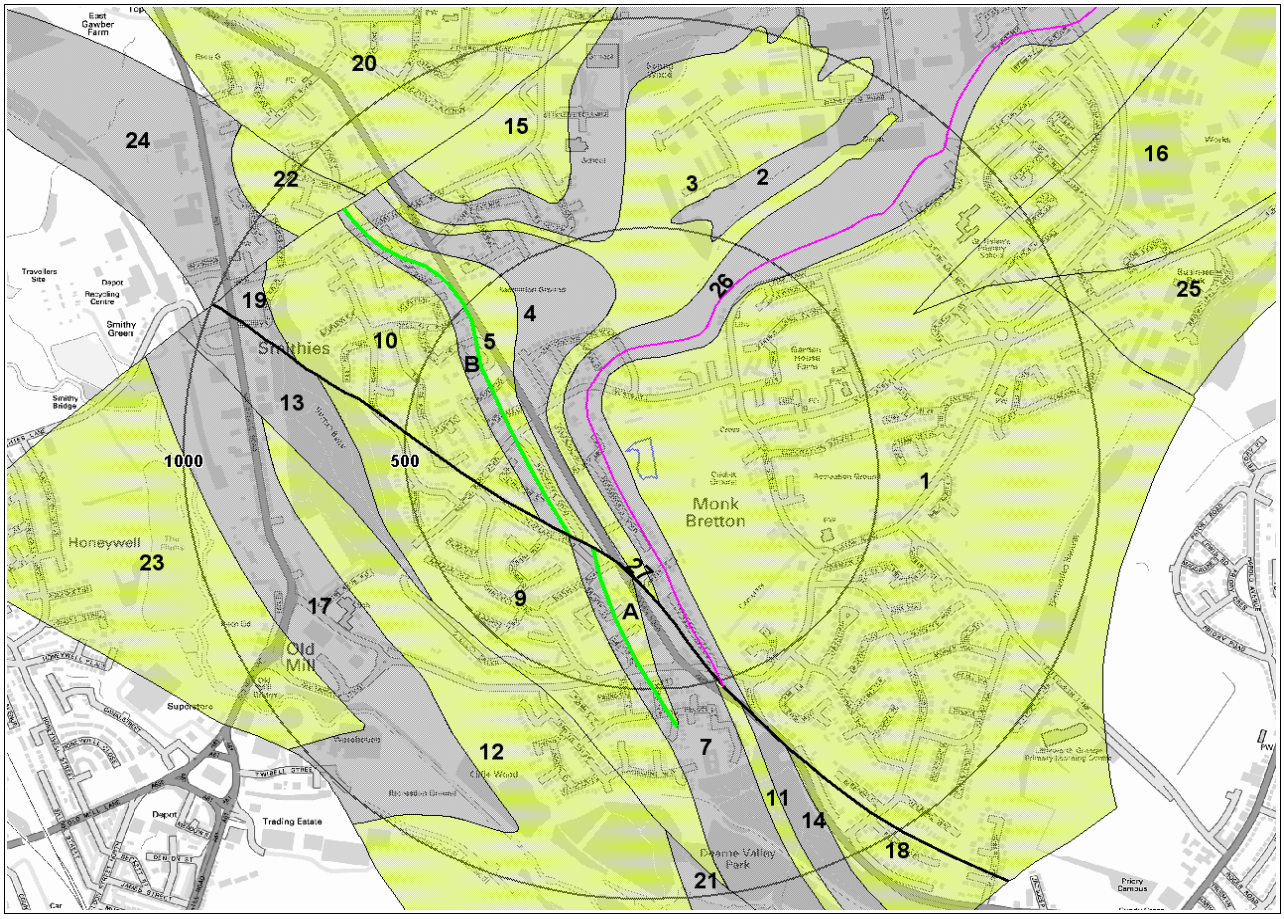
* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map

NW N NE

W E

SW S SE



Bedrock and Faults Legend

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Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:087

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	OR-SDST	Oaks Rock - Sandstone	Duckmantian
2	10.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
3	96.0	SW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
4	132.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
5	172.0	SW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
6A	199.0	SW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
7	199.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
8B	208.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
9	216.0	SW	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian
10	247.0	SW	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian
11	479.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian

1.3.2 Permeability of Bedrock Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	High	Moderate
10.0	SW	Fracture	Moderate	Low

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

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
26	51.0	W	FOSSIL_HORIZON	Marine band
27	199.0	SW	FAULT	Fault, inferred, displacement unknown
28A	199.0	SW	ROCK	Coal seam, inferred
29B	208.0	SW	ROCK	Coal seam, inferred

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 1 and 3% of properties are above the Action Level

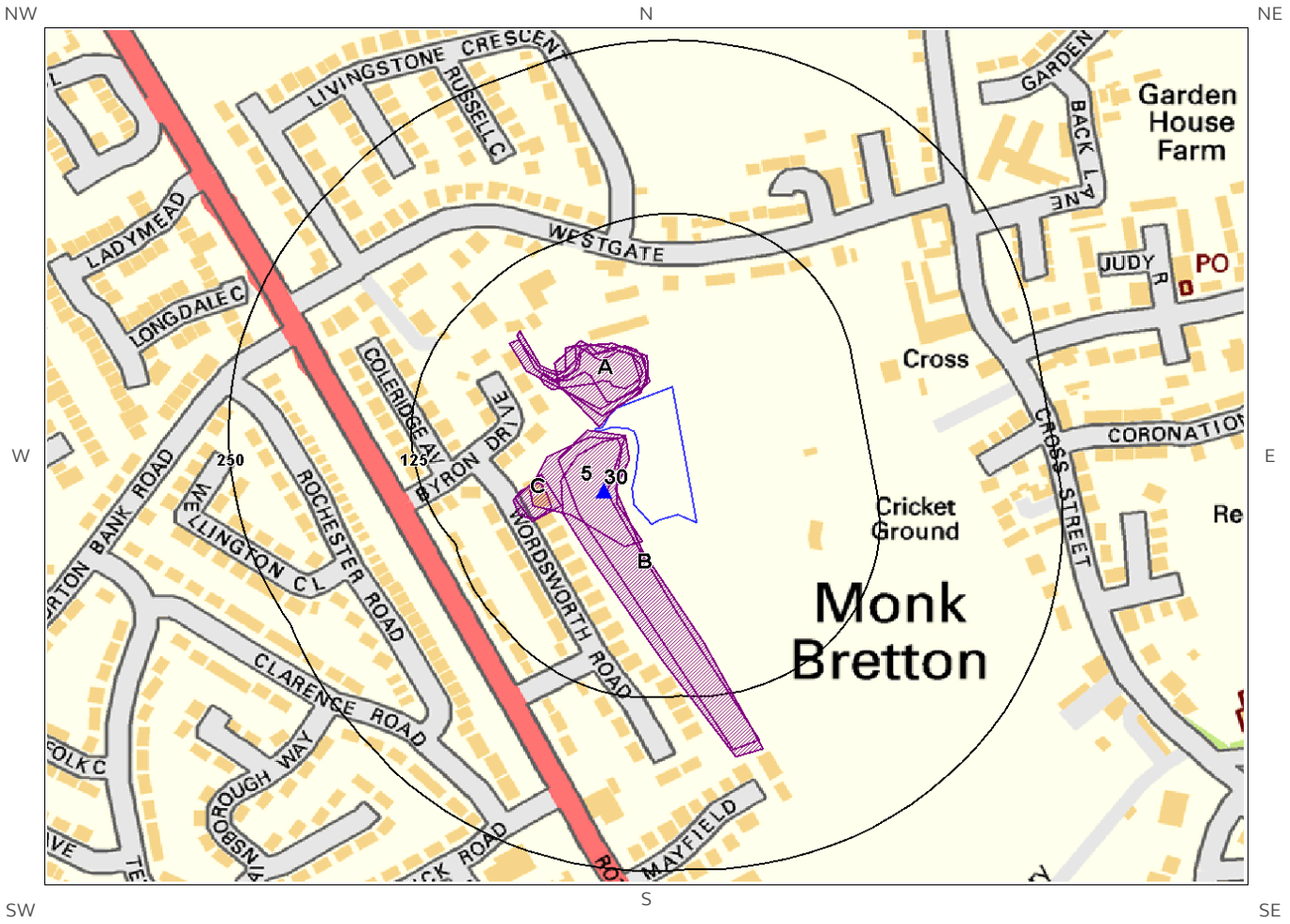
---

1.4.2 Radon Protection

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

---

2 Ground Workings Map



Ground Workings Legend

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Site Outline

125
250
Search Buffers (m)

Historic Surface Ground Workings

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	435922 407860	Burial Ground	1982
2A	0.0	On Site	435922 407860	Burial Ground	1992
3B	0.0	On Site	435961 407713	Unspecified Ground Workings	1904
4A	0.0	NW	435922 407864	Unspecified Ground Workings	1966
5	4.0	S	435911 407784	Unspecified Quarry	1966
6A	5.0	NW	435908 407874	Unspecified Ground Workings	1951
7A	5.0	NW	435904 407868	Unspecified Ground Workings	1904
8A	5.0	NW	435904 407868	Unspecified Ground Workings	1948
9B	5.0	W	435963 407708	Unspecified Old Quarry	1890
10A	11.0	N	435915 407872	Unspecified Quarry	1890
11C	48.0	SW	435878 407779	Unspecified Heap	1951
12C	52.0	SW	435874 407777	Unspecified Heap	1904
13C	52.0	SW	435874 407777	Unspecified Heap	1948

2.2 Historical Underground Working Features derived from Historical Mapping

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

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

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	643.0	SW	435410 407214	Colliery	1948
Not shown	796.0	SW	435647 407021	Unspecified Drift	1948
Not shown	865.0	W	434987 407892	Colliery	1890
Not shown	867.0	W	434952 407979	Colliery	1904
Not shown	900.0	S	435767 406877	Unspecified Old Shaft	1951
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1992
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1982
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1974
Not shown	905.0	S	435764 406872	Unspecified Old Shaft	1904
Not shown	905.0	S	435764 406872	Unspecified Old Shaft	1948
Not shown	907.0	E	437058 407927	Colliery	1904
Not shown	910.0	W	435003 407854	Unspecified Old Shaft	1904
Not shown	910.0	E	437056 407804	Colliery	1951
Not shown	912.0	E	437059 407862	Colliery	1948
Not shown	913.0	E	437046 407820	Unspecified Mine	1966
Not shown	960.0	E	437101 408010	Colliery	1890

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.

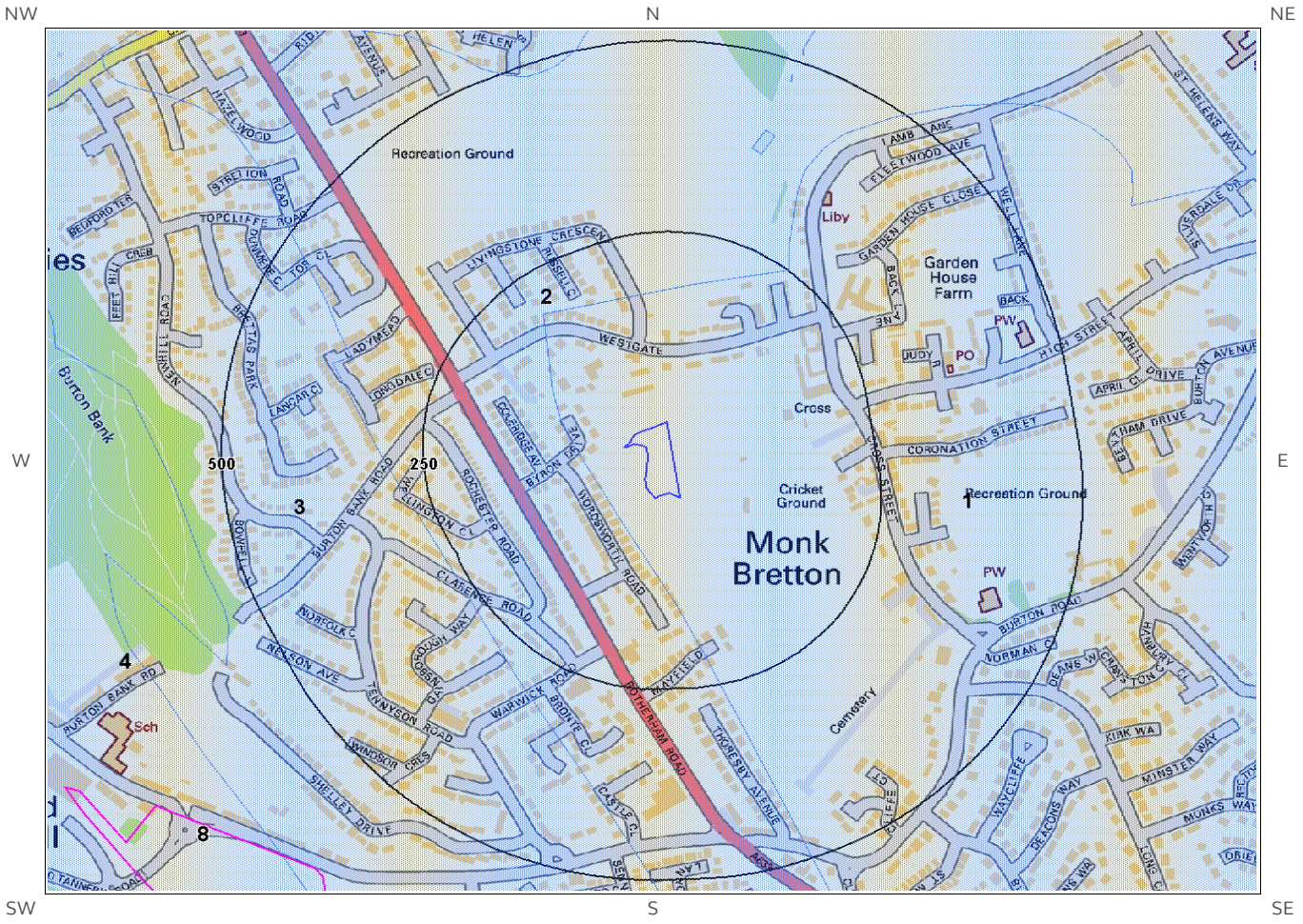
Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

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
30	20.0	W	435923 407784	Sandstone	Monk Bretton	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	458.0	S	436153 407334	Sandstone	Shep Cote Gate	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	492.0	SW	435539 407495	Sandstone	Burton Bank	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	559.0	W	435370 407711	Sandstone	Burton Bank	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	577.0	W	435340 407835	Sandstone	Burton Bank	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	588.0	SW	435589 407300	Sandstone	Old Shep Cote Gate	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	617.0	SE	436246 407201	Sandstone	Shep Gate	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	623.0	W	435296 407776	Coal, Deep	Wallsend Main Colliery	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	629.0	W	435288 407821	Coal, Deep	Wallsend Main Colliery	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	675.0	W	435242 407838	Coal, Deep	Wallsend Main Colliery	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	756.0	W	435168 407928	Coal, Deep	Wallsend Main Colliery	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	777.0	SW	435443 407176	Coal, Deep	Mottram Wood Colliery	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	818.0	W	435157 408130	Sandstone	Smithies	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

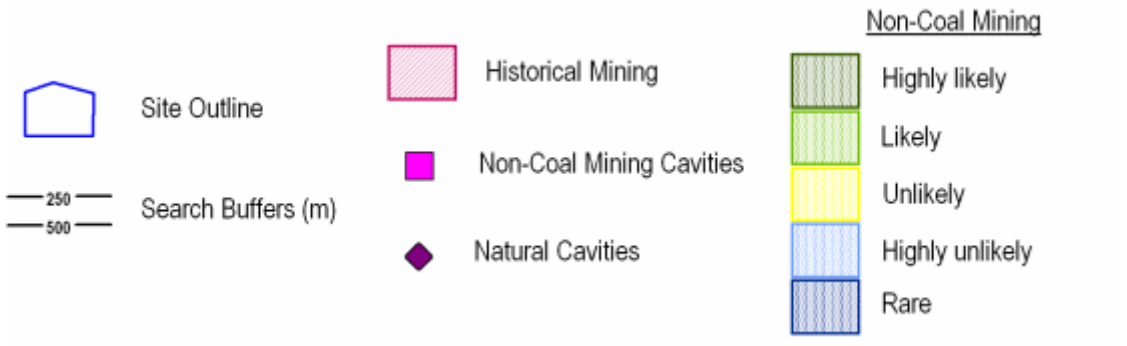
ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	818.0	NW	435370 408439	Coal, Deep	Smithy Hill PIt	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	835.0	W	435089 407937	Coal, Deep	Wallsend Main Colliery	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	843.0	W	435121 408104	Coal, Deep	Wallsend Main Colliery	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	911.0	W	435006 407856	Coal, Deep	Wallsend Main Colliery	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	925.0	W	435016 408038	Coal, Deep	Wallsend Main Colliery	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	940.0	NW	435158 408383	Sandstone	Athersley Wood	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	951.0	NW	435128 408359	Coal, Deep	Athersley Wood Pit	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	975.0	NW	435131 408405	Sandstone	Athersley Wood	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

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

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

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

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
8	643.0	SW	435410 407214	Colliery	1948
Not shown	796.0	SW	435647 407021	Unspecified Drift	1948
Not shown	865.0	W	434987 407892	Colliery	1890
Not shown	867.0	W	434952 407979	Colliery	1904
Not shown	900.0	S	435767 406877	Unspecified Old Shaft	1951
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1992
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1982
Not shown	903.0	S	435776 406870	Unspecified Disused Shaft	1974
Not shown	905.0	S	435764 406872	Unspecified Old Shaft	1948
Not shown	905.0	S	435764 406872	Unspecified Old Shaft	1904
Not shown	907.0	E	437058 407927	Colliery	1904
Not shown	910.0	W	435003 407854	Unspecified Old Shaft	1904
Not shown	910.0	E	437056 407804	Colliery	1951
Not shown	912.0	E	437059 407862	Colliery	1948
Not shown	913.0	E	437046 407820	Unspecified Mine	1966
Not shown	960.0	E	437101 408010	Colliery	1890

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? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

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	Sheffield Area	Vein Mineral/Iron ore	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
2	48.0	SW	Not available	Iron Ore (Bedded)	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
3	262.0	SW	Sheffield Area	Vein Mineral/Iron ore	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
4	540.0	SW	Not available	Iron Ore (Bedded)	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
Not shown	917.0	SW	Sheffield Area	Vein Mineral/Iron ore	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
Not shown	917.0	W	Not available	Iron Ore (Bedded)	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

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
Not shown	933.0	NE	Sheffield Area	Vein Mineral/Iron ore	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

3.5 Non-Coal Mining Cavities

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

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

Database searched and no data found.

3.6 Natural Cavities

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

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

Database searched and no data found.

3.7 Brine Extraction

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

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

Database searched and no data found.

3.8 Gypsum Extraction

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

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

Database searched and no data found.

3.9 Tin Mining

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

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

Database searched and no data found.

3.10 Clay Mining

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

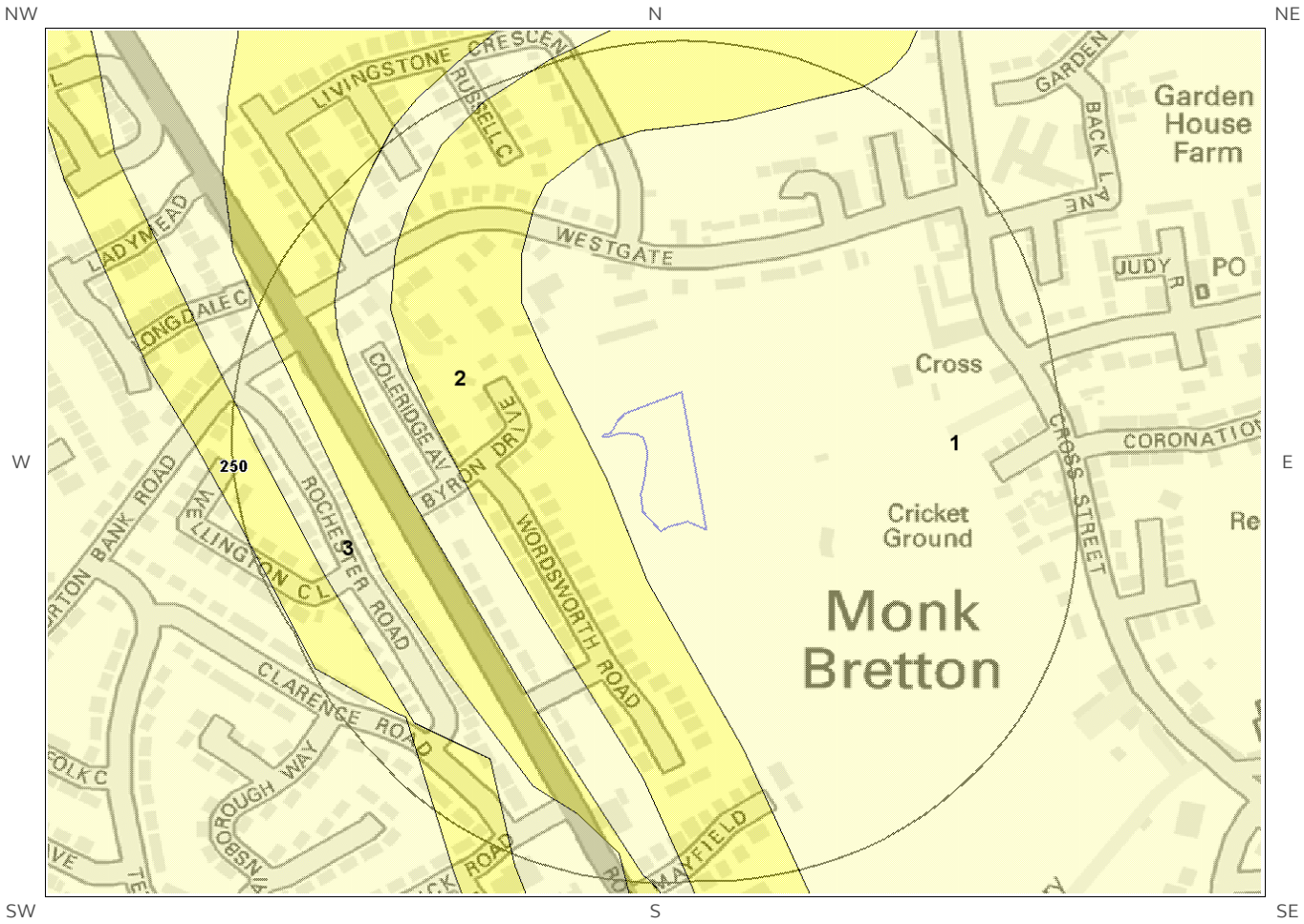
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

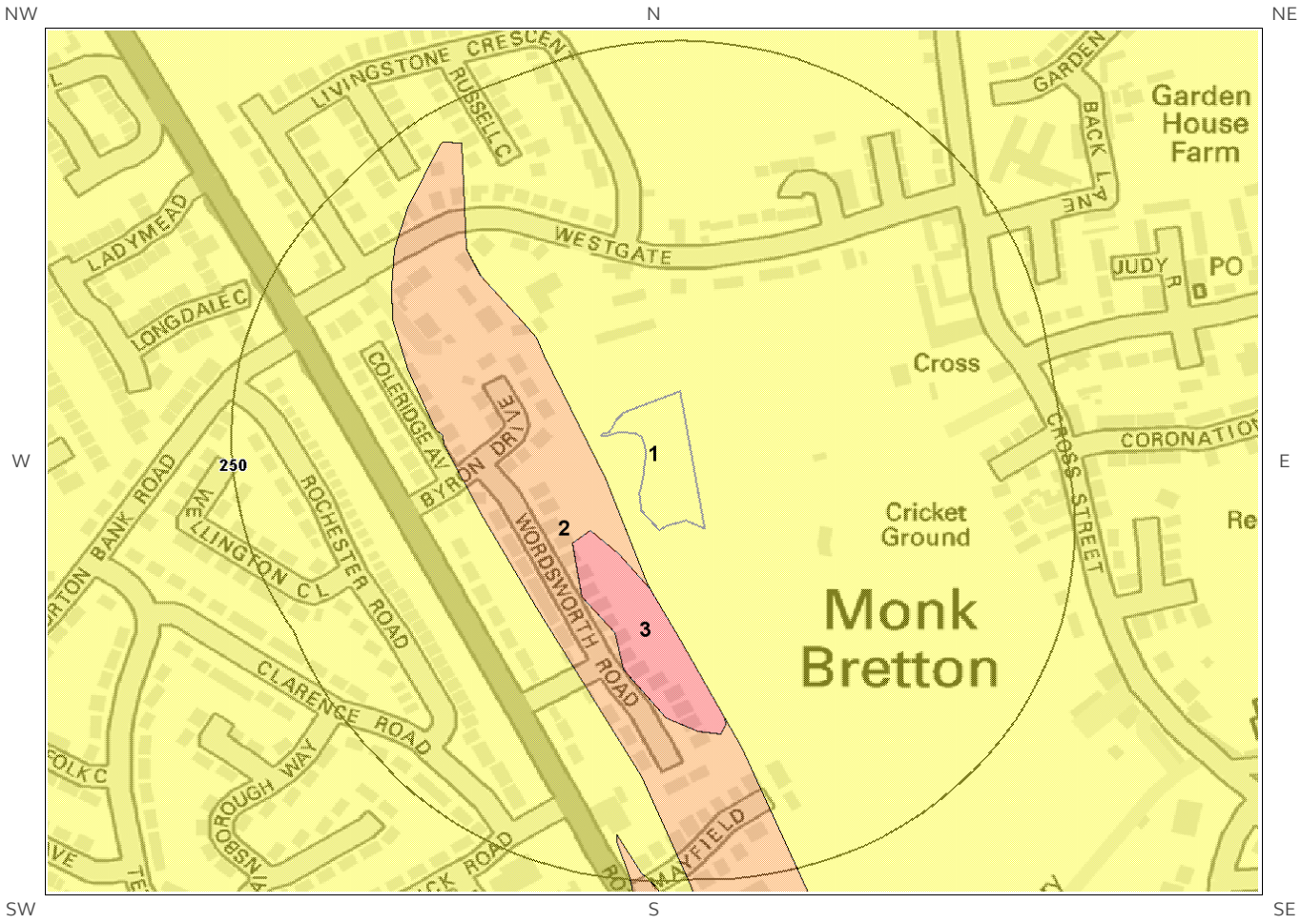


Shrink Swell Clay Legend

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4.2 Landslides Map



Landslides Legend

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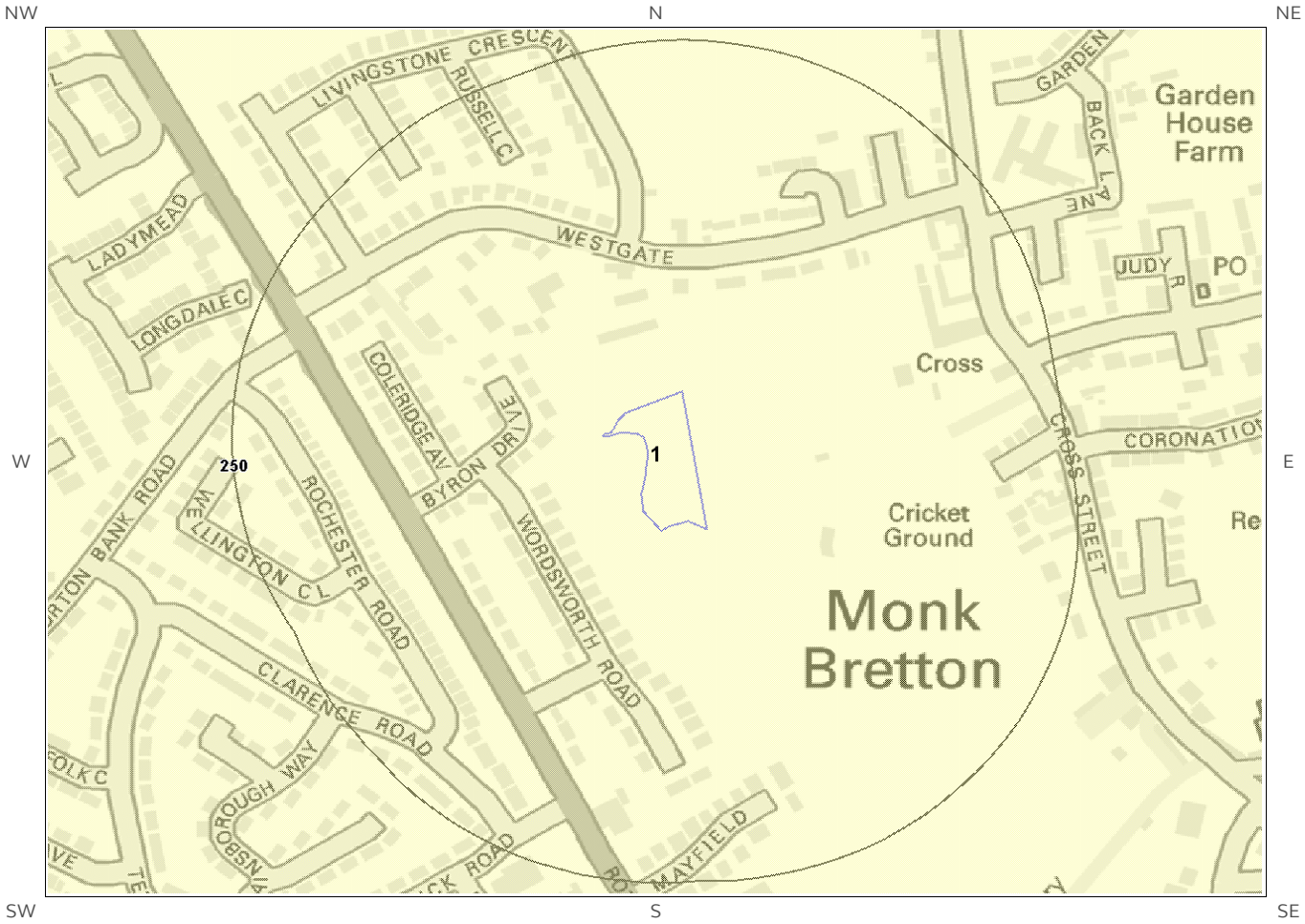
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.3 Ground Dissolution Soluble Rocks Map

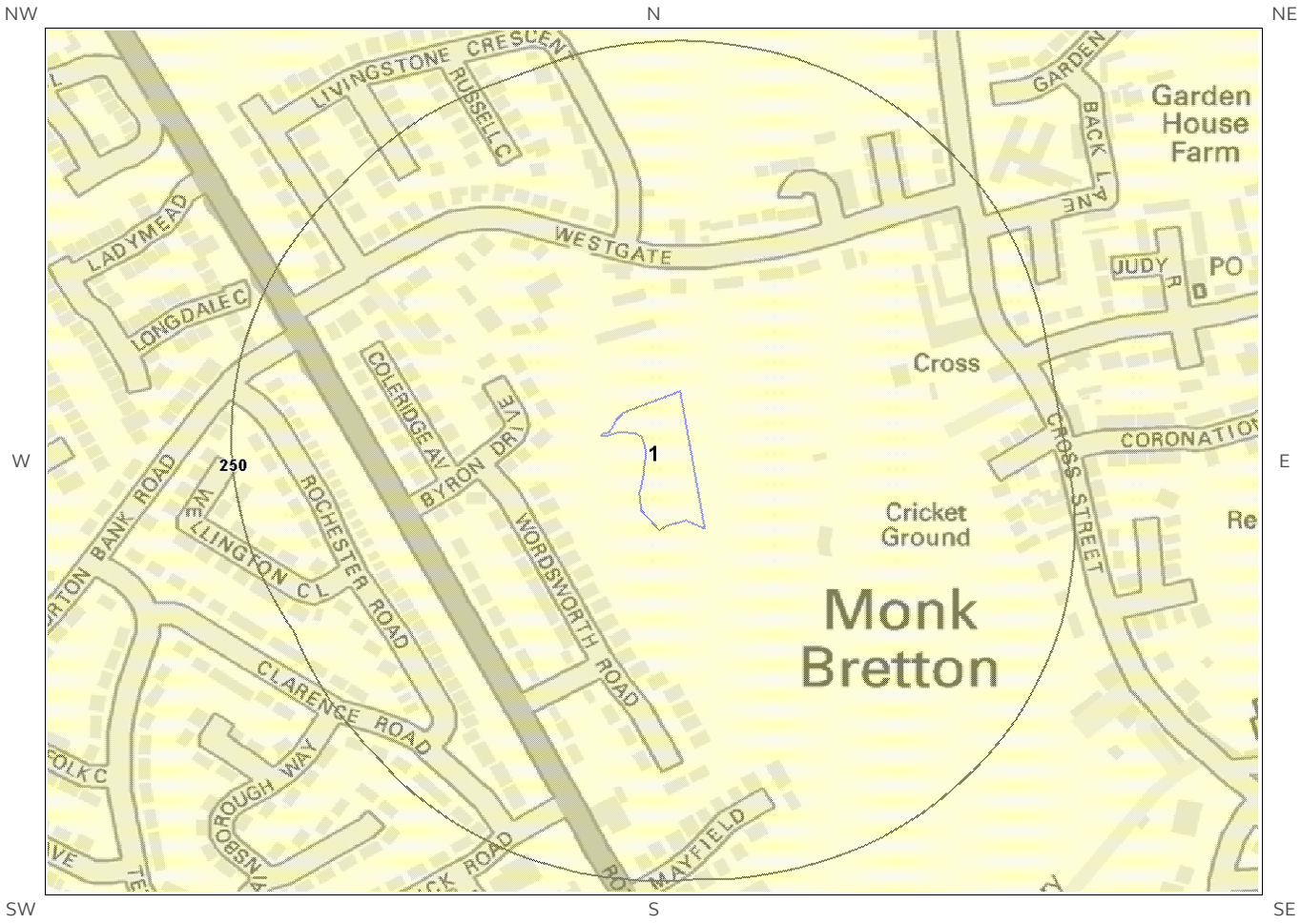


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Ground Dissolution Soluble Rocks Legend



4.4 Compressible Deposits Map

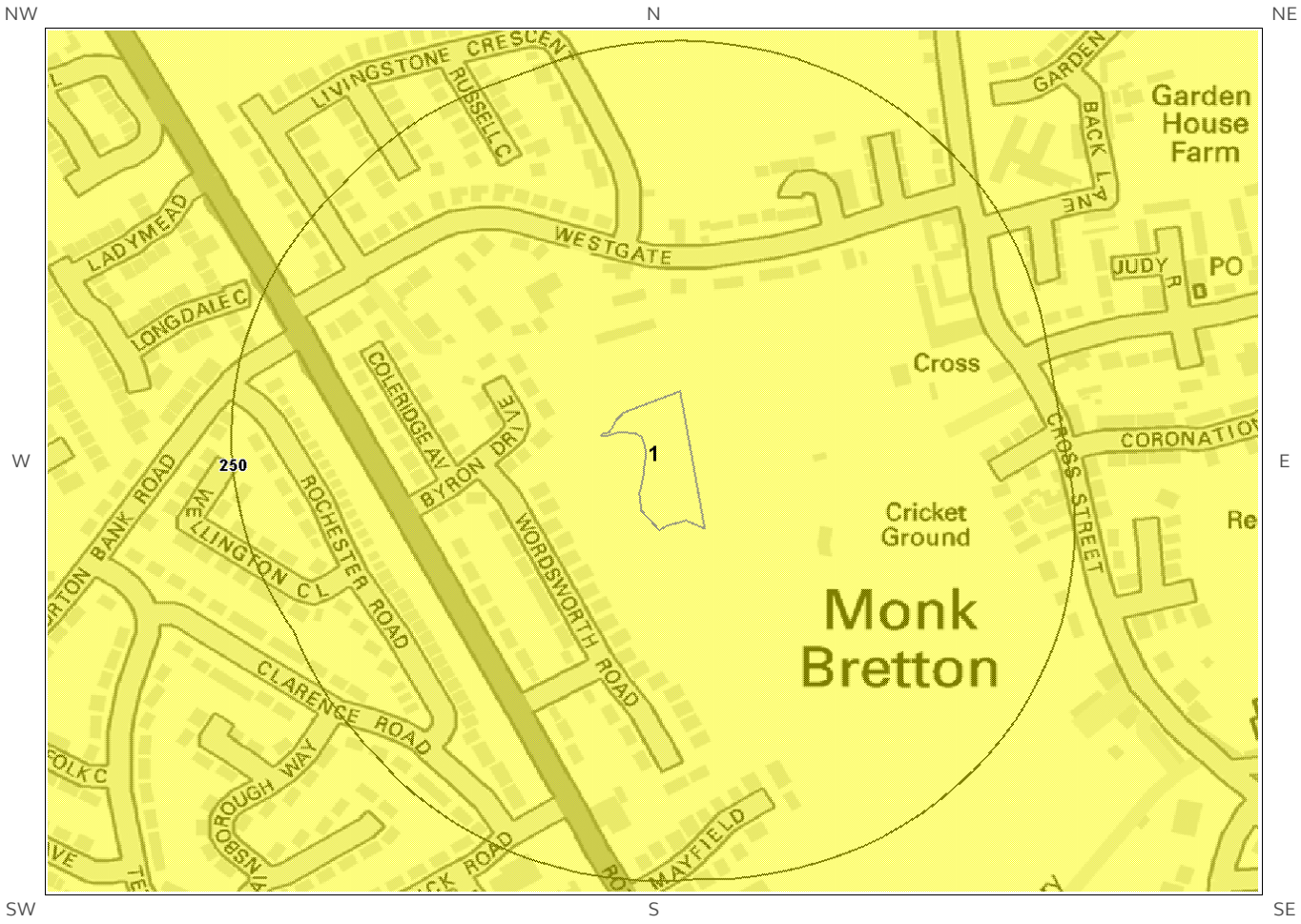


Compressible Deposits Legend

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4.5 Collapsible Deposits Map

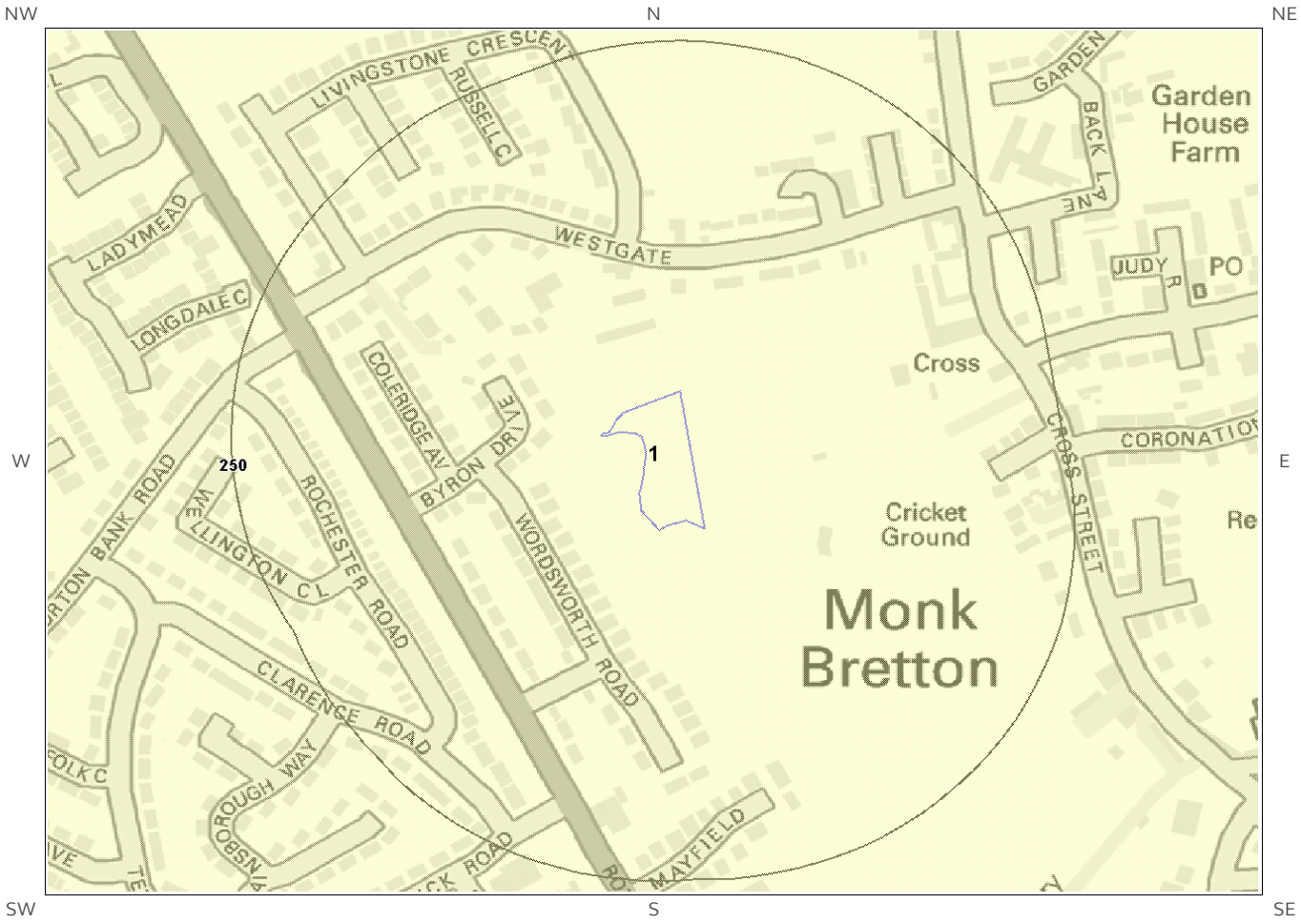


Collapsible Deposits Legend

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4.6 Running Sand Map



Running Sand Legend

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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 due to potential problems with shrink-swell clays.
2	10.0	SW	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.

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	10.0	SW	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to the ground, such as drainage or excavations, take place. Possible increase in construction cost to reduce potential slope stability problems. For existing property, no significant increase in insurance risk due to natural slope instability problems.
3	31.0	SW	Moderate	Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not cut or place material on slopes without technical advice. For new build, consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property, probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.

* 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.

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	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

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

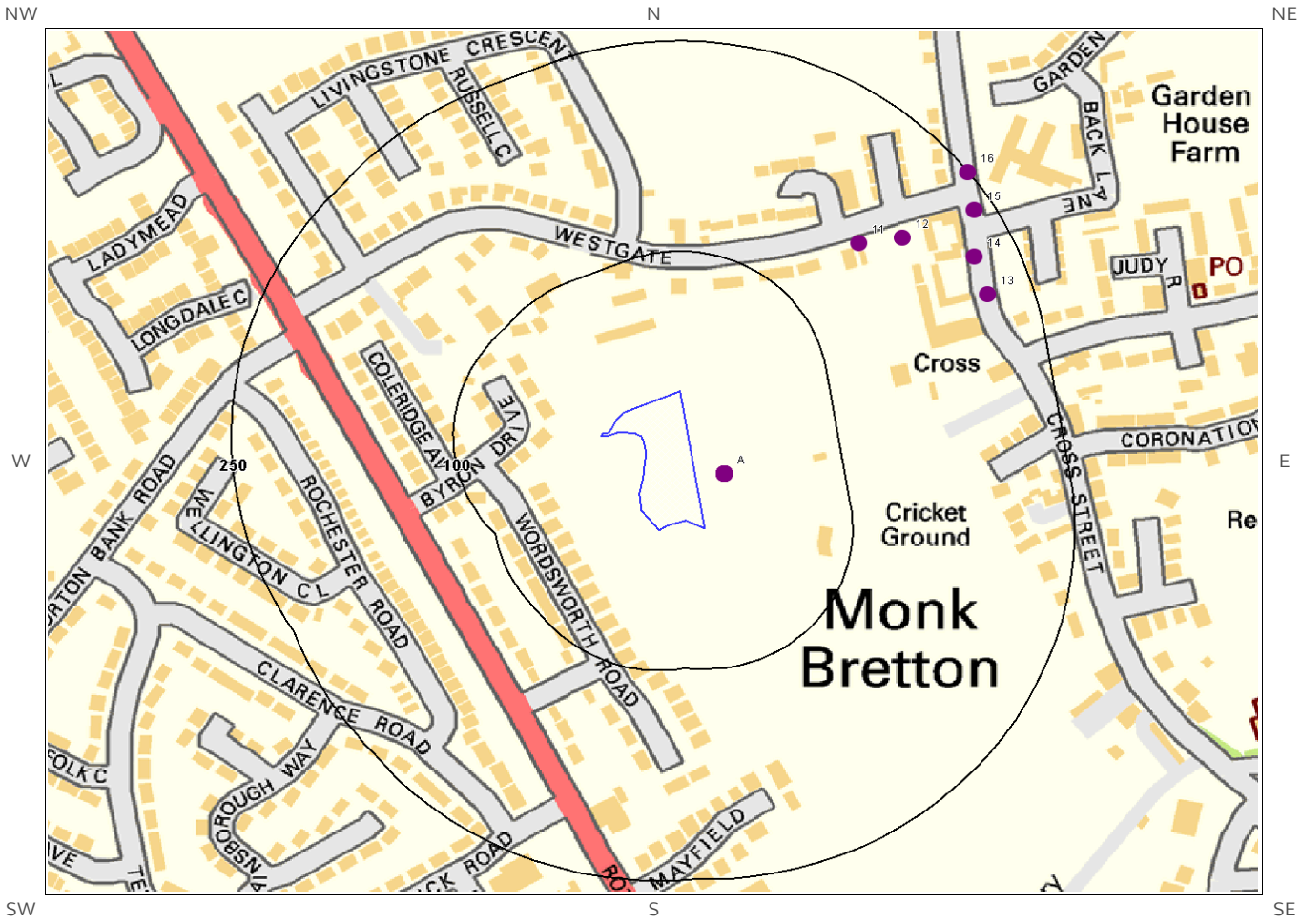
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 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	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 Map



Borehole Records Legend

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Site Outline

Borehole Locations

125
250
Search Buffers (m)

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: 16

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1A	19.0	E	436000 407800	SE30NE69/H	35.0	MONK BRETTON C2
2A	19.0	E	436000 407800	SE30NE69/D	49.2	MONK BRETTON E2
3A	19.0	E	436000 407800	SE30NE69/I	50.0	MONK BRETTON C3.5
4A	19.0	E	436000 407800	SE30NE69/A	35.0	MONK BRETTON A2
5A	19.0	E	436000 407800	SE30NE69/E	35.0	MONK BRETTON E5
6A	19.0	E	436000 407800	SE30NE69/J	50.0	MONK BRETTON D5
7A	19.0	E	436000 407800	SE30NE69/F	50.0	MONK BRETTON B2
8A	19.0	E	436000 407800	SE30NE69/C	49.0	MONK BRETTON A5
9A	19.0	E	436000 407800	SE30NE69/G	45.2	MONK BRETTON C1
10A	19.0	E	436000 407800	SE30NE69/B	44.8	MONK BRETTON A3
11	160.0	NE	436091 407964	SE30NE58/H	0.9	CROSS STREET / WESTGATE TP 8
12	185.0	NE	436120 407968	SE30NE58/G	0.97	CROSS STREET / WESTGATE TP 7
13	219.0	E	436178 407928	SE30NE58/F	2.3	CROSS STREET / WESTGATE TP 6
14	221.0	NE	436169 407955	SE30NE58/E	2.65	CROSS STREET / WESTGATE TP 5
15	237.0	NE	436169 407988	SE30NE58/D	2.35	CROSS STREET / WESTGATE 4
16	249.0	NE	436164 408015	SE30NE58/C	2.3	CROSS STREET / WESTGATE 3

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1A: scans.bgs.ac.uk/sobi_scans/boreholes/83583
#2A: scans.bgs.ac.uk/sobi_scans/boreholes/83579
#3A: scans.bgs.ac.uk/sobi_scans/boreholes/83584
#4A: scans.bgs.ac.uk/sobi_scans/boreholes/83576
#5A: scans.bgs.ac.uk/sobi_scans/boreholes/83580
#6A: scans.bgs.ac.uk/sobi_scans/boreholes/83585

#7A: scans.bgs.ac.uk/sobi_scans/boreholes/83581
#8A: scans.bgs.ac.uk/sobi_scans/boreholes/83578
#9A: scans.bgs.ac.uk/sobi_scans/boreholes/83582
#10A: scans.bgs.ac.uk/sobi_scans/boreholes/83577
#11: scans.bgs.ac.uk/sobi_scans/boreholes/83562
#12: scans.bgs.ac.uk/sobi_scans/boreholes/83561
#13: scans.bgs.ac.uk/sobi_scans/boreholes/83560
#14: scans.bgs.ac.uk/sobi_scans/boreholes/83559
#15: scans.bgs.ac.uk/sobi_scans/boreholes/83558
#16: scans.bgs.ac.uk/sobi_scans/boreholes/83557

6 Estimated Background Soil Chemistry

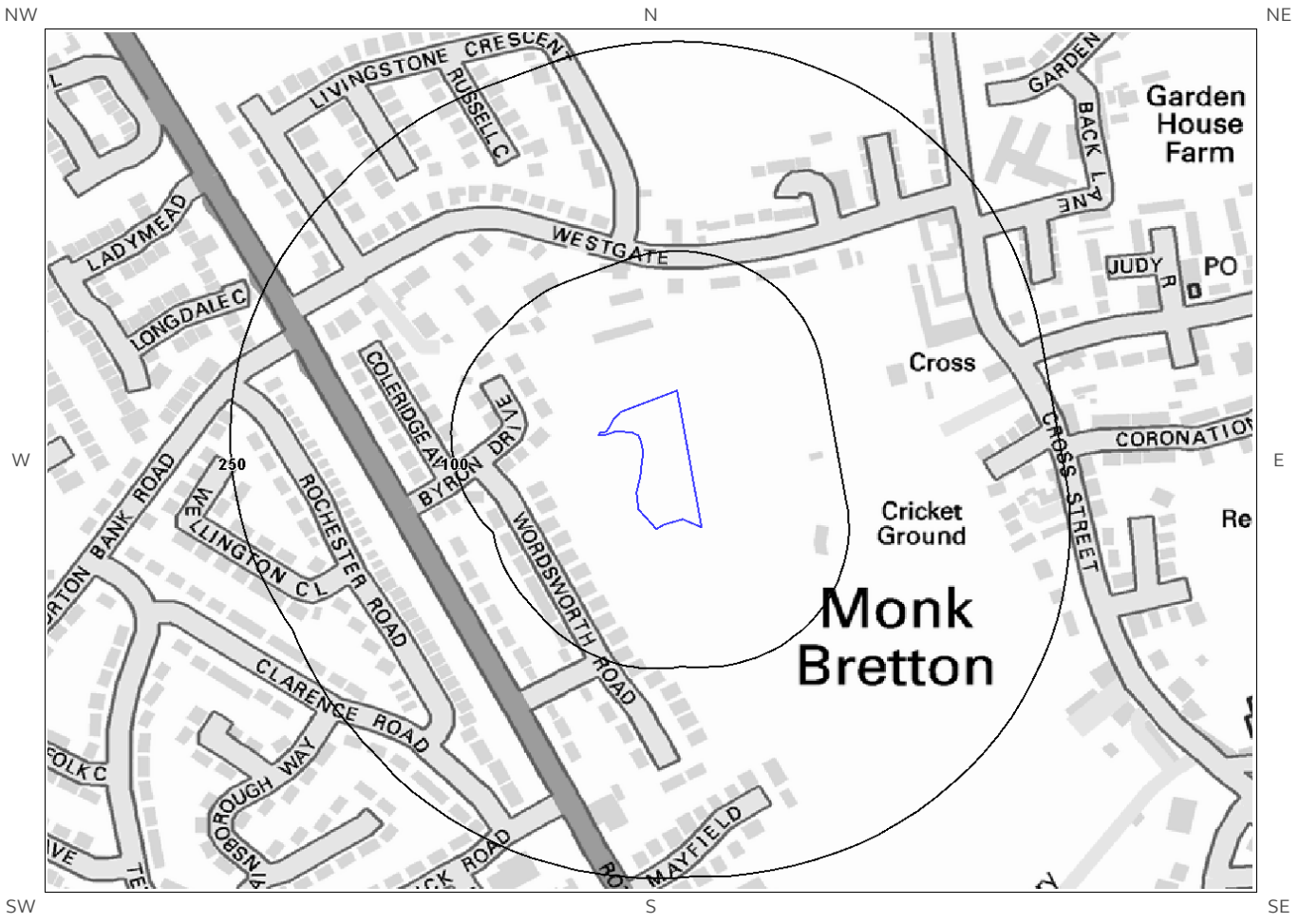
Records of background estimated soil chemistry within 250m of the study site boundary: 19

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

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
13.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
13.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
48.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
141.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
141.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
144.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
144.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
144.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
144.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
171.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
174.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
174.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
183.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
183.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
194.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
194.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
198.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
198.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	100 - 200 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

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- Site Outline
- Search Buffers (m) — 250 / 500
- Underground or Partially Underground Railway / Subway System
- Railway Tunnel (OS Mapping)
- Abandoned or Dismantled Railway (OpenStreetMap)
- Railway Track (OS Mapping)
- Railway Track (OpenStreetMap)
- High Speed 2
- High Speed 2 Revised Proposed Route
- Crossrail 1
- Railway and/or Tunnel Feature 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? No

Have any historical railway or tunnel features 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.

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?	No
Have any active 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.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project?	Yes
Is the study site within 5km of the proposed alternative route of the High Speed 2 rail project?	No
Is the study site within 500m of the route of the Crossrail 1 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 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

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

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The Coal Authority

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DX 716176 Mansfield 5
www.coal.gov.uk

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Report Date	15 Nov 2016
Report Delivery Method:	Email - pdf

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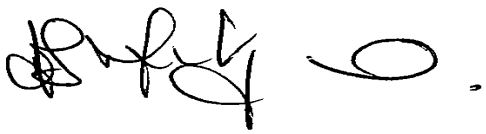
Address: LAND AT MONK BRETTON, CROSS STREET, MONK BRETTON, BARNSLEY, S71 2DJ

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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 Enviroinsight