Groundsure LOCATION INTELLIGENCE

Geo Insight

, WENTWORTH ROAD, MAPPLEWELL, BARNSLEY, S75 6DU

Order Details

Date: 19/06/2022

Your ref: Hill_End_Farm_Mapplewell

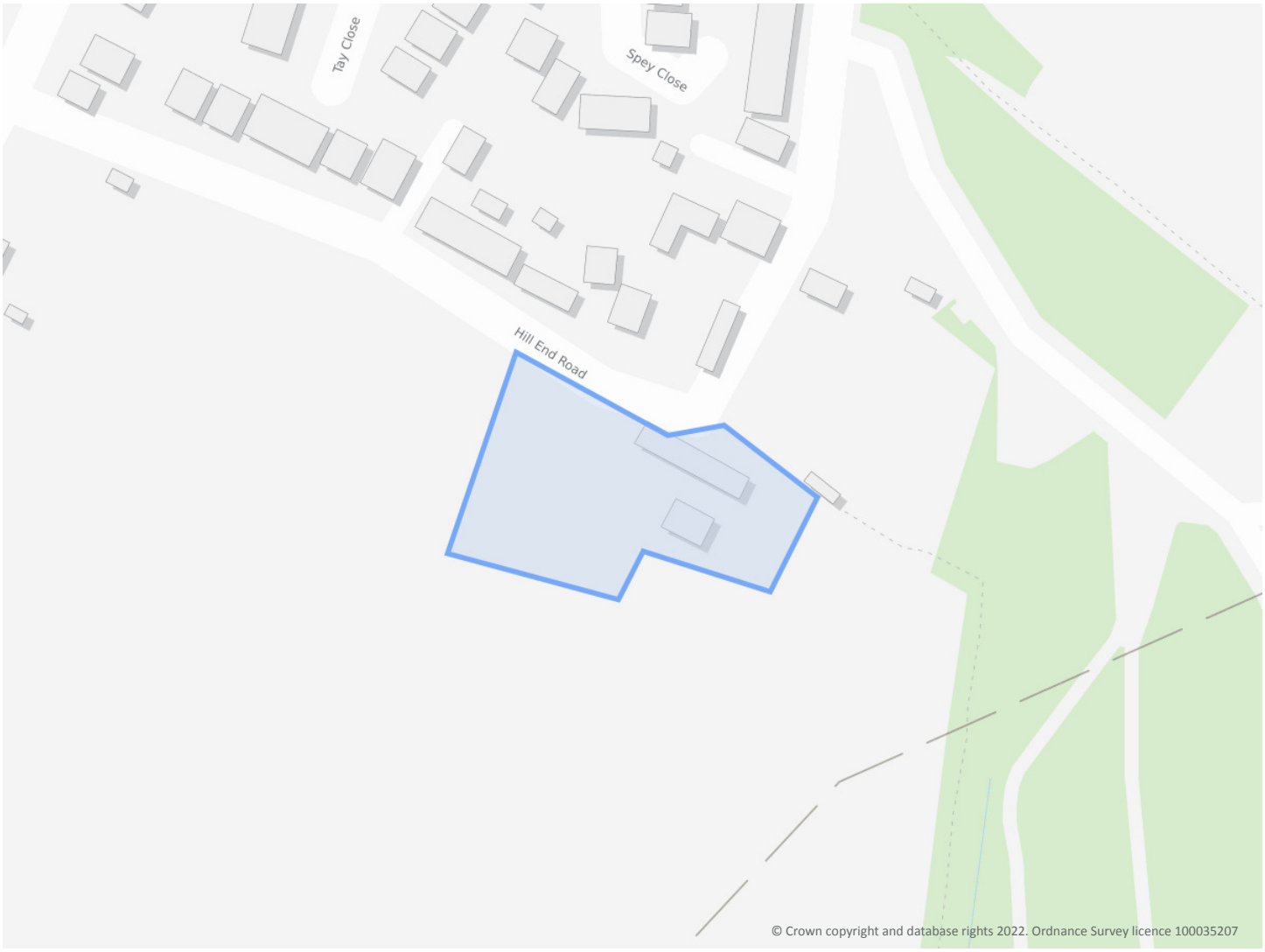
Our Ref: GS-8835727

Site Details

Location: 433346 409275

Area: 0.46 ha

Authority: Barnsley Metropolitan Borough Council



Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
11	1.1	10k Availability	Identified (within 500m)				
12	1.2	Artificial and made ground (10k)	1	1	9	5	-
14	1.3	Superficial geology (10k)	0	0	0	2	-
15	1.4	Landslip (10k)	0	0	0	0	-
16	1.5	Bedrock geology (10k)	1	2	12	17	-
18	1.6	Bedrock faults and other linear features (10k)	1	6	31	39	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
22	2.1	50k Availability	Identified (within 500m)				
23	2.2	Artificial and made ground (50k)	0	1	7	2	-
24	2.3	Artificial ground permeability (50k)	0	1	-	-	-
25	2.4	Superficial geology (50k)	0	0	0	2	-
26	2.5	Superficial permeability (50k)	None (within 50m)				
26	2.6	Landslip (50k)	0	0	0	0	-
26	2.7	Landslip permeability (50k)	None (within 50m)				
27	2.8	Bedrock geology (50k)	1	2	6	8	-
28	2.9	Bedrock permeability (50k)	Identified (within 50m)				
29	2.10	Bedrock faults and other linear features (50k)	0	3	20	18	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
31	3.1	BGS Boreholes	0	0	1	-	-
Page	Section	Natural ground subsidence					
32	4.1	Shrink swell clays	Very low (within 50m)				
33	4.2	Running sands	Very low (within 50m)				
35	4.3	Compressible deposits	Very low (within 50m)				
37	4.4	Collapsible deposits	Very low (within 50m)				
38	4.5	Landslides	Low (within 50m)				
40	4.6	Ground dissolution of soluble rocks	Negligible (within 50m)				

Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
41	5.1	Natural cavities	0	0	0	0	-
42	**5.2**	**BritPits**	0	2	9	12	-
46	**5.3**	**Surface ground workings**	0	8	34	-	-
48	**5.4**	**Underground workings**	0	1	7	5	10
49	5.5	Historical Mineral Planning Areas	0	0	0	0	-
49	**5.6**	**Non-coal mining**	1	0	1	0	3
50	5.7	Mining cavities	0	0	0	0	0
50	5.8	JPB mining areas	None (within 0m)				
50	**5.9**	**Coal mining**	Identified (within 0m)				
51	5.10	Brine areas	None (within 0m)				
51	5.11	Gypsum areas	None (within 0m)				
51	5.12	Tin mining	None (within 0m)				
51	5.13	Clay mining	None (within 0m)				

Page	Section	Radon	
52	**6.1**	**Radon**	Between 1% and 3% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
53	**7.1**	**BGS Estimated Background Soil Chemistry**	2	1	-	-	-
53	7.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
53	7.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
54	8.1	Underground railways (London)	0	0	0	-	-
54	8.2	Underground railways (Non-London)	0	0	0	-	-
54	8.3	Railway tunnels	0	0	0	-	-
54	8.4	Historical railway and tunnel features	0	0	0	-	-
54	8.5	Royal Mail tunnels	0	0	0	-	-
55	8.6	Historical railways	0	0	0	-	-
55	8.7	Railways	0	0	0	-	-
55	8.8	Crossrail 1	0	0	0	0	-

55	8.9	Crossrail 2	0	0	0	0	-
55	8.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 19/04/2021

Site Area: 0.46ha

Recent site history - 2018 aerial photograph

Capture Date: 01/07/2018

Site Area: 0.46ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

Site Area: 0.46ha

Recent site history - 2009 aerial photograph

Capture Date: 11/09/2009

Site Area: 0.46ha

Recent site history - 1999 aerial photograph

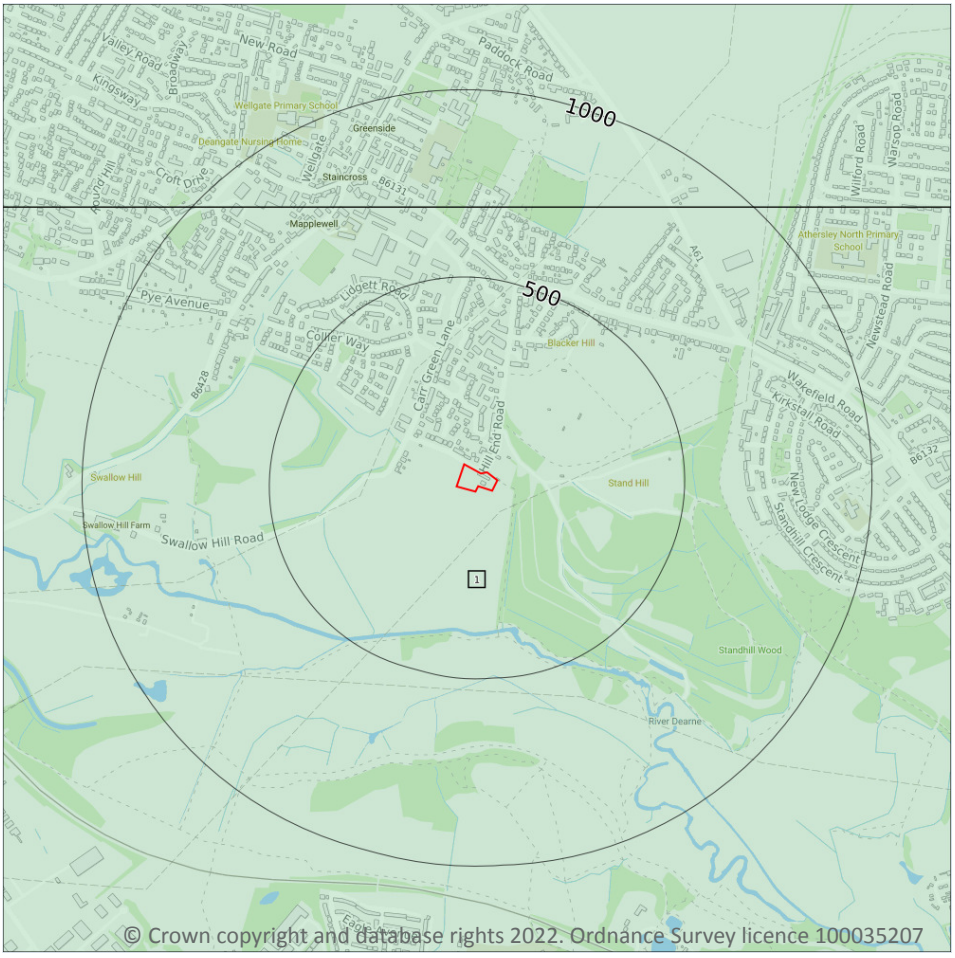
Capture Date: 10/07/1999

Site Area: 0.46ha

OS MasterMap site plan

Site Area: 0.46ha

1 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

1.1 10k Availability

Records within 500m	1

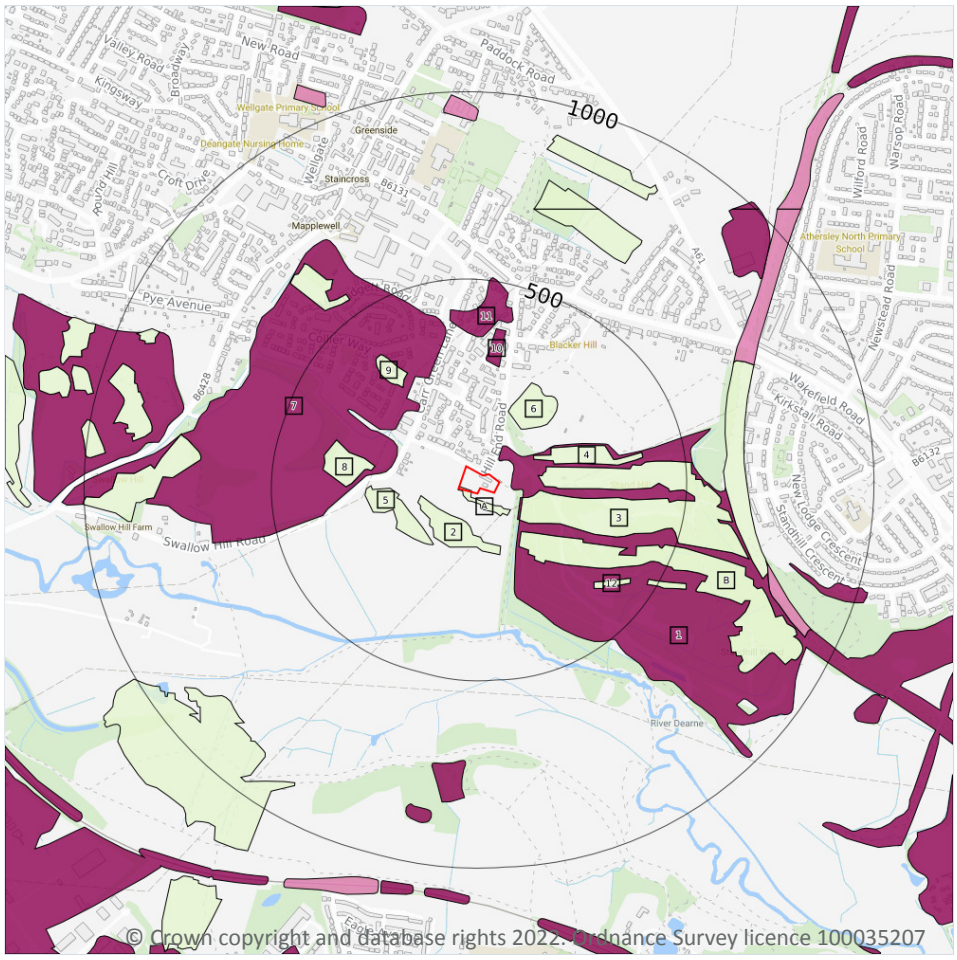
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 11**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE30NW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



1.2 Artificial and made ground (10k)

Records within 500m	16

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

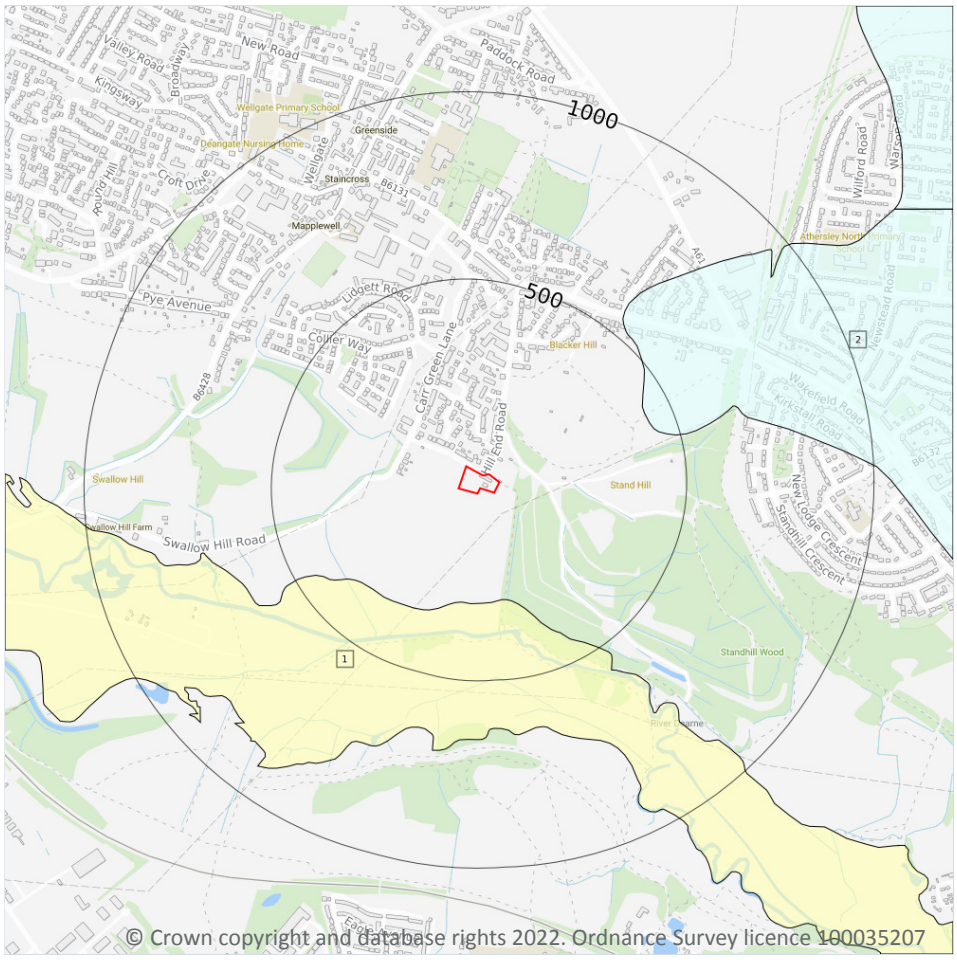
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 12**

ID	Location	LEX Code	Description	Rock description
A	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial Deposit**
1	32m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	69m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	73m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
3	74m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	111m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	126m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5	140m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	148m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
7	184m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	231m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
9	270m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
10	279m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
11	347m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12	358m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	473m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



1.3 Superficial geology (10k)

Records within 500m	2

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 14**

ID	Location	LEX Code	Description	Rock description
1	286m S	ALV-XCZ	Alluvium - Clay And Silt	Clay And Silt
2	429m NE	TILMP-DMTN	Till, Mid Pleistocene - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

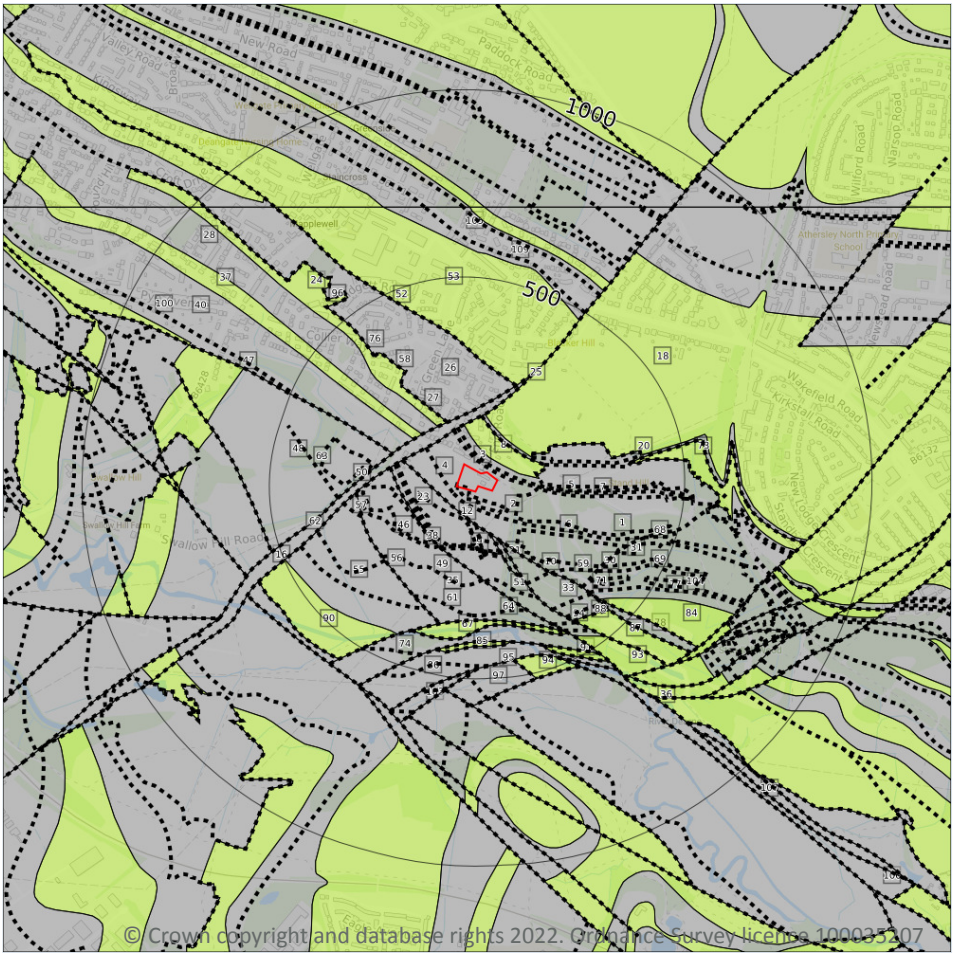
1.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

1.5 Bedrock geology (10k)

Records within 500m	32

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 16**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PMCM-MDSS**	**Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone**	**Bolsovian Sub-age - Duckmantian Sub-age**
8	37m NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
9	47m SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
16	90m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
18	101m NE	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian Sub-age
21	115m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
24	121m NW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
26	121m N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
28	123m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
33	134m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
35	135m SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
37	138m NW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
40	151m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
48	190m W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
53	245m N	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
55	264m W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
67	344m S	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
73	359m E	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
74	359m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
78	386m SE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
83	401m S	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
84	405m SE	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
86	406m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
87	410m SE	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
90	423m SW	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
91	435m S	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
93	441m SE	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
94	451m S	KNR-SDST	Kent's Rock - Sandstone	Duckmantian Sub-age
97	455m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
103	472m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
105	475m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
106	478m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

1.6 Bedrock faults and other linear features (10k)

Records within 500m **77**

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 16**

ID	Location	Category	Description
2	**On site**	**ROCK**	**Coal seam, observed**
3	11m NE	ROCK	Coal seam, inferred
4	18m SW	ROCK	Coal seam, inferred
5	20m NE	FOSSIL_HORIZON	Fossil horizon, marine band
6	21m SW	ROCK	Coal seam, observed
7	33m E	ROCK	Coal seam, observed
10	47m SW	FAULT	Normal fault, inferred

ID	Location	Category	Description
11	69m SE	ROCK	Coal seam, observed
12	73m SW	ROCK	Coal seam, observed
13	76m S	FAULT	Normal fault, inferred
14	89m S	FAULT	Normal fault, inferred
15	90m NW	FAULT	Normal fault, inferred
17	91m NE	ROCK	Coal seam, observed
19	105m E	ROCK	Coal seam, observed
20	111m NE	ROCK	Coal seam, observed
22	115m S	FAULT	Normal fault, inferred
23	120m SW	FOSSIL_HORIZON	Fossil horizon, marine band
25	121m NW	FAULT	Normal fault, inferred
27	121m N	ROCK	Coal seam, inferred
29	126m SW	ROCK	Coal seam, inferred
30	126m SE	ROCK	Coal seam, observed
31	126m SE	ROCK	Coal seam, observed
32	132m E	ROCK	Coal seam, observed
34	134m S	FAULT	Normal fault, inferred
36	135m SW	FAULT	Normal fault, inferred
38	140m SW	ROCK	Coal seam, observed
39	147m S	FOSSIL_HORIZON	Fossil horizon, marine band
41	153m S	ROCK	Coal seam, observed
42	153m S	FOSSIL_HORIZON	Fossil horizon, marine band
43	159m S	ROCK	Coal seam, observed
44	160m S	FOSSIL_HORIZON	Fossil horizon, marine band
45	165m S	ROCK	Coal seam, observed
46	166m S	ROCK	Coal seam, observed
47	190m W	FAULT	Normal fault, inferred
49	228m S	ROCK	Coal seam, observed

ID	Location	Category	Description
50	231m W	ROCK	Coal seam, observed
51	237m S	ROCK	Coal seam, inferred
52	245m N	ROCK	Coal seam, inferred
54	264m SE	ROCK	Coal seam, inferred
56	264m W	FAULT	Normal fault, inferred
57	266m W	ROCK	Coal seam, observed
58	270m NW	ROCK	Coal seam, observed
59	270m SE	ROCK	Coal seam, observed
60	275m SW	ROCK	Coal seam, observed
61	306m S	ROCK	Coal seam, observed
62	318m W	FAULT	Normal fault, inferred
63	318m W	FAULT	Normal fault, inferred
64	322m S	ROCK	Coal seam, inferred
65	337m S	ROCK	Coal seam, observed
66	344m S	FAULT	Normal fault, inferred
68	351m SE	FAULT	Normal fault, observed
69	352m SE	ROCK	Coal seam, observed
70	356m SE	ROCK	Coal seam, inferred
71	358m SE	ROCK	Coal seam, observed
72	359m E	ROCK	Coal seam, inferred
75	359m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary
76	375m NW	ROCK	Coal seam, inferred
77	376m SE	ROCK	Coal seam, observed
79	386m SE	FAULT	Normal fault, inferred
80	391m SE	ROCK	Coal seam, inferred
81	392m SE	ROCK	Coal seam, inferred
82	401m S	FAULT	Normal fault, inferred
85	406m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary

ID	Location	Category	Description
88	410m SE	ROCK	Coal seam, inferred coincident with bedrock geology boundary
89	419m SE	ROCK	Coal seam, inferred
92	435m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary
95	451m S	FAULT	Normal fault, inferred
96	452m NW	ROCK	Coal seam, observed
98	455m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary
99	458m S	ROCK	Coal seam, inferred
100	463m W	ROCK	Coal seam, inferred
101	465m S	ROCK	Coal seam, inferred
102	472m S	FAULT	Normal fault, inferred
104	473m SE	ROCK	Coal seam, observed
107	478m S	FAULT	Normal fault, inferred
108	490m S	ROCK	Coal seam, inferred
109	500m NE	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.

2 Geology 1:50,000 scale - Availability

Site Outline

Search buffers in metres (m)

Geological map tile

2.1 50k Availability

Records within 500m	1

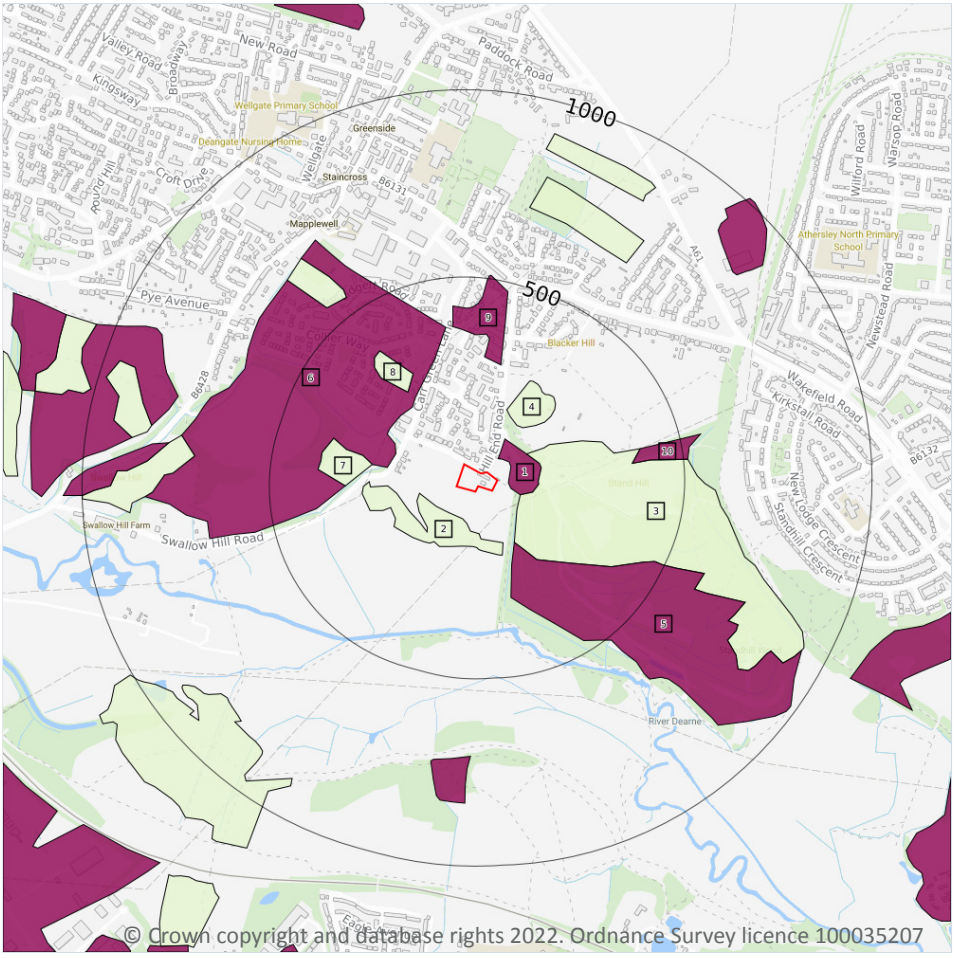
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 22**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW087_barnsley_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



2.2 Artificial and made ground (50k)

Records within 500m	10

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 23**

ID	Location	LEX Code	Description	Rock description
1	30m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	72m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	72m SE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	148m NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

ID	Location	LEX Code	Description	Rock description
5	150m SE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
6	182m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
7	233m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
8	244m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
9	283m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
10	363m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

2.3 Artificial ground permeability (50k)

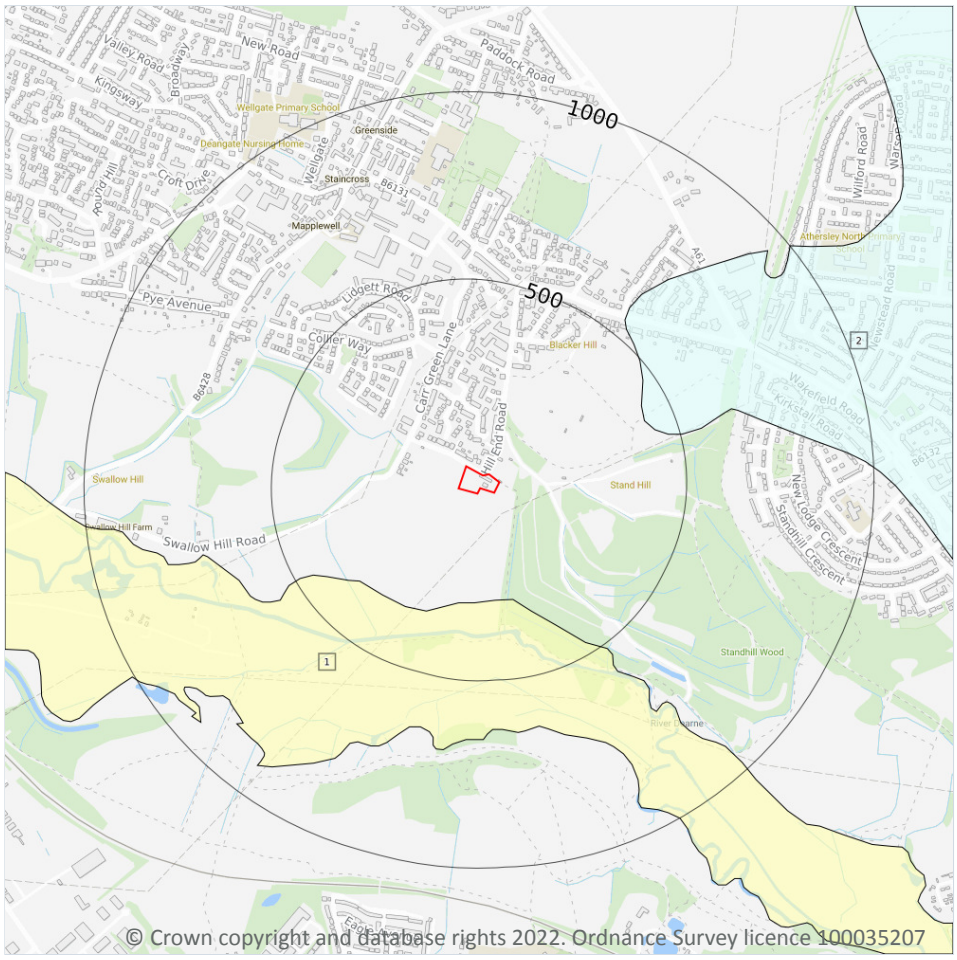
Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
30m E	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



2.4 Superficial geology (50k)

Records within 500m	2

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 25**

ID	Location	LEX Code	Description	Rock description
1	287m S	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	421m NE	TILMP-DMTN	TILL, MID PLEISTOCENE	DIAMICTON

This data is sourced from the British Geological Survey.

2.5 Superficial permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

2.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

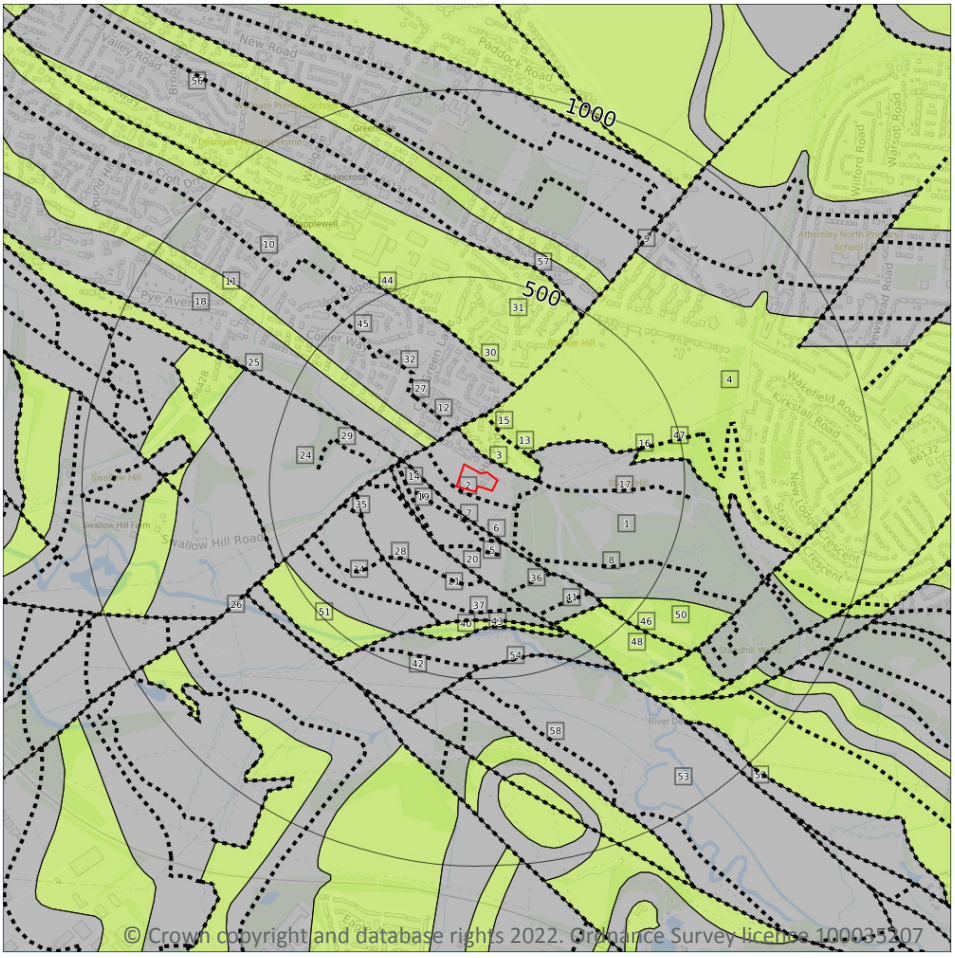
2.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

2.8 Bedrock geology (50k)

Records within 500m **17**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 27**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PMCM-MDSS**	**PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
4	34m NE	WE-SDST	WOOLLEY EDGE ROCK - SANDSTONE	WESTPHALIAN
5	47m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
10	90m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	93m NW	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
18	110m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	135m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	161m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
31	239m N	KNR-SDST	KENT'S ROCK - SANDSTONE	WESTPHALIAN
34	264m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
40	344m S	KNR-SDST	KENT'S ROCK - SANDSTONE	WESTPHALIAN
42	363m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
48	392m SE	KNR-SDST	KENT'S ROCK - SANDSTONE	WESTPHALIAN
50	398m SE	KNR-SDST	KENT'S ROCK - SANDSTONE	WESTPHALIAN
51	425m S	KNR-SDST	KENT'S ROCK - SANDSTONE	WESTPHALIAN
53	451m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
56	487m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

2.9 Bedrock permeability (50k)

Records within 50m **2**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**
34m E	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

2.10 Bedrock faults and other linear features (50k)

Records within 500m	41

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 27**

ID	Location	Category	Description
2	5m SW	ROCK	Coal seam, inferred
3	34m NE	ROCK	Coal seam, inferred
6	47m SW	FAULT	Fault, inferred
7	72m SW	ROCK	Coal seam, inferred
8	72m SE	ROCK	Coal seam, inferred
9	90m NW	FAULT	Fault, inferred
12	95m N	ROCK	Coal seam, inferred
13	100m NE	ROCK	Coal seam, inferred
14	101m W	ROCK	Coal seam, inferred
15	101m NE	ROCK	Coal seam, inferred
16	105m NE	ROCK	Coal seam, inferred
17	109m E	FOSSIL_HORIZON	Marine band
19	119m SW	FOSSIL_HORIZON	Marine band
20	135m SW	FAULT	Fault, inferred
22	137m SW	ROCK	Coal seam, inferred
23	147m S	FOSSIL_HORIZON	Marine band
25	161m W	FAULT	Fault, inferred, displacement unknown
26	161m W	FAULT	Fault, inferred
27	221m NW	ROCK	Coal seam, inferred
28	230m S	ROCK	Coal seam, inferred
29	233m W	ROCK	Coal seam, inferred

ID	Location	Category	Description
30	239m N	ROCK	Coal seam, inferred
32	244m NW	ROCK	Coal seam, inferred
33	264m W	FAULT	Fault, inferred
35	265m W	ROCK	Coal seam, inferred
36	266m SE	ROCK	Coal seam, inferred
37	310m S	ROCK	Coal seam, inferred
38	338m S	ROCK	Coal seam, inferred
39	344m S	FAULT	Fault, inferred
41	352m SE	ROCK	Coal seam, inferred
43	363m S	ROCK	Coal seam, inferred
44	369m N	ROCK	Coal seam, inferred
45	372m NW	ROCK	Coal seam, inferred
46	376m SE	FAULT	Fault, inferred
47	390m E	ROCK	Coal seam, inferred
49	392m SE	ROCK	Coal seam, inferred
52	430m SE	FAULT	Fault, inferred
54	451m S	FAULT	Fault, inferred
55	460m S	ROCK	Coal seam, inferred
57	487m NE	ROCK	Coal seam, inferred
58	491m S	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.

3 Boreholes

Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

3.1 BGS Boreholes

Records within 250m	1

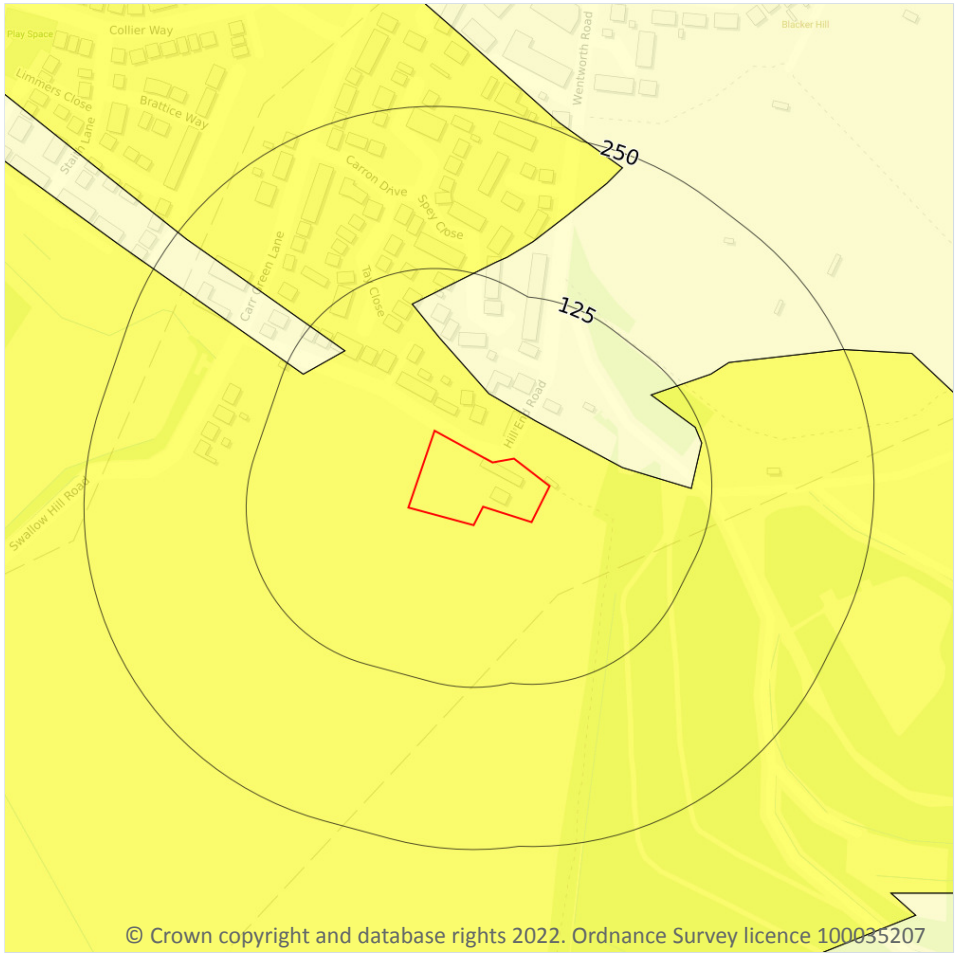
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 31**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	107m E	433519 409257	NEW LODGE 2 SURFACE BH	433.0	N	83913

This data is sourced from the British Geological Survey.

4 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.1 Shrink swell clays

Records within 50m	2

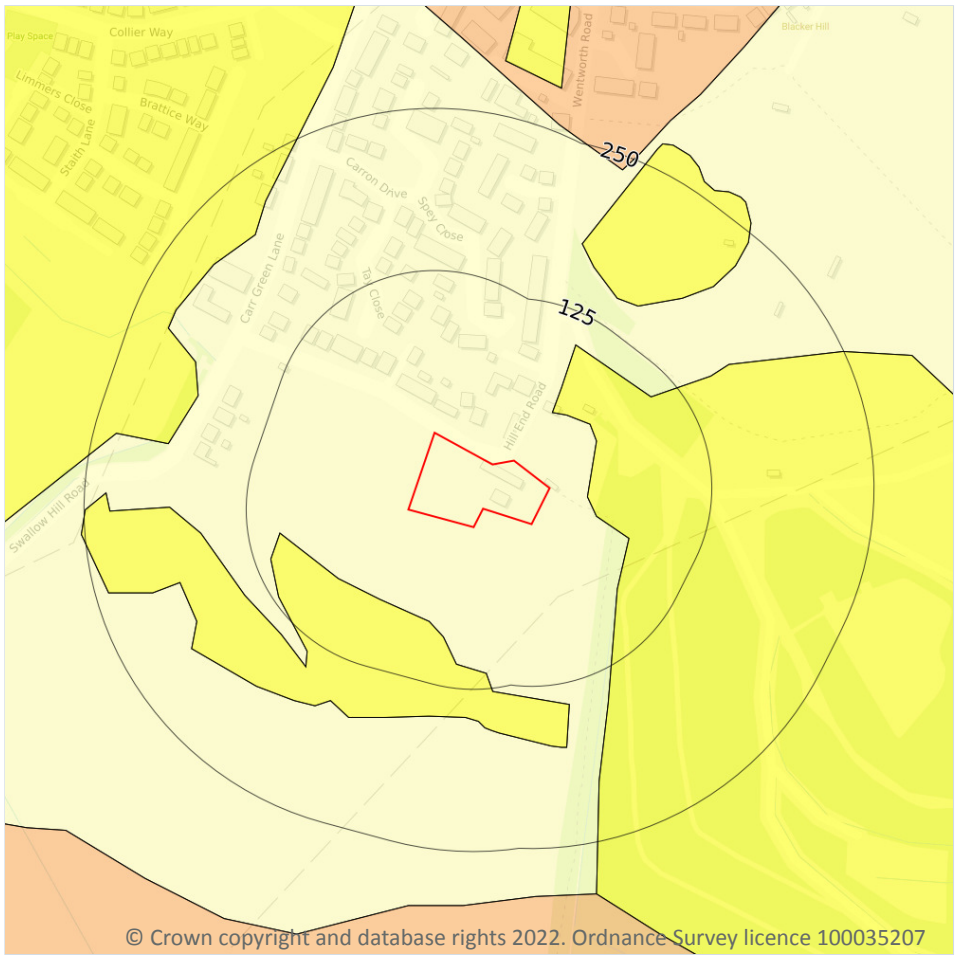
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 32**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**
34m NE	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.2 Running sands

Records within 50m	2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

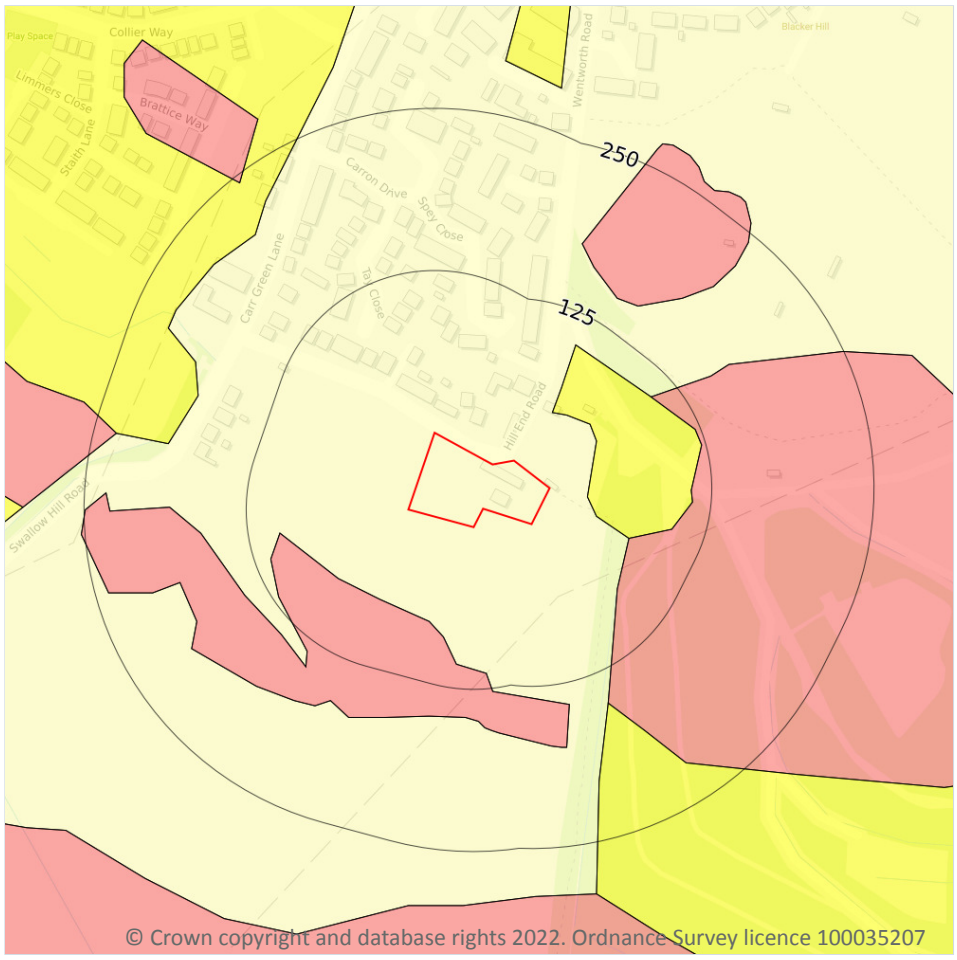
Features are displayed on the Natural ground subsidence - Running sands map on **page 33**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

Location	Hazard rating	Details
30m E	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.3 Compressible deposits

Records within 50m	2

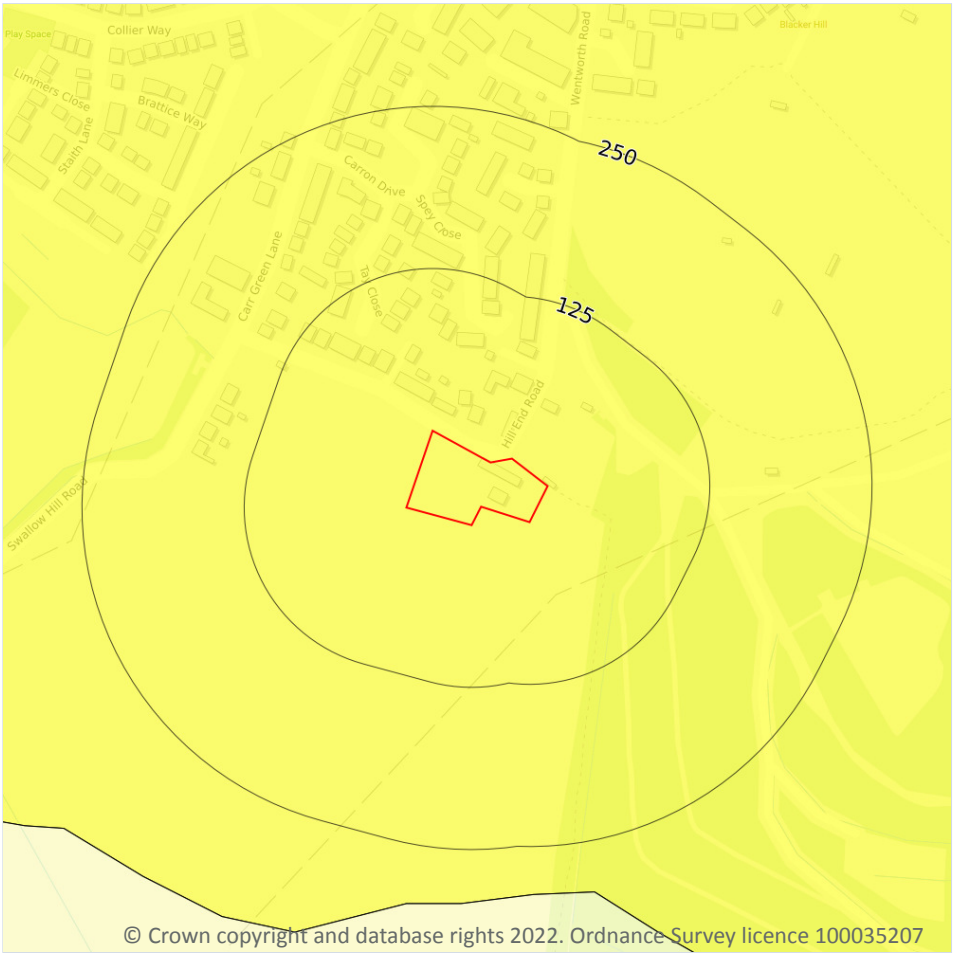
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 35**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
30m E	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.4 Collapsible deposits

Records within 50m	1

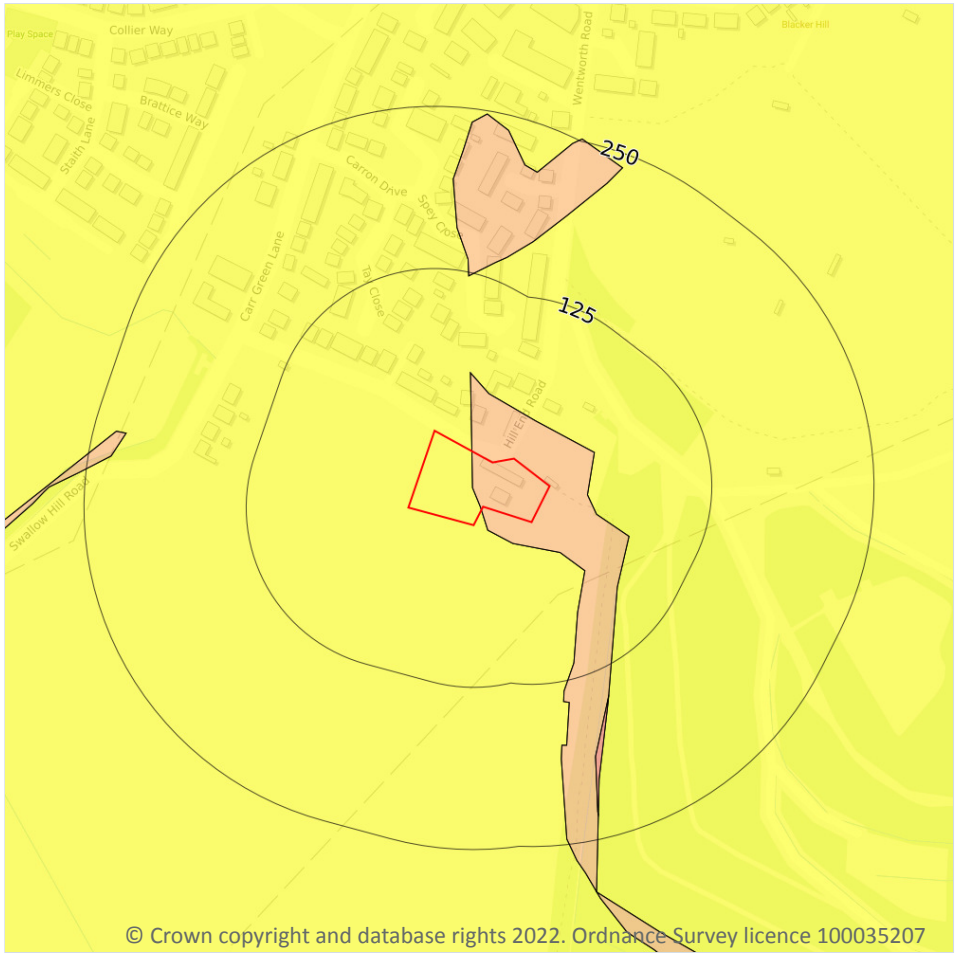
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 37**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.5 Landslides

Records within 50m	2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 38**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

Location	Hazard rating	Details
On site	**Low**	**Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.6 Ground dissolution of soluble rocks

Records within 50m	1

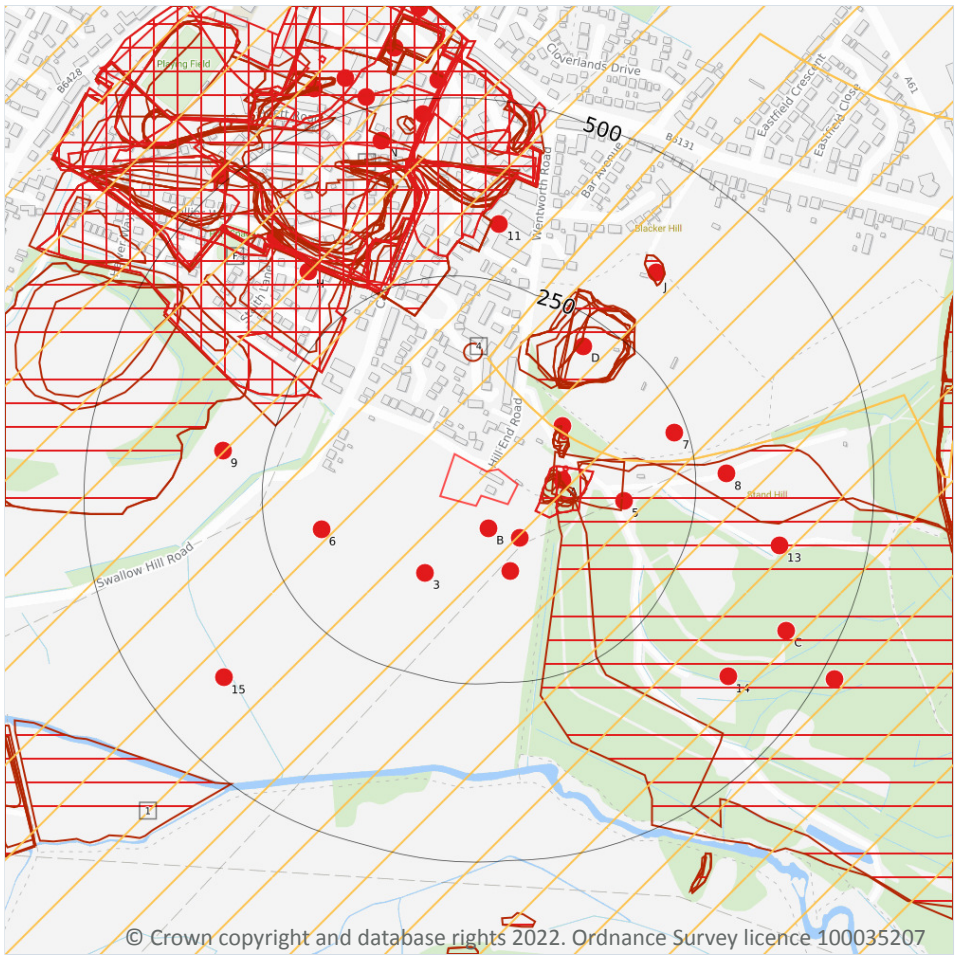
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 40**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

5 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

5.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

5.2 BritPits

Records within 500m	23

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on **page 41**

ID	Location	Details	Description
B	36m SE	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
B	49m S	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	62m E	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	78m E	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
B	94m S	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	103m NE	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
3	109m S	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
5	150m E	Name: Dearne Side Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
6	173m W	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
D	210m NE	Name: Blacker Hill Address: Mapplewell, Darton, BARNSLEY, South Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
7	231m E	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
8	293m E	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
9	311m W	Name: Hill End OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	327m NW	Name: Hill End OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
11	328m N	Name: Wentworth Road Shaft Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
J	354m NE	Name: Blacker Hill Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
13	377m E	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
14	392m SE	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	394m NW	Name: North Gawber Colliery Air Shaft Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
15	396m SW	Name: Barugh Bridge OCCS Address: Low Barugh, Staincross, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	428m SE	Name: Tipsey Hill OCCS Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Surface Mined Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
N	451m N	Name: North Gawber Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
N	478m N	Name: North Gawber Colliery Address: Mapplewell, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

5.3 Surface ground workings

Records within 250m	**42**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 41**

ID	Location	Land Use	Year of mapping	Mapping scale
A	36m E	Unspecified Heaps	1938	1:10560
A	36m E	Unspecified Heaps	1938	1:10560
A	36m E	Unspecified Heaps	1948	1:10560
A	36m E	Refuse Heap	1904	1:10560
A	36m E	Refuse Heap	1890	1:10560
A	36m E	Disused Colliery	1890	1:10560
A	39m E	Unspecified Heap	1951	1:10560
A	49m E	Colliery	1850	1:10560
A	61m E	Refuse Heap	1890	1:10560
A	61m E	Unspecified Heap	1951	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	63m SE	Refuse Heap	1982	1:10000
A	71m NE	Unspecified Ground Workings	1948	1:10560
A	71m NE	Unspecified Ground Workings	1904	1:10560
A	71m NE	Unspecified Heap	1938	1:10560
A	71m NE	Unspecified Heap	1938	1:10560
A	77m NE	Unspecified Ground Workings	1951	1:10560
C	84m E	Unspecified Disused Tip	1993	1:10000
4	133m N	Sandstone Quarry	1854	1:10560
D	136m NE	Sandstone Quarry	1854	1:10560
D	143m NE	Unspecified Quarry	1938	1:10560
D	144m NE	Unspecified Disused Tip	1973	1:10000
D	144m NE	Refuse Heap	1966	1:10560
D	144m NE	Refuse Heap	1982	1:10000
D	144m NE	Unspecified Quarry	1930	1:10560
D	144m NE	Unspecified Quarry	1930	1:10560
D	144m NE	Unspecified Quarry	1930	1:10560
D	144m NE	Unspecified Quarry	1930	1:10560
D	149m NE	Unspecified Quarry	1948	1:10560
D	149m NE	Unspecified Quarry	1904	1:10560
D	149m NE	Unspecified Quarry	1891	1:10560
D	153m NE	Unspecified Disused Quarry	1951	1:10560
E	202m N	Colliery	1930	1:10560
E	202m N	Colliery	1930	1:10560
E	202m N	Colliery	1930	1:10560
E	202m N	Colliery	1930	1:10560
E	206m NW	Colliery	1982	1:10000
F	206m NW	Refuse Heap	1982	1:10000
G	222m NW	Unspecified Disused Tip	1993	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
E	239m NW	Colliery	1938	1:10560
E	239m NW	Colliery	1938	1:10560
H	242m NW	Slurry Ponds	1982	1:10000
E	244m NW	Colliery	1951	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

5.4 Underground workings

Records within 1000m	**23**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 41**

ID	Location	Land Use	Year of mapping	Mapping scale
A	36m E	Disused Colliery	1890	1:10560
A	64m E	Unspecified Old Shaft	1948	1:10560
A	68m E	Unspecified Old Shaft	1951	1:10560
A	90m NE	Unspecified Old Shaft	1948	1:10560
A	90m NE	Unspecified Old Shaft	1904	1:10560
A	98m NE	Unspecified Old Shaft	1951	1:10560
E	206m NW	Colliery	1982	1:10000
E	244m NW	Colliery	1951	1:10560
E	252m NW	Colliery	1904	1:10560
E	252m NW	Colliery	1948	1:10560
E	258m N	Unspecified Mine	1973	1:10000
E	275m NW	Colliery	1891	1:10560
E	428m N	Unspecified Mine	1966	1:10560
E	579m N	Unspecified Shaft	1948	1:10560
E	583m NW	Unspecified Shaft	1951	1:10560
-	742m NW	Air Shaft	1948	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	742m NW	Air Shaft	1904	1:10560
-	742m NW	Air Shaft	1951	1:10560
-	980m W	Air Shaft	1951	1:10560
-	981m W	Air Shaft	1948	1:10560
-	981m W	Air Shaft	1904	1:10560
-	996m SE	Colliery	1904	1:10560
-	996m SE	Colliery	1890	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

5.5 Historical Mineral Planning Areas

Records within 500m	**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

5.6 Non-coal mining

Records within 1000m	**5**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining, ground workings and natural cavities map on **page 41**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**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	94m NE	Sheffield Area	Vein Mineral/Iron ore	B	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	Location	Name	Commodity	Class	Likelihood
-	687m N	Not available	Iron Ore (Bedded)	B	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
-	855m SE	Sheffield Area	Vein Mineral/Iron ore	B	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
-	863m NE	Sheffield Area	Vein Mineral/Iron ore	B	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

This data is sourced from the British Geological Survey.

5.7 Mining cavities

Records within 1000m	**0**

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

5.8 JPB mining areas

Records on site	**0**

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

5.9 Coal mining

Records on site	**1**

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

This data is sourced from the Coal Authority.

5.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

5.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

5.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

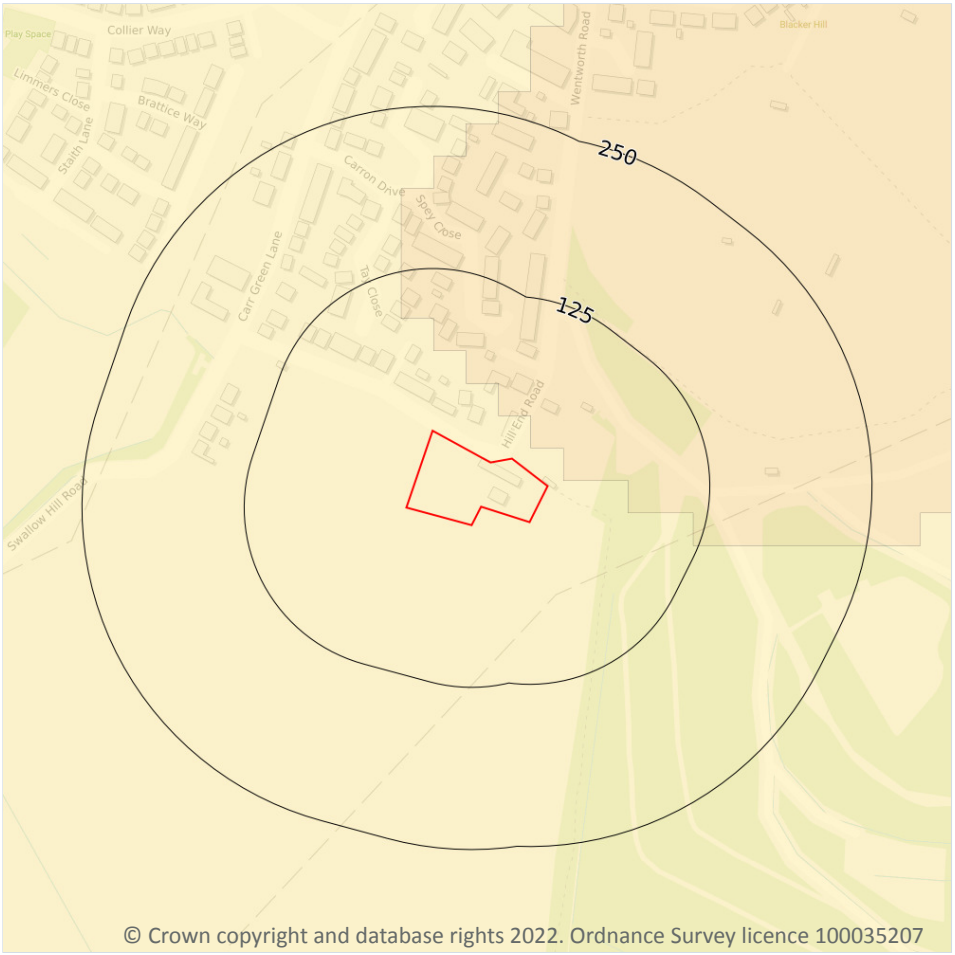
5.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

6 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

6.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 52**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**

This data is sourced from the British Geological Survey and Public Health England.

7 Soil chemistry

7.1 BGS Estimated Background Soil Chemistry

Records within 50m	3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**200 - 300 mg/kg**	**120 - 240 mg/kg**	**1.8 mg/kg**	**120 - 180 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**200 - 300 mg/kg**	**120 - 240 mg/kg**	**1.8 mg/kg**	**120 - 180 mg/kg**	**30 - 45 mg/kg**
49m NW	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	120 - 180 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

7.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

7.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

8 Railway infrastructure and projects

8.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

8.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

8.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

8.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

8.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

8.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

8.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

8.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

8.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

8.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

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