

APPENDIX 4 - Groundsure Report

384836 415023

Order Details

Date: 14/02/2022
Your ref: EMS_759288_983334
Our Ref: EMS-759288_983334
Client: emapsite

Site Details

Location: 384836 415023
Area: 2.77 ha
Authority: [Rochdale Metropolitan Borough Council](#)



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Summary of findings

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Aerial image

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OS MasterMap site plan

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groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
12	1.1	Historical industrial land uses	7	2	28	63	-
16	1.2	Historical tanks	0	0	5	17	-
17	1.3	Historical energy features	1	0	0	5	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
19	2.1	Historical industrial land uses	14	3	29	85	-
24	2.2	Historical tanks	0	0	7	26	-
26	2.3	Historical energy features	1	0	0	6	-
26	2.4	Historical petrol stations	0	0	0	0	-
27	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
28	3.1	Active or recent landfill	0	0	0	0	-
28	3.2	Historical landfill (BGS records)	0	0	0	0	-
29	3.3	Historical landfill (LA/mapping records)	0	0	2	4	-
29	3.4	Historical landfill (EA/NRW records)	0	0	0	1	-
30	3.5	Historical waste sites	0	0	0	0	-
30	3.6	Licensed waste sites	0	0	0	2	-
31	3.7	Waste exemptions	0	0	0	6	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
32	4.1	Recent industrial land uses	1	0	1	-	-
33	4.2	Current or recent petrol stations	0	0	0	0	-
33	4.3	Electricity cables	0	0	0	0	-
33	4.4	Gas pipelines	0	0	0	0	-
33	4.5	Sites determined as Contaminated Land	0	0	0	0	-



33	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
34	4.7	Regulated explosive sites	0	0	0	0	-
34	4.8	Hazardous substance storage/usage	0	0	0	0	-
34	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
34	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
34	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
35	4.12	Radioactive Substance Authorisations	0	0	0	0	-
35	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	1	-
35	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
36	4.16	List 1 Dangerous Substances	0	0	0	0	-
36	4.17	List 2 Dangerous Substances	0	0	0	0	-
36	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	1	-
36	4.19	Pollution inventory substances	0	0	0	0	-
37	4.20	Pollution inventory waste transfers	0	0	0	0	-
37	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
38	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
40	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
42	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
43	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45	5.6	<u>Groundwater abstractions</u>	0	0	0	12	8
51	5.7	<u>Surface water abstractions</u>	0	0	0	5	8
54	5.8	<u>Potable abstractions</u>	0	0	0	9	7
58	5.9	Source Protection Zones	0	0	0	0	-
59	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
60	6.1	<u>Water Network (OS MasterMap)</u>	0	3	8	-	-



61	6.2	<u>Surface water features</u>	0	2	5	-	-
62	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
62	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
63	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
64	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
64	7.2	Historical Flood Events	0	0	0	-	-
64	7.3	Flood Defences	0	0	0	-	-
65	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
65	7.5	Flood Storage Areas	0	0	0	-	-
66	7.6	Flood Zone 2	None (within 50m)				
66	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
67	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
69	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
70	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
71	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
71	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
71	10.4	Special Protection Areas (SPA)	0	0	0	0	0
71	10.5	National Nature Reserves (NNR)	0	0	0	0	0
72	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
72	10.7	<u>Designated Ancient Woodland</u>	0	0	0	3	4
72	10.8	Biosphere Reserves	0	0	0	0	0
73	10.9	Forest Parks	0	0	0	0	0
73	10.10	Marine Conservation Zones	0	0	0	0	0
73	10.11	<u>Green Belt</u>	1	0	0	0	0
73	10.12	Proposed Ramsar sites	0	0	0	0	0



74	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
74	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
74	10.15	Nitrate Sensitive Areas	0	0	0	0	0
74	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
75	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
76	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
77	11.1	World Heritage Sites	0	0	0	-	-
77	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
77	11.3	National Parks	0	0	0	-	-
77	11.4	Listed Buildings	0	0	0	-	-
78	11.5	Conservation Areas	0	0	0	-	-
78	11.6	Scheduled Ancient Monuments	0	0	0	-	-
78	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
79	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
80	12.2	Open Access Land	0	0	0	-	-
80	12.3	Tree Felling Licences	0	0	0	-	-
80	<u>12.4</u>	<u>Environmental Stewardship Schemes</u>	0	1	1	-	-
81	<u>12.5</u>	<u>Countryside Stewardship Schemes</u>	0	1	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
82	<u>13.1</u>	<u>Priority Habitat Inventory</u>	8	2	1	-	-
83	13.2	Habitat Networks	0	0	0	-	-
83	13.3	Open Mosaic Habitat	0	0	0	-	-
83	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
85	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
87	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	3	0	1	2	-
89	<u>14.3</u>	<u>Superficial geology (10k)</u>	2	1	1	3	-



<u>90</u>	<u>14.4</u>	<u>Landslip (10k)</u>	0	0	0	1	-
<u>91</u>	<u>14.5</u>	<u>Bedrock geology (10k)</u>	4	4	9	15	-
<u>93</u>	<u>14.6</u>	<u>Bedrock faults and other linear features (10k)</u>	0	2	7	14	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<u>95</u>	<u>15.1</u>	<u>50k Availability</u>	Identified (within 500m)				
<u>96</u>	<u>15.2</u>	<u>Artificial and made ground (50k)</u>	0	0	0	1	-
97	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<u>98</u>	<u>15.4</u>	<u>Superficial geology (50k)</u>	1	0	0	2	-
<u>99</u>	<u>15.5</u>	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
99	15.6	Landslip (50k)	0	0	0	0	-
99	15.7	Landslip permeability (50k)	None (within 50m)				
<u>100</u>	<u>15.8</u>	<u>Bedrock geology (50k)</u>	2	0	2	3	-
<u>101</u>	<u>15.9</u>	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
<u>101</u>	<u>15.10</u>	<u>Bedrock faults and other linear features (50k)</u>	1	0	2	6	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
103	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
<u>104</u>	<u>17.1</u>	<u>Shrink swell clays</u>	Very low (within 50m)				
<u>106</u>	<u>17.2</u>	<u>Running sands</u>	Very low (within 50m)				
<u>108</u>	<u>17.3</u>	<u>Compressible deposits</u>	Negligible (within 50m)				
<u>109</u>	<u>17.4</u>	<u>Collapsible deposits</u>	Very low (within 50m)				
<u>110</u>	<u>17.5</u>	<u>Landslides</u>	Low (within 50m)				
<u>112</u>	<u>17.6</u>	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
114	18.1	Natural cavities	0	0	0	0	-
<u>115</u>	<u>18.2</u>	<u>BritPits</u>	0	1	1	0	-
<u>115</u>	<u>18.3</u>	<u>Surface ground workings</u>	12	7	29	-	-
<u>117</u>	<u>18.4</u>	<u>Underground workings</u>	0	0	4	4	30
119	18.5	Historical Mineral Planning Areas	0	0	0	0	-



<u>119</u>	<u>18.6</u>	<u>Non-coal mining</u>	1	2	2	1	0
120	18.7	Mining cavities	0	0	0	0	0
120	18.8	JPB mining areas	None (within 0m)				
<u>120</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
121	18.10	Brine areas	None (within 0m)				
121	18.11	Gypsum areas	None (within 0m)				
121	18.12	Tin mining	None (within 0m)				
121	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>122</u>	<u>19.1</u>	<u>Radon</u>	Between 5% and 10% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<u>124</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	10	7	-	-	-
125	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
125	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
126	21.1	Underground railways (London)	0	0	0	-	-
126	21.2	Underground railways (Non-London)	0	0	0	-	-
126	21.3	Railway tunnels	0	0	0	-	-
126	21.4	Historical railway and tunnel features	0	0	0	-	-
126	21.5	Royal Mail tunnels	0	0	0	-	-
127	21.6	Historical railways	0	0	0	-	-
127	21.7	Railways	0	0	0	-	-
127	21.8	Crossrail 1	0	0	0	0	-
127	21.9	Crossrail 2	0	0	0	0	-
127	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 23/05/2019

Site Area: 2.77ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 2.77ha



Recent site history - 1999 aerial photograph

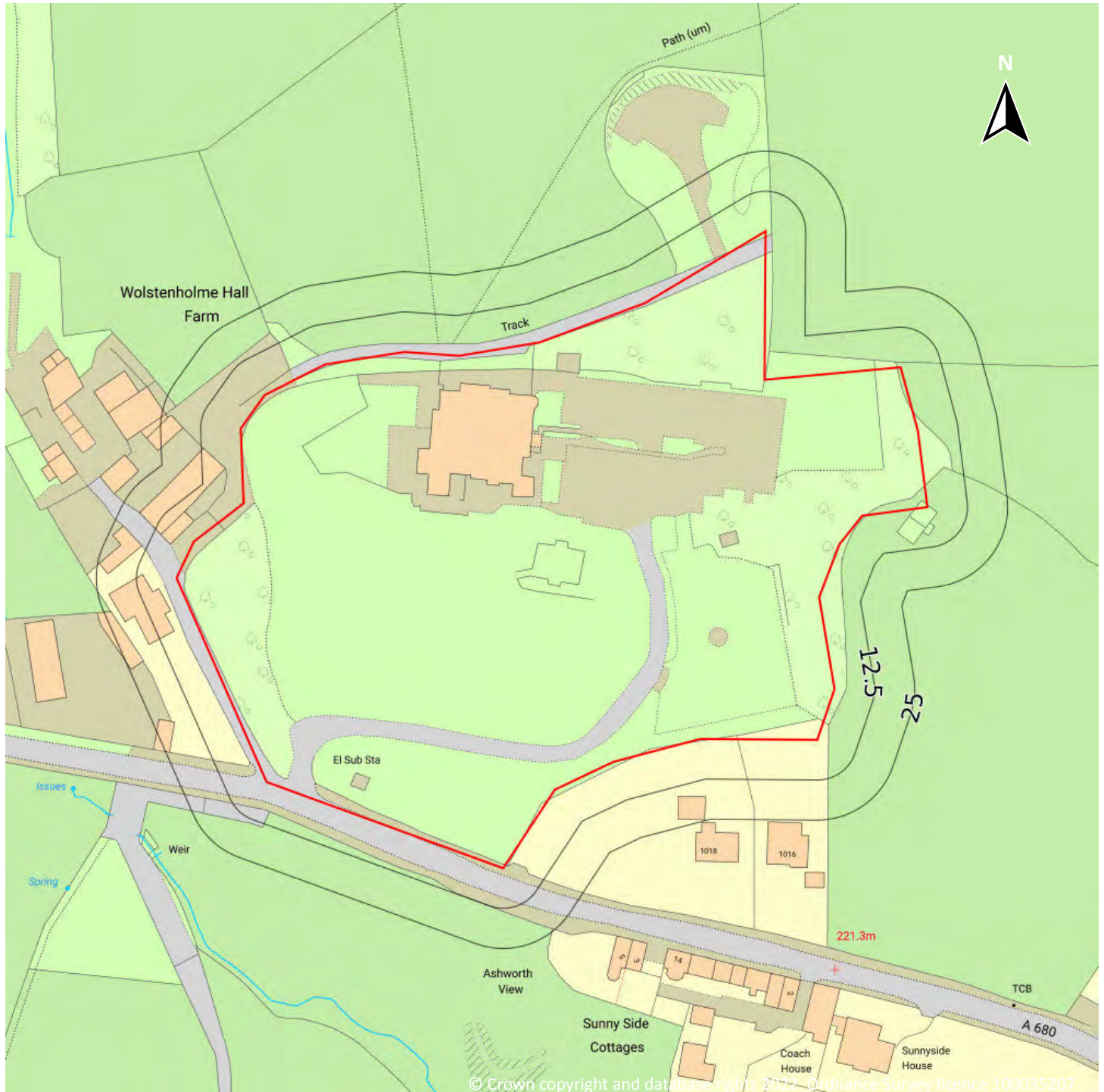


Capture Date: 10/09/1999

Site Area: 2.77ha



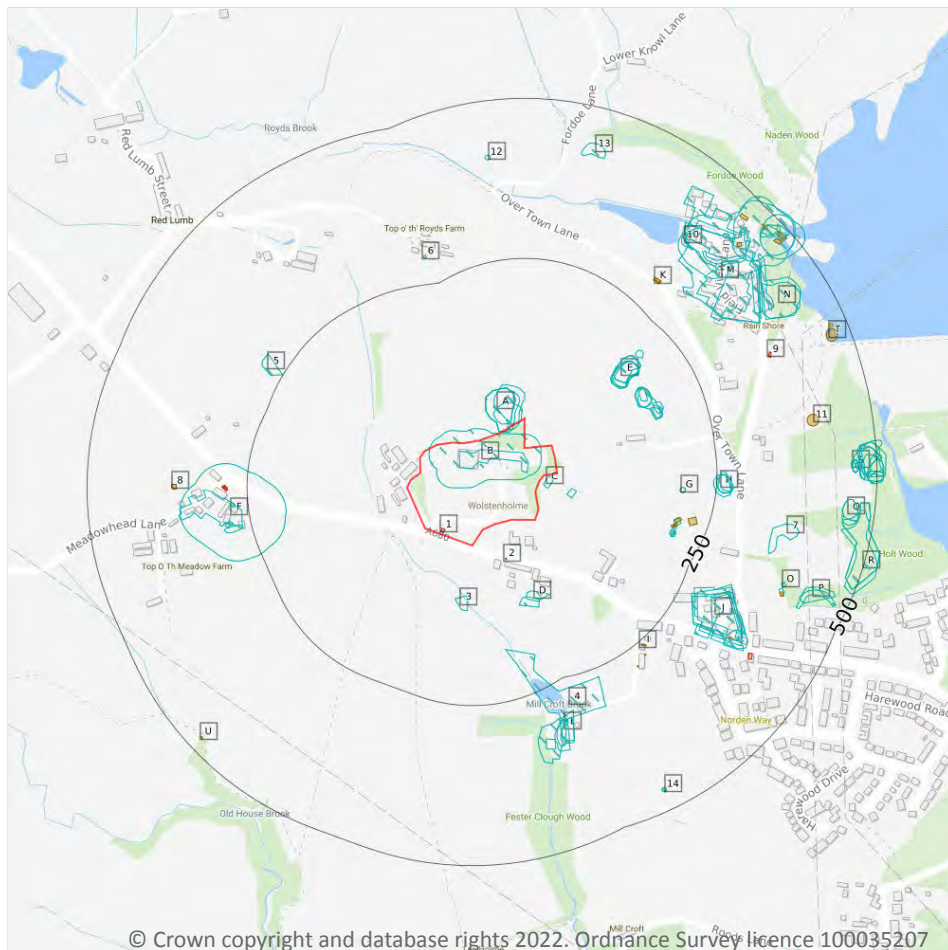
OS MasterMap site plan



Site Area: 2.77ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m

100

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Old Quarries	1890	657763



ID	Location	Land use	Dates present	Group ID
A	On site	Sandstone Quarry	1851	687527
A	On site	Unspecified Quarry	1938	783918
A	On site	Unspecified Old Quarry	1909 - 1928	715663
A	On site	Unspecified Quarry	1949 - 1992	762465
B	On site	Hospital	1967 - 1992	773133
B	On site	Hospital	1938 - 1949	790803
C	1m S	Filter Beds	1928 - 1938	772155
C	33m SE	Filter Beds	1938	665777
3	79m S	Cotton Mill	1851	644283
D	111m S	Unspecified Pit	1956	740851
D	113m SE	Unspecified Pit	1928	695856
E	136m NE	Unspecified Pit	1928	703830
E	136m NE	Unspecified Old Quarries	1890	657764
E	136m NE	Unspecified Quarry	1938	740229
E	139m NE	Unspecified Quarry	1909	772356
E	144m NE	Refuse Heap	1967 - 1979	732033
E	144m NE	Unspecified Pit	1949	776309
E	149m NE	Unspecified Pit	1928	690717
E	149m NE	Unspecified Heaps	1938	679637
E	151m NE	Unspecified Ground Workings	1909	647140
E	157m NE	Unspecified Heap	1949	650802
E	164m E	Unspecified Heap	1928	709533
E	167m E	Unspecified Heap	1909	704214
E	170m E	Unspecified Heap	1949	722643
4	171m S	Unspecified Disused Mill	1909	675743
F	192m W	Colliery	1891	645257
E	192m NE	Sandstone Quarry	1851	687528
G	194m E	Coal Pit	1851	654099



ID	Location	Land use	Dates present	Group ID
G	197m E	Unspecified Tank	1975	674739
G	199m SE	Unspecified Old Shaft	1938	785916
G	199m SE	Coal Pit	1851	654100
G	199m SE	Unspecified Old Shaft	1949	651789
G	202m SE	Unspecified Old Shaft	1928	748253
G	203m SE	Unspecified Old Shaft	1909	764949
H	245m E	Unspecified Heap	1928	779996
H	249m E	Unspecified Heap	1938	735916
5	251m NW	Colliery	1851	645153
H	252m E	Unspecified Heap	1909	757111
H	253m E	Unspecified Heap	1967	698062
F	261m W	Disused Colliery	1908	671731
F	264m W	Unspecified Heap	1928 - 1938	704177
J	270m SE	Unspecified Mill	1938	784744
F	270m W	Unspecified Old Shaft	1956	651787
J	271m SE	Unspecified Mill	1949	774106
J	273m SE	Unspecified Mill	1928	696594
J	278m SE	Unspecified Mill	1968 - 1992	726178
F	278m W	Unspecified Old Shaft	1928	651786
F	283m W	Unspecified Old Shaft	1938	651790
6	292m N	Pump	1851	675483
J	301m SE	Unspecified Mill	1890 - 1909	708660
J	302m SE	Colliery	1851	645256
L	302m SE	Unspecified Heap	1983	746870
L	302m SE	Cotton Mill	1851	644252
L	308m SE	Unspecified Heap	1928 - 1938	755099
L	309m SE	Unspecified Heap	1956 - 1967	706710
L	310m SE	Unspecified Ground Workings	1909	648083



ID	Location	Land use	Dates present	Group ID
M	316m NE	Bleach and Dye works	1938 - 1949	716204
M	320m NE	Unspecified Works	1967 - 1979	779939
J	322m SE	Cotton Mill	1851	644253
L	324m S	Unspecified Disused Mill	1890	675744
M	328m NE	Bleach and Dye works	1928	732021
7	348m E	Refuse Heap	1968 - 1975	767240
M	351m NE	Unspecified Mills	1890	653223
10	367m NE	Unspecified Ground Workings	1909	647141
M	370m NE	Unspecified Mill	1909	657007
M	377m NE	Unspecified Ground Workings	1909	647143
N	389m NE	Unspecified Heap	1928	761754
N	390m NE	Unspecified Heap	1938 - 1949	779798
O	390m SE	Unspecified Tank	1949	674742
O	391m SE	Unspecified Tank	1928 - 1938	733234
N	400m NE	Unspecified Ground Workings	1909	647142
12	408m N	Coal Pit	1851	654105
M	416m NE	Unspecified Disused Mill	1909	675742
13	421m N	Unspecified Ground Workings	1928	647139
P	426m SE	Unspecified Pit	1968 - 1975	709593
P	427m SE	Unspecified Ground Workings	1909	648085
Q	449m E	Unspecified Pit	1890 - 1949	716742
Q	449m E	Unspecified Pit	1968 - 1975	787312
R	452m E	Refuse Heap	1928	760441
M	452m NE	Disused Filter Tanks	1909	760766
R	452m E	Refuse Heap	1968 - 1975	695887
R	452m E	Refuse Heap	1949	772922
S	460m E	Unspecified Quarries	1890	764014
S	460m E	Unspecified Pit	1938	690716



ID	Location	Land use	Dates present	Group ID
S	460m E	Unspecified Quarries	1928	695106
S	461m E	Unspecified Ground Workings	1909	648084
M	461m NE	Fulling Mills	1851	665627
14	464m SE	Coal Pit	1851	654102
S	464m E	Unspecified Quarry	1949	699701
M	468m NE	Disused Filter Tanks	1949	761412
S	470m E	Unspecified Quarries	1890	686395
S	470m E	Unspecified Quarry	1928 - 1938	772511
S	473m E	Unspecified Old Quarry	1909	681173
S	474m E	Unspecified Quarry	1967	717742
S	476m E	Unspecified Quarry	1979	782357
S	477m E	Sandstone Quarry	1851	687530
M	480m NE	Disused Filter Tanks	1928 - 1938	759042
S	485m E	Unspecified Heap	1928 - 1938	729086
S	486m E	Unspecified Pit	1890	690725

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

22

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**

ID	Location	Land use	Dates present	Group ID
2	54m SE	Unspecified Tank	1910	84135
G	196m SE	Unspecified Tank	1910 - 1929	98227
G	197m E	Unspecified Tank	1962 - 1984	89110



ID	Location	Land use	Dates present	Group ID
G	199m SE	Tanks	1890	87666
G	217m E	Tanks	1890	87667
I	256m SE	Unspecified Tank	1910 - 1929	98296
I	271m SE	Unspecified Tank	1979	84140
I	279m SE	Unspecified Tank	1979	84139
K	295m NE	Unspecified Tank	1993	94744
K	296m NE	Unspecified Tank	1962 - 1969	97846
J	354m SE	Unspecified Tank	1890	84138
8	360m W	Unspecified Tank	1962 - 1992	104004
O	395m SE	Unspecified Tank	1929	84137
11	398m E	Unspecified Tank	1962	84134
M	426m NE	Unspecified Tank	1910	84122
M	461m NE	Disused Filter Tanks	1910 - 1929	95924
T	462m E	Unspecified Tank	1962 - 1993	89268
M	472m NE	Disused Filter Tanks	1910 - 1929	98789
T	473m NE	Unspecified Tank	1962 - 1969	90859
M	475m NE	Unspecified Tank	1910	84121
U	476m SW	Unspecified Tank	1962	84152
U	478m SW	Unspecified Tank	1992	84153

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

6

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**



ID	Location	Land use	Dates present	Group ID
1	On site	Electricity Substation	1992	45471
F	280m W	Electricity Substation	1992	52448
F	281m W	Electricity Substation	1969	51490
F	285m W	Electricity Substation	1992	52517
9	366m E	Electricity Substation	1993	45468
J	393m SE	Electricity Substation	1979 - 1981	52727

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

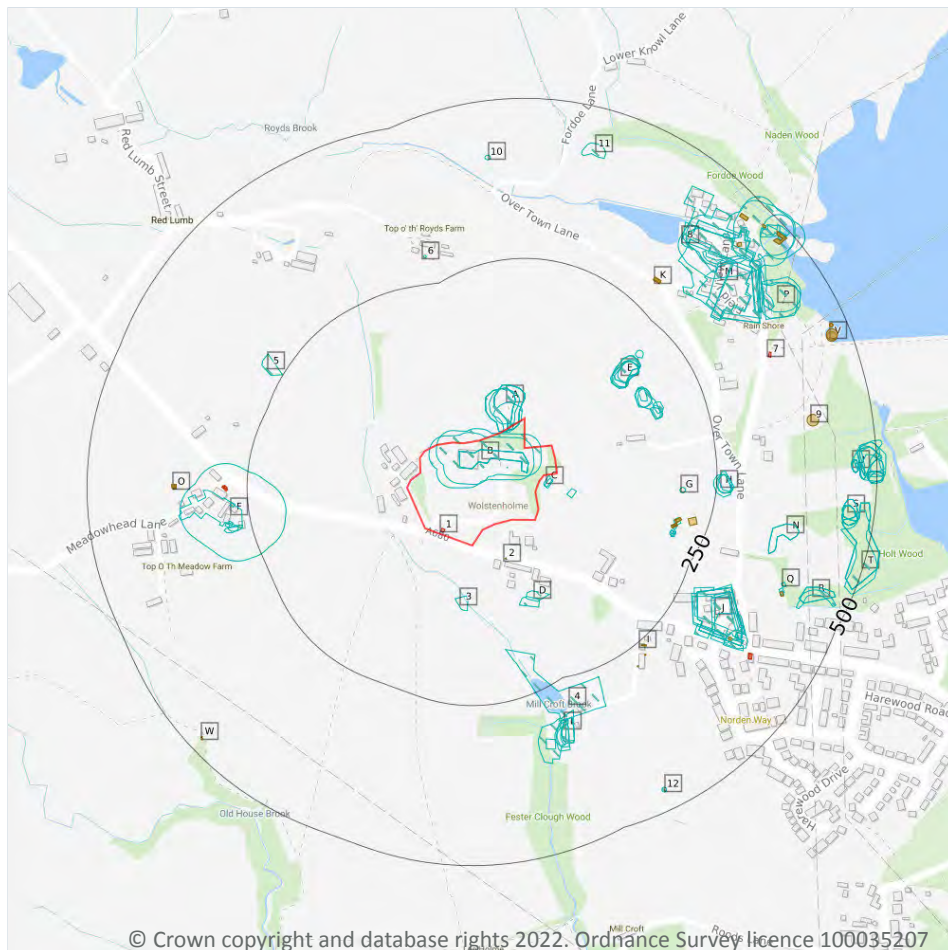
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Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

2.1 Historical industrial land uses

Records within 500m

131

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Quarry	1992	762465
A	On site	Unspecified Quarry	1967	762465
A	On site	Unspecified Quarry	1949	762465



ID	Location	Land Use	Date	Group ID
A	On site	Sandstone Quarry	1851	687527
A	On site	Unspecified Quarry	1987	762465
A	On site	Unspecified Quarry	1938	783918
A	On site	Unspecified Old Quarry	1928	715663
A	On site	Unspecified Old Quarry	1909	715663
A	On site	Unspecified Old Quarries	1890	657763
B	On site	Hospital	1992	773133
B	On site	Hospital	1967	773133
B	On site	Hospital	1938	790803
B	On site	Hospital	1987	773133
B	On site	Hospital	1949	790803
C	1m S	Filter Beds	1938	772155
C	6m S	Filter Beds	1928	772155
C	33m SE	Filter Beds	1938	665777
3	79m S	Cotton Mill	1851	644283
D	111m S	Unspecified Pit	1956	740851
D	113m SE	Unspecified Pit	1928	695856
E	136m NE	Unspecified Pit	1928	703830
E	136m NE	Unspecified Quarry	1938	740229
E	136m NE	Unspecified Old Quarries	1890	657764
E	139m NE	Unspecified Quarry	1909	772356
E	144m NE	Unspecified Pit	1949	776309
E	144m NE	Refuse Heap	1979	732033
E	148m NE	Refuse Heap	1967	732033
E	149m NE	Unspecified Pit	1928	690717
E	149m NE	Unspecified Heaps	1938	679637
E	151m NE	Unspecified Ground Workings	1909	647140
E	157m NE	Unspecified Heap	1949	650802



ID	Location	Land Use	Date	Group ID
E	164m E	Unspecified Heap	1928	709533
E	167m E	Unspecified Heap	1909	704214
E	170m E	Unspecified Heap	1949	722643
4	171m S	Unspecified Disused Mill	1909	675743
F	192m W	Colliery	1891	645257
E	192m NE	Sandstone Quarry	1851	687528
G	194m E	Coal Pit	1851	654099
G	197m E	Unspecified Tank	1975	674739
G	199m SE	Unspecified Old Shaft	1938	785916
G	199m SE	Coal Pit	1851	654100
G	199m SE	Unspecified Old Shaft	1949	651789
G	202m SE	Unspecified Old Shaft	1928	748253
G	203m SE	Unspecified Old Shaft	1909	764949
H	245m E	Unspecified Heap	1928	779996
H	249m E	Unspecified Heap	1938	735916
5	251m NW	Colliery	1851	645153
H	252m E	Unspecified Heap	1909	757111
H	253m E	Unspecified Heap	1967	698062
F	261m W	Disused Colliery	1908	671731
F	264m W	Unspecified Heap	1928	704177
J	270m SE	Unspecified Mill	1938	784744
F	270m W	Unspecified Old Shaft	1956	651787
J	271m SE	Unspecified Mill	1949	774106
F	271m W	Unspecified Heap	1938	704177
J	273m SE	Unspecified Mill	1928	696594
J	278m SE	Unspecified Mill	1992	726178
J	278m SE	Unspecified Mill	1987	726178
J	278m SE	Unspecified Mill	1975	726178



ID	Location	Land Use	Date	Group ID
J	278m SE	Unspecified Mill	1968	726178
F	278m W	Unspecified Old Shaft	1928	651786
F	283m W	Unspecified Old Shaft	1938	651790
6	292m N	Pump	1851	675483
J	301m SE	Unspecified Mill	1890	708660
J	302m SE	Colliery	1851	645256
L	302m SE	Unspecified Heap	1983	746870
L	302m SE	Cotton Mill	1851	644252
J	304m SE	Unspecified Mill	1909	708660
L	308m SE	Unspecified Heap	1938	755099
L	309m SE	Unspecified Heap	1956	706710
L	309m SE	Unspecified Heap	1967	706710
L	310m SE	Unspecified Ground Workings	1909	648083
L	315m SE	Unspecified Heap	1928	755099
M	316m NE	Bleach and Dye works	1938	716204
M	320m NE	Unspecified Works	1967	779939
J	322m SE	Cotton Mill	1851	644253
M	322m NE	Unspecified Works	1979	779939
L	324m S	Unspecified Disused Mill	1890	675744
M	328m NE	Bleach and Dye works	1928	732021
M	336m NE	Bleach and Dye works	1949	716204
N	348m E	Refuse Heap	1975	767240
N	348m E	Refuse Heap	1968	767240
M	351m NE	Unspecified Mills	1890	653223
8	367m NE	Unspecified Ground Workings	1909	647141
M	370m NE	Unspecified Mill	1909	657007
M	377m NE	Unspecified Ground Workings	1909	647143
P	389m NE	Unspecified Heap	1928	761754



ID	Location	Land Use	Date	Group ID
P	390m NE	Unspecified Heap	1938	779798
Q	390m SE	Unspecified Tank	1949	674742
Q	391m SE	Unspecified Tank	1938	733234
Q	394m SE	Unspecified Tank	1928	733234
P	397m NE	Unspecified Heap	1949	779798
P	400m NE	Unspecified Ground Workings	1909	647142
10	408m N	Coal Pit	1851	654105
M	416m NE	Unspecified Disused Mill	1909	675742
11	421m N	Unspecified Ground Workings	1928	647139
R	426m SE	Unspecified Pit	1975	709593
R	426m SE	Unspecified Pit	1968	709593
R	427m SE	Unspecified Ground Workings	1909	648085
S	449m E	Unspecified Pit	1975	787312
S	449m E	Unspecified Pit	1949	716742
S	449m E	Unspecified Pit	1968	787312
S	450m E	Unspecified Pit	1938	716742
S	450m E	Unspecified Pit	1928	716742
S	450m E	Unspecified Pit	1890	716742
S	450m E	Unspecified Pit	1909	716742
T	452m E	Refuse Heap	1928	760441
M	452m NE	Disused Filter Tanks	1909	760766
T	452m E	Refuse Heap	1975	695887
T	452m E	Refuse Heap	1949	772922
T	452m E	Refuse Heap	1968	695887
U	460m E	Unspecified Quarries	1928	695106
U	460m E	Unspecified Quarries	1890	764014
U	460m E	Unspecified Pit	1938	690716
U	461m E	Unspecified Ground Workings	1909	648084



ID	Location	Land Use	Date	Group ID
M	461m NE	Fulling Mills	1851	665627
12	464m SE	Coal Pit	1851	654102
U	464m E	Unspecified Quarry	1949	699701
M	468m NE	Disused Filter Tanks	1949	761412
U	470m E	Unspecified Quarry	1938	772511
U	470m E	Unspecified Quarry	1928	772511
U	470m E	Unspecified Quarries	1890	686395
U	473m E	Unspecified Old Quarry	1909	681173
U	474m E	Unspecified Quarry	1967	717742
U	476m E	Unspecified Quarry	1979	782357
U	477m E	Sandstone Quarry	1851	687530
M	480m NE	Disused Filter Tanks	1938	759042
M	482m NE	Disused Filter Tanks	1928	759042
U	485m E	Unspecified Heap	1928	729086
U	486m E	Unspecified Heap	1938	729086
U	486m E	Unspecified Pit	1890	690725

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

33

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
2	54m SE	Unspecified Tank	1910	84135
G	196m SE	Unspecified Tank	1910	98227
G	196m SE	Unspecified Tank	1929	98227
G	197m E	Unspecified Tank	1984	89110



ID	Location	Land Use	Date	Group ID
G	199m E	Unspecified Tank	1962	89110
G	199m SE	Tanks	1890	87666
G	217m E	Tanks	1890	87667
I	256m SE	Unspecified Tank	1910	98296
I	256m SE	Unspecified Tank	1929	98296
I	271m SE	Unspecified Tank	1979	84140
I	279m SE	Unspecified Tank	1979	84139
K	295m NE	Unspecified Tank	1993	94744
K	296m NE	Unspecified Tank	1962	97846
K	296m NE	Unspecified Tank	1969	97846
J	354m SE	Unspecified Tank	1890	84138
O	360m W	Unspecified Tank	1992	104004
O	361m W	Unspecified Tank	1962	104004
O	361m W	Unspecified Tank	1969	104004
O	363m W	Unspecified Tank	1992	104004
Q	395m SE	Unspecified Tank	1929	84137
9	398m E	Unspecified Tank	1962	84134
M	426m NE	Unspecified Tank	1910	84122
M	461m NE	Disused Filter Tanks	1910	95924
M	461m NE	Disused Filter Tanks	1929	95924
V	462m E	Unspecified Tank	1993	89268
V	462m E	Unspecified Tank	1962	89268
M	472m NE	Disused Filter Tanks	1910	98789
M	472m NE	Disused Filter Tanks	1929	98789
V	473m NE	Unspecified Tank	1962	90859
V	473m NE	Unspecified Tank	1969	90859
M	475m NE	Unspecified Tank	1910	84121
W	476m SW	Unspecified Tank	1962	84152

ID	Location	Land Use	Date	Group ID
W	478m SW	Unspecified Tank	1992	84153

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	7
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
1	On site	Electricity Substation	1992	45471
F	280m W	Electricity Substation	1992	52448
F	281m W	Electricity Substation	1969	51490
F	285m W	Electricity Substation	1992	52517
7	366m E	Electricity Substation	1993	45468
J	393m SE	Electricity Substation	1981	52727
J	395m SE	Electricity Substation	1979	52727

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
----------------------------	----------

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

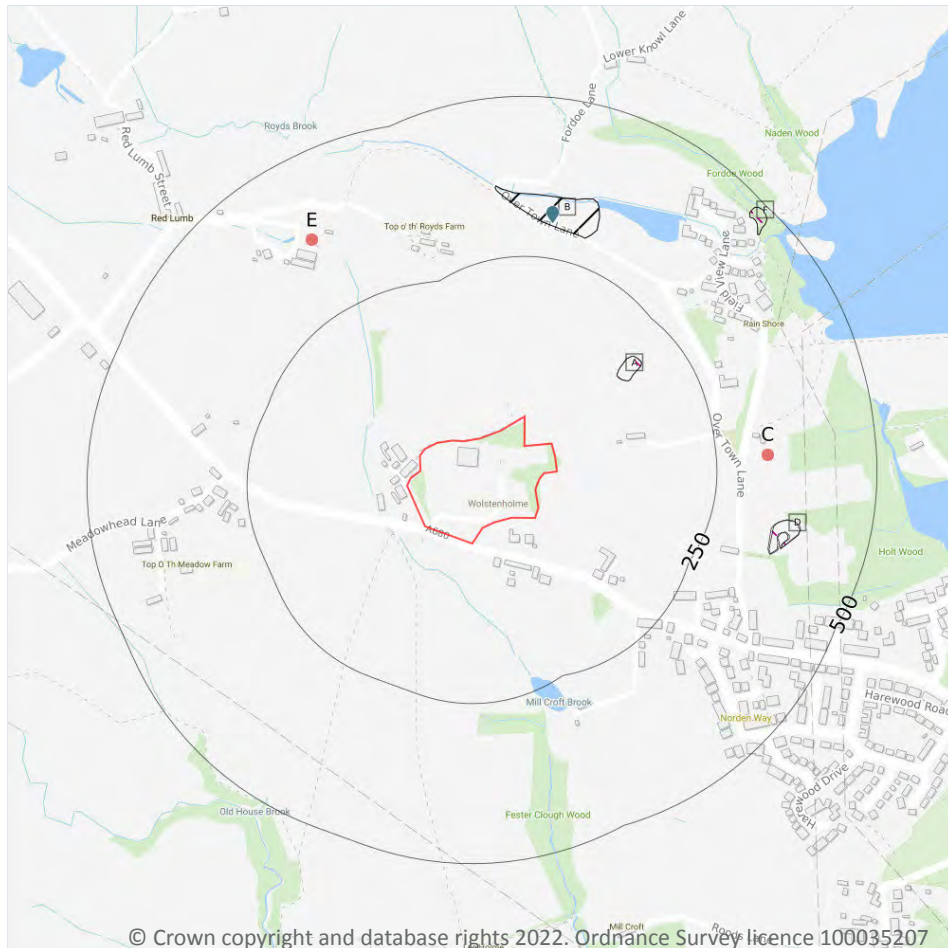
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical landfill (LA/OS)
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m	6
----------------------------	----------

Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 28**

ID	Location	Site address	Source	Data type
A	147m NE	Refuse Tip	1962 mapping	Polygon
A	147m NE	Refuse Tip	1969 mapping	Polygon
D	346m E	Refuse Tip	1984 mapping	Polygon
D	349m E	Refuse Tip	1962 mapping	Polygon
F	459m NE	Refuse Tip	1962 mapping	Polygon
F	459m NE	Refuse Tip	1969 mapping	Polygon

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	1
----------------------------	----------

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 28**

ID	Location	Details		
B	293m N	Site Address: Rainshore Works, Off Over Town Lane, Rain Shore, Norden, Greater Manchester Licence Holder Address: Rainshore Works, Norden, Rochdale	Waste Licence: Yes Site Reference: D003, RD/LIC/135/78 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: NR1/L/ADS002 Licence Issue: 15/06/1979 Licence Surrender: -	Operator: Alexander Drew and Sons Limited Licence Holder: Alexander Drew and Sons Limited First Recorded 31/12/1938 Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m

0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m

2

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 28**

ID	Location	Details		
B	317m N	Site Name: A Drew & Sons Ltd Site Address: Rainshore Mill, Overtown Lane, Rochdale, Lancashire, OL12 7TJ Correspondence Address: Stotts Mill, Bridgefold Road, Rochdale, Lancashire, OL11 5BZ	Type of Site: Landfill taking other wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ADS002 EPR reference: - Operator: A Drew & Sons Ltd Waste Management licence No: 53923 Annual Tonnage: 0.001	Issue Date: 20/04/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
B	317m N	Site Name: A Drew & Sons Ltd Site Address: Rainshore Mill, Overtown Lane, Rochdale, Lancashire, OL12 7TJ Correspondence Address: -	Type of Site: Landfill taking other wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ADS002 EPR reference: EA/EPR/BP3291CQ/A001 Operator: A Drew & Sons Ltd Waste Management licence No: 53923 Annual Tonnage: 0.001	Issue Date: 20/04/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m

6

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 28**

ID	Location	Site	Reference	Category	Sub-Category	Description
C	330m E	Baitings Mill Over Town Lane Rochdale Rochdale OL12 7TQ	EPR/FF0601HK /A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
C	330m E	Baitings Mill Over Town Lane Rochdale Rochdale OL12 7TQ	EPR/FF0601HK /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
E	370m NW	-	WEX241358	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	370m NW	-	WEX241358	Using waste exemption	On a farm	Use of mulch
E	370m NW	-	WEX241358	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
E	370m NW	-	WEX241358	Using waste exemption	On a farm	Use of waste in construction

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 32**

ID	Location	Company	Address	Activity	Category
1	On site	Electricity Sub Station	Greater Manchester, OL12	Electrical Features	Infrastructure and Facilities
2	136m W	Wind Turbine	Greater Manchester, OL12	Energy Production	Industrial Features

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

1

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 32**

ID	Location	Address	Details	
4	478m NW	RED LUMB ST (68&CHAPEL), RED LUMB, NORDEN, ROCHDALE, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016990618 Permit Version: 1 Receiving Water: ROYDS BROOK	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 20/05/1985 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.16 List 1 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 32**

ID	Location	Details	
3	458m NE	Incident Date: 24/07/2003 Incident Identification: 176513 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

Records within 500m

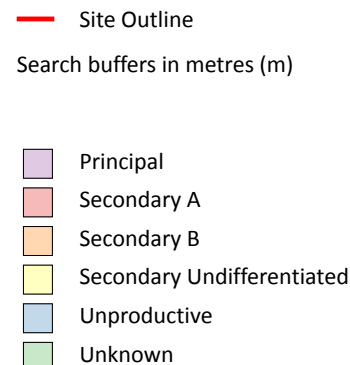
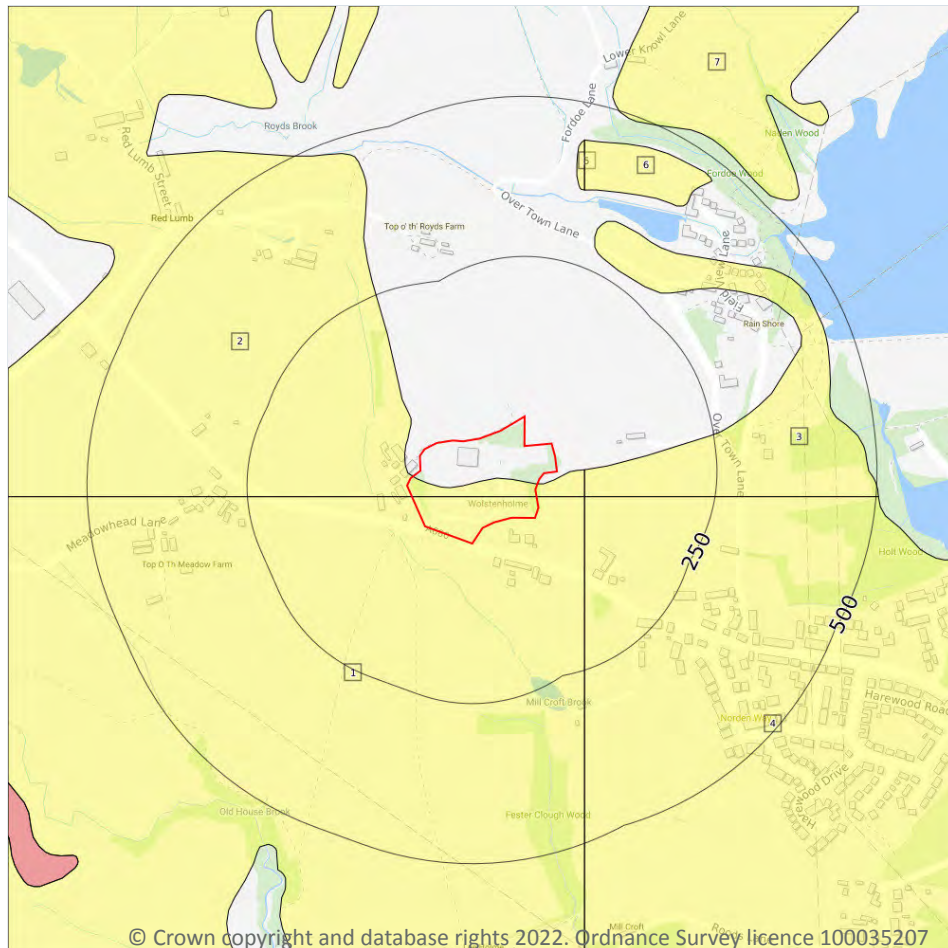
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

7

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 38**

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

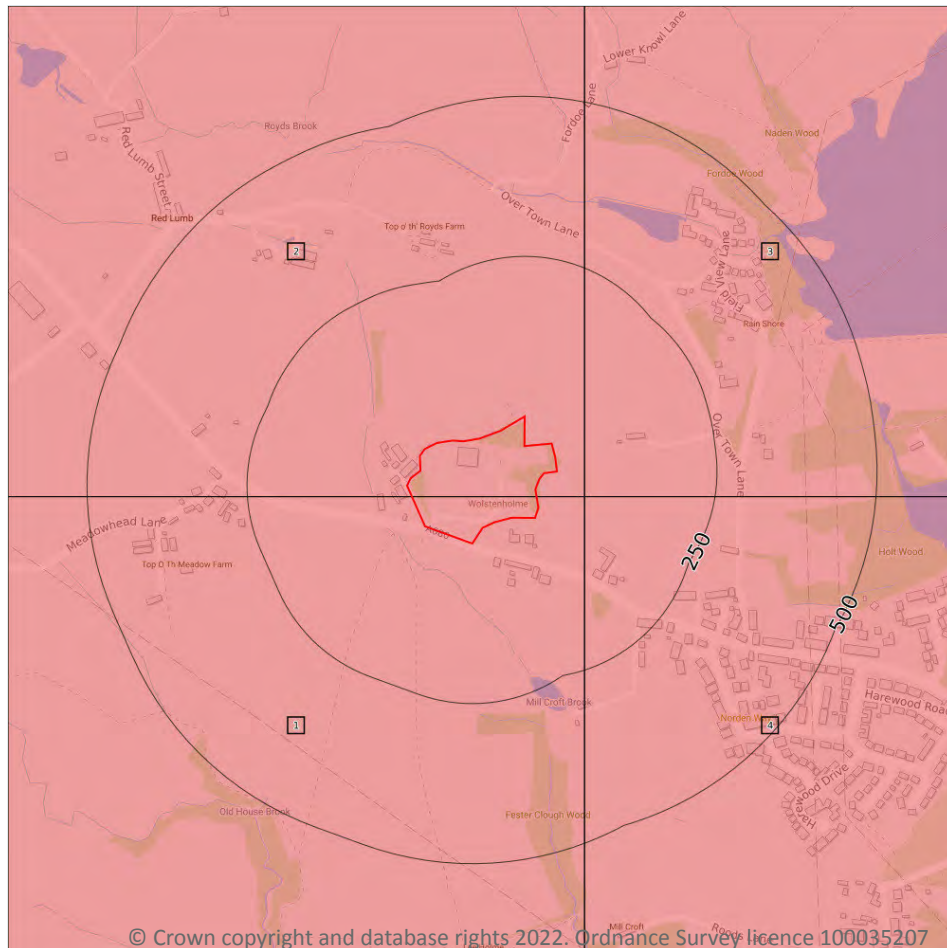


ID	Location	Designation	Description
3	43m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	58m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5	366m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	366m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7	493m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

4

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 40**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

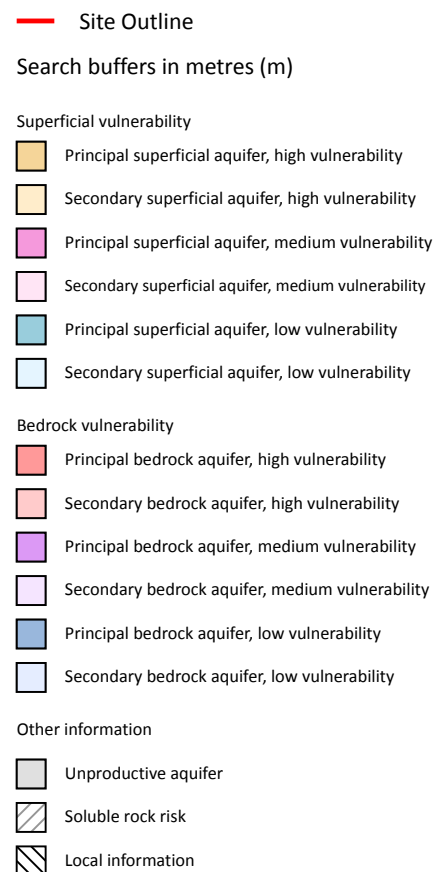
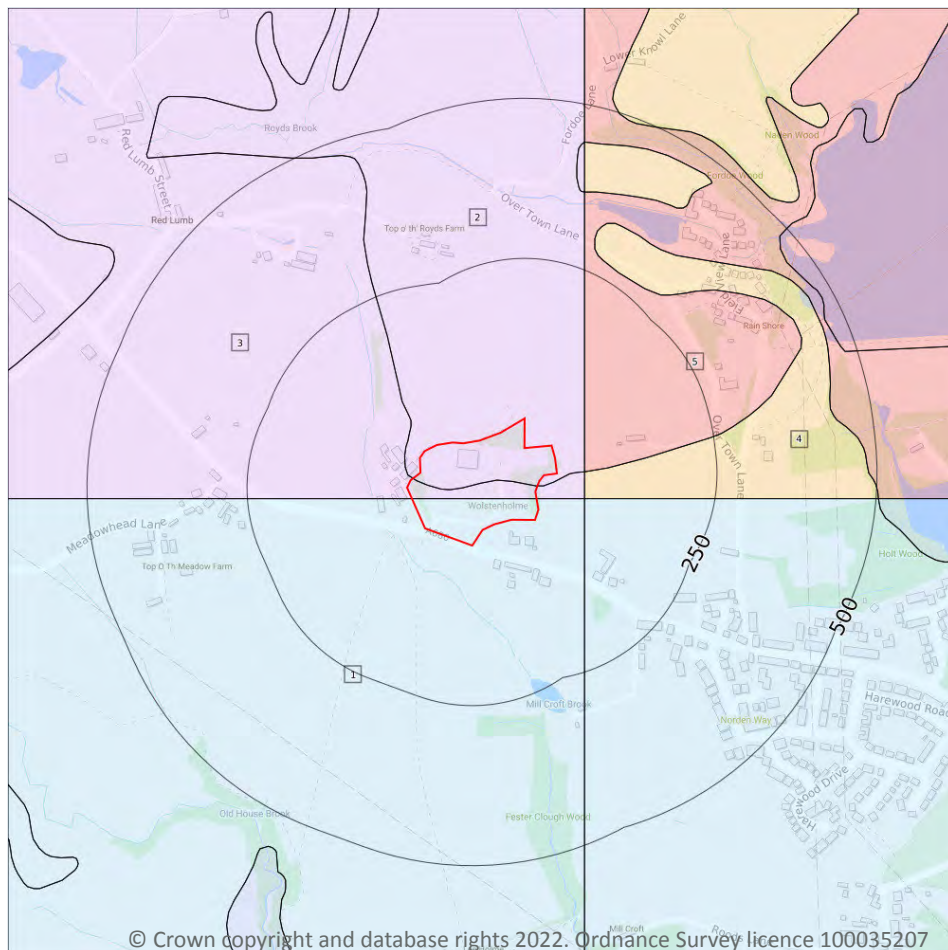


ID	Location	Designation	Description
3	43m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	58m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

5

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 42**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
4	43m E	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
5	43m E	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.



5.5 Groundwater vulnerability- local information

Records on site

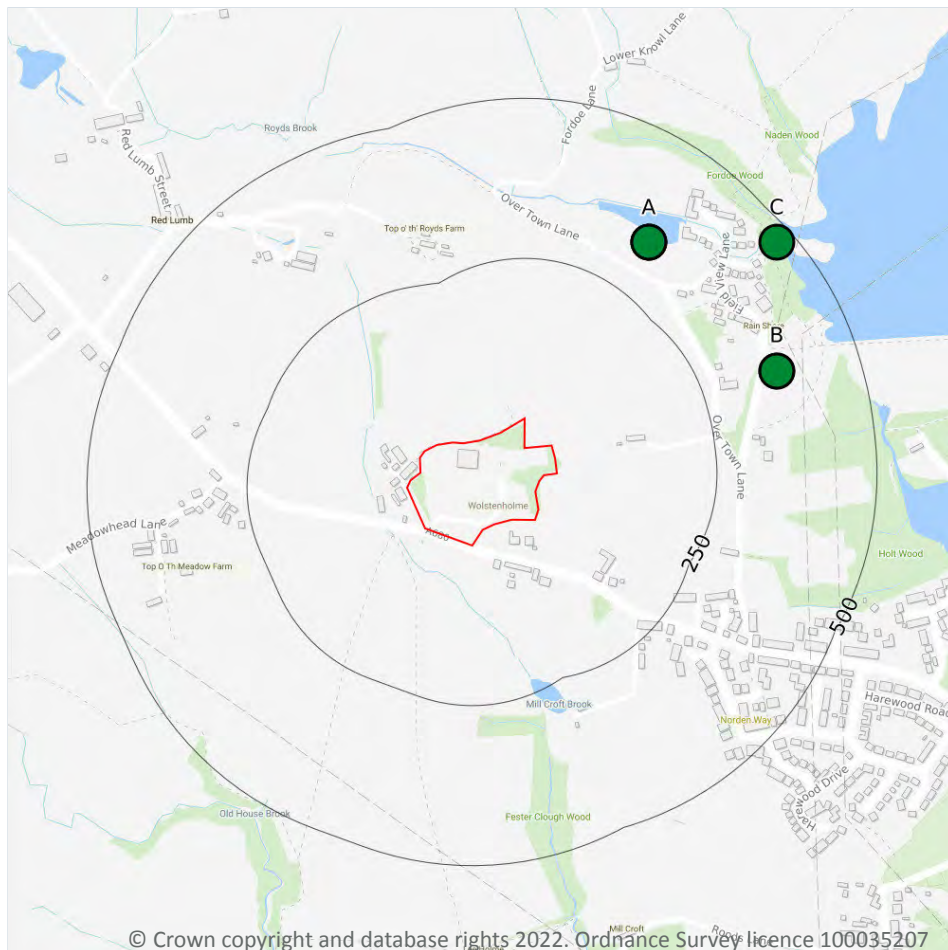
0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

20

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45**

ID	Location	Details	
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
C	473m NE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	473m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	473m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	473m NE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	995m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH" Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	995m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	995m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1578m W	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -



ID	Location	Details	
-	1578m W	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
-	1578m W	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22,732.73 Max Daily Volume (m ³): 62.28 Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -
-	1578m W	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22,732.73 Max Daily Volume (m ³): 62.28 Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -
-	1915m NW	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.



5.7 Surface water abstractions

Records within 2000m

13

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45**

ID	Location	Details	
A	336m NE	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
B	370m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
B	370m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
B	370m E	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	686m E	Status: Historical Licence No: 2569002221 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "NADEN BRK AT NORDERN, NR ROCHDALE" Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
-	686m E	Status: Historical Licence No: 2569002221 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: NADEN BRK AT NORDERN, NR ROCHDALE Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): 150018 Max Daily Volume (m ³): 590.98 Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -



ID	Location	Details	
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1667m W	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1667m W	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m

16

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45**

ID	Location	Details	
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
A	336m NE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
A	336m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
B	370m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
B	370m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
B	370m E	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
C	473m NE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	473m NE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1279m NE	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1667m W	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1667m W	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9,092,000 Max Daily Volume (m ³): 40,914 Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1915m NW	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.



5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

11

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 60**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	41m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
C	42m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
C	49m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
C	54m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
D	54m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
D	76m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
E	78m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
F	183m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	185m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
F	191m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
G	228m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

7

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons. Features are displayed on the Hydrology map on **page 60**



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 60**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Naden Brook	GB112069064710	Roch Irk Medlock	Irwell

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 60**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
6	469m E	River	Naden Brook	GB112069064710	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 60**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Northern Manchester Carboniferous Aquifers	<u>GB41202G101800</u>	Poor	Poor	Good	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m**0**

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m**0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m**0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

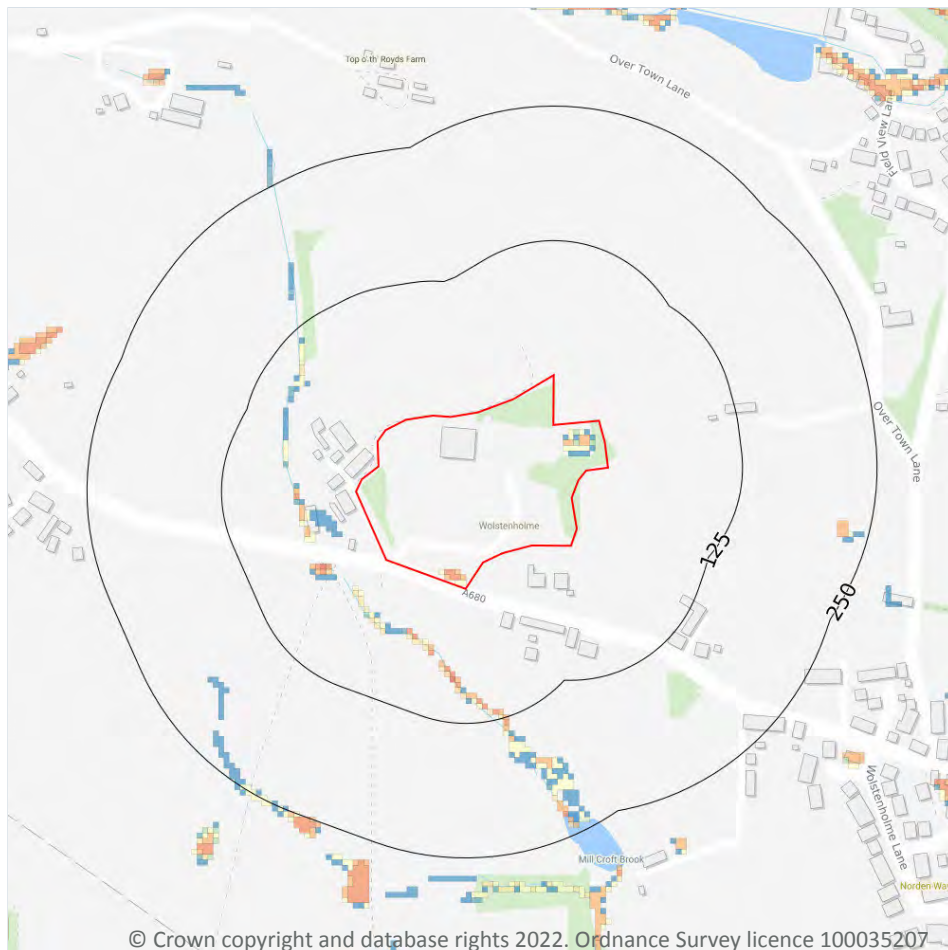
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 67**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

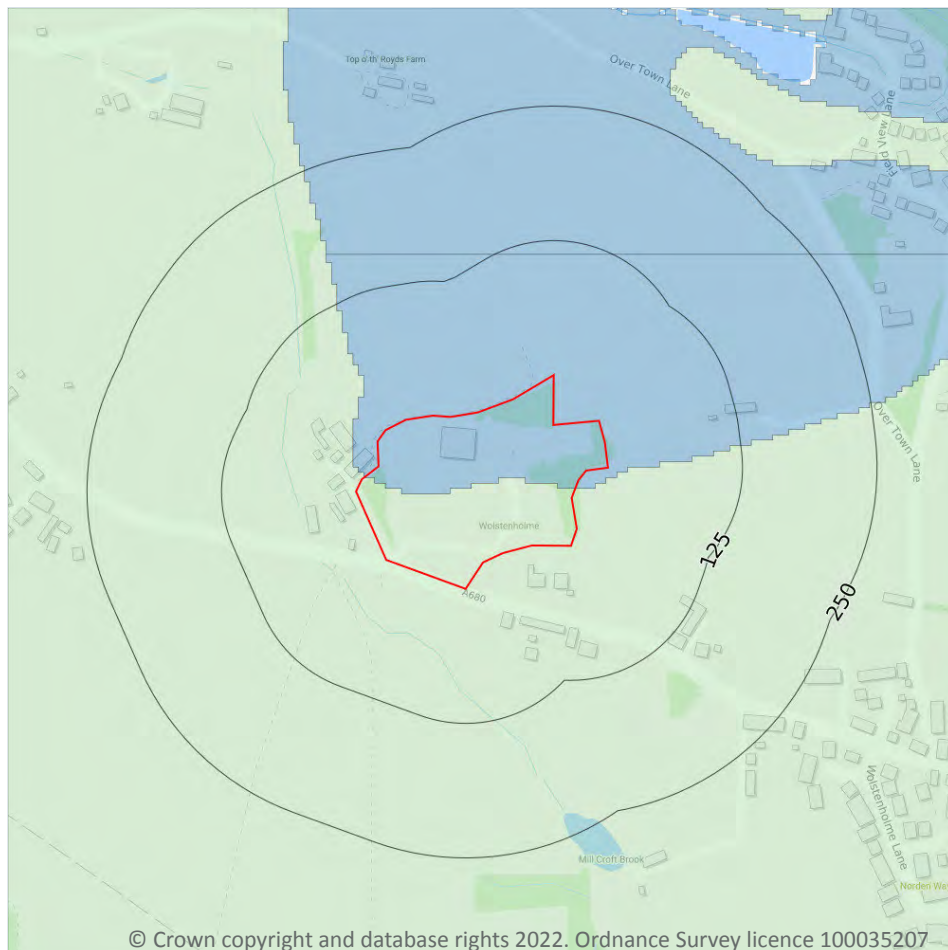
a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

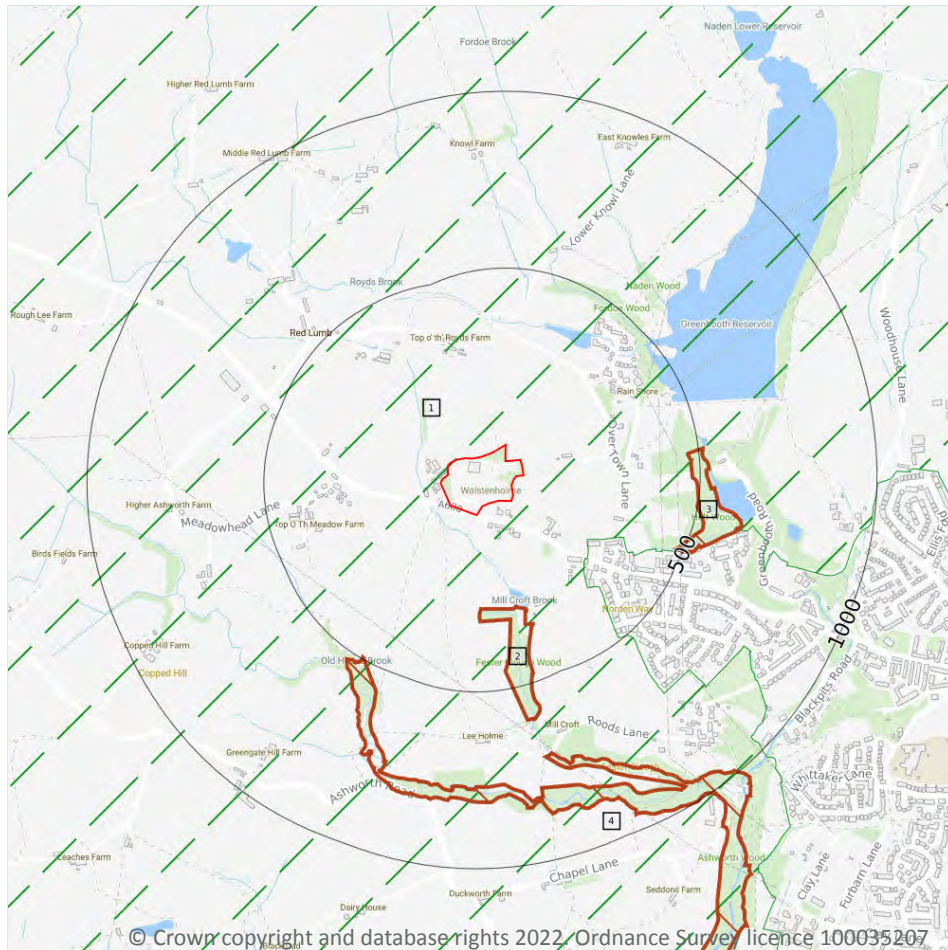
Low

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 69**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.6 Local Nature Reserves (LNR)

Records within 2000m**0**

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m**7**

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 70**

ID	Location	Name	Woodland Type
2	266m S	Fester Clough Wood	Ancient & Semi-Natural Woodland
3	469m E	Wolstenholme Wood	Ancient & Semi-Natural Woodland
4	496m SW	Naden Brook Wood	Ancient & Semi-Natural Woodland
-	1578m S	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1639m S	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1697m S	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1700m SW	Unknown	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m**0**

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.9 Forest Parks

Records within 2000m**0**

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m**1**

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 70**

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Rochdale

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m**0**

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

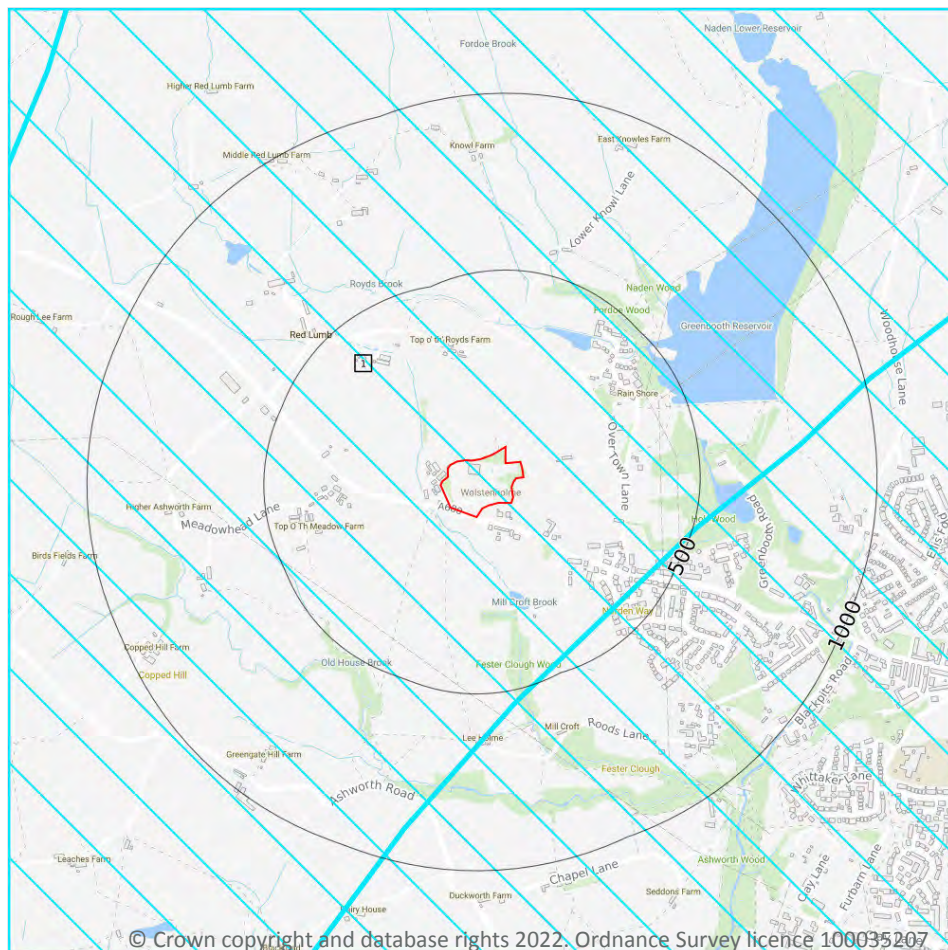
Records within 2000m**0**

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 75**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

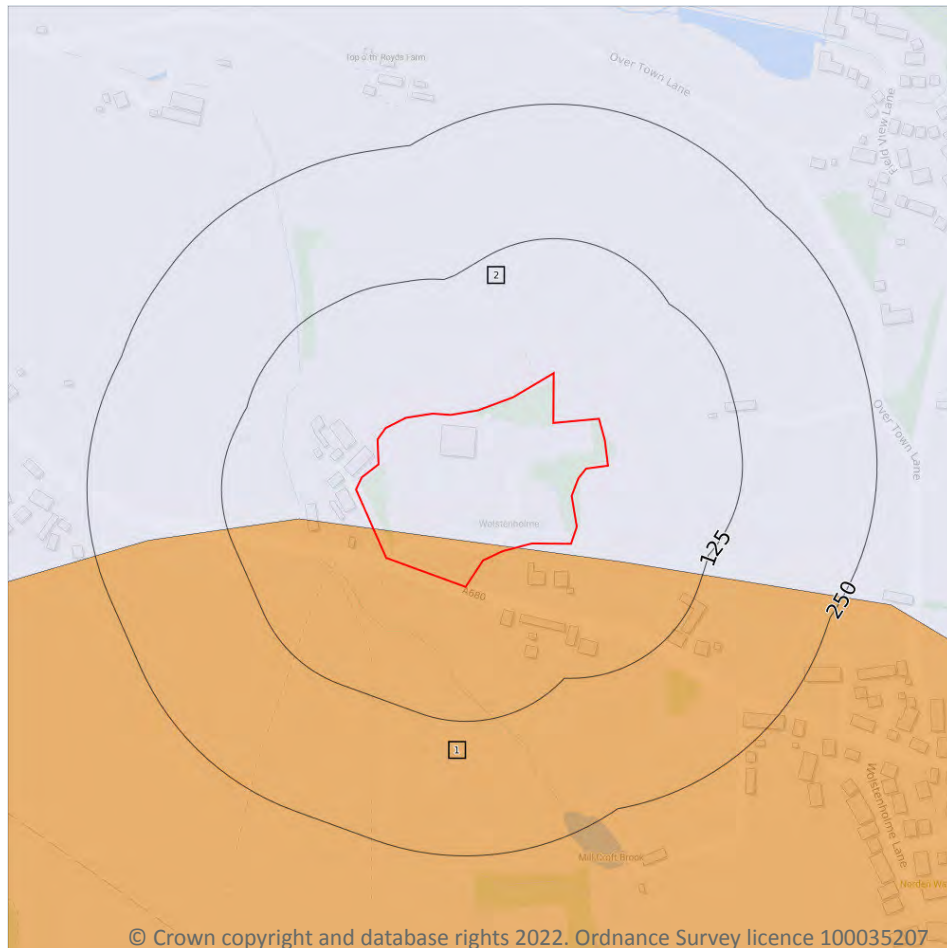
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 79**

ID	Location	Classification	Description
1	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

ID	Location	Classification	Description
2	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0
---------------------	---

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0
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Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	2
---------------------	---

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

Location	Reference	Scheme	Start Date	End date
43m SW	AG00456735	Organic Entry Level Stewardship	01/05/2013	30/04/2018
55m S	AG00456735	Organic Entry Level Stewardship	01/05/2013	30/04/2018

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m**1**

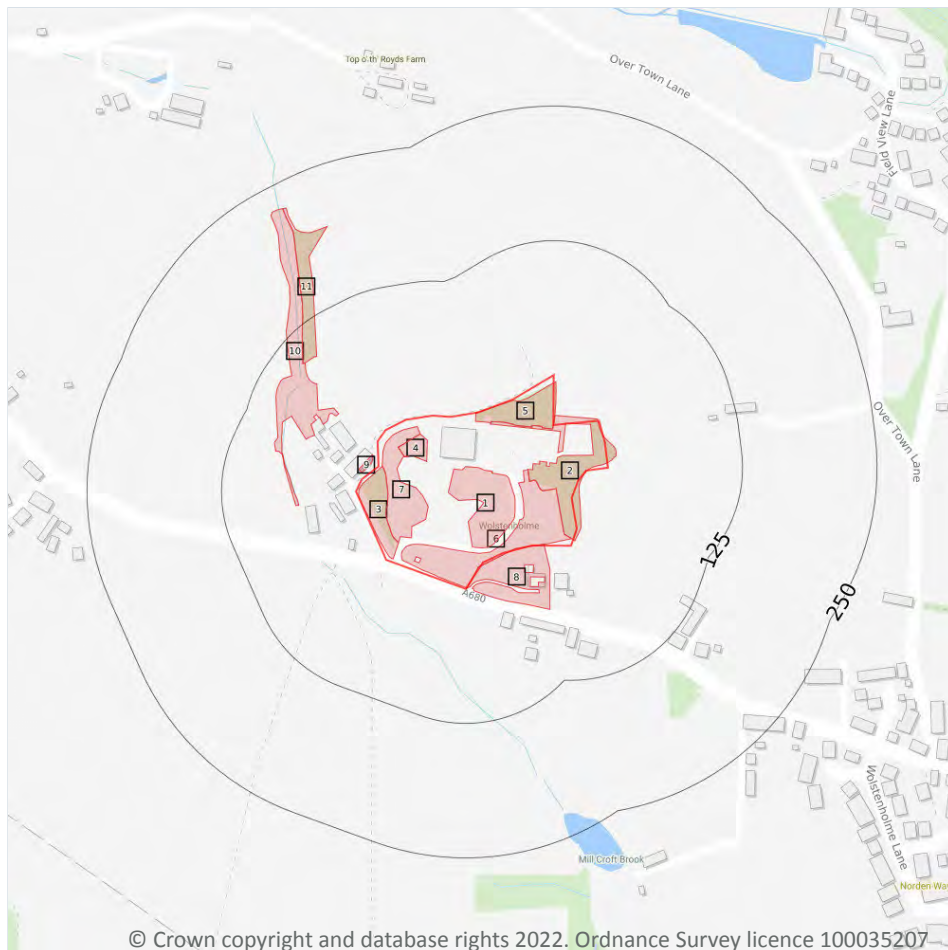
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
43m SW	668527	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

11

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 82**

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	On site	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)
9	5m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	44m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	94m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of

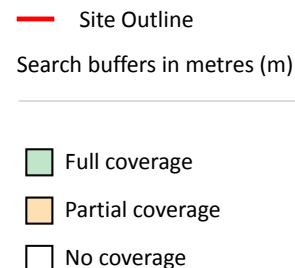
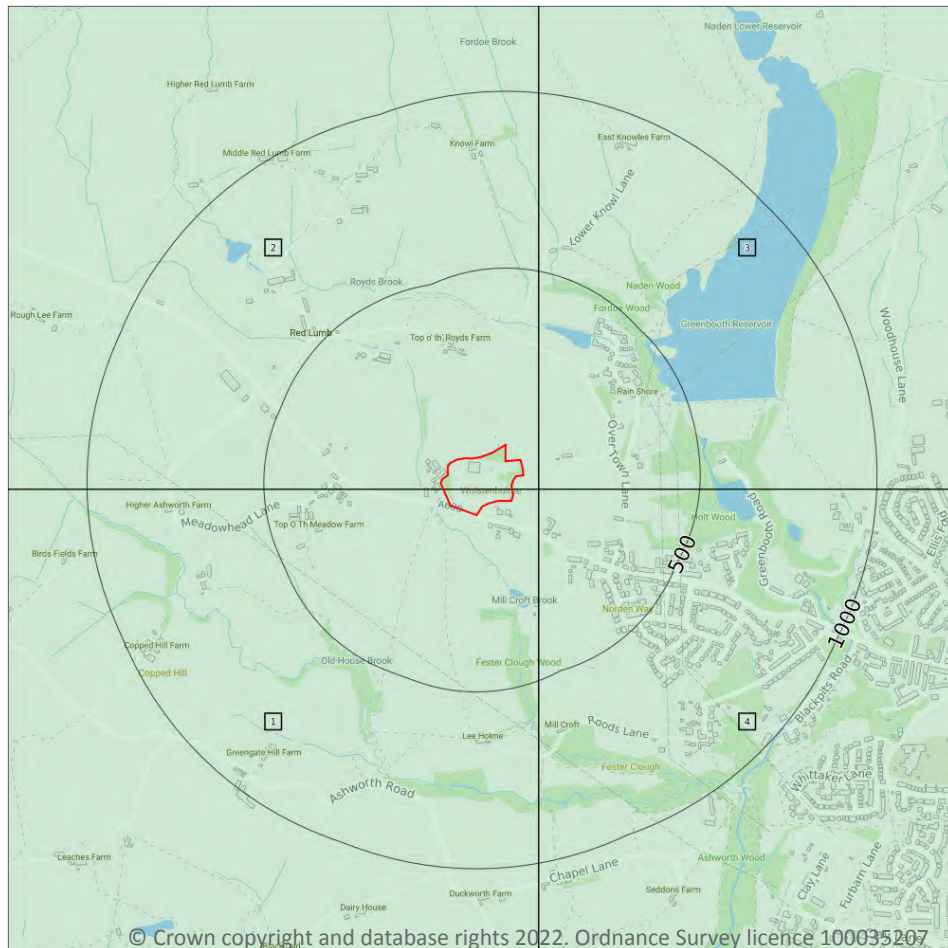


the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m

4

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 85**

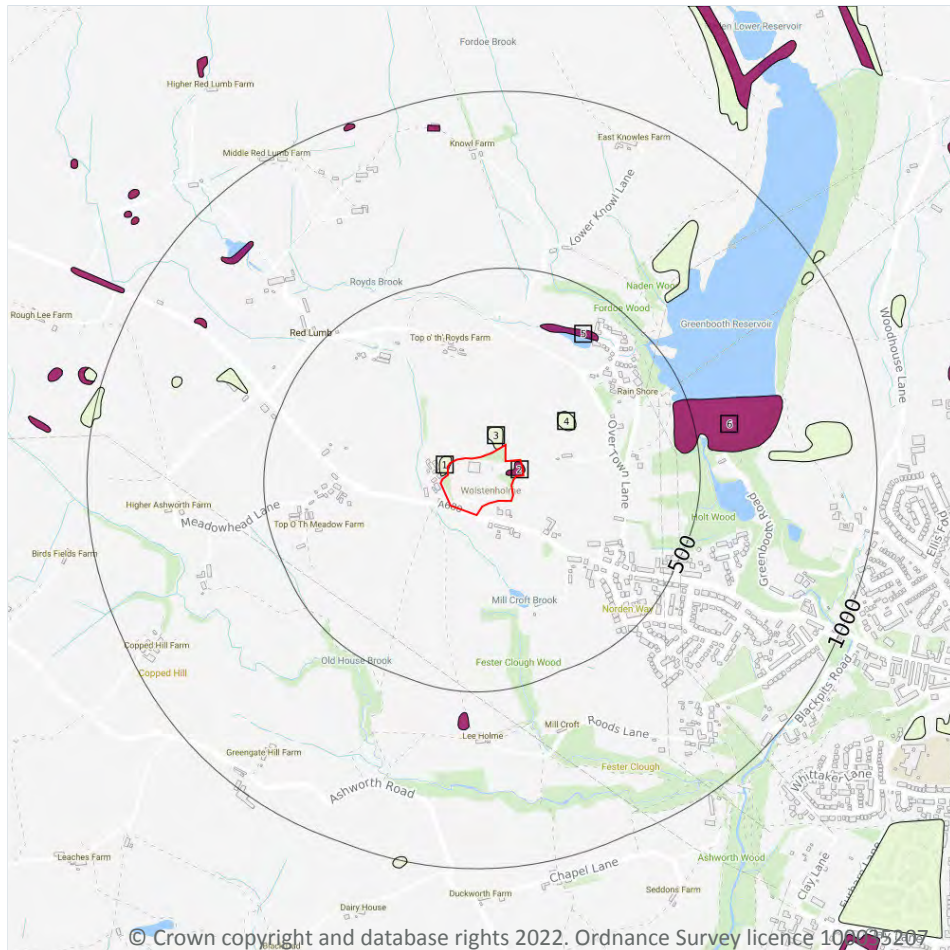
ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD81SW
2	On site	Full	Full	Full	Full	SD81NW
3	43m E	Full	Full	Full	Full	SD81NE
4	58m SE	Full	Full	Full	Full	SD81SE



This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

6

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 87**

ID	Location	LEX Code	Description	Rock description
1	On site	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	On site	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	146m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

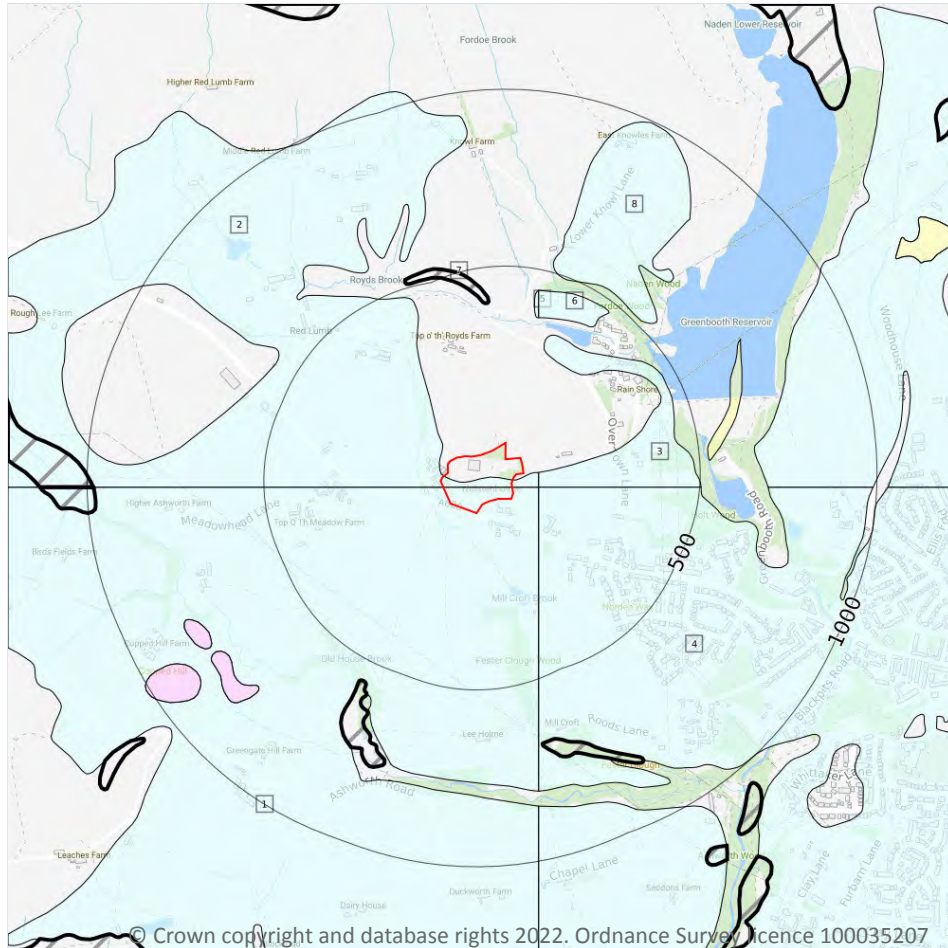


ID	Location	LEX Code	Description	Rock description
5	344m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	436m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

7

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 89**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	43m E	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton



ID	Location	LEX Code	Description	Rock description
4	58m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
5	366m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
6	366m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
8	493m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

1

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.

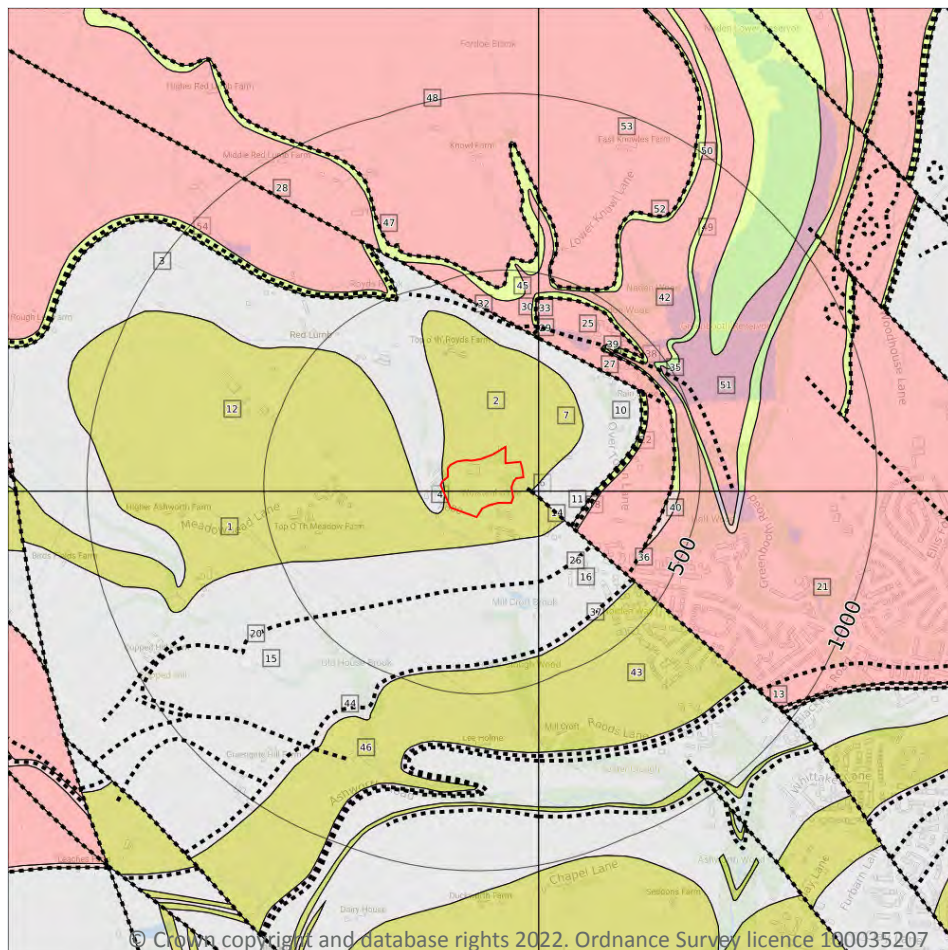
Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 89**

ID	Location	LEX Code	Description	Rock description
7	399m N	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

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.

14.5 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 91**

ID	Location	LEX Code	Description	Rock age
1	On site	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
2	On site	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
3	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
4	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6	43m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
7	43m E	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
8	45m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	47m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	58m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
12	67m W	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
14	71m SE	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
15	80m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
16	122m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	182m E	ROSSE-MDSI	Rossendale Formation - Mudstone And Siltstone	Yeadonian Sub-age
21	201m SE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
22	206m E	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
25	225m E	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
29	321m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
30	326m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
34	341m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
38	389m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
40	393m E	ROSSE-MDSI	Rossendale Formation - Mudstone And Siltstone	Yeadonian Sub-age
42	398m NE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
43	404m SE	GAS-SDST	Great Arc Sandstone - Sandstone	Langsettian Sub-age
45	413m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age



ID	Location	LEX Code	Description	Rock age
46	425m S	GAS-SDST	Great Arc Sandstone - Sandstone	Langsettian Sub-age
48	451m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
49	468m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
50	469m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
51	475m NE	UH-SDST	Upper Haslingden Flags - Sandstone	Yeadonian Sub-age
53	478m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
54	488m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

23

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 91**

ID	Location	Category	Description
5	33m S	FAULT	Normal fault, inferred
9	45m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
13	71m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
17	182m E	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
19	192m E	ROCK	Coal seam, inferred
20	199m S	ROCK	Coal seam, inferred
23	206m E	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
24	216m E	ROCK	Coal seam, inferred
26	236m S	ROCK	Coal seam, inferred
27	316m NE	FAULT	Normal fault, inferred
28	321m N	FAULT	Normal fault, inferred

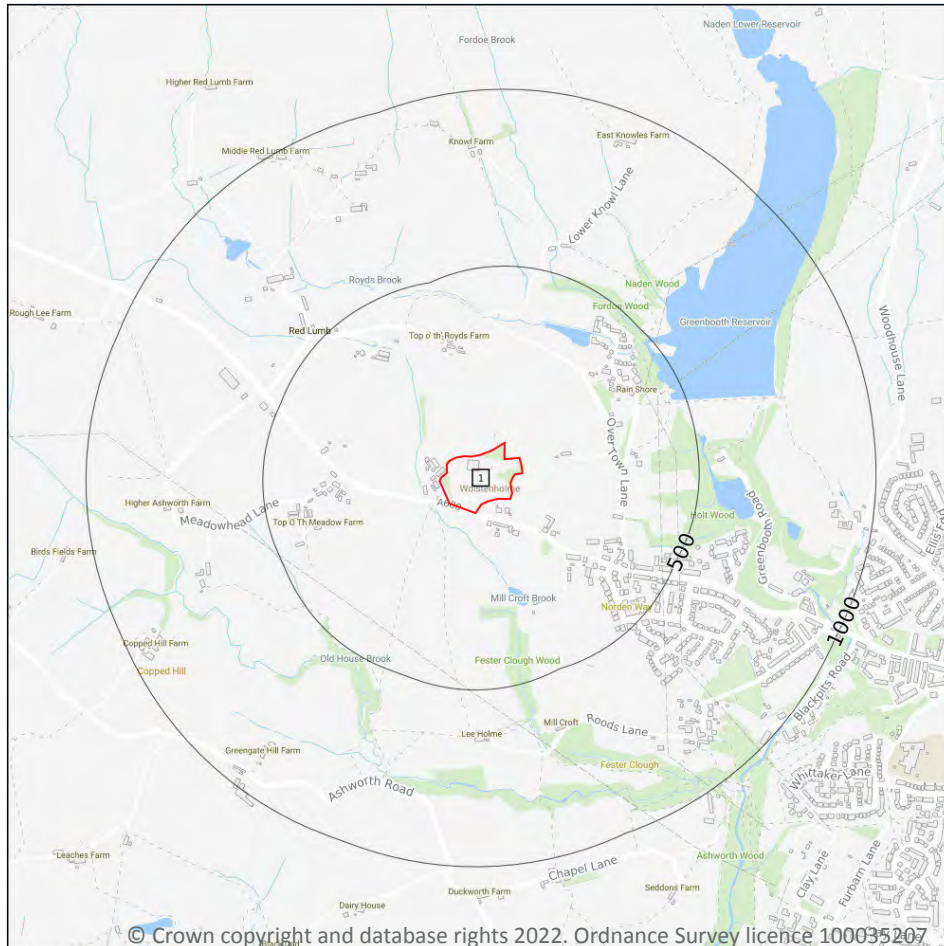


ID	Location	Category	Description
31	326m N	ROCK	Coal seam, inferred coincident with bedrock geology boundary
32	340m N	LANDFORM	Glacial meltwater channel, undifferentiated, centre line
33	341m N	ROCK	Coal seam, inferred coincident with bedrock geology boundary
35	352m N	LANDFORM	Glacial meltwater channel, undifferentiated, centre line
36	388m SE	ROCK	Coal seam, inferred
37	388m SE	ROCK	Coal seam, inferred
39	389m NE	ROCK	Coal seam, inferred coincident with bedrock geology boundary
41	393m E	ROCK	Coal seam, inferred coincident with bedrock geology boundary
44	409m S	ROCK	Coal seam, inferred
47	451m N	ROCK	Coal seam, inferred coincident with bedrock geology boundary
52	478m N	ROCK	Coal seam, inferred coincident with bedrock geology boundary
55	488m N	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 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.

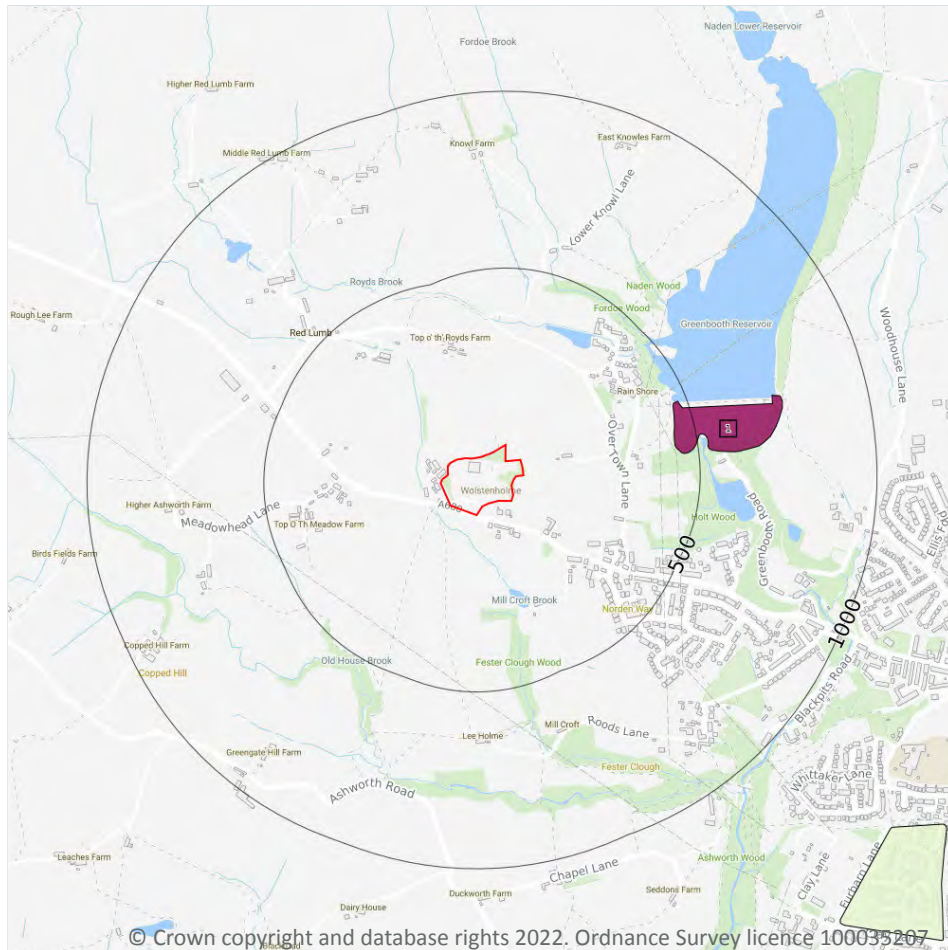
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 95**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW076_rochdale_v4

This data is sourced from the British Geological Survey.



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



- Site Outline
- Search buffers in metres (m)
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

1

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 96**

ID	Location	LEX Code	Description	Rock description
1	436m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

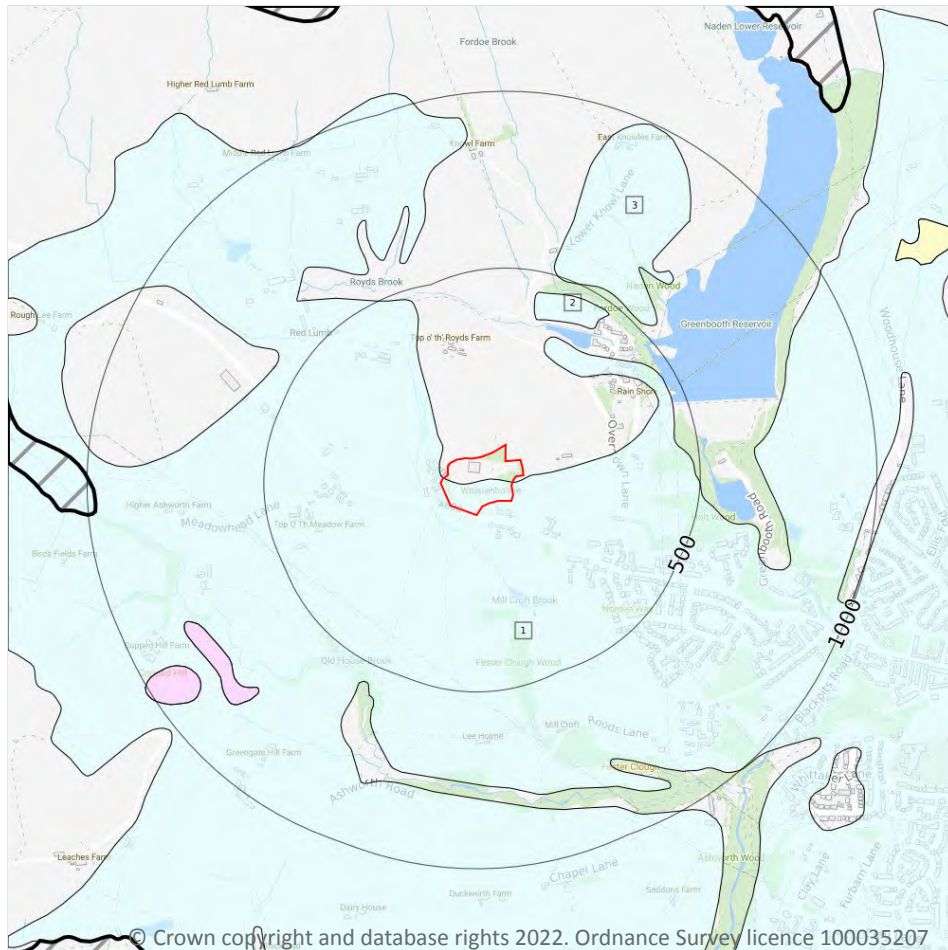
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial 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 - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

3

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 98**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	366m N	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
3	493m N	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

3

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).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
On site	Mixed	High	Low
43m E	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 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.

15.7 Landslip permeability (50k)

Records within 50m

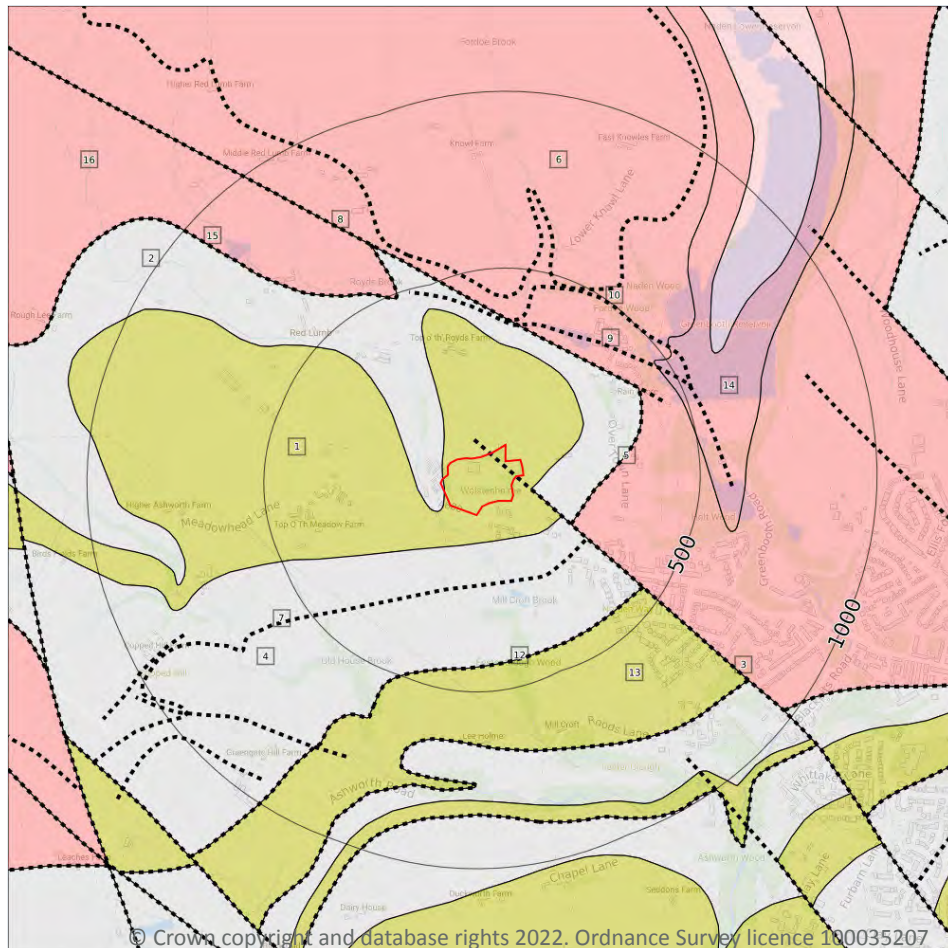
0

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.

15.8 Bedrock geology (50k)

Records within 500m

7

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 100**

ID	Location	LEX Code	Description	Rock age
1	On site	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN
2	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	79m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
6	182m E	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
13	424m S	GAS-SDST	GREAT ARC SANDSTONE - SANDSTONE	WESTPHALIAN
14	468m NE	UH-SDST	UPPER HASLINGDEN FLAGS - SANDSTONE	NAMURIAN
16	488m N	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	8
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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
On site	Fracture	High	Moderate
On site	Fracture	High	Moderate
On site	Fracture	Moderate	Low
43m E	Fracture	Moderate	Low
43m NE	Fracture	High	Moderate
45m E	Fracture	Moderate	Low
47m NE	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	9
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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 100**



ID	Location	Category	Description
3	On site	FAULT	Fault, inferred
5	182m E	FOSSIL_HORIZON	Marine band
7	198m S	ROCK	Coal seam, inferred
8	316m NE	FAULT	Fault, inferred
9	339m N	LANDFORM	Glacial meltwater channel centre line, undifferentiated
10	353m N	LANDFORM	Ice-marginal glacial meltwater channel centre line (tail)
11	419m N	ROCK	Coal seam, inferred
12	424m S	ROCK	Coal seam, inferred
15	488m N	FOSSIL_HORIZON	Marine band

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

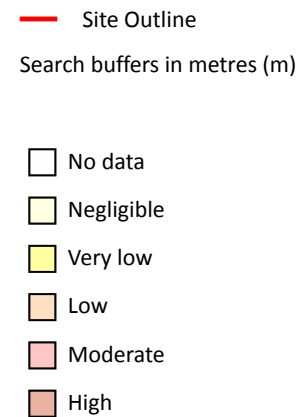
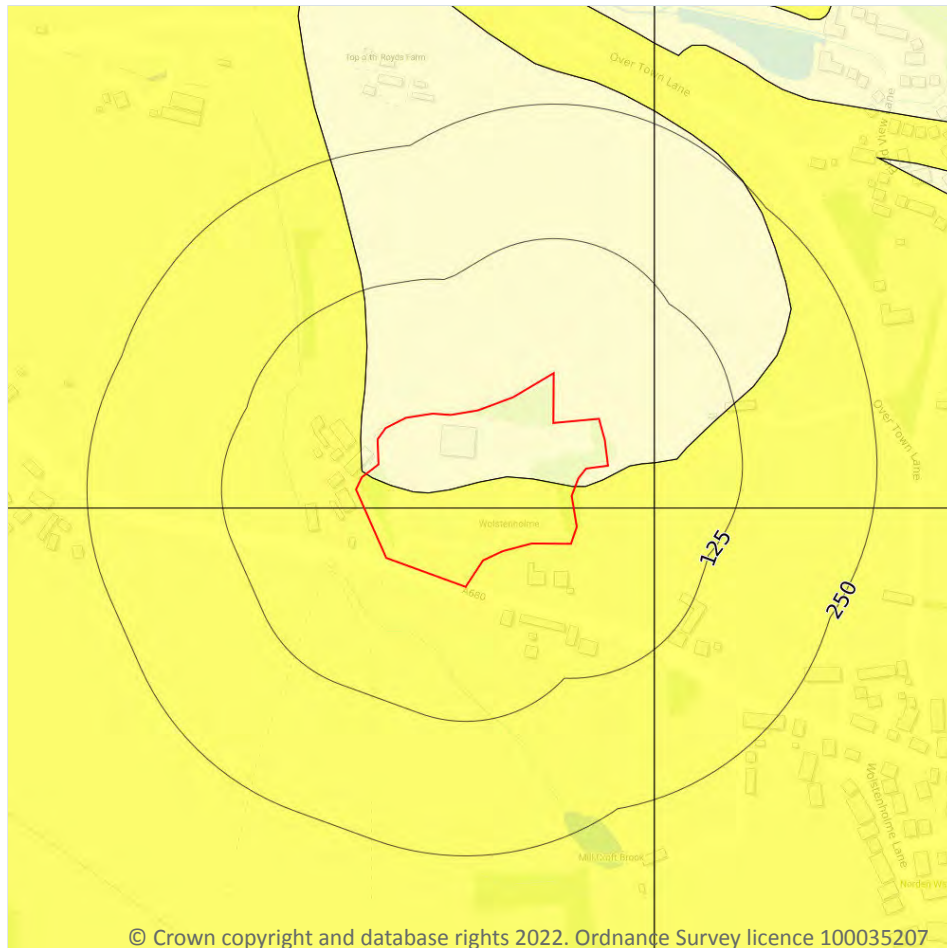
0

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.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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17.1 Shrink swell clays

Records within 50m

4

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 104**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
43m E	Very low	Ground conditions predominantly low plasticity.

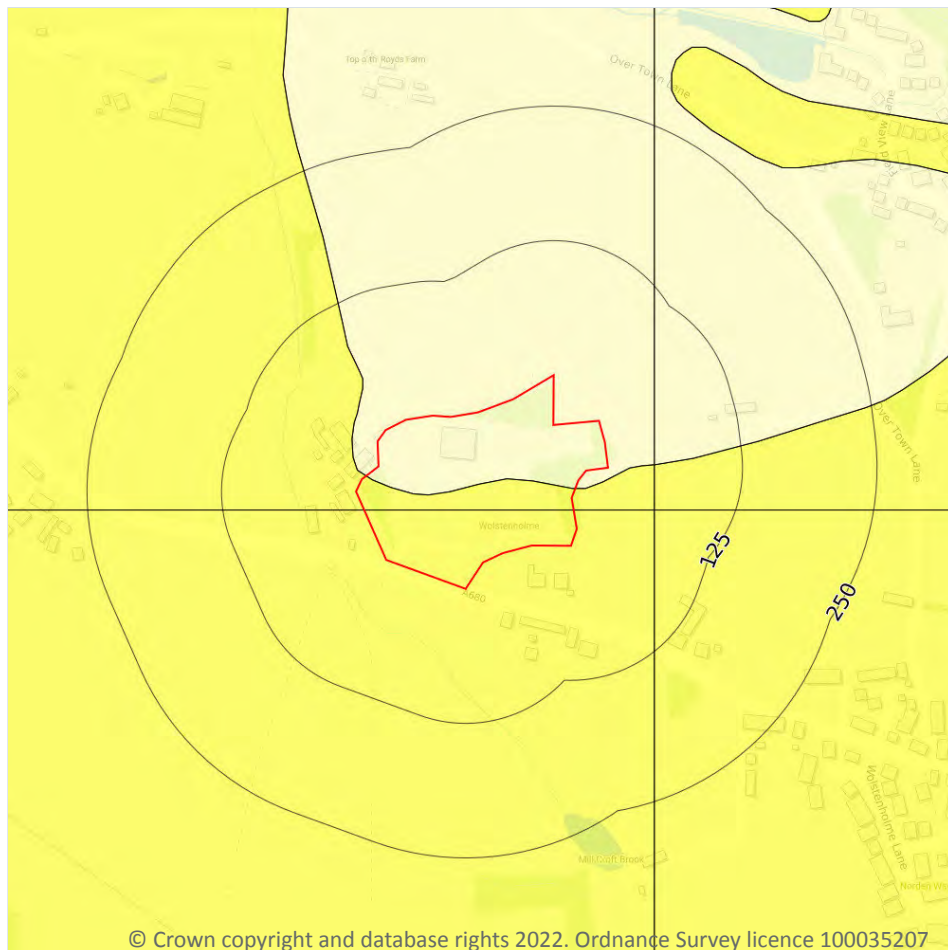


Location	Hazard rating	Details
43m E	Negligible	Ground conditions predominantly non-plastic.

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

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17.2 Running sands

Records within 50m

4

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 106**

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.

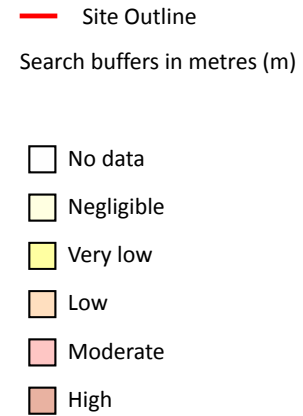
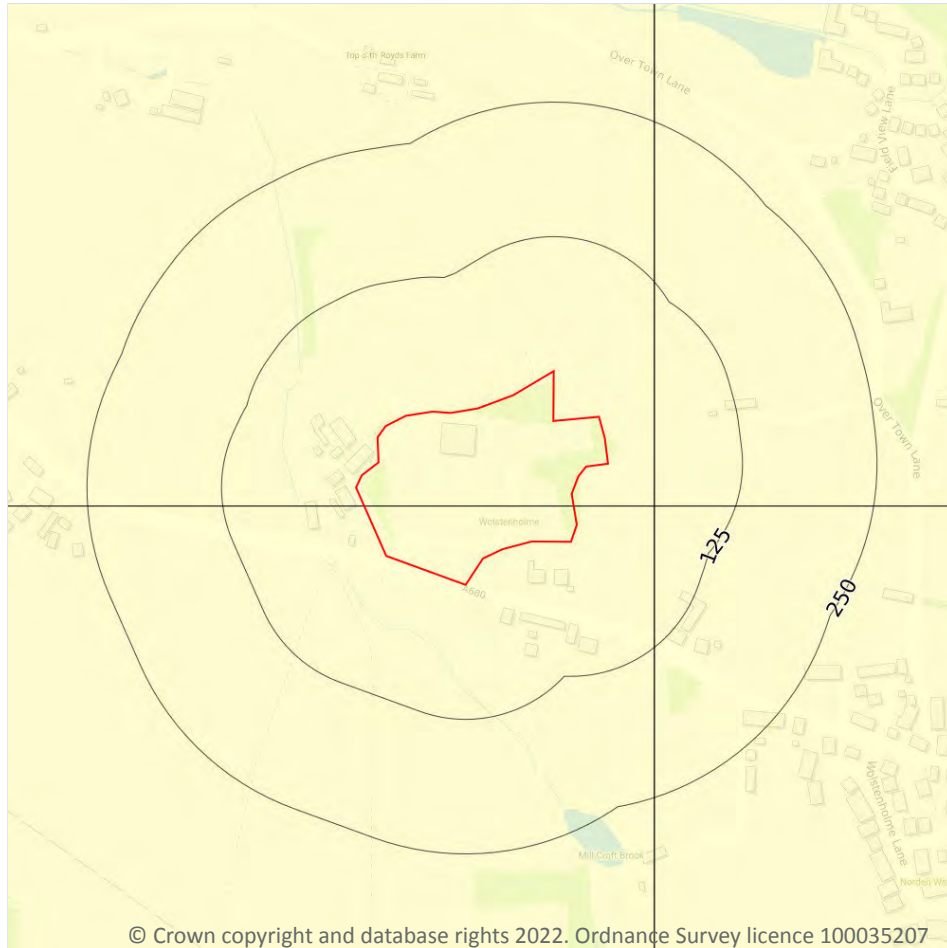


Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
43m E	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
43m E	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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 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.

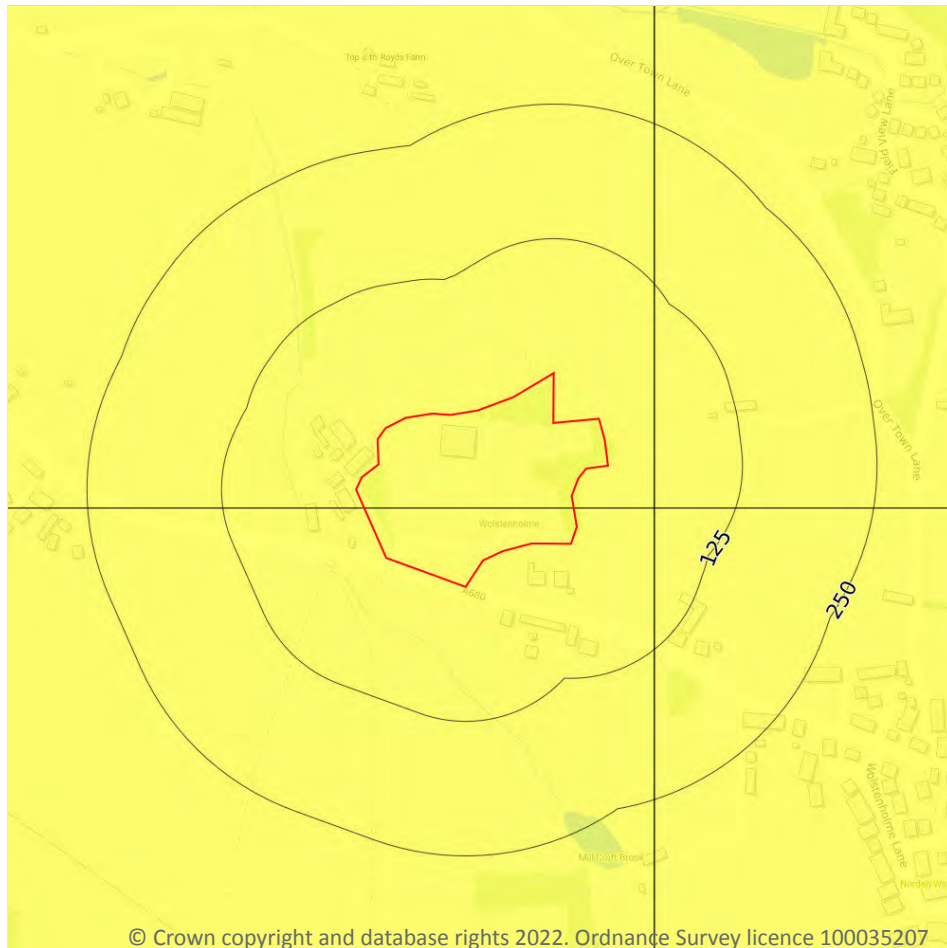
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 108**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
43m E	Negligible	Compressible strata are not thought to occur.

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

17.4 Collapsible deposits

Records within 50m

2

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.

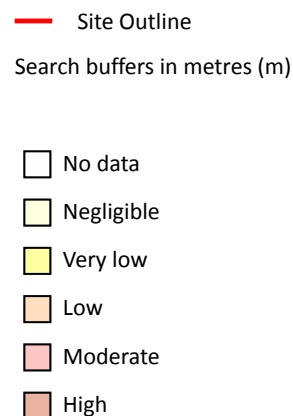
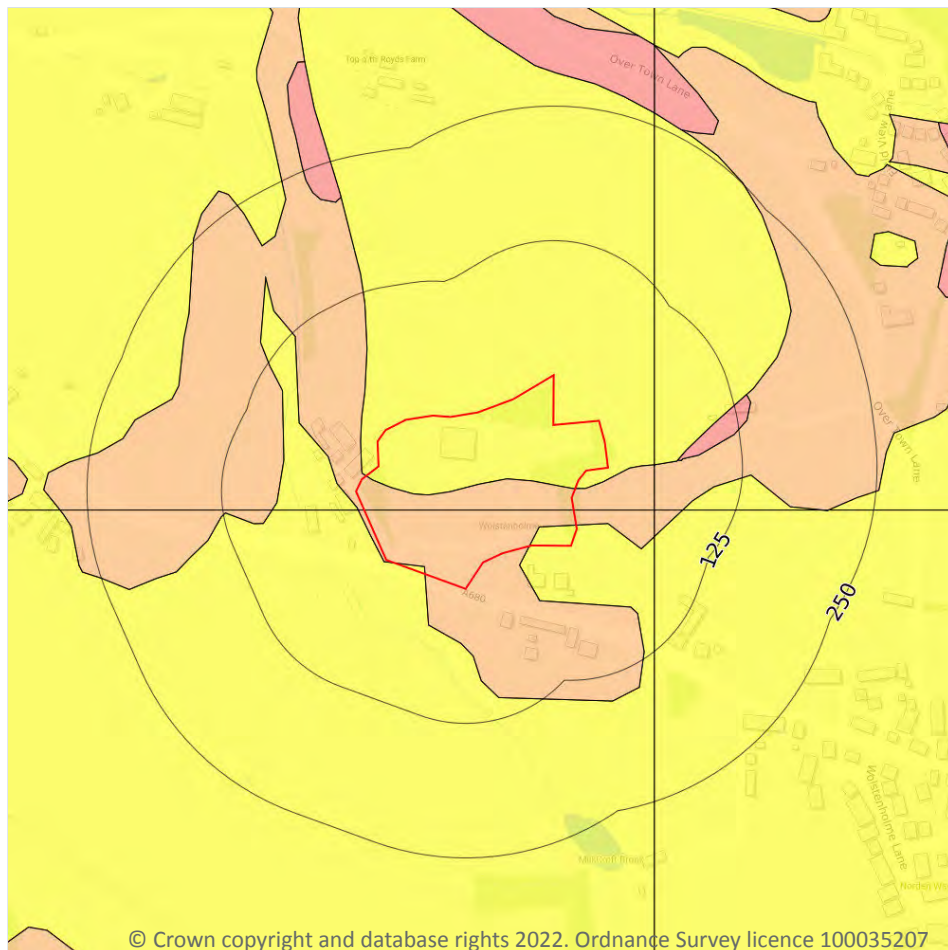
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 109**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
43m E	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



17.5 Landslides

Records within 50m

5

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 110**

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.

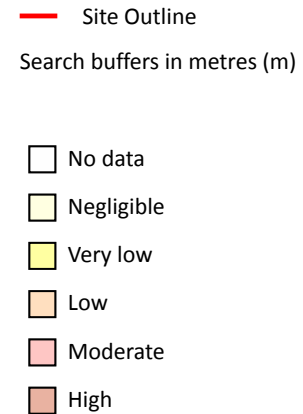
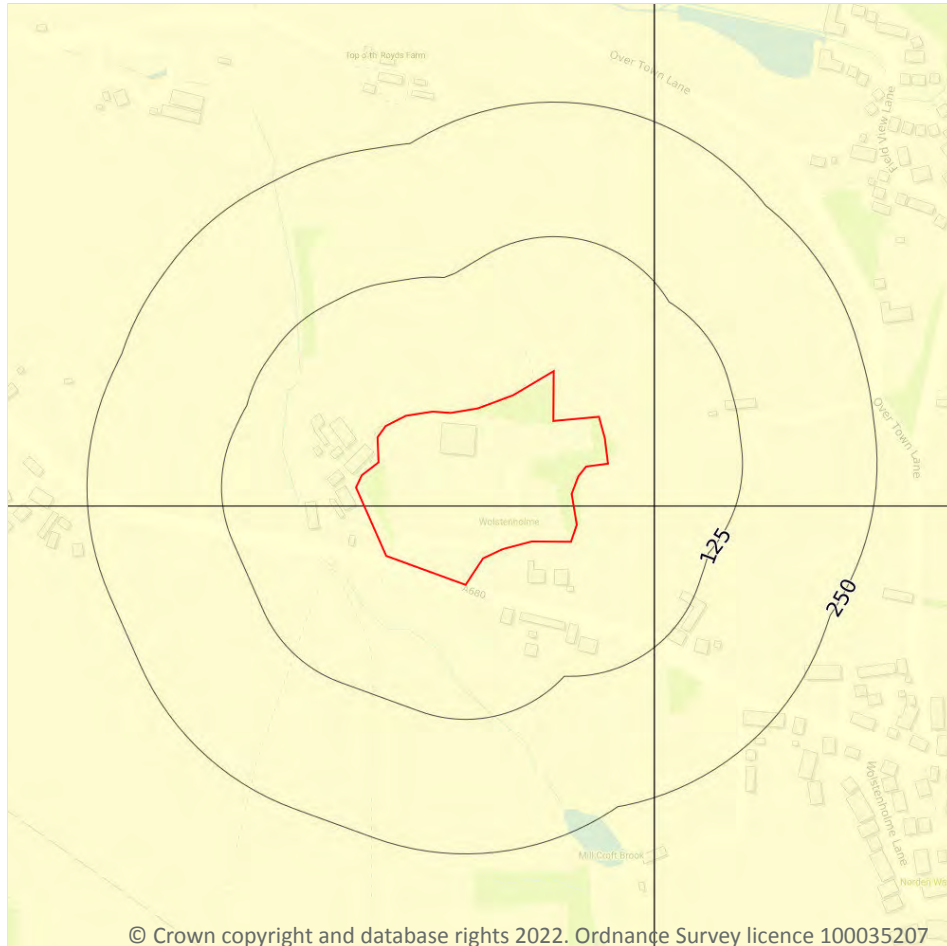


Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
5m SW	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
43m E	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
43m E	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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

2

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 112**

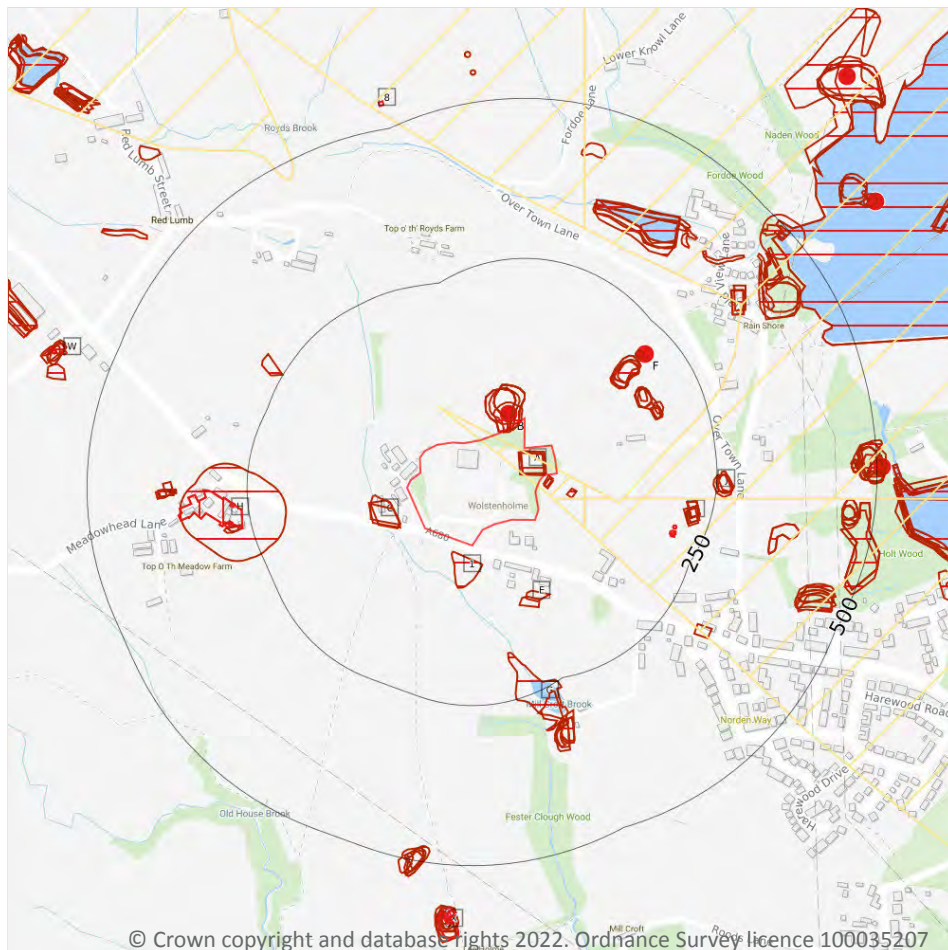
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

Location	Hazard rating	Details
43m E	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.



18 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

18.1 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.

18.2 BritPits

Records within 500m

2

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 114**

ID	Location	Details	Description
B	18m NW	Name: Wolstenholmes Hall Address: Wolstenholme, ROCHDALE, Lancashire 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
F	204m NE	Name: Over Town Address: Wolstenholme, ROCHDALE, Lancashire 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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

48

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 114**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Reservoir	1928	1:10560
A	On site	Reservoir	1909	1:10560
A	On site	Pond	1890	1:10560
B	On site	Unspecified Quarry	1992	1:10000
B	On site	Unspecified Quarry	1967	1:10560
B	On site	Unspecified Quarry	1949	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Unspecified Quarry	1987	1:10000
B	On site	Unspecified Quarry	1938	1:10560
B	On site	Unspecified Old Quarry	1928	1:10560
B	On site	Unspecified Old Quarry	1909	1:10560
B	On site	Unspecified Old Quarries	1890	1:10560
B	On site	Sandstone Quarry	1851	1:10560
A	1m S	Filter Beds	1938	1:10560
A	6m S	Filter Beds	1928	1:10560
1	19m S	Pond	1851	1:10560
C	32m SW	Pond	1928	1:10560
C	32m SW	Pond	1851	1:10560
C	33m SW	Pond	1890	1:10560
A	33m SE	Filter Beds	1938	1:10560
E	111m S	Unspecified Pit	1956	1:10560
E	113m SE	Unspecified Pit	1928	1:10560
F	136m NE	Unspecified Pit	1928	1:10560
F	136m NE	Unspecified Quarry	1938	1:10560
F	136m NE	Unspecified Old Quarries	1890	1:10560
F	139m NE	Unspecified Quarry	1909	1:10560
F	144m NE	Refuse Heap	1979	1:10000
F	144m NE	Unspecified Pit	1949	1:10560
F	148m NE	Refuse Heap	1967	1:10560
F	149m NE	Unspecified Pit	1928	1:10560
F	149m NE	Unspecified Heaps	1938	1:10560
F	151m NE	Unspecified Ground Workings	1909	1:10560
F	157m NE	Unspecified Heap	1949	1:10560
F	164m E	Unspecified Heap	1928	1:10560
F	167m E	Unspecified Heap	1909	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
F	170m E	Unspecified Heap	1949	1:10560
G	177m S	Pond	1851	1:10560
H	192m W	Colliery	1891	1:10560
F	192m NE	Sandstone Quarry	1851	1:10560
I	206m E	Reservoir	1938	1:10560
I	208m E	Pond	1992	1:10000
I	208m E	Pond	1987	1:10000
I	208m E	Pond	1975	1:10000
I	208m E	Reservoir	1949	1:10560
I	208m E	Pond	1968	1:10560
I	210m E	Reservoir	1928	1:10560
I	212m E	Reservoir	1909	1:10560
J	245m E	Unspecified Heap	1928	1:10560
J	249m E	Unspecified Heap	1938	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

38

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 114**

ID	Location	Land Use	Year of mapping	Mapping scale
I	199m SE	Unspecified Old Shaft	1938	1:10560
I	199m SE	Unspecified Old Shaft	1949	1:10560
I	202m SE	Unspecified Old Shaft	1928	1:10560
I	203m SE	Unspecified Old Shaft	1909	1:10560
H	261m W	Disused Colliery	1908	1:10560
H	270m W	Unspecified Old Shaft	1949	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
H	278m W	Unspecified Old Shaft	1928	1:10560
H	283m W	Unspecified Old Shaft	1938	1:10560
8	537m N	Unspecified Shaft	1890	1:10560
X	566m S	Old Coal Pit	1890	1:10560
X	572m S	Unspecified Disused Shaft	1983	1:10000
X	572m S	Unspecified Disused Shaft	1967	1:10560
W	572m W	Unspecified Old Shaft	1891	1:10560
X	574m S	Unspecified Old Shaft	1949	1:10560
X	580m S	Unspecified Old Shaft	1928	1:10560
X	582m S	Unspecified Shaft	1890	1:10560
X	582m S	Unspecified Old Shaft	1938	1:10560
X	584m S	Old Coal Shaft	1908	1:10560
W	588m W	Old Coal Shaft	1928	1:10560
W	588m W	Old Coal Shaft	1908	1:10560
-	745m S	Old Coal Pit	1890	1:10560
-	746m S	Old Coal Shaft	1908	1:10560
-	753m N	Air Shaft	1928	1:10560
-	753m N	Air Shaft	1909	1:10560
-	753m N	Air Shaft	1938	1:10560
-	760m N	Air Shaft	1949	1:10560
-	801m S	Unspecified Disused Shaft	1983	1:10000
-	801m S	Unspecified Disused Shaft	1967	1:10560
-	806m S	Unspecified Old Shaft	1949	1:10560
-	814m S	Old Coal Shaft	1908	1:10560
-	814m S	Unspecified Old Shaft	1938	1:10560
-	814m S	Unspecified Old Shaft	1928	1:10560
-	918m N	Unspecified Level	1992	1:10000
-	918m N	Unspecified Level	1967	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	918m N	Unspecified Level	1987	1:10000
-	919m N	Unspecified Level	1938	1:10560
-	921m N	Unspecified Level	1909	1:10560
-	928m N	Unspecified Level	1928	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.5 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.

18.6 Non-coal mining

Records within 1000m

6

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 114**

ID	Location	Name	Commodity	Class	Likelihood
A	On site	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
A	26m E	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
A	46m E	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered



ID	Location	Name	Commodity	Class	Likelihood
2	58m SE	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
D	110m E	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
5	311m N	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 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.

18.8 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.

18.9 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.

18.10 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.

18.11 Gypsum areas

Records on site	0
-----------------	---

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

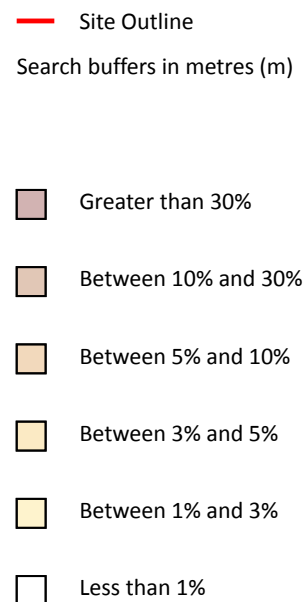
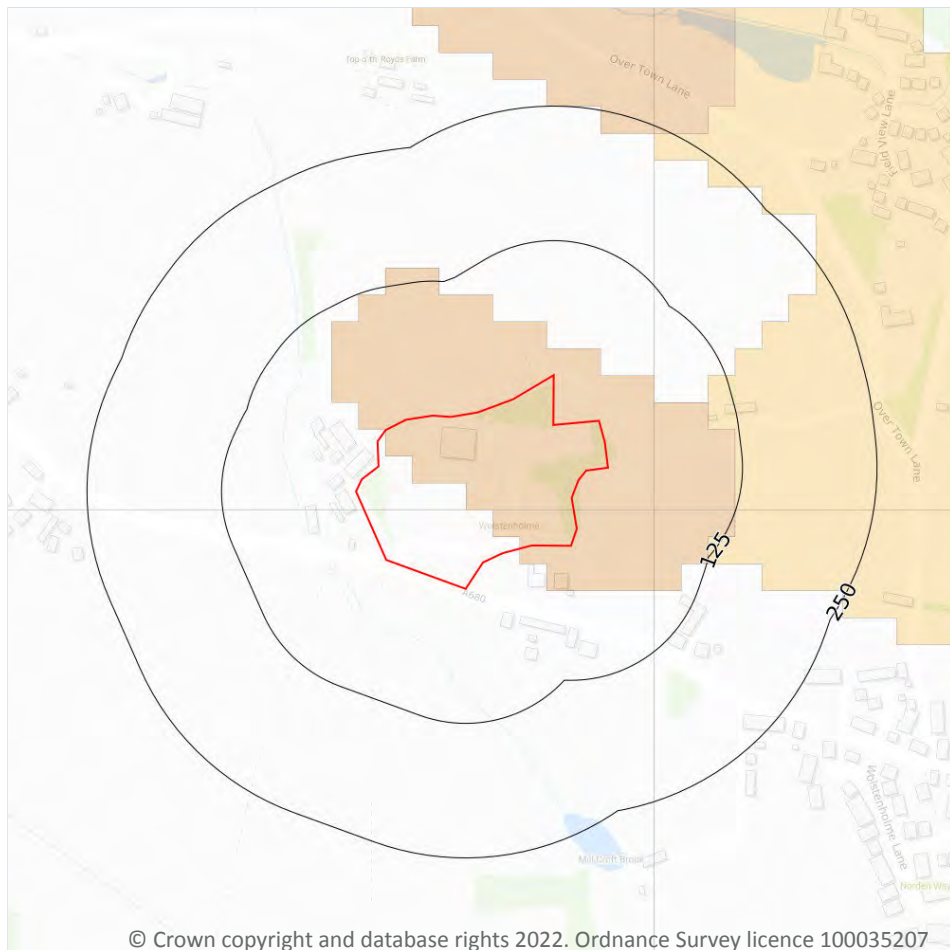
Records on site	0
-----------------	---

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

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



19 Radon



19.1 Radon

Records on site

2

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 122**

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic
On site	Less than 1%	None**



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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

17

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 km². 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 km²; 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	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
26m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
28m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
41m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
43m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
46m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
46m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 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 km²).

This data is sourced from the British Geological Survey.

20.3 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 km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0
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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.

21.2 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.

21.3 Railway tunnels

Records within 250m	0
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Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 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.

21.5 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.

21.6 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.

21.7 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.

21.8 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.

21.9 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.

21.10 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>.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



APPENDIX 5 - Coal Authority Report



The Coal
Authority

CON29M

coal mining report

1, WOLSTENHOLME HALL FARM, EDENFIELD ROAD, ROCHDALE, OL12 7TT



Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **ORD-22065-2315**
Our reference: **51002946286001**
Date: **14 February 2022**

Client name:
GROUNDTECH CONSULTING

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

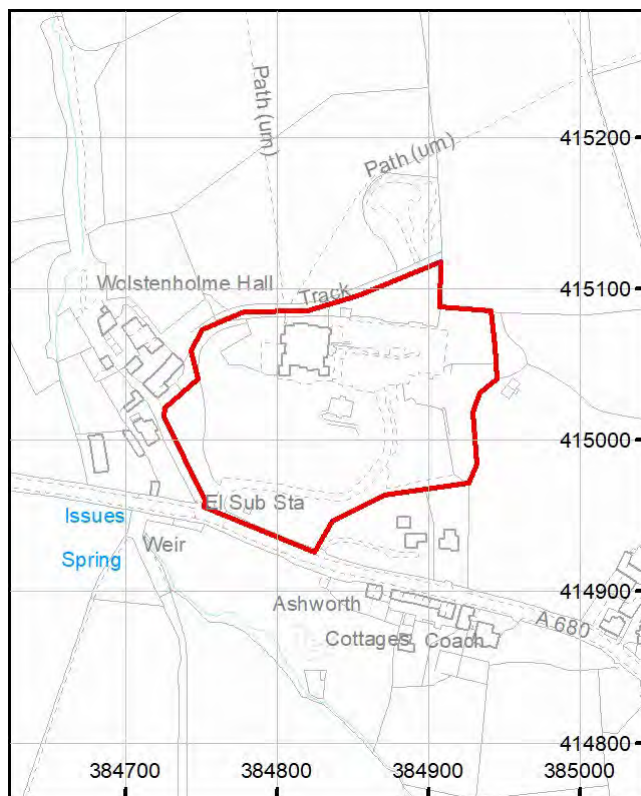
Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion



Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **cmra@coal.gov.uk**.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 1 seam of coal at 80m to 100m depth, and last worked in 1900.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

In addition the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **0800 288 4242**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

APPENDIX 6 - Relevant Contaminated Land Legislation

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

- 1) Significant harm is being caused or there is a significant possibility of such harm being caused;
- 2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- CLR11 – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;

APPENDIX 7 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ➡ Hazard Assessment ➡ Risk Estimation ➡ Risk Evaluation

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under CLR11, three tiers of risk assessment exist - Preliminary, Generic Quantitative and Detailed Quantitative.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- **High likelihood:** There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- **Likely:** There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- **Low likelihood:** There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;
- **Unlikely:** There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- **Severe:** Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- **Medium:** Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;
- **Mild:** Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.
- **Minor:** harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- **Very high:** There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;
- **High:** Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;
- **Moderate:** It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;
- **Low:** It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild;
- **Very Low:** There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX 8 - Limitations

Limitations

This contract was completed by Groundtech Consulting on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with due skill and care, taking into consideration the project brief provided, project objectives, agreed scope of works, prevailing site conditions and budget allocation.

Other than that defined in the paragraph above, Groundtech Consulting provides no other accountability or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted industry practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Groundtech Consulting. A third party who relies on this report, does so at their own and sole risk and no liability to such parties is provided by Groundtech Consulting.

It is the understanding of Groundtech Consulting that this report is to be used for the intended purpose as set out in the introduction. The purpose was instrumental in determining the scope and level of the services provided. Should the purpose of the report or the proposed end use of the site change, this report will no longer be directly applicable, and its validity readdressed. No reliance upon the report in the revised situation should be assumed by the client without the permission of Groundtech Consulting.

The report was written in 2022, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change and should be investigated if there is any significant delay in acting on the findings of this report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions in this report should not be relied upon in the future without the written confirmation from Groundtech Consulting that it is safe to do so.

The observations and conclusions outlined in this report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting.

Groundtech Consulting are not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The services provided are based upon Groundtech Consulting observations of existing physical conditions at the site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and Groundtech Consulting assume the information to be correct.

No responsibility can be accepted for errors for third party information presented in this report. Groundtech Consulting were not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Groundtech Consulting are not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable due to its heterogeneous properties and as investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report,

particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. Geo-Environmental testing was carried out for a limited number of parameters [as stipulated in the contract] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawings provided in this report are not meant to be an accurate base plan, but are preliminary and used to present the general relative locations of features on, and surrounding, the site.

