

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

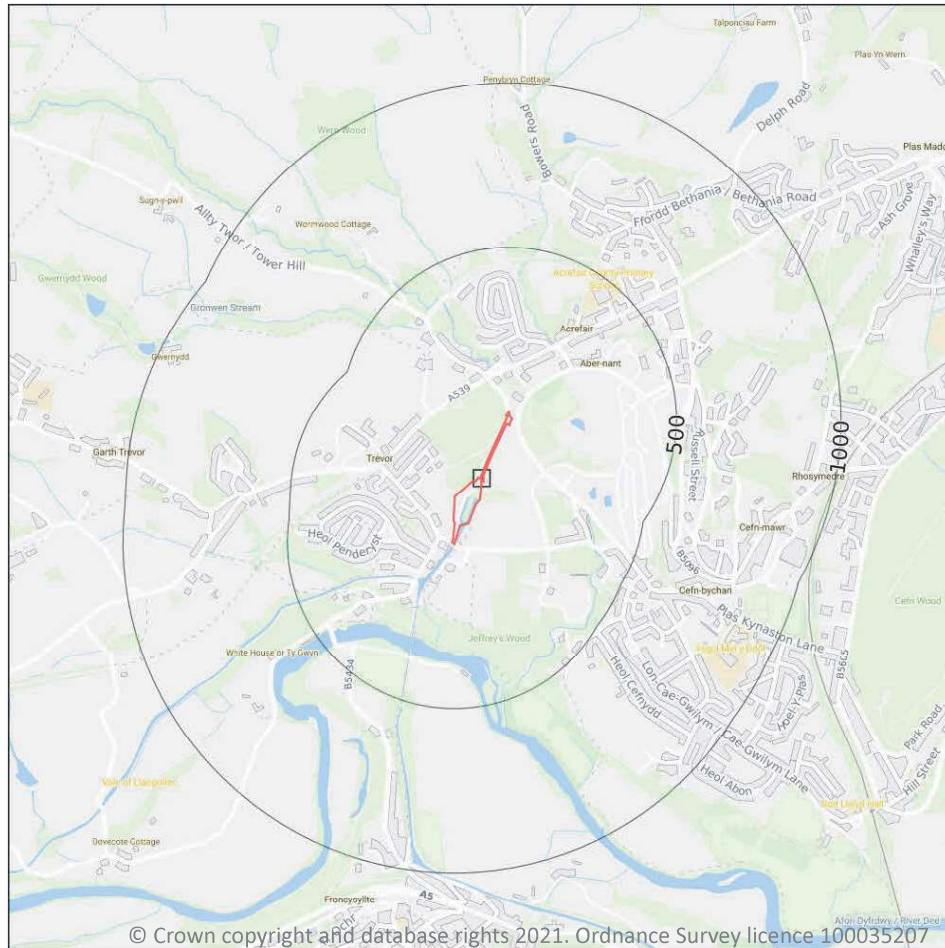
0

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.

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. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 129](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW121_wrexham_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

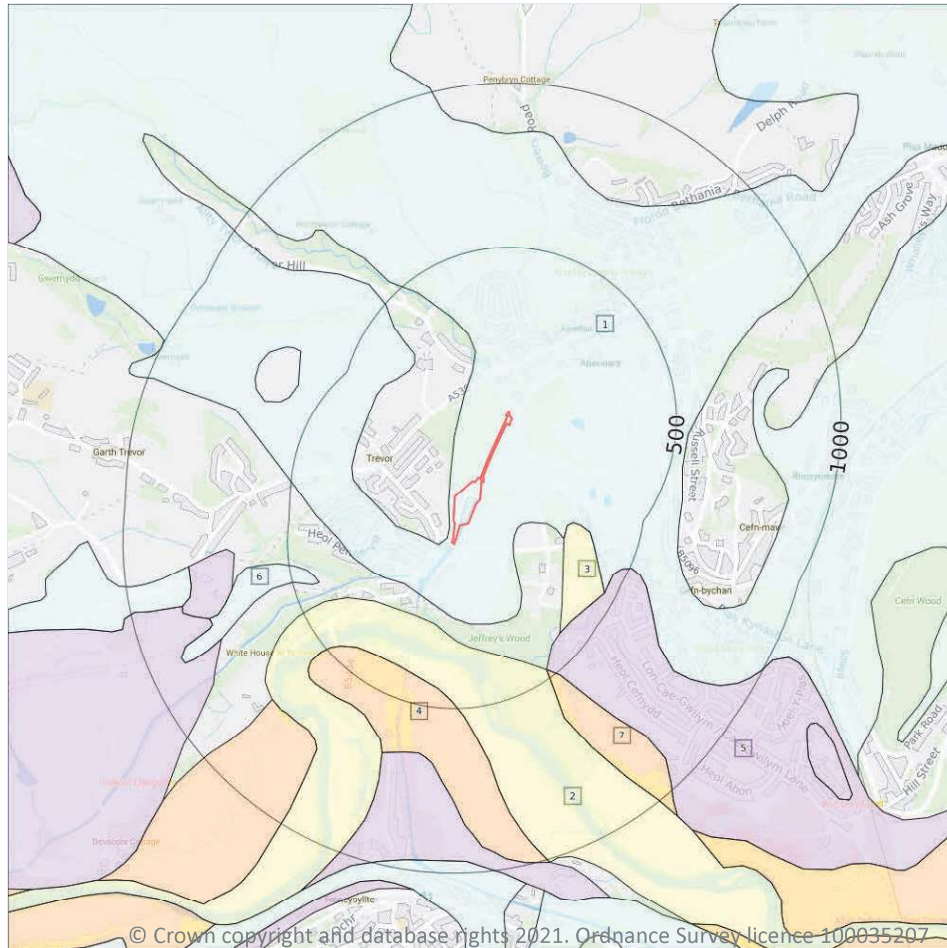
0

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

7

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 131**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	246m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	276m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	406m SW	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
5	420m SE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	422m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
7	474m SE	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1
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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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0
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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.

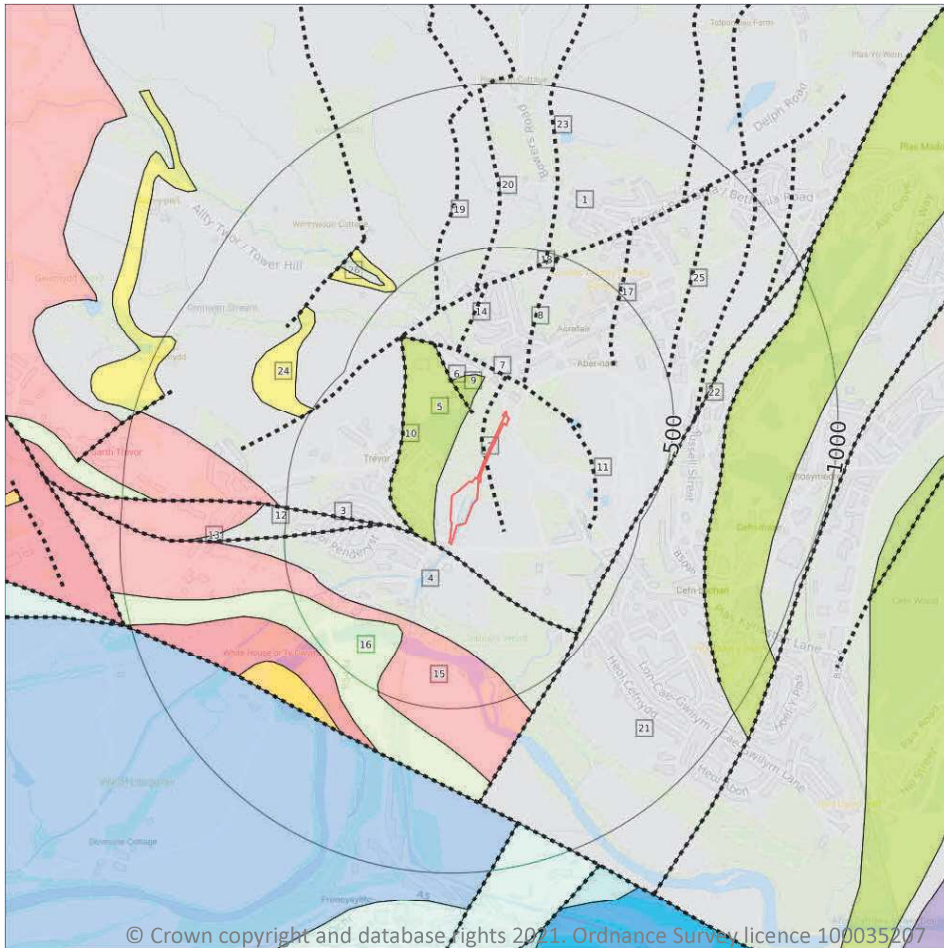
15.7 Landslip permeability (50k)

Records within 50m	0
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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

10

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 133**

ID	Location	LEX Code	Description	Rock age
1	On site	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	27m SW	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	41m W	CF-SDST	CEFN ROCK - SANDSTONE	WESTPHALIAN
9	102m W	CF-SDST	CEFN ROCK - SANDSTONE	WESTPHALIAN
12	209m W	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	264m SW	GS-SDAR	GWESPYR SANDSTONE - SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED	NAMURIAN
16	295m SW	BSG-MDST	BOWLAND SHALE FORMATION - MUDSTONE	WISEAN
21	446m SE	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	495m NW	PLMC-SDST	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - SANDSTONE	WESTPHALIAN
26	499m NW	PLMC-SDST	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
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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
41m NW	Fracture	High	Moderate

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m**16**

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.

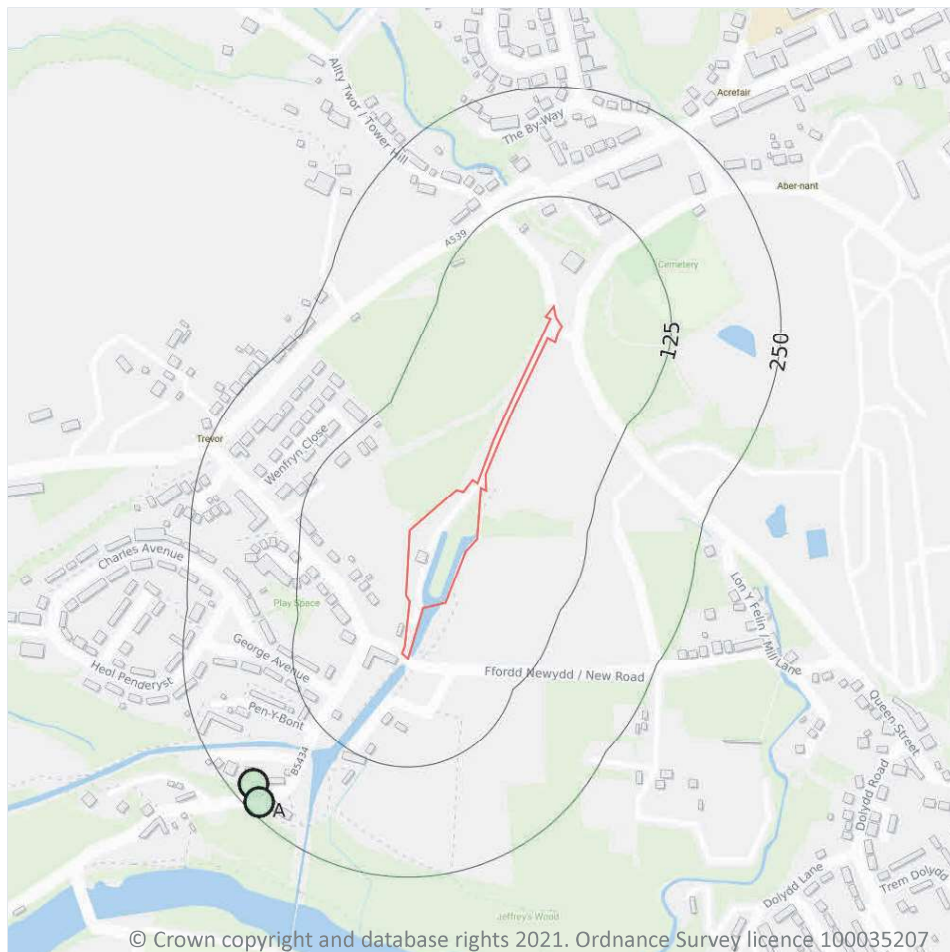
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 133**

ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
3	27m SW	FAULT	Fault, inferred, displacement unknown
6	91m NW	FAULT	Fault, inferred, displacement unknown
7	96m NE	FAULT	Fault, inferred, displacement unknown
8	97m NE	ROCK	Coal seam, inferred
10	107m W	ROCK	Coal seam, inferred
11	177m E	ROCK	Coal seam, inferred
13	209m W	FAULT	Fault, inferred, displacement unknown
14	238m NW	ROCK	Coal seam, inferred
17	357m NE	ROCK	Coal seam, inferred
18	367m NW	FAULT	Fault, inferred, displacement unknown
19	370m NW	ROCK	Coal seam, inferred
20	379m N	ROCK	Coal seam, inferred
22	446m SE	FAULT	Fault, inferred, displacement unknown
23	468m N	ROCK	Coal seam, inferred
25	496m E	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

4

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

Features are displayed on the Boreholes map on **page 136**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	227m SW	327001 342177	TREFORD LANDSLIP CLWYD 1A	27.0	N	144183
A	227m SW	327001 342177	TREFORD LANDSLIP CLWYD 1	18.0	N	144182
A	236m SW	327007 342157	TREFORD LANDSLIP CLWYD 2A	23.0	N	144185

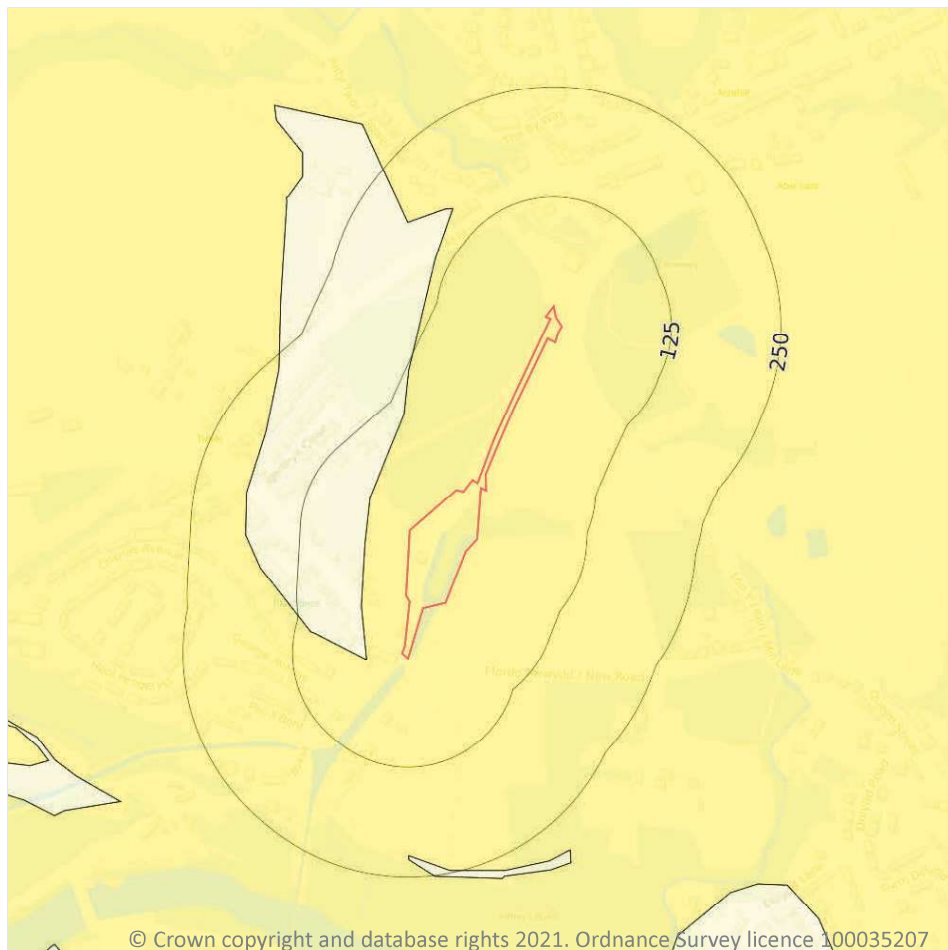


ID	Location	Grid reference	Name	Length	Confidential	Web link
A	236m SW	327007 342157	TREFORD LANDSLIP CLWYD 2	11.0	N	144184

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

2

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

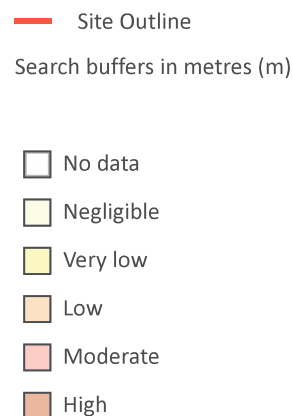
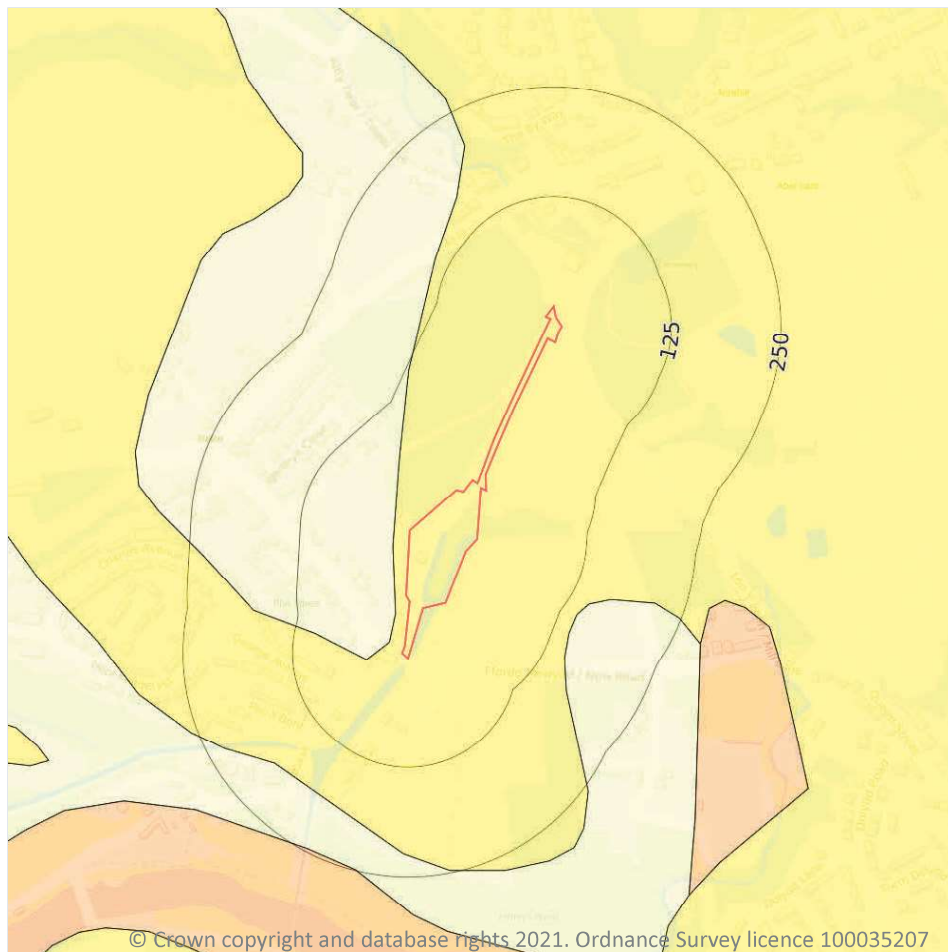
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 138**

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
41m W	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 139**

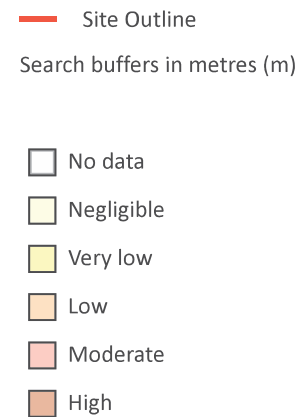
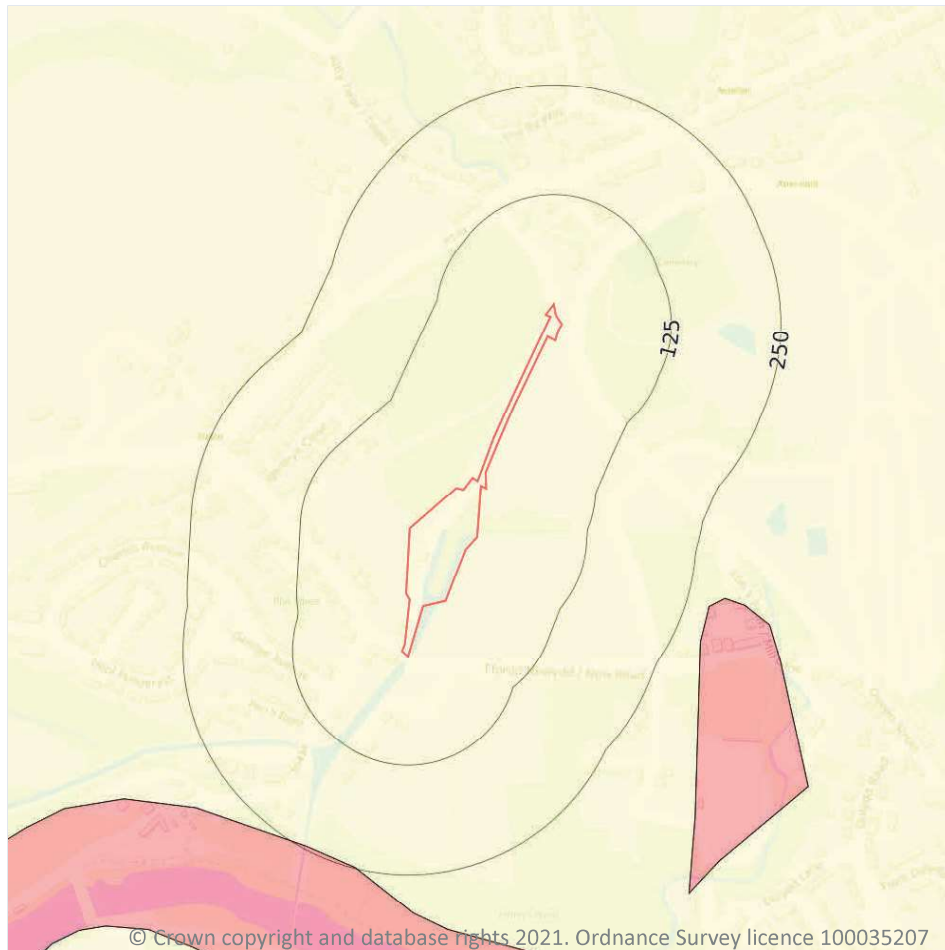
Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

Location	Hazard rating	Details
13m W	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

1

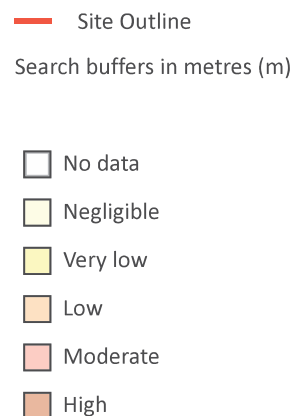
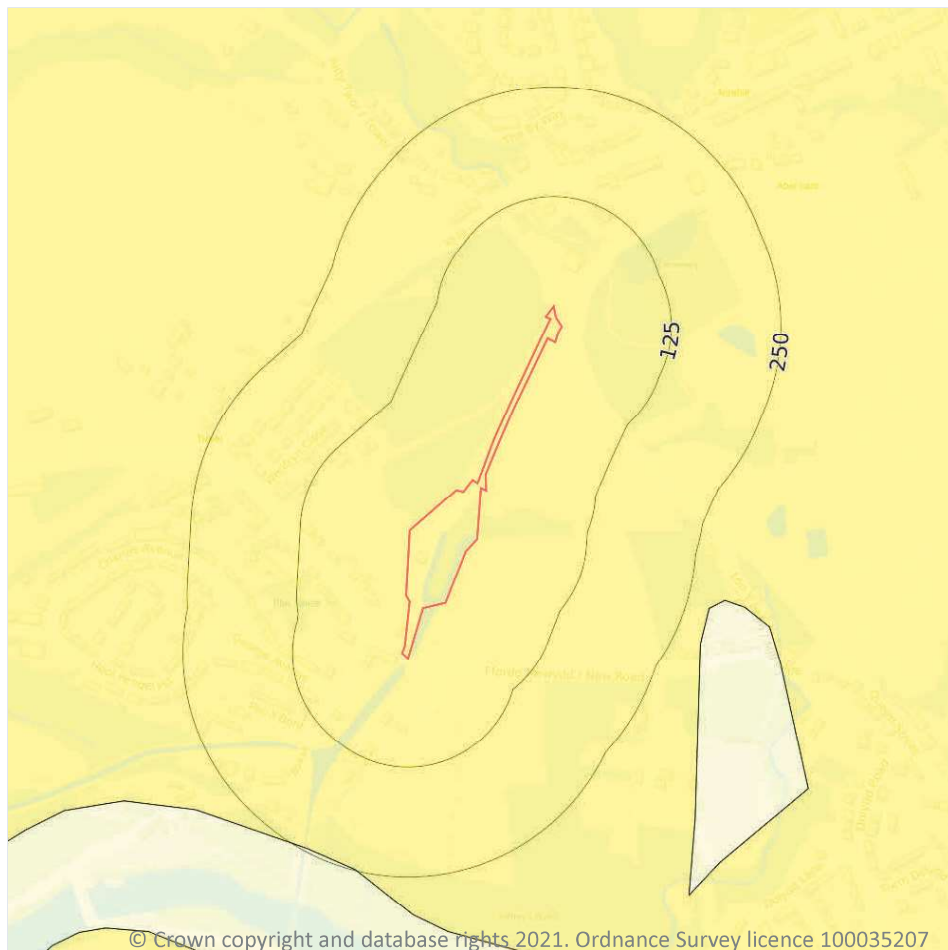
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 141**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

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

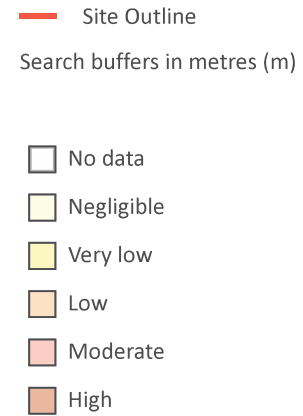
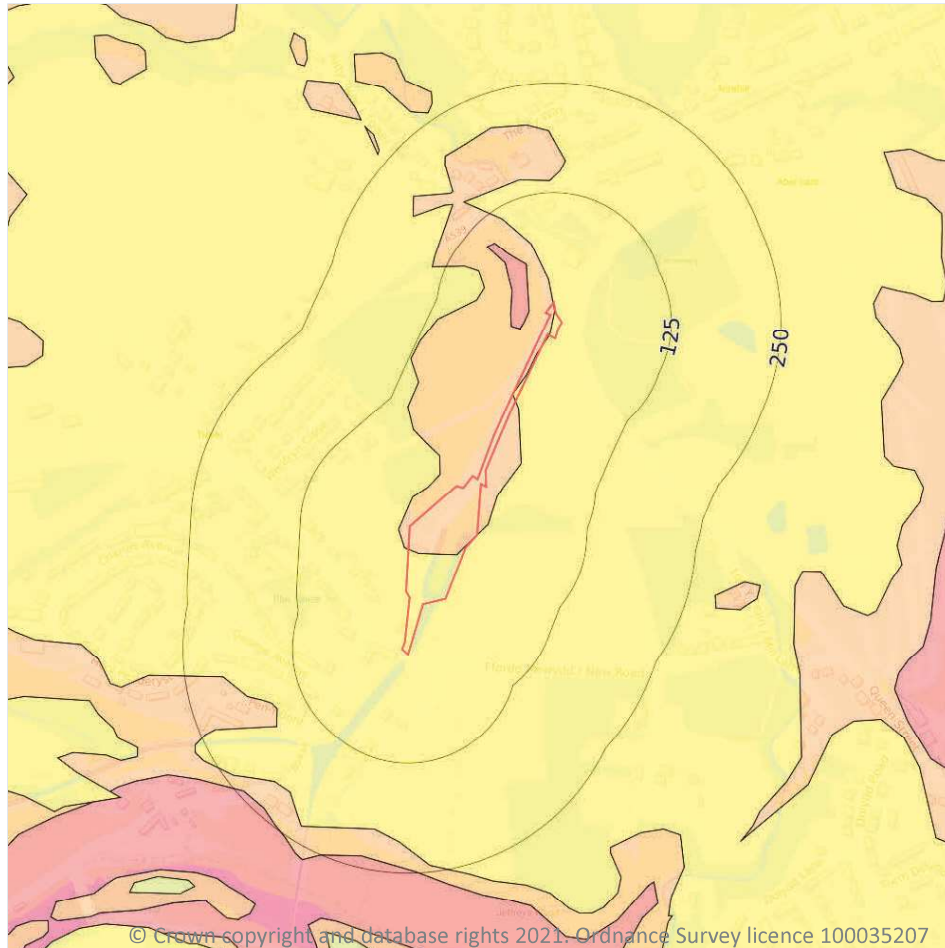
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 142**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

3

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 143**

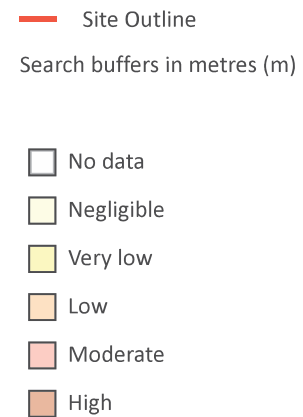
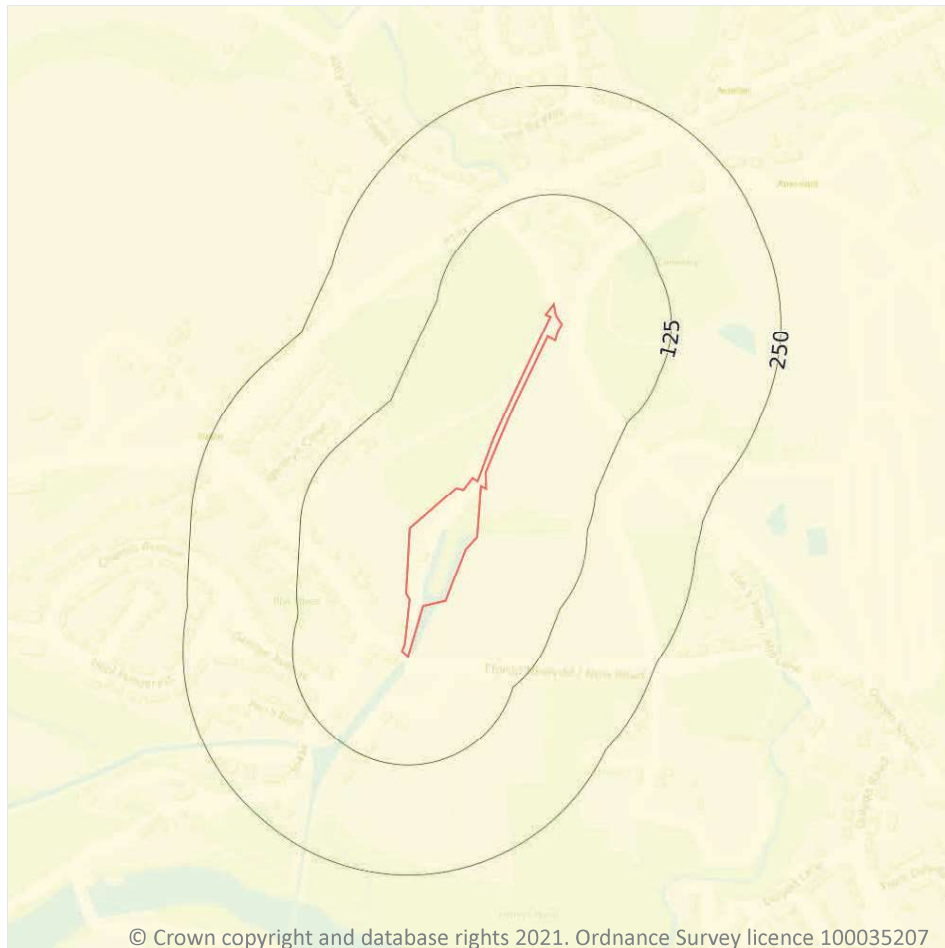
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

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.
19m W	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.

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

1

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

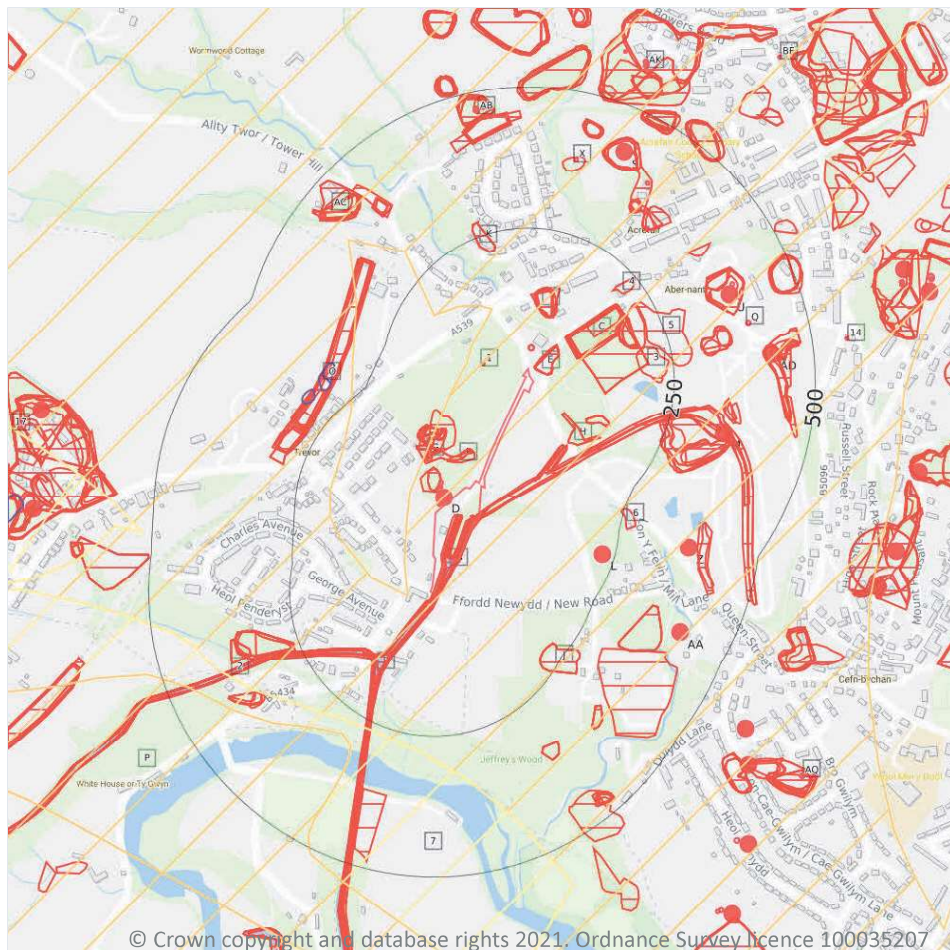
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 145**

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

This data is sourced from the British Geological Survey.



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

10

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 147**

ID	Location	Details	Description
D	11m NW	Name: Tref-y-nant Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	39m NW	Name: Tref-y-nant Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	228m E	Name: Mill Inn Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
M	349m E	Name: Plas Kynaston Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
Z	375m E	Name: Mill Inn Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
U	379m E	Name: Edward's Clay Pit Address: Cefn-mawr, Ruabon, WREXHAM, Clwyd Commodity: Clay & Shale 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
U	392m NE	Name: Plas Kynaston Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AA	409m SE	Name: Trevor-isaf Address: Garth, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
S	421m NE	Name: Tre-y-nant Hall Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
AD	427m E	Name: Plas-aber-nant Address: Cefn-mawr, WREXHAM, Denbighshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

67

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 147**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Canal	1873	1:10560
A	On site	Canal	1949	1:10560
A	On site	Canal	1898	1:10560
A	On site	Canal	1910	1:10560
B	On site	Canal	1960	1:10560
B	On site	Canal	1994	1:10000
B	On site	Canal	1974	1:10000
B	On site	Canal	1985	1:10000
E	11m E	Unspecified Heap	1938	1:10560
E	11m E	Unspecified Heap	1938	1:10560
E	12m E	Unspecified Heap	1910	1:10560
E	13m E	Unspecified Heap	1949	1:10560
F	23m W	Unspecified Ground Workings	1960	1:10560
D	27m NW	Refuse Heap	1960	1:10560
G	29m W	Unspecified Ground Workings	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
G	29m W	Unspecified Ground Workings	1938	1:10560
F	30m W	Unspecified Ground Workings	1949	1:10560
D	32m NW	Unspecified Heap	1938	1:10560
D	32m NW	Unspecified Heap	1938	1:10560
G	66m W	Unspecified Pit	1873	1:10560
H	71m SE	Pond	1873	1:10560
H	71m SE	Ponds	1898	1:10560
G	75m NW	Unspecified Ground Workings	1960	1:10560
G	80m NW	Unspecified Ground Workings	1910	1:10560
G	80m NW	Unspecified Ground Workings	1949	1:10560
C	84m NE	Cemetery	1910	1:10560
C	87m NE	Cemetery	1938	1:10560
C	88m NE	Cemetery	1994	1:10000
C	88m NE	Cemetery	1974	1:10000
C	88m NE	Cemetery	1985	1:10000
C	89m NE	Cemetery	1960	1:10560
G	91m NW	Unspecified Ground Workings	1994	1:10000
G	91m NW	Unspecified Ground Workings	1974	1:10000
G	91m NW	Unspecified Ground Workings	1985	1:10000
C	93m NE	Cemetery	1949	1:10560
C	93m NE	Cemetery	1898	1:10560
I	98m N	Unspecified Heap	1873	1:10560
I	98m N	Unspecified Heap	1949	1:10560
I	99m N	Unspecified Heap	1960	1:10560
I	99m N	Unspecified Heap	1910	1:10560
I	101m N	Unspecified Heap	1938	1:10560
I	101m N	Unspecified Heap	1938	1:10560
H	112m SE	Unspecified Ground Workings	1994	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
H	112m SE	Unspecified Ground Workings	1974	1:10000
H	112m SE	Unspecified Ground Workings	1985	1:10000
C	129m NE	Burial Ground	1873	1:10560
2	148m SW	Canal	1938	1:10560
C	170m NE	Unspecified Heap	1938	1:10560
C	170m NE	Unspecified Heap	1938	1:10560
C	171m NE	Unspecified Heap	1910	1:10560
C	172m E	Unspecified Heap	1949	1:10560
C	177m NE	Unspecified Heap	1960	1:10560
C	177m NE	Unspecified Heap	1873	1:10560
3	188m E	Unspecified Heap	1873	1:10560
4	205m NE	Unspecified Heap	1873	1:10560
5	215m E	Unspecified Heap	1873	1:10560
J	217m SE	Pond	1994	1:10000
J	217m SE	Pond	1974	1:10000
J	217m SE	Pond	1985	1:10000
K	218m N	Unspecified Heap	1994	1:10000
K	218m N	Unspecified Heap	1974	1:10000
K	218m N	Unspecified Heap	1985	1:10000
M	236m E	Unspecified Ground Workings	1910	1:10560
M	242m E	Unspecified Heap	1960	1:10560
M	244m E	Unspecified Heap	1949	1:10560
M	244m E	Unspecified Heap	1898	1:10560
6	246m E	Pond	1873	1:10560

This data is sourced from Ordnance Survey/Groundsure.

