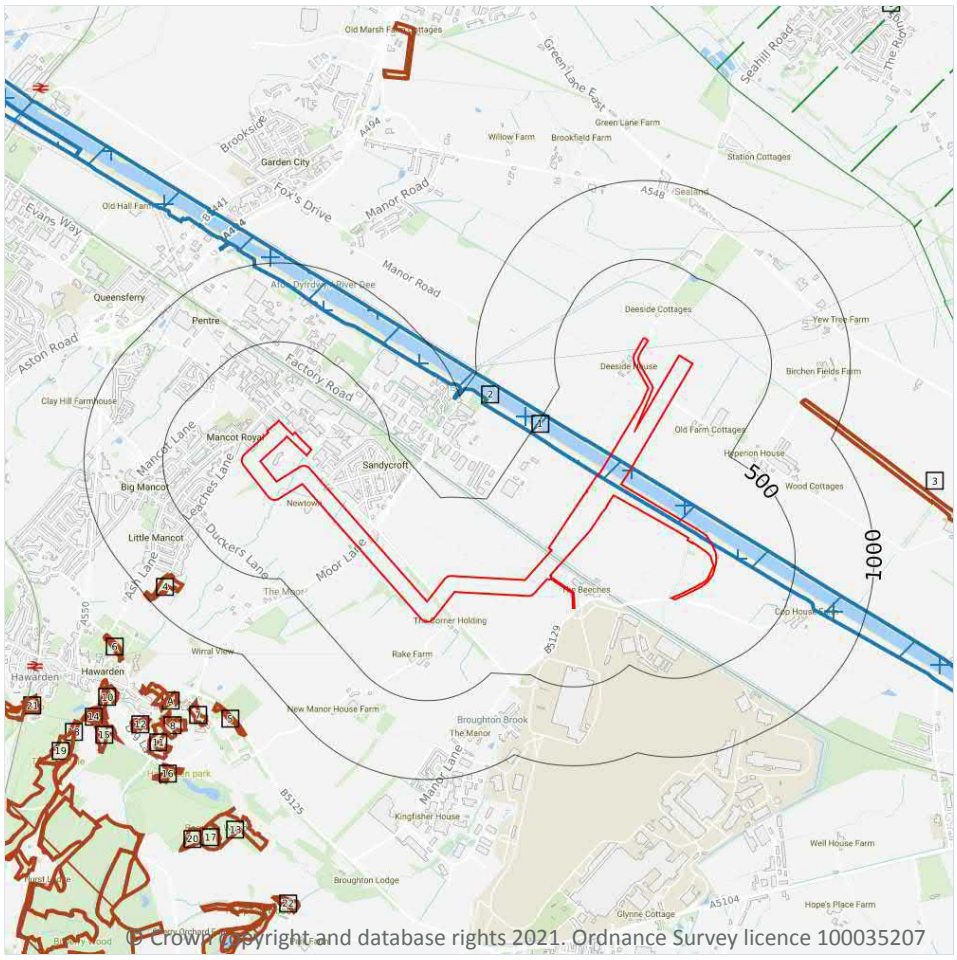
10 Environmental designations



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10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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.

Features are displayed on the Environmental designations map on **page 126**

ID	Location	Name	Data source
2	**On site**	**Afon Dyfrdwy (River Dee)**	**Natural Resources Wales**

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	1

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.

Features are displayed on the Environmental designations map on **page 126**

ID	Location	Name	Features of interest	Habitat description	Data source
1	**On site**	**River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales)**	**Rivers with floating vegetation often dominated by water-crowfoot; Mixed woodland on base-rich soils associated with rocky slopes; Western acidic oak woodland; Alder woodland on floodplains; Sea lamprey; Brook lamprey; River lamprey; Twaite shad; Atlantic salmon; Bullhead; Freshwater pearl mussel; Otter; Floating water-plantain.**	**Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Improved grassland; Inland water bodies (Standing water, Running water); Salt marshes, Salt pastures, Salt steppes**	**Natural Resources Wales**

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	22

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 126**

ID	Location	Name	Woodland Type
3	734m E	Unknown	Ancient Semi Natural Woodland
4	779m SW	Unknown	Restored Ancient Woodland Site
5	1310m SW	Unknown	Ancient Semi Natural Woodland
6	1341m SW	Unknown	Restored Ancient Woodland Site

ID	Location	Name	Woodland Type
7	1371m S	Unknown	Restored Ancient Woodland Site
A	1371m SW	Unknown	Restored Ancient Woodland Site
A	1382m SW	Unknown	Plantation on Ancient Woodland Site
A	1391m SW	Unknown	Plantation on Ancient Woodland Site
8	1494m SW	Unknown	Restored Ancient Woodland Site
10	1553m SW	Unknown	Restored Ancient Woodland Site
11	1587m SW	Unknown	Ancient Semi Natural Woodland
12	1596m SW	Unknown	Ancient Semi Natural Woodland
13	1681m SW	Unknown	Plantation on Ancient Woodland Site
14	1716m SW	Unknown	Restored Ancient Woodland Site
15	1758m SW	Unknown	Ancient Semi Natural Woodland
16	1767m SW	Unknown	Restored Ancient Woodland Site
17	1850m SW	Unknown	Ancient Semi Natural Woodland
18	1865m SW	Unknown	Ancient Semi Natural Woodland
19	1934m SW	Unknown	Ancient Semi Natural Woodland
20	1936m SW	Unknown	Restored Ancient Woodland Site
21	1941m SW	Unknown	Ancient Semi Natural Woodland
22	1951m 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 126**

ID	Location	Name	Local Authority name
9	1549m NE	Merseyside and Greater Manchester	Cheshire West and Chester

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	4

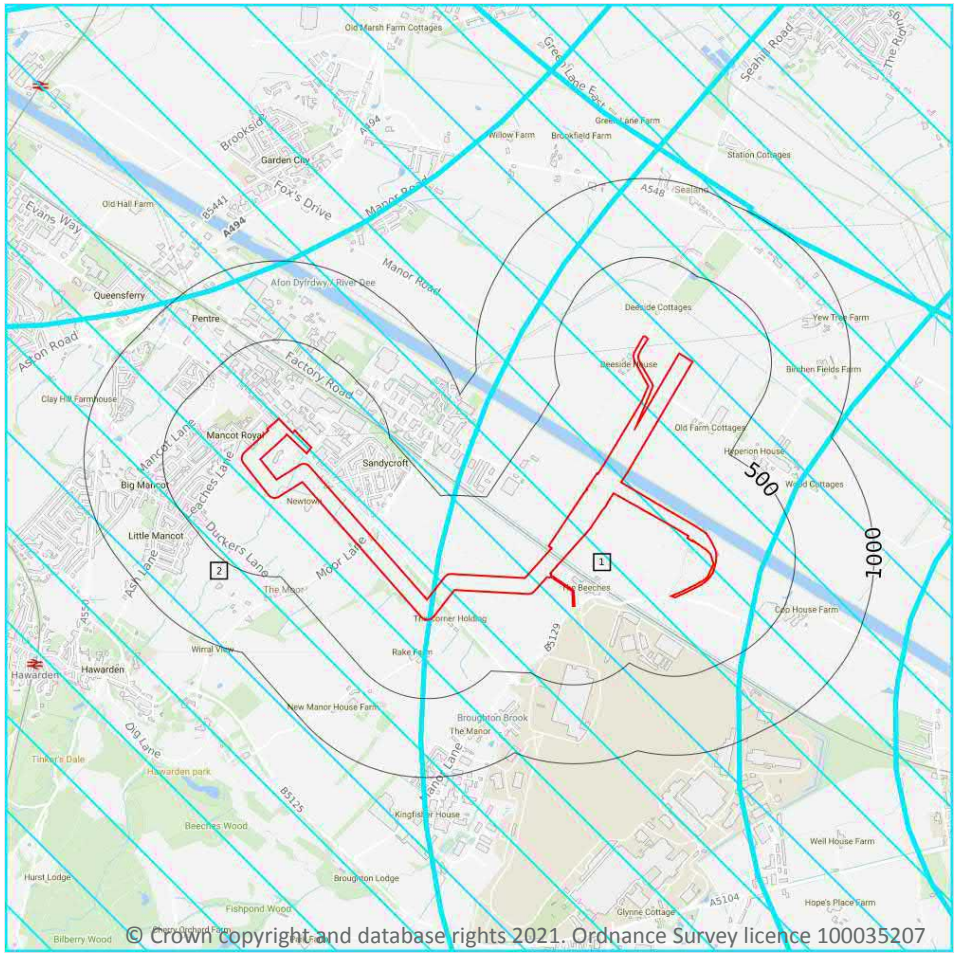
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
894m N		Surface Water	708	New

Location	Name	Type	NVZ ID	Status
939m N	Shotwick Brook NVZ	Surface Water	S708	Existing
970m N	Shotwick Brook NVZ	Surface Water	S708	Existing
1145m NW		Surface Water	708	New

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	2

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 133**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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**
2	On site	**Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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.

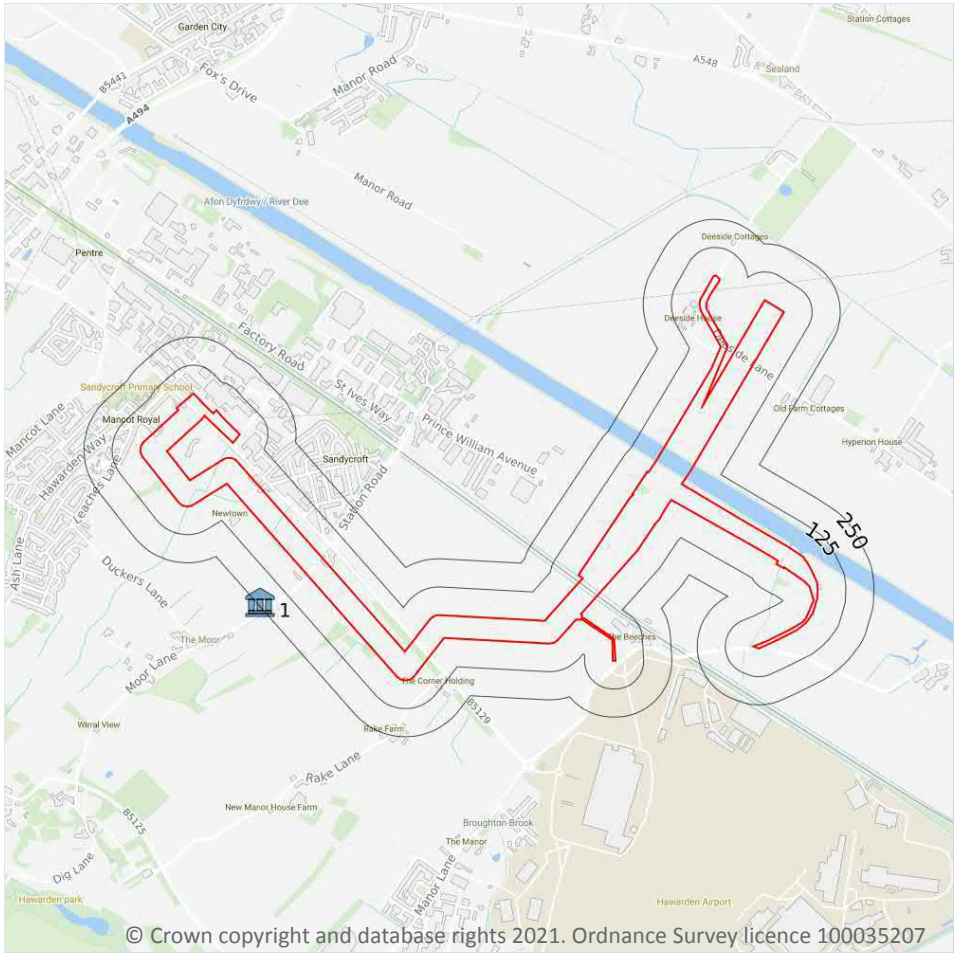
10.18 SSSI Units

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



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	1

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.

Features are displayed on the Visual and cultural designations map on **page 135**

ID	Location	Name	Grade	Reference Number	Listed date
1	238m SW	L-Plan Range Of Farm Buildings, To The N/E Of Plas Moor, On The Opposite Side Of The Farm House	II	15114	16/11/1994

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.

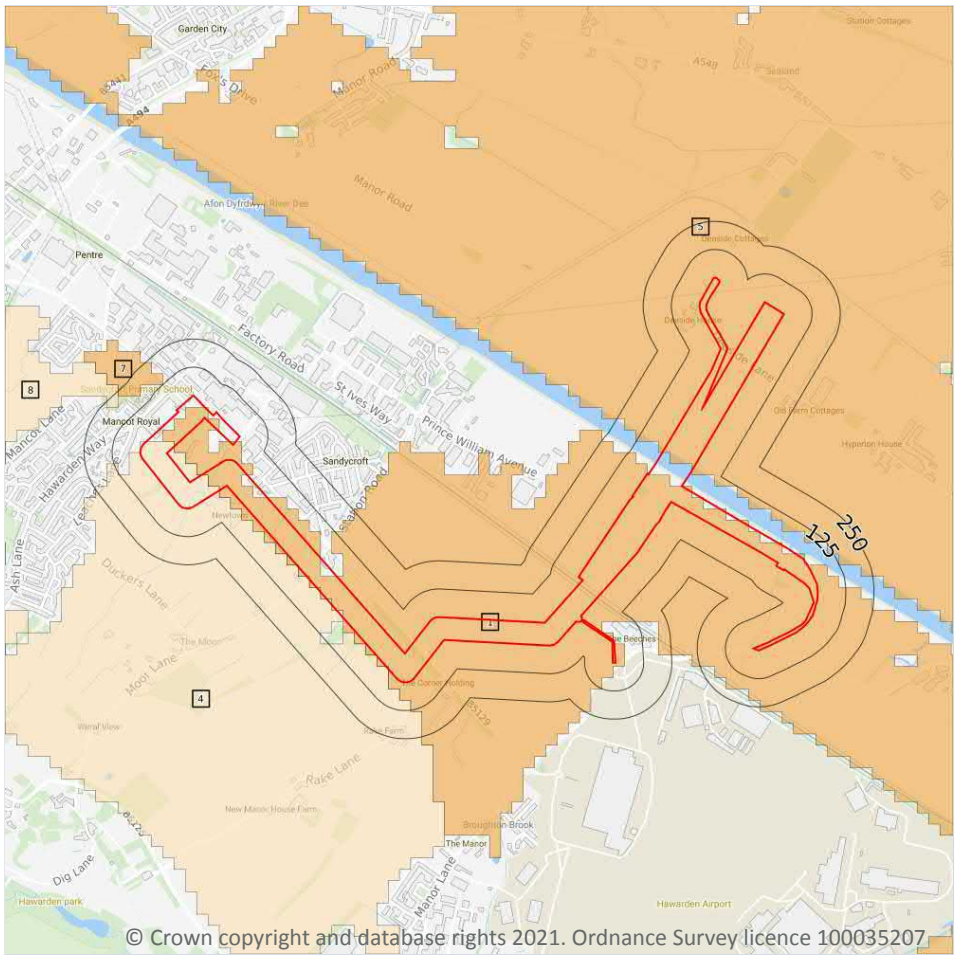
11.7 Registered Parks and Gardens

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 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	5

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 138**

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Good quality agricultural land**
4	**On site**	**Grade 3a**	**Good to moderate quality agricultural land**
5	**On site**	**Grade 2**	**Good quality agricultural land**

ID	Location	Classification	Description
7	124m NW	Grade 2	Good quality agricultural land
8	197m NW	Grade 3a	Good to moderate quality agricultural land

This data is sourced from Natural Resources Wales.

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

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	0

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.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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.

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

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.

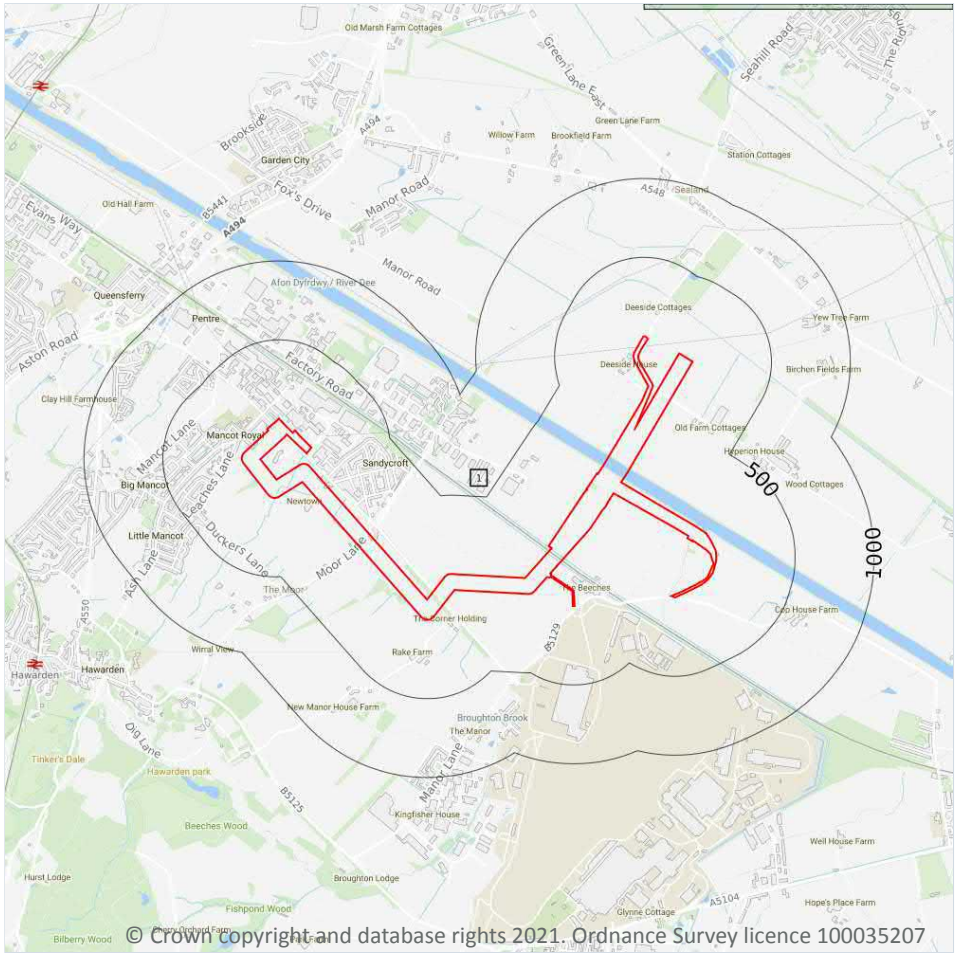
13.4 Limestone Pavement Orders

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	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 141**

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

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.

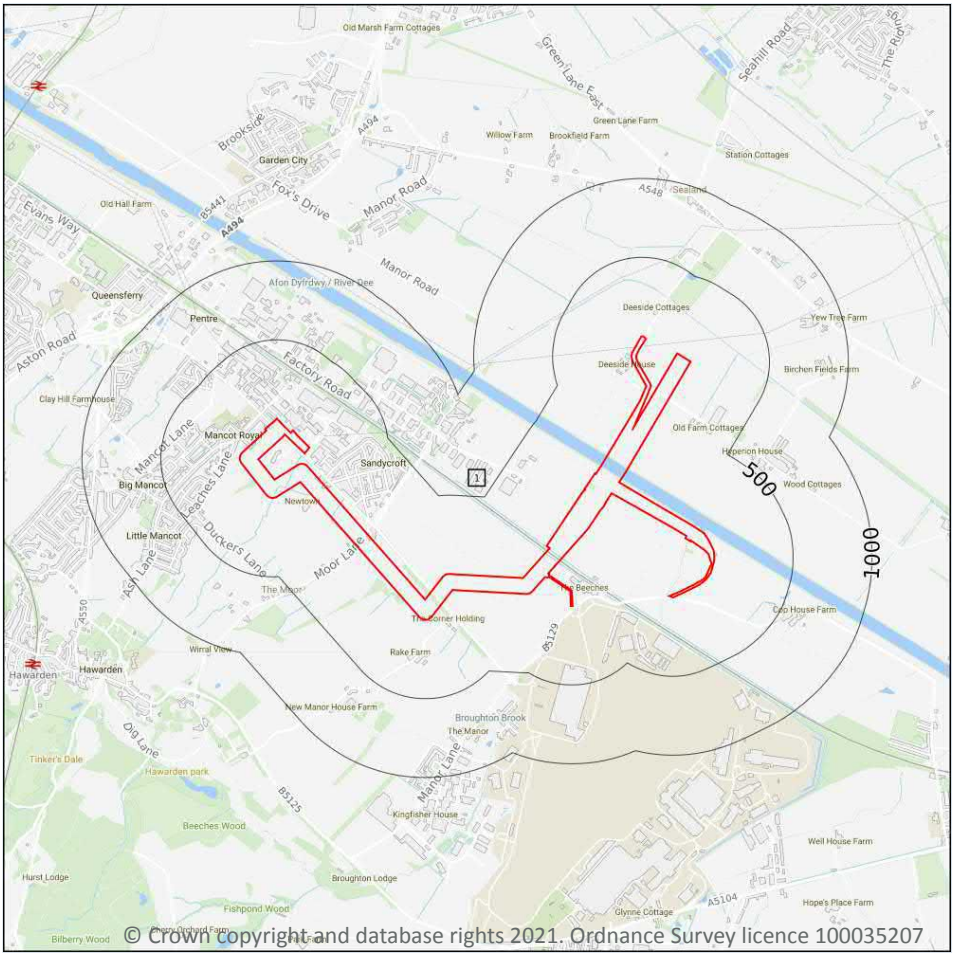
14.6 Bedrock faults and other linear features (10k)

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



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Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

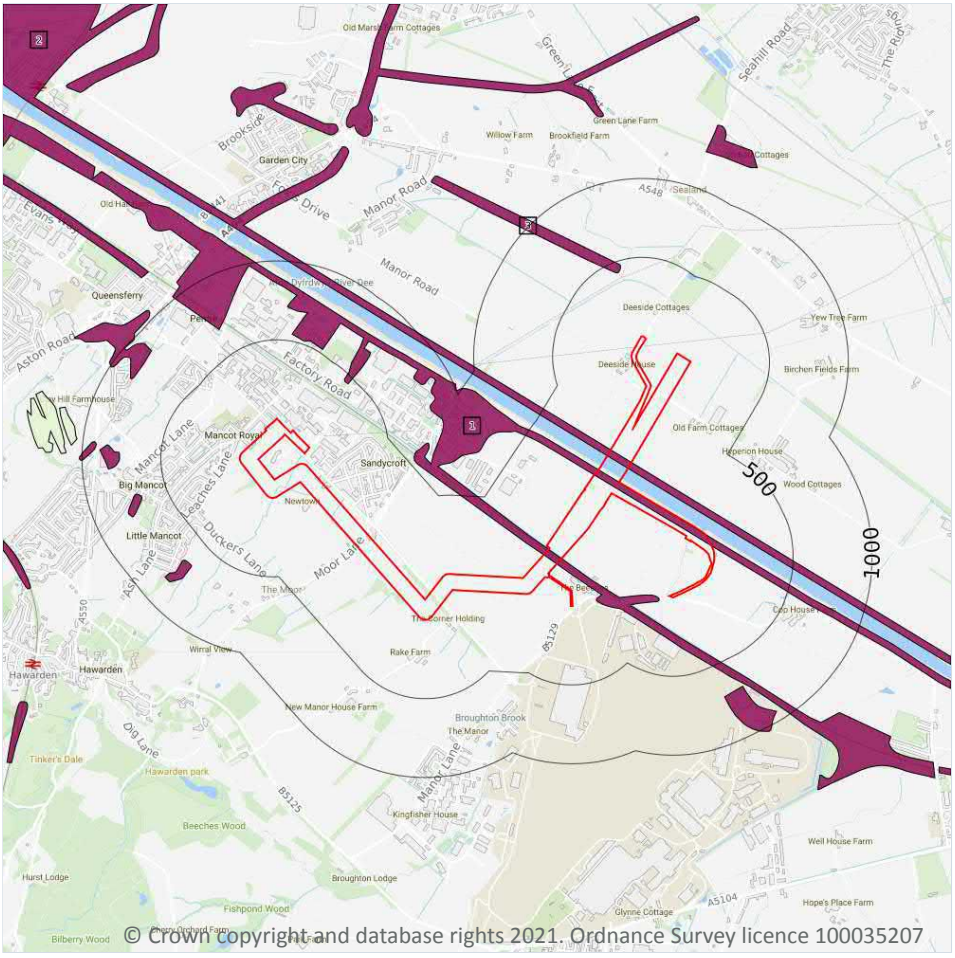
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 145**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW108_flint_v4**

This data is sourced from the British Geological Survey.

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



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15.2 Artificial and made ground (50k)

Records within 500m	3

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 146**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
2	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
3	430m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

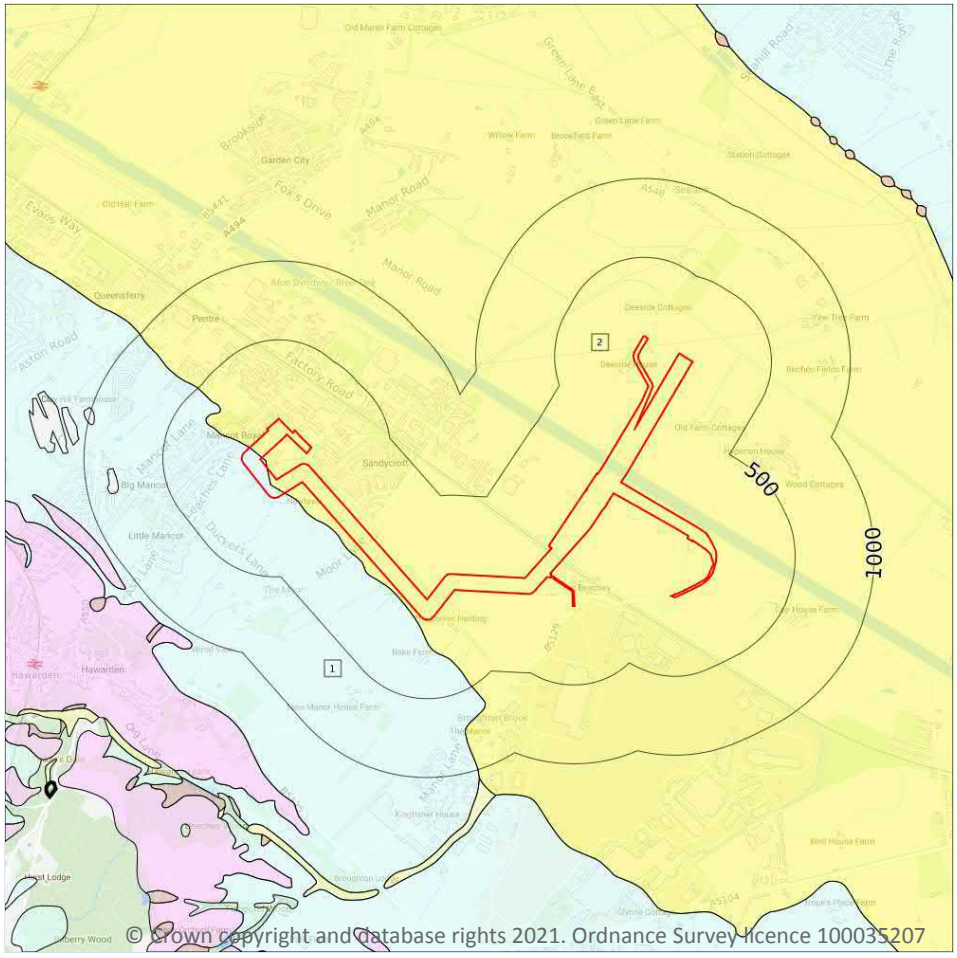
Records within 50m	3

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**
On site	**Mixed**	**Very High**	**Low**
On site	**Mixed**	**Very High**	**Low**

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 **2**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 148**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	**On site**	**TFD-XCZS**	**TIDAL FLAT DEPOSITS**	**CLAY, SILT AND SAND**

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	**Intergranular**	**Moderate**	**Very Low**
On site	**Intergranular**	**Moderate**	**Very 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.

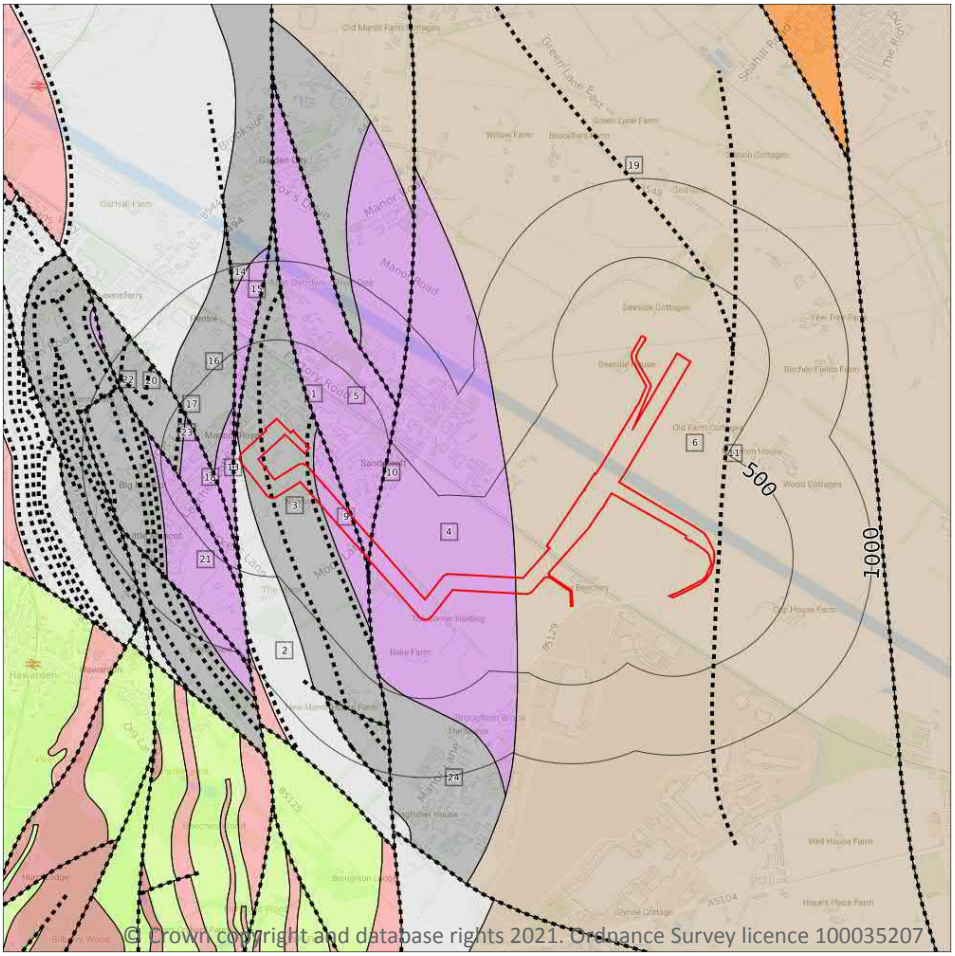
15.7 Landslip permeability (50k)

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



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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 **13**

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 150**

ID	Location	LEX Code	Description	Rock age
2	**On site**	**PLCM-MDSS**	**PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
3	**On site**	**PMCM-MDSS**	**PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**

ID	Location	LEX Code	Description	Rock age
4	**On site**	**ETM-MDSC**	**ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE**	**WESTPHALIAN**
5	**On site**	**ETM-MDSC**	**ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE**	**WESTPHALIAN**
6	**On site**	**KNSF-SDST**	**KINNERTON SANDSTONE FORMATION - SANDSTONE**	**-**
9	**On site**	**ETM-MDSC**	**ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE**	**WESTPHALIAN**
13	39m W	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
15	43m W	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
16	148m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18	187m SW	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
20	368m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	381m SW	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
24	451m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **6**

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**	**Moderate**	**Low**
On site	**Intergranular**	**High**	**High**
On site	**Fracture**	**High**	**Low**
On site	**Intergranular**	**High**	**High**

Location	Flow type	Maximum permeability	Minimum permeability
39m W	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**11**

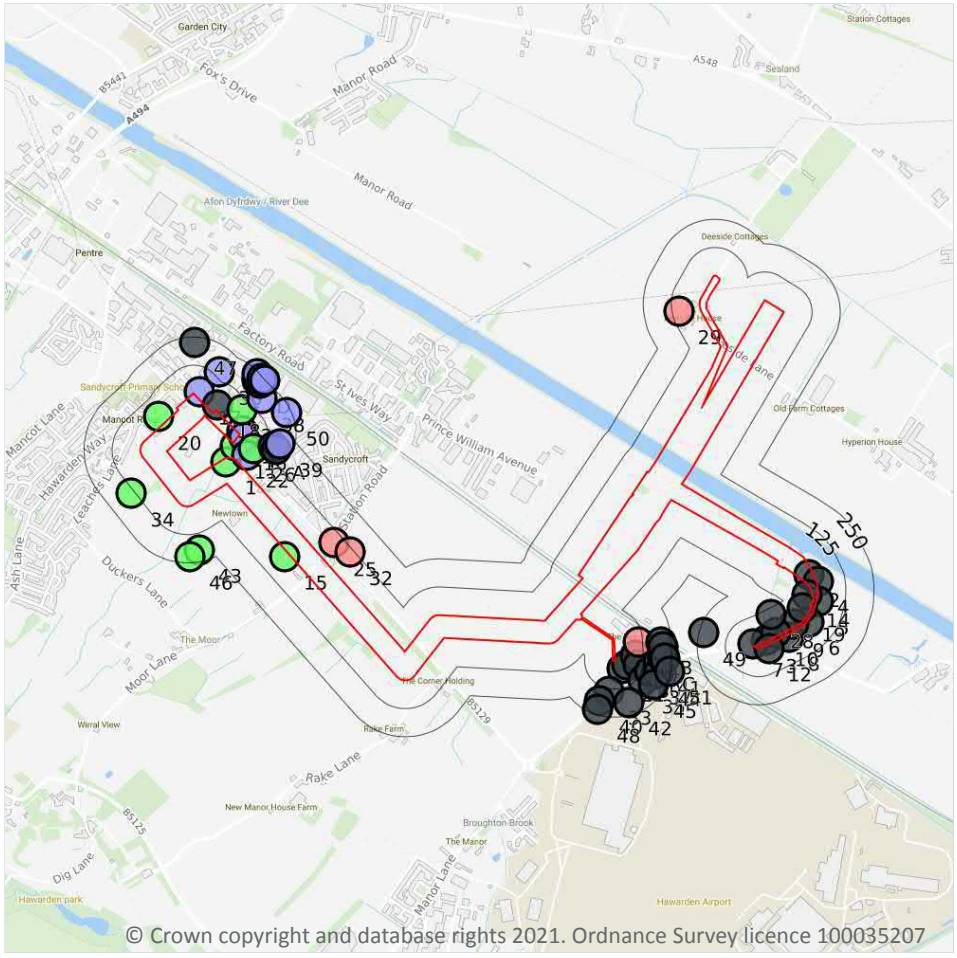
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 150**

ID	Location	Category	Description
1	**On site**	**FAULT**	**Fault, inferred, displacement unknown**
7	**On site**	**ROCK**	**Coal seam, inferred**
8	**On site**	**ROCK**	**Coal seam, inferred**
10	**On site**	**FAULT**	**Fault, inferred, displacement unknown**
11	29m E	FAULT	Fault, inferred, displacement unknown
12	39m W	FAULT	Fault, inferred, displacement unknown
14	43m W	FAULT	Fault, inferred, displacement unknown
17	187m SW	FAULT	Fault, inferred, displacement unknown
19	278m E	FAULT	Fault, inferred
22	381m SW	FAULT	Fault, inferred, displacement unknown
23	402m W	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	64

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 153**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**332830 367100**	**PLAS MOOR FARM, O/C SITE. 7**	**12.19**	**N**	**156226**
2	**On site**	**335420 366600**	**PROPOSED WING TRANSPORTATION FACILITY 1**	**-**	**Y**	**N/A**
3	6m N	335230 366310	BAE BROUGHTON GI FOR SURFACE WATER 13	-	Y	N/A

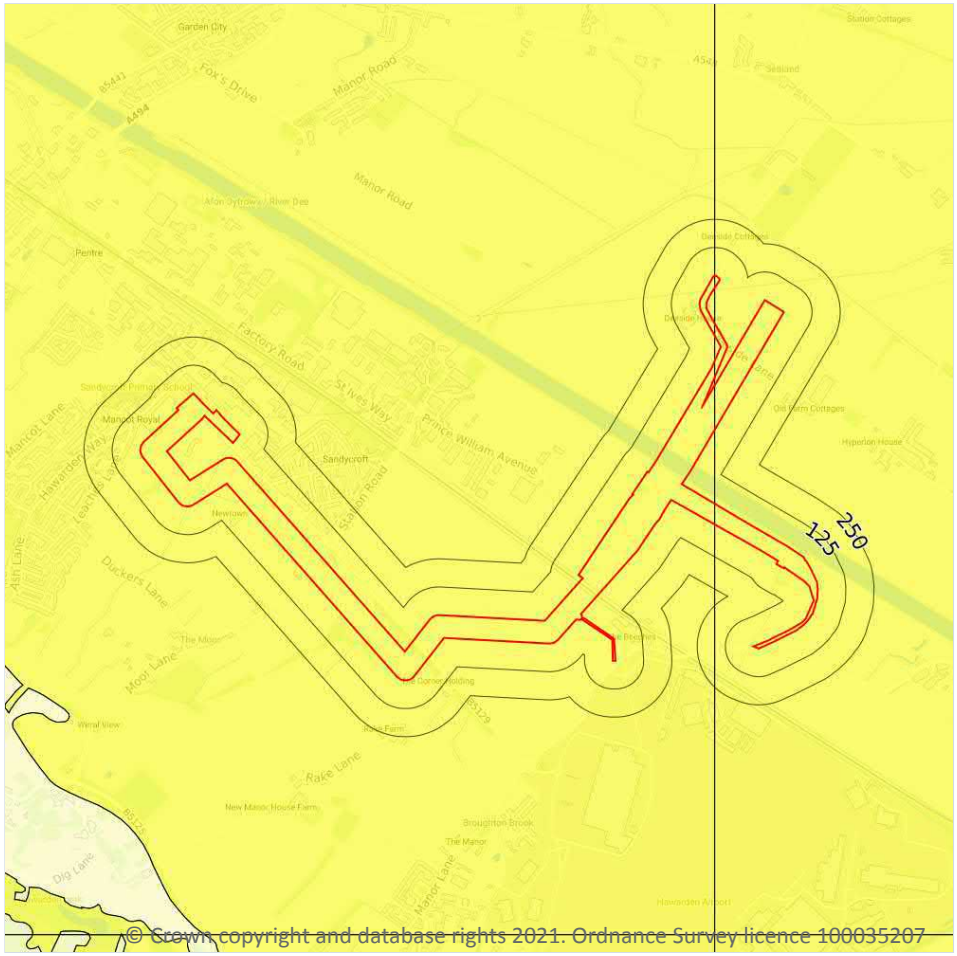
ID	Location	Grid reference	Name	Length	Confidential	Web link
4	7m NE	335460 366570	PROPOSED WING TRANSPORTATION FACILITY TP 18	-	Y	N/A
5	9m E	335460 366480	PROPOSED WING TRANSPORTATION FACILITY TP 16	-	Y	N/A
6	9m SE	335420 366390	PROPOSED WING TRANSPORTATION FACILITY TP 14	-	Y	N/A
7	10m N	335170 366290	PROPOSED WING TRANSPORTATION FACILITY TP 9	-	Y	N/A
8	13m SE	335330 366320	PROPOSED WING TRANSPORTATION FACILITY TP 12	-	Y	N/A
9	14m NW	335350 366380	PROPOSED WING TRANSPORTATION FACILITY TP 13	-	Y	N/A
10	15m NW	335270 366340	PROPOSED WING TRANSPORTATION FACILITY TP 11	-	Y	N/A
11	16m SE	332870 367170	HAWARDEN IND. EST. A3	20.0	N	156520
12	19m SE	335240 366270	PROPOSED WING TRANSPORTATION FACILITY TP 10	-	Y	N/A
13	20m NE	332900 367240	SANDYCROFT INDUSTRIAL ESTATE 9	9.45	N	156390
14	21m W	335410 366510	PROPOSED WING TRANSPORTATION FACILITY TP 17	-	Y	N/A
15	21m SW	333090 366680	PLAS MOOR FARM, O/C SITE. 6	12.19	N	156225
16	22m SE	332910 367210	HAWARDEN IND. EST. A1	6.0	N	156518
17	22m NE	332710 367410	SANDYCROFT INDUSTRIAL ESTATE 8	9.3	N	156389
18	24m N	332793 367353	GLENDALE AVENUE SANDYCROFT 1	-	Y	N/A
19	32m NW	335390 366450	PROPOSED WING TRANSPORTATION FACILITY TP 15	-	Y	N/A
20	38m NW	332530 367300	LOWER ASH FARM, O/C SITE. 2	12.19	N	156219
21	47m SE	334590 366180	BAE BROUGHTON GI FOR SURFACE WATER 6	-	Y	N/A
22	49m NE	332920 367130	HAWARDEN IND. EST. A4	6.0	N	156521
23	53m E	334610 366200	PROPOSED WING TRANSPORTATION FACILITY TP 19	-	Y	N/A
24	83m NE	332900 367330	SANDYCROFT INDUSTRIAL ESTATE 7	18.59	N	156388
25	84m NE	333310 366740	SANDYCROFT COALFIELD. 1	166.42	N	156292

ID	Location	Grid reference	Name	Length	Confidential	Web link
26	84m SE	332950 367160	HAWARDEN IND. EST. A2	16.0	N	156519
27	92m E	334650 366240	BAE BROUGHTON GI FOR SURFACE WATER 7	-	Y	N/A
28	96m NW	335250 366420	BAE BROUGHTON GI FOR SURFACE WATER 14	-	Y	N/A
29	96m W	334840 367770	SEALAND NURSERIES	91.44	N	156075
30	102m E	334660 366200	PROPOSED WING TRANSPORTATION FACILITY TP 20	-	Y	N/A
31	106m E	334660 366300	THE BEECHES SANDYCROFT	51.82	N	156082
32	110m NE	333380 366700	SANDYCROFT 4	92.66	N	156066
33	138m S	334530 366080	BAE BROUGHTON GI FOR SURFACE WATER 5	-	Y	N/A
34	139m SW	332410 366960	LOWER ASH FARM, O/C SITE. 3	12.19	N	156218
35	148m SE	334680 366130	PROPOSED WING TRANSPORTATION FACILITY TP 21	-	Y	N/A
36	149m NE	332800 367500	SANDYCROFT INDUSTRIAL ESTATE 1	6.55	N	156383
37	157m E	334710 366170	PROPOSED WING TRANSPORTATION FACILITY TP 7	-	Y	N/A
A	158m E	333039 367166	BERNSDALE CLOSE SANDYCROFT 1	-	Y	N/A
A	164m NE	333051 367155	BERNSDALE CLOSE SANDYCROFT 2	-	Y	N/A
38	182m NE	332990 367380	SANDYCROFT INDUSTRIAL ESTATE 2	6.55	N	156384
39	184m E	333070 367180	SANDYCROFT INDUSTRIAL ESTATE 5	6.1	N	156387
40	186m S	334490 366040	BAE BROUGHTON GI FOR SURFACE WATER 4	-	Y	N/A
41	190m E	334750 366210	PROPOSED WING TRANSPORTATION FACILITY TP 8	-	Y	N/A
42	196m S	334620 366030	PROPOSED WING TRANSPORTATION FACILITY TP 5	-	Y	N/A
43	197m S	332710 366710	PLAS MOOR FARM, O/C SITE. 5	12.19	N	156224
44	199m E	334750 366160	PROPOSED WING TRANSPORTATION FACILITY TP 22	-	Y	N/A
45	201m SE	334730 366110	PROPOSED WING TRANSPORTATION FACILITY TP 6	-	Y	N/A
B	206m E	334760 366300	BAE BROUGHTON GI FOR SURFACE WATER 10	-	Y	N/A
C	211m E	334770 366230	BROUGHTON AIRBUS 1	-	Y	N/A
B	214m E	334770 366280	BROUGHTON AIRBUS 2	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
C	221m E	334780 366230	PROPOSED WING TRANSPORTATION FACILITY 3	-	Y	N/A
46	222m S	332670 366680	PLAS MOOR FARM, O/C SITE. 4	12.19	N	156223
D	224m NE	332970 367460	SANDYCROFT IND EST TP3	3.0	N	156557
D	225m NE	332980 367450	SANDYCROFT IND EST BH2	10.0	N	156554
47	226m N	332690 367630	OWENS CORNING QUEENSFERRY 1	-	Y	N/A
48	227m S	334480 366000	BAE BROUGHTON GI FOR SURFACE WATER 3	-	Y	N/A
D	230m NE	332970 367470	SANDYCROFT IND EST TP10	3.0	N	156564
49	231m W	334950 366340	BAE BROUGHTON GI FOR SURFACE WATER 12	-	Y	N/A
50	231m NE	333100 367320	SANDYCROFT INDUSTRIAL ESTATE 10	6.55	N	156391
D	239m NE	332990 367460	SANDYCROFT IND EST TP6	3.0	N	156560
D	243m NE	332970 367490	SANDYCROFT IND EST TP9	2.0	N	156563
51	245m E	334800 366170	PROPOSED WING TRANSPORTATION FACILITY TP 23	-	Y	N/A
D	245m NE	332990 367470	SANDYCROFT IND EST TP8	2.0	N	156562
D	246m NE	333000 367460	SANDYCROFT IND EST TP4	3.0	N	156558

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	1

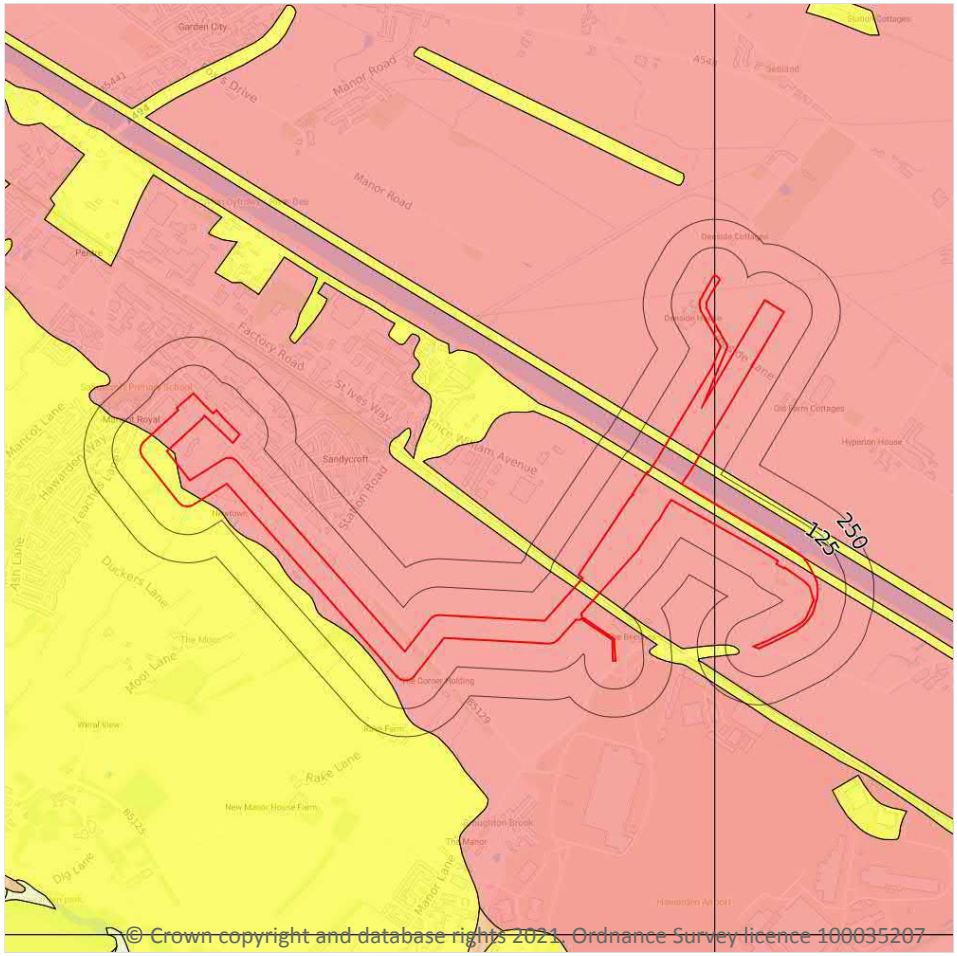
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 157**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

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

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.

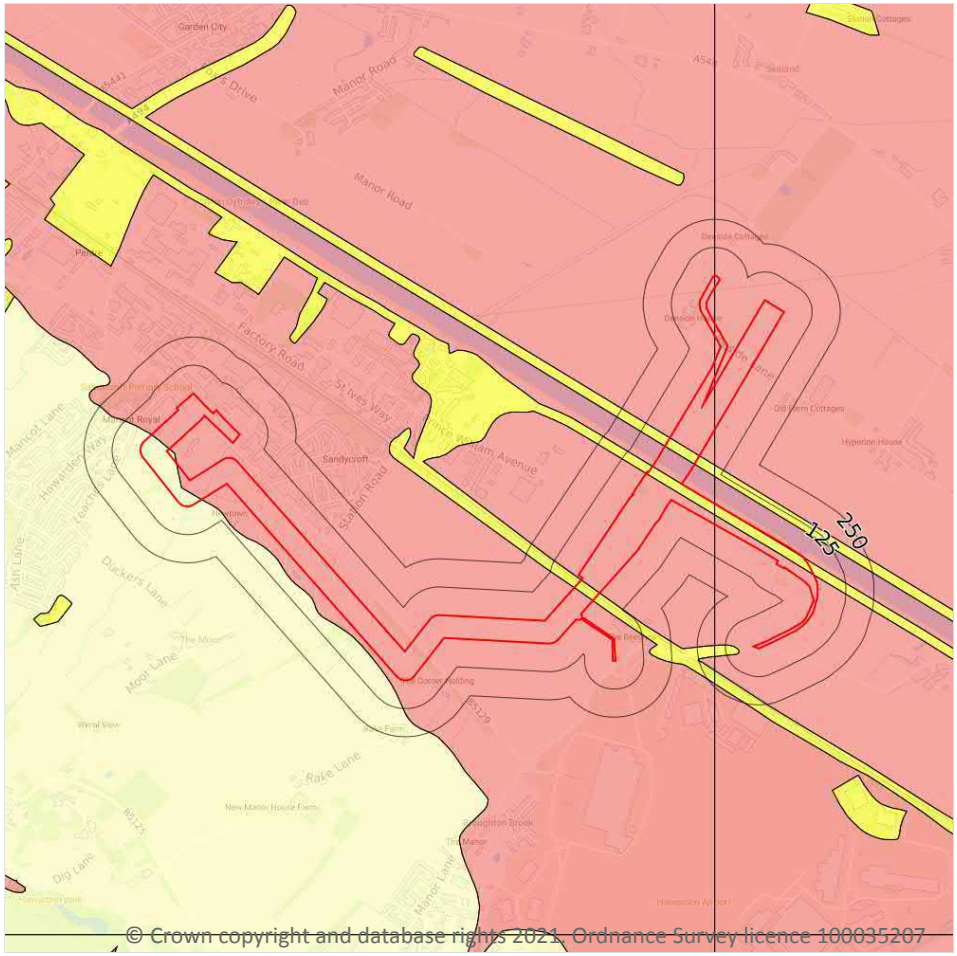
Features are displayed on the Natural ground subsidence - Running sands map on **page 158**

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
On site	**Moderate**	**Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	3

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.

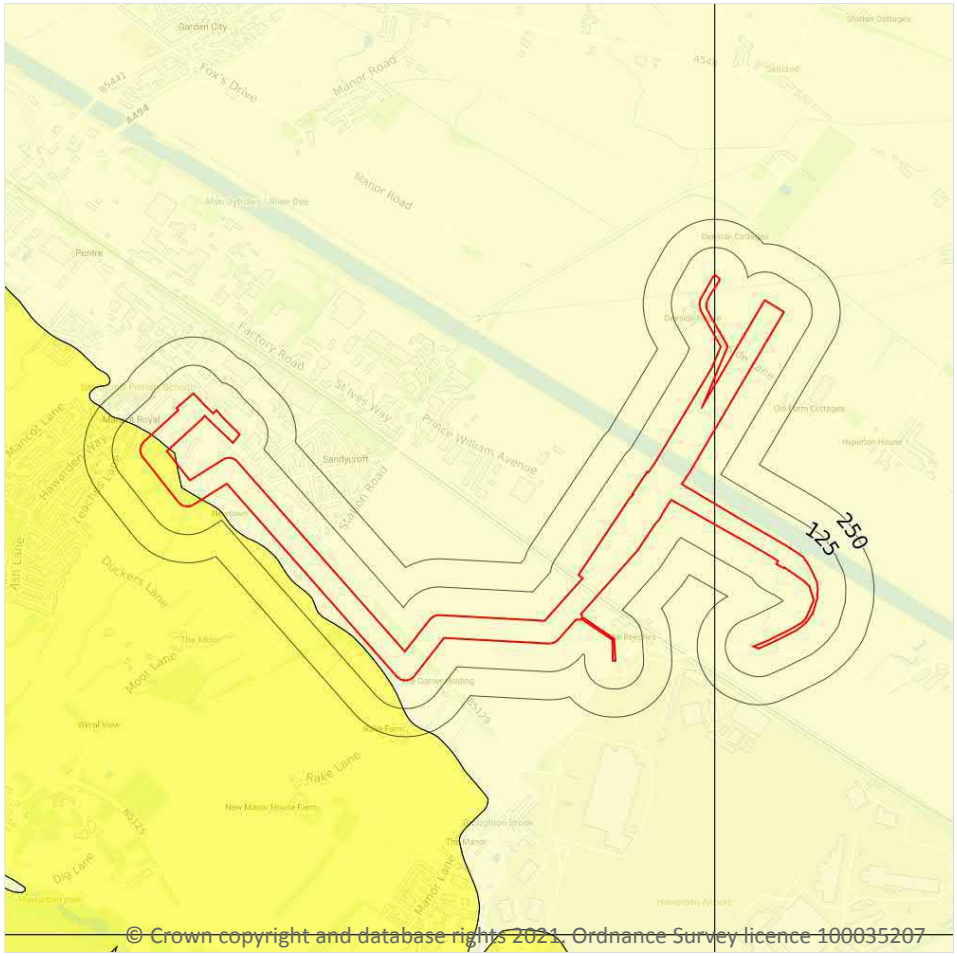
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 160**

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

Location	Hazard rating	Details
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

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

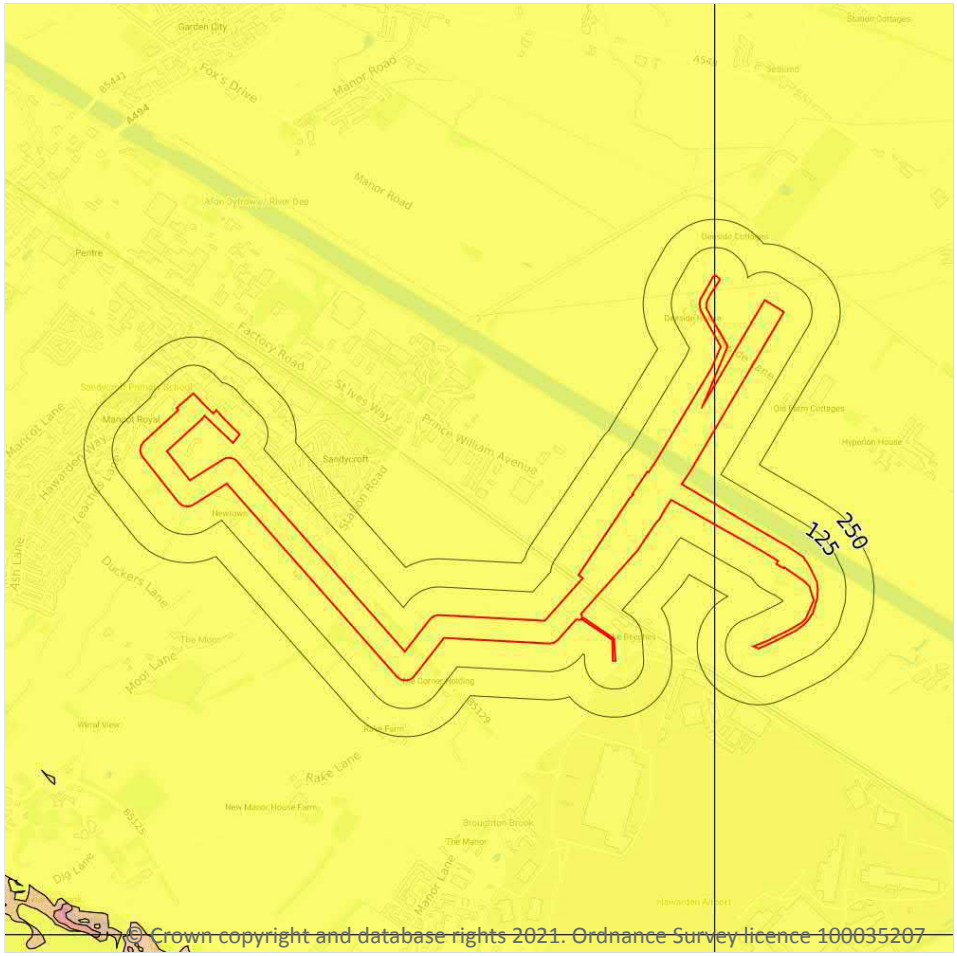
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 162**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

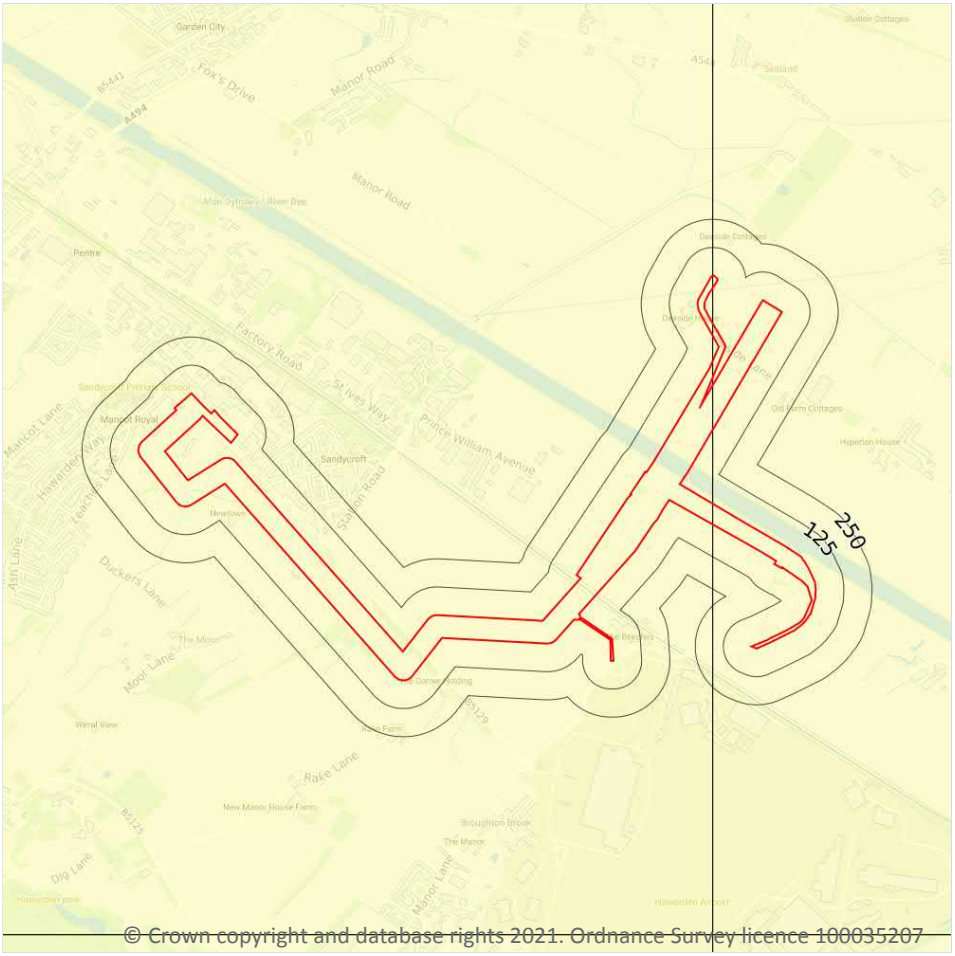
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 163**

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.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

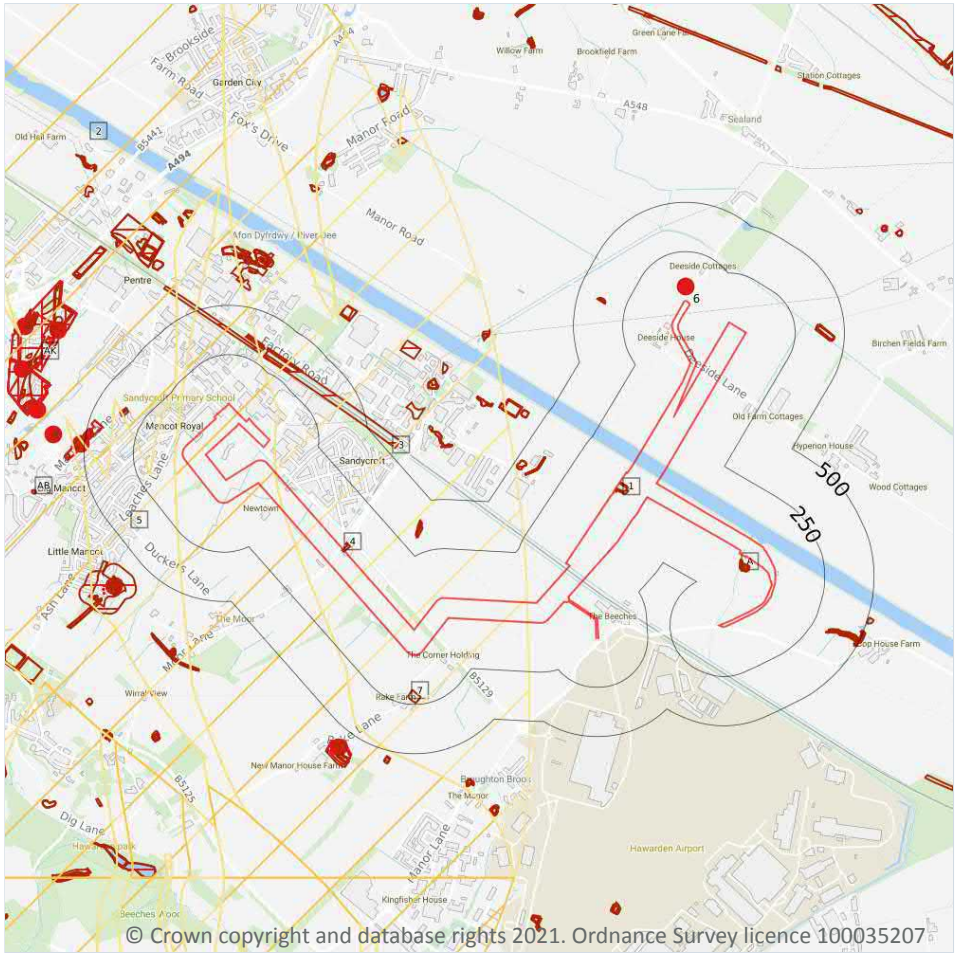
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 164**

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



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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	1

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 166**

ID	Location	Details	Description
6	73m N	Name: Yew Tree Farm Address: SEALAND, Flintshire Commodity: Natural Gas Status: Ceased	Type: Wellsite, or other surface plant, extracting liquid or gas. Working may be for brine, oil or natural gas 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	13

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 166**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Pond**	**1869**	**1:10560**
4	**On site**	**Ponds**	**1948**	**1:10560**
A	24m SW	Unspecified Heap	1913	1:10560
A	24m SW	Unspecified Heap	1913	1:10560
A	24m SW	Unspecified Ground Workings	1938	1:10560
A	26m SW	Unspecified Heap	1948	1:10560
A	29m SW	Unspecified Heap	1954	1:10560
A	30m SW	Unspecified Heap	1938	1:10560
A	30m SW	Unspecified Heap	1938	1:10560
A	40m SW	Unspecified Heap	1989	1:10000
A	40m SW	Unspecified Heap	1974	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
A	40m SW	Unspecified Heap	1968	1:10560
7	177m S	Pond	1909	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	**40**

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 166**

ID	Location	Land Use	Year of mapping	Mapping scale
J	424m W	Colliery	1869	1:10560
J	522m W	Unspecified Shaft	1869	1:10560
J	526m W	Unspecified Old Shaft	1960	1:10560
J	530m W	Unspecified Old Shaft	1948	1:10560
J	530m W	Unspecified Old Shaft	1898	1:10560
M	552m SW	Old Colliery	1869	1:10560
J	587m W	Unspecified Shaft	1869	1:10560
M	598m SW	Old Coal Shaft	1948	1:10560
M	598m SW	Unspecified Old Shaft	1898	1:10560
M	603m SW	Unspecified Disused Shafts	1969	1:10560
M	603m SW	Unspecified Disused Shafts	1989	1:10000
M	603m SW	Unspecified Disused Shafts	1976	1:10000
M	603m SW	Unspecified Old Shaft	1960	1:10560
O	716m SW	Unspecified Shafts	1869	1:10560
O	730m SW	Unspecified Shafts	1869	1:10560
O	739m SW	Unspecified Shaft	1898	1:10560
Y	746m NW	Colliery	1869	1:10560
Y	753m NW	Old Colliery	1948	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Y	753m NW	Old Colliery	1898	1:10560
Y	765m W	Unspecified Shafts	1898	1:10560
AB	773m W	Coal Pit	1869	1:10560
Y	784m W	Unspecified Old Mine	1960	1:10560
Y	794m W	Unspecified Shafts	1869	1:10560
AD	825m SW	Unspecified Disused Shaft	1969	1:10560
AD	825m SW	Unspecified Disused Shaft	1989	1:10000
AD	825m SW	Unspecified Disused Shaft	1976	1:10000
AH	825m NW	Colliery	1869	1:10560
AI	843m NW	Colliery	1910	1:10560
AK	857m NW	Unspecified Shafts	1869	1:10560
AI	865m NW	Unspecified Shafts	1898	1:10560
AI	870m NW	Unspecified Shaft	1869	1:10560
AI	872m NW	Unspecified Shaft	1869	1:10560
AI	880m NW	Unspecified Shafts	1898	1:10560
AI	883m NW	Unspecified Shafts	1898	1:10560
AK	900m NW	Unspecified Shafts	1869	1:10560
AI	903m NW	Unspecified Shafts	1898	1:10560
AK	909m NW	Unspecified Shaft	1898	1:10560
AI	916m NW	Unspecified Shafts	1898	1:10560
-	932m W	Old Colliery	1948	1:10560
-	932m W	Old Colliery	1898	1:10560

This is 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	**3**

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 166**

ID	Location	Name	Commodity	Class	Likelihood
2	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
3	**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**
5	39m W	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	**1**

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

Location	Details
On site	**In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk.**

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

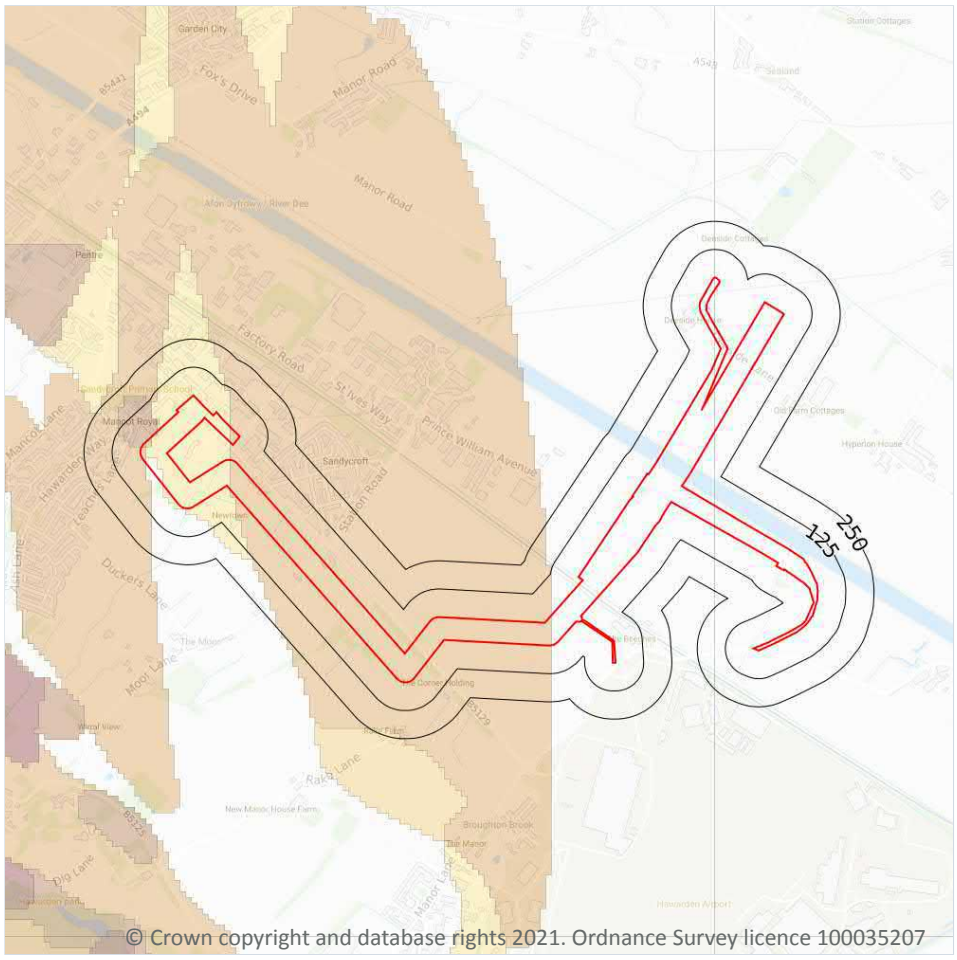
18.13 Clay mining

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



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

19.1 Radon

Records on site	4

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 173**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**
On site	**Between 5% and 10%**	**Basic**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**
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	39

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 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
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	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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
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
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**	**40 - 60 mg/kg**	**15 mg/kg**
6m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
19m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
23m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
23m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
26m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
41m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
43m W	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	40 - 60 mg/kg	15 mg/kg
44m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
44m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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 km^2).

This data is sourced from the British Geological Survey.

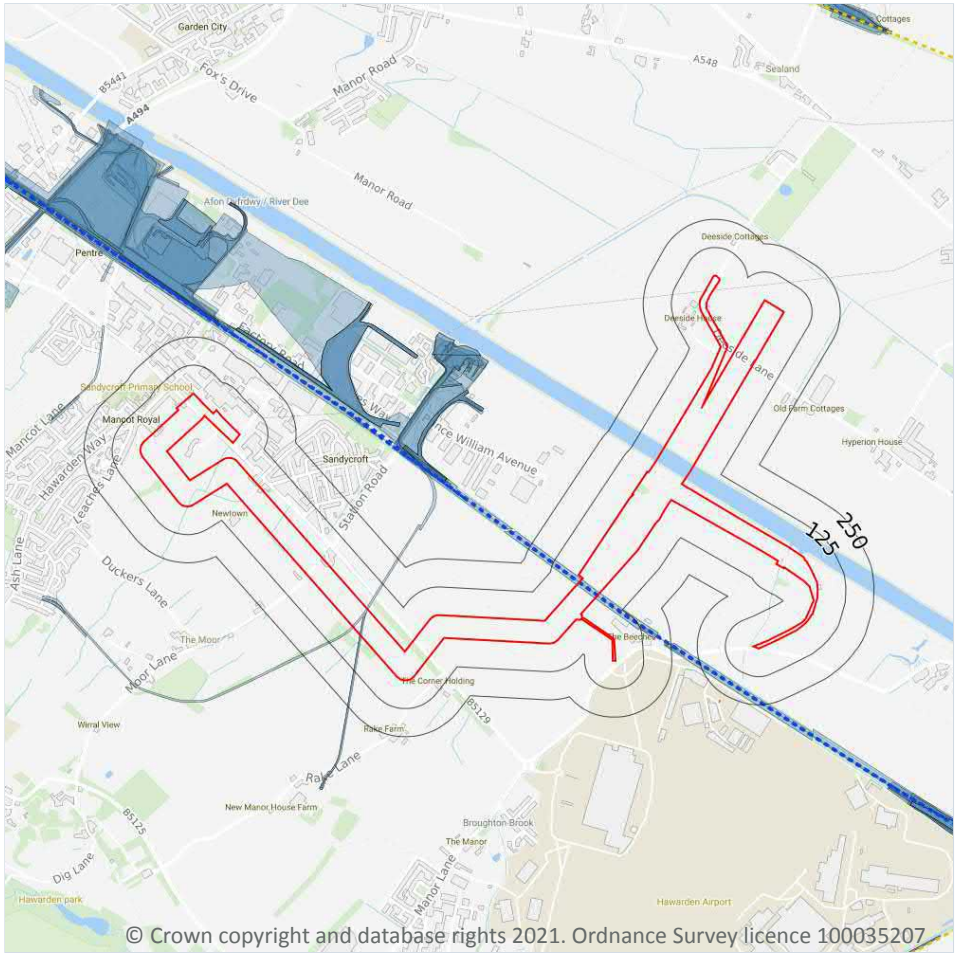
20.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

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

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	8

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.

Features are displayed on the Railway infrastructure and projects map on **page 178**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1870**	**2500**
On site	**Railway Sidings**	**1869**	**10560**
On site	**Railway Sidings**	**1898**	**10560**
128m E	Railway Sidings	1899	2500
132m NE	Railway Sidings	1899	2500
180m SW	Railway Sidings	1898	10560
220m E	Railway Sidings	1899	2500
247m E	Railway Sidings	1899	2500

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	4

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

Features are displayed on the Railway infrastructure and projects map on **page 178**

Location	Name	Type
On site	**North Wales Coast Line**	**rail**
On site	**North Wales Coast Line**	**rail**
On site	**Not given**	**Multi Track**
193m SW	Not given	Multi Track

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 h[redacted]

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: [redacted]

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

DCO Pipeline, Southern Route

Order Details

Date: 31/08/2021

Your ref: DCO Pipeline, Southern Route

Our Ref: GSIP-2021-10877-7381_E

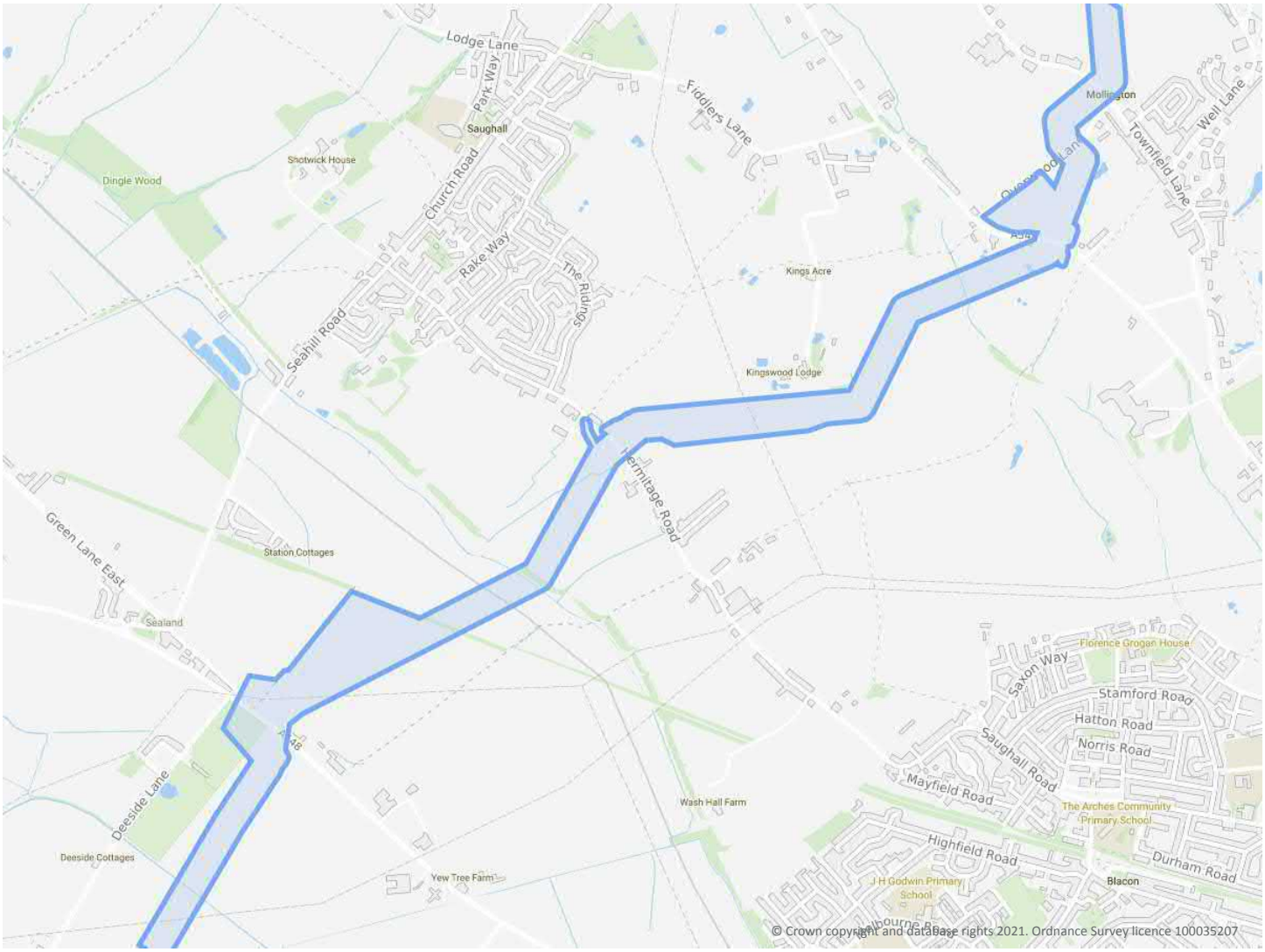
Client: WSP UK LIMITED

Site Details

Location: 337291 369676

Area: 58.96 ha

Authority: Sir y Fflint - Flintshire County Council, Cheshire West and Chester Council



Summary of findings p. 2

Aerial image p. 8

OS MasterMap site plan N/A: >10ha

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
13	1.1	Historical industrial land uses	3	5	24	46	-
16	1.2	Historical tanks	0	0	0	17	-
17	1.3	Historical energy features	0	0	4	2	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	2	0	-
19	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
20	2.1	Historical industrial land uses	3	5	25	60	-
24	2.2	Historical tanks	0	0	0	23	-
25	2.3	Historical energy features	0	0	6	3	-
26	2.4	Historical petrol stations	0	0	0	0	-
26	2.5	Historical garages	0	0	3	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
27	3.1	Active or recent landfill	0	0	0	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
28	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
28	3.4	Historical landfill (EA/NRW records)	0	0	1	0	-
28	3.5	Historical waste sites	0	0	0	0	-
28	3.6	Licensed waste sites	0	0	0	0	-
29	3.7	Waste exemptions	3	1	41	70	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
39	4.1	Recent industrial land uses	2	2	10	-	-
40	4.2	Current or recent petrol stations	0	0	1	0	-
41	4.3	Electricity cables	0	0	0	0	-
41	4.4	Gas pipelines	0	0	0	0	-
41	4.5	Sites determined as Contaminated Land	0	0	0	0	-

41	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	1	-
42	4.7	Regulated explosive sites	0	0	0	0	-
42	4.8	Hazardous substance storage/usage	0	0	0	0	-
42	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
42	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
42	4.11	Licensed pollutant release (Part A(2)/B)	0	0	2	0	-
43	4.12	Radioactive Substance Authorisations	0	0	0	0	-
43	4.13	Licensed Discharges to controlled waters	0	0	4	12	-
46	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
46	4.15	Pollutant release to public sewer	0	0	0	0	-
46	4.16	List 1 Dangerous Substances	0	0	0	0	-
46	4.17	List 2 Dangerous Substances	0	0	0	0	-
46	4.18	Pollution Incidents (EA/NRW)	0	0	3	3	-
47	4.19	Pollution inventory substances	0	0	0	0	-
48	4.20	Pollution inventory waste transfers	0	0	0	0	-
48	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
49	5.1	Superficial aquifer	Identified (within 500m)				
51	5.2	Bedrock aquifer	Identified (within 500m)				
53	5.3	Groundwater vulnerability	Identified (within 50m)				
55	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
55	5.5	Groundwater vulnerability- local information	None (within 0m)				
57	5.6	Groundwater abstractions	0	0	0	2	16
61	5.7	Surface water abstractions	0	0	0	1	12
64	5.8	Potable abstractions	0	0	0	0	2
65	5.9	Source Protection Zones	0	0	0	0	-
65	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
66	6.1	Water Network (OS MasterMap)	6	4	36	-	-

70	6.2	Surface water features	1	5	34	-	-
70	6.3	WFD Surface water body catchments	2	-	-	-	-
71	6.4	WFD Surface water bodies	1	0	0	-	-
71	6.5	WFD Groundwater bodies	3	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
73	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	High (within 50m)				
74	7.2	Historical Flood Events	0	0	0	-	-
74	7.3	Flood Defences	2	0	2	-	-
74	7.4	Areas Benefiting from Flood Defences	3	0	0	-	-
75	7.5	Flood Storage Areas	0	0	0	-	-
76	7.6	Flood Zone 2	Identified (within 50m)				
77	7.7	Flood Zone 3	Identified (within 50m)				

Page	Section	Surface water flooding	
78	8.1	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding	
80	9.1	Groundwater flooding	High (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
81	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	1
82	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
82	10.3	Special Areas of Conservation (SAC)	0	0	0	0	1
83	10.4	Special Protection Areas (SPA)	0	0	0	0	0
83	10.5	National Nature Reserves (NNR)	0	0	0	0	0
83	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
83	10.7	Designated Ancient Woodland	0	0	0	0	1
84	10.8	Biosphere Reserves	0	0	0	0	0
84	10.9	Forest Parks	0	0	0	0	0
84	10.10	Marine Conservation Zones	0	0	0	0	0
84	10.11	Green Belt	1	0	0	0	0
85	10.12	Proposed Ramsar sites	0	0	0	0	0

85	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
85	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
85	10.15	Nitrate Sensitive Areas	0	0	0	0	0
86	**10.16**	**Nitrate Vulnerable Zones**	0	1	1	0	2
87	**10.17**	**SSSI Impact Risk Zones**	2	-	-	-	-
88	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
89	11.1	World Heritage Sites	0	0	0	-	-
90	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
90	11.3	National Parks	0	0	0	-	-
90	**11.4**	**Listed Buildings**	0	1	0	-	-
91	11.5	Conservation Areas	0	0	0	-	-
91	11.6	Scheduled Ancient Monuments	0	0	0	-	-
91	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
92	**12.1**	**Agricultural Land Classification**	Grade 3b (within 250m)				
93	12.2	Open Access Land	0	0	0	-	-
93	12.3	Tree Felling Licences	0	0	0	-	-
93	**12.4**	**Environmental Stewardship Schemes**	1	1	0	-	-
94	**12.5**	**Countryside Stewardship Schemes**	2	0	1	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
95	**13.1**	**Priority Habitat Inventory**	3	1	12	-	-
96	**13.2**	**Habitat Networks**	2	1	3	-	-
97	13.3	Open Mosaic Habitat	0	0	0	-	-
97	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
98	**14.1**	**10k Availability**	Identified (within 500m)				
99	14.2	Artificial and made ground (10k)	0	0	0	0	-
100	**14.3**	**Superficial geology (10k)**	1	0	0	0	-

101	14.4	Landslip (10k)	0	0	0	0	-
102	**14.5**	**Bedrock geology (10k)**	2	0	0	0	-
103	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
104	**15.1**	**50k Availability**	Identified (within 500m)				
105	**15.2**	**Artificial and made ground (50k)**	0	0	1	0	-
106	15.3	Artificial ground permeability (50k)	0	0	-	-	-
107	**15.4**	**Superficial geology (50k)**	2	1	3	3	-
108	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
108	15.6	Landslip (50k)	0	0	0	0	-
109	15.7	Landslip permeability (50k)	None (within 50m)				
110	**15.8**	**Bedrock geology (50k)**	3	0	1	1	-
111	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
111	**15.10**	**Bedrock faults and other linear features (50k)**	3	0	1	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
112	**16.1**	**BGS Boreholes**	0	1	0	-	-
Page	Section	Natural ground subsidence					
113	**17.1**	**Shrink swell clays**	Very low (within 50m)				
114	**17.2**	**Running sands**	Moderate (within 50m)				
116	**17.3**	**Compressible deposits**	Moderate (within 50m)				
118	**17.4**	**Collapsible deposits**	Very low (within 50m)				
119	**17.5**	**Landslides**	Low (within 50m)				
121	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
123	18.1	Natural cavities	0	0	0	0	-
124	**18.2**	**BritPits**	0	0	0	2	-
124	**18.3**	**Surface ground workings**	36	17	52	-	-
128	18.4	Underground workings	0	0	0	0	0
128	18.5	Historical Mineral Planning Areas	0	0	0	0	-

129	18.6	Non-coal mining	0	0	0	0	0
129	18.7	Mining cavities	0	0	0	0	0
129	**18.8**	**JPB mining areas**	Identified (within 0m)				
129	18.9	Coal mining	None (within 0m)				
130	18.10	Brine areas	None (within 0m)				
130	18.11	Gypsum areas	None (within 0m)				
130	18.12	Tin mining	None (within 0m)				
130	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
131	**19.1**	**Radon**	Between 1% and 3% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
133	**20.1**	**BGS Estimated Background Soil Chemistry**	30	6	-	-	-
134	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
135	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
136	21.1	Underground railways (London)	0	0	0	-	-
136	21.2	Underground railways (Non-London)	0	0	0	-	-
137	21.3	Railway tunnels	0	0	0	-	-
137	**21.4**	**Historical railway and tunnel features**	0	0	11	-	-
138	21.5	Royal Mail tunnels	0	0	0	-	-
138	**21.6**	**Historical railways**	1	0	0	-	-
138	21.7	Railways	0	0	0	-	-
138	21.8	Crossrail 1	0	0	0	0	-
139	21.9	Crossrail 2	0	0	0	0	-
139	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 10/04/2020

Site Area: 58.96ha

Recent site history - 2017 aerial photograph



Capture Date: 07/05/2017

Site Area: 58.96ha

Recent site history - 2013 aerial photograph



Capture Date: 04/06/2013

Site Area: 58.96ha

Recent site history - 2009 aerial photograph



Capture Date: 01/06/2009

Site Area: 58.96ha

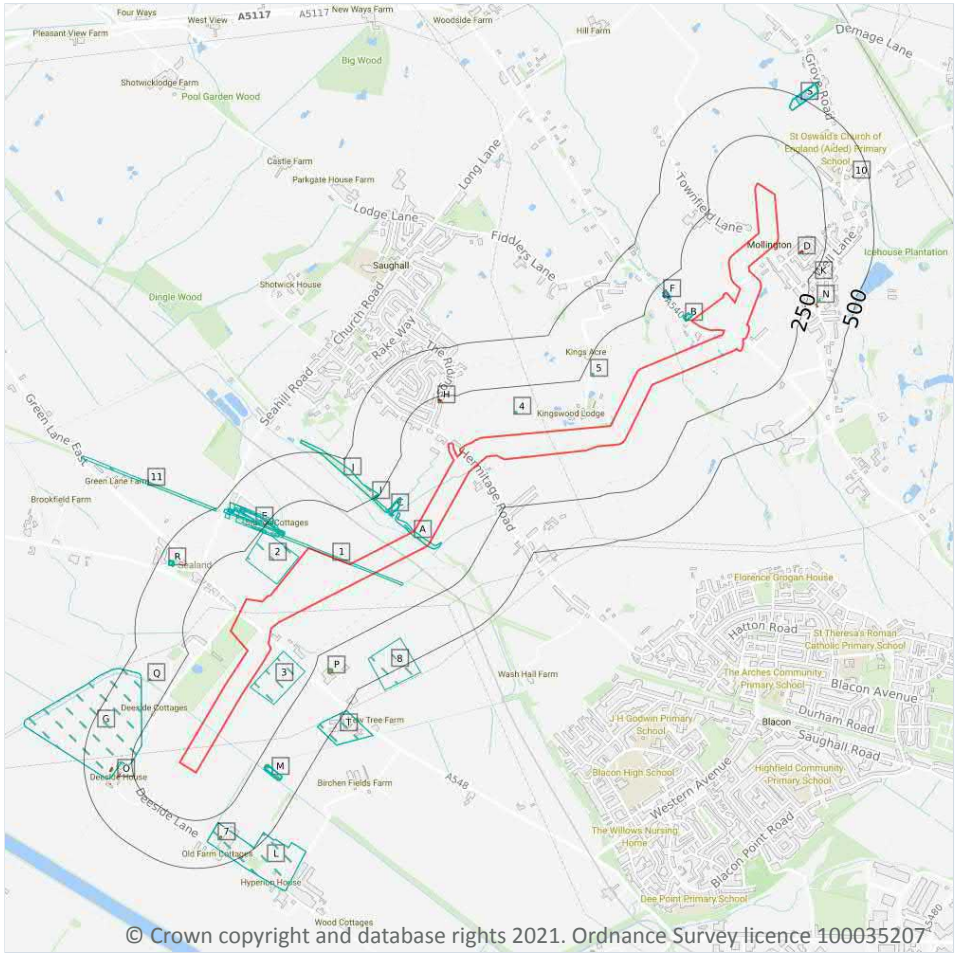
Recent site history - 2000 aerial photograph



Capture Date: 25/08/2000

Site Area: 58.96ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	78

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 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Pit**	**1898**	**839211**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Ground Workings**	**1938**	**939793**
A	**On site**	**Unspecified Ground Workings**	**1898**	**982672**
2	10m NW	Nursery	1948	831750
B	14m NW	Brewery	1913	871366
3	16m SE	Nursery	1948	831749
B	18m NW	Brewery	1898	938573
B	18m NW	Brewery	1938	931563
4	110m N	Unspecified Tank	1938	824007
C	121m NW	Unspecified Pit	1989	935736
C	121m NW	Unspecified Pit	1974	984417
C	124m NW	Unspecified Ground Workings	1898	869495
C	124m NW	Unspecified Ground Workings	1938	978865
C	129m NW	Unspecified Pit	1898	926044
C	129m NW	Unspecified Pit	1914	988323
E	139m NW	Railway Sidings	1898	891479
E	144m NW	Railway Sidings	1913	857838
E	145m NW	Railway Sidings	1898	845960
E	145m NW	Railway Sidings	1914	864841
E	159m NW	Railway Sidings	1948	880633
E	160m NW	Railway Sidings	1938	856777
F	164m NW	Garage	1978	875600
F	164m NW	Garage	1989	977759
5	197m NW	Unspecified Tank	1938	824006
6	210m NW	Railway Buildings	1914	833487
G	218m NW	Nursery	1976 - 1989	941696
G	218m NW	Nursery	1969	950364
E	222m NW	Unspecified Pit	1898	839213
I	241m NW	Unspecified Pit	1898	892130

ID	Location	Land use	Dates present	Group ID
I	241m NW	Unspecified Pit	1914	936374
J	242m NW	Unspecified Ground Workings	1938	871849
J	242m NW	Unspecified Ground Workings	1898	959039
E	275m NW	Railway Buildings	1948	833488
L	286m SE	Nursery	1989	898994
L	286m SE	Nursery	1968 - 1974	968504
M	294m SE	Unspecified Heap	1898	910295
M	294m SE	Unspecified Heap	1938	940750
M	297m SE	Unspecified Heap	1968	978284
M	300m SE	Unspecified Heap	1974	846700
M	300m SE	Unspecified Heap	1989	921857
N	310m E	Unspecified Tank	1938	824005
E	311m NW	Railway Sidings	1968 - 1974	989236
E	311m NW	Railway Sidings	1989	961929
P	323m E	Unspecified Tank	1898	823977
8	363m SE	Nursery	1948	831748
E	377m NW	Railway Building	1913	985191
E	378m NW	Railway Building	1968 - 1989	844997
E	378m NW	Railway Building	1948	918605
E	379m NW	Railway Building	1898	878649
E	379m NW	Railway Building	1914 - 1938	981602
E	383m NW	Railway Station	1898	822850
E	388m NW	Railway Building	1898	819510
E	416m NW	Unspecified Pit	1948	839214
R	419m NW	Smithy	1898	869128
R	419m NW	Disused Smithy	1948	928941
R	420m NW	Smithy	1869	869424
R	420m NW	Disused Smithy	1913	869671

ID	Location	Land use	Dates present	Group ID
S	420m NE	Brick Field	1938	856143
R	420m NW	Disused Smithy	1948	928755
E	421m NW	Disused Railway Station	1989	925174
E	421m NW	Railway Station	1948	952904
E	421m NW	Disused Railway Station	1968 - 1974	959326
S	421m NE	Brick Field	1909	854878
E	422m NW	Railway Station	1913	953041
S	422m NE	Brick Field	1898	908106
S	422m NE	Brick Field	1913	975542
R	422m NW	Disused Smithy	1938	863254
R	423m NW	Disused Smithy	1909	947142
T	423m SE	Unspecified Station	1968 - 1974	912448
T	423m SE	Unspecified Station	1989	851675
E	426m NW	Railway Station	1898	861415
E	426m NW	Railway Station	1914	872671
E	428m NW	Railway Station	1938	975923
E	428m NW	Railway Station	1938 - 1948	866055
E	428m NW	Railway Station	1909	942877
E	439m NW	Railway Station	1898	892007
S	464m NE	Brick Field	1948	961731
11	487m N	Unspecified Pit	1948	986497

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**17**

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 13**

ID	Location	Land use	Dates present	Group ID
K	277m SE	Tank or Trough	1873	121122
K	288m SE	Tank or Trough	1873	121121
N	299m E	Gasometer	1873 - 1899	134641
N	306m E	Gasometer	1873	108406
O	317m W	Unspecified Tank	1911	111654
P	320m E	Unspecified Tank	1899	111681
O	330m W	Unspecified Tank	1911	111655
Q	351m NW	Unspecified Tank	1984	139455
O	352m W	Tanks	1992 - 1999	145229
O	352m W	Unspecified Tank	1965	111652
Q	352m NW	Unspecified Tank	1965 - 1992	126628
O	353m W	Unspecified Tank	-	104342
7	355m S	Unspecified Tank	1965 - 1993	131984
O	357m W	Unspecified Tank	1965	111653
O	358m W	Unspecified Tank	-	104386
9	377m W	Unspecified Tank	1999	111656
10	414m E	Unspecified Tank	1960	111684

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 13**

ID	Location	Land use	Dates present	Group ID
D	130m SE	Electricity Substation	1989	60402
D	136m E	Electricity Substation	1977 - 1992	84914
H	224m N	Electricity Substation	1993	67453
H	224m N	Electricity Substation	1973 - 1990	74396
N	299m E	Gasometer	1873 - 1899	78024
N	306m E	Gasometer	1873	59599

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	**2**

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
F	171m NW	Garage	1992	21581
F	173m NW	Garage	1960 - 1975	26028

This data is sourced from Ordnance Survey / Groundsure.

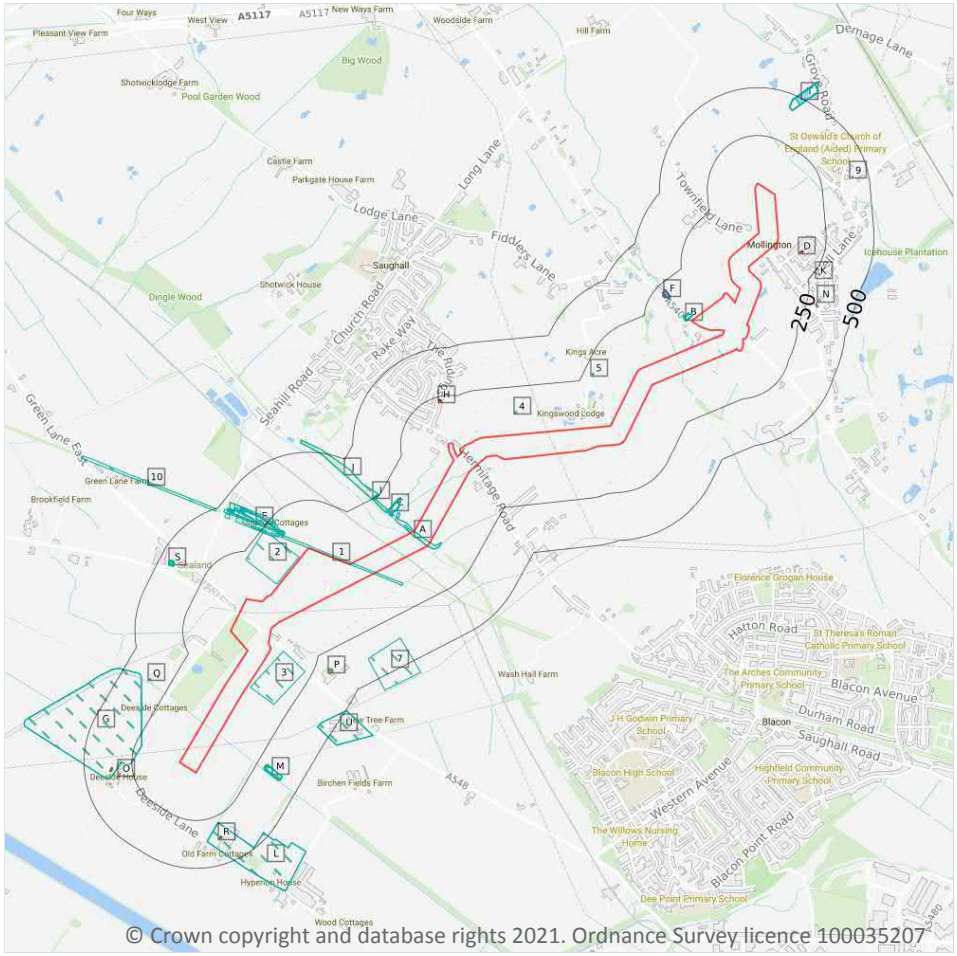
1.6 Historical military land

Records within 500m	0

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



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2.1 Historical industrial land uses

Records within 500m	93

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 20**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Unspecified Pit**	**1898**	**839211**
A	**On site**	**Unspecified Ground Workings**	**1938**	**939793**
A	**On site**	**Unspecified Ground Workings**	**1898**	**982672**

ID	Location	Land Use	Date	Group ID
2	10m NW	Nursery	1948	831750
B	14m NW	Brewery	1913	871366
3	16m SE	Nursery	1948	831749
B	18m NW	Brewery	1938	931563
B	18m NW	Brewery	1898	938573
4	110m N	Unspecified Tank	1938	824007
C	121m NW	Unspecified Pit	1989	935736
C	121m NW	Unspecified Pit	1974	984417
C	124m NW	Unspecified Ground Workings	1938	978865
C	124m NW	Unspecified Ground Workings	1898	869495
C	129m NW	Unspecified Pit	1914	988323
C	129m NW	Unspecified Pit	1898	926044
E	139m NW	Railway Sidings	1898	891479
E	144m NW	Railway Sidings	1913	857838
E	145m NW	Railway Sidings	1914	864841
E	145m NW	Railway Sidings	1898	845960
E	159m NW	Railway Sidings	1948	880633
E	160m NW	Railway Sidings	1938	856777
F	164m NW	Garage	1989	977759
F	164m NW	Garage	1978	875600
5	197m NW	Unspecified Tank	1938	824006
6	210m NW	Railway Buildings	1914	833487
G	218m NW	Nursery	1969	950364
G	218m NW	Nursery	1989	941696
G	218m NW	Nursery	1976	941696
E	222m NW	Unspecified Pit	1898	839213
I	241m NW	Unspecified Pit	1914	936374
I	241m NW	Unspecified Pit	1898	892130

ID	Location	Land Use	Date	Group ID
J	242m NW	Unspecified Ground Workings	1938	871849
J	242m NW	Unspecified Ground Workings	1898	959039
E	275m NW	Railway Buildings	1948	833488
L	286m SE	Nursery	1989	898994
L	286m SE	Nursery	1974	968504
L	286m SE	Nursery	1968	968504
M	294m SE	Unspecified Heap	1938	940750
M	294m SE	Unspecified Heap	1898	910295
M	297m SE	Unspecified Heap	1968	978284
M	300m SE	Unspecified Heap	1989	921857
M	300m SE	Unspecified Heap	1974	846700
N	310m E	Unspecified Tank	1938	824005
E	311m NW	Railway Sidings	1989	961929
E	311m NW	Railway Sidings	1974	989236
E	311m NW	Railway Sidings	1968	989236
P	323m E	Unspecified Tank	1898	823977
7	363m SE	Nursery	1948	831748
E	377m NW	Railway Building	1913	985191
E	378m NW	Railway Building	1989	844997
E	378m NW	Railway Building	1974	844997
E	378m NW	Railway Building	1968	844997
E	378m NW	Railway Building	1948	918605
E	379m NW	Railway Building	1914	981602
E	379m NW	Railway Building	1898	878649
E	383m NW	Railway Building	1938	981602
E	383m NW	Railway Building	1898	878649
E	383m NW	Railway Station	1898	822850
E	388m NW	Railway Building	1898	819510

ID	Location	Land Use	Date	Group ID
E	416m NW	Unspecified Pit	1948	839214
S	419m NW	Disused Smithy	1948	928941
S	419m NW	Smithy	1898	869128
S	420m NW	Smithy	1869	869424
S	420m NW	Disused Smithy	1913	869671
T	420m NE	Brick Field	1938	856143
T	420m NE	Brick Field	1938	856143
S	420m NW	Disused Smithy	1948	928755
E	421m NW	Disused Railway Station	1989	925174
E	421m NW	Disused Railway Station	1974	959326
E	421m NW	Disused Railway Station	1968	959326
E	421m NW	Railway Station	1948	952904
T	421m NE	Brick Field	1909	854878
T	421m NE	Brick Field	1909	854878
E	422m NW	Railway Station	1913	953041
T	422m NE	Brick Field	1913	975542
T	422m NE	Brick Field	1898	908106
S	422m NW	Disused Smithy	1938	863254
S	423m NW	Disused Smithy	1909	947142
U	423m SE	Unspecified Station	1989	851675
U	423m SE	Unspecified Station	1974	912448
U	423m SE	Unspecified Station	1968	912448
S	425m NW	Disused Smithy	1938	863254
S	425m NW	Smithy	1898	869128
E	426m NW	Railway Station	1914	872671
E	426m NW	Railway Station	1898	861415
E	428m NW	Railway Station	1938	975923
E	428m NW	Railway Station	1898	861415

ID	Location	Land Use	Date	Group ID
E	428m NW	Railway Station	1909	942877
E	439m NW	Railway Station	1948	866055
E	439m NW	Railway Station	1898	892007
E	439m NW	Railway Station	1938	866055
T	464m NE	Brick Field	1948	961731
10	487m N	Unspecified Pit	1948	986497

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**23**

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 20**

ID	Location	Land Use	Date	Group ID
K	277m SE	Tank or Trough	1873	121122
K	288m SE	Tank or Trough	1873	121121
N	299m E	Gasometer	1873	134641
N	300m E	Gasometer	1899	134641
N	306m E	Gasometer	1873	108406
O	317m W	Unspecified Tank	1911	111654
P	320m E	Unspecified Tank	1899	111681
O	330m W	Unspecified Tank	1911	111655
Q	351m NW	Unspecified Tank	1984	139455
O	352m W	Tanks	1999	145229
O	352m W	Unspecified Tank	1965	111652
Q	352m NW	Unspecified Tank	1965	126628
Q	353m NW	Unspecified Tank	1992	126628
O	353m W	Unspecified Tank	-	104342

ID	Location	Land Use	Date	Group ID
O	354m W	Tanks	1992	145229
R	355m S	Unspecified Tank	1988	131984
R	357m S	Unspecified Tank	1965	131984
O	357m W	Unspecified Tank	1965	111653
R	357m S	Unspecified Tank	1993	131984
R	357m S	Unspecified Tank	1993	131984
O	358m W	Unspecified Tank	-	104386
8	377m W	Unspecified Tank	1999	111656
9	414m E	Unspecified Tank	1960	111684

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**9**

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 20**

ID	Location	Land Use	Date	Group ID
D	130m SE	Electricity Substation	1989	60402
D	136m E	Electricity Substation	1977	84914
D	138m E	Electricity Substation	1992	84914
H	224m N	Electricity Substation	1993	67453
H	224m N	Electricity Substation	1973	74396
H	224m N	Electricity Substation	1990	74396
N	299m E	Gasometer	1873	78024
N	300m E	Gasometer	1899	78024
N	306m E	Gasometer	1873	59599

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	3

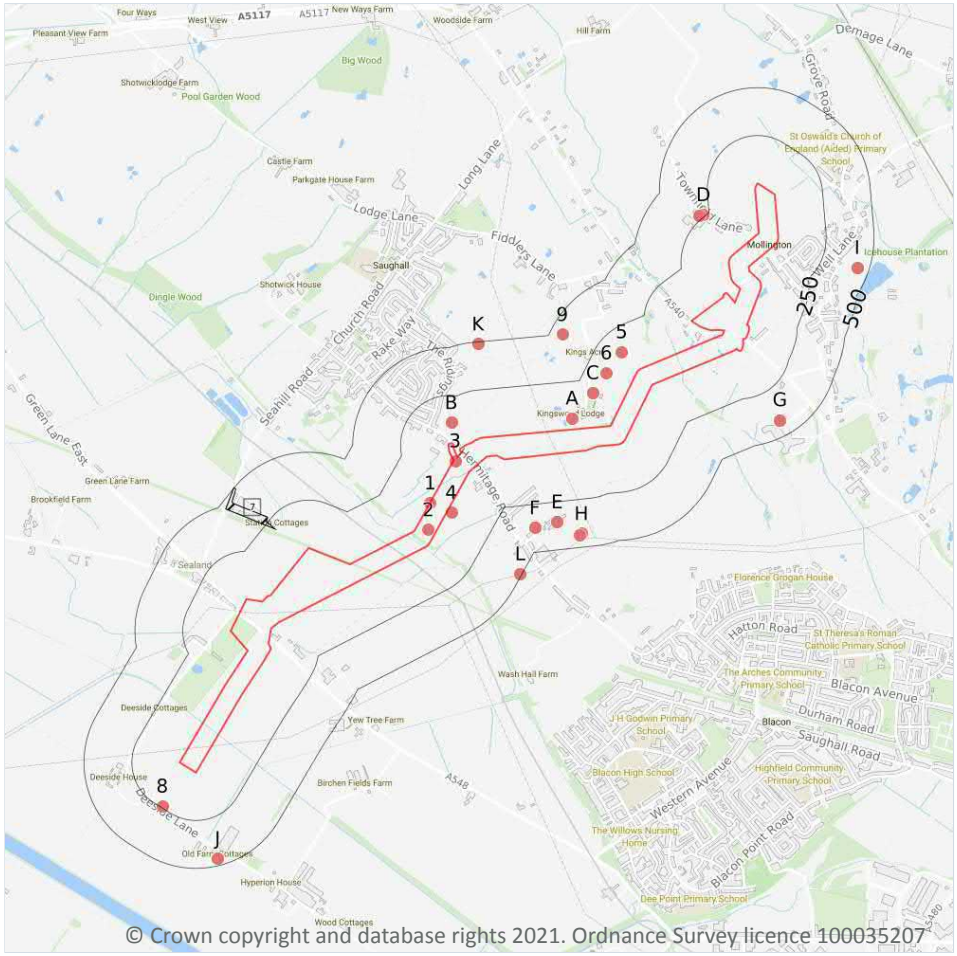
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
F	171m NW	Garage	1992	21581
F	173m NW	Garage	1975	26028
F	173m NW	Garage	1960	26028

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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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	0

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

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 27**

ID	Location	Details		
7	199m NW	Site Address: Seahill Road, Sealand Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 12/05/1995 Licence Surrender: 16/08/1996	Operator: - Licence Holder: - First Recorded 31/12/1937 Last Recorded: 31/12/1972

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	0

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

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

3.7 Waste exemptions

Records within 500m **115**

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 27**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	**On site**	**Cheshire Stockpile located at SJ3653069170 UU Ref H7 Tegid Hughes Cefn Griolen**	**EPR/HE5150EL /A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
2	**On site**	**Cheshire stockpile located at SJ3652069030 H8 Tegid Hughes Cefn Griolen**	**EPR/TE5750EL /A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
3	**On site**	**Land At Saughhall SJ36666939**	**EPR/LE5349XQ/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
4	23m SE	Tegid Hughes Cefn Griolen SJ36640 69120 UU Ref H9	EPR/DE5353ET /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Use of waste in construction
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Spreading of plant matter to confer benefit
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Use of mulch
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Spreading waste on non-agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Using waste exemption	Not on a farm	Use of waste for a specified purpose
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Disposing of waste exemption	Not on a farm	Deposit of waste from dredging of inland waters
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	56m N	KINGSWOOD LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX170920	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	105m N	Morriston Farm Green Lane DEESIDE Clwyd CH5 2LH	EPR/ZE5957JK /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
B	105m N	Land AT Saughall SJ36646959	EPR/SE5749XN /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
5	129m NW	-	WEX214888	Storing waste exemption	On a Farm	Storage of sludge
6	141m NW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/GE5258Q K/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Use of waste in construction
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Use of waste for a specified purpose
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Use of mulch
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Storing waste exemption	On a farm	Storage of waste in secure containers
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX240319	Storing waste exemption	On a farm	Storage of waste in a secure place
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Use of waste in construction
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Spreading of plant matter to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Use of waste for a specified purpose
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Storing waste exemption	On a farm	Storage of waste in secure containers
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Storing waste exemption	On a farm	Storage of waste in a secure place
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	159m NW	PINETREES LODGE, KINGSWOOD LANE, SAUGHALL, CHESTER, CH1 6DE	WEX098007	Using waste exemption	On a farm	Use of mulch
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331D K/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331D K/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in secure containers
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331D K/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331D K/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331D K/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331DK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on non-agricultural land to confer benefit
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331DK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading of plant matter to confer benefit
C	159m NW	Pinetrees Lodge Kingswood Lane CHESTER CH1 6DE	EPR/MF0331DK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
8	244m SW	4R Group, Wood Farm, Deeside Lane, Sealand, Chester, Flintshire, CH1 6BP	NRW-WME053730	Storing waste exemption	Not on a farm	Storage of sludge
D	258m NW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/FF0031XE/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
D	258m NW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/FF0031XE/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
D	259m NW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX219491	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
D	259m NW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX219491	Using waste exemption	On a farm	Use of waste for a specified purpose
D	259m NW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX072177	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
D	259m NW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX072177	Using waste exemption	On a farm	Use of waste for a specified purpose
D	270m NW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/DE5081CP/A001	Using waste exemption	Non-Agricultural Waste Only	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
D	270m NW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/DE5081CP/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste for a specified purpose
E	358m S	-	WEX242541	Disposing of waste exemption	On a farm	Burning waste in the open
E	358m S	-	WEX242541	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	358m S	-	WEX242541	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
E	358m S	-	WEX242541	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	358m S	-	WEX242541	Using waste exemption	On a farm	Use of waste in construction
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
F	376m S	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/ZH0017DU/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY/A001	Disposing of waste exemption	Agricultural Waste Only	Disposal by incineration

ID	Location	Site	Reference	Category	Sub-Category	Description
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Using waste exemption	Agricultural Waste Only	Use of mulch
G	417m SE	Crabwall Hall Farm Parkgate Road CHESTER CH1 6NE	EPR/FF0236PY /A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Using waste exemption	On a farm	Use of mulch
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Disposing of waste exemption	On a farm	Burning waste in the open
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Storing waste exemption	On a farm	Storage of waste in a secure place
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Disposing of waste exemption	On a farm	Disposal by incineration
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance

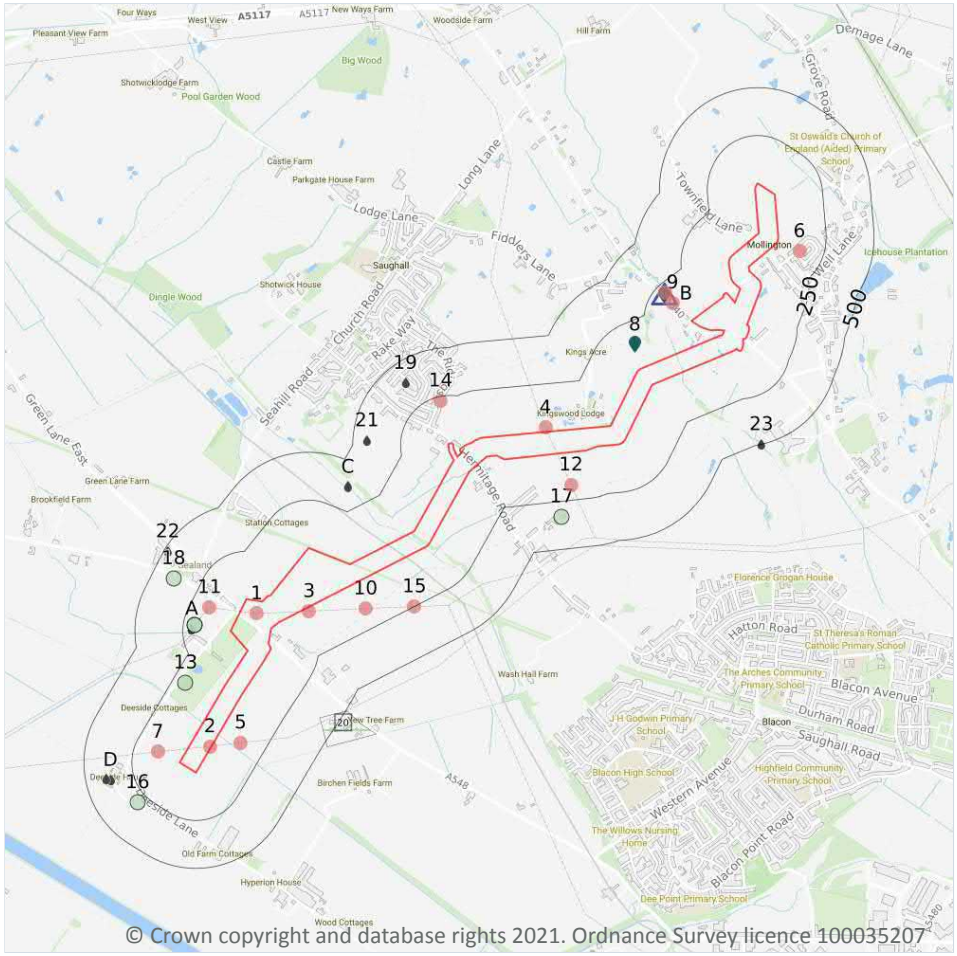
ID	Location	Site	Reference	Category	Sub-Category	Description
G	418m SE	Crabwell Farm, Parkgate Road, Mollington, Chester, CH1 6NE	WEX186703	Using waste exemption	On a farm	Use of waste in construction
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Disposing of waste exemption	On a farm	Burning waste in the open
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Treating waste exemption	On a farm	Treatment of sheep dip for disposal
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Using waste exemption	On a farm	Pig and poultry ash
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Using waste exemption	On a farm	Incorporation of ash into soil
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Using waste exemption	On a farm	Use of mulch
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX220930	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Disposing of waste exemption	On a farm	Disposal by incineration
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Disposing of waste exemption	On a farm	Burning waste in the open
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Storing waste exemption	On a farm	Storage of waste in a secure place
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Using waste exemption	On a farm	Use of waste in construction
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Using waste exemption	On a farm	Use of mulch
G	420m SE	CRABWALL HALL FARM, PARKGATE ROAD, MOLLINGTON, CHESTER, CH1 6NE	WEX007589	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
H	432m S	-	WEX226898	Storing waste exemption	On a farm	Storage of sludge
9	436m NW	n/a	WEX265385	Storing waste exemption	On a farm	Storage of sludge
I	438m E	-	WEX150036	Storing waste exemption	On a Farm	Storage of sludge
I	438m E	-	WEX224672	Storing waste exemption	On a farm	Storage of sludge
I	438m E	-	WEX248019	Storing waste exemption	On a farm	Storage of sludge

ID	Location	Site	Reference	Category	Sub-Category	Description
H	441m S	-	WEX226897	Storing waste exemption	On a farm	Storage of sludge
H	441m S	re-register Boyling, Crabwell Farm - CF02	WEX269911	Storing waste exemption	On a farm	Storage of sludge
J	466m S	4 Recycling Ltd, Wood Farm House, Deeside Lane, Sealand, Chester, Flintshire, CH16BP	NRW-WME005060	Storing waste exemption	Not on a farm	Storage of sludge
J	466m S	Wood Farm, Deeside Lane, Sealand, Chester, Flintshire, CH16BP	NRW-WME006944	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
J	466m S	WT Banks, Deeside Farm, Deeside Lane, Sealand, Chester, Flintshire, Ch16bp	NRW-WME006980	Disposing of waste exemption	On a farm	Burning waste in the open
J	466m S	Wood Farm House, Deeside Lane, Chester, Flintshire, CH1 6BP	NRW-WME003367	Storing waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Storage of sludge
J	466m S	Wood Farm, Deeside Lane, Chester, Flintshire, CH1 6BP	NRW-WME004214	Storing waste exemption	Waste Exemption - Agricultural	Storage of sludge
J	466m S	Wood Farm, Deeside Lane, Chester, Flintshire, CH1 6BP	NRW-WME004257	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of sludge
K	486m N	-	WEX148951	Storing waste exemption	On a Farm	Storage of sludge
K	486m N	-	WEX087528	Storing waste exemption	On a farm	Storage of sludge
L	493m SE	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/WE5945ZV/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
L	493m SE	Poplars Farm Green Lane Chester Cheshire CH1 6AJ	EPR/GF0031NX/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	14

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 39**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Pylon**	**Clwyd, CH1**	**Electrical Features**	**Infrastructure and Facilities**
2	**On site**	**Pylon**	**Clwyd, CH1**	**Electrical Features**	**Infrastructure and Facilities**
3	21m SE	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	22m N	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
5	121m SE	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities
6	126m E	Electricity Sub Station	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
7	128m NW	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities
9	138m NW	Regal Rentals	Parkgate Road, Saughall, Chester, Cheshire, CH1 6RR	Vehicle Hire and Rental	Hire Services
10	143m SE	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities
11	154m NW	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities
12	169m S	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
B	202m NW	Wheatsheaf Garage	Parkgate Road, Saughall, Chester, Cheshire, CH1 6JS	Vehicle Repair, Testing and Servicing	Repair and Servicing
14	228m N	Electricity Sub Station	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
15	250m SE	Pylon	Clwyd, CH1	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 39**

ID	Location	Company	Address	LPG	Status
B	202m NW	TEXACO	Parkgate Road, Mollington, Chester, Cheshire West And Chester, CH1 6JS	No	Closed

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	1

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.

Features are displayed on the Current industrial land use map on **page 39**

ID	Location	Company	Address	Operational status	Tier
20	407m SE	Burgess (agricultural Engineers) Ltd	Burgess (Agricultural Engineers) Ltd, Burgess Drive, Sealand, Chester, CH1 6BT	Historical NIHHS Site	-

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	2

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.

Features are displayed on the Current industrial land use map on **page 39**

ID	Location	Address	Details	
8	128m NW	Sealand Service Station (Elf), 302 Sealand Road, Mount View, CH1 9LU	Process: Petrol Vapour Recovery Status: Historical Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
B	196m NW	Euro Garages (Red Ensign), Parkgate Road, Saughall, CH1 6JS	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified

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	**16**

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 39**

ID	Location	Address	Details	
A	203m W	1-12 Deeside Crescent, Deeside Crescent, SEALAND, Chester, CH1 6BY	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AB3592FU Permit Version: 3 Receiving Water: Unknown Tributary of Waterloo Drain	Status: Effective Issue date: 24/04/2019 Effective Date: 03/05/2019 Revocation Date: -
A	203m W	STP SERVING 1-12 DEESIDE CRESCENT, SEALAND, CHESTER, CH1 6BY	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD009890 Permit Version: 1 Receiving Water: TRIB OF WATERLOO DRAIN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 18/03/2010 Effective Date: 18/03/2010 Revocation Date: -

ID	Location	Address	Details	
A	203m W	1-12 Deeside Crescent, Deeside Crescent, SEALAND, Chester, CH1 6BY	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AB3592FU Permit Version: 1 Receiving Water: Unknown Tributary of Waterloo Drain	Status: Effective Issue date: 01/09/2017 Effective Date: 01/09/2017 Revocation Date: -
A	203m W	1-12 Deeside Crescent, Deeside Crescent, SEALAND, Chester, CH1 6BY	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AB3592FU Permit Version: 2 Receiving Water: Unknown Tributary of Waterloo Drain	Status: Effective Issue date: 28/11/2018 Effective Date: 20/12/2018 Revocation Date: -
C	364m NW	SAUGHALL VILLAGE CSO, REAR OF 64 HERMITAGE ROAD, SAUGHALL, CHESTER, CHESHIRE, CH1 6AQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0059101 Permit Version: 2 Receiving Water: TRIBUTARY OF RIVER DEE	Status: VARIED UNDER EPR 2010 Issue date: 17/12/2018 Effective Date: 17/12/2018 Revocation Date: -
C	366m NW	SAUGHALL VILLAGE CSO, REAR OF 64 HERMITAGE ROAD, SAUGHALL, CHESTER, CHESHIRE, CH1 6AQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0059101 Permit Version: 1 Receiving Water: SEAHILL DRAIN	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 16/09/1969 Effective Date: 16/09/1969 Revocation Date: 16/12/2018
D	373m W	SEPTIC TANK SERVING COURTYARD 1, COURTYARD 1 THE BOWERY, DEESIDE LANE, SEALAND, Chester, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: TB3297TA Permit Version: 1 Receiving Water: groundwater via infiltration system	Status: Effective Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -
D	373m W	SEPTIC TANK SERVING COURTYARD 1, COURTYARD 1, THE BOWERY, DEESIDE LANE, SEALAND, CHESTER, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRTB3297TA Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -
D	373m W	SEPTIC TANK SERVING COURTYARD 1, COURTYARD 1, THE BOWERY, DEESIDE LANE, SEALAND, CHESTER, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRTB3297TA Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -

ID	Location	Address	Details	
19	391m NW	SAUGHALL RAKESWAY PETROL FILLING ST, SAUGHALL RAKESWAY PETROL FILLING, RAKESWAY PETROL FILLING STA.& SE, PETROL FILLING STA.& SERVICEAR	Effluent Type: UNSPECIFIED Permit Number: CM0036701 Permit Version: 1 Receiving Water: UN-NAMED DITCH FLOWING TO SEAL	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 22/09/1966 Effective Date: 22/09/1966 Revocation Date: 22/12/1992
D	396m W	SEPTIC TANK SERVING COURTYARD 2, COURTYARD 2 THE BOWERY, DEESIDE LANE, SEALAND, Chester, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: TB3697TS Permit Version: 1 Receiving Water: groundwater via infiltration system	Status: Effective Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -
D	396m W	SEPTIC TANK SERVING COURTYARD 2, COURTYARD 2, THE BOWERY, DEESIDE LANE, SEALAND, CHESTER, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRTB3697TS Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -
D	396m W	SEPTIC TANK SERVING COURTYARD 2, COURTYARD 2, THE BOWERY, DEESIDE LANE, SEALAND, CHESTER, CH1 6BQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRTB3697TS Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 11/09/2013 Effective Date: 11/09/2013 Revocation Date: -
21	426m W	SAUGHALL THE POPLARS - SSO	Effluent Type: UNSPECIFIED Permit Number: CM0199701 Permit Version: 1 Receiving Water: SEAHILL DRAIN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/10/1989 Effective Date: 20/10/1989 Revocation Date: 04/03/1994
22	480m NW	SEALAND SMITHY FARM POULTRY REARING, SEALAND SMITHY FARM POULTRY REAR, SMITHY FARM POULTRY REARING UNIT, POULTRY REARING UNIT	Effluent Type: UNSPECIFIED Permit Number: CM0090501 Permit Version: 1 Receiving Water: UN-NAMED TRIB. OF WATERLOO DRA	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 18/02/1981 Effective Date: 18/02/1981 Revocation Date: 11/04/1995
23	499m S	CRABWALL FARM MOLLINGTON CHESTER , CRABWALL FARM MOLLINGTON CHESTE, MOLLINGTON CHESTER , MOLLINGTON CHESTER , CHESTER	Effluent Type: UNSPECIFIED Permit Number: CM0129801 Permit Version: 1 Receiving Water: HIGHFIELD DRAIN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 03/04/1969 Effective Date: 03/04/1969 Revocation Date: 25/10/1995

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	6

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 39**

ID	Location	Details	
13	184m NW	Incident Date: 08/11/2013 Incident Identification: 1174920 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
A	193m W	Incident Date: 17/02/2017 Incident Identification: 1700833 Pollutant: - Pollutant Description: -	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details
A	193m W	Incident Date: 17/02/2017 Incident Identification: 1700833 Pollutant: Sewage Material Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details
16	303m SW	Incident Date: 11/09/2015 Incident Identification: 1372562 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
17	328m S	Incident Date: 11/10/2002 Incident Identification: 114284 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
18	389m NW	Incident Date: 08/09/2003 Incident Identification: 188411 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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.

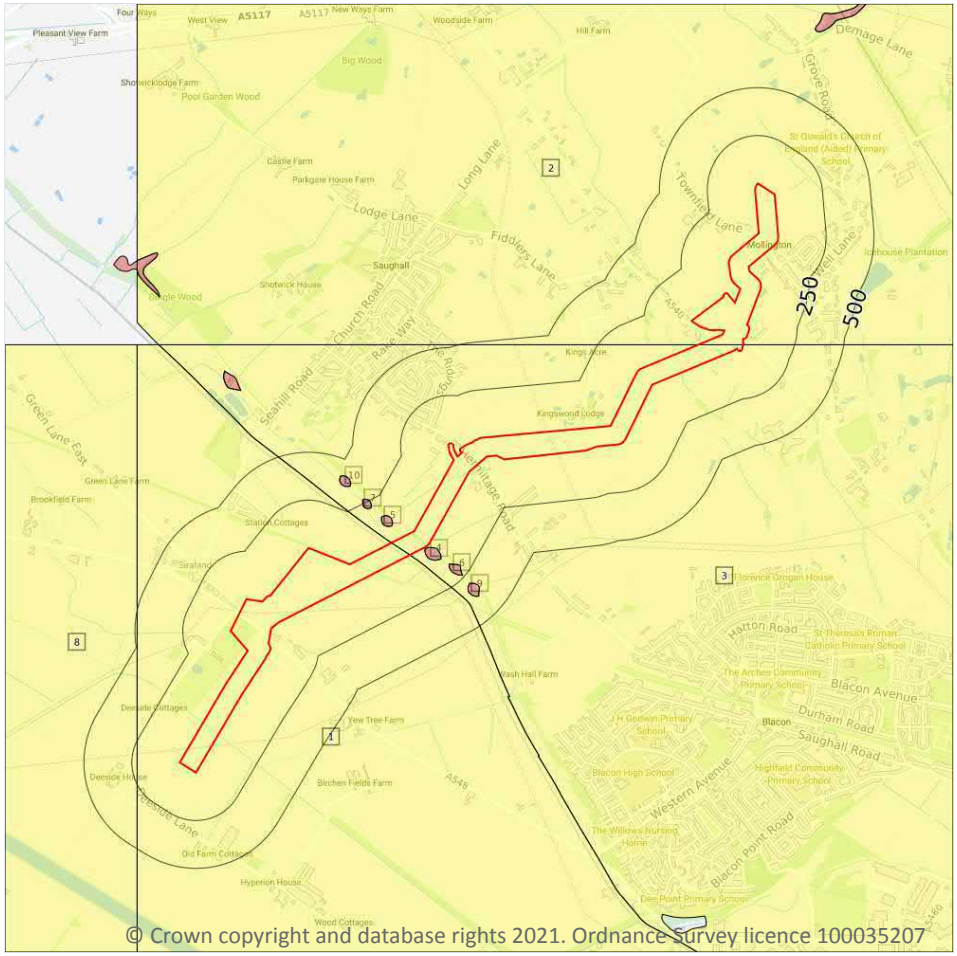
4.21 Pollution inventory radioactive waste

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	10

Aquifer status of groundwater held within superficial geology.

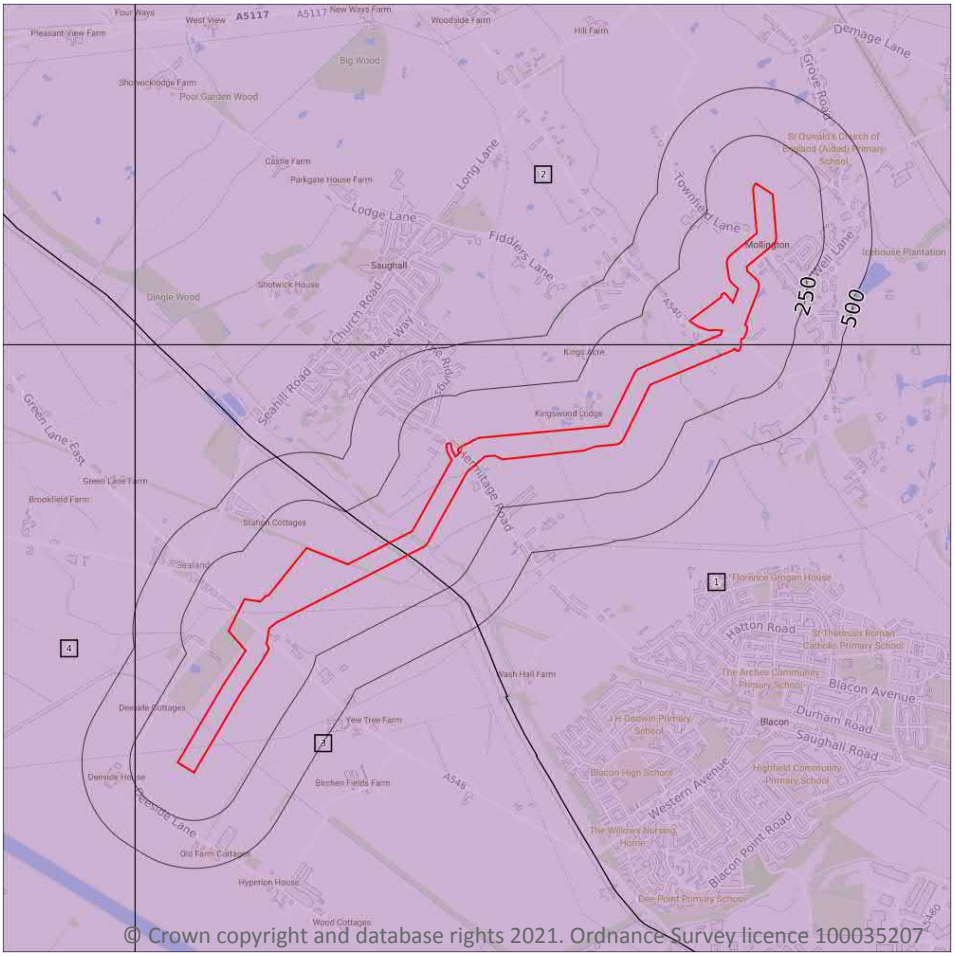
Features are displayed on the Hydrogeology map on **page 49**

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	**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**
4	8m 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
5	79m NW	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
6	149m 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
7	212m NW	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
8	222m W	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
9	296m 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
10	362m NW	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.

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	4

Aquifer status of groundwater held within bedrock geology.

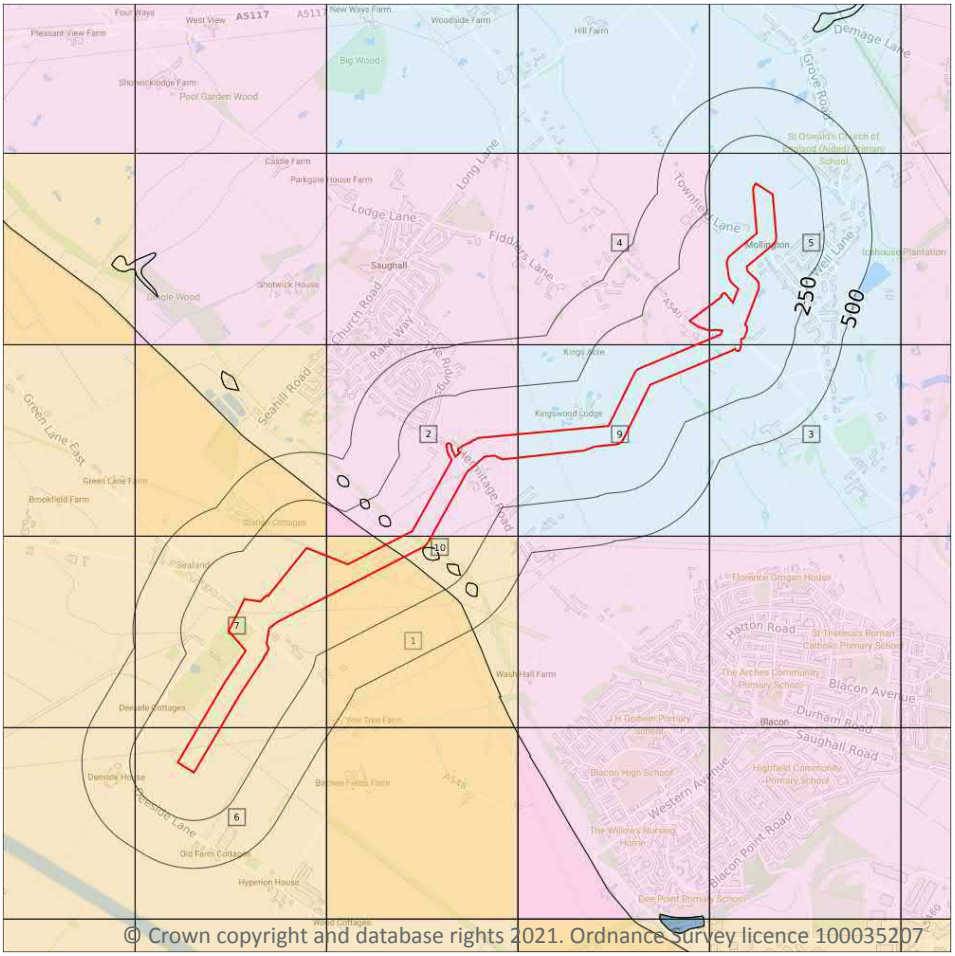
Features are displayed on the Bedrock aquifer map on **page 51**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

ID	Location	Designation	Description
3	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
4	222m W	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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

Groundwater vulnerability



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5.3 Groundwater vulnerability

Records within 50m	10

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 53**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
3	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
5	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
6	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: <300mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular**
8	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular**
9	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: No Data**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular**
10	7m SE	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular

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

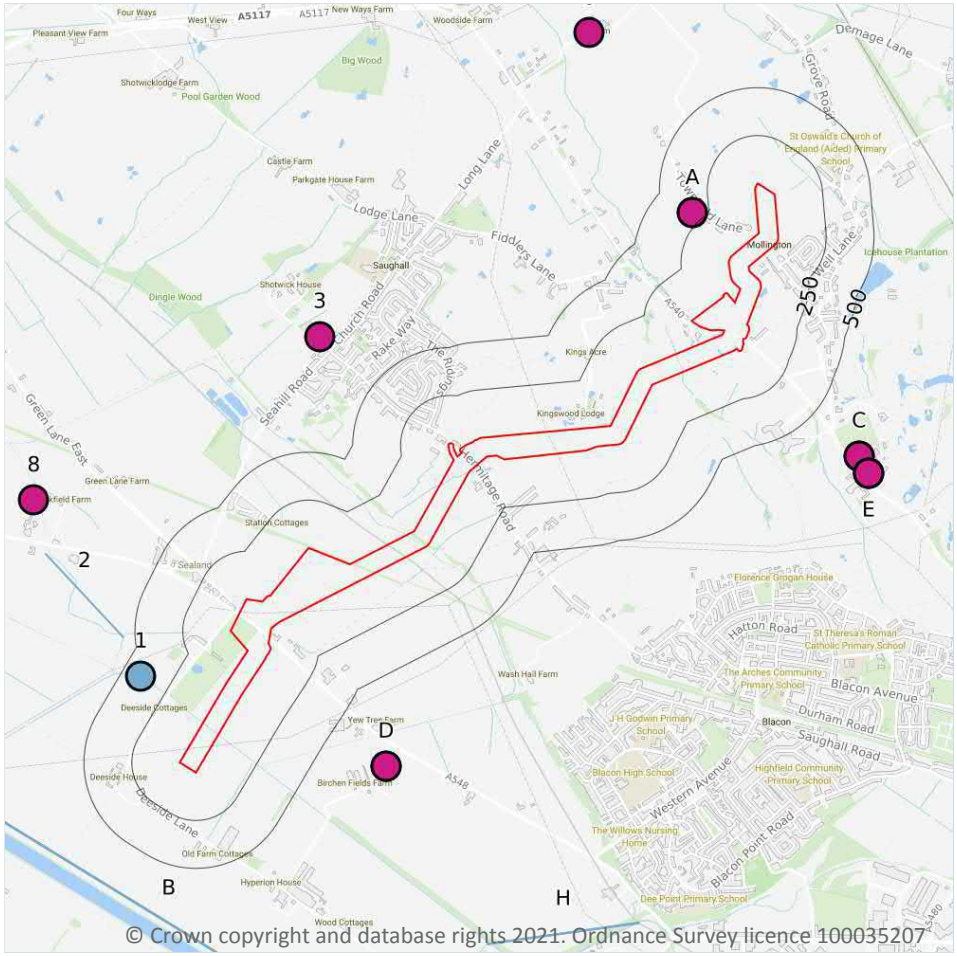
Records on site	**0**

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



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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
- 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	18

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 57**

ID	Location	Details	
A	305m NW	Status: Active Licence No: 24/67/10/0012 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Jones Easting: 337900 Northing: 370690	Annual Volume (m^3): 17,910.30 Max Daily Volume (m^3): 422.77 Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1984 Version End Date: -
A	305m NW	Status: Active Licence No: 24/67/10/0012 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Jones Easting: 337900 Northing: 370690	Annual Volume (m^3): 17,910.30 Max Daily Volume (m^3): 422.77 Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1984 Version End Date: -
B	743m SW	Status: Historical Licence No: 24/67/10/0141 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: REACH A - A ON THE SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co. (Farming) Ltd. Easting: 333960 Northing: 367720	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/08/2003 Expiry Date: 31/03/2014 Issue No: 1 Version Start Date: 01/08/2003 Version End Date: -
C	824m SE	Status: Historical Licence No: 24/67/10/0095 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2002 Version End Date: -
C	824m SE	Status: Historical Licence No: 24/67/10/0144 Details: Water Bottling Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): 41358 Max Daily Volume (m^3): 135 Original Application No: - Original Start Date: 07/10/2003 Expiry Date: 31/03/2009 Issue No: 1 Version Start Date: 07/10/2003 Version End Date: -

ID	Location	Details	
D	834m SE	Status: Historical Licence No: 24/67/10/0105 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Church Farm Dairies Ltd Easting: 336300 Northing: 367800	Annual Volume (m^3): 14368 Max Daily Volume (m^3): 1991 Original Application No: - Original Start Date: 16/11/1983 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2003 Version End Date: -
D	834m SE	Status: Historical Licence No: 24/67/10/0105 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Church Farm Dairies Ltd Easting: 336300 Northing: 367800	Annual Volume (m^3): 14368 Max Daily Volume (m^3): 1991 Original Application No: - Original Start Date: 16/11/1983 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2003 Version End Date: -
3	877m NW	Status: Active Licence No: WA/067/0010/015 Details: Heat Pump Direct Source: EAW Groundwater Point: BOREHOLE A AT THE VICARAGE, CHURCH ROAD, SAUGHALL, CHESTER Data Type: Point Name: Greensill Easting: 335954 Northing: 370044	Annual Volume (m^3): 28,800 Max Daily Volume (m^3): 96 Original Application No: - Original Start Date: 10/03/2016 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 10/03/2016 Version End Date: -
E	922m SE	Status: Active Licence No: 24/67/10/0095 Details: Non-Evaporative Cooling Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -
E	922m SE	Status: Active Licence No: 24/67/10/0095 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

ID	Location	Details	
E	922m SE	Status: Active Licence No: 24/67/10/0095 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -
6	1181m NW	Status: Historical Licence No: 24/67/10/0015 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Shaw Easting: 337360 Northing: 371630	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 09/08/1966 Version End Date: -
-	1189m N	Status: Historical Licence No: 24/67/10/0056 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Littler Easting: 338650 Northing: 371960	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/06/1967 Expiry Date: - Issue No: 100 Version Start Date: 06/06/1967 Version End Date: -
8	1225m NW	Status: Historical Licence No: 24/67/10/0022 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: H T Howe And Sons Easting: 334460 Northing: 369190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1975 Version End Date: -
-	1515m W	Status: Historical Licence No: 24/67/10/0112 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Archimica Limited Easting: 333760 Northing: 367420	Annual Volume (m^3): 119814 Max Daily Volume (m^3): 327.36 Original Application No: - Original Start Date: 16/08/1988 Expiry Date: 31/03/2008 Issue No: 106 Version Start Date: 01/07/2006 Version End Date: -

ID	Location	Details	
-	1515m W	Status: Historical Licence No: 24/67/10/0154 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Archimica Limited Easting: 333760 Northing: 367420	Annual Volume (m^3): 119814 Max Daily Volume (m^3): 327.36 Original Application No: - Original Start Date: 01/04/2008 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
H	1766m SE	Status: Historical Licence No: 24/67/10/0141 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: REACH B - B ON THE SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co. (Farming) Ltd. Easting: 336830 Northing: 366870	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/08/2003 Expiry Date: 31/03/2014 Issue No: 1 Version Start Date: 01/08/2003 Version End Date: -
-	1774m SE	Status: Historical Licence No: 24/67/10/0009 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Edge Easting: 336020 Northing: 366140	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/07/1966 Expiry Date: - Issue No: 100 Version Start Date: 12/04/1968 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 57**

ID	Location	Details	
1	403m NW	Status: Historical Licence No: 24/67/10/0103 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: SEALAND MAIN DRAIN POINT C. Data Type: Point Name: Jones Balers Ltd Easting: 335020 Northing: 368270	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 27/04/1989 Version End Date: -
2	559m W	Status: Historical Licence No: 24/67/10/0102 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: WATERLOO DRAIN Data Type: Line Name: Williams Easting: 334930 Northing: 368470	Annual Volume (m^3): 12274 Max Daily Volume (m^3): 355 Original Application No: - Original Start Date: 17/09/1980 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
B	743m SW	Status: Historical Licence No: 24/67/10/0129 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: REACH A TO A AT SEALAND MAIN DRAIN Data Type: Line Name: Banks Easting: 333960 Northing: 367720	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/07/1998 Expiry Date: 31/07/2003 Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -
B	743m SW	Status: Historical Licence No: 24/67/10/0141 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: REACH A-A ON THE SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co (Farming) Ltd Easting: 333960 Northing: 367720	Annual Volume (m^3): 104558 Max Daily Volume (m^3): 1227.42 Original Application No: - Original Start Date: 01/08/2003 Expiry Date: 31/03/2014 Issue No: 2 Version Start Date: 19/07/2010 Version End Date: -
B	746m SW	Status: Historical Licence No: WA/067/0010/011 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co (Farming) Ltd Easting: 333955 Northing: 367720	Annual Volume (m^3): 67962.7 Max Daily Volume (m^3): 1227.42 Original Application No: - Original Start Date: 30/07/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 26/11/2014 Version End Date: -

ID	Location	Details	
B	746m SW	Status: Active Licence No: WA/067/0010/011 Details: Spray Irrigation - Direct - High Direct Source: - Point: - Data Type: Line Name: - Easting: 333955 Northing: 367720	Annual Volume (m^3): 67,962.70 Max Daily Volume (m^3): 2,727.60 Original Application No: - Original Start Date: 2014-11-26 00:00:00.0000000 Expiry Date: 2027-03-31 00:00:00.0000000 Issue No: - Version Start Date: - Version End Date: -
-	934m W	Status: Historical Licence No: 24/67/10/0103 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: SEALAND MAIN DRAIN POINT C Data Type: Point Name: Jones Balers Ltd Easting: 334300 Northing: 367970	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 27/04/1989 Version End Date: -
-	1176m NW	Status: Historical Licence No: 24/67/10/0103 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: MANOR DRAIN POINT B Data Type: Point Name: Jones Balers Ltd Easting: 334300 Northing: 368570	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 27/04/1989 Version End Date: -
-	1598m NW	Status: Historical Licence No: 24/67/10/0151 Details: Dust Suppression Direct Source: EAW Surface Water Point: BALANCING POND AT MOLLINGTON PARISH Data Type: Point Name: Carillion Roads Easting: 337000 Northing: 371850	Annual Volume (m^3): 23562 Max Daily Volume (m^3): 178.5 Original Application No: - Original Start Date: 01/02/2007 Expiry Date: 01/12/2008 Issue No: 1 Version Start Date: 01/02/2007 Version End Date: -
-	1598m NW	Status: Historical Licence No: 24/67/10/0151 Details: Dust Suppression Direct Source: EAW Surface Water Point: UN-NAMED INLAND WATER (SAUGHALL/MOLLINGTON PARISH BOUNDARY) Data Type: Point Name: Carillion Roads Easting: 337000 Northing: 371850	Annual Volume (m^3): 23562 Max Daily Volume (m^3): 178.5 Original Application No: - Original Start Date: 01/02/2007 Expiry Date: 01/12/2008 Issue No: 1 Version Start Date: 01/02/2007 Version End Date: -

ID	Location	Details	
H	1762m SE	Status: Historical Licence No: WA/067/0010/011 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co (Farming) Ltd Easting: 336826 Northing: 366870	Annual Volume (m^3): 67962.7 Max Daily Volume (m^3): 1227.42 Original Application No: - Original Start Date: 30/07/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 26/11/2014 Version End Date: -
H	1766m SE	Status: Historical Licence No: 24/67/10/0129 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: REACH B TO B AT SEALAND MAIN DRAIN Data Type: Line Name: Banks Easting: 336830 Northing: 366870	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/07/1998 Expiry Date: 31/07/2003 Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -
H	1766m SE	Status: Historical Licence No: 24/67/10/0141 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: REACH B-B ON THE SEALAND MAIN DRAIN Data Type: Line Name: WT Banks & Co (Farming) Ltd Easting: 336830 Northing: 366870	Annual Volume (m^3): 104558 Max Daily Volume (m^3): 1227.42 Original Application No: - Original Start Date: 01/08/2003 Expiry Date: 31/03/2014 Issue No: 2 Version Start Date: 19/07/2010 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**2**

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 57**

ID	Location	Details	
C	824m SE	Status: Historical Licence No: 24/67/10/0144 Details: Water Bottling Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): 41358 Max Daily Volume (m^3): 135 Original Application No: - Original Start Date: 07/10/2003 Expiry Date: 31/03/2009 Issue No: 1 Version Start Date: 07/10/2003 Version End Date: -
E	922m SE	Status: Active Licence No: 24/67/10/0095 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0

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.

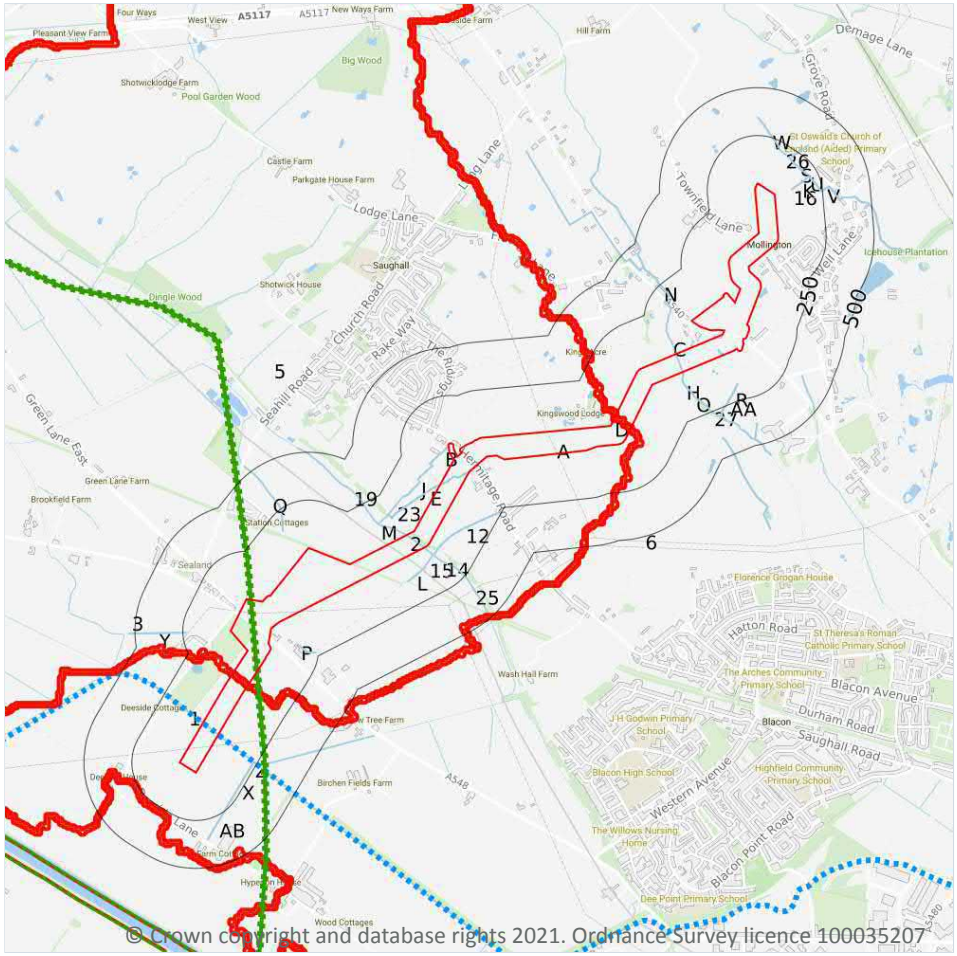
5.10 Source Protection Zones (confined aquifer)

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



6.1 Water Network (OS MasterMap)

Records within 250m	46

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 66**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
B	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
C	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
D	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
E	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
H	3m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	7m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	9m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	19m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	52m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
14	56m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
15	56m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
B	79m W	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
J	81m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
16	88m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	93m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	99m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	109m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	113m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	118m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	118m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
N	125m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	129m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
23	138m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
P	140m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	154m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
Q	156m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	157m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	160m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	166m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
25	183m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	188m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	199m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	200m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
26	201m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
S	201m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
27	205m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	210m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	230m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
Y	231m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	231m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
Z	231m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	232m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	235m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	239m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	40

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 66**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

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 66**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
5	**On site**	**River WB catchment**	**Shotwick Brook**	**GB111067056960**	**Dee Estuary**	**Dee**
6	**On site**	**River WB catchment**	**Finchetts Gutter**	**GB111067056930**	**Dee Estuary**	**Dee**

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

6.4 WFD Surface water bodies

Records identified	**2**

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 66**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	**On site**	**River**	**Finchetts Gutter**	**GB111067056930**	**Poor**	**Good**	**Poor**	**2016**
-	2079m W	River	Shotwick Brook	GB111067056960	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	**3**

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.

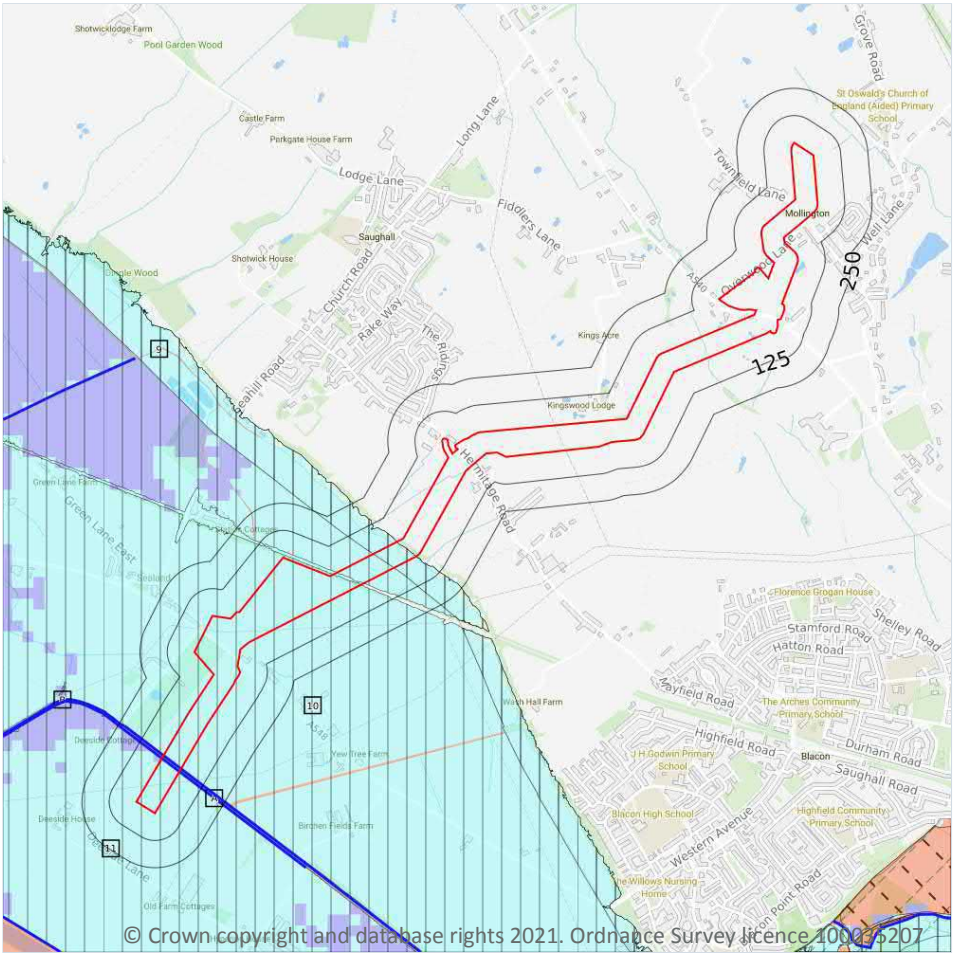
Features are displayed on the Hydrology map on **page 66**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
3	**On site**	**Dee Carboniferous Coal Measures**	**GB41102G204800**	**Poor**	**Poor**	**Good**	**2016**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Dee Permo-Triassic Sandstone**	**GB41101G202400**	**Good**	**Good**	**Good**	**2015**
A	**On site**	**Dee Permo-Triassic Sandstone**	**GB41101G202400**	**Good**	**Good**	**Good**	**2016**

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 Sea (RoFRaS)

Records within 50m	**12**

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 73**

Distance	RoFRaS flood risk
On site	**High**
0 - 50m	High

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	4

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.

Features are displayed on the River and coastal flooding map on **page 73**

ID	Location	Update
A	**On site**	**25/05/2021**
A	**On site**	**25/05/2021**
B	224m NW	25/05/2021
B	226m NW	25/05/2021

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	3

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.

Features are displayed on the River and coastal flooding map on **page 73**

ID	Location	
9	**On site**	**Area benefiting from flood defences**
10	**On site**	**Area benefiting from flood defences**

ID	Location	
11	**On site**	**Area benefiting from flood defences**

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

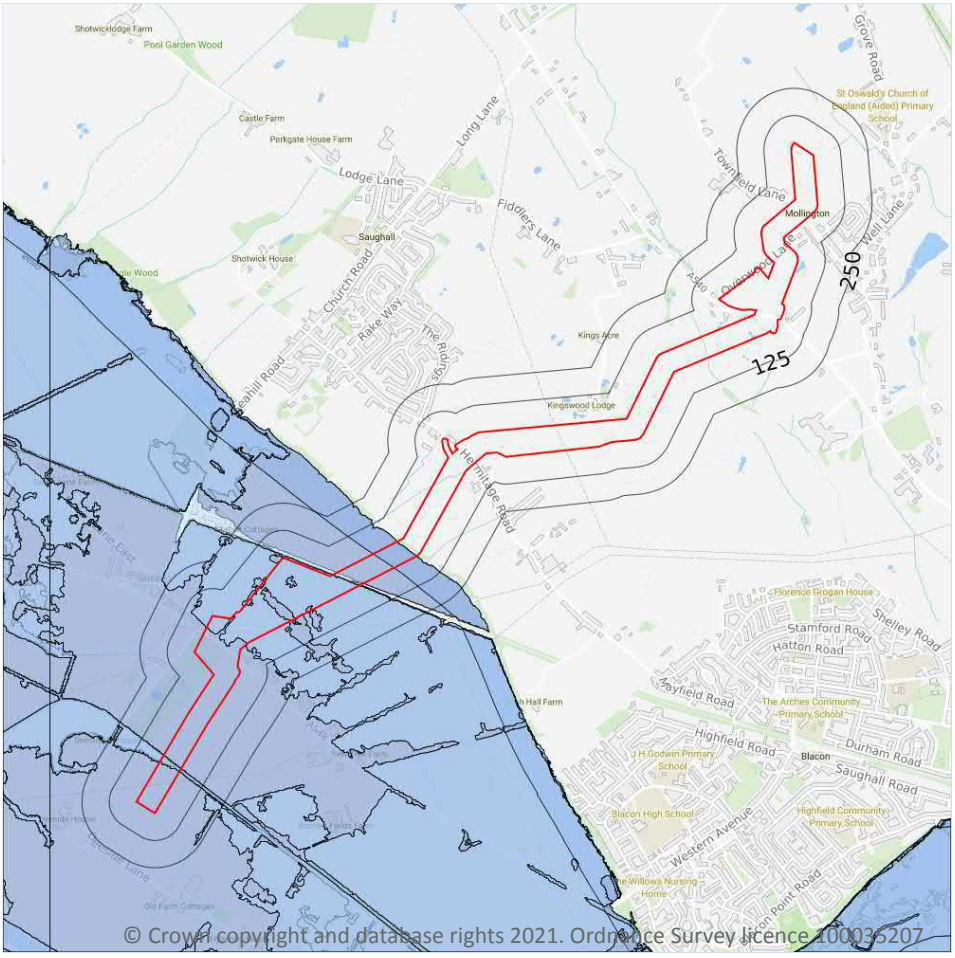
7.5 Flood Storage Areas

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	1

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.

Features are displayed on the River and coastal flooding map on **page 73**

Location	Type
On site	**Zone 2 - (Fluvial /Tidal Models)**

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

7.7 Flood Zone 3

Records within 50m	1

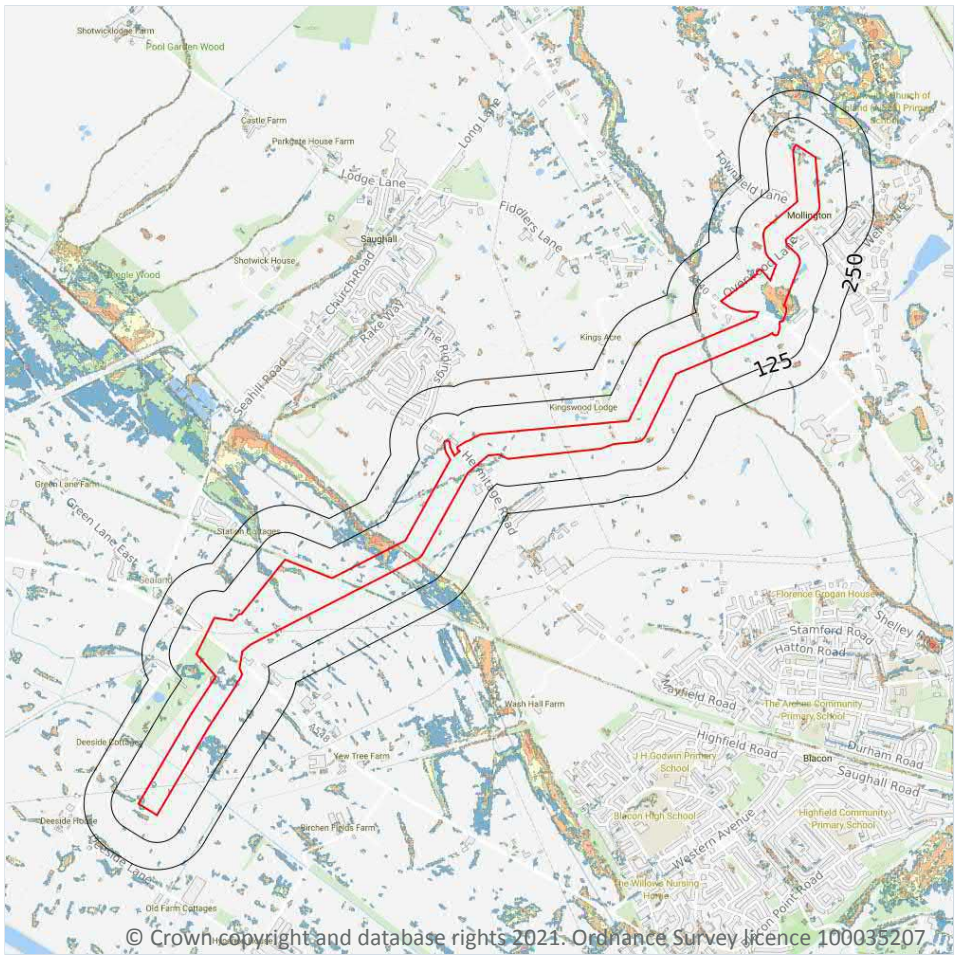
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 73**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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

8 Surface water flooding



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 78**

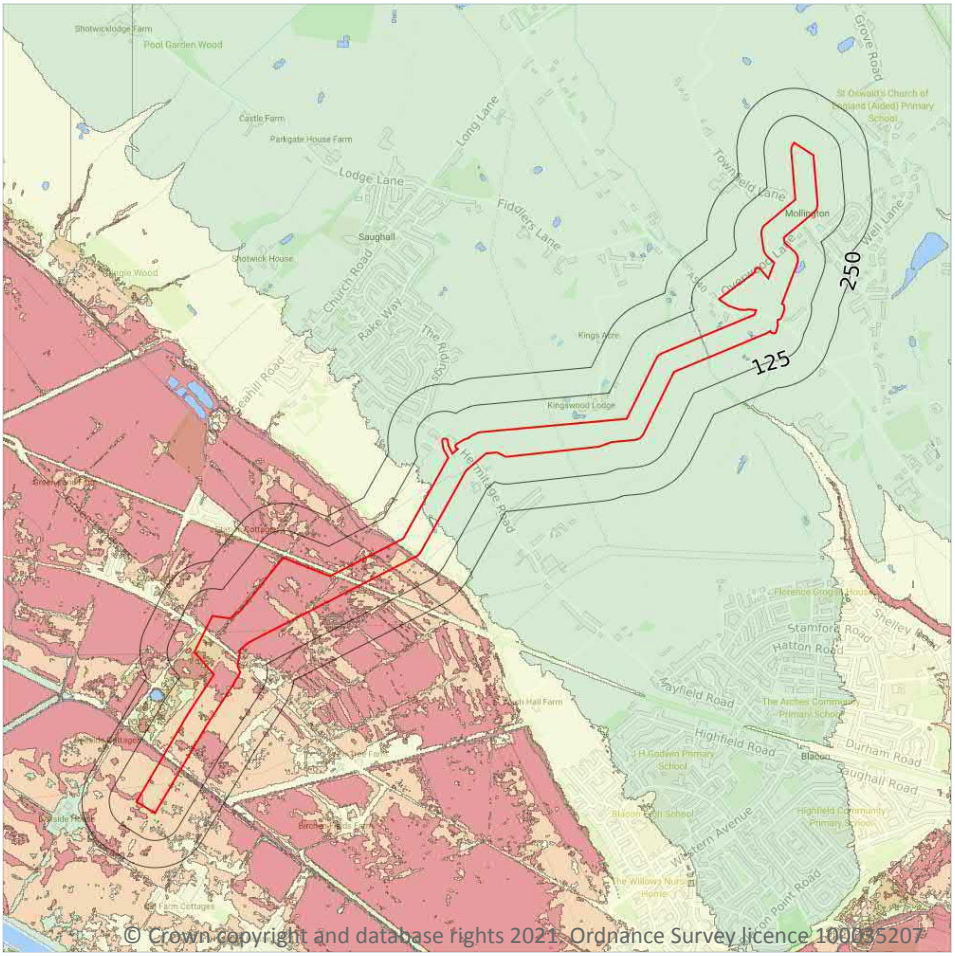
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

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

9.1 Groundwater flooding

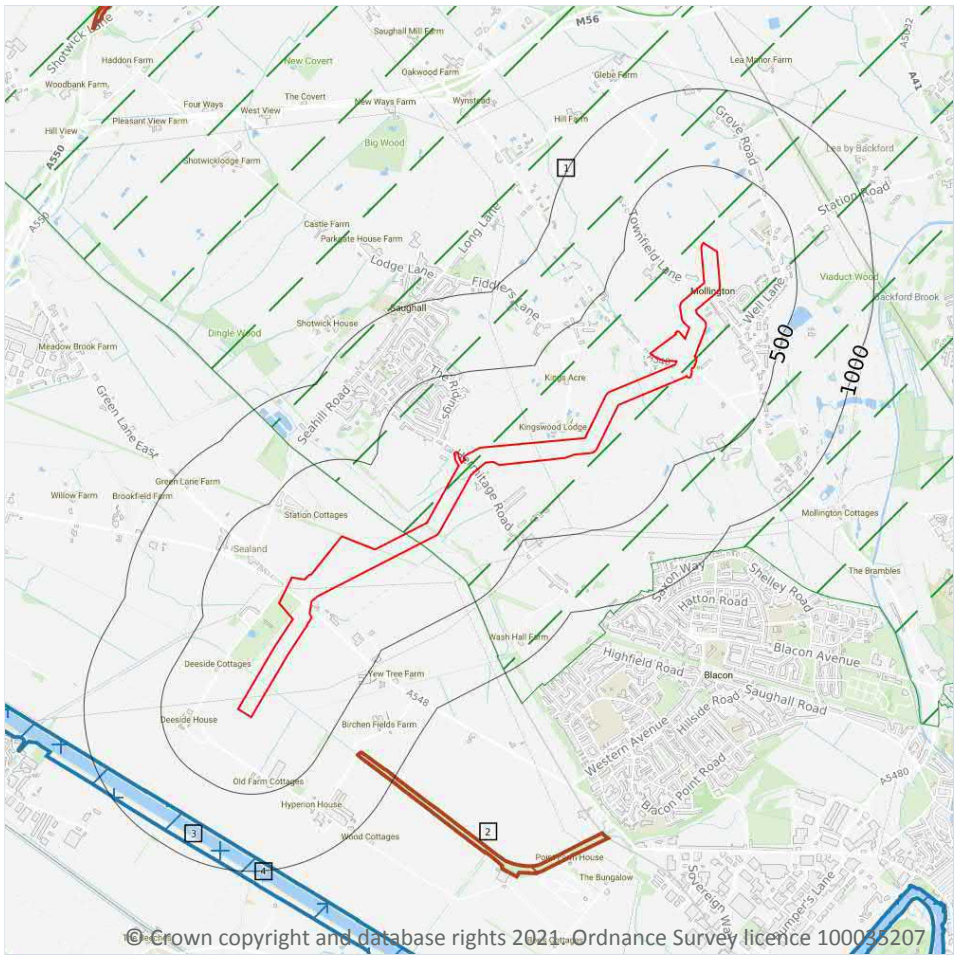
Highest risk on site	**High**
Highest risk within 50m	**High**

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 80**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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.

Features are displayed on the Environmental designations map on **page 81**

ID	Location	Name	Data source
3	764m SW	Afon Dyfrdwy (River Dee)	Natural Resources Wales

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	1

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.

Features are displayed on the Environmental designations map on **page 81**

ID	Location	Name	Features of interest	Habitat description	Data source
4	764m SW	River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales)	Rivers with floating vegetation often dominated by water-crowfoot; Mixed woodland on base-rich soils associated with rocky slopes; Western acidic oak woodland; Alder woodland on floodplains; Sea lamprey; Brook lamprey; River lamprey; Twaite shad; Atlantic salmon; Bullhead; Freshwater pearl mussel; Otter; Floating water-plantain.	Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Improved grassland; Inland water bodies (Standing water, Running water); Salt marshes, Salt pastures, Salt steppes	Natural Resources Wales

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	1

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 81**

ID	Location	Name	Woodland Type
2	720m SE	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 81**

ID	Location	Name	Local Authority name
1	**On site**	**Merseyside and Greater Manchester**	**Cheshire West and Chester**

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

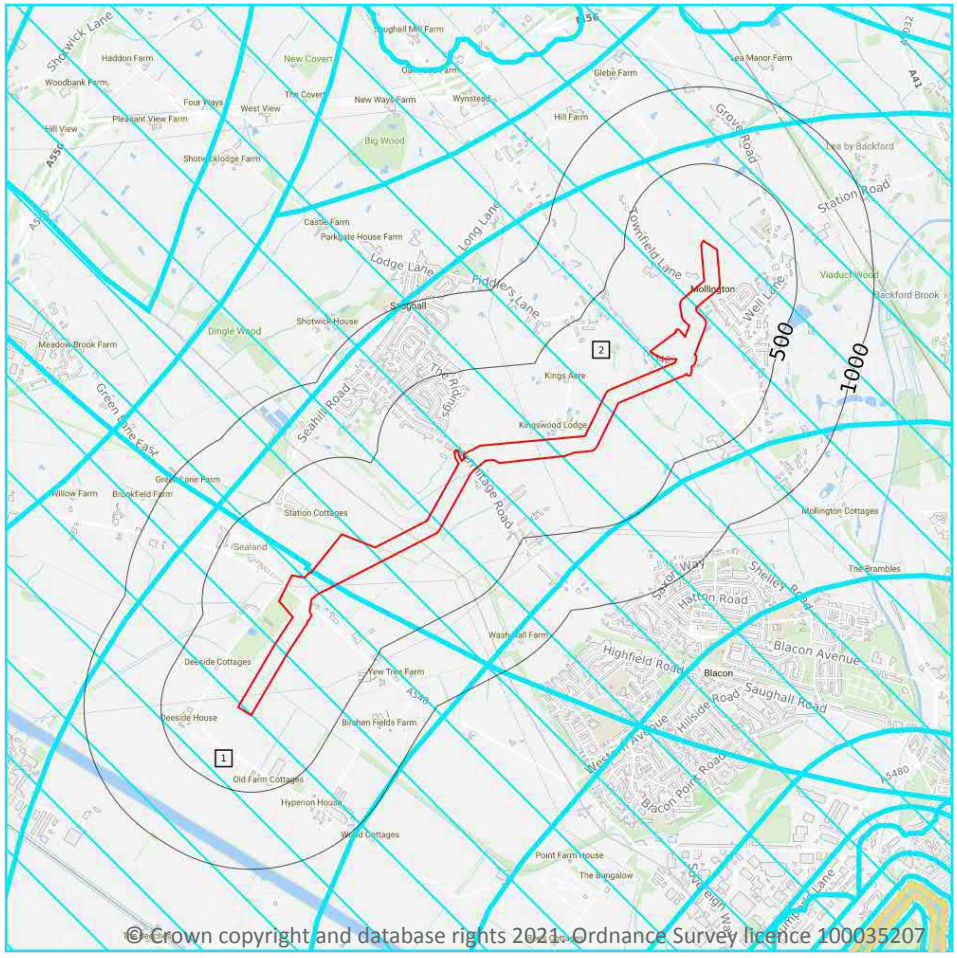
Records within 2000m	**4**

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.

Location	Name	Type	NVZ ID	Status
27m W		Surface Water	708	New
62m NW	Shotwick Brook NVZ	Surface Water	S708	Existing
1371m W	Shotwick Brook NVZ	Surface Water	S708	Existing
1408m W		Surface Water	708	New

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

SSSI Impact Zones and Units



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10.17 SSSI Impact Risk Zones

Records on site	2

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 87**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t)** **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**
2	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines** **Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t)** **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** **Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.**

This data is sourced from Natural England.

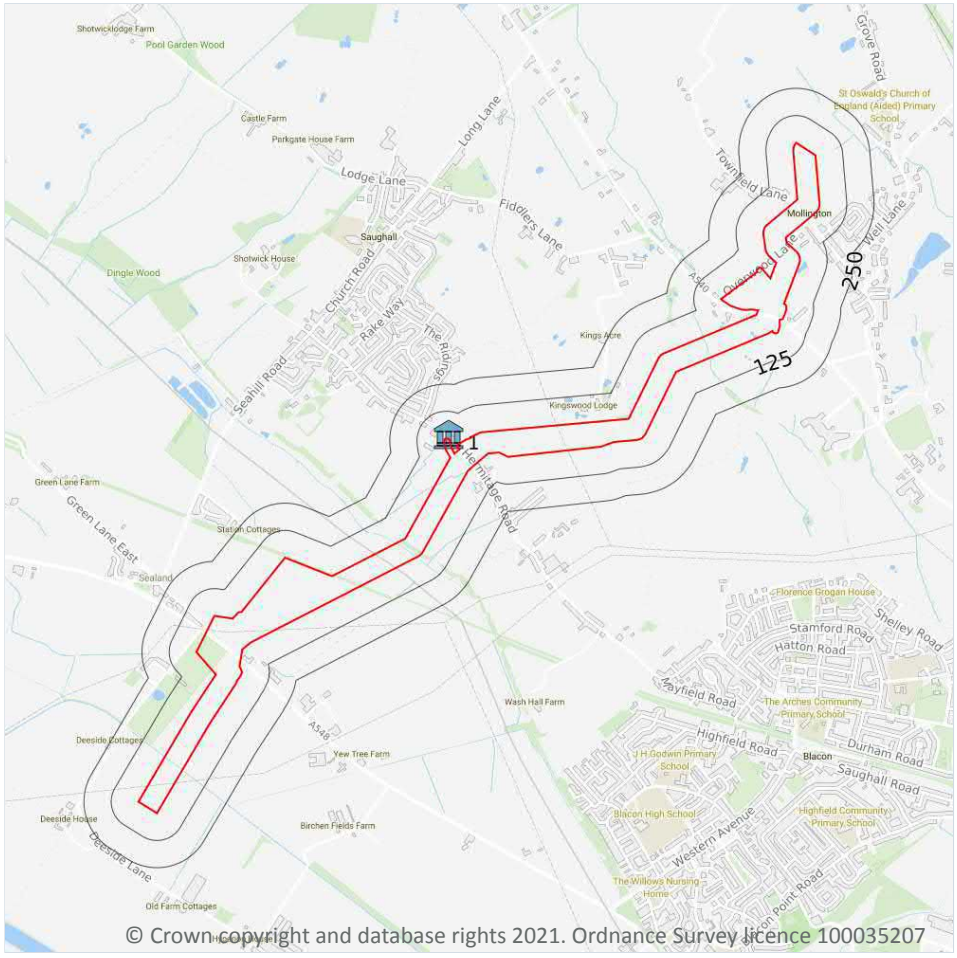
10.18 SSSI Units

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



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Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	1

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.

Features are displayed on the Visual and cultural designations map on **page 89**

ID	Location	Name	Grade	Reference Number	Listed date
1	18m N	Footpath Guidepost 40 Metres North West Of No 123, Saughall And Shotwick Park, Cheshire West And Chester, CH1	II	1130583	10/10/1985

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.

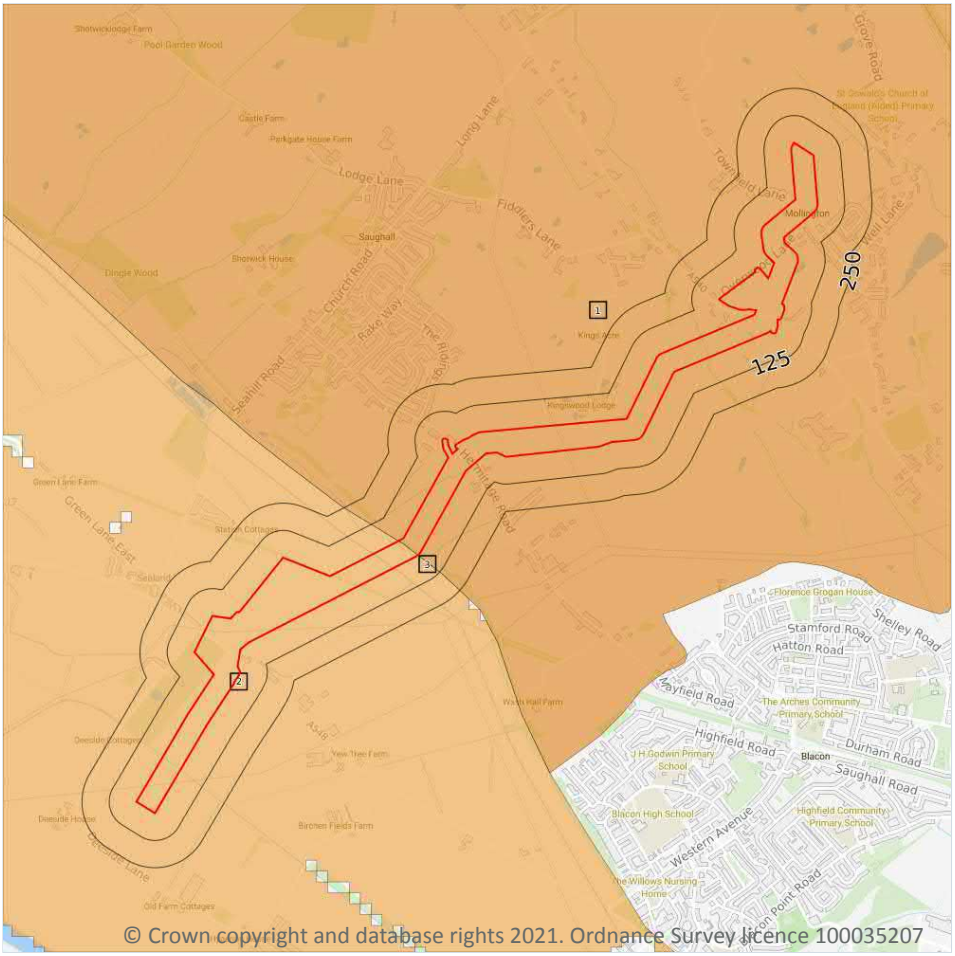
11.7 Registered Parks and Gardens

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



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- 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	3

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 92**

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.
2	On site	Grade 2	Good quality agricultural land

ID	Location	Classification	Description
3	44m SE	Grade 3b	Moderate quality agricultural 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**

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
On site	**AG00527392**	**Entry Level Stewardship**	**01/10/2013**	**30/09/2018**
32m N	AG00527392	Entry Level Stewardship	01/10/2013	30/09/2018

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

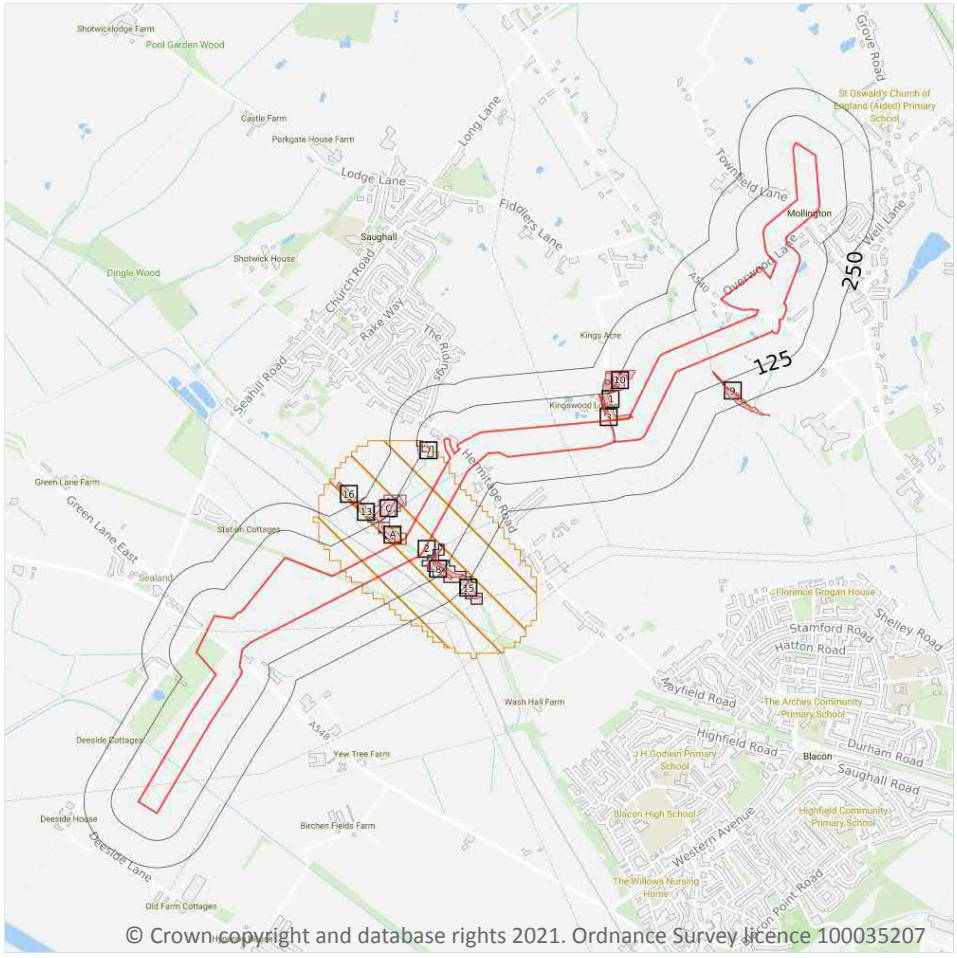
Records within 250m	**3**

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
On site	**1049662**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1049662**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
200m SE	1049662	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025

This data is sourced from Natural England.

13 Habitat designations



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13.1 Priority Habitat Inventory

Records within 250m	16

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 95**

ID	Location	Main Habitat	Other habitats
1	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
3	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
A	**On site**	**Lowland meadows**	**Main habitat: LMEAD (INV > 50%)**
4	24m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	53m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
6	53m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
8	54m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
9	63m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	69m NW	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)
11	70m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	76m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
C	82m NW	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
13	139m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
14	149m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	204m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
16	236m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m **6**

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.

Features are displayed on the Habitat designations map on **page 95**

ID	Location	Type	Habitat
2	**On site**	**Network Enhancement Zone 1**	**Not specified**
A	**On site**	**Primary Habitat**	**Lowland meadows**
B	26m SE	Primary Habitat	Lowland meadows
7	54m W	Network Enhancement Zone 2	Not specified
C	70m NW	Restorable Habitat	Not specified
12	101m W	Network Enhancement Zone 2	Not specified

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.

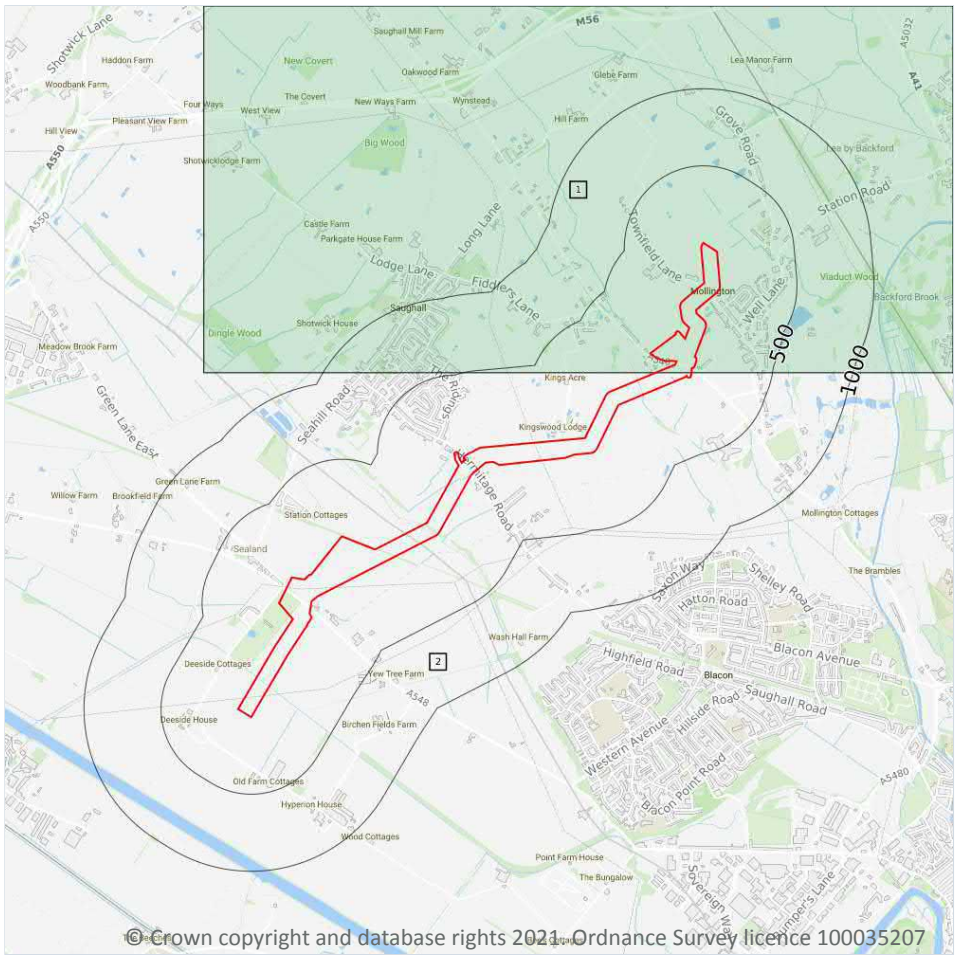
13.4 Limestone Pavement Orders

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



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	2

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 98**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SJ37SE**
2	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

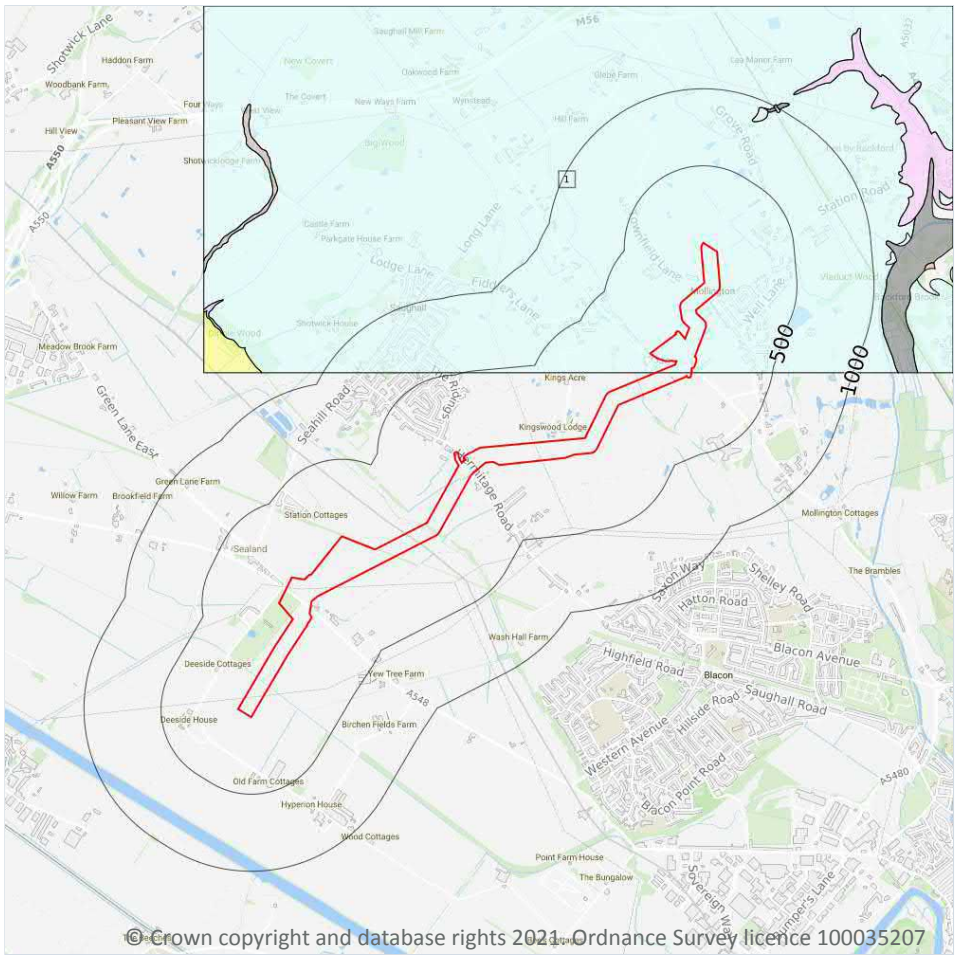
14.2 Artificial and made ground (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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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 **1**

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 100**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**

This data is sourced from the British Geological Survey.

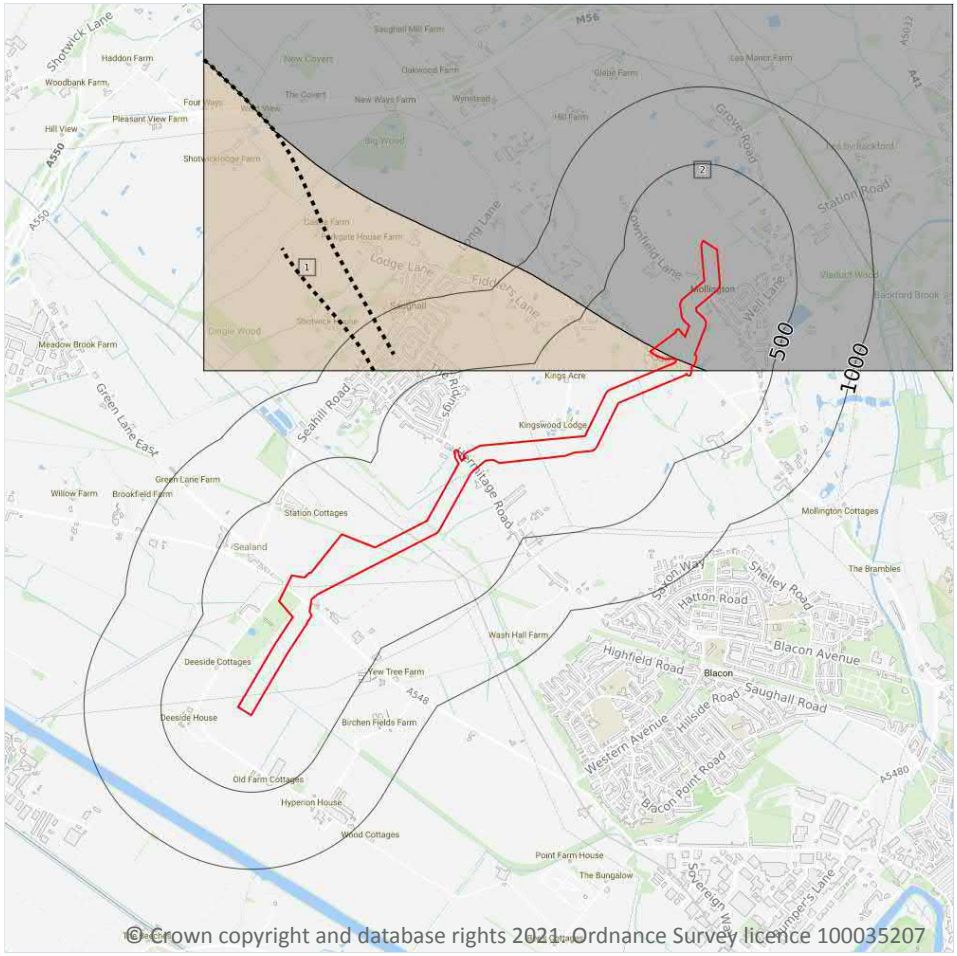
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	2

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 102**

ID	Location	LEX Code	Description	Rock age
1	On site	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
2	On site	CPB-PESST	Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

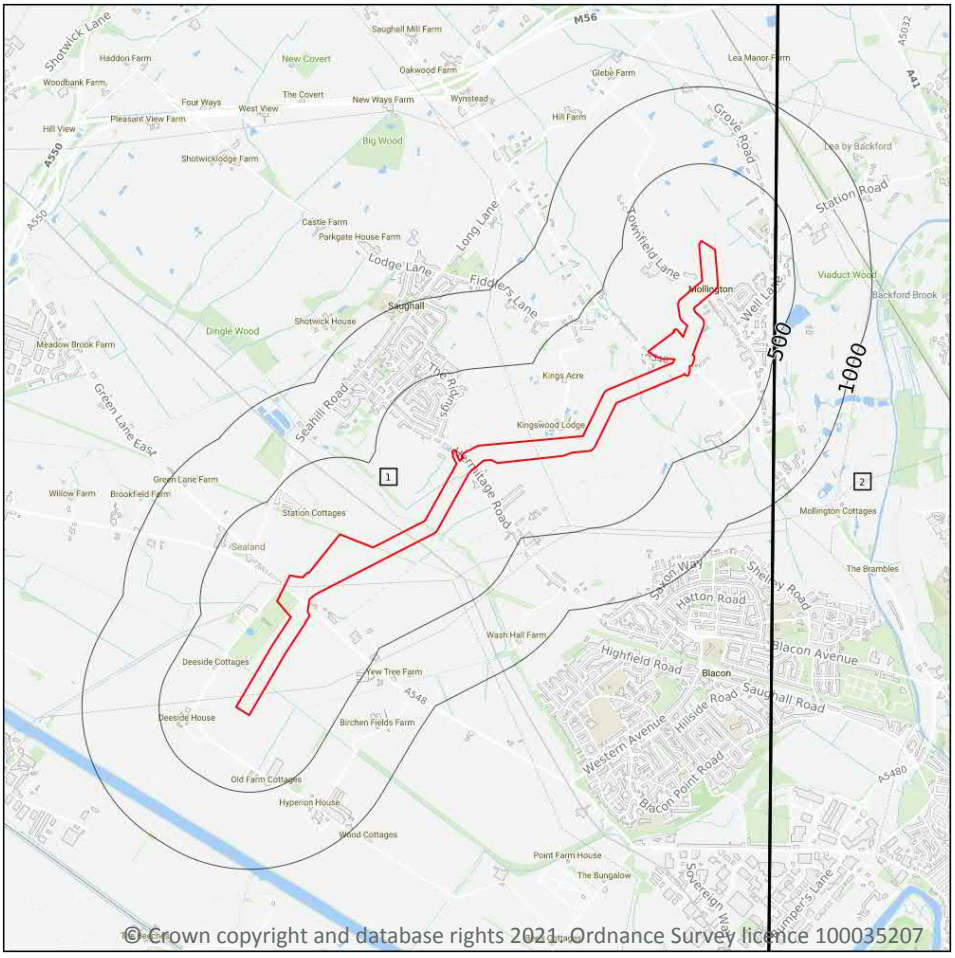
14.6 Bedrock faults and other linear features (10k)

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	2

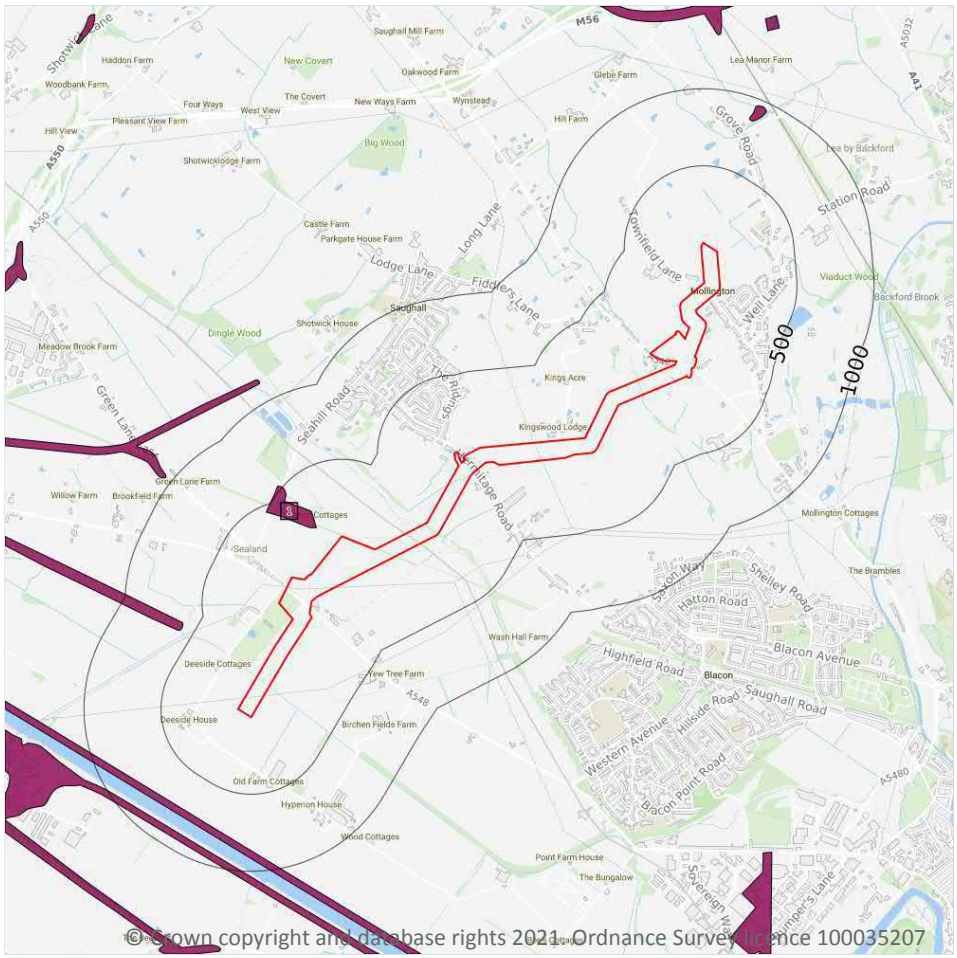
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 104**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW108_flint_v4**
2	372m E	No coverage	Full	Full	No coverage	EW109_chester_v4

This data is sourced from the British Geological Survey.

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



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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 105**

ID	Location	LEX Code	Description	Rock description
1	164m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

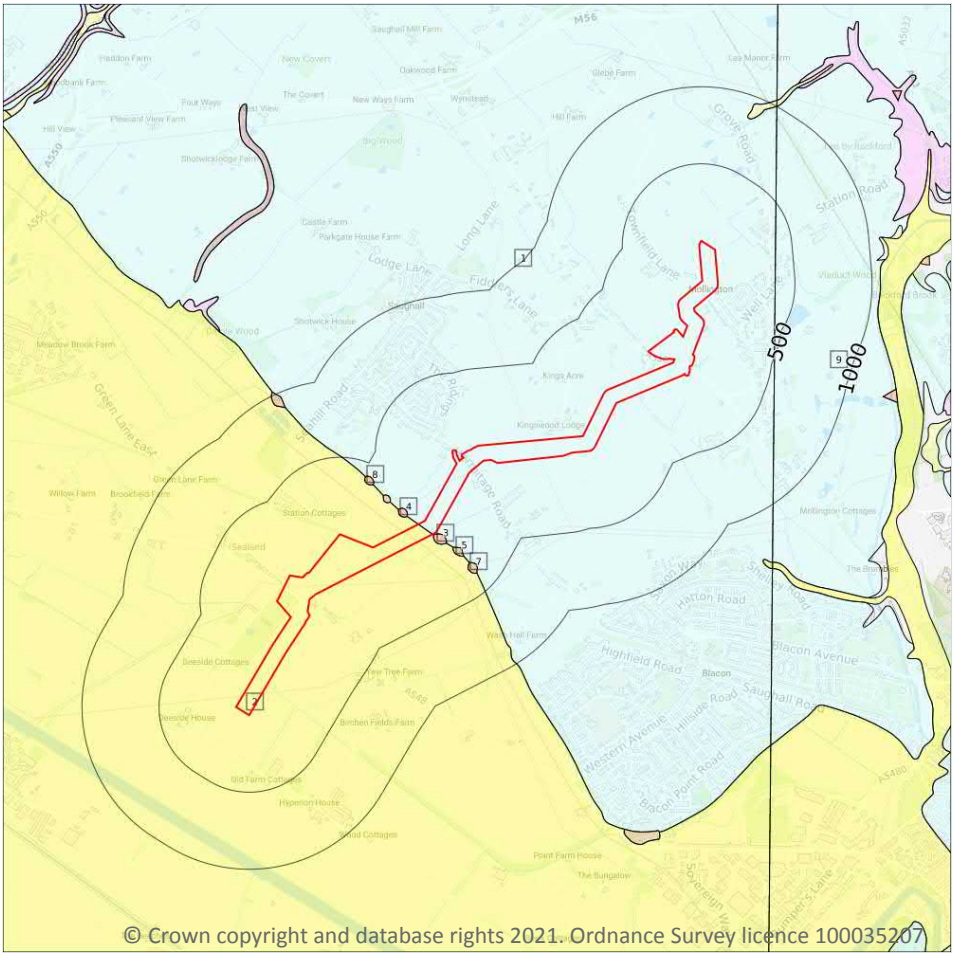
15.3 Artificial ground permeability (50k)

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 **9**

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 107**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	**On site**	**TFD-XCZS**	**TIDAL FLAT DEPOSITS**	**CLAY, SILT AND SAND**
3	8m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	79m NW	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
5	149m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
6	212m NW	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
7	296m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
8	362m NW	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
9	371m E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **4**

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**
On site	**Intergranular**	**Moderate**	**Very Low**
8m SW	Intergranular	Very High	High

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.

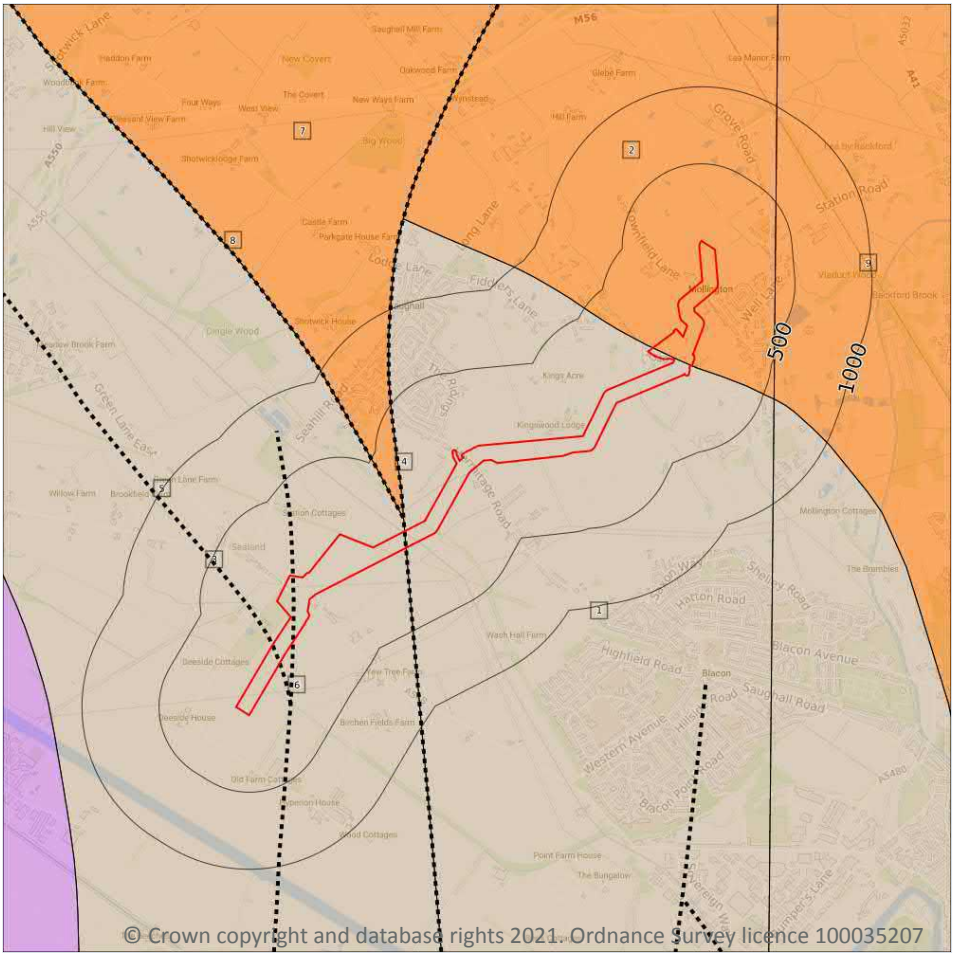
15.7 Landslip permeability (50k)

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 **5**

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 110**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**KNSF-SDST**	**KINNERTON SANDSTONE FORMATION - SANDSTONE**	**-**
2	**On site**	**CHES-PESST**	**CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)**	**OLENEKIAN**
3	**On site**	**KNSF-SDST**	**KINNERTON SANDSTONE FORMATION - SANDSTONE**	**-**
7	77m NW	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN

ID	Location	LEX Code	Description	Rock age
9	371m E	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock 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 bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**High**	**High**
On site	**Intergranular**	**High**	**High**
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **4**

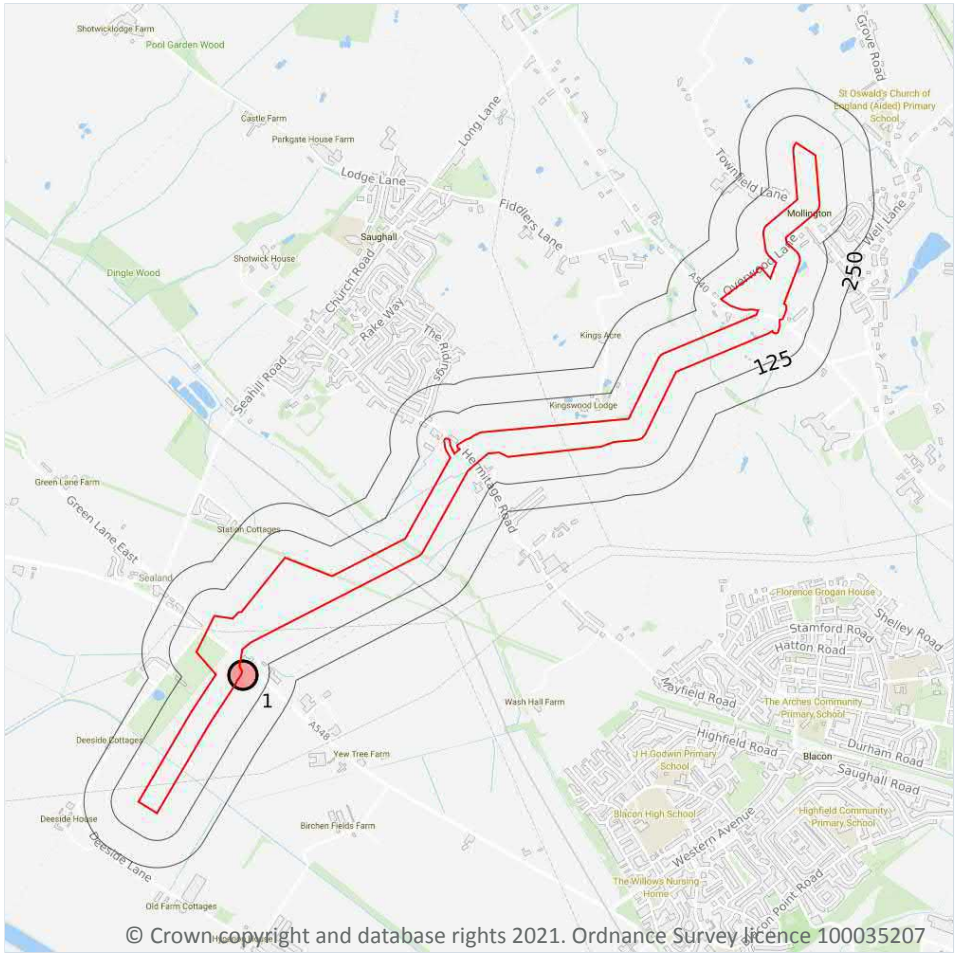
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 110**

ID	Location	Category	Description
4	**On site**	**FAULT**	**Fault, inferred**
5	**On site**	**FAULT**	**Fault, inferred**
6	**On site**	**FAULT**	**Fault, inferred, displacement unknown**
8	77m NW	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m	1

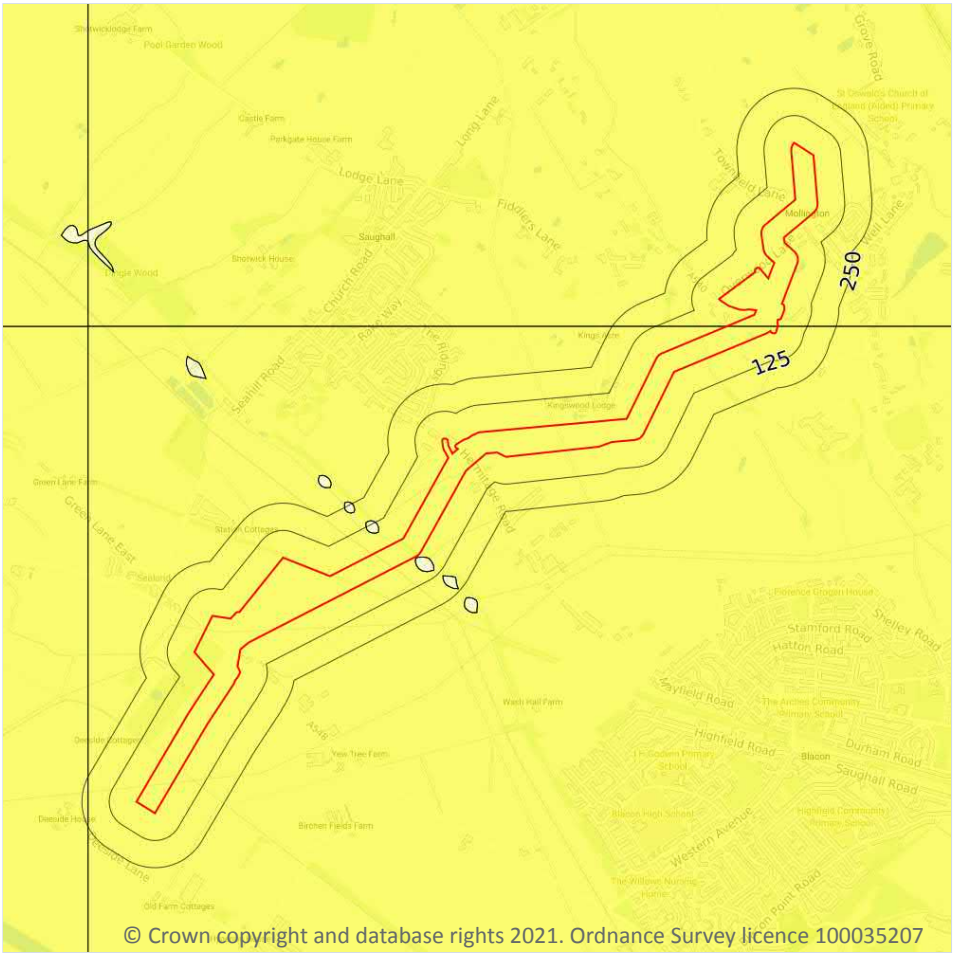
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 112**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	7m SE	335700 368400	CHURCH FARM SEALAND	36.58	N	155885

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

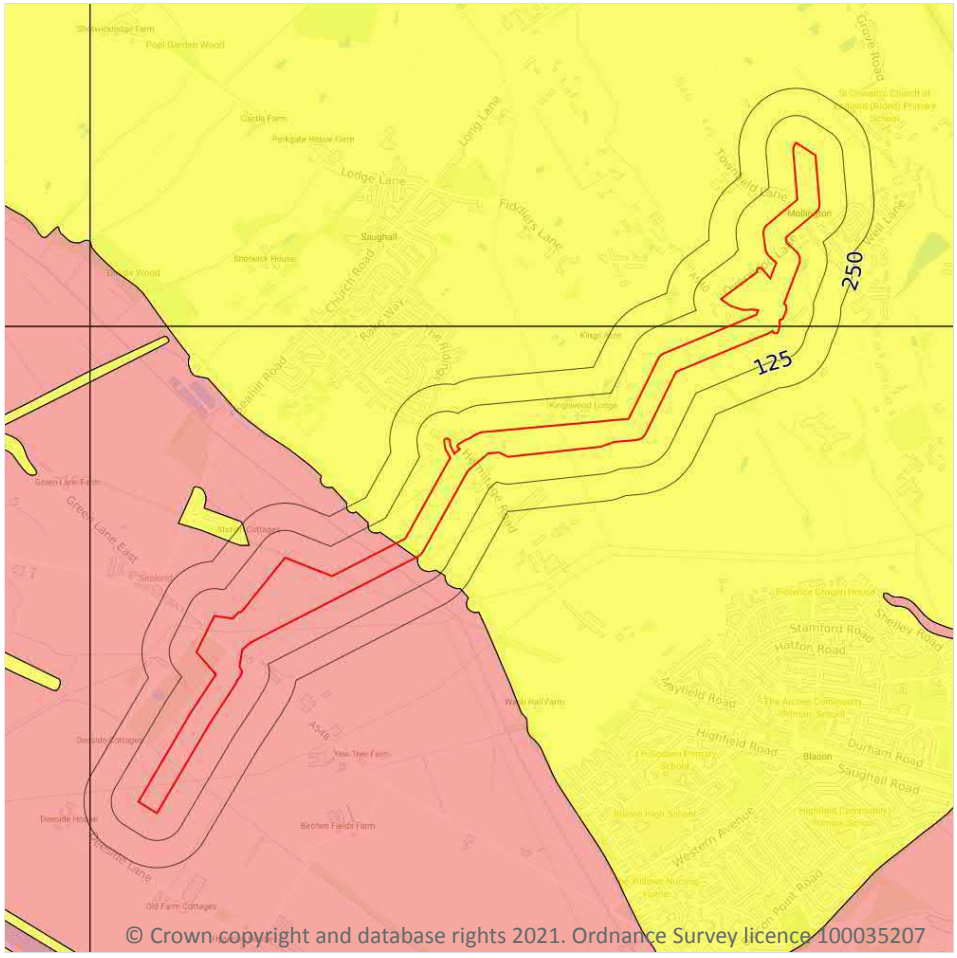
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 113**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**
8m SE	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

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.

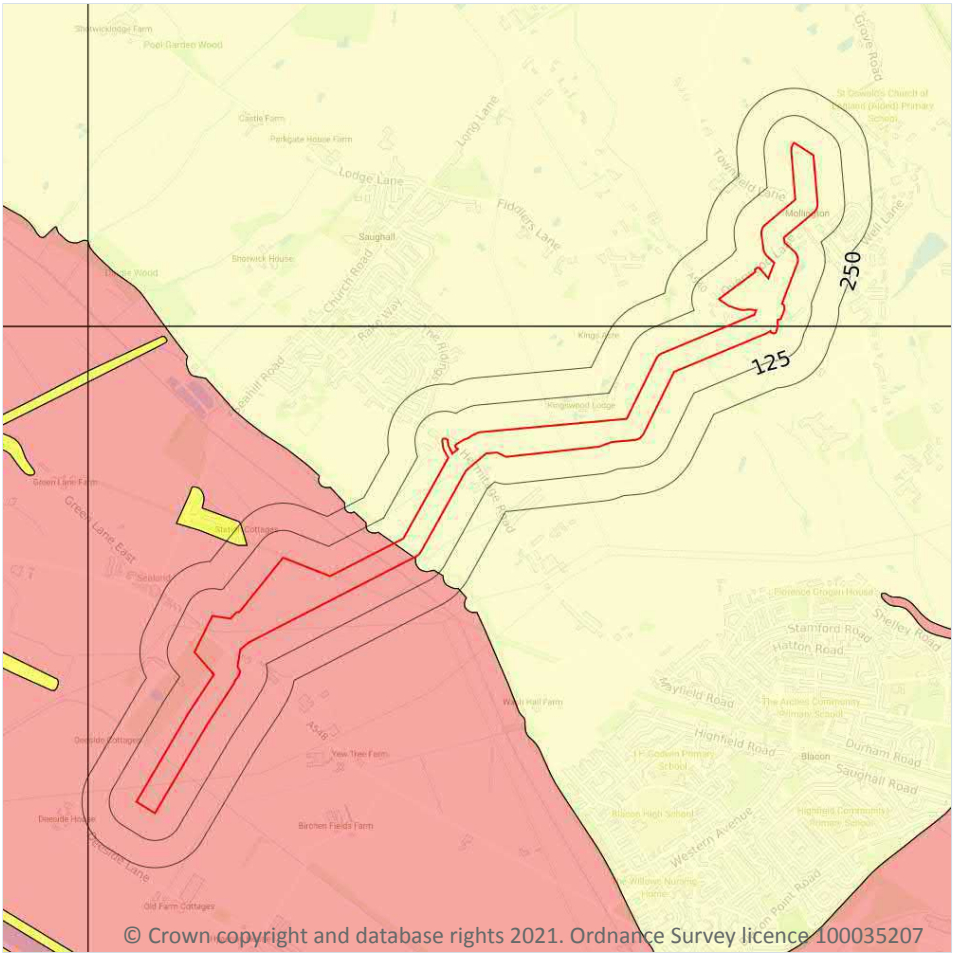
Features are displayed on the Natural ground subsidence - Running sands map on **page 114**

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
On site	**Moderate**	**Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

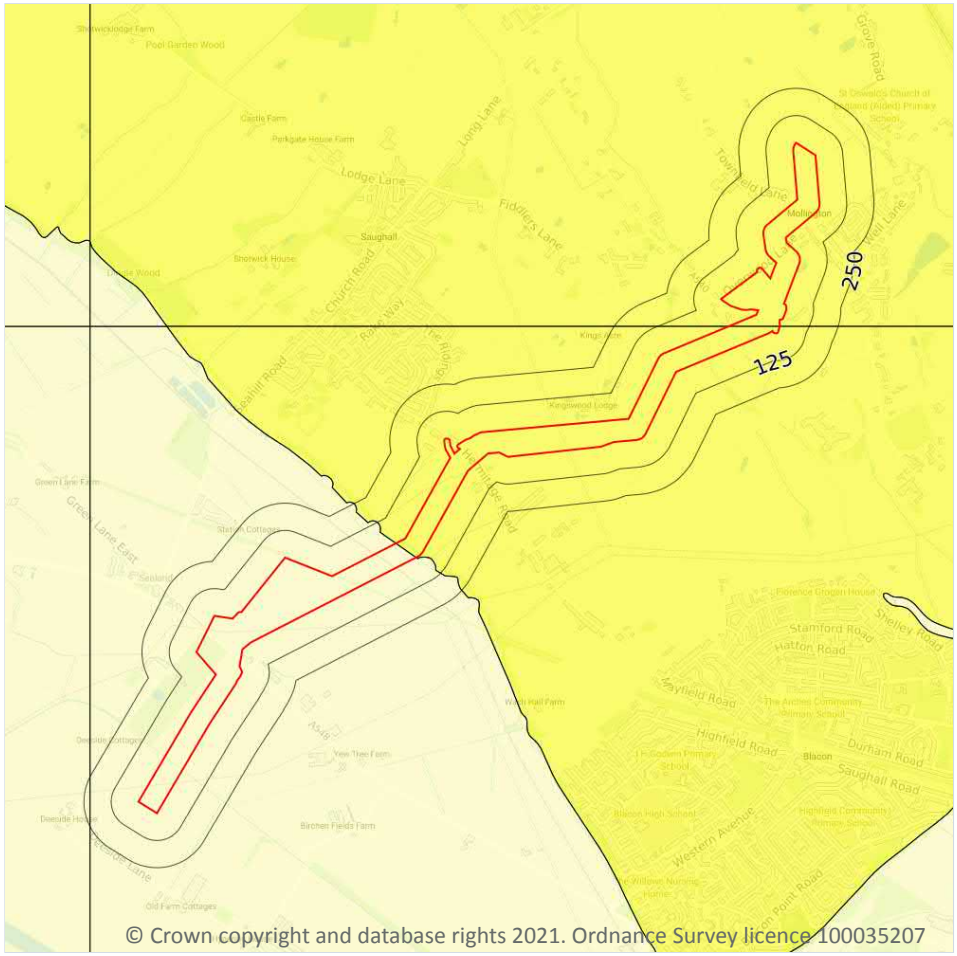
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 116**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

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

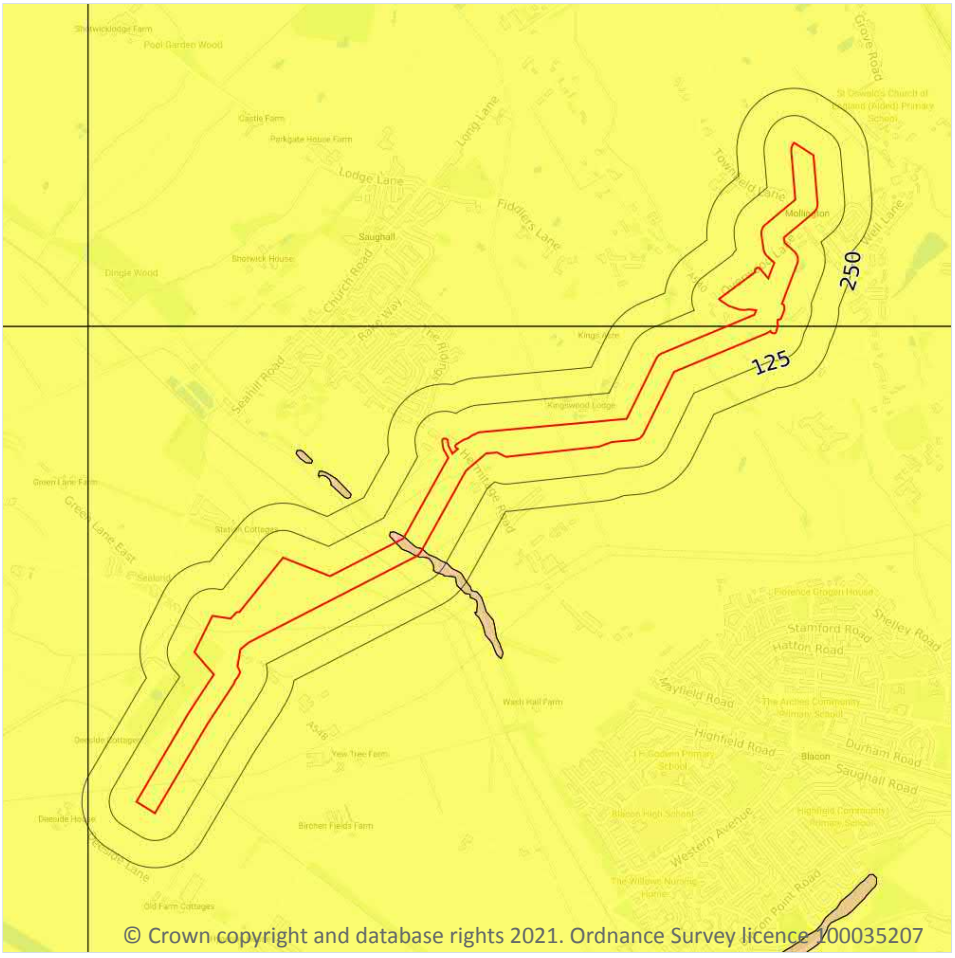
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 118**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	2

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

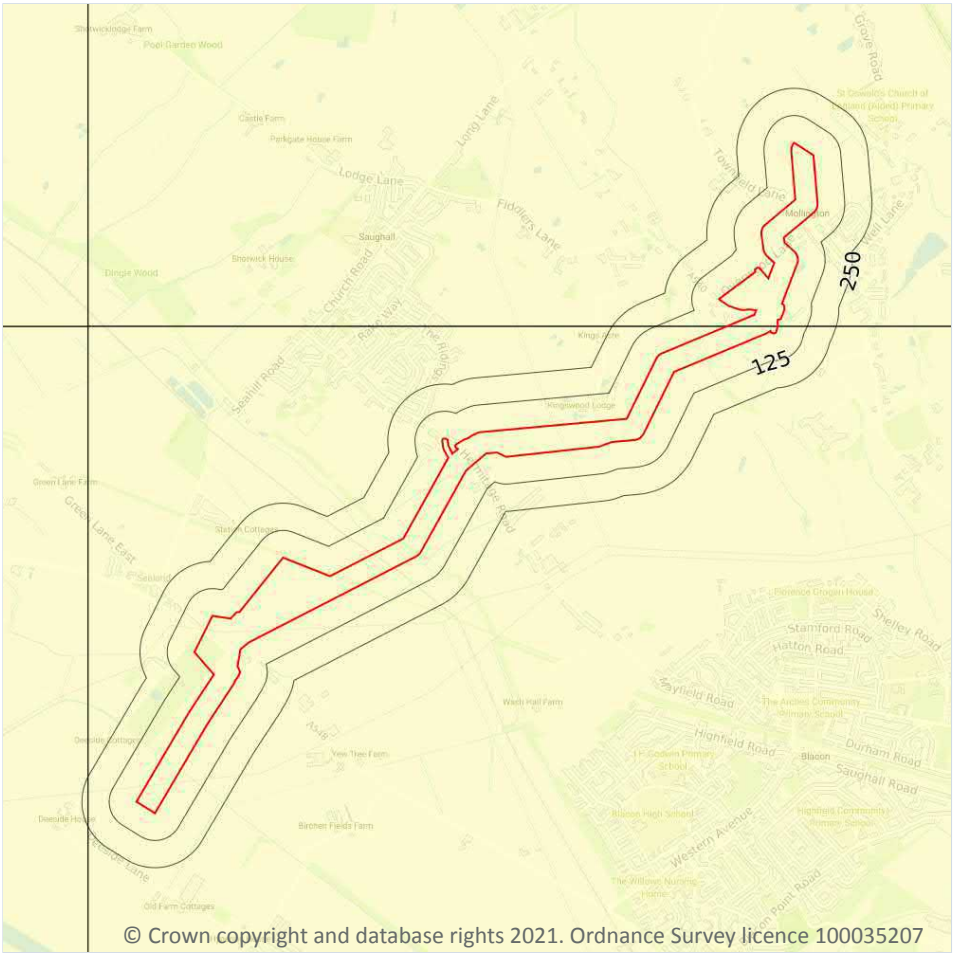
Features are displayed on the Natural ground subsidence - Landslides map on **page 119**

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

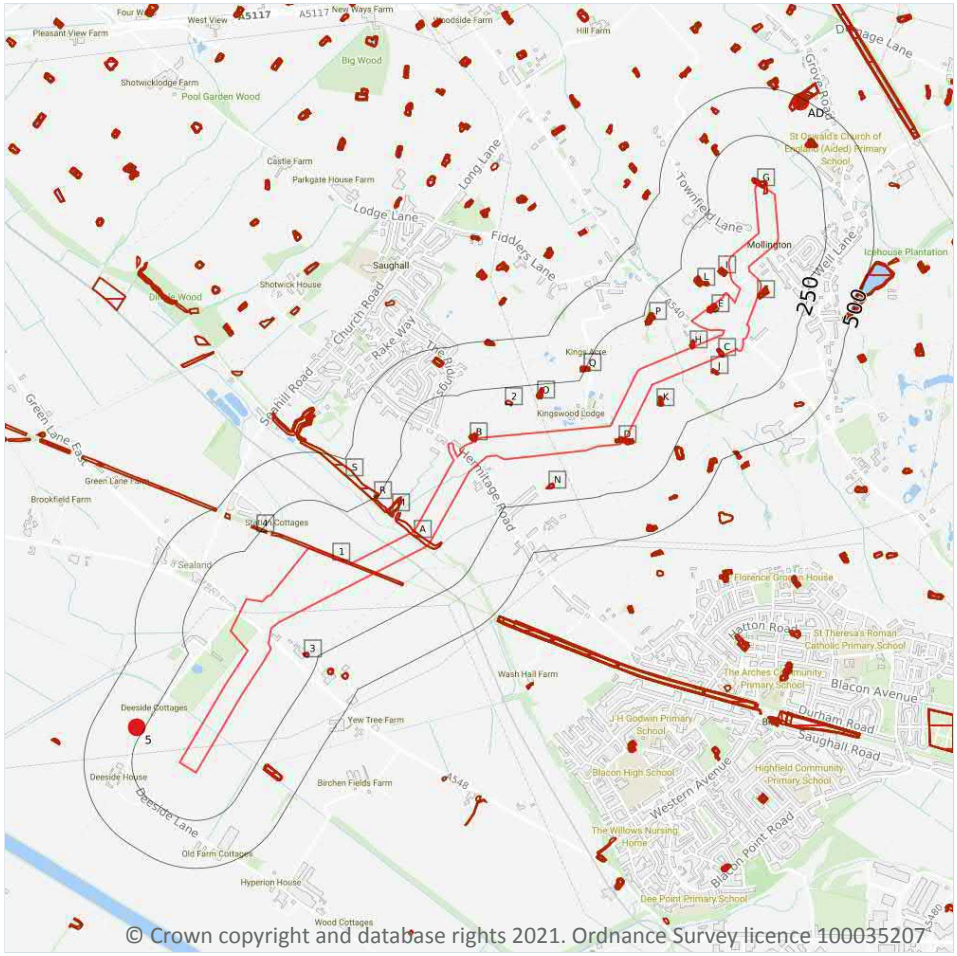
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 121**

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



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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 123**

ID	Location	Details	Description
5	284m NW	Name: Yew Tree Farm Address: SEALAND, Flintshire Commodity: Natural Gas Status: Ceased	Type: Wellsite, or other surface plant, extracting liquid or gas. Working may be for brine, oil or natural gas 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
AD	483m NE	Name: Mollington Brick Field Address: Mollington, CHESTER, Cheshire 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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	**105**

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 123**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Unspecified Pit**	**1898**	**1:10560**
A	**On site**	**Unspecified Ground Workings**	**1938**	**1:10560**
A	**On site**	**Unspecified Ground Workings**	**1898**	**1:10560**
B	**On site**	**Ponds**	**1989**	**1:10000**
B	**On site**	**Ponds**	**1974**	**1:10000**
B	**On site**	**Ponds**	**1968**	**1:10560**

ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Ponds	1954	1:10560
B	On site	Ponds	1914	1:10560
B	On site	Ponds	1898	1:10560
B	On site	Ponds	1913	1:10560
C	On site	Ponds	1989	1:10000
C	On site	Ponds	1974	1:10000
C	On site	Ponds	1968	1:10560
C	On site	Ponds	1954	1:10560
C	On site	Ponds	1913	1:10560
D	On site	Ponds	1954	1:10560
D	On site	Ponds	1938	1:10560
D	On site	Ponds	1898	1:10560
D	On site	Ponds	1914	1:10560
D	On site	Ponds	1898	1:10560
D	On site	Ponds	1913	1:10560
E	On site	Pond	1968	1:10560
E	On site	Ponds	1948	1:10560
E	On site	Ponds	1938	1:10560
E	On site	Ponds	1898	1:10560
E	On site	Ponds	1913	1:10560
F	On site	Pond	1948	1:10560
F	On site	Pond	1938	1:10560
F	On site	Pond	1898	1:10560
G	On site	Ponds	1948	1:10560
G	On site	Ponds	1978	1:10000
G	On site	Ponds	1898	1:10560
G	On site	Ponds	1938	1:10560
G	On site	Ponds	1913	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
H	**On site**	**Ponds**	**1938**	**1:10560**
H	**On site**	**Ponds**	**1913**	**1:10560**
G	2m NE	Pond	1968	1:10560
F	4m E	Pond	1913	1:10560
B	4m NW	Ponds	1938	1:10560
B	4m NW	Ponds	1898	1:10560
F	6m E	Pond	1989	1:10000
F	6m E	Pond	1978	1:10000
I	16m W	Pond	1913	1:10560
I	17m W	Pond	1938	1:10560
I	17m W	Pond	1898	1:10560
I	23m W	Pond	1989	1:10000
I	23m W	Pond	1968	1:10560
I	23m W	Pond	1948	1:10560
I	23m W	Pond	1978	1:10000
J	48m SE	Ponds	1989	1:10000
J	48m SE	Ponds	1974	1:10000
J	48m SE	Ponds	1968	1:10560
J	48m SE	Ponds	1954	1:10560
J	51m SE	Ponds	1913	1:10560
K	60m SE	Ponds	1954	1:10560
K	61m SE	Ponds	1938	1:10560
K	61m SE	Ponds	1898	1:10560
K	62m SE	Ponds	1913	1:10560
K	68m SE	Ponds	1914	1:10560
K	68m SE	Ponds	1898	1:10560
L	94m NW	Ponds	1913	1:10560
L	97m NW	Ponds	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
L	97m NW	Ponds	1898	1:10560
L	118m NW	Pond	1968	1:10560
L	118m NW	Pond	1948	1:10560
L	118m NW	Pond	1978	1:10000
M	121m NW	Unspecified Pit	1989	1:10000
M	121m NW	Unspecified Pit	1974	1:10000
M	124m NW	Unspecified Ground Workings	1938	1:10560
M	124m NW	Unspecified Ground Workings	1898	1:10560
M	129m NW	Unspecified Pit	1914	1:10560
M	129m NW	Unspecified Pit	1898	1:10560
N	151m S	Pond	1914	1:10560
2	154m N	Pond	1989	1:10000
N	155m S	Pond	1954	1:10560
N	156m S	Pond	1938	1:10560
3	173m E	Pond	1869	1:10560
O	177m N	Pond	1989	1:10000
O	177m N	Pond	1974	1:10000
O	177m N	Pond	1968	1:10560
O	177m N	Pond	1914	1:10560
O	177m N	Pond	1898	1:10560
O	180m N	Pond	1954	1:10560
O	181m N	Pond	1913	1:10560
O	185m N	Pond	1938	1:10560
O	185m N	Pond	1898	1:10560
P	193m W	Ponds	1989	1:10000
P	194m W	Ponds	1938	1:10560
P	194m W	Ponds	1913	1:10560
P	199m NW	Ponds	1968	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
P	199m NW	Ponds	1948	1:10560
P	199m NW	Ponds	1978	1:10000
P	202m W	Ponds	1898	1:10560
4	222m NW	Unspecified Pit	1898	1:10560
Q	226m NW	Ponds	1914	1:10560
Q	226m NW	Ponds	1898	1:10560
Q	233m NW	Ponds	1913	1:10560
Q	233m NW	Ponds	1938	1:10560
Q	233m NW	Ponds	1898	1:10560
Q	234m NW	Ponds	1968	1:10560
Q	234m NW	Ponds	1954	1:10560
R	241m NW	Unspecified Pit	1914	1:10560
R	241m NW	Unspecified Pit	1898	1:10560
S	242m NW	Unspecified Ground Workings	1938	1:10560
S	242m NW	Unspecified Ground Workings	1898	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	**0**

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

This is 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	0

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).

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	1

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

Location	Details
On site	**Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk.**

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

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

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

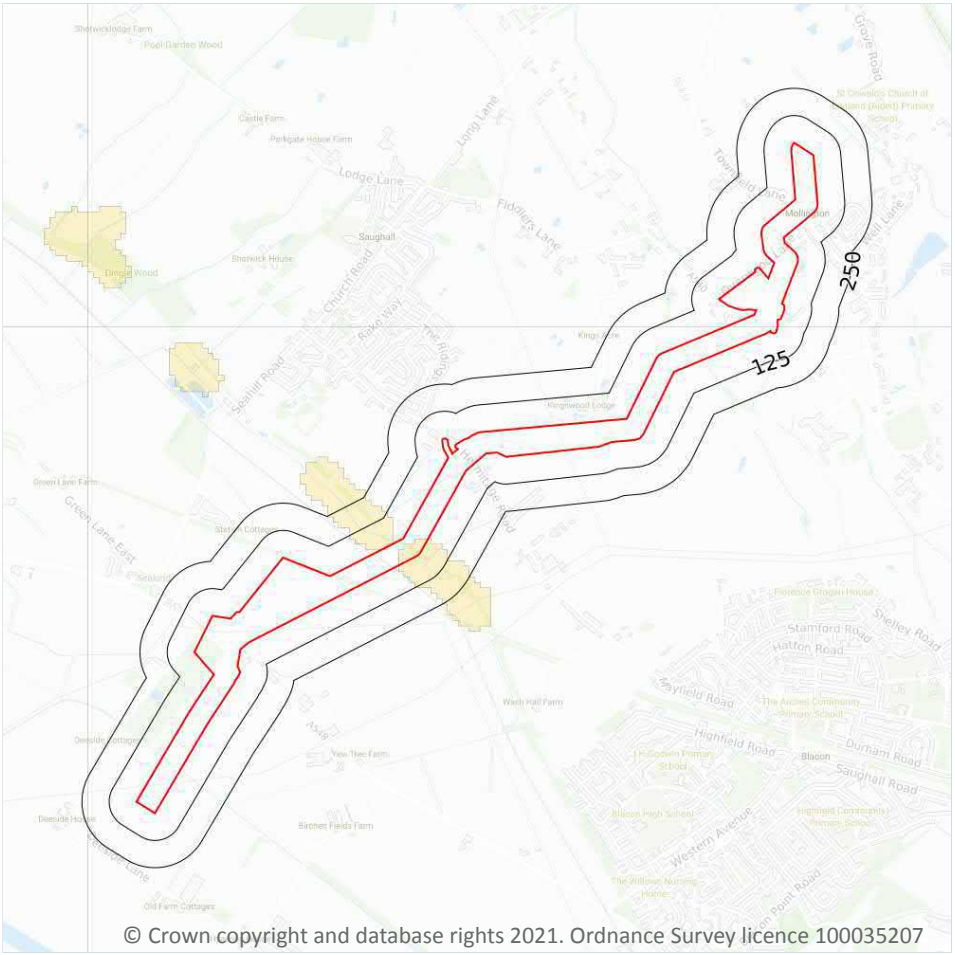
18.13 Clay mining

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



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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 131**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**
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 **36**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 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**
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**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**	**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**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**20 - 40 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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**
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**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 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**
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**	**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**	**40 - 60 mg/kg**	**15 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**
3m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
8m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
39m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
47m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
47m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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 km^2).

This data is sourced from the British Geological Survey.

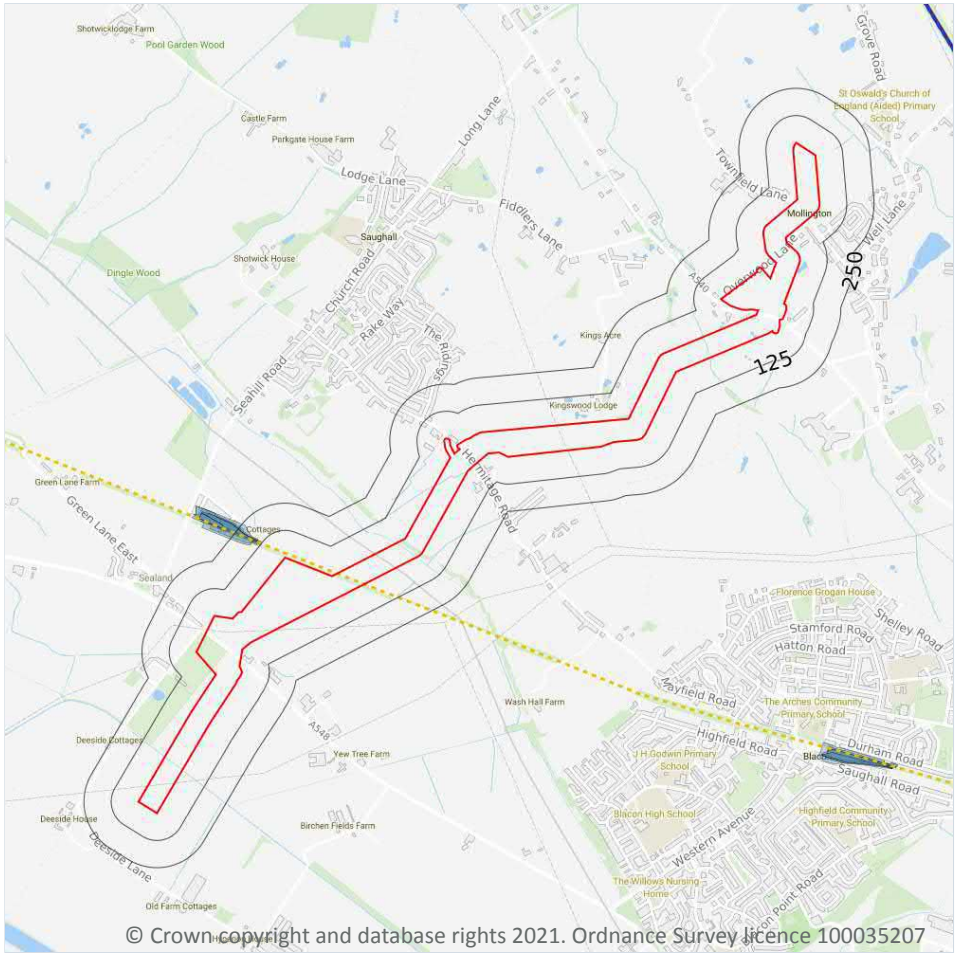
20.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



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21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

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

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	11

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.

Features are displayed on the Railway infrastructure and projects map on **page 136**

Location	Land Use	Year of mapping	Mapping scale
122m NW	Railway Sidings	1992	2500
129m NW	Railway Sidings	1899	2500
129m NW	Railway Sidings	1911	2500
130m NW	Railway Sidings	1899	2500
130m NW	Railway Sidings	1911	2500
139m NW	Railway Sidings	1898	10560
144m NW	Railway Sidings	1913	10560
145m NW	Railway Sidings	1914	10560
145m NW	Railway Sidings	1898	10560
159m NW	Railway Sidings	1954	10560
160m NW	Railway Sidings	1938	10560

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	1

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

Features are displayed on the Railway infrastructure and projects map on **page 136**

Location	Description
On site	**Abandoned**

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.

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

DCO Pipeline, Southern Route

Order Details

Date: 31/08/2021

Your ref: DCO Pipeline, Southern Route

Our Ref: GSIP-2021-10877-7381_F

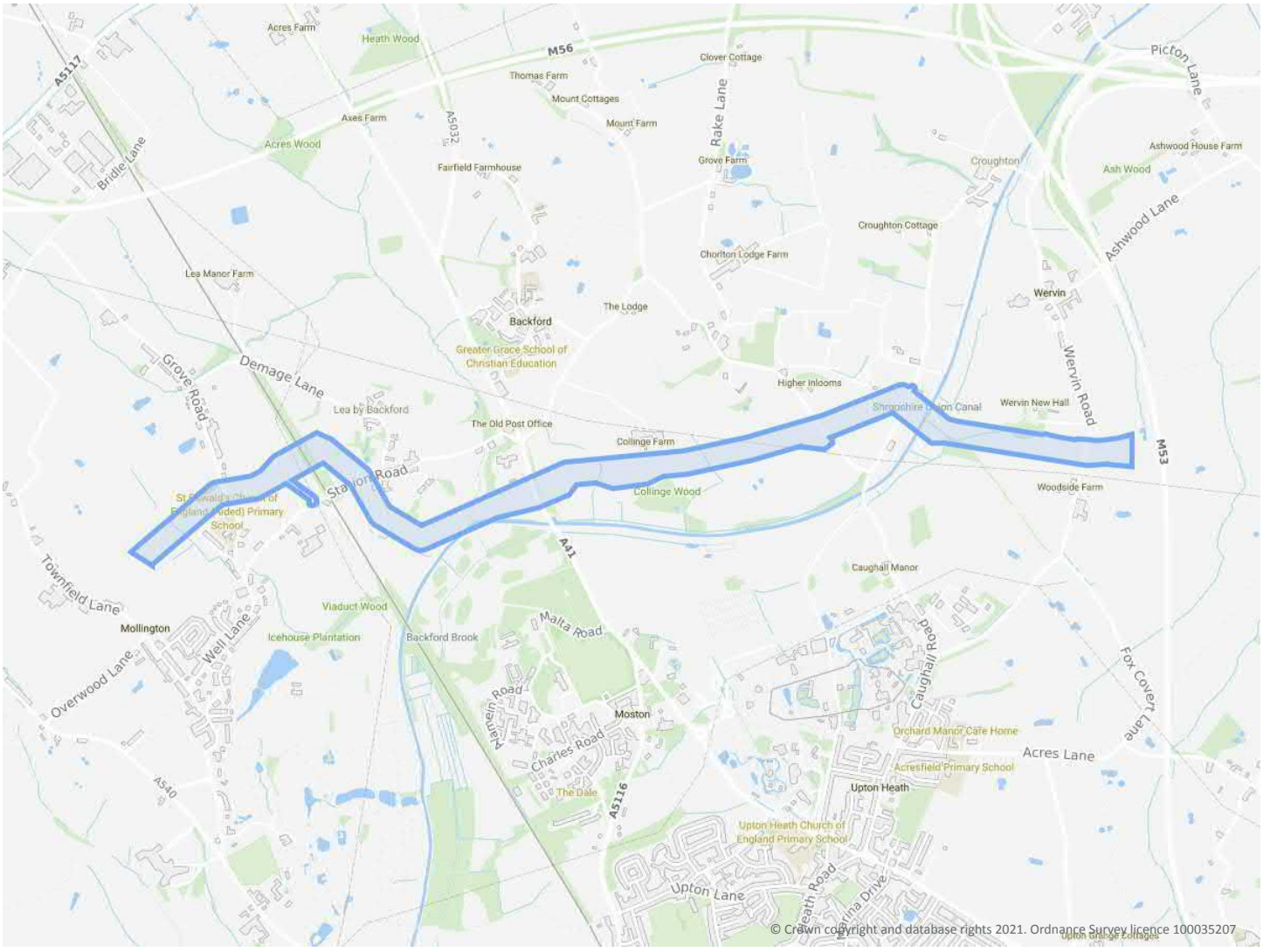
Client: WSP UK LIMITED

Site Details

Location: 340396 371204

Area: 50.41 ha

Authority: Cheshire West and Chester Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

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
13	1.1	Historical industrial land uses	6	15	35	15	-
16	1.2	Historical tanks	0	0	19	6	-
17	1.3	Historical energy features	0	1	1	4	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	1	0	0	-
19	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
20	2.1	Historical industrial land uses	10	20	46	26	-
24	2.2	Historical tanks	0	0	23	11	-
26	2.3	Historical energy features	0	2	1	7	-
26	2.4	Historical petrol stations	0	0	0	0	-
27	2.5	Historical garages	0	1	1	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	0	0	-
29	3.4	Historical landfill (EA/NRW records)	1	0	0	0	-
29	3.5	Historical waste sites	0	0	0	0	-
29	3.6	Licensed waste sites	0	2	1	0	-
31	3.7	Waste exemptions	3	92	96	21	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
49	4.1	Recent industrial land uses	1	5	17	-	-
51	4.2	Current or recent petrol stations	0	0	0	0	-
51	4.3	Electricity cables	0	0	0	0	-
51	4.4	Gas pipelines	0	0	1	0	-
52	4.5	Sites determined as Contaminated Land	0	0	0	0	-

52	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	1	-
52	4.7	Regulated explosive sites	0	0	0	0	-
52	4.8	Hazardous substance storage/usage	0	0	1	0	-
53	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
53	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
53	4.11	Licensed pollutant release (Part A(2)/B)	0	0	2	0	-
54	4.12	Radioactive Substance Authorisations	0	0	0	0	-
54	4.13	Licensed Discharges to controlled waters	0	0	17	1	-
57	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
57	4.15	Pollutant release to public sewer	0	0	0	0	-
57	4.16	List 1 Dangerous Substances	0	0	0	0	-
57	4.17	List 2 Dangerous Substances	0	0	0	0	-
57	4.18	Pollution Incidents (EA/NRW)	0	0	6	0	-
58	4.19	Pollution inventory substances	0	0	0	0	-
59	4.20	Pollution inventory waste transfers	0	0	0	0	-
59	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
60	5.1	Superficial aquifer	Identified (within 500m)				
62	5.2	Bedrock aquifer	Identified (within 500m)				
64	5.3	Groundwater vulnerability	Identified (within 50m)				
68	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
68	5.5	Groundwater vulnerability- local information	None (within 0m)				
69	5.6	Groundwater abstractions	0	0	0	2	25
76	5.7	Surface water abstractions	0	0	3	0	2
77	5.8	Potable abstractions	0	0	0	0	4
79	5.9	Source Protection Zones	0	0	0	0	-
79	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
80	6.1	Water Network (OS MasterMap)	19	14	45	-	-

87	6.2	Surface water features	1	11	28	-	-
87	6.3	WFD Surface water body catchments	2	-	-	-	-
87	6.4	WFD Surface water bodies	1	0	1	-	-
88	6.5	WFD Groundwater bodies	4	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
89	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	High (within 50m)				
90	7.2	Historical Flood Events	0	0	0	-	-
90	7.3	Flood Defences	0	0	0	-	-
90	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
90	7.5	Flood Storage Areas	0	0	0	-	-
91	7.6	Flood Zone 2	Identified (within 50m)				
92	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
93	8.1	Surface water flooding	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
95	9.1	Groundwater flooding	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
96	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
97	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
97	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
97	10.4	Special Protection Areas (SPA)	0	0	0	0	0
97	10.5	National Nature Reserves (NNR)	0	0	0	0	0
98	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
98	10.7	Designated Ancient Woodland	0	0	0	0	0
98	10.8	Biosphere Reserves	0	0	0	0	0
98	10.9	Forest Parks	0	0	0	0	0
99	10.10	Marine Conservation Zones	0	0	0	0	0
99	10.11	Green Belt	1	0	0	0	0
99	10.12	Proposed Ramsar sites	0	0	0	0	0

99	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
100	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
100	10.15	Nitrate Sensitive Areas	0	0	0	0	0
100	**10.16**	**Nitrate Vulnerable Zones**	1	0	0	0	4
101	**10.17**	**SSSI Impact Risk Zones**	4	-	-	-	-
103	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
104	11.1	World Heritage Sites	0	0	0	-	-
104	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
104	11.3	National Parks	0	0	0	-	-
104	11.4	Listed Buildings	0	0	0	-	-
105	11.5	Conservation Areas	0	0	0	-	-
105	11.6	Scheduled Ancient Monuments	0	0	0	-	-
105	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
106	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
107	12.2	Open Access Land	0	0	0	-	-
107	**12.3**	**Tree Felling Licences**	0	0	4	-	-
107	**12.4**	**Environmental Stewardship Schemes**	0	0	1	-	-
108	**12.5**	**Countryside Stewardship Schemes**	1	0	3	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
109	**13.1**	**Priority Habitat Inventory**	4	6	31	-	-
111	13.2	Habitat Networks	0	0	0	-	-
111	13.3	Open Mosaic Habitat	0	0	0	-	-
111	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
113	**14.1**	**10k Availability**	Identified (within 500m)				
114	**14.2**	**Artificial and made ground (10k)**	2	1	4	4	-
116	**14.3**	**Superficial geology (10k)**	11	0	2	6	-

117	14.4	Landslip (10k)	0	0	0	0	-
118	**14.5**	**Bedrock geology (10k)**	2	0	0	0	-
119	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
120	**15.1**	**50k Availability**	Identified (within 500m)				
121	**15.2**	**Artificial and made ground (50k)**	0	0	0	1	-
122	15.3	Artificial ground permeability (50k)	0	0	-	-	-
123	**15.4**	**Superficial geology (50k)**	10	0	2	3	-
124	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
125	15.6	Landslip (50k)	0	0	0	0	-
125	15.7	Landslip permeability (50k)	None (within 50m)				
126	**15.8**	**Bedrock geology (50k)**	2	0	0	0	-
127	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
127	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
128	**16.1**	**BGS Boreholes**	1	2	13	-	-
Page	Section	Natural ground subsidence					
130	**17.1**	**Shrink swell clays**	Very low (within 50m)				
132	**17.2**	**Running sands**	Moderate (within 50m)				
134	**17.3**	**Compressible deposits**	Moderate (within 50m)				
136	**17.4**	**Collapsible deposits**	Very low (within 50m)				
137	**17.5**	**Landslides**	Low (within 50m)				
139	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
141	18.1	Natural cavities	0	0	0	0	-
142	**18.2**	**BritPits**	0	0	3	0	-
142	**18.3**	**Surface ground workings**	48	25	91	-	-
148	18.4	Underground workings	0	0	0	0	0
149	**18.5**	**Historical Mineral Planning Areas**	1	0	0	1	-

149	18.6	Non-coal mining	0	0	0	0	0
149	18.7	Mining cavities	0	0	0	0	0
149	18.8	JPB mining areas	None (within 0m)				
150	18.9	Coal mining	None (within 0m)				
150	18.10	Brine areas	None (within 0m)				
150	18.11	Gypsum areas	None (within 0m)				
150	18.12	Tin mining	None (within 0m)				
150	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
151	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
152	**20.1**	**BGS Estimated Background Soil Chemistry**	40	11	-	-	-
154	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
154	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
155	21.1	Underground railways (London)	0	0	0	-	-
155	**21.2**	**Underground railways (Non-London)**	1	0	0	-	-
156	21.3	Railway tunnels	0	0	0	-	-
156	**21.4**	**Historical railway and tunnel features**	0	0	6	-	-
156	21.5	Royal Mail tunnels	0	0	0	-	-
157	21.6	Historical railways	0	0	0	-	-
157	**21.7**	**Railways**	3	0	3	-	-
157	21.8	Crossrail 1	0	0	0	0	-
157	21.9	Crossrail 2	0	0	0	0	-
158	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 10/04/2020

Site Area: 50.41ha

Recent site history - 2016 aerial photograph



Capture Date: 19/07/2016

Site Area: 50.41ha

Recent site history - 2010 aerial photograph



Capture Date: 11/10/2010

Site Area: 50.41ha

Recent site history - 2001 aerial photograph



Capture Date: 01/05/2001

Site Area: 50.41ha

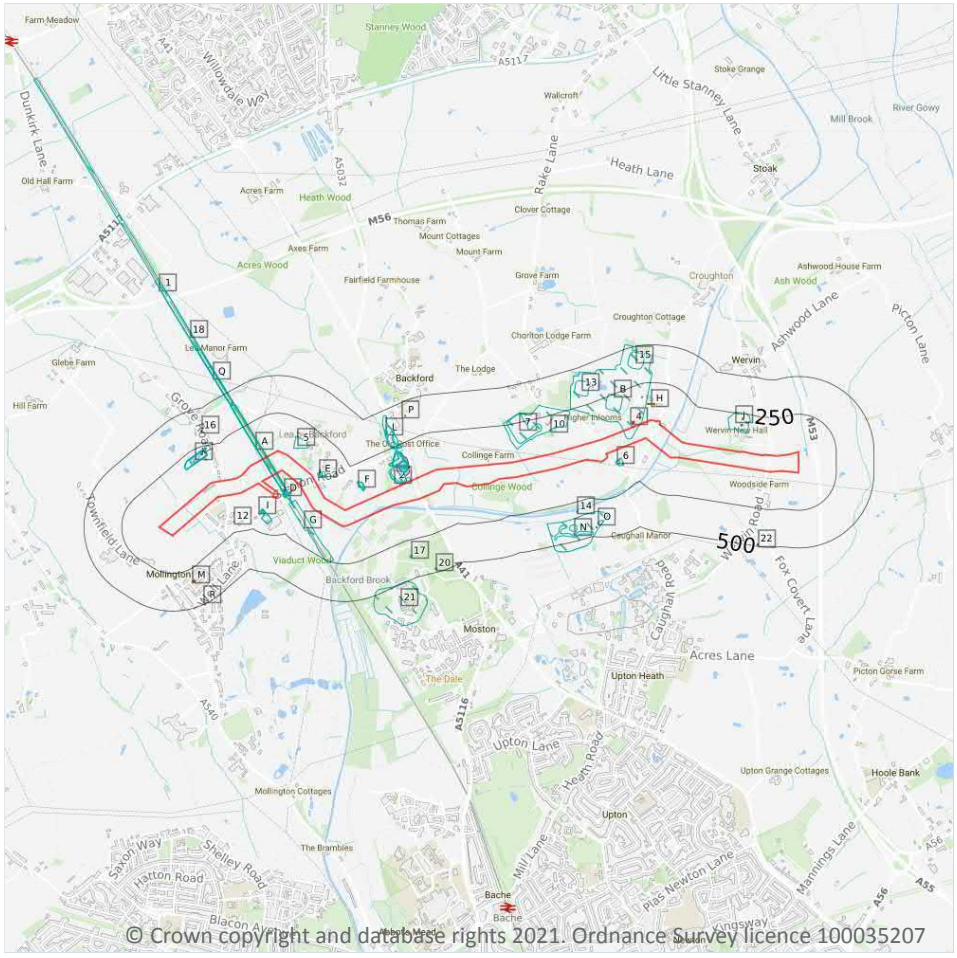
Recent site history - 2000 aerial photograph



Capture Date: 21/07/2000

Site Area: 50.41ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	71

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 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Cuttings**	**1938**	**868268**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Cuttings**	**1948 - 1989**	**883374**
A	**On site**	**Cuttings**	**1913**	**906096**
A	**On site**	**Cuttings**	**1909**	**924814**
A	**On site**	**Cuttings**	**1898**	**990131**
B	**On site**	**Unspecified Depot**	**1967 - 1983**	**966693**
2	2m NW	Refuse Heap	1968	828566
3	4m NW	Unspecified Heap	1968 - 1978	880978
C	9m NW	Sand Pit	1948	985373
D	30m E	Railway Station	1898	852653
D	30m E	Railway Station	1913	936820
D	31m E	Railway Station	1948	878627
D	32m E	Railway Station	1909	883352
D	32m E	Railway Station	1938	966844
E	37m NE	Smithy	1938	883546
E	38m NE	Smithy	1898	881183
E	38m NE	Smithy	1909	954498
E	38m NE	Smithy	1913	980042
E	39m NE	Smithy	1948	924083
D	40m E	Railway Station	1989	848586
D	40m E	Railway Station	1968 - 1978	889966
5	61m NE	Nursery	1968 - 1978	876937
6	61m S	Unspecified Old Quarry	1898	832934
E	64m NE	Old Smithy	1978	827496
E	64m NE	Smithy	1968	872739
F	67m NW	Unspecified Pit	1948	989128
F	69m NW	Unspecified Pit	1913	868995
G	70m SW	Railway Sidings	1968 - 1978	859215
C	71m NW	Sand Pit	1912	878259

ID	Location	Land use	Dates present	Group ID
C	71m NW	Sand Pit	1938	977902
C	73m NW	Sand Pit	1908	875331
7	79m N	Unspecified Depot	1967 - 1983	868007
C	89m NW	Garage	1978	844138
C	102m NW	Sand Pit	1898	938248
I	107m SW	Telephone Exchange	1968	847746
I	107m SW	Telephone Exchange	1978	879766
I	107m SW	Telephone Exchange	1989	932709
8	112m N	Unspecified Heaps	1967 - 1983	953222
J	121m N	Unspecified Depot	1967	818175
9	133m N	Unspecified Heaps	1967 - 1983	877030
C	136m NW	Unspecified Pit	1968 - 1978	924875
C	136m NW	Unspecified Pit	1989	960058
G	141m SW	Railway Building	1968	819277
K	165m NW	Brick Field	1948	961731
K	165m NW	Brick Field	1938	856143
K	167m NW	Brick Field	1909	854878
K	168m NW	Brick Field	1898	908106
K	168m NW	Brick Field	1913	975542
J	170m N	Unspecified Tank	1967	824001
K	196m N	Unspecified Tank	1938 - 1948	974872
K	201m N	Unspecified Tank	1898	892949
K	201m N	Unspecified Tank	1913	937949
J	214m N	Unspecified Tank	1967	824000
L	226m NW	Unspecified Ground Workings	1968 - 1978	914561
L	227m NW	Sand Pit	1948	797497
L	231m NW	Unspecified Ground Workings	1978	932251
13	305m N	Unspecified Heaps	1967 - 1983	968033

ID	Location	Land use	Dates present	Group ID
N	331m S	Unspecified Depot	1967 - 1983	963586
15	346m N	Unspecified Heap	1967 - 1983	990727
L	350m NW	Unspecified Heap	1978	803516
17	350m S	Unspecified Tank	1938	824004
N	378m S	Unspecified Ground Workings	1967 - 1983	943212
O	388m S	Unspecified Heap	1967 - 1983	917134
N	389m S	Unspecified Heap	1967 - 1983	971128
Q	419m NW	Cuttings	1913	877448
18	420m NW	Cuttings	1909	955552
19	422m NW	Cuttings	1898	924227
Q	425m NW	Cuttings	1948	892171
Q	425m NW	Cuttings	1968 - 1989	853015
20	471m S	Unspecified Tank	1898	824003
21	474m SE	Hospital	1968 - 1978	888836

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**25**

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 13**

ID	Location	Land use	Dates present	Group ID
D	53m SW	Unspecified Tank	1959 - 1965	123276
H	102m N	Tanks	1988 - 1995	130641
H	104m N	Unspecified Tank	-	104316
H	105m N	Unspecified Tank	1965	111607

ID	Location	Land use	Dates present	Group ID
H	105m N	Tanks	1988	105280
H	106m N	Unspecified Tank	-	104359
H	106m N	Unspecified Tank	-	104406
H	107m N	Unspecified Tank	1965	111606
H	107m N	Unspecified Tank	1965	111601
H	109m N	Unspecified Tank	-	104299
H	110m N	Unspecified Tank	1965	111602
11	159m N	Unspecified Tank	-	104358
J	171m N	Unspecified Tank	1960	111611
12	177m S	Unspecified Tank	1960	111684
K	199m N	Unspecified Tank	1899 - 1911	136848
J	213m N	Unspecified Tank	1960	111610
B	242m N	Unspecified Tank	-	104405
B	242m N	Unspecified Tank	1995	130324
B	243m N	Unspecified Tank	1965 - 1988	123137
14	313m S	Tanks	1956 - 1960	123529
P	407m NW	Unspecified Tank	1959	144458
P	407m NW	Unspecified Tank	1965 - 1989	145859
O	434m S	Unspecified Tank	1956 - 1994	140609
R	484m SE	Tank or Trough	1873	121122
R	496m SE	Tank or Trough	1873	121121

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 13**

ID	Location	Land use	Dates present	Group ID
4	21m N	Electricity Substation	1988 - 1995	77357
10	154m N	Electricity Substation	1993	60406
M	328m SE	Electricity Substation	1977 - 1992	84914
M	328m SE	Electricity Substation	1989	60402
16	347m N	Electricity Substation	1989 - 1992	65338
22	485m S	Electricity Substation	1983 - 1995	63898

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	**1**

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
C	43m NW	Garage	1959 - 1965	25083

This data is sourced from Ordnance Survey / Groundsure.

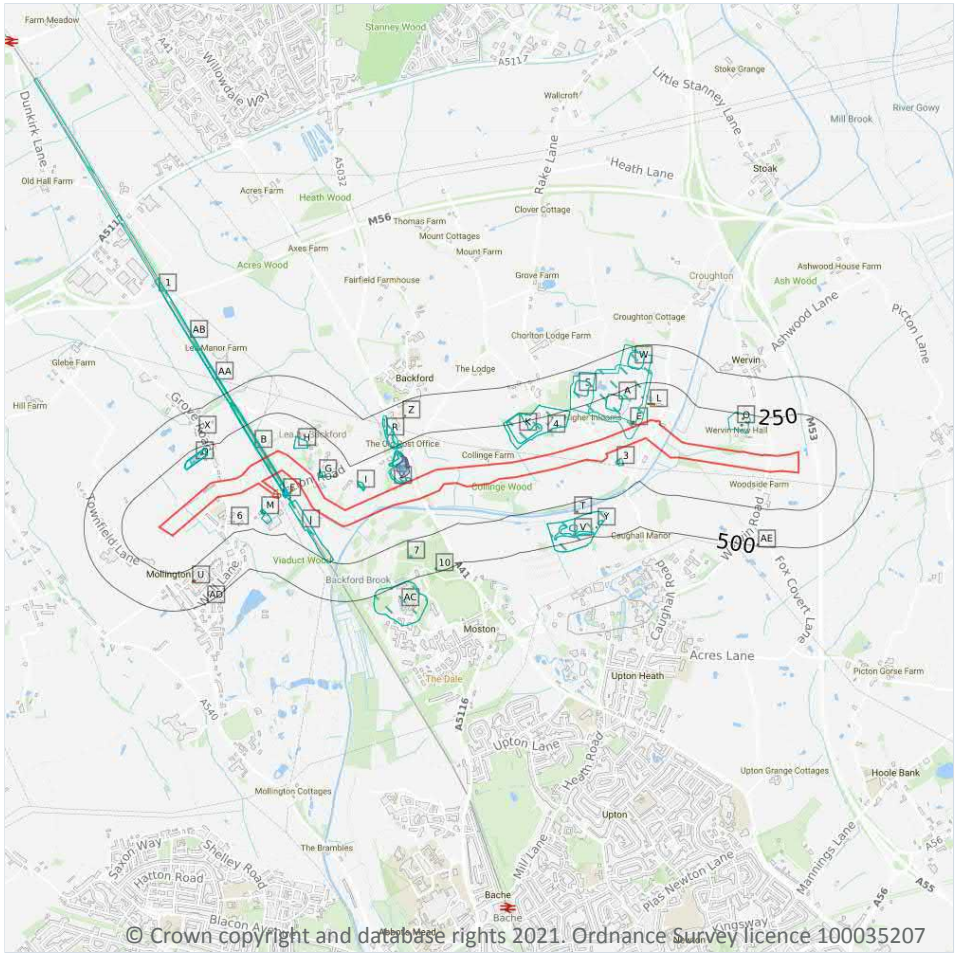
1.6 Historical military land

Records within 500m	0

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



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	102

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 20**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Cuttings**	**1938**	**868268**
A	**On site**	**Unspecified Depot**	**1983**	**966693**
B	**On site**	**Cuttings**	**1989**	**883374**

ID	Location	Land Use	Date	Group ID
B	**On site**	**Cuttings**	**1968**	**883374**
B	**On site**	**Cuttings**	**1948**	**883374**
B	**On site**	**Cuttings**	**1978**	**883374**
B	**On site**	**Cuttings**	**1909**	**924814**
B	**On site**	**Cuttings**	**1909**	**924814**
B	**On site**	**Cuttings**	**1898**	**990131**
B	**On site**	**Cuttings**	**1913**	**906096**
2	2m NW	Refuse Heap	1968	828566
C	4m NW	Unspecified Heap	1968	880978
C	4m NW	Unspecified Heap	1978	880978
D	9m NW	Sand Pit	1948	985373
A	18m N	Unspecified Depot	1967	966693
F	30m E	Railway Station	1913	936820
F	30m E	Railway Station	1898	852653
F	31m E	Railway Station	1948	878627
F	32m E	Railway Station	1909	883352
F	32m E	Railway Station	1909	883352
F	32m E	Railway Station	1938	966844
G	37m NE	Smithy	1938	883546
G	38m NE	Smithy	1913	980042
G	38m NE	Smithy	1898	881183
G	38m NE	Smithy	1909	954498
G	38m NE	Smithy	1909	954498
G	39m NE	Smithy	1948	924083
F	40m E	Railway Station	1989	848586
F	40m E	Railway Station	1968	889966
F	40m E	Railway Station	1978	889966
H	61m NE	Nursery	1968	876937

ID	Location	Land Use	Date	Group ID
H	61m NE	Nursery	1978	876937
3	61m S	Unspecified Old Quarry	1898	832934
G	64m NE	Smithy	1968	872739
G	64m NE	Old Smithy	1978	827496
I	67m NW	Unspecified Pit	1948	989128
I	69m NW	Unspecified Pit	1913	868995
J	70m SW	Railway Sidings	1968	859215
J	70m SW	Railway Sidings	1978	859215
D	71m NW	Sand Pit	1912	878259
D	71m NW	Sand Pit	1938	977902
D	73m NW	Sand Pit	1908	875331
D	73m NW	Sand Pit	1908	875331
D	73m NW	Sand Pit	1908	875331
K	79m N	Unspecified Depot	1967	868007
K	79m N	Unspecified Depot	1983	868007
D	89m NW	Garage	1978	844138
D	102m NW	Sand Pit	1898	938248
M	107m SW	Telephone Exchange	1968	847746
M	107m SW	Telephone Exchange	1989	932709
M	107m SW	Telephone Exchange	1978	879766
N	112m N	Unspecified Heaps	1967	953222
N	112m N	Unspecified Heaps	1983	953222
O	121m N	Unspecified Depot	1967	818175
P	133m N	Unspecified Heaps	1967	877030
P	133m N	Unspecified Heaps	1983	877030
D	136m NW	Unspecified Pit	1989	960058
D	136m NW	Unspecified Pit	1968	924875
D	136m NW	Unspecified Pit	1978	924875

ID	Location	Land Use	Date	Group ID
J	141m SW	Railway Building	1968	819277
Q	165m NW	Brick Field	1948	961731
Q	165m NW	Brick Field	1938	856143
Q	165m NW	Brick Field	1938	856143
Q	167m NW	Brick Field	1909	854878
Q	167m NW	Brick Field	1909	854878
Q	168m NW	Brick Field	1913	975542
Q	168m NW	Brick Field	1898	908106
O	170m N	Unspecified Tank	1967	824001
Q	196m N	Unspecified Tank	1948	974872
Q	198m N	Unspecified Tank	1938	974872
Q	201m N	Unspecified Tank	1913	937949
Q	201m N	Unspecified Tank	1898	892949
O	214m N	Unspecified Tank	1967	824000
R	226m NW	Unspecified Ground Workings	1968	914561
R	227m NW	Sand Pit	1948	797497
R	231m NW	Unspecified Ground Workings	1978	932251
S	305m N	Unspecified Heaps	1967	968033
S	305m N	Unspecified Heaps	1983	968033
V	331m S	Unspecified Depot	1967	963586
V	331m S	Unspecified Depot	1983	963586
W	346m N	Unspecified Heap	1967	990727
W	346m N	Unspecified Heap	1983	990727
R	350m NW	Unspecified Heap	1978	803516
7	350m S	Unspecified Tank	1938	824004
V	378m S	Unspecified Ground Workings	1967	943212
V	378m S	Unspecified Ground Workings	1983	943212
Y	388m S	Unspecified Heap	1967	917134

ID	Location	Land Use	Date	Group ID
Y	388m S	Unspecified Heap	1983	917134
V	389m S	Unspecified Heap	1967	971128
V	389m S	Unspecified Heap	1983	971128
8	396m NW	Unspecified Ground Workings	1978	914561
AA	419m NW	Cuttings	1913	877448
AB	420m NW	Cuttings	1909	955552
AB	420m NW	Cuttings	1909	955552
9	422m NW	Cuttings	1898	924227
AA	425m NW	Cuttings	1989	853015
AA	425m NW	Cuttings	1968	853015
AA	425m NW	Cuttings	1948	892171
AA	425m NW	Cuttings	1978	853015
10	471m S	Unspecified Tank	1898	824003
AC	474m SE	Hospital	1968	888836
AC	474m SE	Hospital	1978	888836

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**34**

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 20**

ID	Location	Land Use	Date	Group ID
F	53m SW	Unspecified Tank	1959	123276
F	54m SW	Unspecified Tank	1965	123276
L	102m N	Tanks	1995	130641
L	103m N	Tanks	1988	130641
L	104m N	Unspecified Tank	-	104316

ID	Location	Land Use	Date	Group ID
L	105m N	Unspecified Tank	1965	111607
L	105m N	Tanks	1988	105280
L	106m N	Unspecified Tank	-	104359
L	106m N	Unspecified Tank	-	104406
L	107m N	Unspecified Tank	1965	111606
L	107m N	Unspecified Tank	1965	111601
L	109m N	Unspecified Tank	-	104299
L	110m N	Unspecified Tank	1965	111602
5	159m N	Unspecified Tank	-	104358
O	171m N	Unspecified Tank	1960	111611
6	177m S	Unspecified Tank	1960	111684
Q	199m N	Unspecified Tank	1899	136848
Q	199m N	Unspecified Tank	1911	136848
O	213m N	Unspecified Tank	1960	111610
A	242m N	Unspecified Tank	1995	130324
A	242m N	Unspecified Tank	-	104405
A	243m N	Unspecified Tank	1965	123137
A	243m N	Unspecified Tank	1988	123137
T	313m S	Tanks	1956	123529
T	313m S	Tanks	1956	123529
T	313m S	Tanks	1960	123529
Z	407m NW	Unspecified Tank	1959	144458
Z	407m NW	Unspecified Tank	1965	145859
Z	407m NW	Unspecified Tank	1989	145859
Y	434m S	Unspecified Tank	1956	140609
Y	434m S	Unspecified Tank	1989	140609
Y	435m S	Unspecified Tank	1994	140609
AD	484m SE	Tank or Trough	1873	121122

ID	Location	Land Use	Date	Group ID
AD	496m SE	Tank or Trough	1873	121121

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**10**

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 20**

ID	Location	Land Use	Date	Group ID
E	21m N	Electricity Substation	1995	77357
E	23m N	Electricity Substation	1988	77357
4	154m N	Electricity Substation	1993	60406
U	328m SE	Electricity Substation	1977	84914
U	328m SE	Electricity Substation	1989	60402
U	331m SE	Electricity Substation	1992	84914
X	347m N	Electricity Substation	1992	65338
X	348m N	Electricity Substation	1989	65338
AE	485m S	Electricity Substation	1995	63898
AE	485m S	Electricity Substation	1983	63898

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	2

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'.

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
D	43m NW	Garage	1965	25083
D	84m NW	Garage	1959	25083

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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	0

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

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		
A	**On site**	**Site Address: Station Road, Mollington, Cheshire** **Licence Holder Address: -**	**Waste Licence: Yes** **Site Reference: 60480** **Waste Type: Inert** **Environmental Permitting Regulations (Waste) Reference: -** **Licence Issue: 17/06/1981** **Licence Surrender: -**	**Operator: -** **Licence Holder: TOD Civil Engineering Limited** **First Recorded 01/01/1983** **Last Recorded: 30/06/1984**

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	3

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		
F	34m NW	Site Name: Littlers Transfer Station Site Address: Birkenhead Road, Backford Hill, Chester, Cheshire, CH1 6PE Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LIT001 EPR reference: EA/EPR/PP3794FK/S002 Operator: Littlers Ltd Waste Management licence No: 37008 Annual Tonnage: 15024	Issue Date: 19/12/1991 Effective Date: - Modified: 01/03/2001 Surrendered Date: May 20 2005 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered
F	34m NW	Site Name: Littlers Transfer Station Site Address: Birkenhead Road, Backford Hill, Chester, Cheshire, CH1 6PE Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LIT001 EPR reference: EA/EPR/PP3794FK/S002 Operator: Littlers Ltd Waste Management licence No: 37008 Annual Tonnage: 15024	Issue Date: 19/12/1991 Effective Date: - Modified: 01/03/2001 Surrendered Date: May 20 2005 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered
4	83m NW	Site Name: Cheshire Waste Skip Hire Limited Site Address: Land / Premises At, Backford Hill, Backford, Chester, Cheshire, CH1 6PE Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CWS001 EPR reference: EA/EPR/YP3494FF/V002 Operator: Cheshire Waste Skip Hire Limited Waste Management licence No: 37273 Annual Tonnage: 24999	Issue Date: 04/03/2005 Effective Date: - Modified: 22/06/2005 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified

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

3.7 Waste exemptions

Records within 500m **212**

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
1	**On site**	**The Moss TARPORLEY Cheshire CW6 0ET**	**EPR/BE5352YB/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
B	**On site**	**The Moss TARPORLEY Cheshire CW6 0ET**	**EPR/BE5452YL/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
B	**On site**	**Land at Chorlton by Backford CH2 4BN**	**EPR/FE5440SD/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Disposing of waste exemption	Agricultural Waste Only	Disposal by incineration
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Treating waste exemption	Agricultural Waste Only	Anaerobic digestion at premises not used for agriculture and burning of resultant biogas
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Using waste exemption	Agricultural Waste Only	Use of waste in construction
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
C	9m NE	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/SH0472QE/A002	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
D	22m SW	n/a	WEX267553	Storing waste exemption	On a farm	Storage of sludge
D	22m SW	-	WEX229648	Storing waste exemption	On a farm	Storage of sludge
D	22m SW	-	WEX158190	Storing waste exemption	On a Farm	Storage of sludge
D	22m SW	-	WEX117860	Storing waste exemption	On a farm	Storage of sludge
D	22m SW	-	WEX081606	Storing waste exemption	On a farm	Storage of sludge
A	31m SW	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/JF0407NS/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
A	31m SW	Friars Park Farm Station Road Chester Cheshire CH1 6NT	EPR/VF0434NF/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Use of waste in construction
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Use of baled end-of-life tyres in construction
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Use of waste in the construction of entertainment or educational installations etc
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Use of mulch
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Incorporation of ash into soil

ID	Location	Site	Reference	Category	Sub-Category	Description
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Using waste exemption	On a Farm	Pig and poultry ash
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Cleaning, washing, spraying or coating relevant waste
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Recovery of textiles
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Preparatory treatments (baling, sorting, shredding etc)
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Screening and blending of waste
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Treating waste exemption	On a Farm	Recovery of scrap metal
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Disposing of waste exemption	On a Farm	Burning waste in the open
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Storing waste exemption	On a Farm	Storage of waste in a secure place
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX212515	Storing waste exemption	On a Farm	Storage of sludge
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters

ID	Location	Site	Reference	Category	Sub-Category	Description
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Disposing of waste exemption	On a farm	Burning waste in the open
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Storing waste exemption	On a farm	Storage of waste in a secure place
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Storing waste exemption	On a farm	Storage of sludge
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Recovery of textiles
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Screening and blending of waste
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Treating waste exemption	On a farm	Recovery of scrap metal
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Use of waste in construction
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Use of mulch

ID	Location	Site	Reference	Category	Sub-Category	Description
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Incorporation of ash into soil
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Pig and poultry ash
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
E	32m N	COLLINGE FARM, RAKE LANE, BACKFORD, CHESTER, CH2 4BH	WEX054826	Using waste exemption	On a farm	Use of waste in the construction of entertainment or educational installations etc
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Aerobic composting and associated prior treatment
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Screening and blending of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Mechanical treatment of end-of-life tyres
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of mulch
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading of plant matter to confer benefit
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Incorporation of ash into soil
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of baled end-of-life tyres in construction
E	33m N	Collinge Farm Rake Lane Chester Cheshire CH2 4BH	EPR/TH0173DQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Treating waste exemption	On a farm	Anaerobic digestion at premises not used for agriculture and burning of resultant biogas
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Using waste exemption	On a farm	Use of waste in construction
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Using waste exemption	On a farm	Use of waste for a specified purpose
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Disposing of waste exemption	On a farm	Burning waste in the open
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX179479	Disposing of waste exemption	On a farm	Disposal by incineration
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice

ID	Location	Site	Reference	Category	Sub-Category	Description
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Disposing of waste exemption	On a farm	Disposal by incineration
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Disposing of waste exemption	On a farm	Burning waste in the open
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Treating waste exemption	On a farm	Anaerobic digestion at premises not used for agriculture and burning of resultant biogas
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Using waste exemption	On a farm	Use of waste in construction
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	40m NE	FRIARS PARK FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX073957	Using waste exemption	On a farm	Use of waste for a specified purpose
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
G	43m E	Lea Farm Station Road CHESTER CH1 6NT	EPR/RH0317DL/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
2	43m S	RIVERS LANE, URMSTON, MANCHESTER, M41 7JB	WEX098147	Storing waste exemption	On a farm	Storage of sludge
3	47m N	-	WEX146031	Storing waste exemption	On a Farm	Storage of sludge
H	106m N	Ashton House Farm, WERVIN ROAD, WERVIN, CHESTER, CH2 4BR	WEX105626	Storing waste exemption	On a farm	Storage of waste in a secure place
H	106m N	Ashton House Farm, WERVIN ROAD, WERVIN, CHESTER, CH2 4BR	WEX106414	Using waste exemption	On a farm	Use of waste for a specified purpose
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX245347	Disposing of waste exemption	On a farm	Burning waste in the open
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121851	Storing waste exemption	On a farm	Storage of waste in a secure place
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121851	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
I	127m S	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX101389	Disposing of waste exemption	On a farm	Burning waste in the open
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX173728	Storing waste exemption	On a farm	Storage of waste in a secure place
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX173728	Storing waste exemption	On a farm	Storage of waste in secure containers
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX173728	Treating waste exemption	On a farm	Sorting mixed waste

ID	Location	Site	Reference	Category	Sub-Category	Description
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Disposing of waste exemption	On a farm	Burning waste in the open
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Using waste exemption	On a farm	Use of waste in construction
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Using waste exemption	On a farm	Use of waste for a specified purpose
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX165834	Storing waste exemption	On a farm	Storage of waste in secure containers
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Disposing of waste exemption	On a farm	Burning waste in the open
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Storing waste exemption	On a farm	Storage of waste in secure containers
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Using waste exemption	On a farm	Use of waste in construction
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
J	167m S	LEA FARM, STATION ROAD, BACKFORD, CHESTER, CH1 6NT	WEX005324	Using waste exemption	On a farm	Use of waste for a specified purpose
K	219m S	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5455FH/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
K	219m S	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
K	219m S	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
K	219m S	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
K	219m S	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste in construction
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste derived biodiesel as fuel
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste for a specified purpose
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste to manufacture finished goods

ID	Location	Site	Reference	Category	Sub-Category	Description
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of mulch
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Incorporation of ash into soil
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Pig and poultry ash
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Screening and blending of waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Recovery of scrap metal
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Sorting mixed waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Manual treatment of waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste food

ID	Location	Site	Reference	Category	Sub-Category	Description
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Physical treatment of waste edible oil and fat to produce biodiesel
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of kitchen waste in a wormery
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Recovery of central heating oil by filtration
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of waste from a portable sanitary convenience
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Depositing samples of waste for the purposes of testing or analysing them
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Disposal by incineration
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Burning waste in the open
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of waste in secure containers
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of sludge
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX145997	Using waste exemption	On a Farm	Use of waste for a specified purpose
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX145997	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Burning waste in the open
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Burning waste at a port under a Plant Health notice
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of waste in secure containers
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of waste in a secure place
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of sludge
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Sorting mixed waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Manual treatment of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Screening and blending of waste
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Mechanical treatment of end-of-life tyres
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Recovery of scrap metal
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste in construction
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of mulch
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Incorporation of ash into soil

ID	Location	Site	Reference	Category	Sub-Category	Description
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Pig and poultry ash
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste derived biodiesel as fuel
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste for a specified purpose
K	224m S	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste to manufacture finished goods
L	257m N	The Moss TARPORLEY Cheshire CW6 0ET	EPR/SE5952YX /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
L	267m N	Land at Chorlton by Backford CH2 4BN	EPR/FE5340SA /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
M	330m SW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/FF0031XE /A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
M	330m SW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/FF0031XE /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
M	332m SW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX219491	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
M	332m SW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX219491	Using waste exemption	On a farm	Use of waste for a specified purpose
M	332m SW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX072177	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
M	332m SW	WARREN FARM, TOWNFIELD LANE, MOLLINGTON, CHESTER, CH1 6LB	WEX072177	Using waste exemption	On a farm	Use of waste for a specified purpose
N	343m N	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
N	343m N	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
N	343m N	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
N	343m N	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
M	353m SW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/DE5081CP/A001	Using waste exemption	Non-Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
M	353m SW	Warren Farm Townfield Lane Chester Cheshire CH1 6LB	EPR/DE5081CP/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste for a specified purpose
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
O	424m N	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	23

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Mast (Telecommunication)**	**Cheshire, CH2**	**Telecommunications Features**	**Infrastructure and Facilities**
2	7m N	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
3	11m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
4	16m SE	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
5	21m N	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
6	46m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
7	63m SE	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
8	73m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
A	81m NW	Fires & Stoves	Liverpool Road, Backford, Chester, Cheshire, CH1 6PF	Fireplaces and Mantelpieces	Consumer Products
A	97m NW	Waste Processing Facility	Cheshire, CH1	Waste Storage, Processing and Disposal	Infrastructure and Facilities
9	100m N	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
10	105m SE	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
A	106m NW	Hough Green Garage Ltd	Liverpool Road, Backford, Chester, Cheshire, CH1 6PF	Vehicle Breakdown and Recovery Services	Personal, Consumer and Other Services
11	116m SW	Telephone Exchange	Cheshire, CH1	Telecommunications Features	Infrastructure and Facilities
A	120m NW	Cheshire Waste Skip Hire Ltd	Liverpool Road, Backford, Chester, Cheshire, CH1 6PF	Construction and Tool Hire	Hire Services
13	120m NE	Gantry	Cheshire, CH2	Travelling Cranes and Gantries	Industrial Features
15	135m NW	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities
17	143m SW	Mast	Cheshire, CH1	Telecommunications Features	Infrastructure and Facilities
19	158m N	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
21	165m N	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
22	172m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
25	227m S	Slurry Lagoon	Cheshire, CH2	Waste Storage, Processing and Disposal	Infrastructure and Facilities
27	242m SW	Pylon	Cheshire, CH1	Electrical Features	Infrastructure and Facilities

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	**1**

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Pipe Name	Details	
12	119m N	MICKLE TRAFFORD TO DEESIDE	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

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	1

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.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Company	Address	Operational status	Tier
29	335m S	Exolum Pipeline System Limited	Exolum Pipeline System Limited, Backford North PSD, Backford PSD, Caughall Road, Chester, Cheshire, CH2 4BN	Current COMAH Site	COMAH Upper Tier Operator

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	1

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.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Details	
B	117m N	Application reference number: No Details Application status: Approved Application date: No Details Address: CLH Pipeline System Ltd, Backford PSD (North), Caughall Lane, Backford, Chester, Cheshire, England, CH2 4BN	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

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	**2**

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.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Address	Details	
A	75m NW	Bardon Concrete, Liverpool Road, Backford, CH1 6PF	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
A	117m NW	Litters Ltd, Birkenhead Rd, Backford, CH1 6PE	Process: Other Mineral Processes Status: Historical Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified

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	18

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 49**

ID	Location	Address	Details	
A	100m NW	LITTLER'S DEPOT, LIVERPOOL ROAD, BACKFORD, CHESTER, CH1 6PE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD001808 Permit Version: 1 Receiving Water: GROUNDWATERS VIA SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 19/05/2008 Effective Date: 19/05/2008 Revocation Date: -
14	129m N	WERVIN AFRD SITE 231.	Effluent Type: UNSPECIFIED Permit Number: CM0114201 Permit Version: 1 Receiving Water: UNNAMED TRIB. OF BACKFORD BROO	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 18/11/1966 Effective Date: 18/11/1966 Revocation Date: 05/04/1995
A	134m NW	HAPPY EATER, A41 NORTH LANE, BACKFORD, NR CHESTER, CH1 6NX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CG0331301 Permit Version: 1 Receiving Water: INTO LAND	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 20/07/1992 Effective Date: 20/07/1992 Revocation Date: 13/12/2012
A	134m NW	HAPPY EATER, A41 NORTH LANE, BACKFORD, NR CHESTER, CH1 6NX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CG0331301 Permit Version: 2 Receiving Water: GROUNDWATER	Status: SURRENDERED UNDER EPR 2010 Issue date: 14/12/2012 Effective Date: 14/12/2012 Revocation Date: 06/10/2015
A	135m NW	AUTOLIFT RECOVERY LTD, A41 LIVERPOOL ROAD, BACKFORD, CHESTER, ENGLAND, CH1 6PE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0411701 Permit Version: 1 Receiving Water: TO GROUND	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 17/10/2003 Effective Date: 17/10/2003 Revocation Date: 19/02/2013

ID	Location	Address	Details	
A	135m NW	AUTOLIFT RECOVERY LTD, A41 LIVERPOOL ROAD, BACKFORD, CHESTER, ENGLAND, CH1 6PE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0411701 Permit Version: 2 Receiving Water: GROUNDWATER	Status: VARIED UNDER EPR 2010 Issue date: 19/02/2013 Effective Date: 19/02/2013 Revocation Date: -
16	136m NE	LEA-BY-BACKFORD - LEA HALL	Effluent Type: UNSPECIFIED Permit Number: CM0110501 Permit Version: 1 Receiving Water: BACKFORD BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 26/07/1966 Effective Date: 26/07/1966 Revocation Date: 26/04/1995
18	151m NE	SIMON STORAGE B/FORD OIL, CAUGHALL LANE, BACKFORD, NR CHESTER, CHESHIRE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: 016890142 Permit Version: 1 Receiving Water: SHROPSHIRE UNION CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1980 Revocation Date: 01/10/1998
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 6 Receiving Water: BACKFORD BROOK	Status: VARIED UNDER EPR 2010 Issue date: 30/06/2015 Effective Date: 30/06/2015 Revocation Date: -
20	164m S	MOLLINGTON MOLLINGTON COURT ESTATE, MOLLINGTON MOLLINGTON COURT ESTA, MOLLINGTON COURT ESTATE	Effluent Type: UNSPECIFIED Permit Number: CM0052301 Permit Version: 1 Receiving Water: CULVERTED SECTION OF WELL BROO	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 17/10/1968 Effective Date: 17/10/1968 Revocation Date: 05/04/1995
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 1 Receiving Water: BACKFORD BROOK	Status: REVOKED - UNSPECIFIED Issue date: 19/08/1982 Effective Date: 19/08/1982 Revocation Date: 29/01/1985
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 2 Receiving Water: BACKFORD BROOK	Status: REVOKED - UNSPECIFIED Issue date: 30/01/1985 Effective Date: 30/01/1985 Revocation Date: 15/09/1987

ID	Location	Address	Details	
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 3 Receiving Water: BACKFORD BROOK	Status: REVOKED - UNSPECIFIED Issue date: 16/09/1987 Effective Date: 16/09/1987 Revocation Date: 04/08/1991
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 4 Receiving Water: BACKFORD BROOK	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 05/08/1991 Effective Date: 05/08/1991 Revocation Date: 31/12/2009
C	164m NW	BACKFORD WASTEWATER TREATMENT WORKS, CHURCH LANE, BACKFORD, CHESTER, CHESHIRE, CH2 4BE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CM0116001 Permit Version: 5 Receiving Water: BACKFORD BROOK	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 24/09/2009 Effective Date: 01/01/2010 Revocation Date: 29/06/2015
D	239m NE	WERVIN	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016891664T Permit Version: 1 Receiving Water: SHROPSHIRE UNION CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 26/10/1993 Revocation Date: 31/12/1993
D	239m NE	WERVIN	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016891664T Permit Version: 2 Receiving Water: SHROPSHIRE UNION CANAL	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: - Effective Date: 01/01/1994 Revocation Date: 01/10/1996
28	317m N	BACKFORD AFRD SITE	Effluent Type: UNSPECIFIED Permit Number: CM0114401 Permit Version: 1 Receiving Water: UNNAMED TRIB. OF BACKFORD BROO	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 18/11/1966 Effective Date: 18/11/1966 Revocation Date: 05/04/1995

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	6

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 49**

ID	Location	Details	
B	144m N	Incident Date: 02/01/2003 Incident Identification: 128909 Pollutant: Agricultural Materials and Wastes Pollutant Description: Slurry and Dilute Slurry	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
23	189m SE	Incident Date: 16/05/2002 Incident Identification: 79086 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	195m NW	Incident Date: 16/12/2001 Incident Identification: 48417 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
C	195m NW	Incident Date: 16/12/2001 Incident Identification: 48417 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
24	200m NE	Incident Date: 30/04/2003 Incident Identification: 155102 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
26	232m NW	Incident Date: 06/08/2002 Incident Identification: 98019 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) 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.

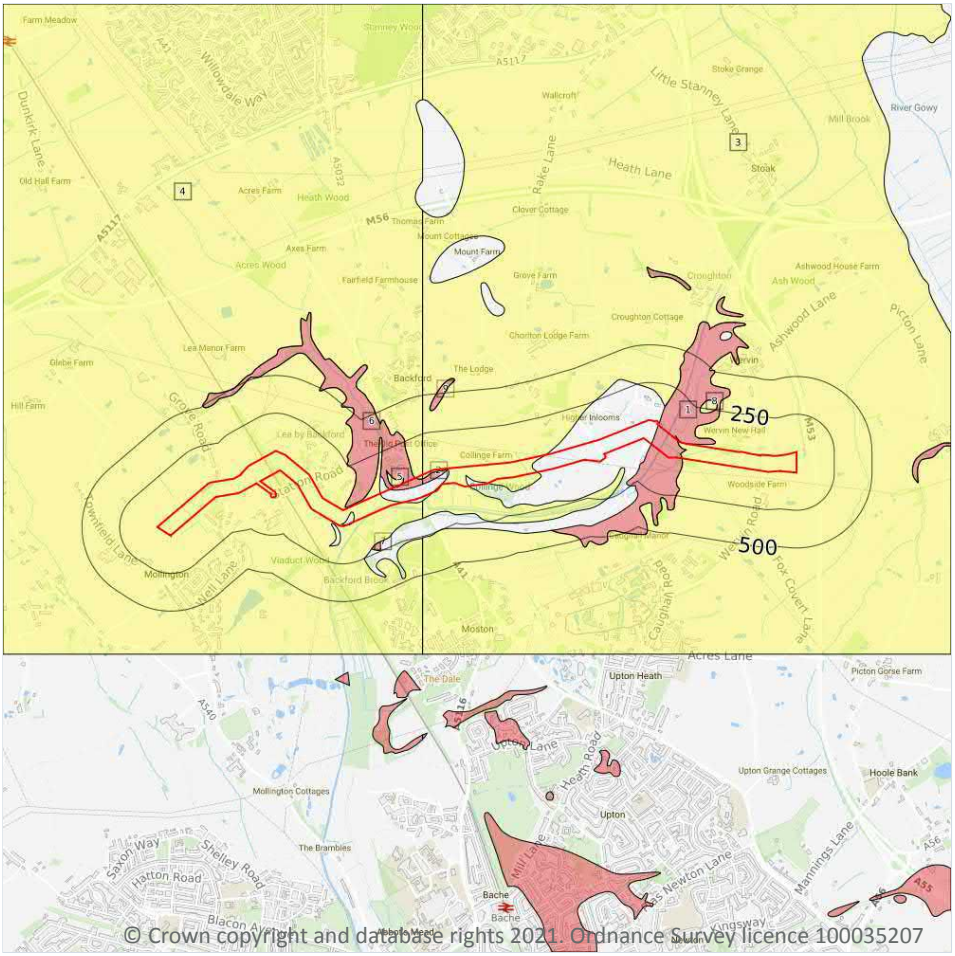
4.21 Pollution inventory radioactive waste

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	9

Aquifer status of groundwater held within superficial geology.

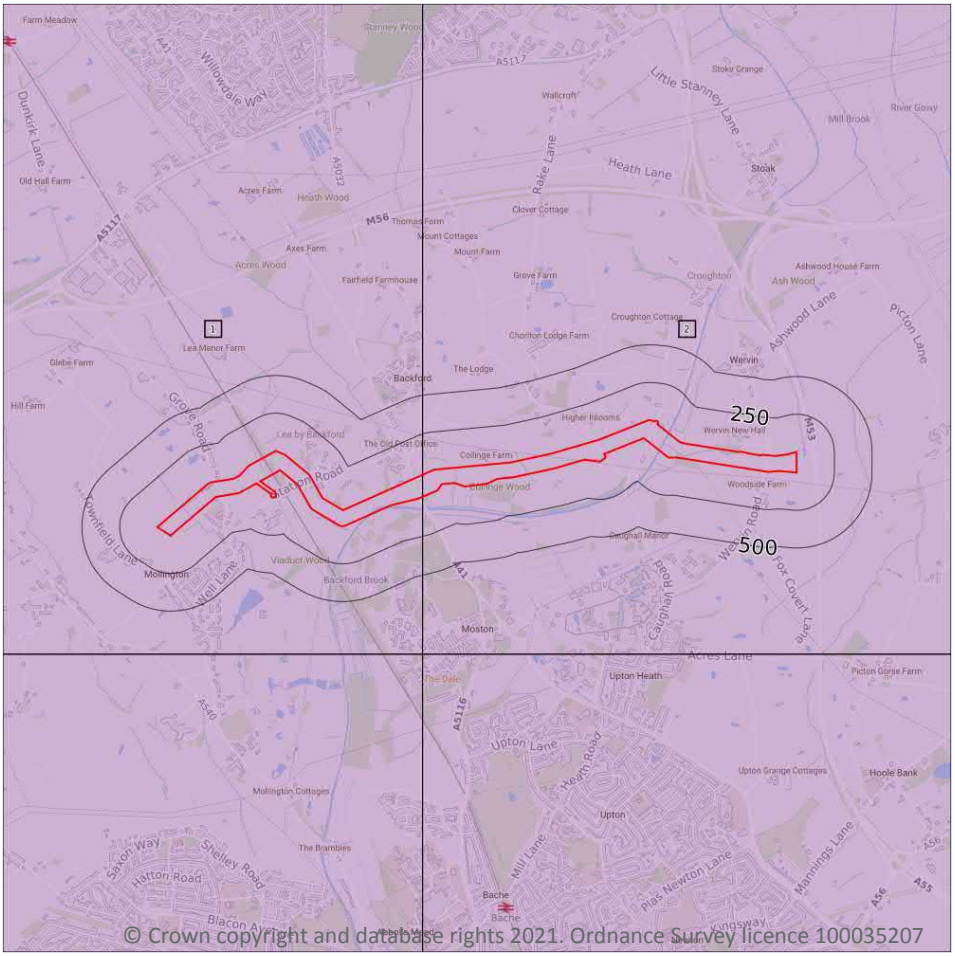
Features are displayed on the Hydrogeology map on **page 60**

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	**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**
4	**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**
5	**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**
6	**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**
7	192m 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
8	219m 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
9	391m N	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.

Bedrock aquifer



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5.2 Bedrock aquifer

Records within 500m	2

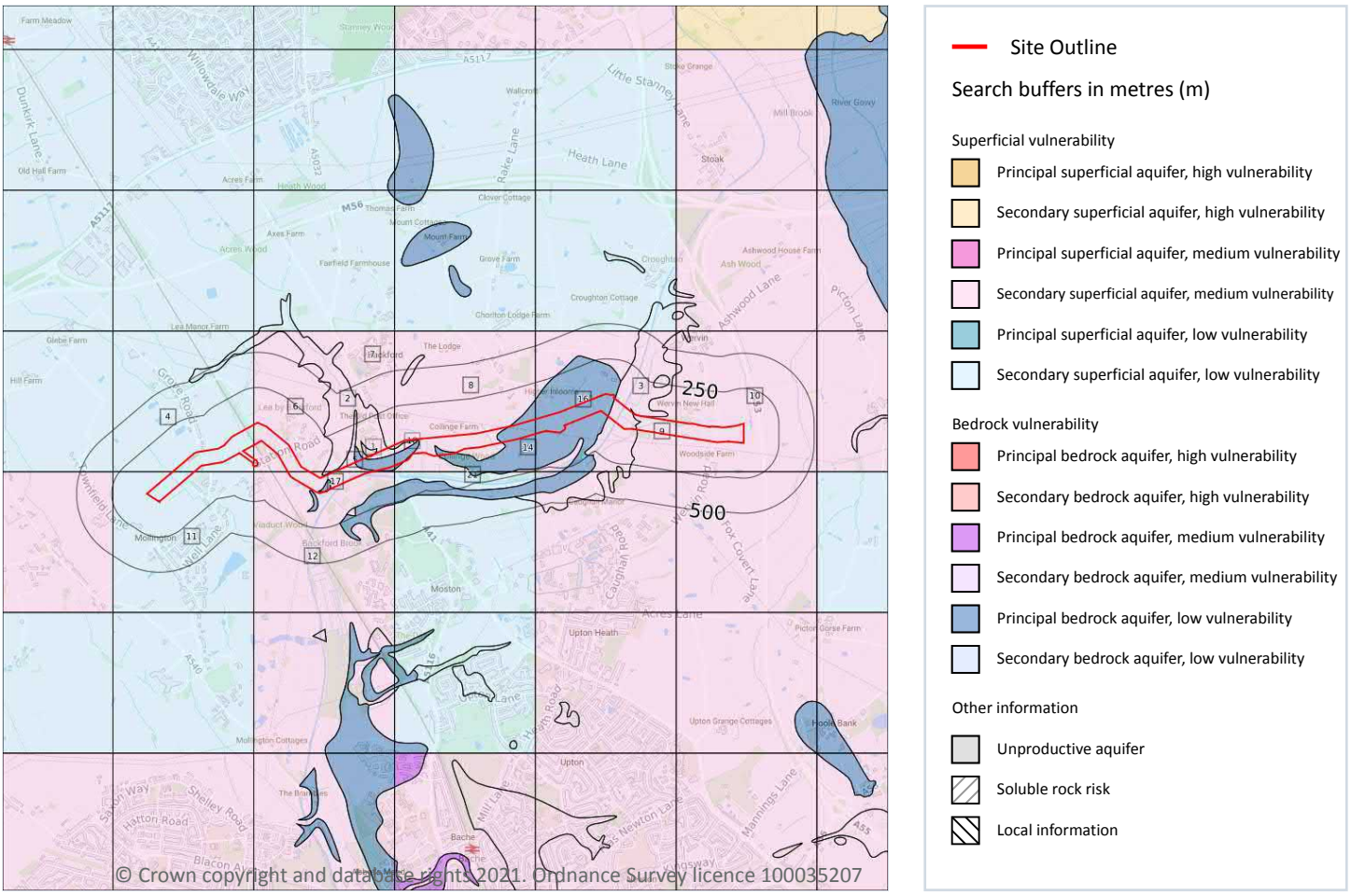
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 62**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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

Groundwater vulnerability



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5.3 Groundwater vulnerability

Records within 50m	21

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 64**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
4	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
5	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
6	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
8	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
9	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
10	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
11	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
12	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	**On site**	**Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
14	**On site**	**Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
15	**On site**	**Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
16	**On site**	**Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
17	**On site**	**Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
18	**On site**	**Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
19	6m NW	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
20	8m SW	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
21	40m SE	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

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.

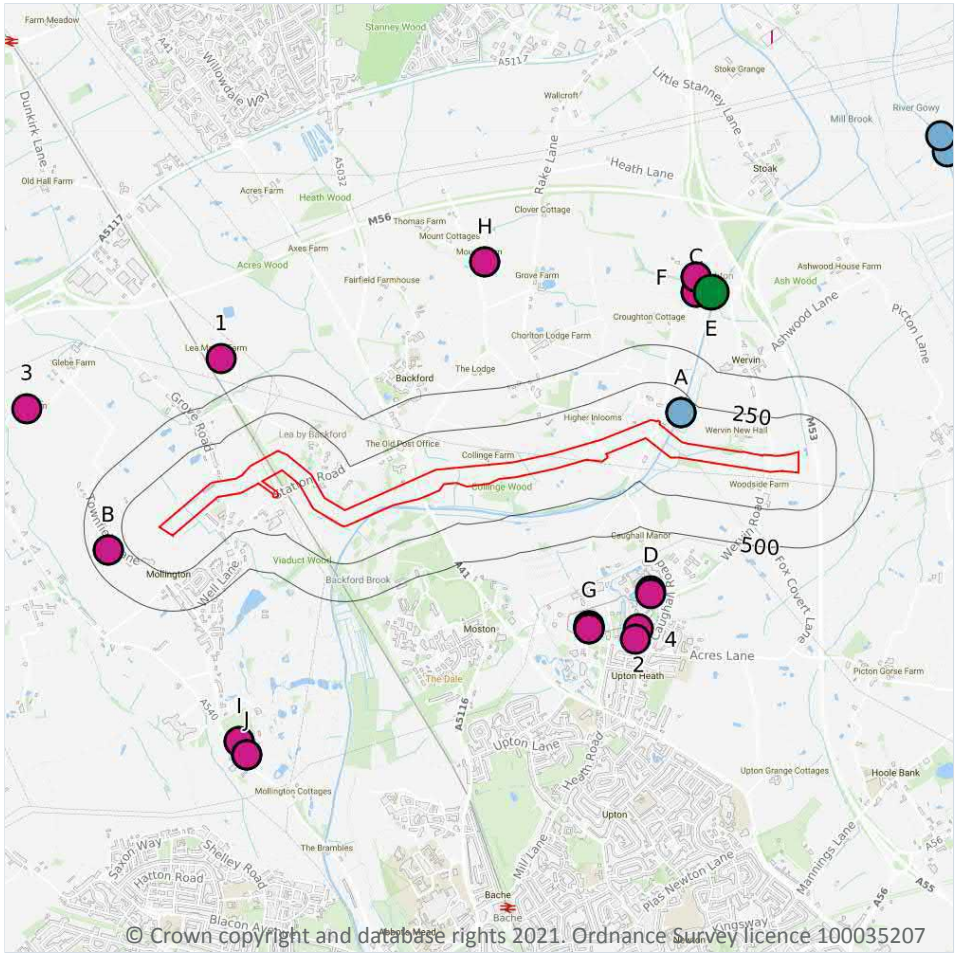
5.5 Groundwater vulnerability- local information

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



5.6 Groundwater abstractions

Records within 2000m	27

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 69**

ID	Location	Details	
B	374m SW	Status: Active Licence No: 24/67/10/0012 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Jones Easting: 337900 Northing: 370690	Annual Volume (m^3): 17,910.30 Max Daily Volume (m^3): 422.77 Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1984 Version End Date: -
B	374m SW	Status: Active Licence No: 24/67/10/0012 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Jones Easting: 337900 Northing: 370690	Annual Volume (m^3): 17,910.30 Max Daily Volume (m^3): 422.77 Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1984 Version End Date: -
1	717m NW	Status: Historical Licence No: 24/67/10/0056 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Littler Easting: 338650 Northing: 371960	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/06/1967 Expiry Date: - Issue No: 100 Version Start Date: 06/06/1967 Version End Date: -
C	887m N	Status: Historical Licence No: 2568006044 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT TOP FARM, CROUGHTON" Data Type: Point Name: BLACKBURN Easting: 341800 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/01/1974 Version End Date: -
C	887m N	Status: Historical Licence No: 2568006044 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT TOP FARM, CROUGHTON Data Type: Point Name: BLACKBURN Easting: 341800 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/01/1974 Version End Date: -

ID	Location	Details	
D	892m S	Status: Historical Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: SEALION POOL BOREHOLE Data Type: Point Name: North Of England Zoological Society Easting: 341500 Northing: 370421	Annual Volume (m^3): 150018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 23/07/1985 Version End Date: -
D	912m S	Status: Active Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: 'A' BOREHOLE Data Type: Point Name: North Of England Zoological Society Easting: 341500 Northing: 370400	Annual Volume (m^3): 150,018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/06/2007 Version End Date: -
E	920m N	Status: Historical Licence No: 2568006115 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT CROUGHTON ,NEAR CHESTER" Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
E	920m N	Status: Historical Licence No: 2568006115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT CROUGHTON ,NEAR CHESTER Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -

ID	Location	Details	
F	984m N	Status: Historical Licence No: 2568006053 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT BRIDGE FARM, CROUGHTON , NEAR CHESTER" Data Type: Point Name: MOURTFORD Easting: 341800 Northing: 372500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/06/1974 Version End Date: -
F	984m N	Status: Historical Licence No: 2568006053 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT BRIDGE FARM, CROUGHTON , NEAR CHESTER Data Type: Point Name: MOURTFORD Easting: 341800 Northing: 372500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/06/1974 Version End Date: -
G	1063m S	Status: Historical Licence No: 24/67/10/0131 Details: Animal Watering & General Use in non Farming situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/12/1999 Expiry Date: 20/12/2004 Issue No: 1 Version Start Date: 20/12/1999 Version End Date: -
G	1063m S	Status: Historical Licence No: 24/67/10/0148 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 20/12/2004 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 20/12/2004 Version End Date: -

ID	Location	Details	
G	1063m S	Status: Historical Licence No: 24/67/10/0158 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 01/04/2008 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
G	1088m S	Status: Historical Licence No: 24/67/10/0158/R01 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 03/07/2015 Expiry Date: 31/03/2021 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -
G	1088m S	Status: Active Licence No: 24/67/10/0158/R02 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 21/06/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/06/2021 Version End Date: -
G	1088m S	Status: Active Licence No: 24/67/10/0158/R01L Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 01/04/2021 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2021 Version End Date: -

ID	Location	Details	
2	1133m S	Status: Historical Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: North Of England Zoological Society Easting: 341420 Northing: 370170	Annual Volume (m^3): 150018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 23/07/1985 Version End Date: -
3	1181m NW	Status: Historical Licence No: 24/67/10/0015 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Shaw Easting: 337360 Northing: 371630	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 09/08/1966 Version End Date: -
4	1197m S	Status: Active Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: 'B' WELL Data Type: Point Name: North Of England Zoological Society Easting: 341400 Northing: 370100	Annual Volume (m^3): 150,018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/06/2007 Version End Date: -
H	1337m N	Status: Historical Licence No: 2568006005 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT MOUNT FARM, CHORLTON-BY-BACKFORD, NR CHESTER" Data Type: Point Name: LITTLER Easting: 340400 Northing: 372600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/01/1966 Version End Date: -

ID	Location	Details	
H	1337m N	Status: Historical Licence No: 2568006005 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MOUNT FARM, CHORLTON-BY-BACKFORD, NR CHESTER Data Type: Point Name: LITTLER Easting: 340400 Northing: 372600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/01/1966 Version End Date: -
I	1434m S	Status: Historical Licence No: 24/67/10/0095 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2002 Version End Date: -
I	1434m S	Status: Historical Licence No: 24/67/10/0144 Details: Water Bottling Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): 41358 Max Daily Volume (m^3): 135 Original Application No: - Original Start Date: 07/10/2003 Expiry Date: 31/03/2009 Issue No: 1 Version Start Date: 07/10/2003 Version End Date: -
J	1535m S	Status: Active Licence No: 24/67/10/0095 Details: Non-Evaporative Cooling Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -
J	1535m S	Status: Active Licence No: 24/67/10/0095 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

ID	Location	Details	
J	1535m S	Status: Active Licence No: 24/67/10/0095 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m **5**

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 69**

ID	Location	Details	
A	147m NE	Status: Historical Licence No: 2568006091 Details: General use relating to Secondary Category (Medium Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT, NR CHESTER" Data Type: Point Name: BRITISH WATERWAYS Easting: 341700 Northing: 371600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -
A	147m NE	Status: Historical Licence No: 2568006091 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT, NR CHESTER Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 341700 Northing: 371600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -

ID	Location	Details	
A	147m NE	Status: Active Licence No: 2568006091 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT NEAR CHESTER Data Type: Point Name: Canal and River Trust Easting: 341700 Northing: 371600	Annual Volume (m^3): 27,270 Max Daily Volume (m^3): 3,273 Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -
-	1598m NW	Status: Historical Licence No: 24/67/10/0151 Details: Dust Suppression Direct Source: EAW Surface Water Point: BALANCING POND AT MOLLINGTON PARISH Data Type: Point Name: Carillion Roads Easting: 337000 Northing: 371850	Annual Volume (m^3): 23562 Max Daily Volume (m^3): 178.5 Original Application No: - Original Start Date: 01/02/2007 Expiry Date: 01/12/2008 Issue No: 1 Version Start Date: 01/02/2007 Version End Date: -
-	1598m NW	Status: Historical Licence No: 24/67/10/0151 Details: Dust Suppression Direct Source: EAW Surface Water Point: UN-NAMED INLAND WATER (SAUGHALL/MOLLINGTON PARISH BOUNDARY) Data Type: Point Name: Carillion Roads Easting: 337000 Northing: 371850	Annual Volume (m^3): 23562 Max Daily Volume (m^3): 178.5 Original Application No: - Original Start Date: 01/02/2007 Expiry Date: 01/12/2008 Issue No: 1 Version Start Date: 01/02/2007 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**4**

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 69**

ID	Location	Details	
E	920m N	Status: Historical Licence No: 2568006115 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT CROUGHTON ,NEAR CHESTER" Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
E	920m N	Status: Historical Licence No: 2568006115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT CROUGHTON ,NEAR CHESTER Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
I	1434m S	Status: Historical Licence No: 24/67/10/0144 Details: Water Bottling Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338770 Northing: 369420	Annual Volume (m^3): 41358 Max Daily Volume (m^3): 135 Original Application No: - Original Start Date: 07/10/2003 Expiry Date: 31/03/2009 Issue No: 1 Version Start Date: 07/10/2003 Version End Date: -
J	1535m S	Status: Active Licence No: 24/67/10/0095 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Wild & Son (Mollington) Ltd Easting: 338820 Northing: 369330	Annual Volume (m^3): 13,636.30 Max Daily Volume (m^3): 47.73 Original Application No: - Original Start Date: 02/12/1974 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0

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.

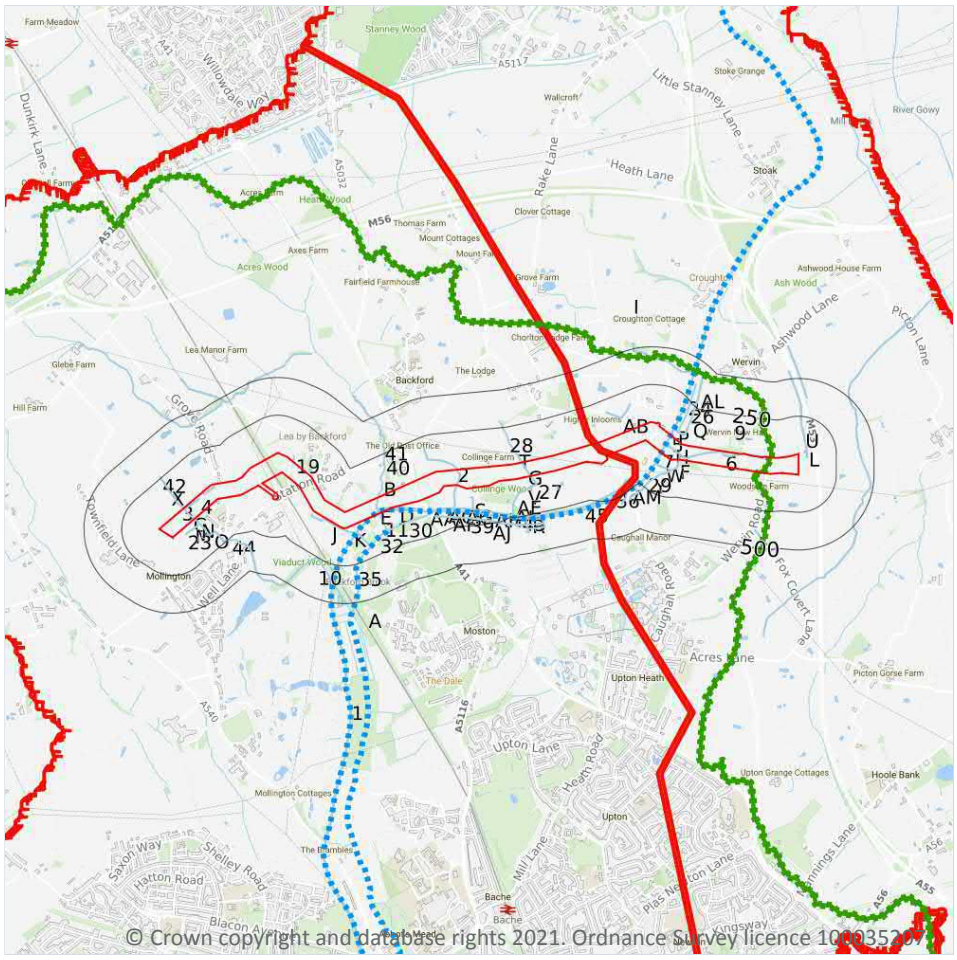
5.10 Source Protection Zones (confined aquifer)

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



6.1 Water Network (OS MasterMap)

Records within 250m	78

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 80**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**On site**	**Canal. A manmade watercourse for inland navigation.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**Shropshire Union Canal**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
4	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
E	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**Backford Brook**
E	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**Backford Brook**
F	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
G	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
H	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
19	4m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	5m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	35m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
23	39m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	39m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	42m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	42m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
24	44m NE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
P	44m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	47m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	48m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	48m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	49m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
26	49m NE	Marsh. An area that is predominantly waterlogged by freshwater.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	51m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	56m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
27	60m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	60m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	61m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
U	61m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	63m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	63m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	63m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	65m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
28	69m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	70m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	71m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	82m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	83m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
29	85m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
Q	87m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	88m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
AB	94m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	96m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AB	96m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	97m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	97m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
30	108m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	109m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
32	128m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
AF	133m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	134m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	142m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	161m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	168m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
35	179m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
36	183m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
39	195m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	195m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
40	209m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Backford Brook
41	216m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Backford Brook
42	235m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	236m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
43	236m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
44	243m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
AM	244m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shropshire Union Canal
AM	244m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	248m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
45	249m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	40

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 80**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

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 80**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
9	**On site**	**River WB catchment**	**Stanney Mill Brook**	**GB112068060260**	**Gowy**	**Weaver Gowy**
10	**On site**	**River WB catchment**	**Finchetts Gutter**	**GB111067056930**	**Dee Estuary**	**Dee**

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

6.4 WFD Surface water bodies

Records identified	3

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 80**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	**On site**	**Canal**	**Shropshire Union Canal, Market Drayton to Ellesmere Port**	**GB71210133**	**Moderate**	**Good**	**Moderate**	**2016**
33	130m SE	River	Finchetts Gutter	GB111067056930	Poor	Good	Poor	2016
-	1275m NE	River	Stanney Mill Brook	GB112068060260	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site **4**

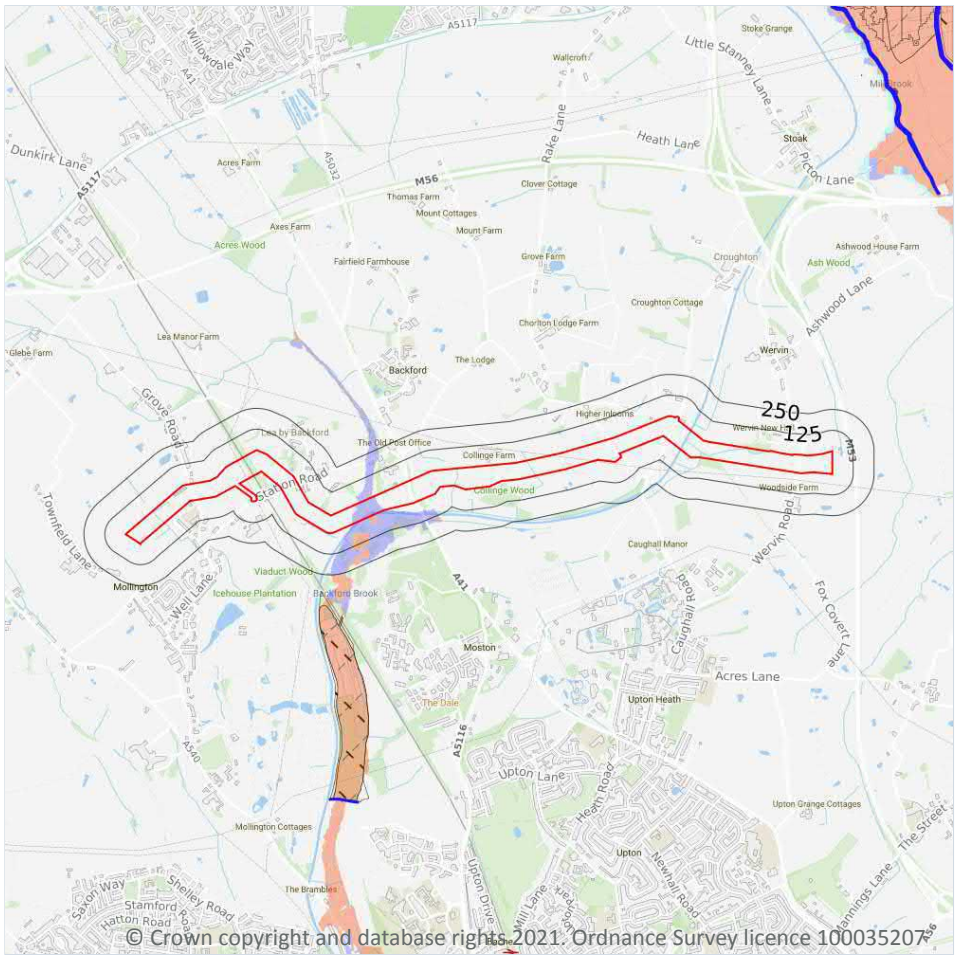
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 80**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Dee Permo-Triassic Sandstone**	**GB41101G202400**	**Good**	**Good**	**Good**	**2015**
A	**On site**	**Dee Permo-Triassic Sandstone**	**GB41101G202400**	**Good**	**Good**	**Good**	**2016**
I	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2015**
I	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2016**

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 Sea (RoFRaS)

Records within 50m	**5**

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 89**

Distance	RoFRaS flood risk
On site	**High**
0 - 50m	High

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.

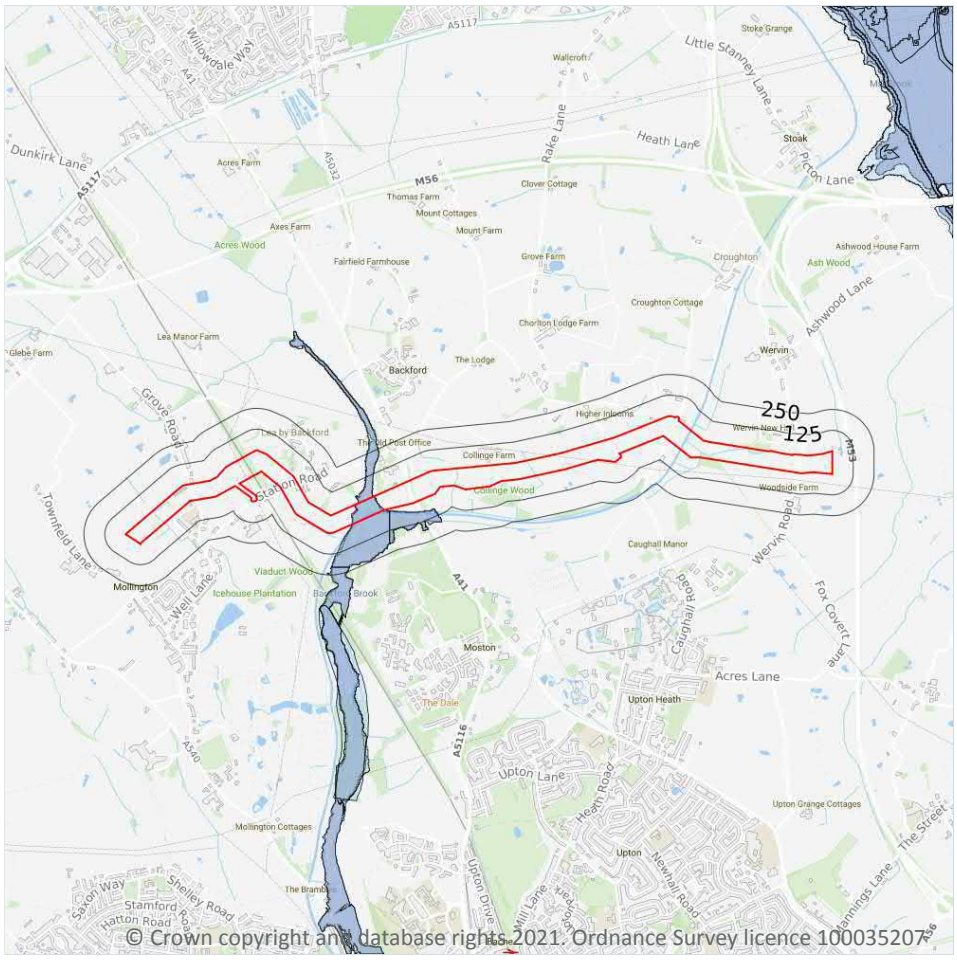
7.5 Flood Storage Areas

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	1

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.

Features are displayed on the River and coastal flooding map on **page 89**

Location	Type
On site	**Zone 2 - (Fluvial /Tidal Models)**

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

7.7 Flood Zone 3

Records within 50m	1

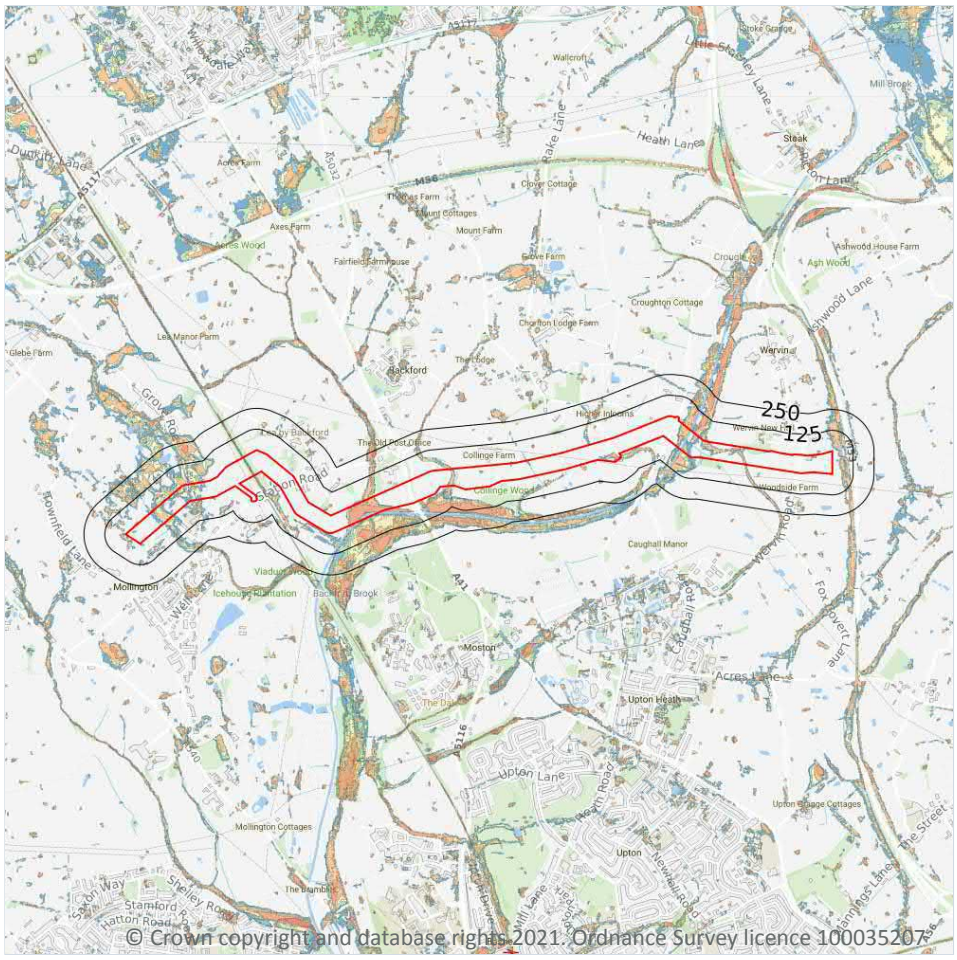
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 89**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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, Greater than 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 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 93**

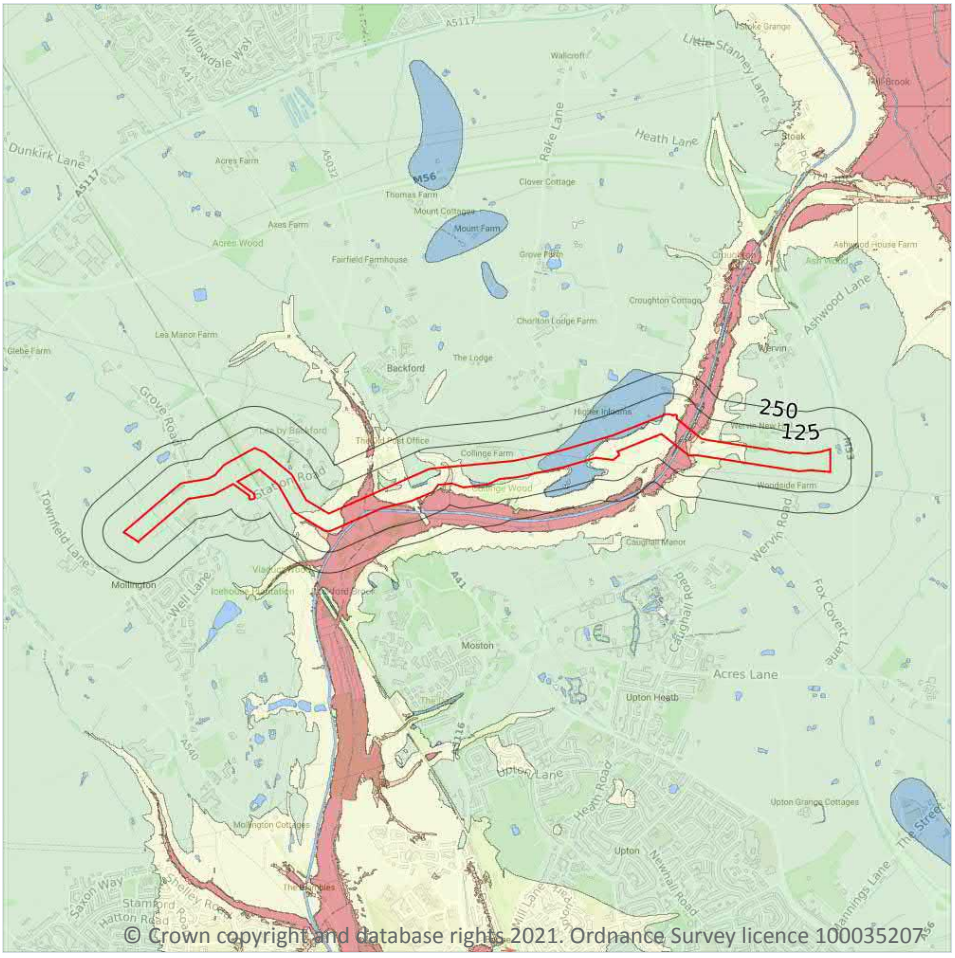
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



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9.1 Groundwater flooding

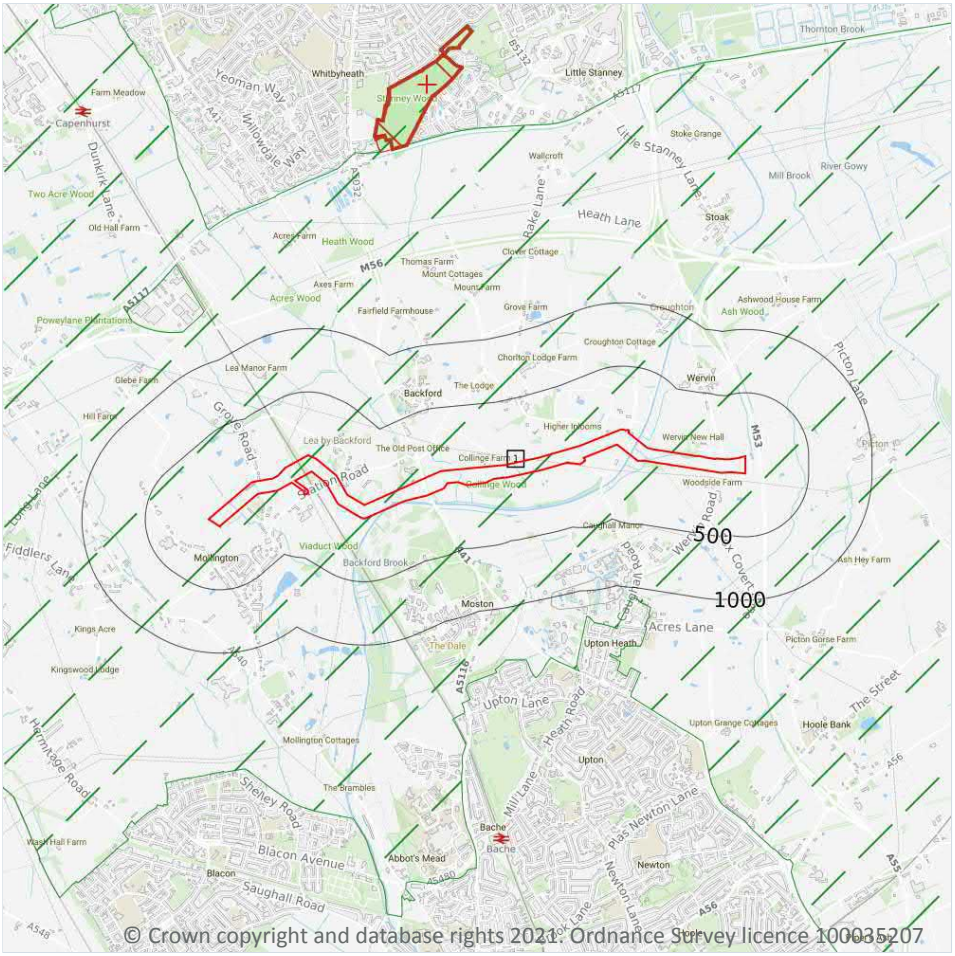
Highest risk on site	**High**
Highest risk within 50m	**High**

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 95**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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	0

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.

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 96**

ID	Location	Name	Local Authority name
1	**On site**	**Merseyside and Greater Manchester**	**Cheshire West and Chester**

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

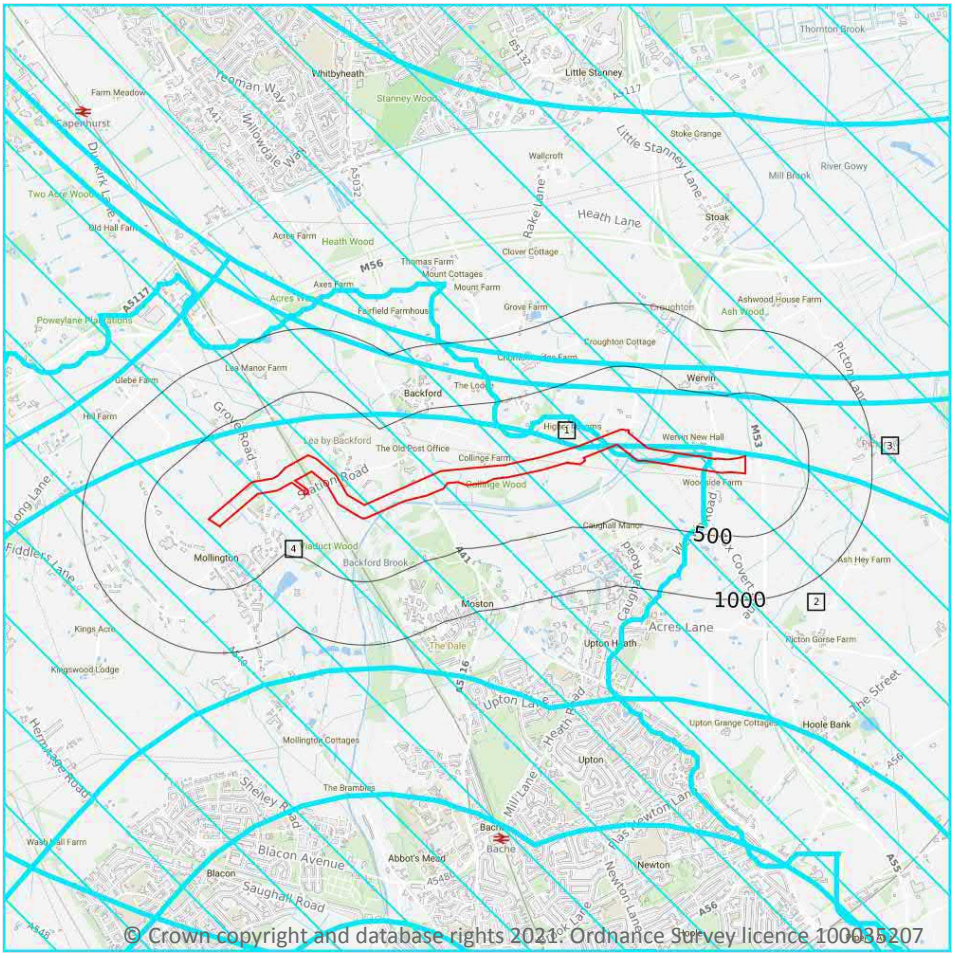
Records within 2000m	5

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.

Location	Name	Type	NVZ ID	Status
On site	**Stanney Mill Brook NVZ**	**Surface Water**	**S630**	**Existing**
1130m W	Shotwick Brook NVZ	Surface Water	S708	Existing
1354m NE	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	S629	Existing
1612m E	Stanney Mill Brook NVZ	Surface Water	S630	Existing
1612m E	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	S629	Existing

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	4

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 101**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.**
2	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)**
3	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)**
4	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.**

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.

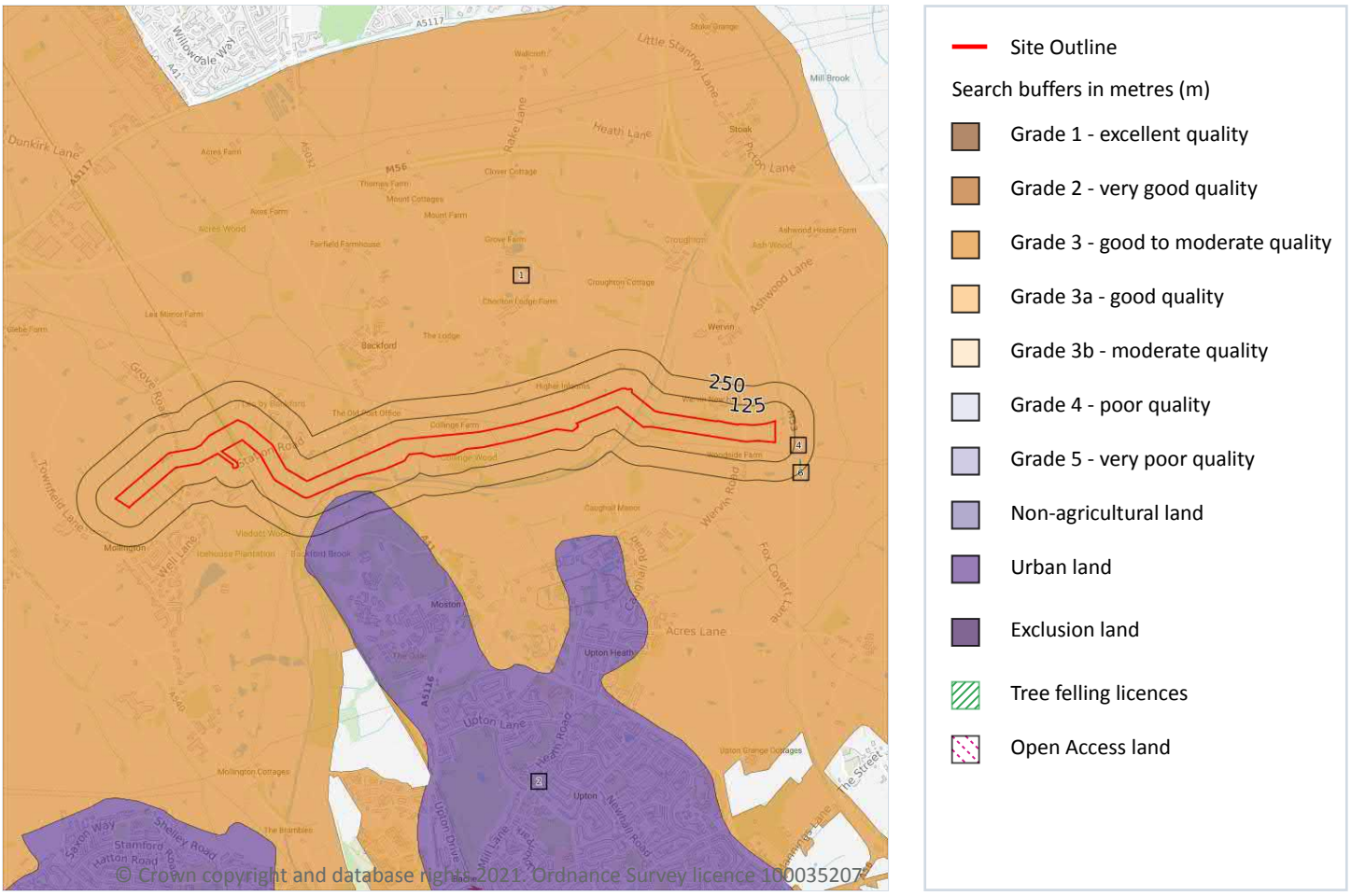
11.7 Registered Parks and Gardens

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



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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 106**

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.**
2	73m SE	Urban	-

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	4

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.

Features are displayed on the Agricultural designations map on **page 106**

ID	Location	Description	Reference	Application date
3	127m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	147m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
5	193m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	228m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	1

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
155m NW	AG00502011	Entry Level Stewardship	01/10/2013	30/09/2018

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

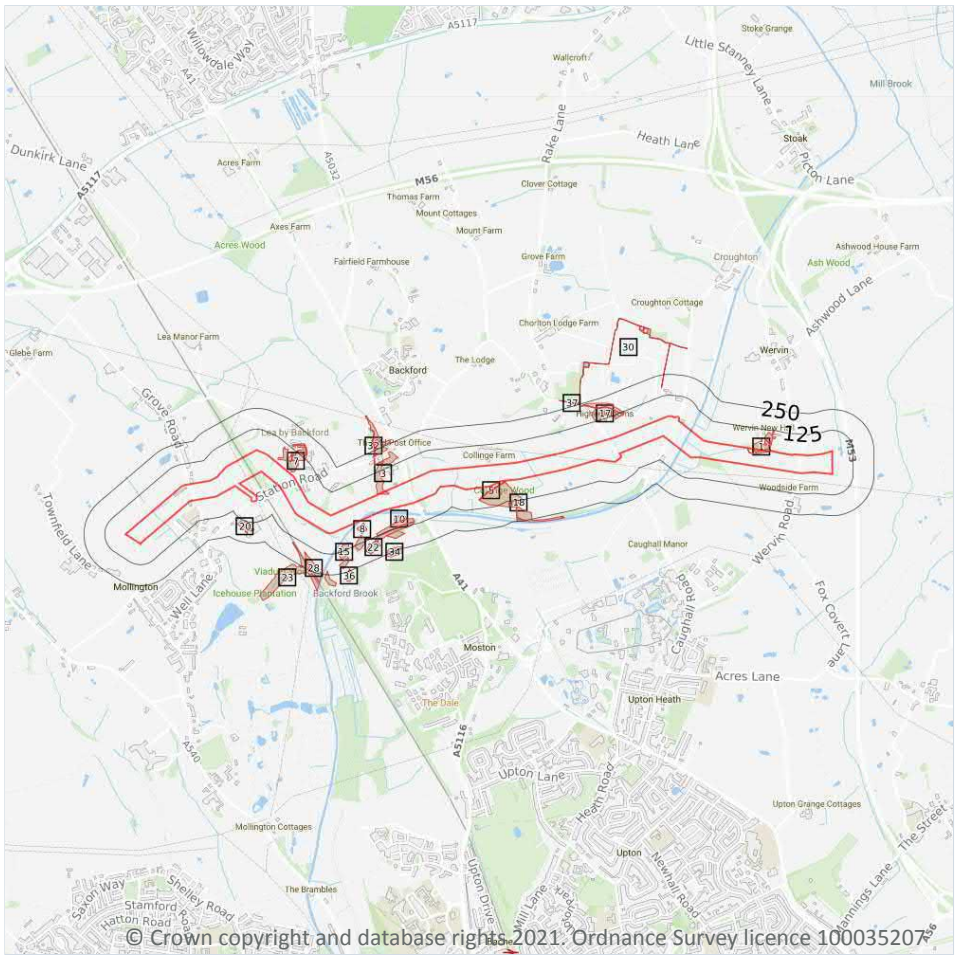
Records within 250m	**4**

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
On site	**825088**	**Countryside Stewardship (Middle Tier)**	**01/01/2020**	**31/12/2024**
106m SE	825088	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
155m NW	1057942	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
173m NW	308136	Countryside Stewardship (Middle Tier)	01/01/2017	31/12/2021

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	41

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 109**

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	3m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	8m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	13m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	20m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	21m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	47m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	52m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	75m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	82m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	84m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	90m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	100m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
17	101m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	110m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	111m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
19	115m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
20	123m S	No main habitat but additional habitats present	Additional: TORCH (INV 50%)
21	128m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	134m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	137m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	139m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
22	150m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
23	152m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
24	160m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
25	161m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
26	165m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
27	166m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
28	169m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
29	170m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
30	177m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
31	192m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
32	216m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
33	217m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
34	224m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
35	228m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
36	239m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
37	247m N	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

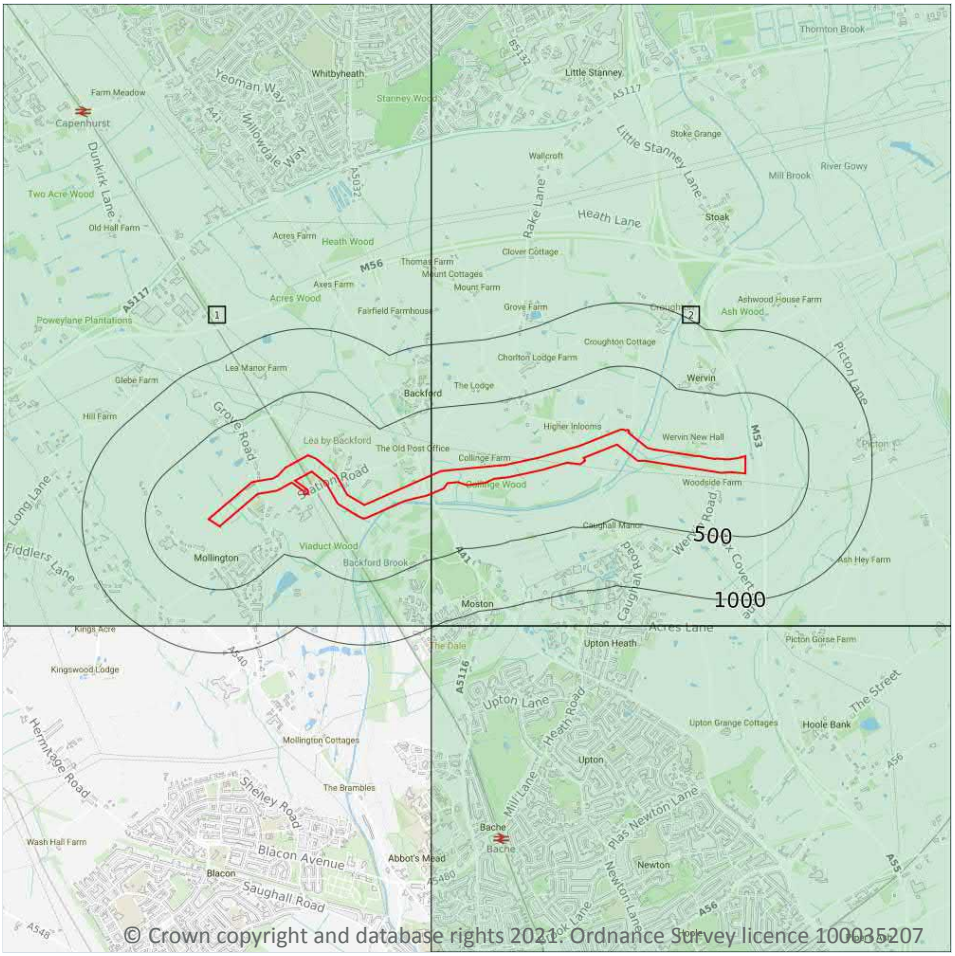
Records within 250m	**0**

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



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	2

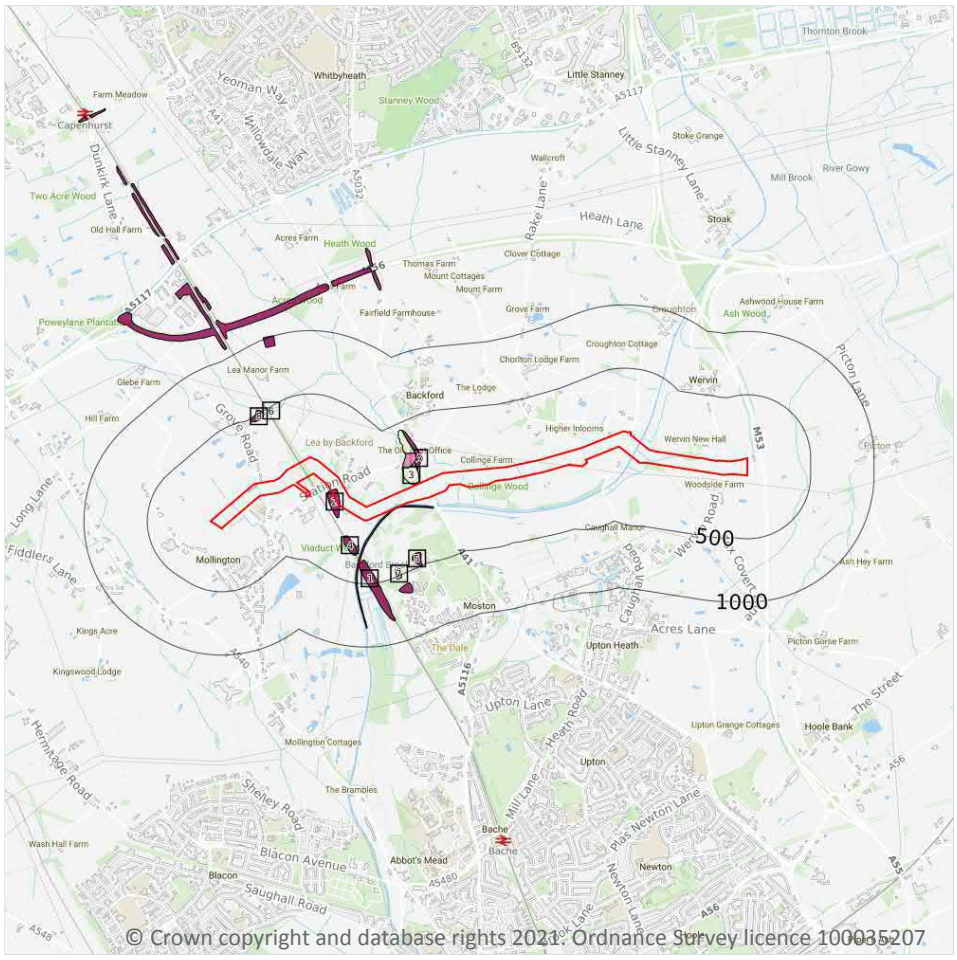
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 113**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SJ37SE
2	On site	No coverage	Full	Full	No coverage	SJ47SW

This data is sourced from the British Geological Survey.

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



14.2 Artificial and made ground (10k)

Records within 500m	11

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.

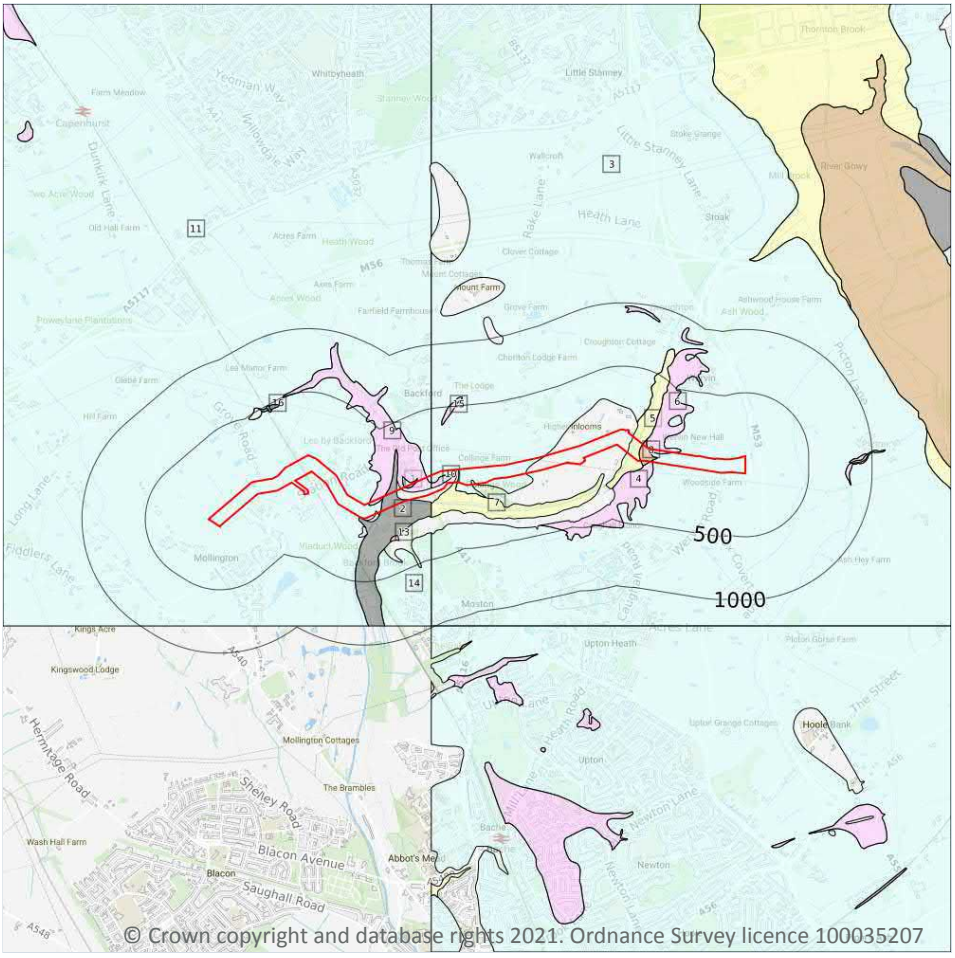
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 114**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
2	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
3	10m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	95m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
A	149m NW	WGR-VOID	Worked Ground (Undivided)	Void
4	174m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	235m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5	392m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	441m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	445m SE	WGR-VOID	Worked Ground (Undivided)	Void
8	448m NW	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 **19**

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 116**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	On site	ALV-CZ	Alluvium - Silty Clay	Clay, Silty
3	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

ID	Location	LEX Code	Description	Rock description
4	**On site**	**GFDUD-XSV**	**Glaciofluvial Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
5	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
6	**On site**	**GFDUD-XSV**	**Glaciofluvial Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
7	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
8	**On site**	**ALF-XSV**	**Alluvial Fan Deposits - Sand And Gravel**	**Sand And Gravel**
9	**On site**	**GFDUD-XSV**	**Glaciofluvial Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
10	**On site**	**GFDUD-XSV**	**Glaciofluvial Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
11	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
12	201m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
13	221m SE	ALF-XCZSV	Alluvial Fan Deposits - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
14	281m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
15	362m N	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
16	441m NW	SUPNM-UKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
17	448m NW	SUPNM-UKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
18	451m NW	ALV-CZ	Alluvium - Silty Clay	Clay, Silty
19	459m NW	ALV-CZ	Alluvium - Silty Clay	Clay, Silty

This data is sourced from the British Geological Survey.

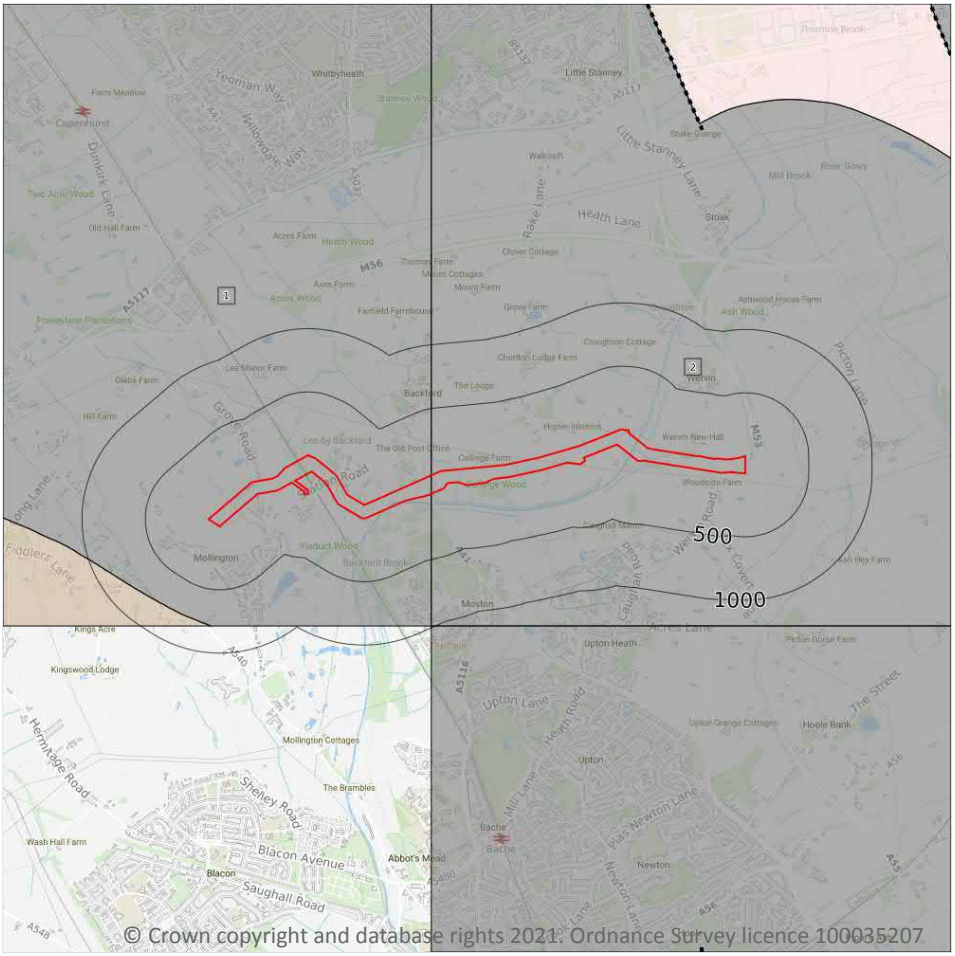
14.4 Landslip (10k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m **2**

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 118**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-PESST**	**Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone**	**Early Triassic Epoch**
2	**On site**	**CPB-PESST**	**Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone**	**Early Triassic Epoch**

This data is sourced from the British Geological Survey.

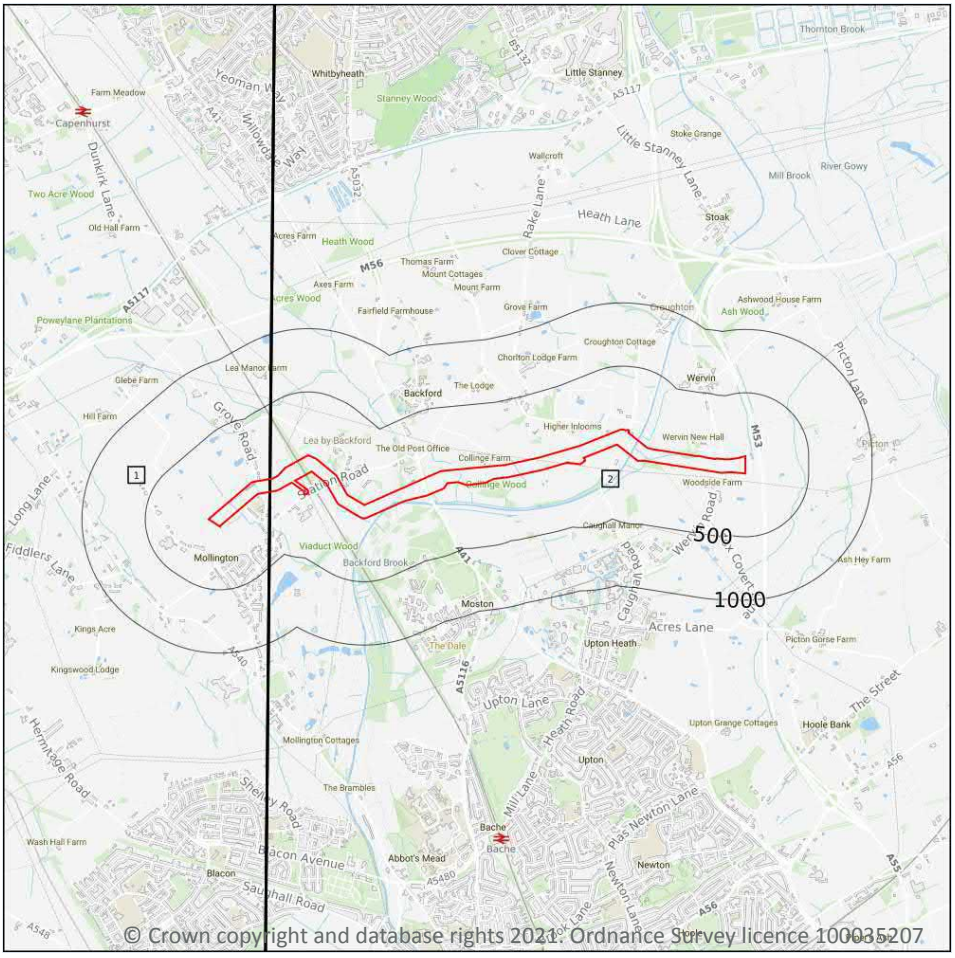
14.6 Bedrock faults and other linear features (10k)

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



15.1 50k Availability

Records within 500m	2

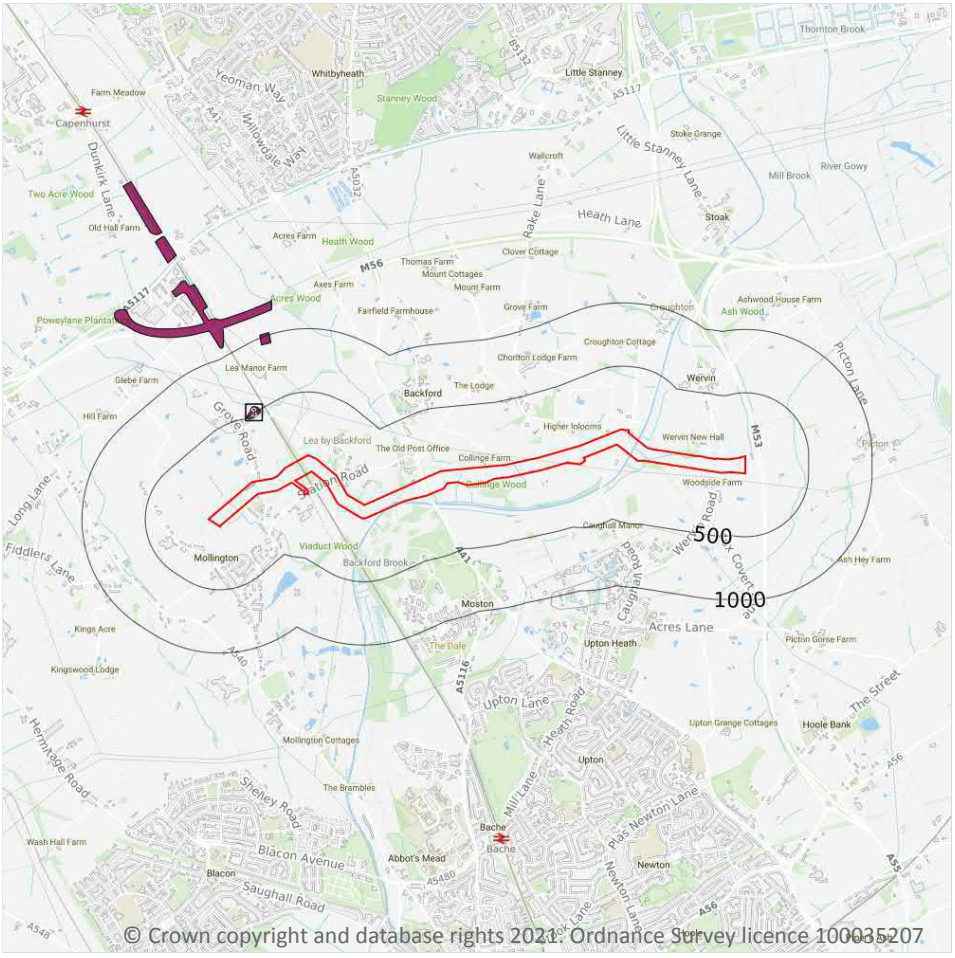
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 120**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW108_flint_v4**
2	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW109_chester_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 121**

ID	Location	LEX Code	Description	Rock description
1	470m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

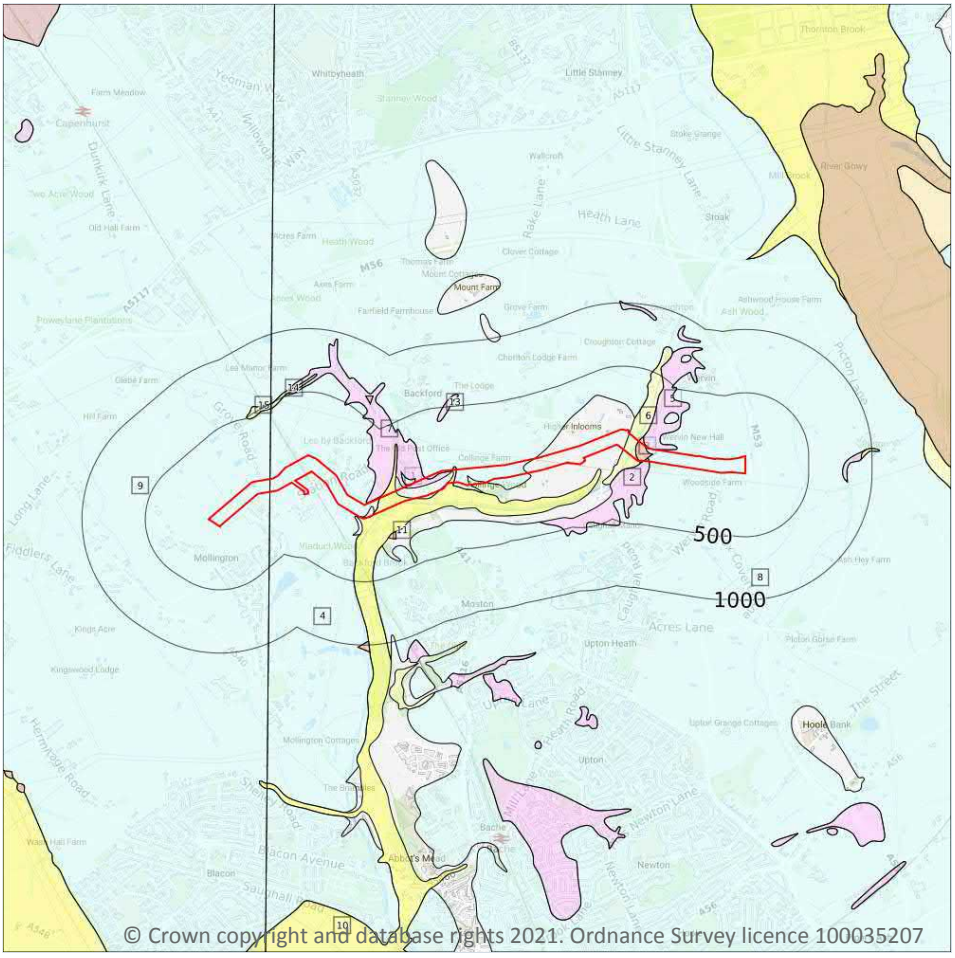
15.3 Artificial ground permeability (50k)

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 **15**

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 123**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	On site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
3	On site	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
5	**On site**	**GFDUD-XSV**	**GLACIOFLUVIAL DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
6	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**
7	**On site**	**GFDUD-XSV**	**GLACIOFLUVIAL DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
8	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
9	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
10	**On site**	**TFD-XCZS**	**TIDAL FLAT DEPOSITS**	**CLAY, SILT AND SAND**
11	192m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
12	219m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
13	391m N	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
14	463m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
15	464m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **11**

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	**Intergranular**	**Very High**	**High**
On site	**Intergranular**	**Very High**	**High**
On site	**Mixed**	**High**	**Low**
On site	**Intergranular**	**High**	**Very Low**
On site	**Intergranular**	**Moderate**	**Very Low**
On site	**Intergranular**	**Moderate**	**Very Low**
On site	**Intergranular**	**Very High**	**High**
On site	**Intergranular**	**Very High**	**High**

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Very High**	**High**
On site	**Mixed**	**High**	**Low**
On site	**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.

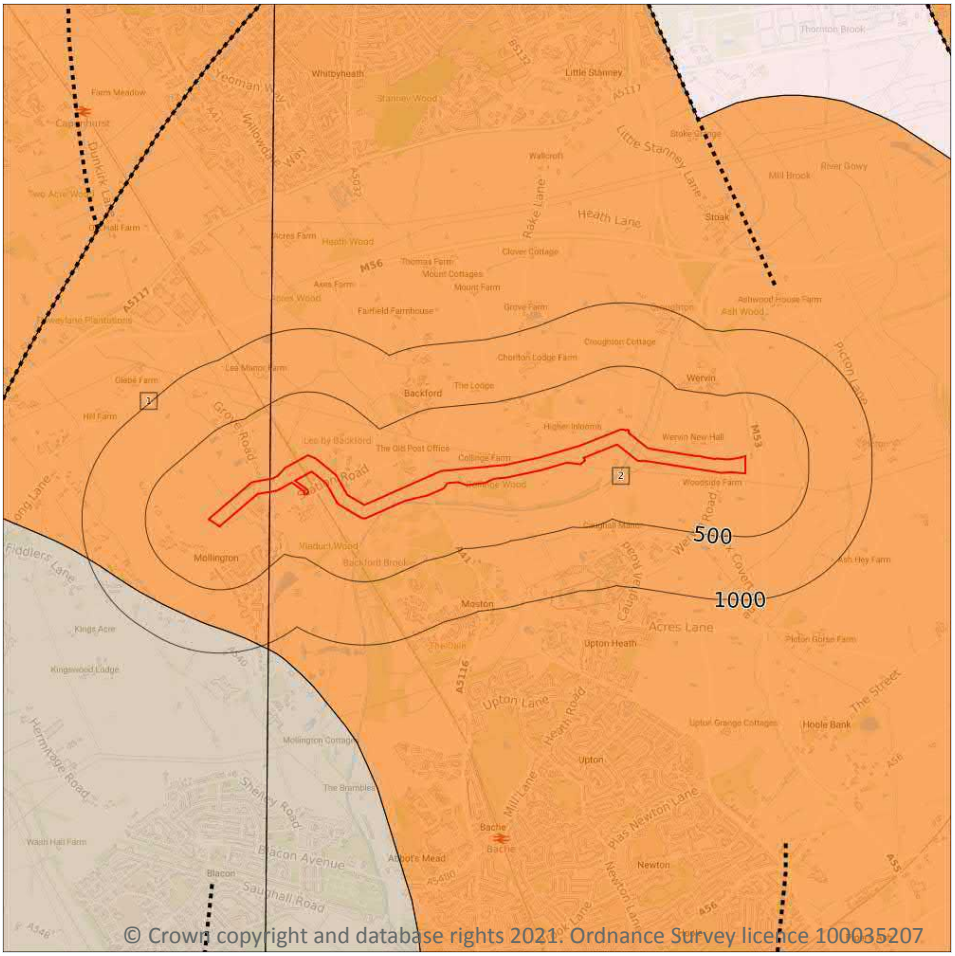
15.7 Landslip permeability (50k)

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	2

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 126**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CHES-PESST**	**CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)**	**OLENEKIAN**
2	**On site**	**CHES-PESST**	**CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)**	**OLENEKIAN**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

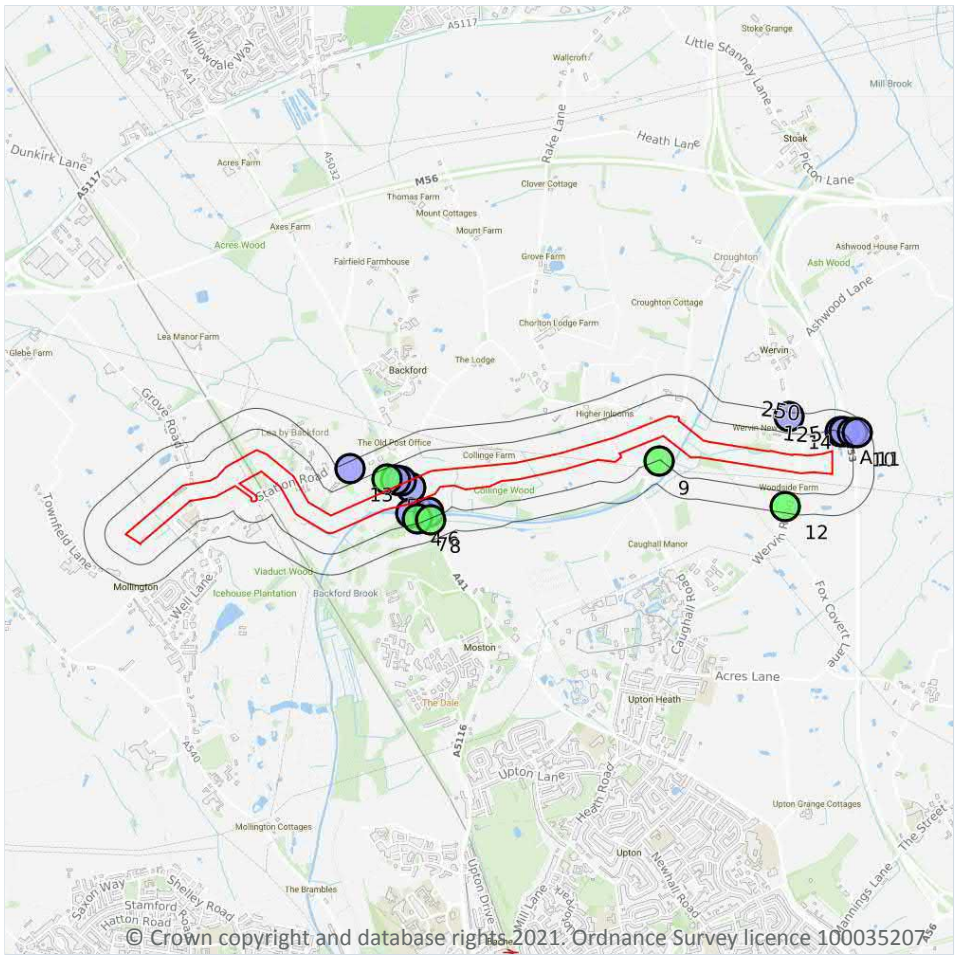
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m	16

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.

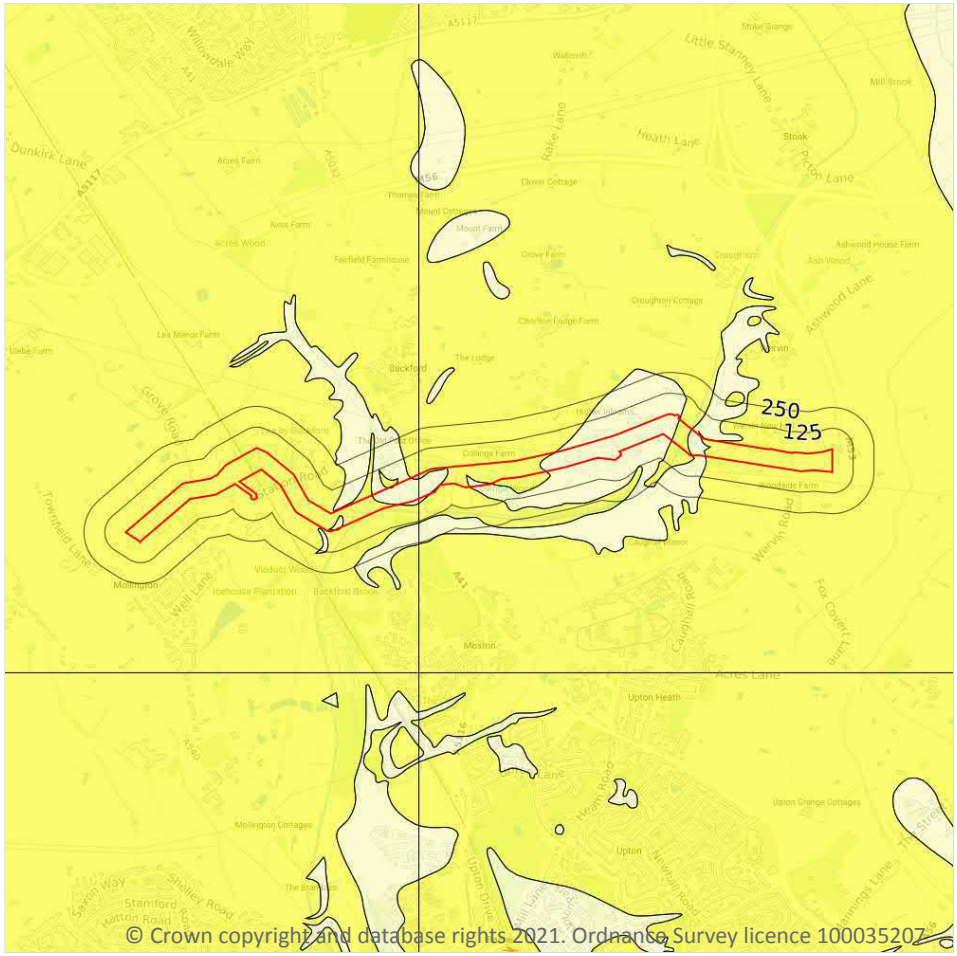
Features are displayed on the Boreholes map on **page 128**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**339954 371122**	**A53 MID WIRRAL ROAD 540**	**7.92**	**N**	**157192**
2	18m NW	339897 371163	A53 MID WIRRAL ROAD 539	8.53	N	157191
3	36m NW	339858 371166	A53 MID WIRRAL ROAD 549	6.1	N	157196

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	57m S	339954 370969	A53 MID WIRRAL ROAD 542	6.4	N	157193
5	63m NW	339810 371174	A53 MID WIRRAL ROAD 548	13.72	N	157195
6	86m SE	340058 370975	M53 MID WIRRAL RD 541	9.14	N	163627
7	96m S	339992 370938	A53 MID WIRRAL ROAD 544	13.72	N	157194
A	129m NE	342530 371460	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 14	8.15	N	163720
8	131m SE	340068 370931	M53 MID WIRRAL RD 543	18.29	N	163628
9	132m S	341440 371280	CROUGHTON ROAD CAUGHALL	30.0	N	19916607
A	138m NE	342550 371460	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 13/13A	8.1	N	163719
10	162m NE	342600 371450	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 12	8.0	N	163718
11	185m NE	342630 371450	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 11	8.0	N	163717
12	211m S	342200 371010	WERVIN ESTATE	19.81	N	163577
13	212m NW	339589 371239	A53 MID WIRRAL ROAD 537	8.53	N	157190
14	225m N	342220 371550	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 15	8.45	N	163721

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	3

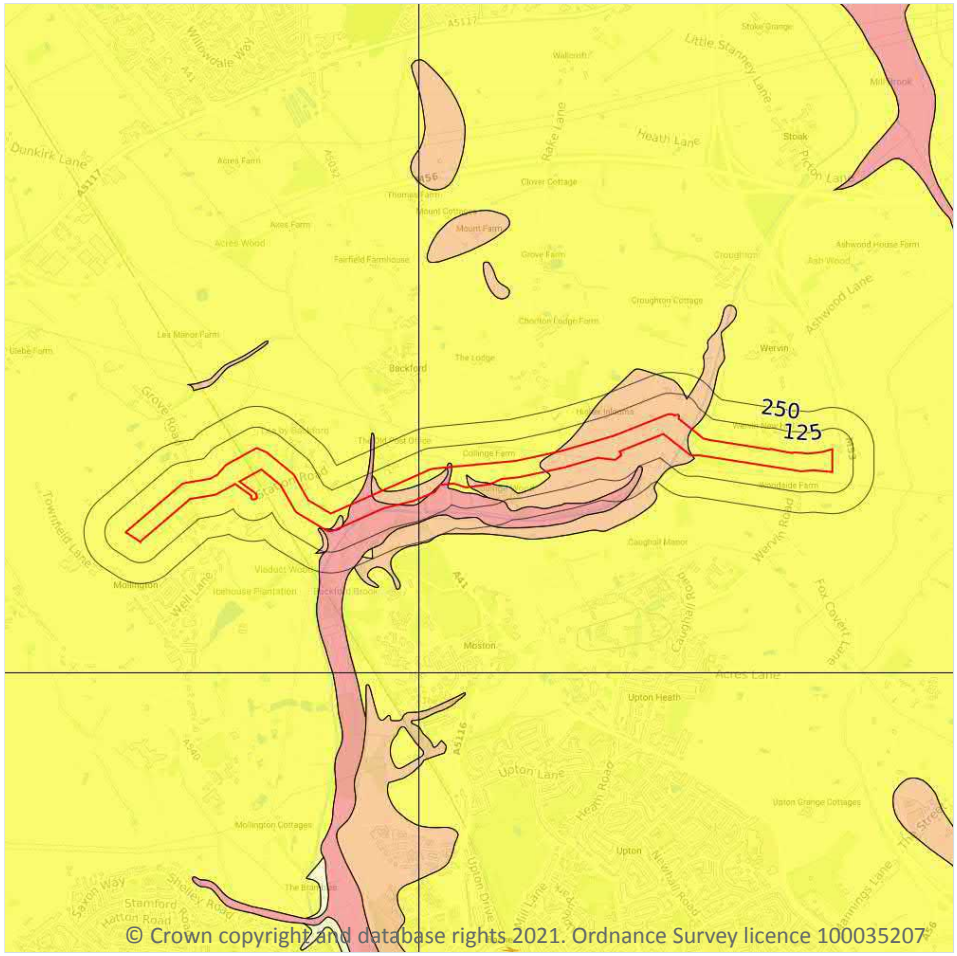
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 130**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**
8m SW	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

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.

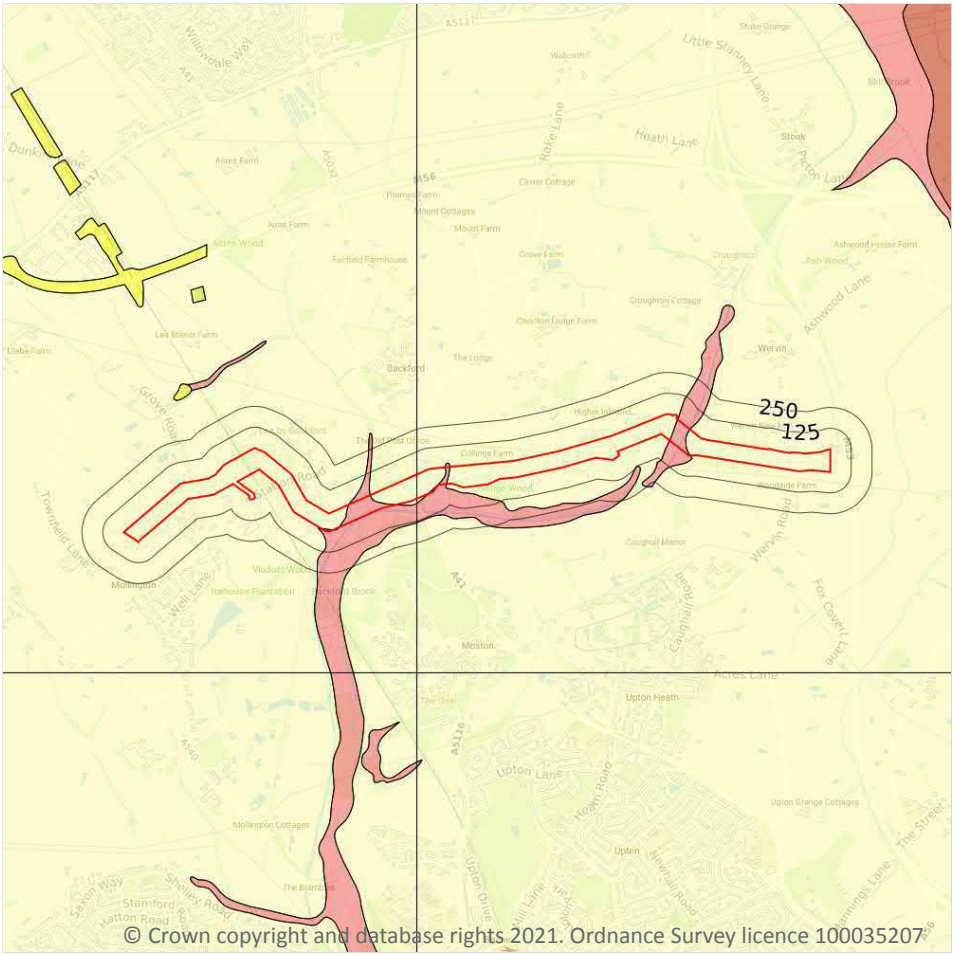
Features are displayed on the Natural ground subsidence - Running sands map on **page 132**

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
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**
On site	**Moderate**	**Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.**
8m SW	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

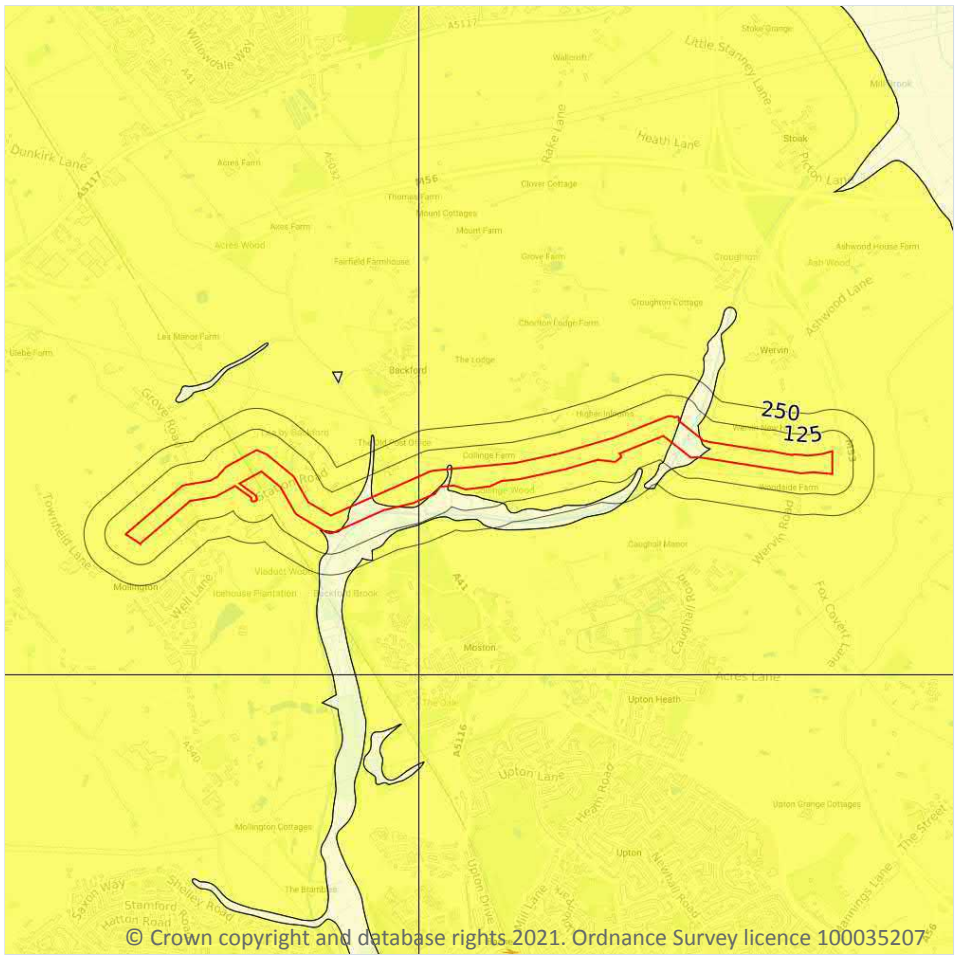
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 134**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m	2

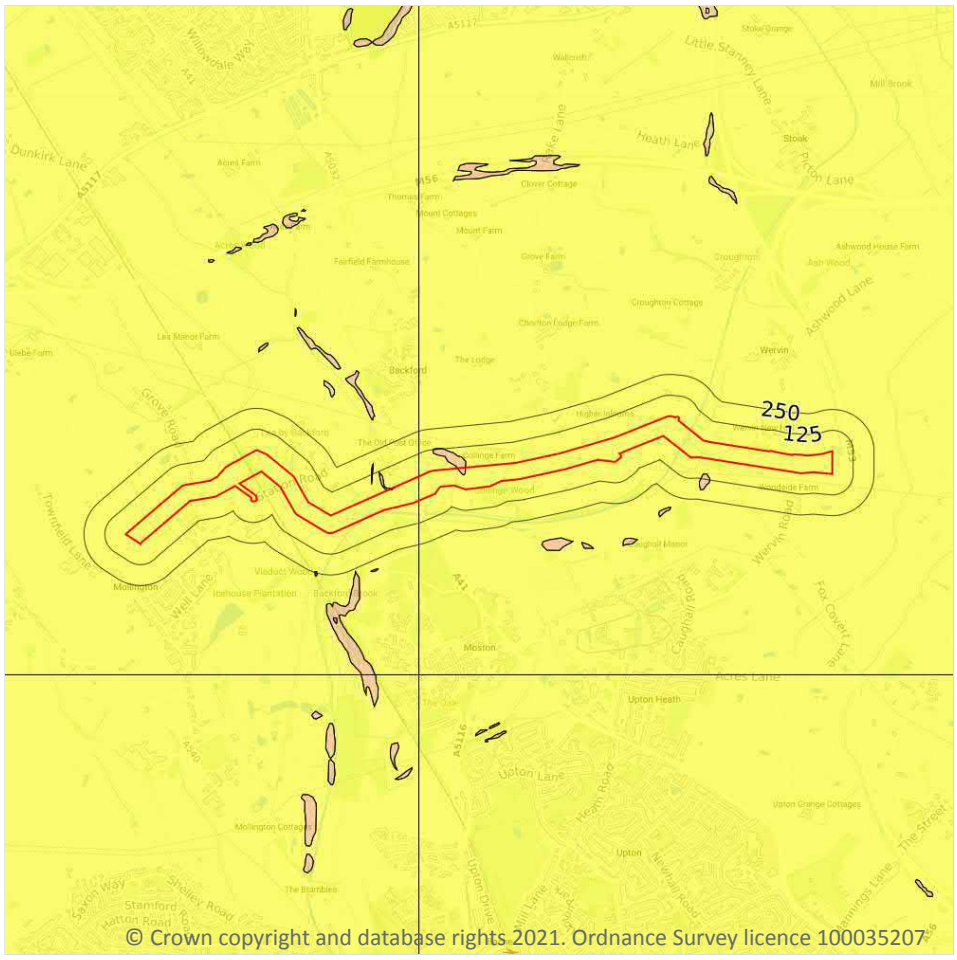
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 136**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	2

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

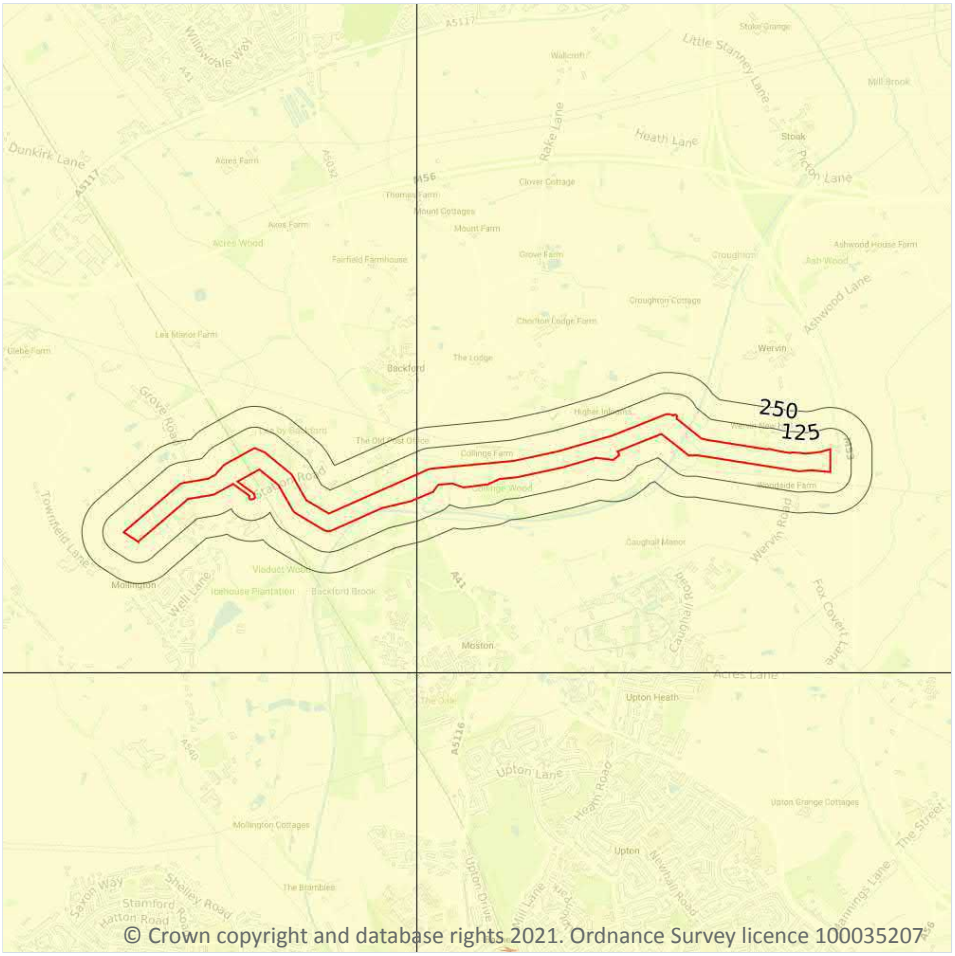
Features are displayed on the Natural ground subsidence - Landslides map on **page 137**

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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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 139**

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	3

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 141**

ID	Location	Details	Description
N	85m S	Name: Chorlton Address: Chorlton, Backford, CHESTER, Cheshire 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
K	121m NW	Name: Church Farm Sand Pit Address: Backford, CHESTER, Cheshire Commodity: Sand 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
Z	182m NW	Name: Mollington Brick Field Address: Mollington, CHESTER, Cheshire 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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	164

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 141**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Cuttings**	**1938**	**1:10560**
A	**On site**	**Cuttings**	**1989**	**1:10000**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Cuttings	1968	1:10560
A	On site	Cuttings	1948	1:10560
A	On site	Cuttings	1978	1:10000
A	On site	Cuttings	1898	1:10560
A	On site	Cuttings	1913	1:10560
A	On site	Cuttings	1909	1:10560
A	On site	Cuttings	1909	1:10560
B	On site	Ponds	1968	1:10560
B	On site	Ponds	1948	1:10560
B	On site	Ponds	1978	1:10000
B	On site	Ponds	1898	1:10560
B	On site	Pond	1938	1:10560
B	On site	Ponds	1913	1:10560
B	On site	Pond	1909	1:10560
B	On site	Pond	1909	1:10560
C	On site	Pond	1989	1:10000
C	On site	Pond	1968	1:10560
C	On site	Pond	1978	1:10000
D	On site	Canal	1989	1:10000
D	On site	Canal	1968	1:10560
D	On site	Canal	1948	1:10560
D	On site	Canal	1978	1:10000
E	On site	Pond	1968	1:10560
E	On site	Ponds	1948	1:10560
E	On site	Ponds	1978	1:10000
E	On site	Ponds	1898	1:10560
E	On site	Ponds	1938	1:10560
E	On site	Ponds	1913	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
F	**On site**	**Canal**	**1983**	**1:10000**
F	**On site**	**Canal**	**1967**	**1:10560**
F	**On site**	**Canal**	**1949**	**1:10560**
G	**On site**	**Ponds**	**1949**	**1:10560**
G	**On site**	**Ponds**	**1938**	**1:10560**
G	**On site**	**Ponds**	**1898**	**1:10560**
G	**On site**	**Ponds**	**1912**	**1:10560**
H	**On site**	**Canal**	**1938**	**1:10560**
H	**On site**	**Canal**	**1898**	**1:10560**
H	**On site**	**Canal**	**1912**	**1:10560**
H	**On site**	**Canal**	**1908**	**1:10560**
H	**On site**	**Canal**	**1908**	**1:10560**
H	**On site**	**Canal**	**1908**	**1:10560**
I	**On site**	**Canal**	**1898**	**1:10560**
I	**On site**	**Canal**	**1938**	**1:10560**
I	**On site**	**Canal**	**1913**	**1:10560**
I	**On site**	**Canal**	**1909**	**1:10560**
I	**On site**	**Canal**	**1909**	**1:10560**
3	2m NW	Refuse Heap	1968	1:10560
J	4m NW	Unspecified Heap	1968	1:10560
J	4m NW	Unspecified Heap	1978	1:10000
C	5m NE	Pond	1948	1:10560
C	6m NE	Pond	1938	1:10560
C	6m NE	Pond	1909	1:10560
C	6m NE	Pond	1909	1:10560
C	7m NE	Pond	1913	1:10560
K	9m NW	Sand Pit	1948	1:10560
L	36m NE	Ponds	1968	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
L	36m NE	Ponds	1978	1:10000
L	36m NE	Pond	1913	1:10560
M	37m E	Pond	1983	1:10000
M	37m E	Pond	1967	1:10560
M	37m E	Pond	1949	1:10560
M	37m NE	Pond	1912	1:10560
M	39m E	Pond	1908	1:10560
M	39m E	Pond	1908	1:10560
M	39m E	Pond	1908	1:10560
L	41m NE	Pond	1989	1:10000
M	42m E	Pond	1938	1:10560
M	42m E	Pond	1898	1:10560
N	49m S	Ponds	1908	1:10560
N	49m S	Ponds	1908	1:10560
N	49m S	Ponds	1908	1:10560
N	50m S	Ponds	1949	1:10560
N	53m S	Pond	1983	1:10000
N	53m S	Pond	1967	1:10560
N	61m S	Unspecified Old Quarry	1898	1:10560
O	62m NW	Pond	1909	1:10560
O	62m NW	Pond	1909	1:10560
N	62m SE	Pond	1938	1:10560
N	62m SE	Pond	1898	1:10560
N	62m S	Pond	1912	1:10560
O	63m NW	Pond	1938	1:10560
O	64m NW	Pond	1948	1:10560
O	64m NW	Pond	1898	1:10560
O	64m NW	Pond	1913	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
P	67m NW	Unspecified Pit	1948	1:10560
P	69m NW	Unspecified Pit	1913	1:10560
K	71m NW	Sand Pit	1912	1:10560
K	71m NW	Sand Pit	1938	1:10560
K	73m NW	Sand Pit	1908	1:10560
K	73m NW	Sand Pit	1908	1:10560
K	73m NW	Sand Pit	1908	1:10560
Q	77m S	Pond	1938	1:10560
Q	77m S	Pond	1898	1:10560
Q	77m S	Pond	1912	1:10560
Q	81m S	Pond	1967	1:10560
Q	81m S	Pond	1949	1:10560
R	99m N	Pond	1938	1:10560
R	99m N	Pond	1949	1:10560
S	102m S	Pond	1938	1:10560
S	102m S	Pond	1898	1:10560
K	102m NW	Sand Pit	1898	1:10560
S	102m S	Pond	1912	1:10560
R	103m N	Pond	1912	1:10560
R	104m N	Ponds	1898	1:10560
S	104m S	Pond	1908	1:10560
S	104m S	Pond	1908	1:10560
S	104m S	Pond	1908	1:10560
S	105m S	Pond	1967	1:10560
S	105m S	Pond	1949	1:10560
T	108m N	Ponds	1983	1:10000
T	108m N	Ponds	1967	1:10560
T	108m N	Ponds	1949	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
U	112m N	Unspecified Heaps	1983	1:10000
U	112m N	Unspecified Heaps	1967	1:10560
V	112m S	Canal	1938	1:10560
V	112m S	Canal	1898	1:10560
V	117m S	Canal	1913	1:10560
W	133m N	Unspecified Heaps	1983	1:10000
W	133m N	Unspecified Heaps	1967	1:10560
K	136m NW	Unspecified Pit	1989	1:10000
K	136m NW	Unspecified Pit	1968	1:10560
K	136m NW	Unspecified Pit	1978	1:10000
X	140m NE	Pond	1898	1:10560
X	140m NE	Pond	1913	1:10560
Y	141m N	Pond	1949	1:10560
Y	144m N	Pond	1908	1:10560
Y	144m N	Pond	1908	1:10560
Y	144m N	Pond	1908	1:10560
Y	145m N	Pond	1938	1:10560
Y	145m N	Pond	1898	1:10560
Y	145m N	Pond	1912	1:10560
4	156m NE	Pond	1938	1:10560
Z	158m NW	Pond	1989	1:10000
Z	158m NW	Pond	1968	1:10560
Z	158m NW	Pond	1978	1:10000
Z	165m NW	Brick Field	1948	1:10560
Z	165m NW	Brick Field	1938	1:10560
Z	165m NW	Brick Field	1938	1:10560
Z	167m NW	Brick Field	1909	1:10560
Z	167m NW	Brick Field	1909	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Z	168m NW	Brick Field	1913	1:10560
Z	168m NW	Brick Field	1898	1:10560
Z	169m NW	Pond	1948	1:10560
Z	169m NW	Pond	1938	1:10560
Z	170m NW	Pond	1909	1:10560
Z	170m NW	Pond	1909	1:10560
Z	170m NW	Pond	1913	1:10560
Z	170m NW	Ponds	1898	1:10560
5	191m S	Pond	1983	1:10000
6	203m S	Ponds	1948	1:10560
7	211m E	Pond	1967	1:10560
AA	213m NE	Pond	1967	1:10560
AA	213m NE	Pond	1949	1:10560
AA	215m NE	Pond	1908	1:10560
AA	215m NE	Pond	1908	1:10560
AA	215m NE	Pond	1908	1:10560
AA	215m NE	Pond	1938	1:10560
AA	215m NE	Pond	1898	1:10560
AA	215m NE	Pond	1912	1:10560
AB	226m NW	Unspecified Ground Workings	1968	1:10560
AB	227m NW	Sand Pit	1948	1:10560
AB	231m NW	Unspecified Ground Workings	1978	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**2**

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 141**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
2	**On site**	**Collinge Farm**	**Sand**	**Surface mineral working**	**Withdrawn**	**9/1/59**
13	470m NW	Backford	Sand and gravel	Surface mineral working	Application	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**0**

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).

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	0

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

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

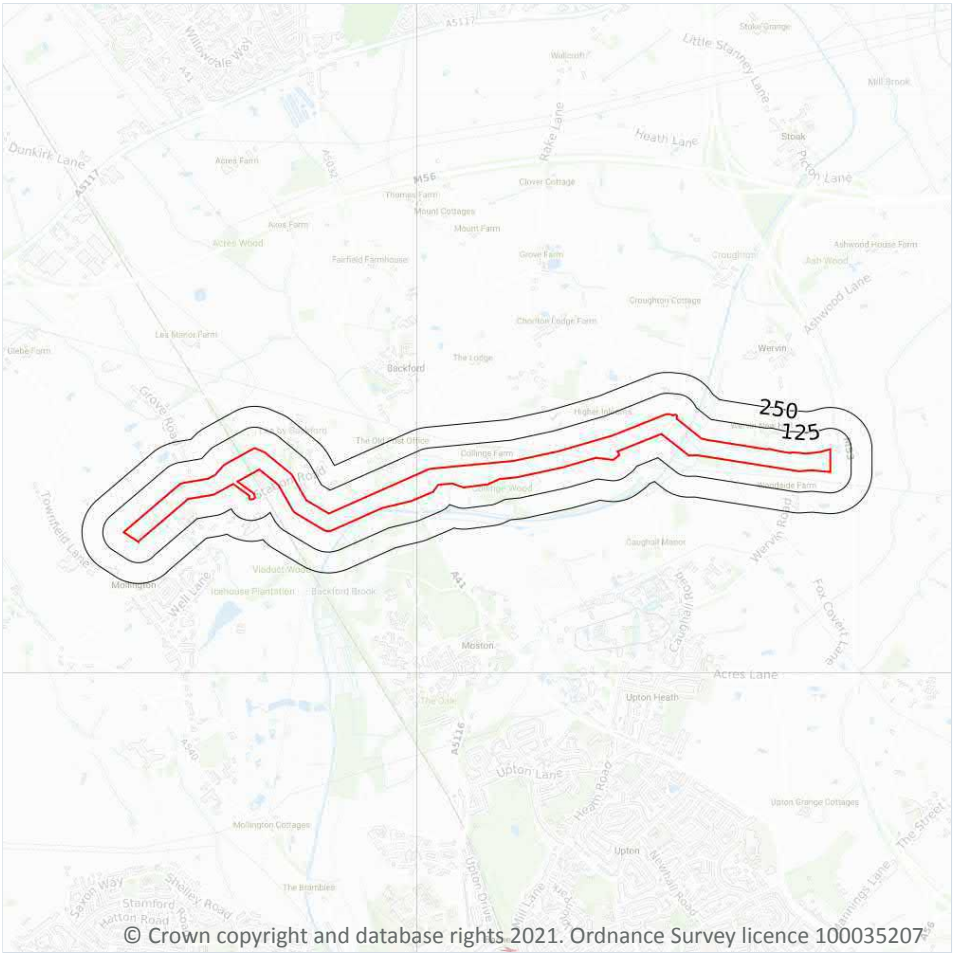
18.13 Clay mining

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



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19.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 151**

Location	Estimated properties affected	Radon Protection Measures required
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 **51**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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 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 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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**
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**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 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**
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 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**
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 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**
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**
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**	**90 - 120 mg/kg**	**15 - 30 mg/kg**
6m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
6m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
8m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
20m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
26m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
30m W	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
38m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
41m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m S	15 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 km^2).

This data is sourced from the British Geological Survey.

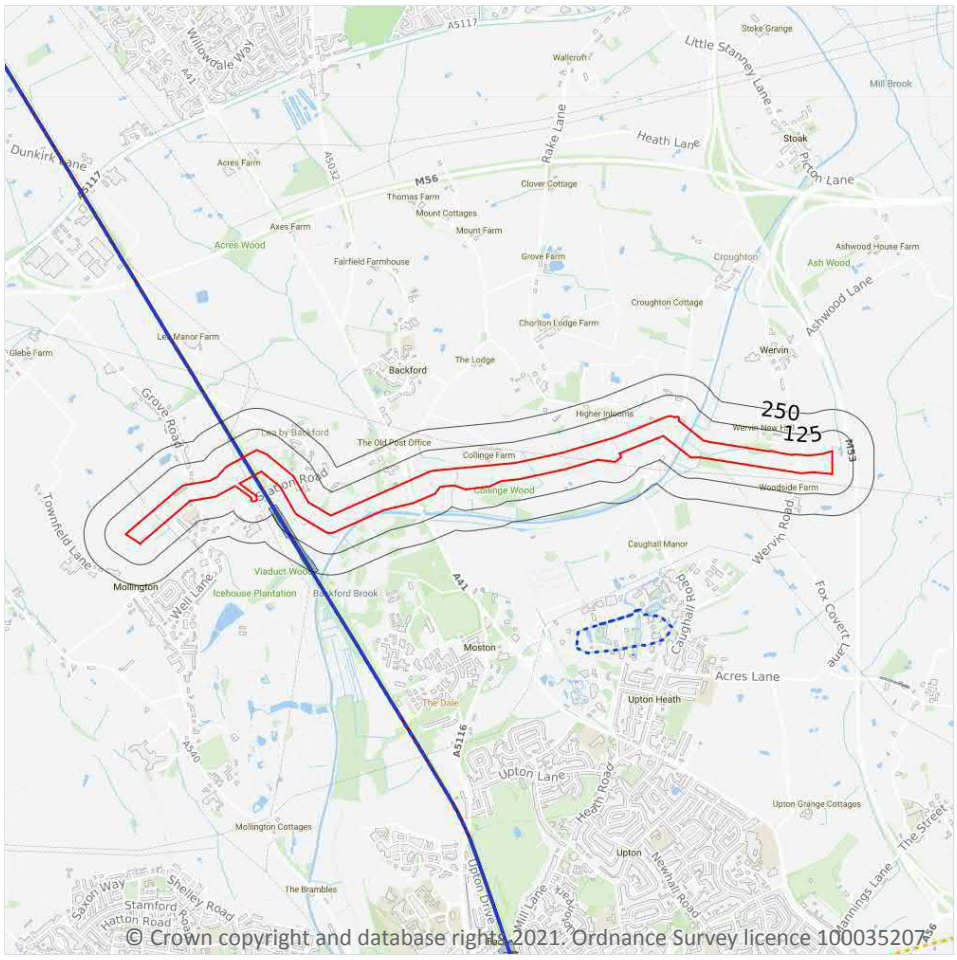
20.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



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21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	1

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.

Features are displayed on the Railway infrastructure and projects map on **page 155**

Location	Name
On site	**Merseyrail**

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	**0**

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	**6**

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.

Features are displayed on the Railway infrastructure and projects map on **page 155**

Location	Land Use	Year of mapping	Mapping scale
70m SW	Railway Sidings	1968	10560
70m SW	Railway Sidings	1978	10000
85m SW	Railway Sidings	1960	2500
88m SW	Railway Sidings	1986	2500
103m SW	Railway Sidings	1899	2500
103m SW	Railway Sidings	1911	2500

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	6

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

Features are displayed on the Railway infrastructure and projects map on **page 155**

Location	Name	Type
On site	**Merseyrail Wirral Line (Up Birkenhead)**	**rail**
On site	**Merseyrail Wirral Line (Down Birkenhead)**	**rail**
On site	**Not given**	**Multi Track**
57m E	Not given	Multi Track
97m SW	Not given	Multi Track
136m SW	Not given	Multi Track

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 h[redacted]

Terms and conditions

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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 [redacted].

Terms and conditions

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

DCO Pipeline, Southern Route

Order Details

Date: 31/08/2021

Your ref: DCO Pipeline, Southern Route

Our Ref: GSIP-2021-10877-7381_G

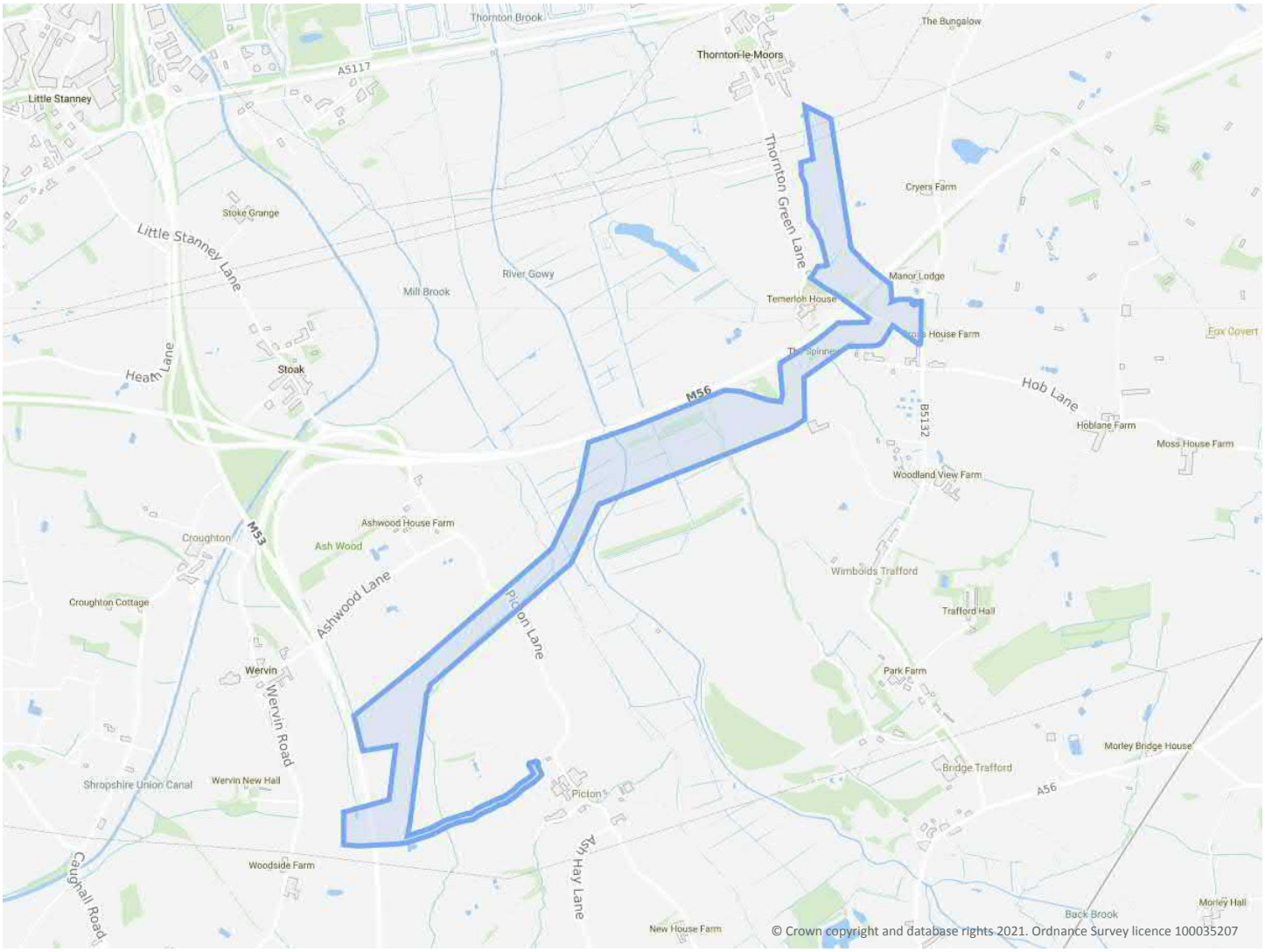
Client: WSP UK LIMITED

Site Details

Location: 343860 372593

Area: 69.64 ha

Authority: Cheshire West and Chester Council



Summary of findings p. 2

Aerial image p. 8

OS MasterMap site plan N/A: >10ha

Contact us with any questions at:

[redacted]

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	1	0	3	11	-
14	1.2	Historical tanks	0	0	0	7	-
15	1.3	Historical energy features	0	0	3	1	-
15	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	1.6	Historical military land	0	0	1	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
17	2.1	Historical industrial land uses	1	0	6	14	-
18	2.2	Historical tanks	0	0	0	12	-
19	2.3	Historical energy features	0	0	5	2	-
20	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	1	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22	3.4	Historical landfill (EA/NRW records)	1	1	0	0	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
23	3.7	Waste exemptions	4	19	31	142	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
40	4.1	Recent industrial land uses	0	3	8	-	-
41	4.2	Current or recent petrol stations	0	0	0	0	-
41	4.3	Electricity cables	0	0	0	1	-
42	4.4	Gas pipelines	1	0	0	0	-
42	4.5	Sites determined as Contaminated Land	0	0	0	0	-

42	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	3	-
43	4.7	Regulated explosive sites	0	0	0	0	-
43	4.8	Hazardous substance storage/usage	0	0	0	0	-
43	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
43	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
43	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
44	4.12	Radioactive Substance Authorisations	0	0	0	0	-
44	4.13	Licensed Discharges to controlled waters	0	0	3	7	-
46	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
46	4.15	Pollutant release to public sewer	0	0	0	0	-
46	4.16	List 1 Dangerous Substances	0	0	0	0	-
46	4.17	List 2 Dangerous Substances	0	0	0	0	-
46	4.18	Pollution Incidents (EA/NRW)	0	1	1	4	-
47	4.19	Pollution inventory substances	0	0	0	0	-
48	4.20	Pollution inventory waste transfers	0	0	0	0	-
48	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
49	5.1	Superficial aquifer	Identified (within 500m)				
51	5.2	Bedrock aquifer	Identified (within 500m)				
53	5.3	Groundwater vulnerability	Identified (within 50m)				
56	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
56	5.5	Groundwater vulnerability- local information	None (within 0m)				
57	5.6	Groundwater abstractions	0	0	0	0	46
69	5.7	Surface water abstractions	0	0	1	2	8
72	5.8	Potable abstractions	0	0	0	0	7
74	5.9	Source Protection Zones	0	0	0	0	-
74	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
75	6.1	Water Network (OS MasterMap)	45	13	57	-	-

84	6.2	Surface water features	1	10	39	-	-
85	6.3	WFD Surface water body catchments	3	-	-	-	-
85	6.4	WFD Surface water bodies	2	0	0	-	-
86	6.5	WFD Groundwater bodies	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
87	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	High (within 50m)				
88	7.2	Historical Flood Events	0	0	0	-	-
88	7.3	Flood Defences	2	0	2	-	-
88	7.4	Areas Benefiting from Flood Defences	1	0	4	-	-
89	7.5	Flood Storage Areas	0	0	1	-	-
90	7.6	Flood Zone 2	Identified (within 50m)				
91	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
92	8.1	Surface water flooding	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
94	9.1	Groundwater flooding	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
95	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
96	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
96	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
96	10.4	Special Protection Areas (SPA)	0	0	0	0	0
96	10.5	National Nature Reserves (NNR)	0	0	0	0	0
97	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
97	10.7	Designated Ancient Woodland	0	0	0	0	0
97	10.8	Biosphere Reserves	0	0	0	0	0
97	10.9	Forest Parks	0	0	0	0	0
98	10.10	Marine Conservation Zones	0	0	0	0	0
98	10.11	Green Belt	1	0	0	0	0
98	10.12	Proposed Ramsar sites	0	0	0	0	0

98	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
99	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
99	10.15	Nitrate Sensitive Areas	0	0	0	0	0
99	**10.16**	**Nitrate Vulnerable Zones**	3	0	0	0	4
100	**10.17**	**SSSI Impact Risk Zones**	5	-	-	-	-
102	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
103	11.1	World Heritage Sites	0	0	0	-	-
104	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
104	11.3	National Parks	0	0	0	-	-
104	**11.4**	**Listed Buildings**	0	0	2	-	-
105	**11.5**	**Conservation Areas**	0	1	1	-	-
105	11.6	Scheduled Ancient Monuments	0	0	0	-	-
105	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
106	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				
107	12.2	Open Access Land	0	0	0	-	-
107	**12.3**	**Tree Felling Licences**	5	9	4	-	-
108	**12.4**	**Environmental Stewardship Schemes**	0	1	2	-	-
108	**12.5**	**Countryside Stewardship Schemes**	2	1	2	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
110	**13.1**	**Priority Habitat Inventory**	10	4	21	-	-
112	13.2	Habitat Networks	0	0	0	-	-
112	13.3	Open Mosaic Habitat	0	0	0	-	-
112	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
113	**14.1**	**10k Availability**	Identified (within 500m)				
114	14.2	Artificial and made ground (10k)	0	0	0	0	-
115	**14.3**	**Superficial geology (10k)**	4	0	5	4	-

116	14.4	Landslip (10k)	0	0	0	0	-
117	**14.5**	**Bedrock geology (10k)**	2	0	1	0	-
118	**14.6**	**Bedrock faults and other linear features (10k)**	1	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
119	**15.1**	**50k Availability**	Identified (within 500m)				
120	15.2	Artificial and made ground (50k)	0	0	0	0	-
120	15.3	Artificial ground permeability (50k)	0	0	-	-	-
121	**15.4**	**Superficial geology (50k)**	4	0	4	3	-
122	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
122	15.6	Landslip (50k)	0	0	0	0	-
123	15.7	Landslip permeability (50k)	None (within 50m)				
124	**15.8**	**Bedrock geology (50k)**	3	0	0	0	-
125	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
125	**15.10**	**Bedrock faults and other linear features (50k)**	1	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
126	**16.1**	**BGS Boreholes**	5	6	11	-	-
Page	Section	Natural ground subsidence					
128	**17.1**	**Shrink swell clays**	Very low (within 50m)				
129	**17.2**	**Running sands**	Low (within 50m)				
131	**17.3**	**Compressible deposits**	High (within 50m)				
132	**17.4**	**Collapsible deposits**	Very low (within 50m)				
133	**17.5**	**Landslides**	Very low (within 50m)				
134	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
136	18.1	Natural cavities	0	0	0	0	-
137	18.2	BritPits	0	0	0	0	-
137	**18.3**	**Surface ground workings**	29	28	71	-	-
142	18.4	Underground workings	0	0	0	0	0
142	18.5	Historical Mineral Planning Areas	0	0	0	0	-

142	18.6	Non-coal mining	0	0	0	0	0
142	18.7	Mining cavities	0	0	0	0	0
142	18.8	JPB mining areas	None (within 0m)				
143	18.9	Coal mining	None (within 0m)				
143	18.10	Brine areas	None (within 0m)				
143	18.11	Gypsum areas	None (within 0m)				
143	18.12	Tin mining	None (within 0m)				
143	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
144	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
145	**20.1**	**BGS Estimated Background Soil Chemistry**	39	4	-	-	-
147	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
148	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
149	21.1	Underground railways (London)	0	0	0	-	-
149	21.2	Underground railways (Non-London)	0	0	0	-	-
149	21.3	Railway tunnels	0	0	0	-	-
149	21.4	Historical railway and tunnel features	0	0	0	-	-
149	21.5	Royal Mail tunnels	0	0	0	-	-
150	21.6	Historical railways	0	0	0	-	-
150	21.7	Railways	0	0	0	-	-
150	21.8	Crossrail 1	0	0	0	0	-
150	21.9	Crossrail 2	0	0	0	0	-
150	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 10/04/2020

Site Area: 69.64ha

Recent site history - 2016 aerial photograph



Capture Date: 19/07/2016

Site Area: 69.64ha

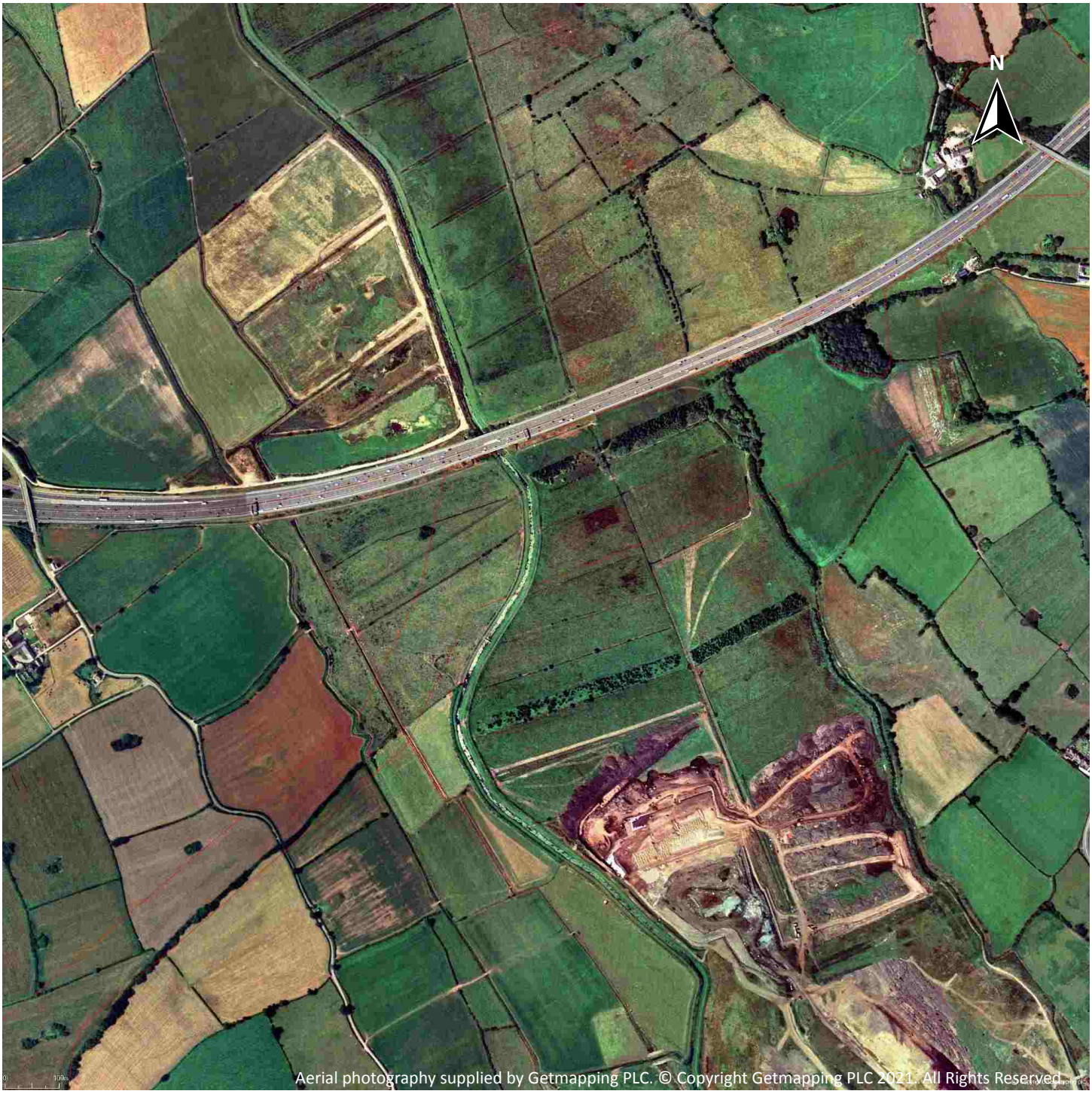
Recent site history - 2010 aerial photograph



Capture Date: 11/10/2010

Site Area: 69.64ha

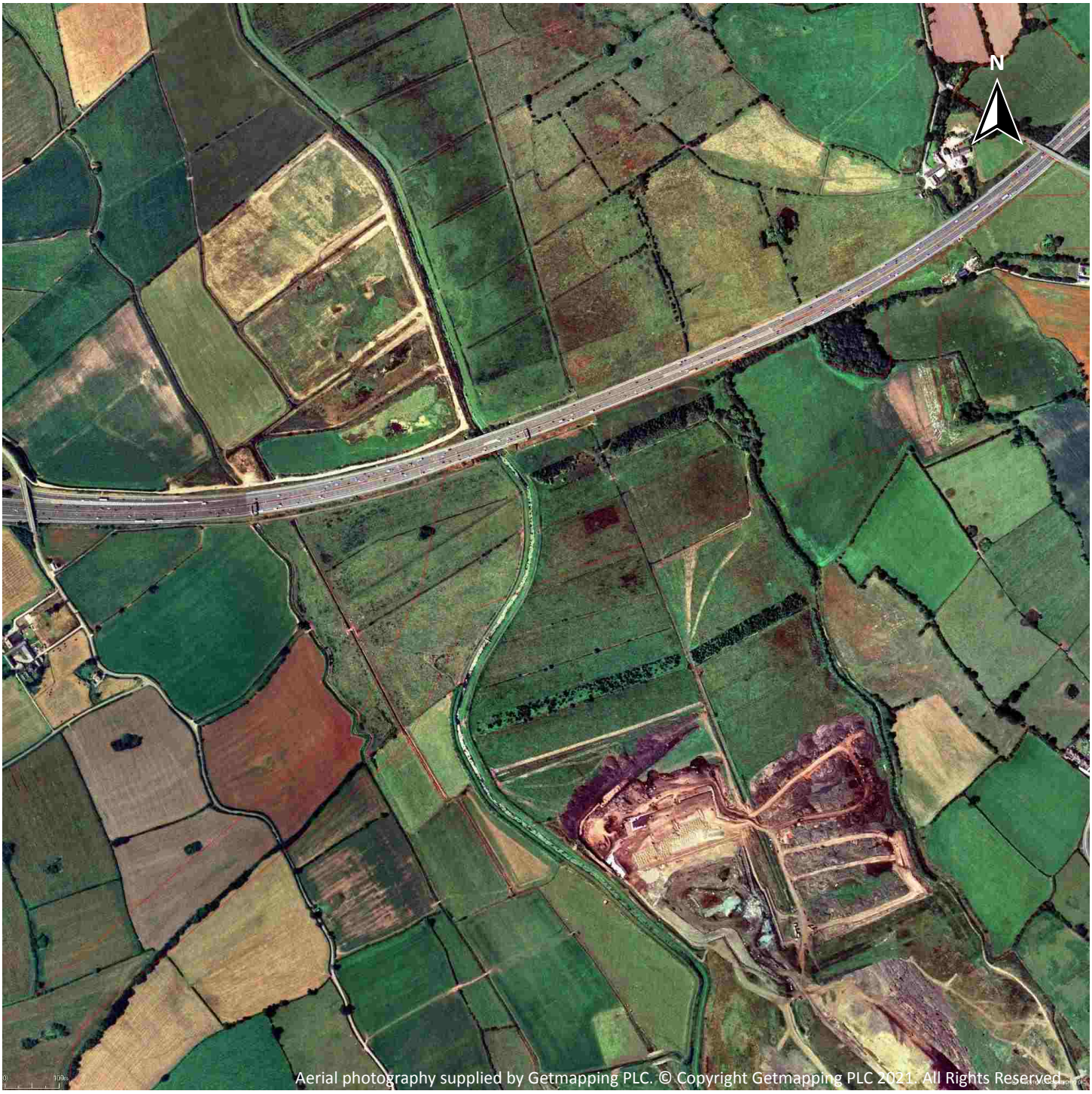
Recent site history - 2001 aerial photograph



Capture Date: 01/05/2001

Site Area: 69.64ha

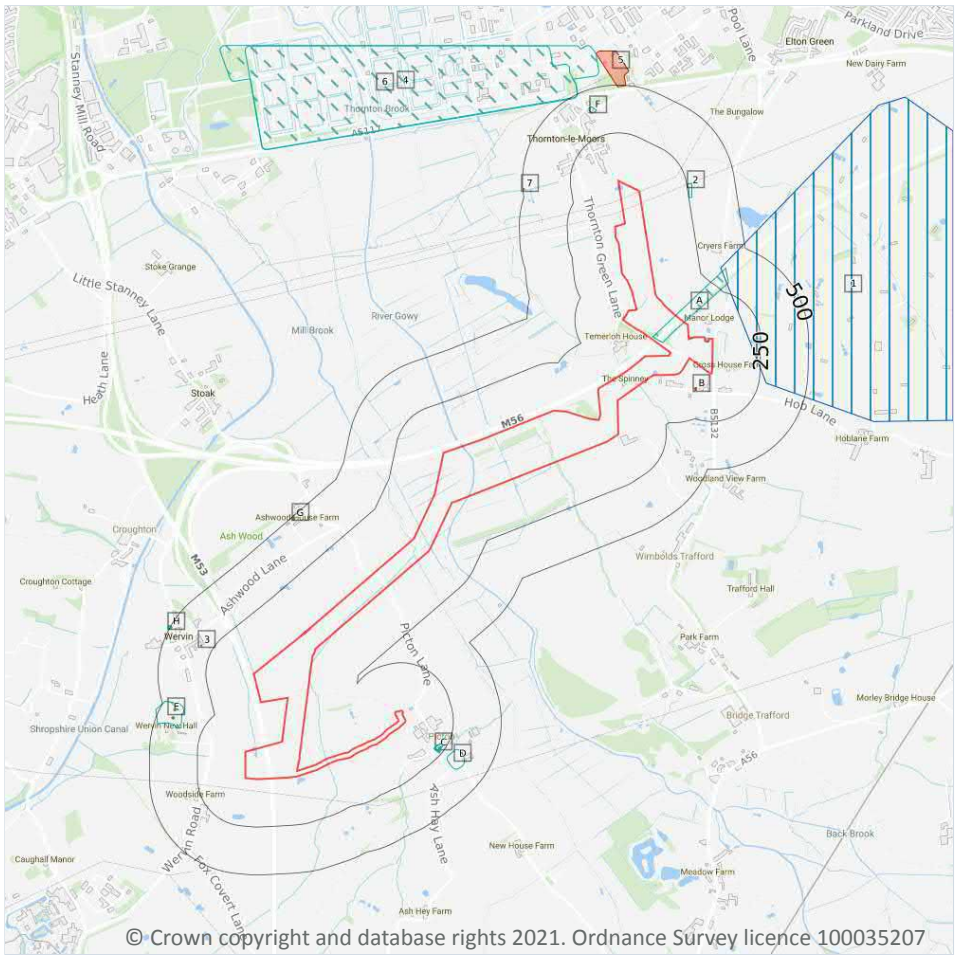
Recent site history - 2000 aerial photograph



Capture Date: 21/07/2000

Site Area: 69.64ha

1 Past land use



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1.1 Historical industrial land uses

Records within 500m	15

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 13**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Cuttings**	**1983**	**795559**

ID	Location	Land use	Dates present	Group ID
C	202m SE	Smithy	1949	864146
C	204m SE	Smithy	1912 - 1938	948368
C	218m SE	Smithy	1908	846299
2	252m E	Unspecified Quarry	1897	816568
D	286m SE	Slaughter House	1967	811504
E	359m W	Unspecified Depot	1967	818175
F	378m N	Telephone Exchange	1983	827432
E	409m NW	Unspecified Tank	1967	824001
E	423m NW	Unspecified Tank	1967	824000
G	482m NW	Unspecified Tank	1938	823992
4	488m NW	Unspecified Depot	1967	907655
H	490m NW	Sand Pit	1908 - 1912	880002
H	491m NW	Sand Pit	1949	937906
6	491m NW	Unspecified Depot	1983	859290

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m **7**

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 13**

ID	Location	Land use	Dates present	Group ID
3	309m NW	Unspecified Tank	1984 - 1995	133258
D	336m SE	Tank or Trough	1873	139033
F	394m NW	Unspecified Tank	1959 - 1962	146359
E	414m NW	Unspecified Tank	1960	111611

ID	Location	Land use	Dates present	Group ID
E	424m NW	Unspecified Tank	1960	111610
G	486m NW	Unspecified Tank	1911	110762
7	492m W	Unspecified Tank	1958 - 1994	134506

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**4**

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 13**

ID	Location	Land use	Dates present	Group ID
A	81m NE	Electricity Substation	1965	67840
B	104m SW	Electricity Substation	1982 - 1995	83806
B	104m SW	Electricity Substation	1965	67072
5	490m N	Electricity Substation	1993	64585

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	1

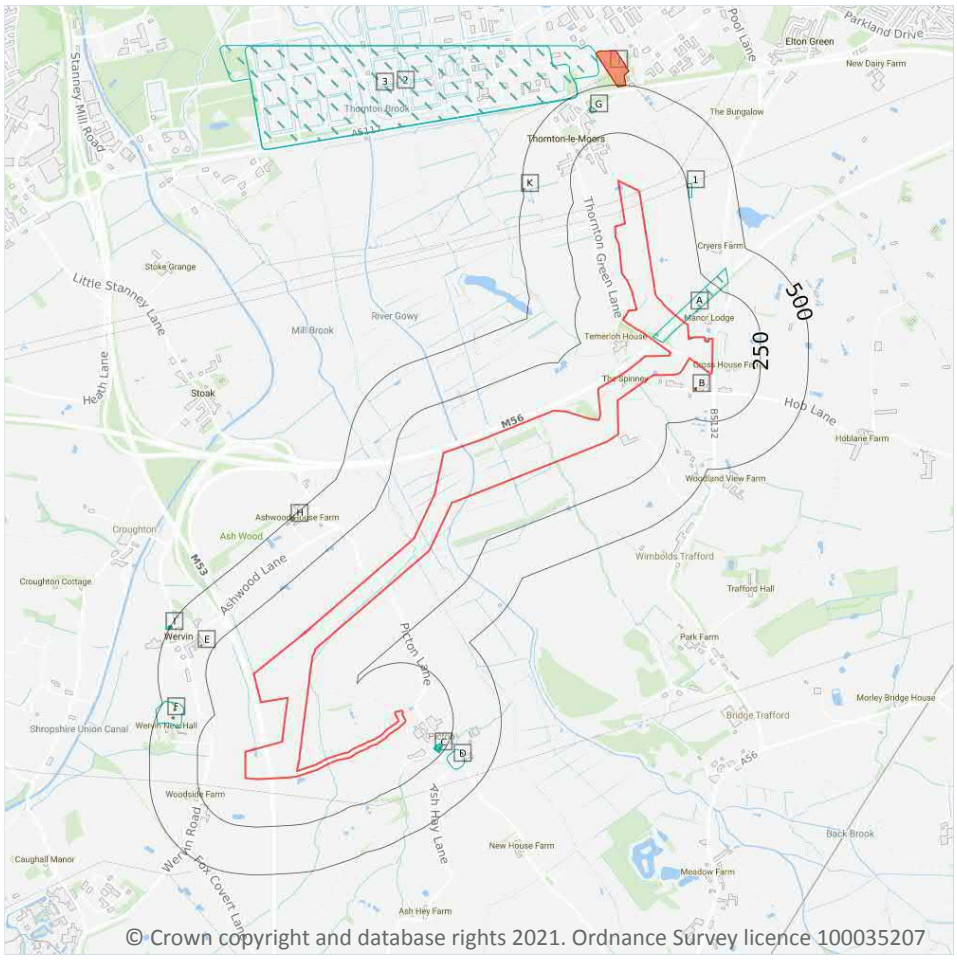
Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

Features are displayed on the Past land use map on **page 13**

ID	Location	Site Name	Date of Operation	Activities
1	175m E	ROF Dunham-on-the-Hill	1941-1990	c.WW2: Used as a site for storage and distribution of explosives (Neonite, Cordite, TNT); After WW2 site was used for storage of shells including Phospher bombs; 1957-1985 site was retained as a "Buffer"store for food storage by the Ministry of Agriculturem Fisheries and Food (MAFF). Site disposed of to the private sector in 1990

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

2 Past land use - un-grouped



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2.1 Historical industrial land uses

Records within 500m	21

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 17**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Cuttings**	**1983**	**795559**
C	202m SE	Smithy	1949	864146
C	204m SE	Smithy	1912	948368

ID	Location	Land Use	Date	Group ID
C	209m SE	Smithy	1938	948368
C	218m SE	Smithy	1908	846299
C	218m SE	Smithy	1908	846299
C	218m SE	Smithy	1908	846299
1	252m E	Unspecified Quarry	1897	816568
D	286m SE	Slaughter House	1967	811504
F	359m W	Unspecified Depot	1967	818175
G	378m N	Telephone Exchange	1983	827432
F	409m NW	Unspecified Tank	1967	824001
F	423m NW	Unspecified Tank	1967	824000
H	482m NW	Unspecified Tank	1938	823992
2	488m NW	Unspecified Depot	1967	907655
I	490m NW	Sand Pit	1908	880002
I	490m NW	Sand Pit	1908	880002
I	490m NW	Sand Pit	1908	880002
I	491m NW	Sand Pit	1949	937906
3	491m NW	Unspecified Depot	1983	859290
I	494m NW	Sand Pit	1912	880002

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**12**

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 17**

ID	Location	Land Use	Date	Group ID
E	309m NW	Unspecified Tank	1995	133258
E	309m NW	Unspecified Tank	1984	133258

ID	Location	Land Use	Date	Group ID
D	336m SE	Tank or Trough	1873	139033
D	336m SE	Tank or Trough	1873	139033
G	394m NW	Unspecified Tank	1959	146359
G	394m N	Unspecified Tank	1962	146359
F	414m NW	Unspecified Tank	1960	111611
F	424m NW	Unspecified Tank	1960	111610
H	486m NW	Unspecified Tank	1911	110762
K	492m W	Unspecified Tank	1958	134506
K	492m W	Unspecified Tank	1958	134506
K	493m W	Unspecified Tank	1994	134506

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**7**

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 17**

ID	Location	Land Use	Date	Group ID
A	81m NE	Electricity Substation	1965	67840
A	81m NE	Electricity Substation	1965	67840
B	104m SW	Electricity Substation	1982	83806
B	104m SW	Electricity Substation	1995	83806
B	104m SW	Electricity Substation	1965	67072
J	490m N	Electricity Substation	1993	64585
J	490m N	Electricity Substation	1993	64585

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.

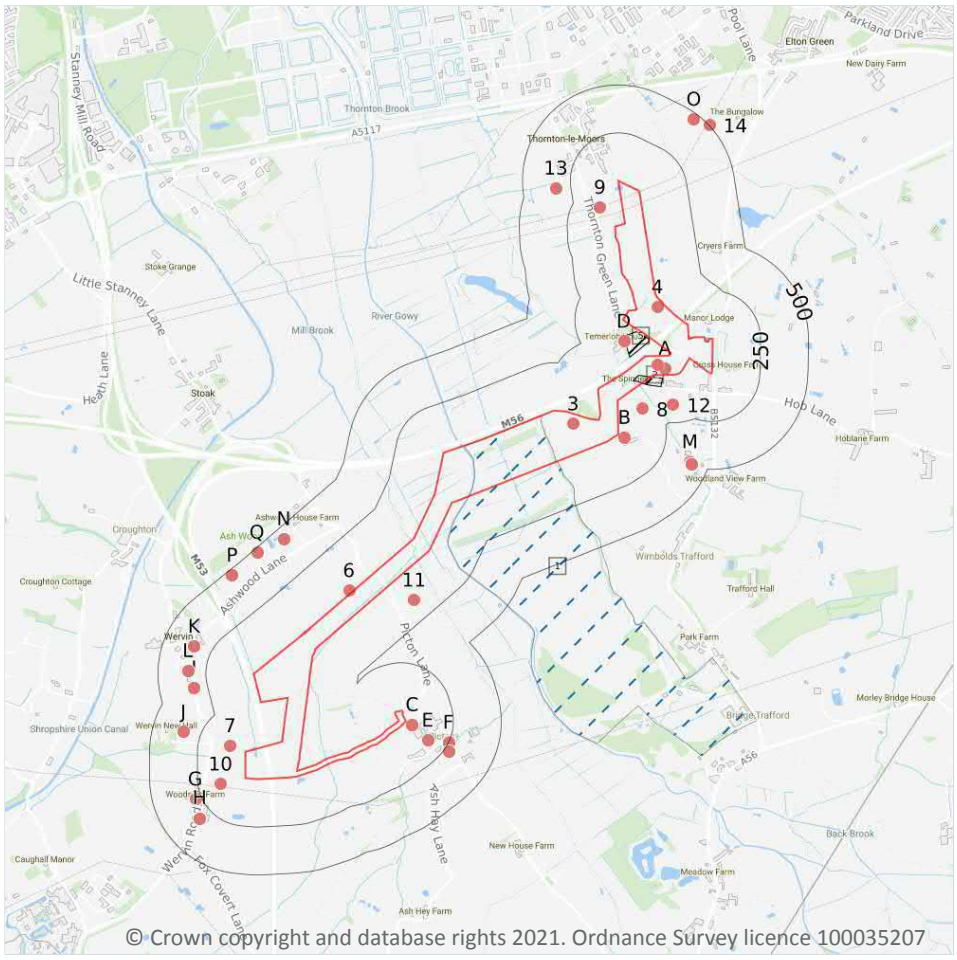
2.5 Historical garages

Records within 500m	0

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



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3.1 Active or recent landfill

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 21**

ID	Location	Details	
1	**On site**	**Operator: 3C Waste Limited** **Site Address: GOWEY SITE, INCE LANE, WIMBOLDS, CHESTER, CH2 4JP**	**WML Number: 0** **EPR Reference: -** **Landfill type: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE** **Status: Effective** **IPPC Reference: -** **EPR Number: -**

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	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	2

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 21**

ID	Location	Details		
2	**On site**	**Site Address: Infilling of Small Paddock, Spring Bank Farm, Wimbolds Trafford, Near. Chester, Cheshire** **Licence Holder Address: Spring Bank Farm, Hallsgreen Lane, Wimbolds Tarrford, near Chester**	**Waste Licence: Yes** **Site Reference: 60838, 6/21746** **Waste Type: Inert** **Environmental Permitting Regulations (Waste) Reference: -** **Licence Issue: 15/11/1990** **Licence Surrender: 14/05/1992**	**Operator: -** **Licence Holder: Mr B J Ball** **First Recorded 31/03/1991** **Last Recorded: 31/12/1991**
5	7m SW	Site Address: Thornton Green Hotel, Thornton Green Lane, Wimbolds Trafford, Cheshire Licence Holder Address: -	Waste Licence: Yes Site Reference: 60804 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 26/07/1983 Licence Surrender: 30/06/1985	Operator: - Licence Holder: P Dentieth First Recorded 31/12/1983 Last Recorded: 31/05/1985

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	0

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

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

3.7 Waste exemptions

Records within 500m	196

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 21**

ID	Location	Site	Reference	Category	Sub-Category	Description
3	**On site**	**Woodside Farm WIMBOLDS TRAFFORD CH2 4JX**	**EPR/HE5846CS/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
4	**On site**	**Land at Cryers Lane CH2 4LH**	**EPR/BE5942UK/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
A	**On site**	**Village Green Farm The Square Chester Cheshire CH2 4NN**	**EPR/FF0402CB/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
A	**On site**	**Village Green Farm The Square Chester Cheshire CH2 4NN**	**EPR/HF0804FA/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
6	14m NW	-	WEX022682	Storing waste exemption	On a farm	Storage of sludge
B	37m SE	Heath Farm Ince Lane CHESTER CH2 4JP	EPR/BF0705MR/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
B	37m SE	Heath Farm Ince Lane CHESTER CH2 4JP	EPR/BF0705MR/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	37m SE	Heath Farm Ince Lane CHESTER CH2 4JP	EPR/BF0705MR/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in secure containers
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Cleaning, washing, spraying or coating relevant waste
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Crushing and emptying waste vehicle oil filters
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of non-hazardous pesticide washings by carbon filtration for disposal

ID	Location	Site	Reference	Category	Sub-Category	Description
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Preparatory treatments (baling, sorting, shredding etc)
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Recovery of scrap metal
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading of plant matter to confer benefit
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Incorporation of ash into soil
C	40m SE	Manor Farm Picton Lane CHESTER CH2 4HE	EPR/DH0277SK/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of baled end-of-life tyres in construction
7	85m W	-	WEX146031	Storing waste exemption	On a Farm	Storage of sludge

ID	Location	Site	Reference	Category	Sub-Category	Description
D	93m SW	THORNTON GREEN LANE, THORNTON-LE-MOORS, CHESTER, CH2 4JQ	WEX167898	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
D	93m SW	THORNTON GREEN LANE, THORNTON-LE-MOORS, CHESTER, CH2 4JQ	WEX167898	Storing waste exemption	Not on a farm	Storage of waste in secure containers
8	111m SE	Land at Wimbolds Trafford CH2 4JX	EPR/SE5845GE/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
9	117m W	Land at Thornton-le-Moor	EPR/RE5885QM/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
10	135m W	RIVERS LANE, URMSTON, MANCHESTER, M41 7JB	WEX098147	Storing waste exemption	On a farm	Storage of sludge
11	146m SE	-	WEX219205	Storing waste exemption	On a farm	Storage of sludge
E	152m SE	MANOR FARM, PICTON LANE, PICTON, CHESTER, CH2 4HE	WEX173619	Storing waste exemption	On a farm	Storage of waste in a secure place
E	152m SE	MANOR FARM, PICTON LANE, PICTON, CHESTER, CH2 4HE	WEX173619	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	152m SE	MANOR FARM, PICTON LANE, PICTON, CHESTER, CH2 4HE	WEX015501	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	152m SE	MANOR FARM, PICTON LANE, PICTON, CHESTER, CH2 4HE	WEX015501	Using waste exemption	On a farm	Incorporation of ash into soil
12	159m S	Land at Wimbolds Trafford SJ44710 73150	EPR/SE5445GG/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
F	250m SE	New House Farm Picton Lane CHESTER CH2 4HE	EPR/PH0414DY/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
F	250m SE	New House Farm Picton Lane CHESTER CH2 4HE	EPR/PH0414DY/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
F	250m SE	New House Farm Picton Lane CHESTER CH2 4HE	EPR/PH0414DY/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
F	250m SE	New House Farm Picton Lane CHESTER CH2 4HE	EPR/PH0414DY/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
F	250m SE	New House Farm Picton Lane CHESTER CH2 4HE	EPR/PH0414DY/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Treating waste exemption	Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Treating waste exemption	Agricultural Waste Only	Screening and blending of waste
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Treating waste exemption	Agricultural Waste Only	Mechanical treatment of end-of-life tyres
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Treating waste exemption	Agricultural Waste Only	Recovery of scrap metal
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on non-agricultural land to confer benefit
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Use of mulch
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Use of baled end-of-life tyres in construction
F	250m SE	Lower Hall Farm Picton Lane CHESTER CH2 4HE	EPR/WH0170LM/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance

ID	Location	Site	Reference	Category	Sub-Category	Description
F	251m SE	Farm land and buildings	WEX264271	Using waste exemption	On a farm	Use of waste for a specified purpose
F	251m SE	Farm land and buildings	WEX264271	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
F	276m SE	-	WEX211901	Storing waste exemption	On a Farm	Storage of waste in a secure place
F	276m SE	-	WEX211901	Disposing of waste exemption	On a Farm	Burning waste in the open
F	276m SE	-	WEX211901	Disposing of waste exemption	On a Farm	Disposal by incineration
F	276m SE	-	WEX211901	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
F	276m SE	-	WEX211901	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
F	276m SE	-	WEX211901	Using waste exemption	On a Farm	Use of waste for a specified purpose
F	276m SE	-	WEX211901	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX245347	Disposing of waste exemption	On a farm	Burning waste in the open
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121727	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121851	Storing waste exemption	On a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX121851	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	285m SW	WOODSIDE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX101389	Disposing of waste exemption	On a farm	Burning waste in the open
H	318m SW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5455FH/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
H	318m SW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
H	318m SW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
H	318m SW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
H	318m SW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/XE5889HT/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste in construction
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste derived biodiesel as fuel
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of waste to manufacture finished goods
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Use of mulch
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Incorporation of ash into soil
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Using waste exemption	On a farm	Pig and poultry ash
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Screening and blending of waste
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Recovery of scrap metal
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Sorting mixed waste
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Manual treatment of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste food
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Physical treatment of waste edible oil and fat to produce biodiesel
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of kitchen waste in a wormery
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Treating waste exemption	On a farm	Recovery of central heating oil by filtration
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of waste from a portable sanitary convenience
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Depositing samples of waste for the purposes of testing or analysing them
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Disposal by incineration
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Disposing of waste exemption	On a farm	Burning waste in the open
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of waste in secure containers

ID	Location	Site	Reference	Category	Sub-Category	Description
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of waste in a secure place
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX235828	Storing waste exemption	On a farm	Storage of sludge
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX145997	Using waste exemption	On a Farm	Use of waste for a specified purpose
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX145997	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Burning waste in the open
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Disposing of waste exemption	On a farm	Burning waste at a port under a Plant Health notice
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of waste in secure containers
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of waste in a secure place
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Storing waste exemption	On a farm	Storage of sludge
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Sorting mixed waste

ID	Location	Site	Reference	Category	Sub-Category	Description
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Manual treatment of waste
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Screening and blending of waste
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Mechanical treatment of end-of-life tyres
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Treating waste exemption	On a farm	Recovery of scrap metal
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste in construction
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of mulch
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Spreading of plant matter to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Incorporation of ash into soil
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Pig and poultry ash
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste derived biodiesel as fuel
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of sludge for the purposes of re-seeding a waste water treatment plant
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste for a specified purpose
H	321m SW	ASHTON HOUSE FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX081787	Using waste exemption	On a farm	Use of waste to manufacture finished goods
I	321m W	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
I	321m W	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
I	321m W	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
I	321m W	Woodside Farm Wervin Road CHESTER CH2 4BP	EPR/QH0971JN/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
13	329m W	Village Green Farm The Square Chester Cheshire CH2 4NN	EPR/FF0302CQ/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
J	339m W	Ashton House Farm, WERVIN ROAD, WERVIN, CHESTER, CH2 4BR	WEX105626	Storing waste exemption	On a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
J	339m W	Ashton House Farm, WERVIN ROAD, WERVIN, CHESTER, CH2 4BR	WEX106414	Using waste exemption	On a farm	Use of waste for a specified purpose
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Using waste exemption	On a Farm	Use of waste in construction
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Using waste exemption	On a Farm	Use of waste for a specified purpose
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX162009	Disposing of waste exemption	On a Farm	Burning waste in the open
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX001697	Storing waste exemption	On a farm	Storage of waste in a secure place
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX001697	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX001697	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice

ID	Location	Site	Reference	Category	Sub-Category	Description
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Disposing of waste exemption	On a farm	Burning waste in the open
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Using waste exemption	On a farm	Use of waste in construction
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
K	342m NW	WERVIN OLD HALL FARM, WERVIN ROAD, WERVIN, CHESTER, CH2 4BP	WEX008526	Using waste exemption	On a farm	Use of waste for a specified purpose
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
L	345m W	Wervin Old Hall Farm Wervin Road CHESTER CH2 4BP	EPR/AH0717DA/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
M	402m E	Heath Farm Ince Lane Chester Cheshire CH2 4JP	EPR/ME5641ML/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit

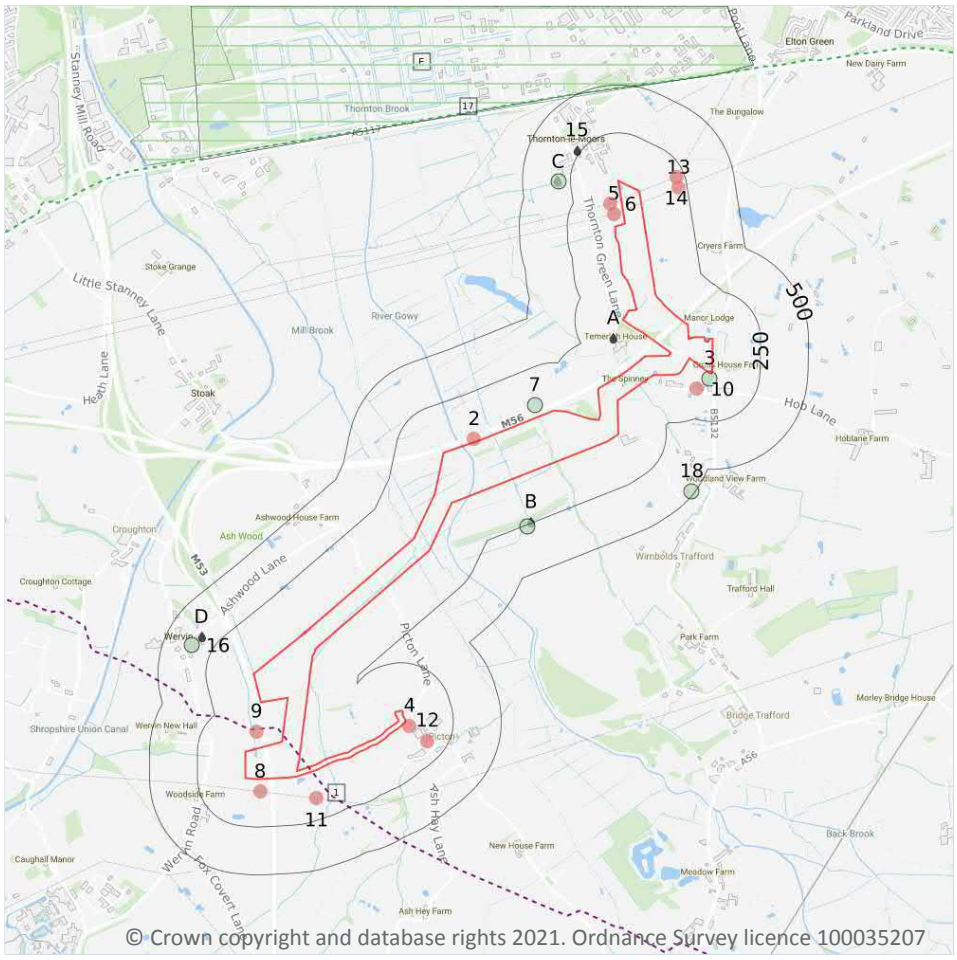
ID	Location	Site	Reference	Category	Sub-Category	Description
M	402m E	Heath Farm Ince Lane Chester Cheshire CH2 4JP	EPR/ME5641 ML/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
M	403m E	Heath Farm Ince Lane CHESTER CH2 4JP	EPR/LE5749M D/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
M	403m E	Heath Farm Ince Lane CHESTER CH2 4JP	EPR/LE5749M D/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX133657	Storing waste exemption	On a farm	Storage of sludge
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Disposing of waste exemption	On a farm	Burning waste in the open
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Treating waste exemption	On a farm	Screening and blending of waste
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Using waste exemption	On a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Using waste exemption	On a farm	Use of mulch
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Using waste exemption	On a farm	Incorporation of ash into soil
M	412m E	MILL BROOK FARM, INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CH2 4JP	WEX022592	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
N	441m NW	-	WEX219201	Storing waste exemption	On a farm	Storage of sludge
N	441m NW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5755FV/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
O	468m NE	Village Green farm Ince	EPR/CE5487ZA/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
O	468m NE	Land at Thornton-le-Moor	EPR/WE5885QT/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
P	470m NW	-	WEX146336	Storing waste exemption	On a Farm	Storage of sludge
P	470m NW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5248CK/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
P	470m NW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5655FN/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
Q	479m NW	-	WEX147306	Storing waste exemption	On a Farm	Storage of sludge
Q	479m NW	Ashton House Farm Wervin Road CHESTER CH2 4BP	EPR/VE5155FM/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge

ID	Location	Site	Reference	Category	Sub-Category	Description
14	499m NE	Land at Thornton-le-Moor	EPR/AE5885QF/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge

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

4 Current industrial land use



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4.1 Recent industrial land uses

Records within 250m	11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 40**

ID	Location	Company	Address	Activity	Category
2	15m N	Gantry	Cheshire, CH2	Travelling Cranes and Gantries	Industrial Features
4	31m SE	Slurry Bed	Cheshire, CH2	Waste Storage, Processing and Disposal	Infrastructure and Facilities
5	50m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
6	59m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
8	66m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
9	87m N	Gantry	Cheshire, CH2	Travelling Cranes and Gantries	Industrial Features
10	107m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
11	141m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
12	152m SE	I S Jones & Partners	Manor Farm, Picton Lane, Picton, Chester, Cheshire, CH2 4HE	Dairy Farming	Farming
13	205m E	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
14	207m E	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

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	**1**

High voltage underground electricity transmission cables.

Features are displayed on the Current industrial land use map on **page 40**

ID	Location	Cable Set	Cable Route	Details	
17	479m N	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 40**

ID	Location	Pipe Name	Details	
1	**On site**	**MICKLE TRAFFORD TO DEESIDE**	**Pipe Number: -** **Pipeline Safety Regulations Number: -** **Ownership: National Grid** **Maximum Operating Pressure (Bar): -**	**Pipeline Diameter (mm): 750** **Wall Thickness (mm): -** **Year of commission: Not specified** **Abandonment Status: Not abandoned**

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	3

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.

Features are displayed on the Current industrial land use map on **page 40**

ID	Location	Company	Address	Operational status	Tier
E	469m N	Essar Oil (UK) Limited	Essar Oil (UK) Limited, Stanlow, Stanlow Manufacturing Complex, PO Box 3, Ellesmere Port, Cheshire, CH65 4HB	Current COMAH Site	COMAH Upper Tier Operator
E	478m N	Shell Gas Ltd	Shell Gas Ltd, Oilsites Road, Stanlow, Ellesmere Port	Historical NIHHS Site	-
E	478m N	Shell Gas Ltd (t/a Brittania [lpg] ltd)	Shell Gas Ltd (t/a Brittania [lpg] ltd), Stanlow Shell, Delivery Terminal, Stanlow South Refinery	Historical NIHHS Site	-

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	10

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 40**

ID	Location	Address	Details	
A	107m SW	THORNTON MANOR NURSING HOME, THORNTON GREEN LANE, THORNTON LE MOORS, CHESTER, CHESHIRE, CH2 4JQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993424 Permit Version: 1 Receiving Water: TRIB. RIVER GOWY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 10/12/2001 Effective Date: 10/12/2001 Revocation Date: 04/08/2002
A	107m SW	THORNTON MANOR NURSING HOME, THORNTON GREEN LANE, THORNTON LE MOORS, CHESTER, CHESHIRE, CH2 4JQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993424 Permit Version: 5 Receiving Water: TRIB. RIVER GOWY	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 05/08/2002 Effective Date: 05/08/2002 Revocation Date: -
B	244m S	GOWY LANDFILL SITE (CHANNEL&LAGOON), INCE LANE, WIMBOLDS TRAFFORD, CHESTER, CHESHIRE, CH2 4JP	Effluent Type: WASTE SITE - EXTERNAL STANDING WATER (INC. PONDS & DITCHES) Permit Number: 016891970 Permit Version: 2 Receiving Water: RIVER GOWY	Status: REVOKED - UNSPECIFIED Issue date: 03/04/2002 Effective Date: 03/04/2002 Revocation Date: 06/02/2004
15	268m NW	THORNTON MANOR NURSING HOME, THORNTON LANE, THORNTON-LE-MOOR	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016891578 Permit Version: 2 Receiving Water: WATERCOURSE	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: - Effective Date: 18/04/1994 Revocation Date: 01/10/1995

ID	Location	Address	Details	
C	314m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0003 Permit Version: 3 Receiving Water: UNNAMED TRIB OF THORNTON BROOK	Status: VARIED UNDER EPR 2010 Issue date: 10/06/2016 Effective Date: 10/06/2016 Revocation Date: -
C	316m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 016881536 Permit Version: 1 Receiving Water: TO DITCH	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1900 Revocation Date: 01/01/1900
C	316m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 01CHE0003 Permit Version: 1 Receiving Water: DITCH	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
C	316m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0003 Permit Version: 2 Receiving Water: UNNAMED WATERCOURSE	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 09/06/2016
D	334m NW	COACH HOUSE, BARN HOUSE, MILL HOUSE, AT WERVIN OLD HALL, ASHWOOD LANE, WERVIN, NR CHESTER, CH2 4BP	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892388 Permit Version: 2 Receiving Water: GROUNDWATER VIA SOAKAWAY	Status: VARIED UNDER EPR 2010 Issue date: 30/11/2012 Effective Date: 30/11/2012 Revocation Date: -
D	334m NW	COACH HOUSE, BARN HOUSE, MILL HOUSE, AT WERVIN OLD HALL, ASHWOOD LANE, WERVIN, NR CHESTER, CH2 4BP	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892388 Permit Version: 1 Receiving Water: GROUNDWATER VIA SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 25/05/2005 Effective Date: 25/05/2005 Revocation Date: 29/11/2012

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	6

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 40**

ID	Location	Details	
3	27m S	Incident Date: 20/08/2002 Incident Identification: 101638 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
7	62m N	Incident Date: 21/08/2003 Incident Identification: 184148 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	256m S	Incident Date: 22/09/2002 Incident Identification: 109612 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
C	312m W	Incident Date: 28/03/2002 Incident Identification: 67449 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
16	357m NW	Incident Date: 04/12/2002 Incident Identification: 124564 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
18	486m SE	Incident Date: 10/06/2002 Incident Identification: 83963 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) 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.

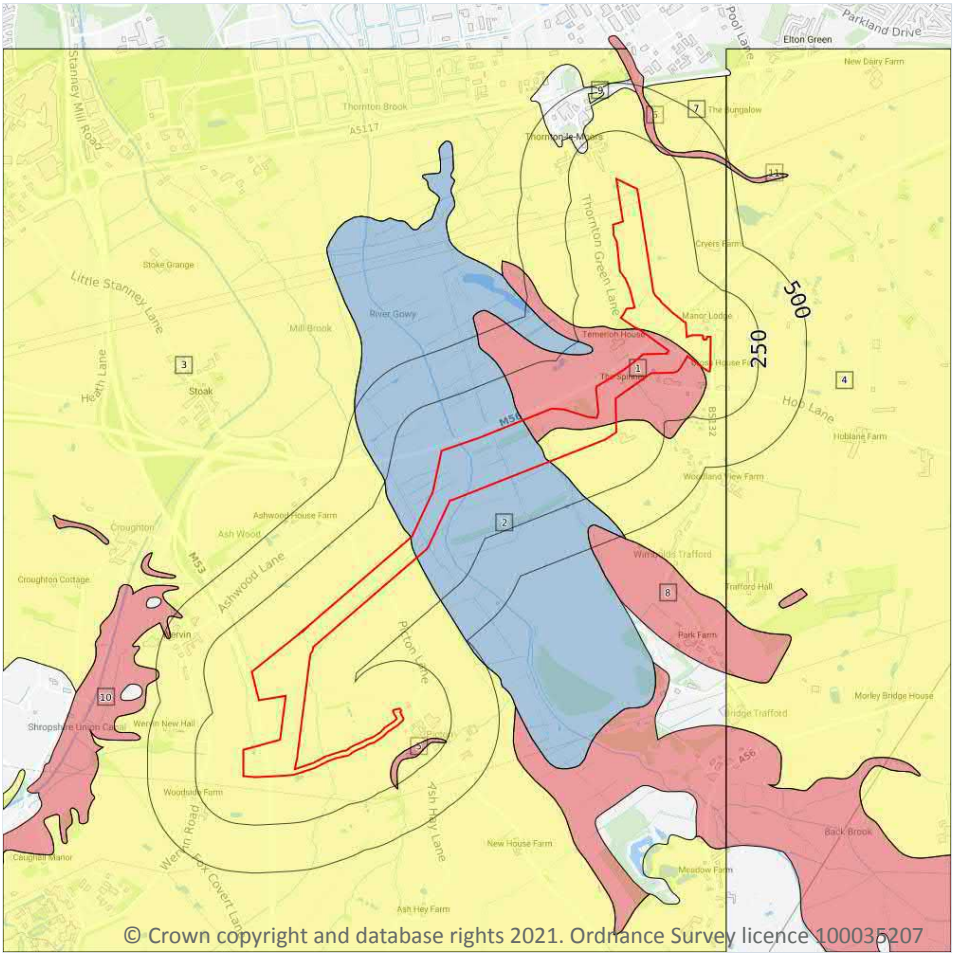
4.21 Pollution inventory radioactive waste

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	11

Aquifer status of groundwater held within superficial geology.

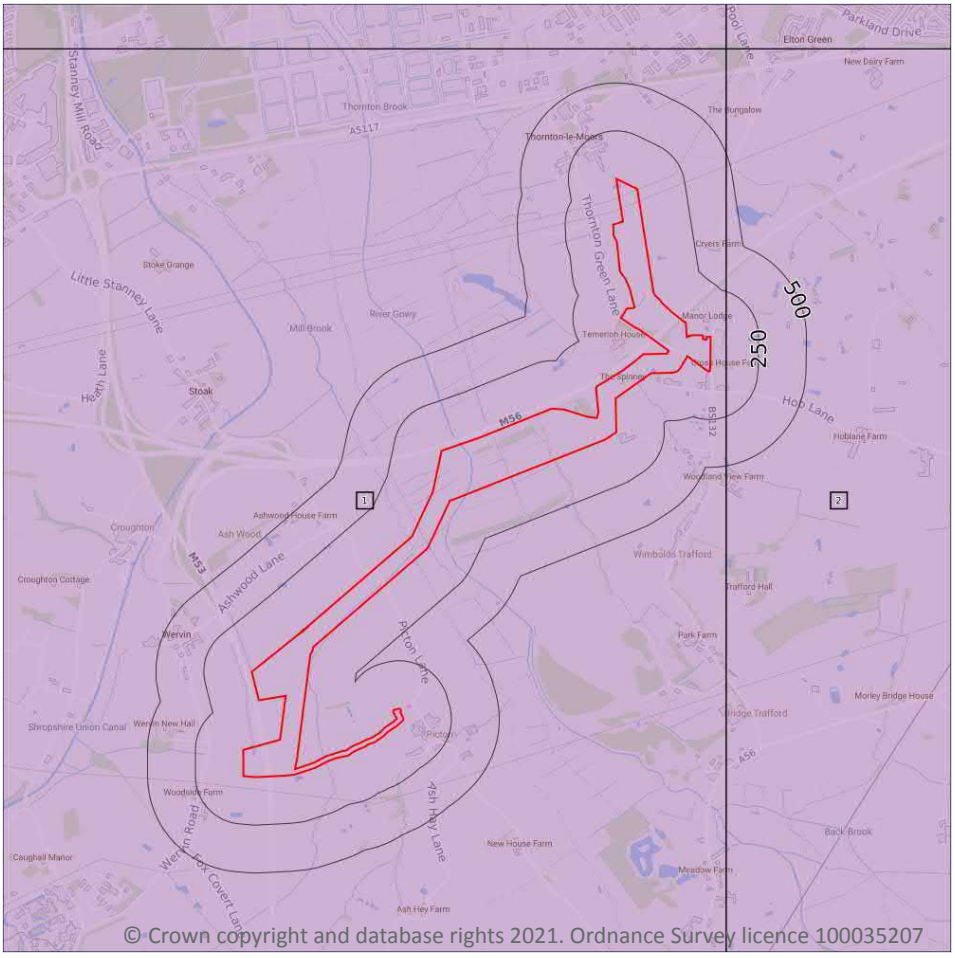
Features are displayed on the Hydrogeology map on **page 49**

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	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	**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**
4	81m 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
5	128m 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
6	229m NE	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
7	260m NE	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
8	391m S	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
9	415m 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
10	461m NW	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
11	480m 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

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	2

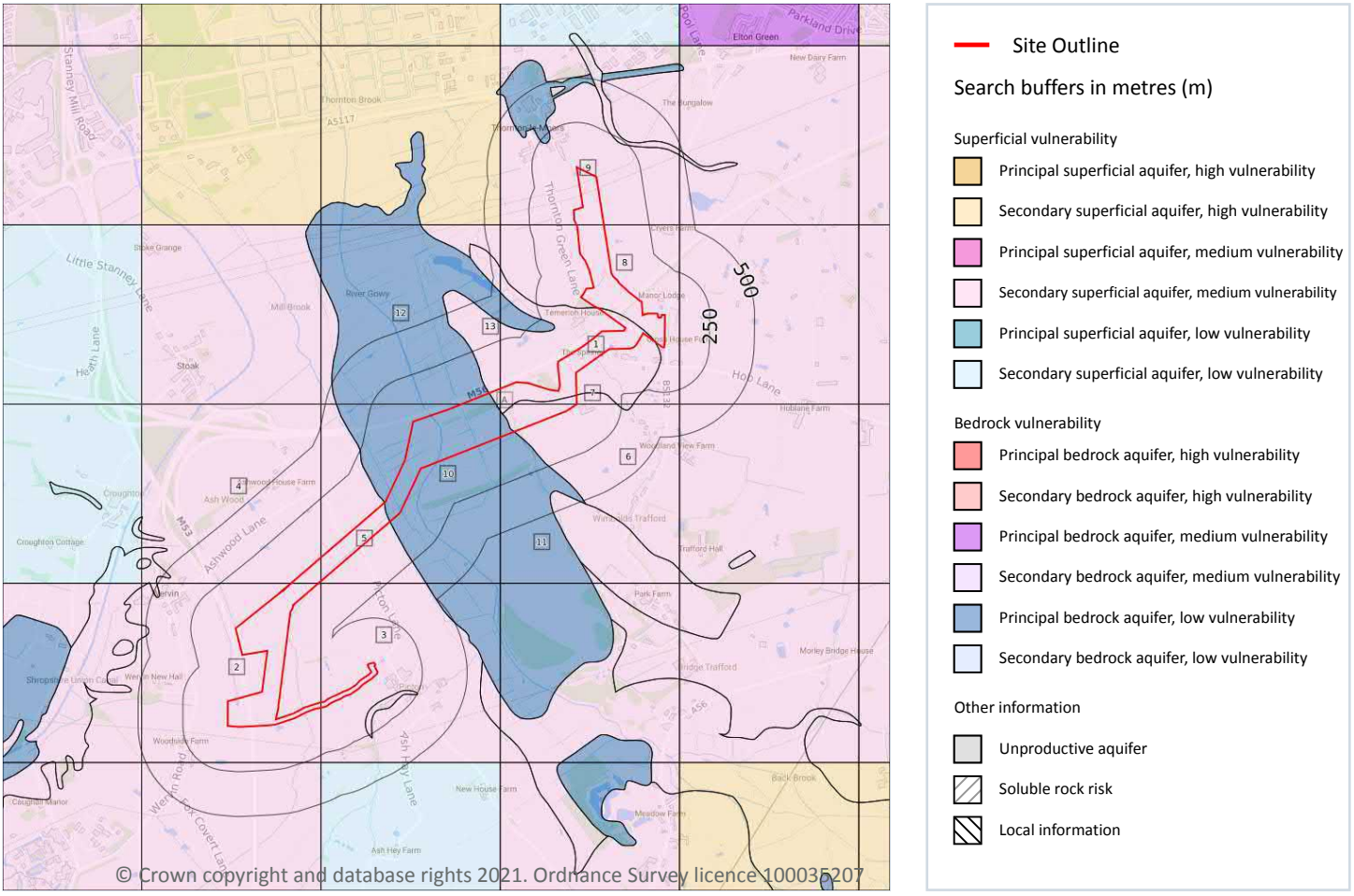
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 51**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
2	81m E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major 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	15

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 53**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
5	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
6	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
7	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
8	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
9	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
10	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
11	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
12	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
13	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
A	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	**On site**	**Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**

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.

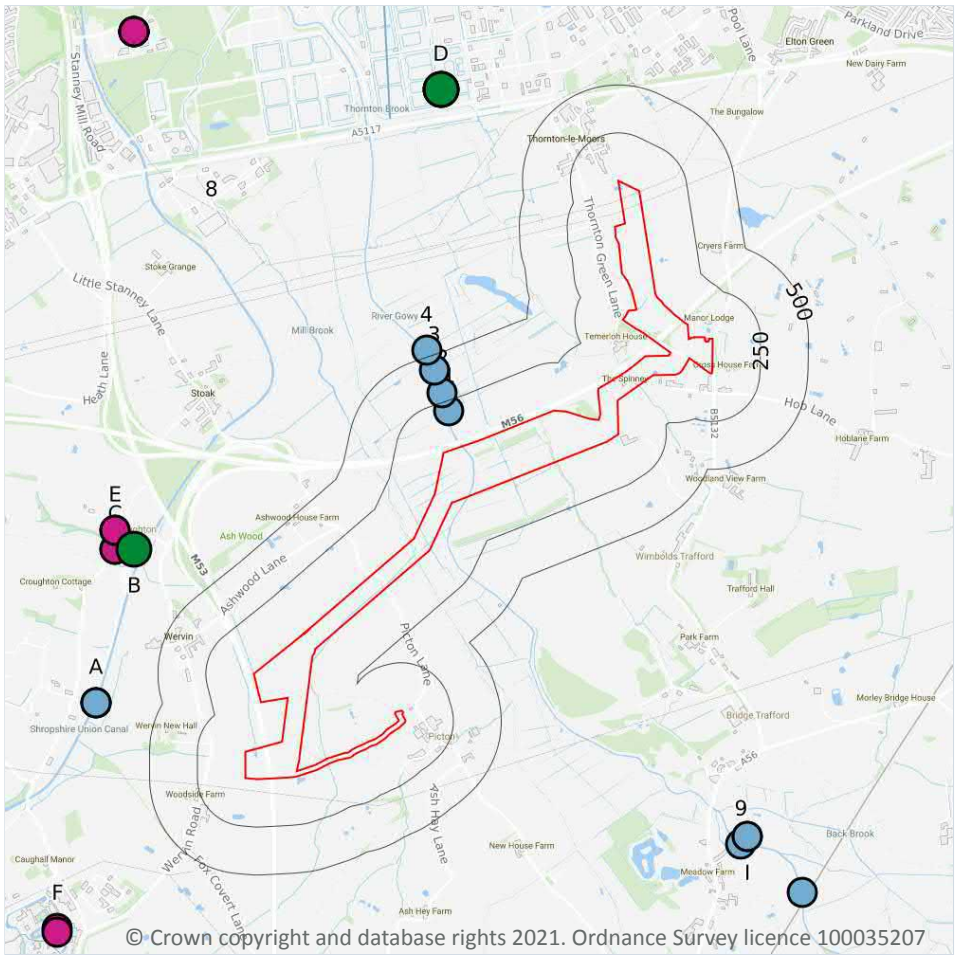
5.5 Groundwater vulnerability- local information

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
- 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	46

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 57**

ID	Location	Details	
B	902m NW	Status: Historical Licence No: 2568006115 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT CROUGHTON ,NEAR CHESTER" Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
B	902m NW	Status: Historical Licence No: 2568006115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT CROUGHTON ,NEAR CHESTER Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
C	973m NW	Status: Historical Licence No: 2568006044 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT TOP FARM, CROUGHTON" Data Type: Point Name: BLACKBURN Easting: 341800 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/01/1974 Version End Date: -
C	973m NW	Status: Historical Licence No: 2568006044 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT TOP FARM, CROUGHTON Data Type: Point Name: BLACKBURN Easting: 341800 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/01/1974 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Historical Licence No: 2568006001 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (21) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
E	1043m NW	Status: Historical Licence No: 2568006053 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT BRIDGE FARM, CROUGHTON , NEAR CHESTER" Data Type: Point Name: MOURTFORD Easting: 341800 Northing: 372500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/06/1974 Version End Date: -

ID	Location	Details	
E	1043m NW	Status: Historical Licence No: 2568006053 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT BRIDGE FARM, CROUGHTON , NEAR CHESTER Data Type: Point Name: MOURTFORD Easting: 341800 Northing: 372500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/06/1974 Version End Date: -
F	1254m SW	Status: Historical Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: SEALION POOL BOREHOLE Data Type: Point Name: North Of England Zoological Society Easting: 341500 Northing: 370421	Annual Volume (m^3): 150018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 23/07/1985 Version End Date: -
F	1268m SW	Status: Active Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: 'A' BOREHOLE Data Type: Point Name: North Of England Zoological Society Easting: 341500 Northing: 370400	Annual Volume (m^3): 150,018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/06/2007 Version End Date: -
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -

ID	Location	Details	
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -

ID	Location	Details	
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1481m SW	Status: Historical Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: North Of England Zoological Society Easting: 341420 Northing: 370170	Annual Volume (m^3): 150018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 23/07/1985 Version End Date: -
-	1544m SW	Status: Active Licence No: 24/67/10/0028 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: 'B' WELL Data Type: Point Name: North Of England Zoological Society Easting: 341400 Northing: 370100	Annual Volume (m^3): 150,018 Max Daily Volume (m^3): 409.14 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/06/2007 Version End Date: -
8	1652m NW	Status: Historical Licence No: NW/068/0006/018 Details: Dewatering Direct Source: Ground Water - North West Region Point: ELLESMERE PORT WASTEWATER TREATMENT WORKS Data Type: Poly4 Name: Volkerstevin Limited Easting: 342226 Northing: 374086	Annual Volume (m^3): 182,500 Max Daily Volume (m^3): 500 Original Application No: - Original Start Date: 08/08/2018 Expiry Date: 31/07/2020 Issue No: 1 Version Start Date: 08/08/2018 Version End Date: -

ID	Location	Details	
-	1720m SW	Status: Historical Licence No: 24/67/10/0131 Details: Animal Watering & General Use in non Farming situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/12/1999 Expiry Date: 20/12/2004 Issue No: 1 Version Start Date: 20/12/1999 Version End Date: -
-	1720m SW	Status: Historical Licence No: 24/67/10/0148 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 20/12/2004 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 20/12/2004 Version End Date: -
-	1720m SW	Status: Historical Licence No: 24/67/10/0158 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341090 Northing: 370190	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 01/04/2008 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1732m SW	Status: Historical Licence No: 24/67/10/0158/R01 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 03/07/2015 Expiry Date: 31/03/2021 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -

ID	Location	Details	
-	1732m SW	Status: Active Licence No: 24/67/10/0158/R02 Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 21/06/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/06/2021 Version End Date: -
-	1732m SW	Status: Active Licence No: 24/67/10/0158/R01L Details: Animal Watering & General Use In Non Farming Situations Direct Source: EAW Groundwater Point: BOREHOLE A (NEW BOREHOLE) Data Type: Point Name: North Of England Zoological Society Easting: 341093 Northing: 370166	Annual Volume (m^3): 100,000 Max Daily Volume (m^3): 288 Original Application No: - Original Start Date: 01/04/2021 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2021 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**11**

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 57**

ID	Location	Details	
1	196m N	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT A GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343543 Northing: 373120	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -

ID	Location	Details	
2	295m N	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT C GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343508 Northing: 373213	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -
3	424m N	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT B GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343465 Northing: 373334	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -
4	536m N	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT D GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343425 Northing: 373439	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -
A	821m W	Status: Historical Licence No: 2568006091 Details: General use relating to Secondary Category (Medium Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT, NR CHESTER" Data Type: Point Name: BRITISH WATERWAYS Easting: 341700 Northing: 371600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -

ID	Location	Details	
A	821m W	Status: Historical Licence No: 2568006091 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT, NR CHESTER Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 341700 Northing: 371600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -
A	821m W	Status: Active Licence No: 2568006091 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: SHROPSHIRE UNION CANAL AT BACKFORD OIL DEPOT NEAR CHESTER Data Type: Point Name: Canal and River Trust Easting: 341700 Northing: 371600	Annual Volume (m^3): 27,270 Max Daily Volume (m^3): 3,273 Original Application No: - Original Start Date: 01/04/1972 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1979 Version End Date: -
5	1234m W	Status: Active Licence No: NW/068/0006/016 Details: Hydraulic Testing Direct Source: Surface, Non-Tidal - North West Region Point: INLAND WATER - THORNTON BROOK AT STANLOW MANUFACTURING Data Type: Line Name: Essar Oil (UK) LTD Easting: 343173 Northing: 375839	Annual Volume (m^3): 41,500 Max Daily Volume (m^3): 2,420 Original Application No: - Original Start Date: 07/12/2017 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 07/12/2017 Version End Date: -
9	1864m E	Status: Active Licence No: NW/068/0006/019 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER GOWY AT GRANGE FARM Data Type: Point Name: Aquazoom Limited Easting: 345067 Northing: 370861	Annual Volume (m^3): 27,846,720 Max Daily Volume (m^3): 126,576 Original Application No: - Original Start Date: 07/03/2019 Expiry Date: 31/03/2029 Issue No: 2 Version Start Date: 18/03/2019 Version End Date: -

ID	Location	Details	
I	1882m E	Status: Historical Licence No: 2568006122 Details: Make-Up or Top Up Water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER GOWY AT TRAFFORD MILL, MICKLE TRAFFORD, CHESTER" Data Type: Point Name: HUW R K ROWLANDS Easting: 345100 Northing: 370900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/04/1994 Expiry Date: - Issue No: 100 Version Start Date: 20/04/1994 Version End Date: -
I	1882m E	Status: Active Licence No: 2568006122 Details: Make-Up Or Top Up Water Direct Source: Surface, Non-Tidal - North West Region Point: RIVER GOWY AT TRAFFORD MILL, MICKLE TRAFFORD, CHESTER Data Type: Point Name: HUW R K ROWLANDS Easting: 345100 Northing: 370900	Annual Volume (m^3): 946,000 Max Daily Volume (m^3): 2,592 Original Application No: - Original Start Date: 20/04/1994 Expiry Date: - Issue No: 100 Version Start Date: 20/04/1994 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**7**

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 57**

ID	Location	Details	
B	902m NW	Status: Historical Licence No: 2568006115 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT CROUGHTON ,NEAR CHESTER" Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -

ID	Location	Details	
B	902m NW	Status: Historical Licence No: 2568006115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT CROUGHTON ,NEAR CHESTER Data Type: Point Name: J E KIRKBRIGHT & I D FARISH Easting: 341900 Northing: 372400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 05/03/1999 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	1042m NW	Status: Historical Licence No: 2568006001 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	1042m NW	Status: Historical Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -

ID	Location	Details	
D	1042m NW	Status: Active Licence No: NW/068/0006/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
-	1303m NE	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0

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.

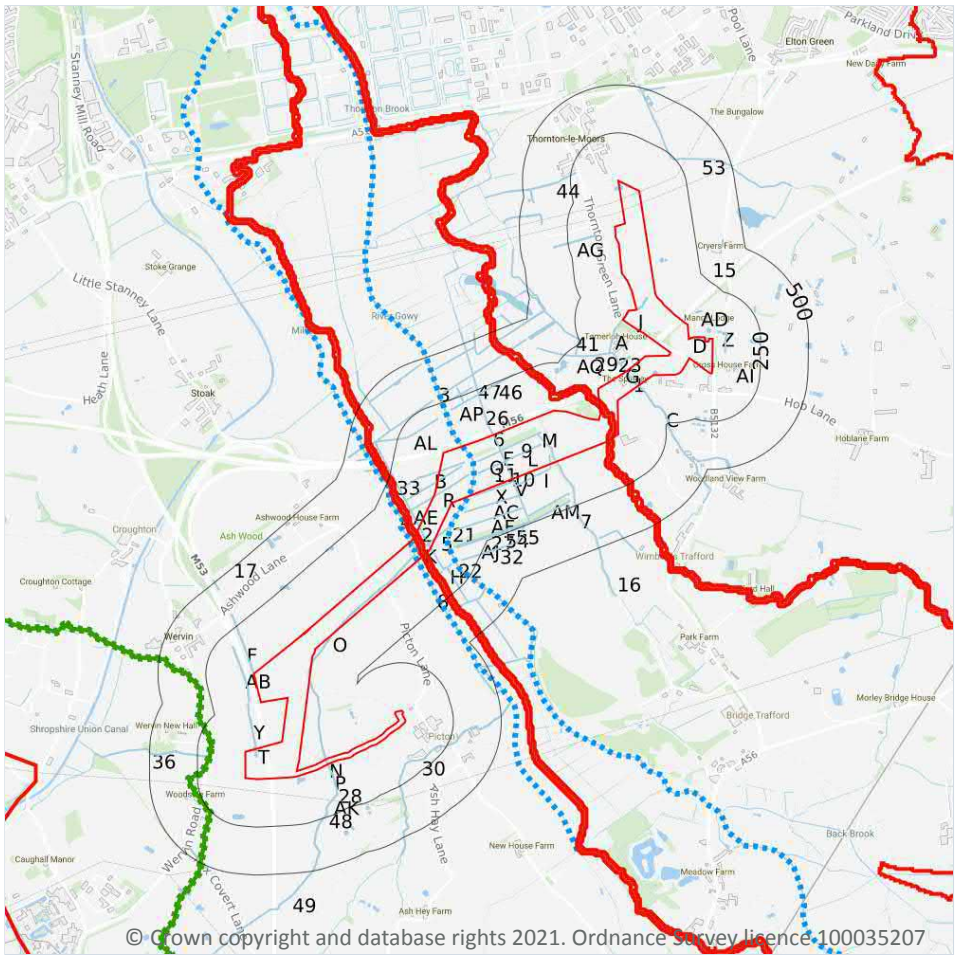
5.10 Source Protection Zones (confined aquifer)

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



6.1 Water Network (OS MasterMap)

Records within 250m	115

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 75**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Gowy
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Brook
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Brook
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
O	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
P	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
Q	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
R	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
T	**On site**	**Lake, loch or reservoir.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
X	9m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	14m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	37m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	38m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	39m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	44m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
21	46m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	47m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	49m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	49m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	49m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Gowy
23	51m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
26	58m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	60m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	64m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	69m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	73m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	73m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
N	74m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AE	75m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	78m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	78m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	93m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	93m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	98m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
27	107m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	114m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	119m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AJ	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	123m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	125m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
28	126m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
29	127m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	131m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	132m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	161m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	161m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	165m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
30	170m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	171m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
32	172m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
33	176m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	178m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
36	188m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
V	210m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
41	210m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	210m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	211m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	211m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AP	212m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	212m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	212m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	216m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
44	224m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	224m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
46	226m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
47	226m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
48	227m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
49	231m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	240m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	240m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
53	240m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	241m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
54	242m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
55	242m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	243m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	245m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**50**

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 75**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	3

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 75**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
15	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**168**	**Gowy**	**Weaver Gowy**
16	**On site**	**River WB catchment**	**Gowy (Milton Brook to Mersey)**	**GB112068060250**	**Gowy**	**Weaver Gowy**
17	**On site**	**River WB catchment**	**Stanney Mill Brook**	**GB112068060260**	**Gowy**	**Weaver Gowy**

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

6.4 WFD Surface water bodies

Records identified	2

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 75**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
18	**On site**	**River**	**Gowy (Milton Brook to Mersey)**	**GB112068060250**	**Moderate**	**Good**	**Moderate**	**2016**
W	**On site**	**River**	**Stanney Mill Brook**	**GB112068060260**	**Moderate**	**Good**	**Moderate**	**2016**

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

6.5 WFD Groundwater bodies

Records on site	2

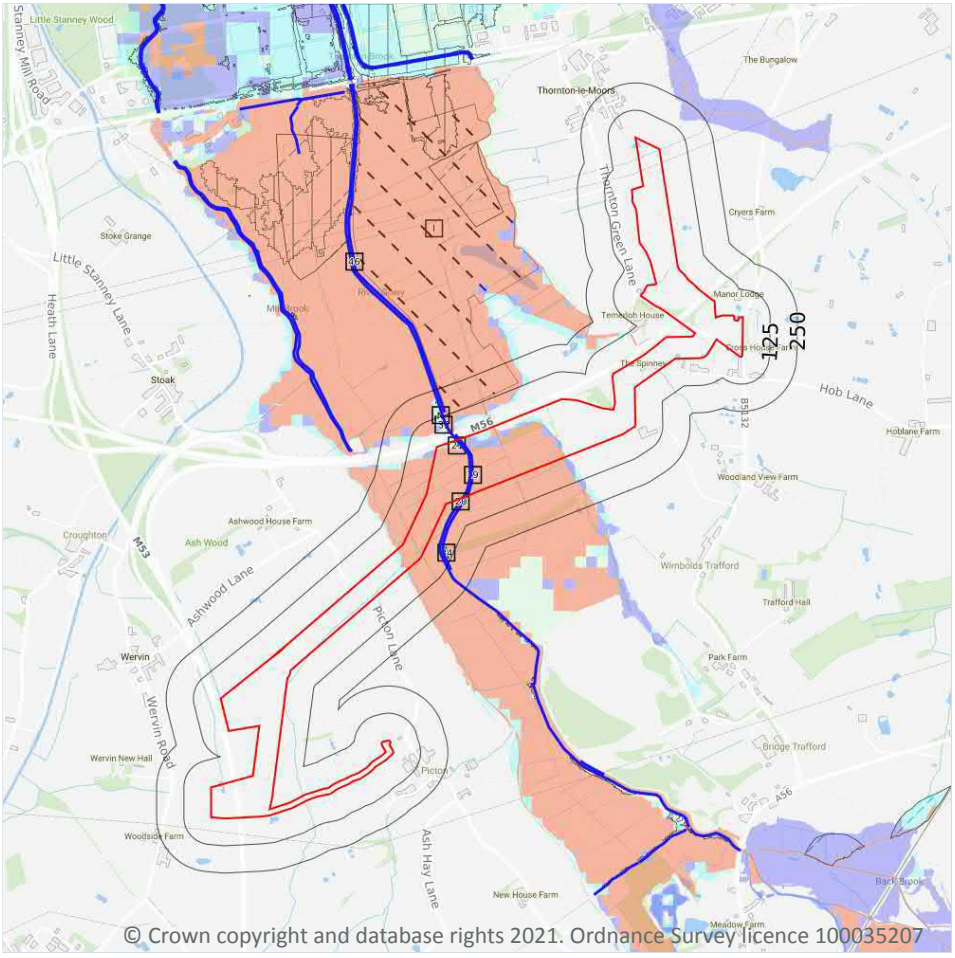
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 75**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
E	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2015**
E	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2016**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

Environment Agency river and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m	42

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 87**

Distance	RoFRaS flood risk
On site	**High**
0 - 50m	High

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	**4**

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.

Features are displayed on the River and coastal flooding map on **page 87**

ID	Location	Update
19	**On site**	**25/05/2021**
20	**On site**	**25/05/2021**
A	55m SE	25/05/2021
46	139m N	25/05/2021

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**5**

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.

Features are displayed on the River and coastal flooding map on **page 87**

ID	Location	
21	**On site**	**Area benefiting from flood defences**
34	80m SE	Area benefiting from flood defences

ID	Location	
35	81m N	Area benefiting from flood defences
N	124m N	Area benefiting from flood defences
O	191m N	Area benefiting from flood defences

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

7.5 Flood Storage Areas

Records within 250m	**1**

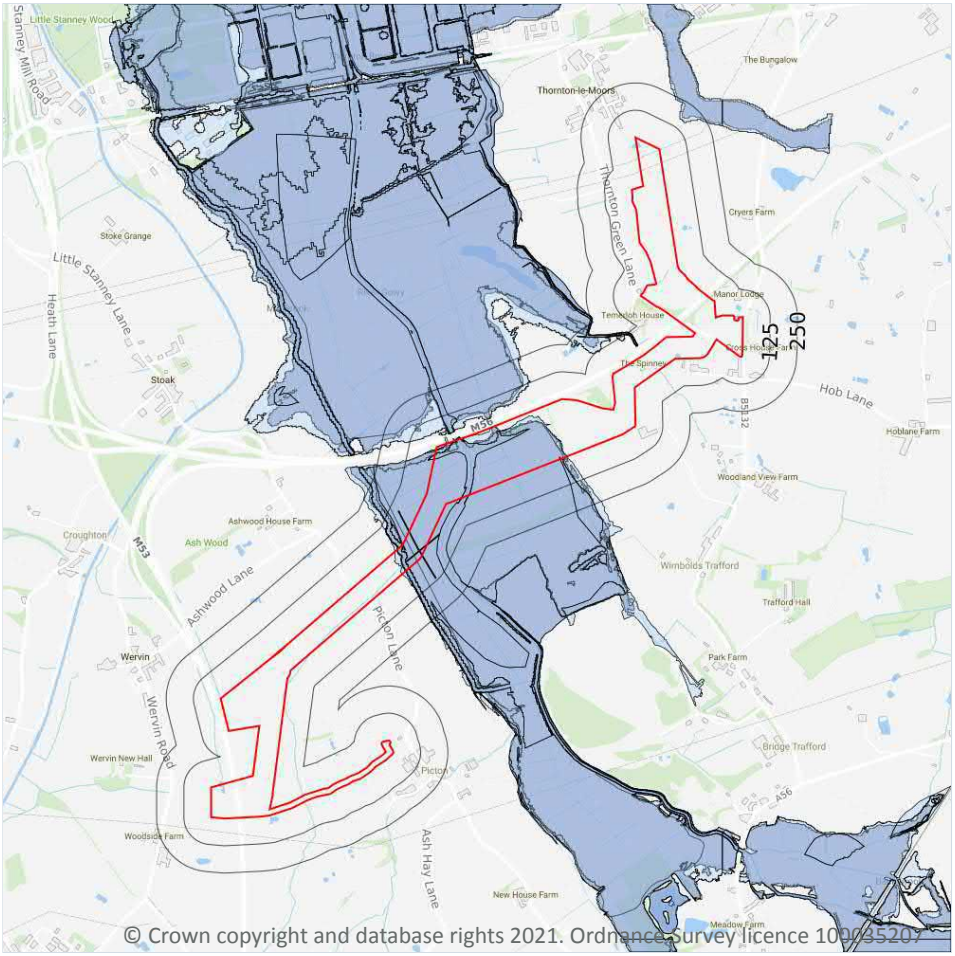
Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

Features are displayed on the River and coastal flooding map on **page 87**

ID	Location	Update
I	121m N	Flood Storage Area

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

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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.

Features are displayed on the River and coastal flooding map on **page 87**

Location	Type
On site	**Zone 2 - (Fluvial /Tidal Models)**

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

7.7 Flood Zone 3

Records within 50m	1

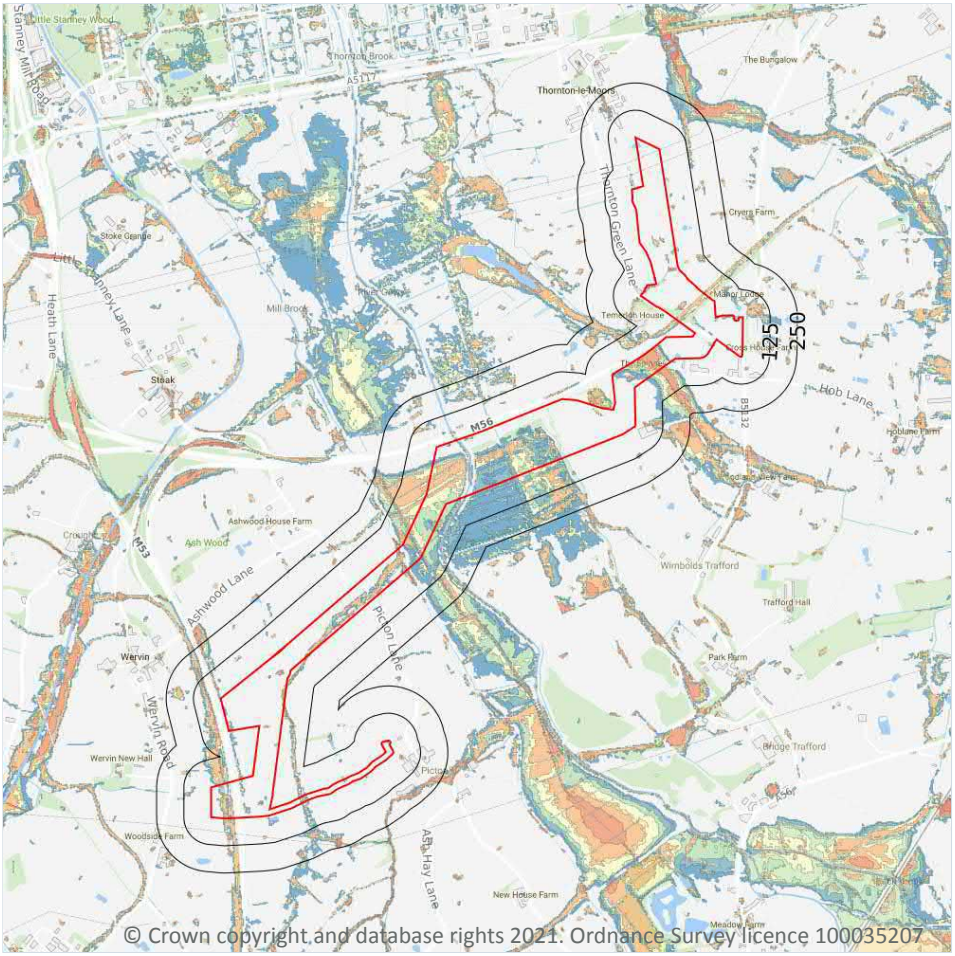
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 87**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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, Greater than 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 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 92**

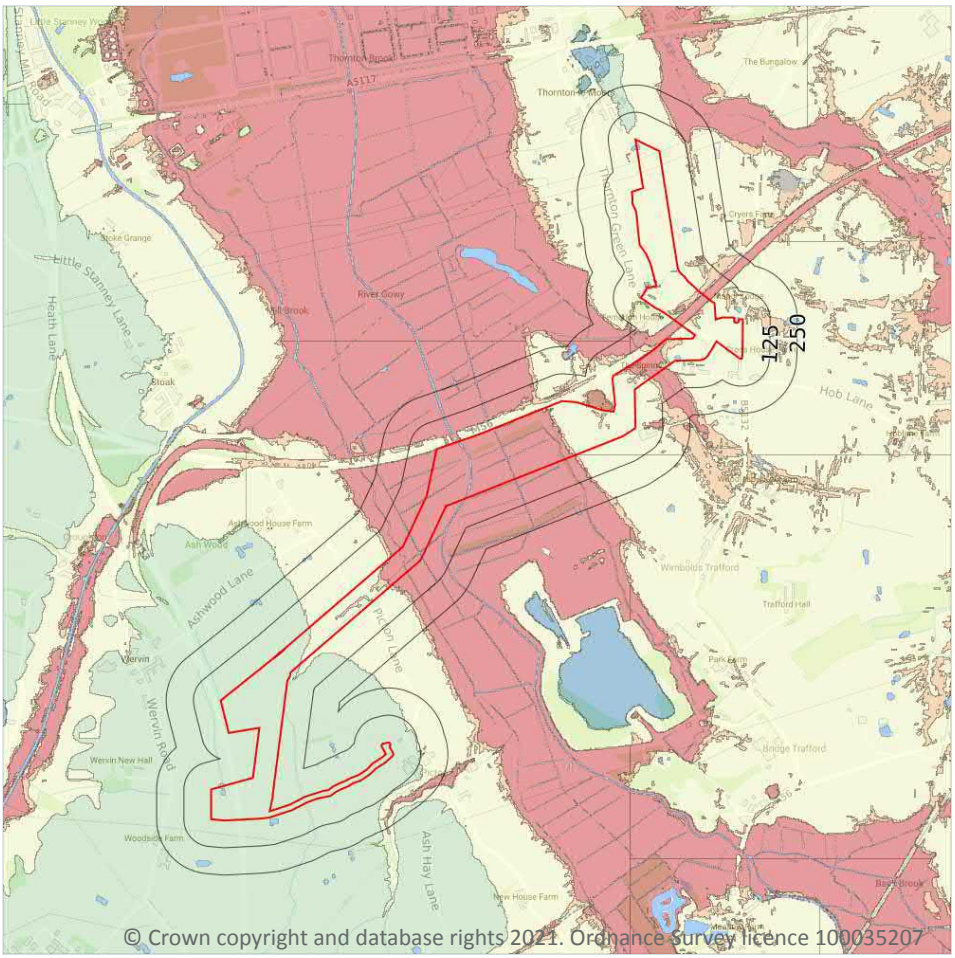
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

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

9.1 Groundwater flooding

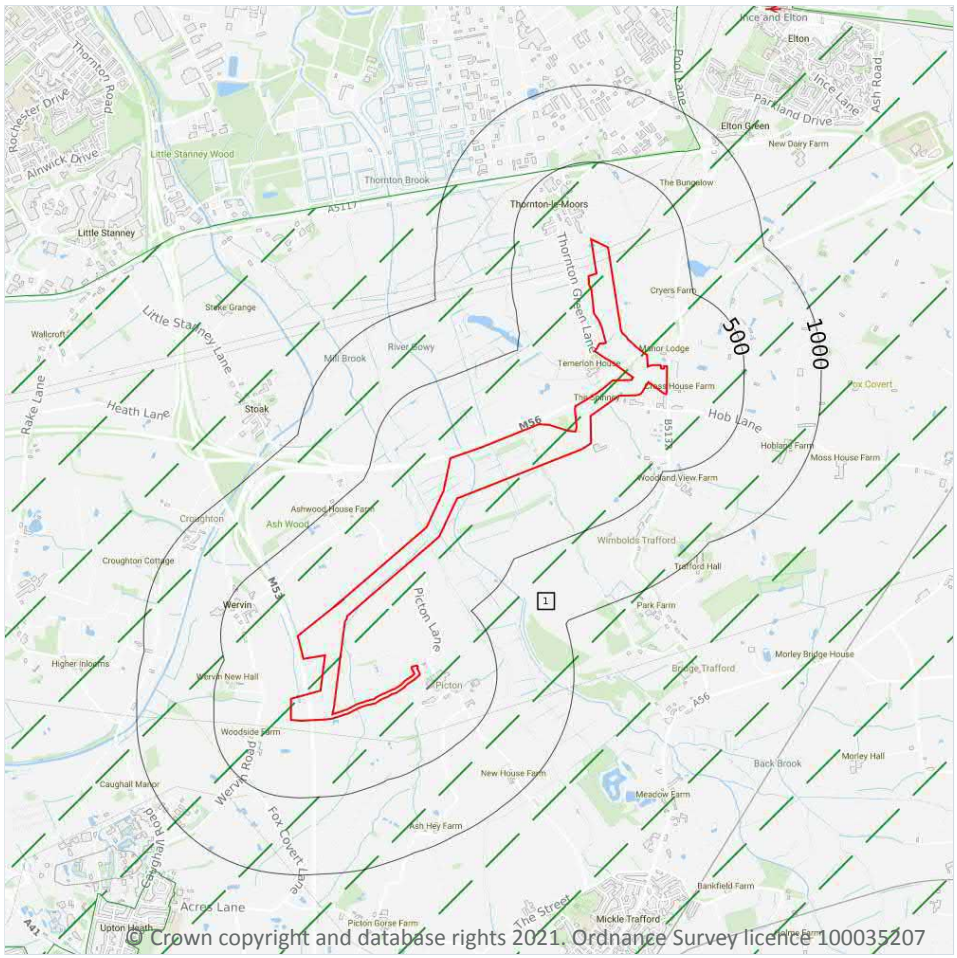
Highest risk on site	**High**
Highest risk within 50m	**High**

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 94**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

- Sites of Special Scientific Interest (SSSI)
- Conserved wetland sites (Ramsar sites)
- Special Protection Areas (SPA)
- Local Nature Reserves (LNR)
- 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	0

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.

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 95**

ID	Location	Name	Local Authority name
1	**On site**	**Merseyside and Greater Manchester**	**Cheshire West and Chester**

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

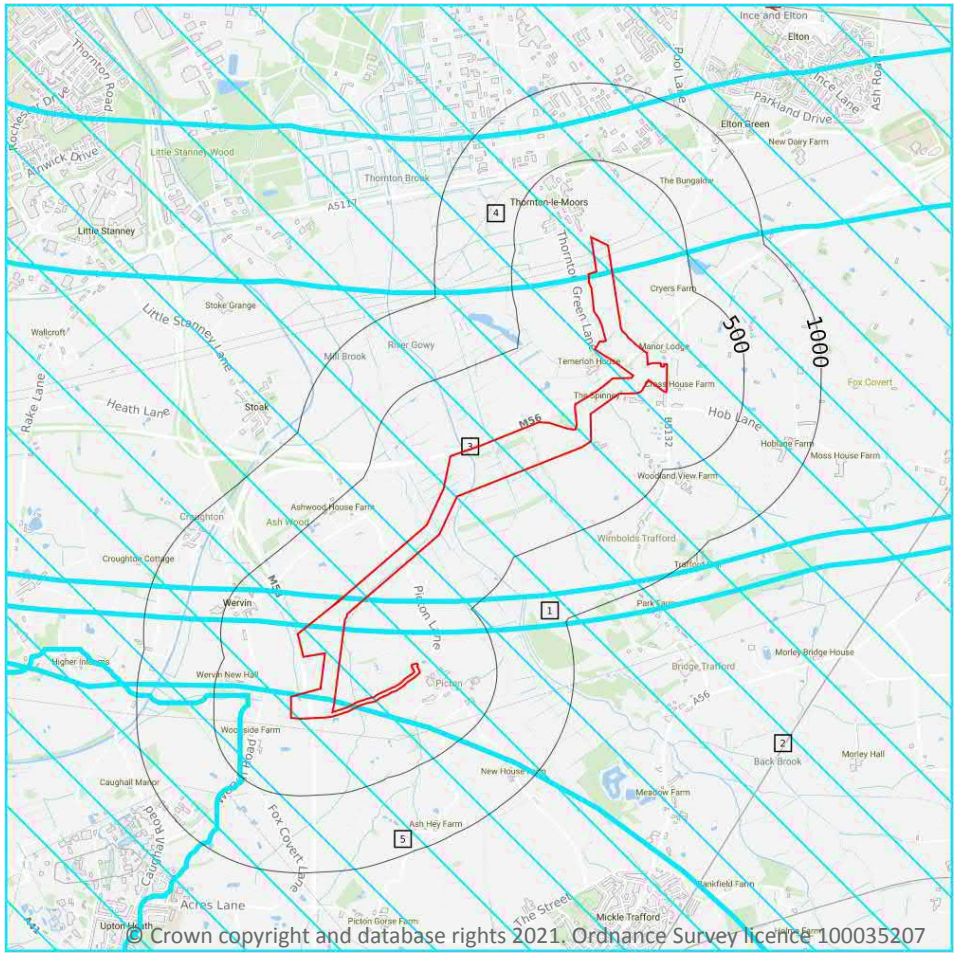
Records within 2000m	7

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.

Location	Name	Type	NVZ ID	Status
On site	**River Gowy (Milton Brook to Mersey) NVZ**	**Surface Water**	**S629**	**Existing**
On site	**Stanney Mill Brook NVZ**	**Surface Water**	**S630**	**Existing**
On site	**River Gowy (Milton Brook to Mersey) NVZ**	**Surface Water**	**S629**	**Existing**
790m S	Stanney Mill Brook NVZ	Surface Water	S630	Existing
1401m E	Peckmill Brook, Hoolpool Gutter at Ince Marshes. NVZ	Surface Water	S635	Existing
1448m SE	Barrow Brook NVZ	Surface Water	S634	Existing
1670m N	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	S629	Existing

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

SSSI Impact Zones and Units



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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	5

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 100**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location) Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**
2	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)**
3	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location) Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**

ID	Location	Type of developments requiring consultation
4	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location). Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**
5	On site	**Infrastructure - Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)**

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



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Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

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	2

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.

Features are displayed on the Visual and cultural designations map on **page 103**

ID	Location	Name	Grade	Reference Number	Listed date
3	164m NW	Yew Tree House, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1130651	20/12/1983
4	186m NW	Church House Farmhouse Including Shippon Abutting On North, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1330240	17/06/1982

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

11.5 Conservation Areas

Records within 250m	2

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.

Features are displayed on the Visual and cultural designations map on **page 103**

ID	Location	Name	District	Date of designation
1	17m SE	Picton , Cheshire West and Chester	Cheshire West and Chester	08/10/1996
2	134m NW	Thornton le Moors, Cheshire West and Chester	Cheshire West and Chester	14/10/1981

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.

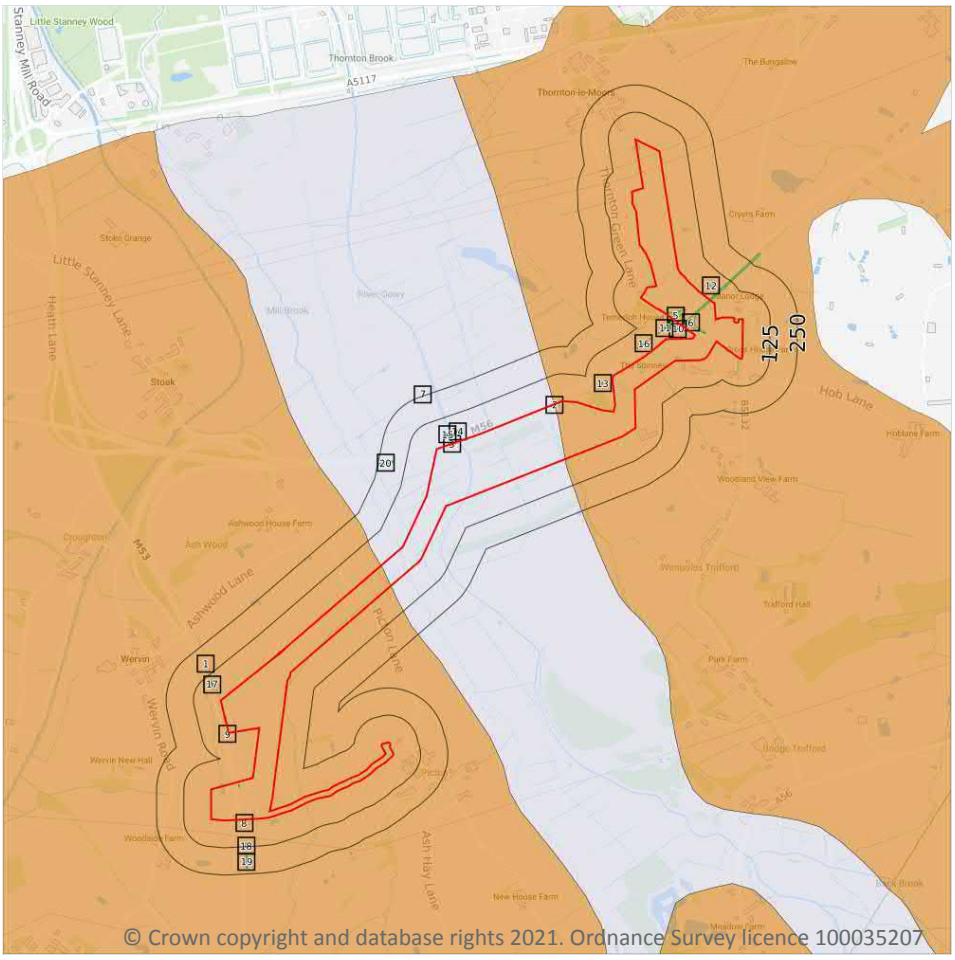
11.7 Registered Parks and Gardens

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 106**

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
7	**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	**18**

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.

Features are displayed on the Agricultural designations map on **page 106**

ID	Location	Description	Reference	Application date
2	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
3	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
4	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
5	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
6	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
8	4m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	5m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
10	7m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	21m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
12	39m NE	Selective Fell/Thin (Unconditional)	018/366/15-16	-

ID	Location	Description	Reference	Application date
13	40m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
14	42m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
15	42m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
16	46m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
17	61m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
18	108m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
19	162m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
20	184m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**3**

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
34m N	AG00351970	Entry Level plus Higher Level Stewardship	01/03/2012	28/02/2022
59m NW	AG00280058	Entry Level plus Higher Level Stewardship	01/11/2008	31/10/2018
118m N	AG00351970	Entry Level plus Higher Level Stewardship	01/03/2012	28/02/2022

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	**5**

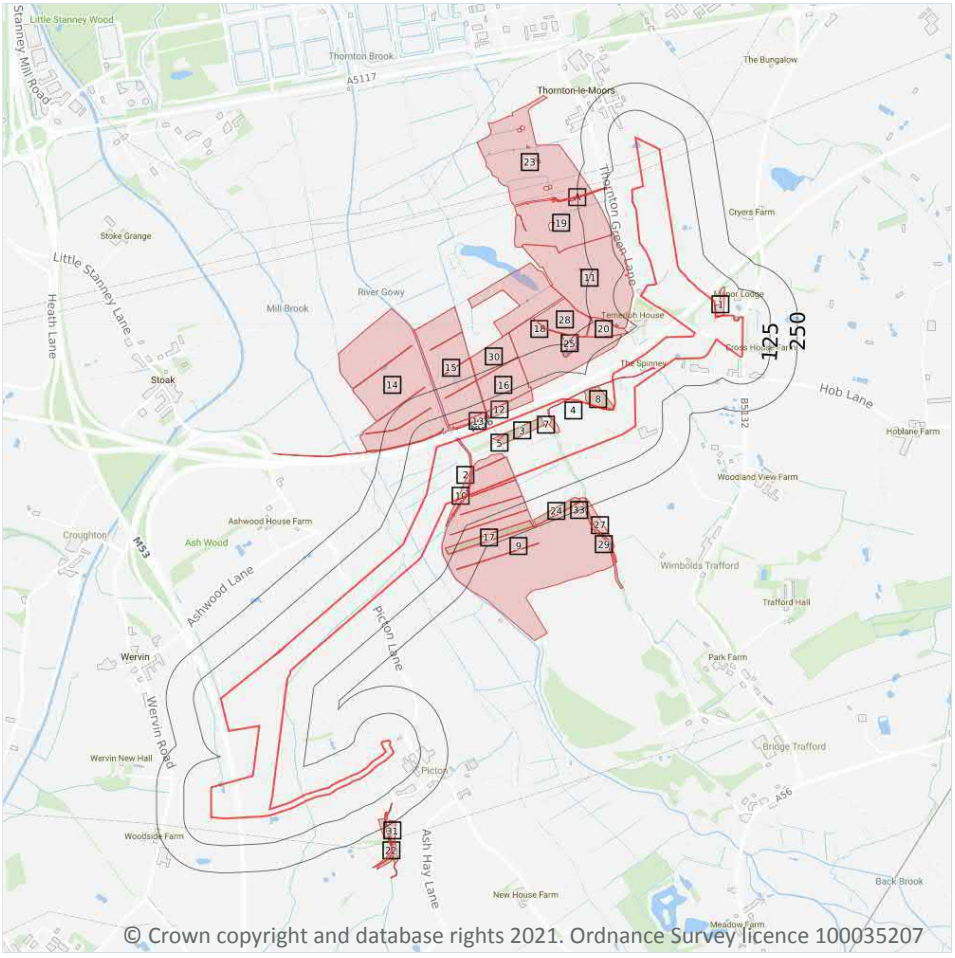
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**

Location	Reference	Scheme	Start Date	End Date
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
48m NW	645572	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023
189m N	1053565	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
235m SW	825088	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

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	35

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 110**

ID	Location	Main Habitat	Other habitats
1	On site	Traditional orchard	Main habitat: TORCH (INV > 50%)
2	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (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**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
9	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
10	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
11	34m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
12	40m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (FEP + HLS)
13	47m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (FEP + HLS)
14	49m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%, FEP + HLS)
15	75m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%, FEP + HLS)
16	76m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%, FEP + HLS)
17	83m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
18	91m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
A	115m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
A	118m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
19	119m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
20	124m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
21	172m SW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
22	174m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
23	183m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
24	188m S	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
25	193m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
26	193m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
27	208m S	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
28	212m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
29	222m S	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
30	227m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

ID	Location	Main Habitat	Other habitats
31	230m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
32	232m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
33	235m S	Coastal and floodplain grazing marsh	Main habitat: CFPGM (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.

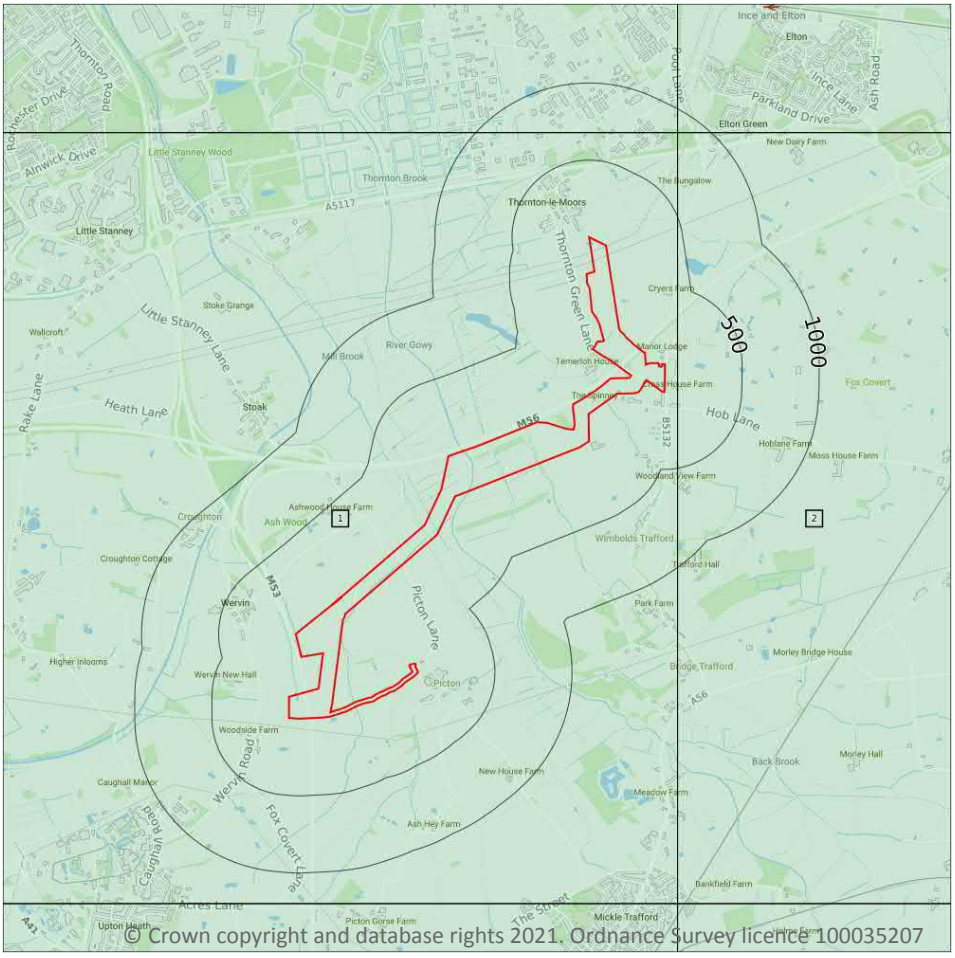
13.4 Limestone Pavement Orders

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	2

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 113**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SJ47SW**
2	81m E	No coverage	Full	Full	No coverage	SJ47SE

This data is sourced from the British Geological Survey.

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

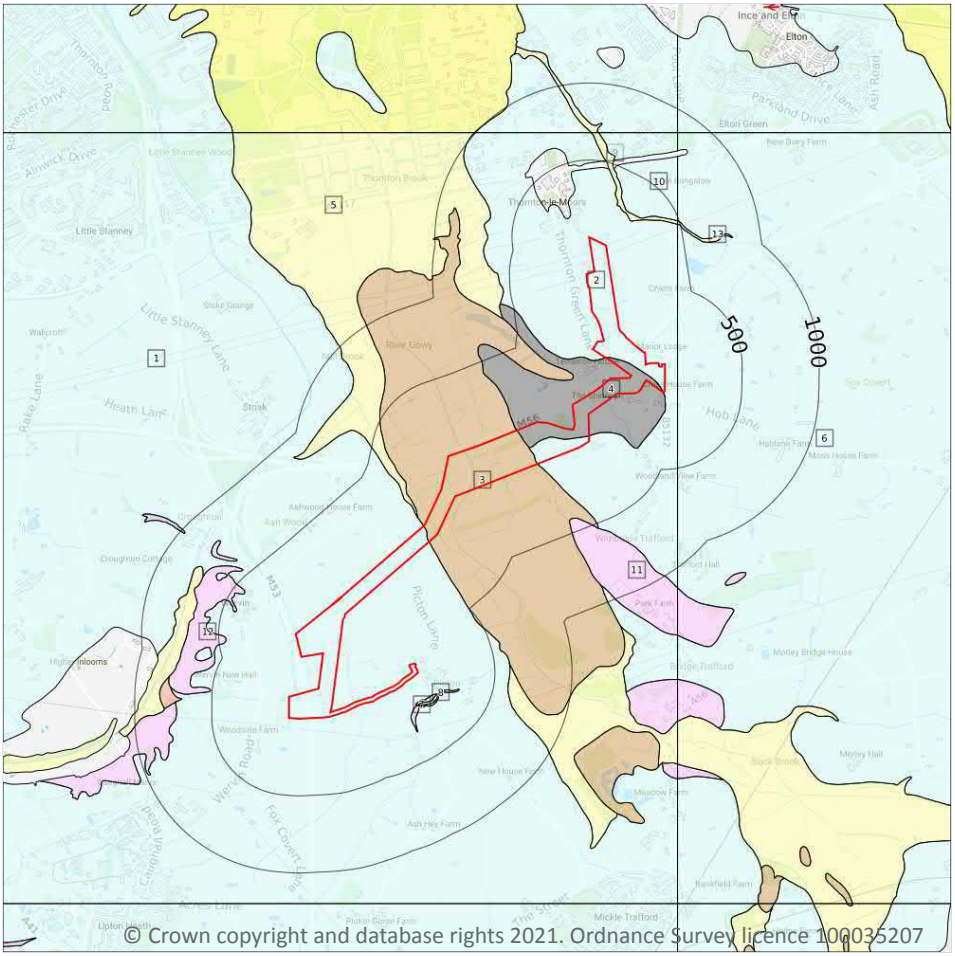
14.2 Artificial and made ground (10k)

Records within 500m	0

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.

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 **13**

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 115**

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	On site	PEAT-P	Peat - Peat	Peat

ID	Location	LEX Code	Description	Rock description
4	**On site**	**BSA1-S**	**Blown Sand, 1 - Sand**	**Sand**
5	65m NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	81m E	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
7	149m SE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
8	164m SE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
9	227m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
10	261m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
11	412m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
12	413m W	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
13	484m E	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

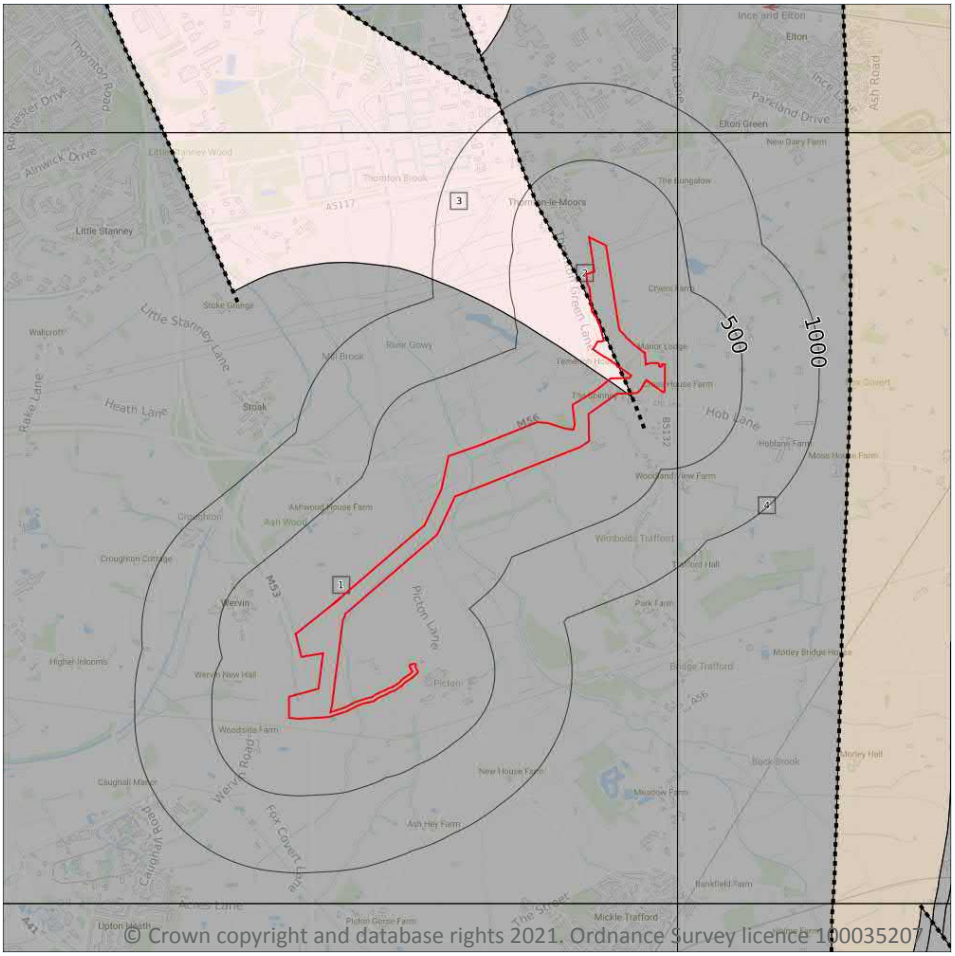
14.4 Landslip (10k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	3

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 117**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-PESST**	**Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone**	**Early Triassic Epoch**
3	**On site**	**WLSF-SDST**	**Wilmslow Sandstone Formation - Sandstone**	**Early Triassic Epoch**
4	81m E	CPB-PESST	Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**1**

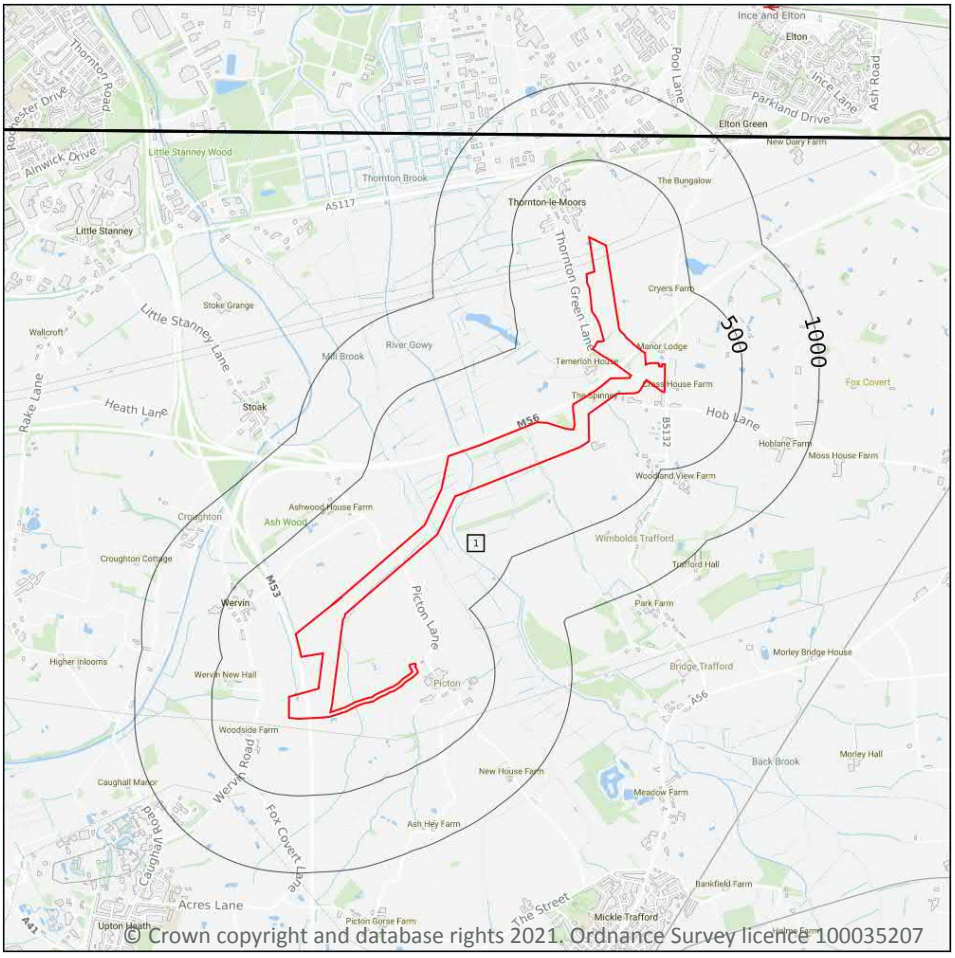
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 117**

ID	Location	Category	Description
2	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**

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 119**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW109_chester_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.

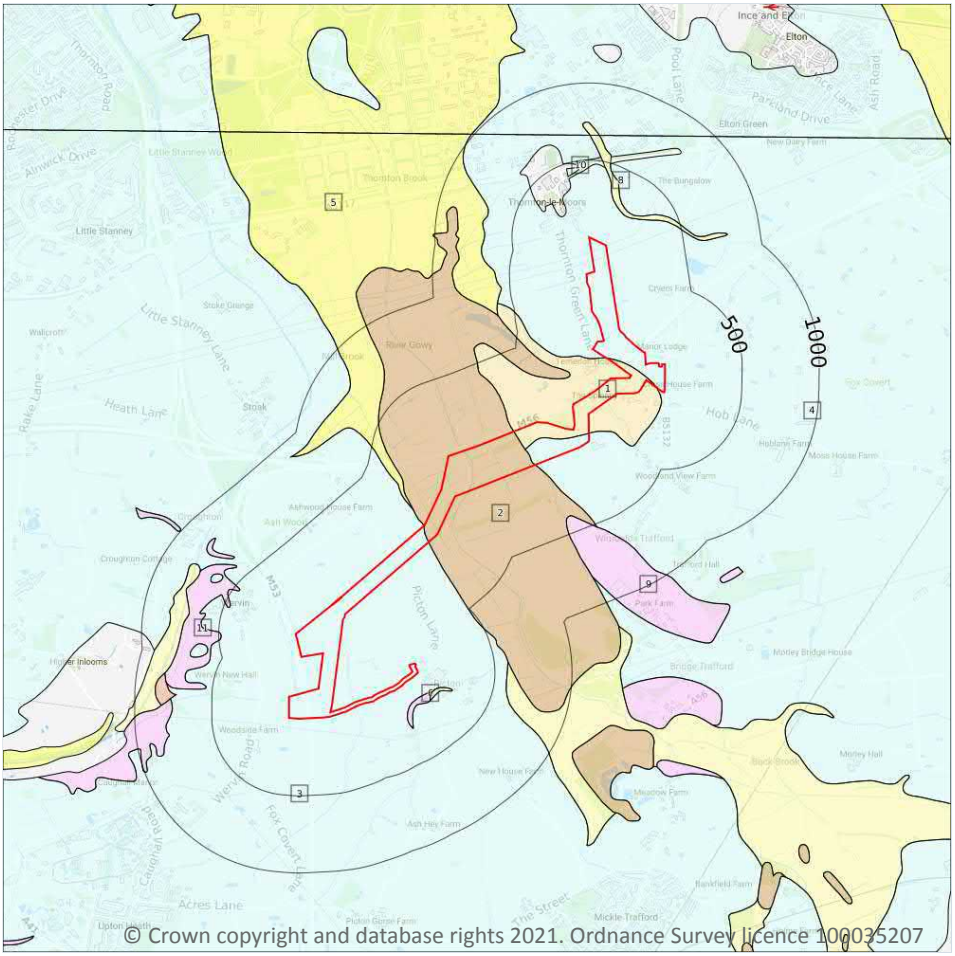
15.3 Artificial ground permeability (50k)

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 **11**

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 121**

ID	Location	LEX Code	Description	Rock description
1	On site	BSA-S	BLOWN SAND	SAND
2	On site	PEAT-P	PEAT	PEAT
3	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

ID	Location	LEX Code	Description	Rock description
4	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
5	109m NW	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
6	128m SE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	155m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
8	229m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
9	391m S	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
10	415m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
11	461m NW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **4**

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**	**Low**	**Very Low**
On site	**Mixed**	**High**	**Low**
On site	**Intergranular**	**High**	**High**
On site	**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.

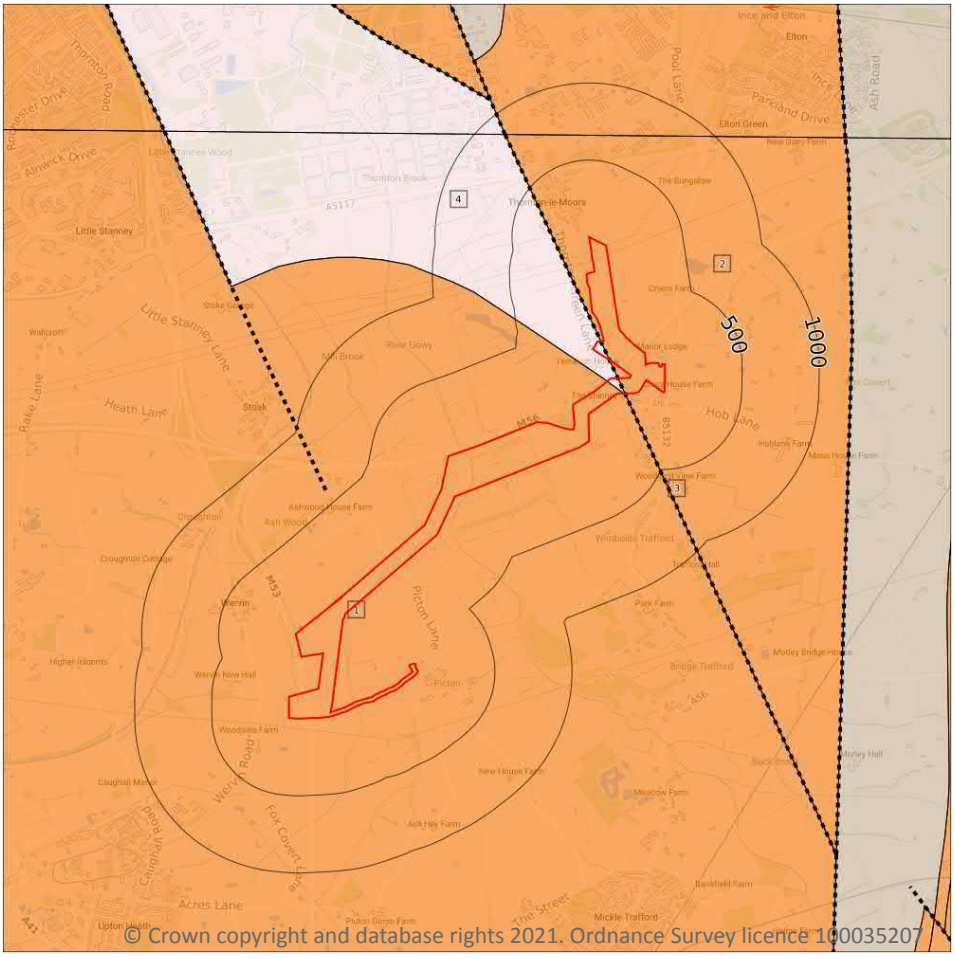
15.7 Landslip permeability (50k)

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	3

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 124**

ID	Location	LEX Code	Description	Rock age
1	On site	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
2	On site	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
4	On site	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**
On site	**Intergranular**	**High**	**High**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

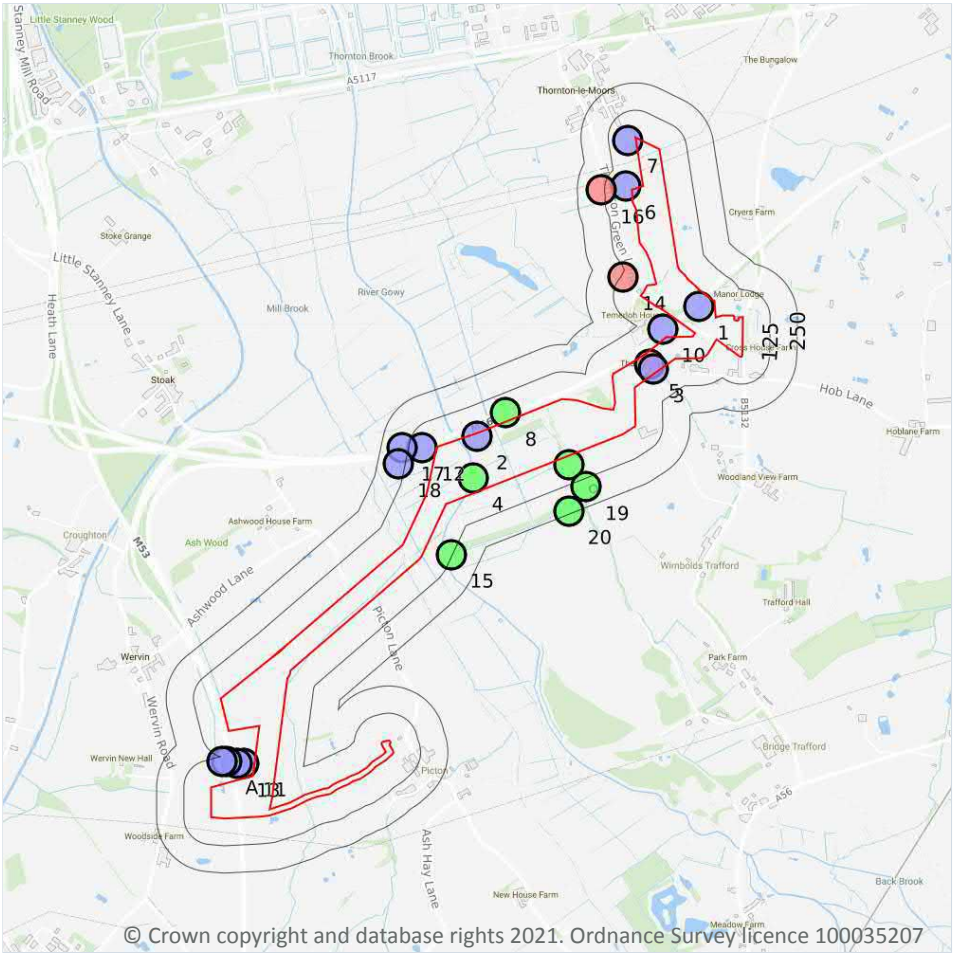
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 124**

ID	Location	Category	Description
3	**On site**	**FAULT**	**Fault, inferred, displacement unknown**

This data is sourced from the British Geological Survey.

16 Boreholes



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Site Outline

Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m	22

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.

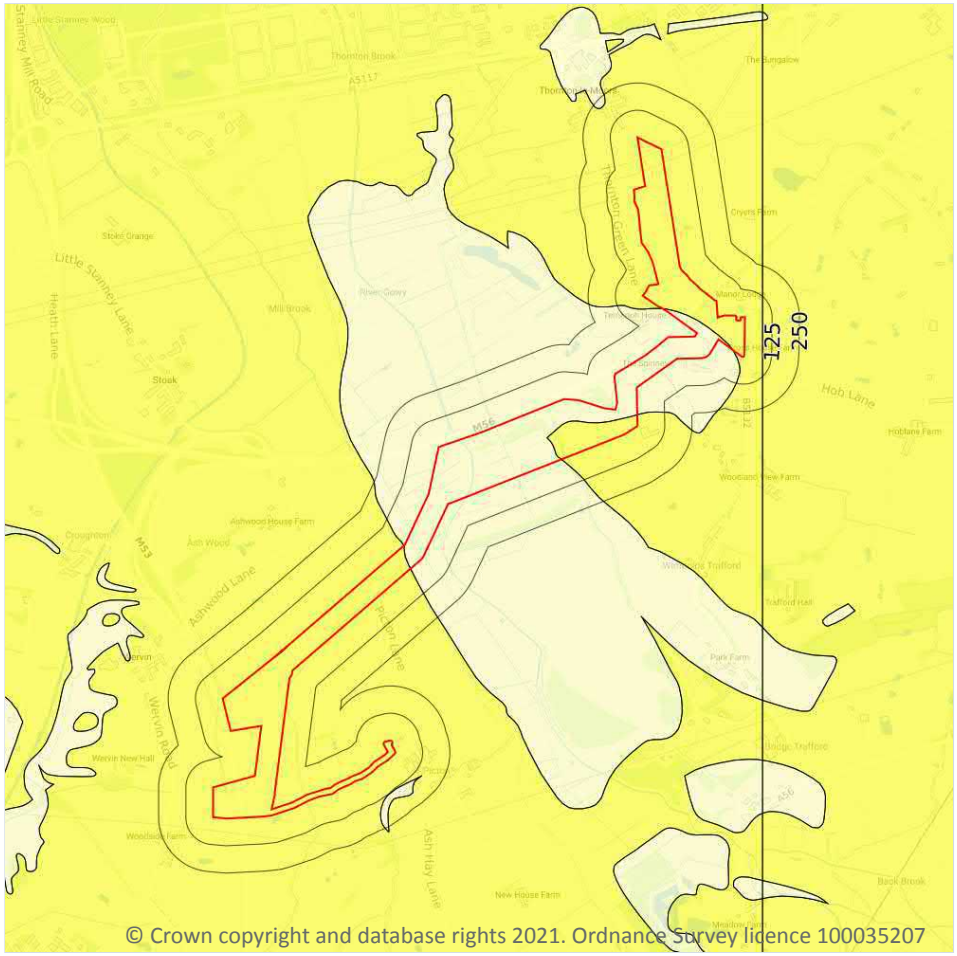
Features are displayed on the Boreholes map on **page 126**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	344715 373545	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-04	8.5	N	163715
2	On site	343700 372950	STANLOW 29	-2.0	N	163595

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	**On site**	**344510 373260**	**SPRING FARM**	**-2.0**	**N**	**163747**
4	**On site**	**343680 372760**	**GOWY MARSHES NO.2**	**18.0**	**N**	**163760**
5	**On site**	**344490 373280**	**SHELL 30**	**124.96**	**N**	**163590**
6	35m NW	344380 374100	ELTON GREEN	-2.0	N	163748
7	38m W	344390 374310	RUNCORN INDUSTRIAL WATER SUPPLY TP 4	2.5	N	163698
8	38m N	343832 373060	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-02	15.0	N	163713
9	40m S	344120 372820	GOWY MARSHES NO.6	14.5	N	163764
10	43m NW	344550 373445	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-03	9.0	N	163714
11	49m W	342630 371450	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 11	8.0	N	163717
12	63m W	343449 372898	GOWY VALLEY 3	5.7	N	163658
13	73m N	342600 371450	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 12	8.0	N	163718
A	96m N	342550 371460	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 13/13A	8.1	N	163719
A	101m N	342530 371460	750MM MICKLE TRAFFORD TO DEESIDE PIPELINE 14	8.15	N	163720
14	114m NW	344370 373680	SHELL 28	152.4	N	163589
15	118m SE	343580 372410	GOWY MARSHES NO.1	17.0	N	163759
16	140m W	344270 374080	STANLOW 25	152.4	N	163588
17	155m W	343355 372898	GOWY VALLEY 2	6.5	N	163657
18	156m W	343339 372825	GOWY VALLEY 1	5.7	N	163656
19	162m S	344200 372720	GOWY MARSHES NO.5	10.5	N	163763
20	235m S	344120 372610	GOWY MARSHES NO.4	16.0	N	163762

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

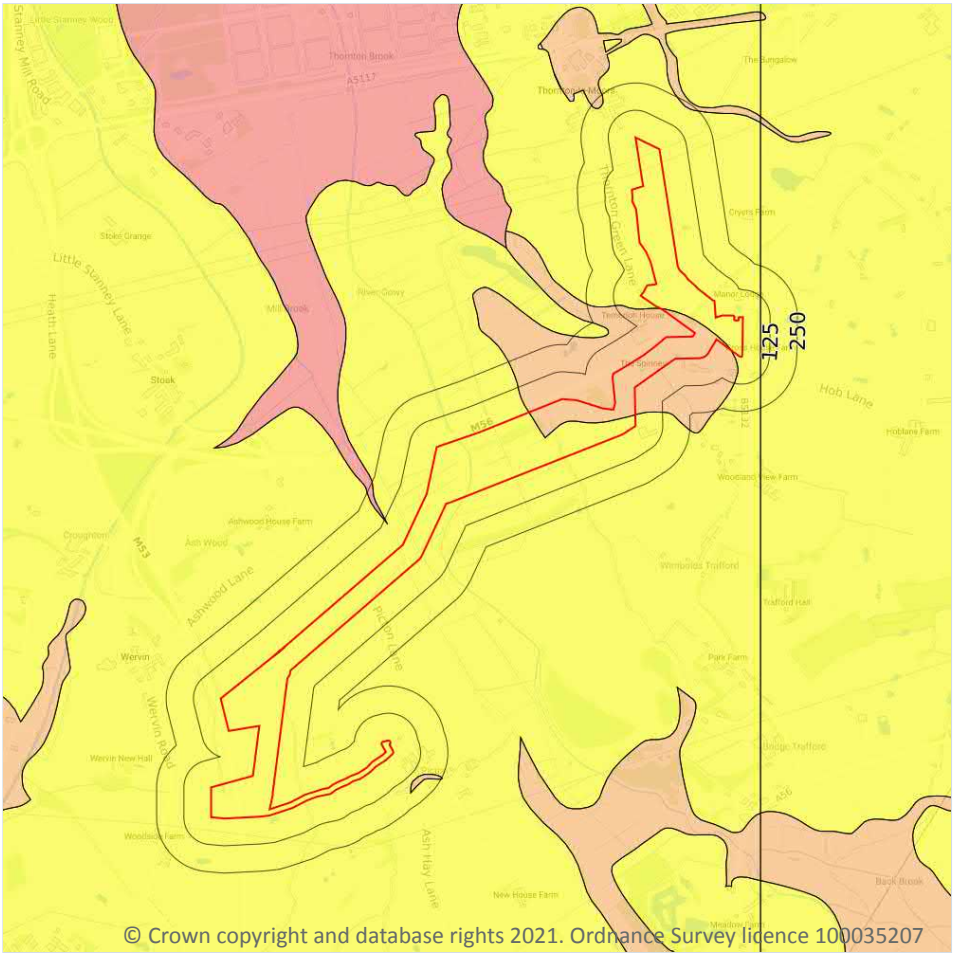
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 128**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

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

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.

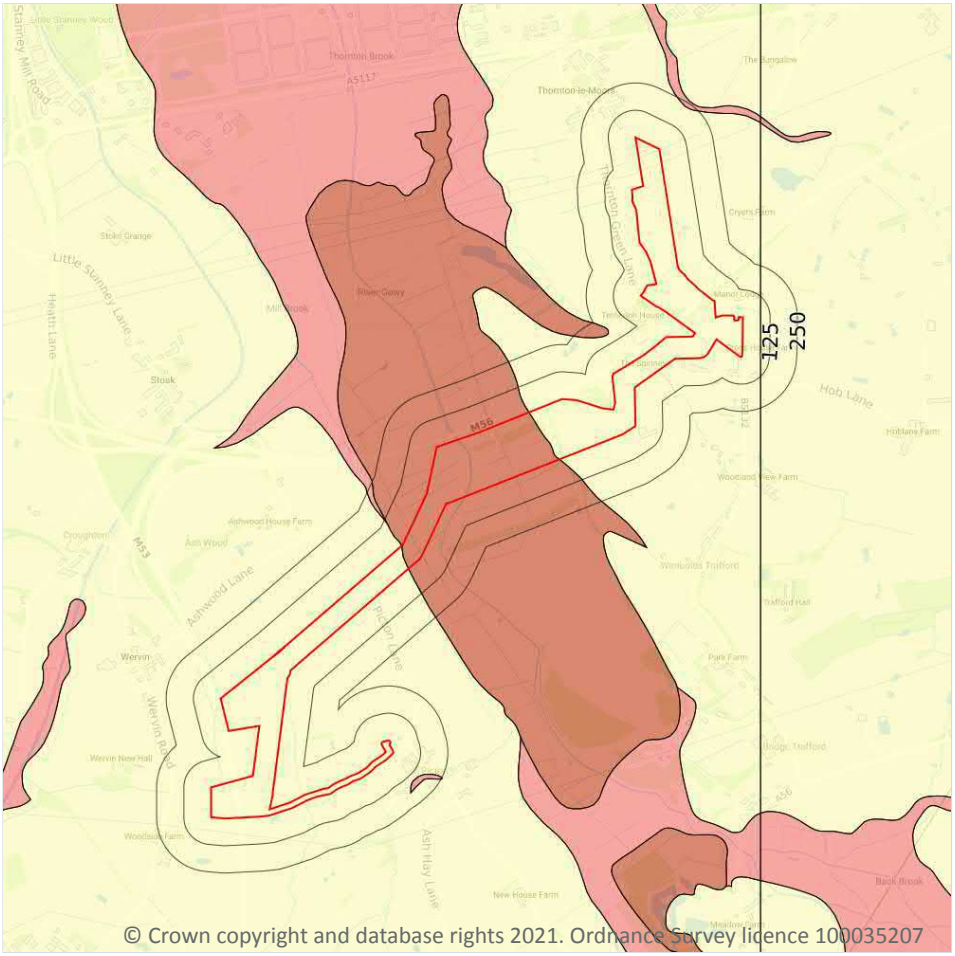
Features are displayed on the Natural ground subsidence - Running sands map on **page 129**

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
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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17.3 Compressible deposits

Records within 50m	2

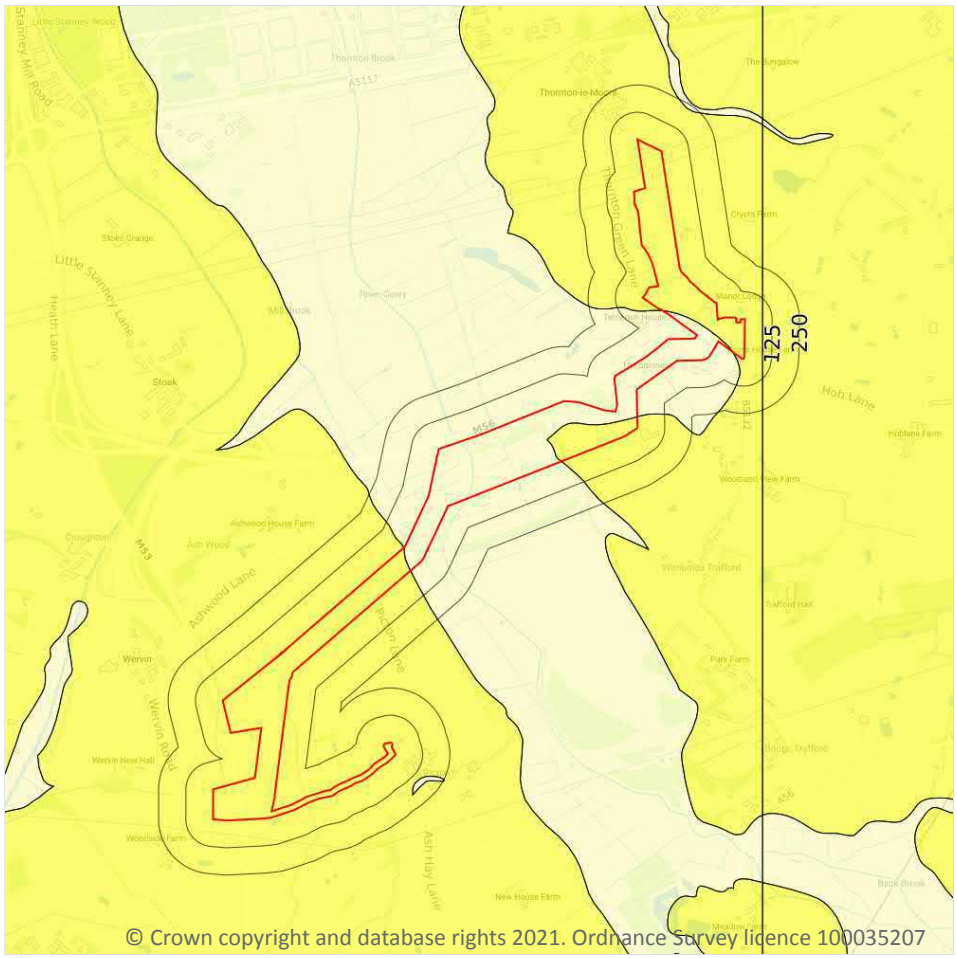
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 131**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**High**	**Highly compressible strata present. Significant constraint on land use depending on thickness.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m	2

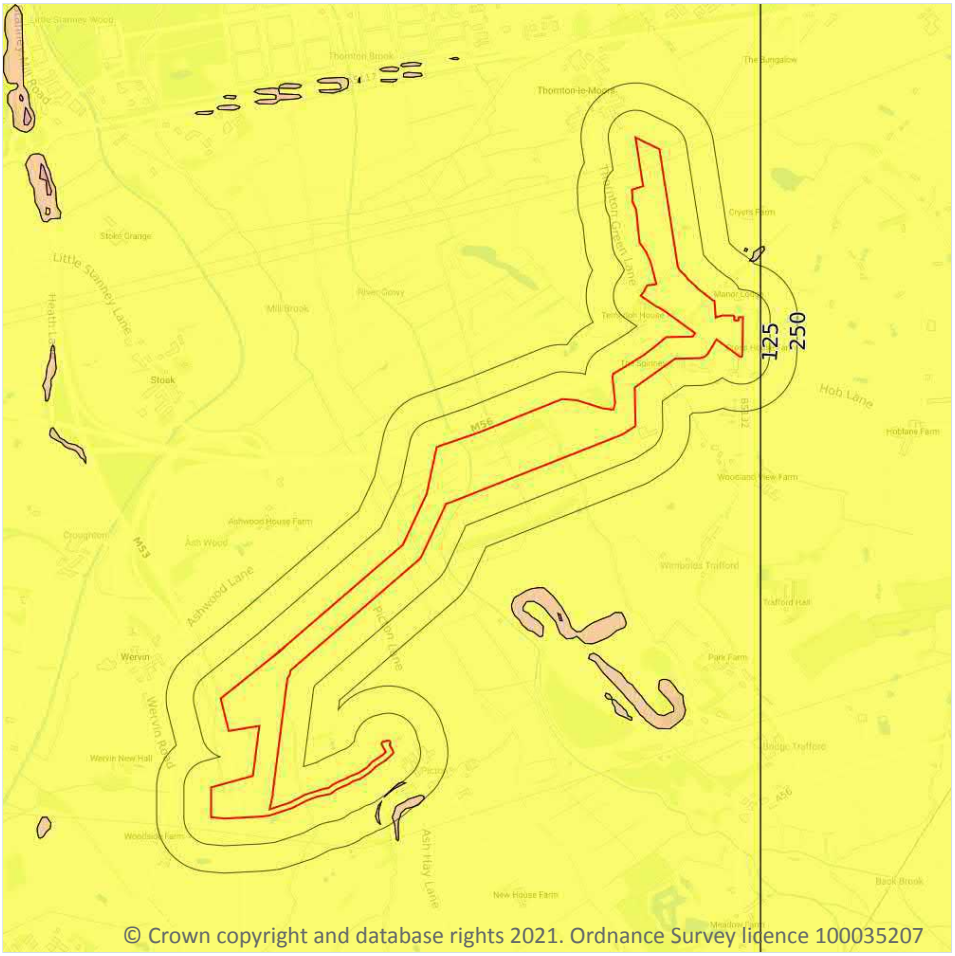
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 132**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

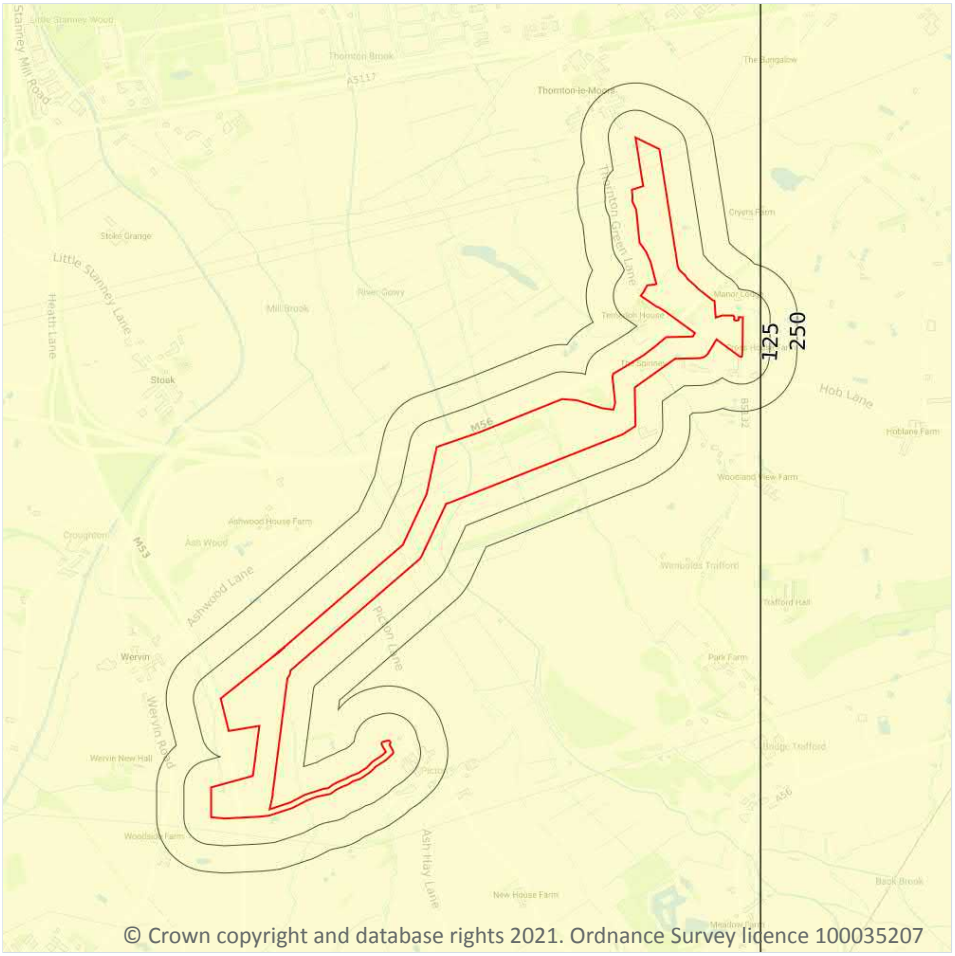
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 133**

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.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

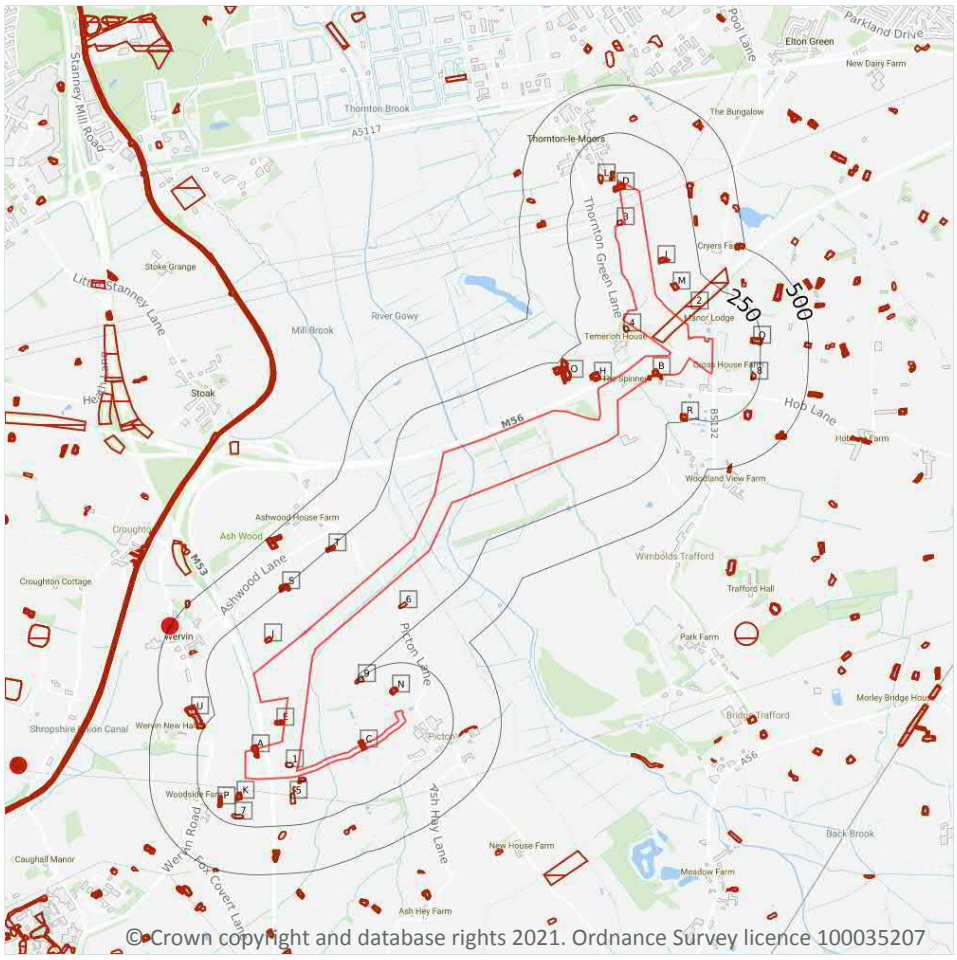
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 134**

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	0

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.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	128

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 136**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Pond	1967	1:10560
2	On site	Cuttings	1983	1:10000
A	On site	Pond	1983	1:10000
A	On site	Pond	1967	1:10560
A	On site	Pond	1949	1:10560
A	On site	Pond	1938	1:10560
A	On site	Pond	1898	1:10560
A	On site	Pond	1912	1:10560
A	On site	Pond	1908	1:10560
A	On site	Pond	1908	1:10560
A	On site	Pond	1908	1:10560
B	On site	Ponds	1983	1:10000
B	On site	Ponds	1967	1:10560
B	On site	Ponds	1949	1:10560
B	On site	Ponds	1897	1:10560
C	On site	Pond	1967	1:10560
C	On site	Pond	1949	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	**On site**	**Pond**	**1938**	**1:10560**
C	**On site**	**Pond**	**1898**	**1:10560**
C	**On site**	**Pond**	**1912**	**1:10560**
C	**On site**	**Pond**	**1908**	**1:10560**
C	**On site**	**Pond**	**1908**	**1:10560**
C	**On site**	**Pond**	**1908**	**1:10560**
D	**On site**	**Pond**	**1983**	**1:10000**
D	**On site**	**Pond**	**1967**	**1:10560**
D	**On site**	**Pond**	**1949**	**1:10560**
D	**On site**	**Pond**	**1912**	**1:10560**
D	**On site**	**Pond**	**1912**	**1:10560**
D	**On site**	**Pond**	**1938**	**1:10560**
3	0m N	Pond	1912	1:10560
E	3m W	Pond	1938	1:10560
E	3m W	Pond	1898	1:10560
E	5m W	Pond	1908	1:10560
E	5m W	Pond	1908	1:10560
E	5m W	Pond	1908	1:10560
E	7m W	Pond	1967	1:10560
E	7m W	Pond	1949	1:10560
E	9m W	Pond	1912	1:10560
F	12m S	Pond	1983	1:10000
F	12m S	Pond	1967	1:10560
4	15m SW	Pond	1912	1:10560
G	30m NW	Pond	1938	1:10560
G	31m NW	Pond	1912	1:10560
G	32m NW	Pond	1912	1:10560
H	38m NW	Pond	1912	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
H	39m NW	Pond	1908	1:10560
H	39m NW	Pond	1908	1:10560
H	39m NW	Pond	1908	1:10560
H	44m NW	Pond	1967	1:10560
H	44m NW	Pond	1949	1:10560
H	47m NW	Pond	1938	1:10560
H	47m NW	Pond	1898	1:10560
I	48m E	Ponds	1983	1:10000
I	48m E	Ponds	1967	1:10560
I	48m E	Ponds	1949	1:10560
I	48m E	Ponds	1911	1:10560
I	48m E	Ponds	1897	1:10560
5	51m S	Ponds	1967	1:10560
J	77m NW	Pond	1983	1:10000
J	77m NW	Pond	1967	1:10560
J	77m NW	Pond	1949	1:10560
K	79m S	Pond	1938	1:10560
K	79m S	Pond	1898	1:10560
L	82m W	Pond	1983	1:10000
L	82m W	Pond	1967	1:10560
K	83m SW	Pond	1912	1:10560
K	84m S	Pond	1967	1:10560
K	84m S	Pond	1949	1:10560
M	89m E	Pond	1983	1:10000
M	89m E	Pond	1967	1:10560
M	89m E	Pond	1949	1:10560
M	91m E	Pond	1911	1:10560
M	91m E	Pond	1897	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
N	92m N	Pond	1938	1:10560
N	92m N	Pond	1898	1:10560
N	92m N	Pond	1983	1:10000
N	92m N	Pond	1967	1:10560
N	92m N	Pond	1949	1:10560
6	115m SE	Ponds	1967	1:10560
O	146m N	Ponds	1908	1:10560
O	146m N	Ponds	1908	1:10560
O	146m N	Ponds	1908	1:10560
O	147m N	Pond	1938	1:10560
O	148m N	Pond	1912	1:10560
O	150m N	Pond	1949	1:10560
P	155m SW	Pond	1938	1:10560
P	155m SW	Pond	1898	1:10560
O	160m W	Pond	1898	1:10560
P	161m SW	Pond	1908	1:10560
P	161m SW	Pond	1908	1:10560
P	161m SW	Pond	1908	1:10560
P	161m SW	Pond	1912	1:10560
P	163m SW	Pond	1967	1:10560
P	163m SW	Pond	1949	1:10560
O	164m W	Ponds	1967	1:10560
7	192m S	Pond	1983	1:10000
O	198m N	Ponds	1983	1:10000
Q	200m E	Pond	1983	1:10000
Q	200m E	Pond	1949	1:10560
Q	200m E	Pond	1968	1:10560
Q	202m E	Pond	1911	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Q	202m E	Pond	1897	1:10560
8	207m E	Pond	1897	1:10560
R	208m S	Pond	1983	1:10000
R	208m S	Pond	1967	1:10560
R	212m S	Pond	1897	1:10560
R	217m S	Pond	1949	1:10560
S	220m NW	Pond	1983	1:10000
S	220m NW	Pond	1967	1:10560
T	229m NW	Ponds	1938	1:10560
T	229m NW	Ponds	1898	1:10560
T	230m NW	Ponds	1949	1:10560
T	232m NW	Ponds	1912	1:10560
S	232m NW	Pond	1949	1:10560
S	232m NW	Pond	1938	1:10560
S	232m NW	Pond	1898	1:10560
9	233m NW	Pond	1967	1:10560
S	233m NW	Pond	1908	1:10560
S	233m NW	Pond	1908	1:10560
S	233m NW	Pond	1908	1:10560
T	235m NW	Ponds	1983	1:10000
T	235m NW	Ponds	1967	1:10560
S	238m NW	Pond	1912	1:10560
U	249m NW	Pond	1938	1:10560
U	249m NW	Pond	1898	1:10560
U	250m NW	Pond	1908	1:10560
U	250m NW	Pond	1908	1:10560
U	250m NW	Pond	1908	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is 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	0

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).

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	0

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

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

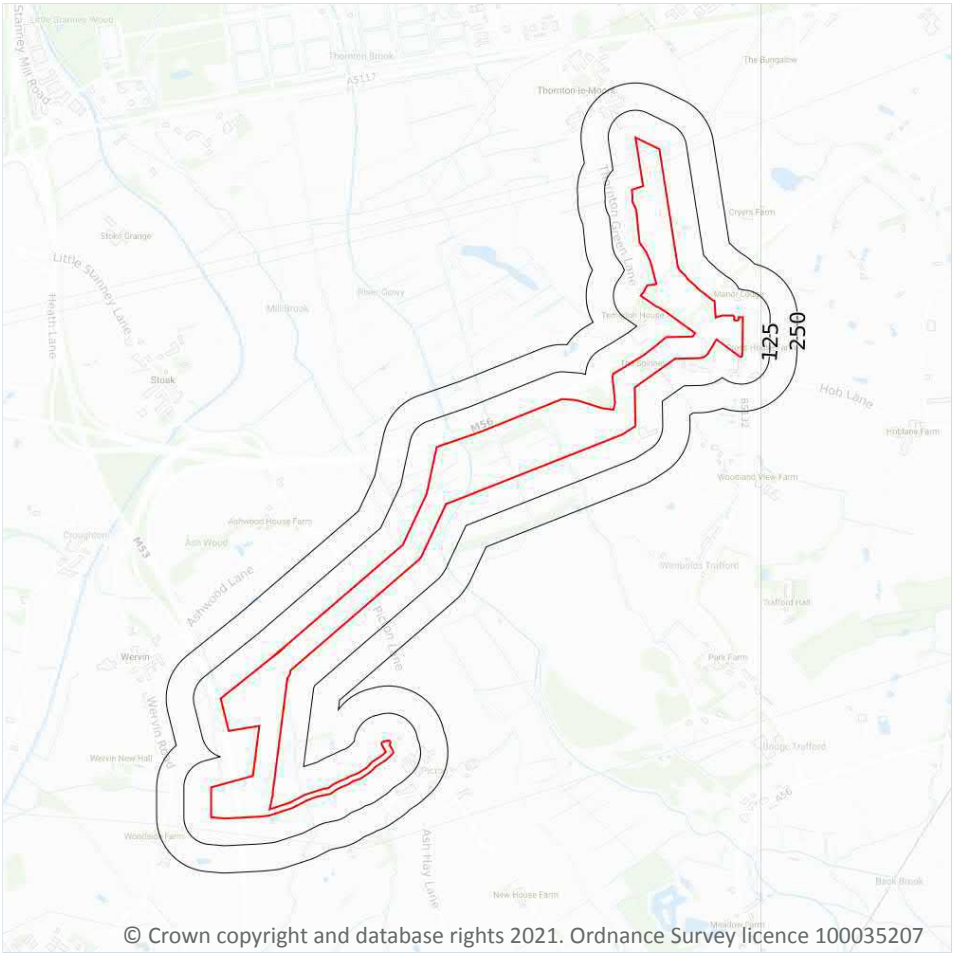
18.13 Clay mining

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



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19.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 144**

Location	Estimated properties affected	Radon Protection Measures required
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 **43**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 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	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
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
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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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	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	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
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
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
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
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
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	90 - 120 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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**
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**	**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**	**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**
8m S	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
9m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
20m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
24m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 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 km^2).

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 km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

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

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 [redacted]

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

DCO Pipeline, Southern Route

Order Details

Date: 31/08/2021

Your ref: DCO Pipeline, Southern Route

Our Ref: GSIP-2021-10877-7381_H

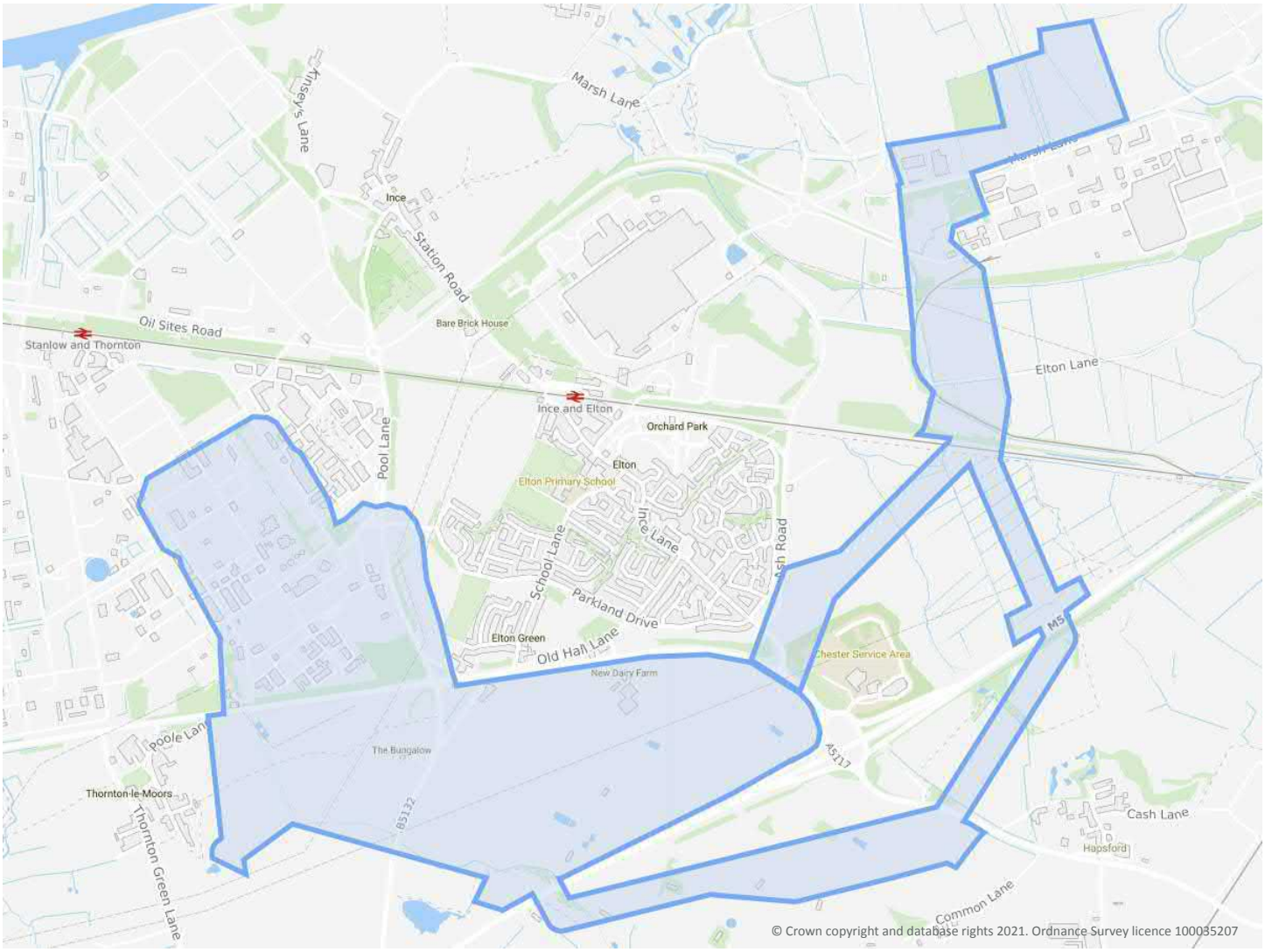
Client: WSP UK LIMITED

Site Details

Location: 345983 375144

Area: 251.26 ha

Authority: Cheshire West and Chester Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

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
13	1.1	Historical industrial land uses	59	12	80	67	-
21	1.2	Historical tanks	97	23	123	82	-
33	1.3	Historical energy features	6	0	14	20	-
35	1.4	Historical petrol stations	0	0	0	0	-
35	1.5	Historical garages	2	0	0	0	-
36	1.6	Historical military land	1	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
37	2.1	Historical industrial land uses	64	17	112	81	-
47	2.2	Historical tanks	171	43	223	136	-
68	2.3	Historical energy features	9	0	23	27	-
71	2.4	Historical petrol stations	0	0	0	0	-
71	2.5	Historical garages	3	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
72	3.1	Active or recent landfill	0	0	1	0	-
73	3.2	Historical landfill (BGS records)	0	0	0	1	-
73	3.3	Historical landfill (LA/mapping records)	0	0	0	1	-
73	3.4	Historical landfill (EA/NRW records)	0	1	1	2	-
74	3.5	Historical waste sites	1	1	1	1	-
76	3.6	Licensed waste sites	0	1	3	4	-
79	3.7	Waste exemptions	14	0	29	49	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
87	4.1	Recent industrial land uses	37	16	147	-	-
97	4.2	Current or recent petrol stations	1	0	1	0	-
97	4.3	Electricity cables	1	0	0	0	-
97	4.4	Gas pipelines	0	0	0	1	-
98	4.5	Sites determined as Contaminated Land	0	0	0	0	-

98	4.6	Control of Major Accident Hazards (COMAH)	7	0	1	3	-
99	4.7	Regulated explosive sites	0	0	0	0	-
99	4.8	Hazardous substance storage/usage	3	0	7	4	-
101	4.9	Historical licensed industrial activities (IPC)	0	16	0	32	-
107	4.10	Licensed industrial activities (Part A(1))	9	42	99	14	-
133	4.11	Licensed pollutant release (Part A(2)/B)	1	0	0	1	-
134	4.12	Radioactive Substance Authorisations	2	6	3	1	-
135	4.13	Licensed Discharges to controlled waters	5	13	11	26	-
144	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
144	4.15	Pollutant release to public sewer	0	0	0	0	-
144	4.16	List 1 Dangerous Substances	0	0	3	0	-
144	4.17	List 2 Dangerous Substances	1	0	3	1	-
145	4.18	Pollution Incidents (EA/NRW)	0	0	7	6	-
147	4.19	Pollution inventory substances	0	14	0	3	-
152	4.20	Pollution inventory waste transfers	0	1	0	1	-
159	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
160	5.1	Superficial aquifer	Identified (within 500m)				
162	5.2	Bedrock aquifer	Identified (within 500m)				
164	5.3	Groundwater vulnerability	Identified (within 50m)				
168	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
168	5.5	Groundwater vulnerability- local information	None (within 0m)				
169	5.6	Groundwater abstractions	0	6	0	2	27
178	5.7	Surface water abstractions	0	0	0	0	21
184	5.8	Potable abstractions	0	1	0	0	6
186	5.9	Source Protection Zones	0	0	0	0	-
186	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
187	6.1	Water Network (OS MasterMap)	140	71	158	-	-

216	6.2	Surface water features	1	19	56	-	-
216	6.3	WFD Surface water body catchments	2	-	-	-	-
217	6.4	WFD Surface water bodies	0	0	1	-	-
217	6.5	WFD Groundwater bodies	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
218	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	High (within 50m)				
219	7.2	Historical Flood Events	0	0	0	-	-
219	7.3	Flood Defences	0	0	0	-	-
219	7.4	Areas Benefiting from Flood Defences	9	3	8	-	-
220	7.5	Flood Storage Areas	0	0	0	-	-
221	7.6	Flood Zone 2	Identified (within 50m)				
222	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
223	8.1	Surface water flooding	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
225	9.1	Groundwater flooding	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
226	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	3
227	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	1
227	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
228	10.4	Special Protection Areas (SPA)	0	0	0	0	1
228	10.5	National Nature Reserves (NNR)	0	0	0	0	0
228	10.6	Local Nature Reserves (LNR)	0	0	0	0	1
229	10.7	Designated Ancient Woodland	0	0	0	0	0
229	10.8	Biosphere Reserves	0	0	0	0	0
229	10.9	Forest Parks	0	0	0	0	0
229	10.10	Marine Conservation Zones	0	0	0	0	0
229	10.11	Green Belt	1	0	0	0	0
230	10.12	Proposed Ramsar sites	0	0	0	0	0

230	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
230	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
230	10.15	Nitrate Sensitive Areas	0	0	0	0	0
231	**10.16**	**Nitrate Vulnerable Zones**	3	0	2	0	6
232	**10.17**	**SSSI Impact Risk Zones**	4	-	-	-	-
234	**10.18**	**SSSI Units**	0	0	0	0	4
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
238	11.1	World Heritage Sites	0	0	0	-	-
239	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
239	11.3	National Parks	0	0	0	-	-
239	**11.4**	**Listed Buildings**	0	0	7	-	-
240	**11.5**	**Conservation Areas**	1	0	0	-	-
240	**11.6**	**Scheduled Ancient Monuments**	1	0	0	-	-
241	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
242	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				
243	12.2	Open Access Land	0	0	0	-	-
243	**12.3**	**Tree Felling Licences**	5	3	15	-	-
244	**12.4**	**Environmental Stewardship Schemes**	0	0	1	-	-
245	**12.5**	**Countryside Stewardship Schemes**	6	0	2	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
246	**13.1**	**Priority Habitat Inventory**	54	8	51	-	-
251	**13.2**	**Habitat Networks**	3	0	4	-	-
251	**13.3**	**Open Mosaic Habitat**	0	0	2	-	-
252	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
253	**14.1**	**10k Availability**	Identified (within 500m)				
255	14.2	Artificial and made ground (10k)	0	0	0	0	-
256	**14.3**	**Superficial geology (10k)**	11	2	4	1	-

257	14.4	Landslip (10k)	0	0	0	0	-
258	**14.5**	**Bedrock geology (10k)**	6	0	1	6	-
259	**14.6**	**Bedrock faults and other linear features (10k)**	1	1	1	2	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
260	**15.1**	**50k Availability**	Identified (within 500m)				
261	15.2	Artificial and made ground (50k)	0	0	0	0	-
261	15.3	Artificial ground permeability (50k)	0	0	-	-	-
262	**15.4**	**Superficial geology (50k)**	6	0	4	2	-
263	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
264	15.6	Landslip (50k)	0	0	0	0	-
264	15.7	Landslip permeability (50k)	None (within 50m)				
265	**15.8**	**Bedrock geology (50k)**	4	0	1	5	-
266	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
266	**15.10**	**Bedrock faults and other linear features (50k)**	2	0	1	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
268	**16.1**	**BGS Boreholes**	34	6	22	-	-
Page	Section	Natural ground subsidence					
272	**17.1**	**Shrink swell clays**	Very low (within 50m)				
273	**17.2**	**Running sands**	Moderate (within 50m)				
275	**17.3**	**Compressible deposits**	Moderate (within 50m)				
277	**17.4**	**Collapsible deposits**	Very low (within 50m)				
279	**17.5**	**Landslides**	Very low (within 50m)				
280	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
282	18.1	Natural cavities	0	0	0	0	-
283	18.2	BritPits	0	0	0	0	-
283	**18.3**	**Surface ground workings**	73	29	69	-	-
289	18.4	Underground workings	0	0	0	0	0
289	**18.5**	**Historical Mineral Planning Areas**	0	0	0	1	-

290	18.6	Non-coal mining	0	0	0	0	0
290	18.7	Mining cavities	0	0	0	0	0
290	18.8	JPB mining areas	None (within 0m)				
290	18.9	Coal mining	None (within 0m)				
291	18.10	Brine areas	None (within 0m)				
291	18.11	Gypsum areas	None (within 0m)				
291	18.12	Tin mining	None (within 0m)				
291	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
292	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
293	**20.1**	**BGS Estimated Background Soil Chemistry**	68	8	-	-	-
296	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
296	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
297	21.1	Underground railways (London)	0	0	0	-	-
297	21.2	Underground railways (Non-London)	0	0	0	-	-
298	21.3	Railway tunnels	0	0	0	-	-
298	**21.4**	**Historical railway and tunnel features**	18	2	42	-	-
300	21.5	Royal Mail tunnels	0	0	0	-	-
301	**21.6**	**Historical railways**	0	0	7	-	-
301	**21.7**	**Railways**	8	6	20	-	-
303	21.8	Crossrail 1	0	0	0	0	-
303	21.9	Crossrail 2	0	0	0	0	-
303	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 10/04/2020

Site Area: 251.26ha

Recent site history - 2016 aerial photograph



Capture Date: 19/07/2016

Site Area: 251.26ha

Recent site history - 2010 aerial photograph



Capture Date: 11/10/2010

Site Area: 251.26ha

Recent site history - 2005 aerial photograph



Capture Date: 15/05/2005

Site Area: 251.26ha

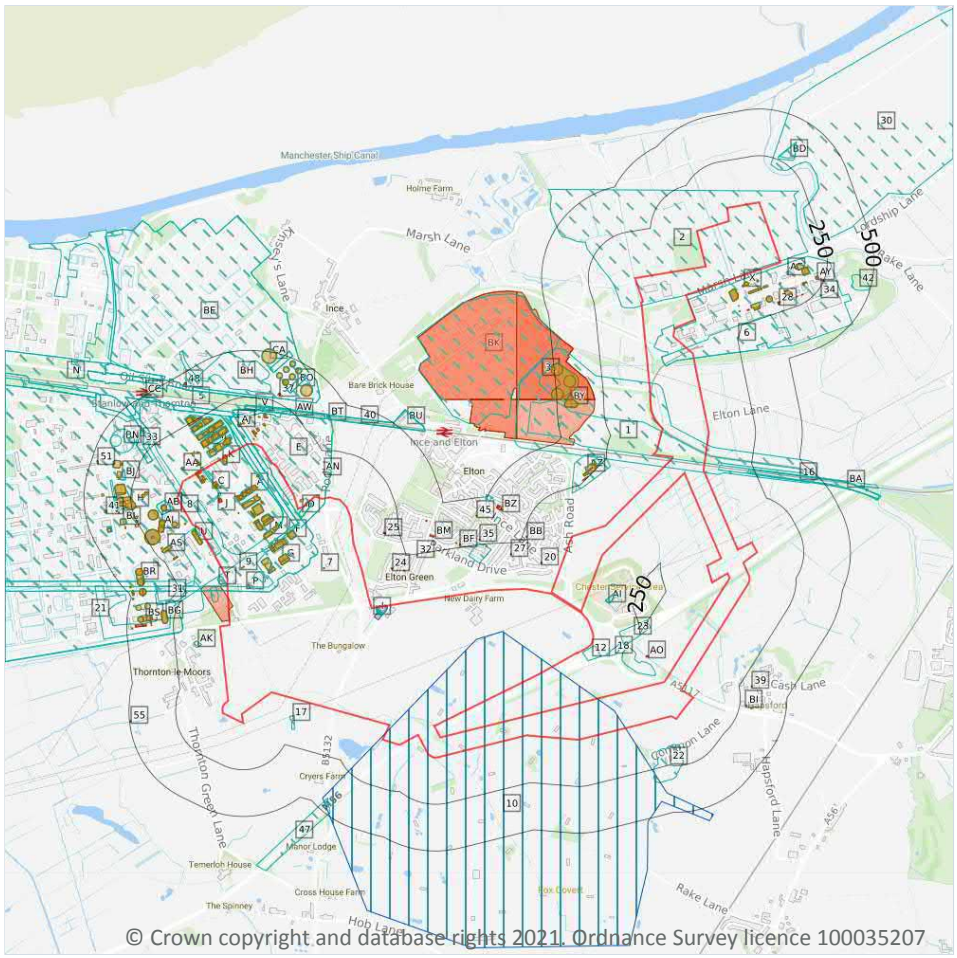
Recent site history - 2000 aerial photograph



Capture Date: 21/07/2000

Site Area: 251.26ha

1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages
- Historical military land

1.1 Historical industrial land uses

Records within 500m	218

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 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Railway Sidings**	**1968**	**794511**

ID	Location	Land use	Dates present	Group ID
2	On site	Marshes	1908	826512
3	On site	Unspecified Works	1968	830055
4	On site	Unspecified Pit	1967	839994
5	On site	Mineral Railway Sidings	1967	872772
6	On site	Railway Sidings	1990	794508
A	On site	Unspecified Tanks	1990	891429
A	On site	Unspecified Tanks	1990	898505
A	On site	Unspecified Tank	1967	824920
A	On site	Unspecified Tanks	1967 - 1976	849123
A	On site	Unspecified Tanks	1990	853300
A	On site	Unspecified Tanks	1976	859691
A	On site	Unspecified Tanks	1976	897945
A	On site	Unspecified Tanks	1990	901821
A	On site	Unspecified Tanks	1976	902642
A	On site	Unspecified Tanks	1990	912514
A	On site	Unspecified Tanks	1990	919251
A	On site	Unspecified Tanks	1976	929174
A	On site	Unspecified Tanks	1990	930555
A	On site	Unspecified Tanks	1967 - 1976	941190
A	On site	Unspecified Tanks	1976	947416
A	On site	Unspecified Tanks	1990	953565
A	On site	Unspecified Tanks	1967	974859
A	On site	Unspecified Tanks	1976	974935
B	On site	Unspecified Commercial/Industrial	1990	796490
C	On site	Unspecified Ground Workings	1967	800209
C	On site	Unspecified Tank	1976	854204
C	On site	Unspecified Tank	1990	910949
D	On site	Unspecified Pit	1976	839993

ID	Location	Land use	Dates present	Group ID
D	On site	Cuttings	1990	904612
D	On site	Cuttings	1967	938577
E	On site	Research Centre	1990	844633
E	On site	Research Centre	1976	844670
F	On site	Unspecified Tanks	1990	847882
F	On site	Unspecified Tanks	1976	952638
G	On site	Unspecified Tanks	1976	866555
G	On site	Unspecified Tanks	1990	970175
H	On site	Unspecified Works	1967	869082
H	On site	Oil Refinery	1990	987243
H	On site	Oil Refinery	1976	992028
I	On site	Smithy	1938 - 1949	871752
I	On site	Smithy	1908	889023
I	On site	Smithy	1897 - 1908	959526
I	On site	Garage	1968 - 1983	985804
J	On site	Unspecified Tank	1967	881647
J	On site	Unspecified Tank	1976	916424
J	On site	Unspecified Tank	1990	934036
K	On site	Unspecified Tanks	1976	896592
K	On site	Unspecified Tanks	1990	964190
L	On site	Unspecified Tanks	1990	912938
L	On site	Unspecified Tanks	1976	922809
L	On site	Unspecified Tanks	1976	931309
L	On site	Unspecified Tanks	1990	945840
M	On site	Unspecified Tanks	1976	920350
M	On site	Unspecified Tanks	1990	958031
N	On site	Railway Sidings	1976	946691
N	On site	Railway Sidings	1990	986657

ID	Location	Land use	Dates present	Group ID
O	**On site**	**Unspecified Tanks**	**1976**	**961287**
O	**On site**	**Unspecified Tanks**	**1990**	**988927**
T	2m W	Unspecified Pit	1990	856696
T	2m W	Unspecified Pit	1967 - 1976	887152
12	9m SE	Cuttings	1983	795561
U	21m SW	Unspecified Tanks	1990	896385
U	21m SW	Unspecified Tanks	1976	928358
W	37m NW	Unspecified Tanks	1976	961976
W	37m NW	Unspecified Tanks	1990	918024
X	38m S	Unspecified Tank	1990	824911
W	42m NW	Unspecified Tanks	1967 - 1976	888088
W	42m NW	Unspecified Tanks	1990	945333
15	47m N	Council Yard	1983	806800
Y	48m S	Unspecified Tank	1990	824912
Q	52m W	Unspecified Heaps	1967	831278
Z	52m S	Unspecified Tanks	1990	815271
AA	56m NW	Unspecified Tank	1967 - 1976	901756
AA	56m NW	Unspecified Tank	1990	948127
W	57m NW	Unspecified Tanks	1967	908828
AB	57m SW	Unspecified Heap	1967 - 1976	952364
AB	57m SW	Unspecified Heap	1990	990038
AC	59m SE	Chimney	1990	835735
AD	67m SW	Unspecified Tank	1967 - 1976	861532
AD	67m SW	Unspecified Tank	1990	922027
AB	72m SW	Unspecified Tank	1967 - 1976	863837
AB	72m SW	Unspecified Tank	1990	931337
16	74m NE	Railway Sidings	1949 - 1968	921689
AE	85m E	Unspecified Tanks	1990	815267

ID	Location	Land use	Dates present	Group ID
17	90m S	Unspecified Quarry	1897	816568
AF	90m S	Unspecified Tanks	1990	815269
AG	92m S	Unspecified Tanks	1990	815270
18	96m SE	Unspecified Pit	1983	839995
AH	99m NW	Unspecified Tanks	1967 - 1976	850749
AH	99m NW	Unspecified Tanks	1990	917899
AI	102m E	Unspecified Pit	1949	932592
AH	102m NW	Unspecified Tanks	1967 - 1976	857401
AH	102m NW	Unspecified Tanks	1967 - 1976	892091
AH	102m NW	Unspecified Tanks	1990	927315
AH	102m NW	Unspecified Tanks	1990	942445
AI	103m E	Unspecified Pit	1938	956431
AI	103m E	Unspecified Pit	1908	936215
AK	109m W	Telephone Exchange	1983	827432
AE	116m E	Unspecified Tanks	1990	815268
AL	121m SW	Unspecified Tanks	1990	847286
AL	121m SW	Unspecified Tanks	1967 - 1976	857289
AM	129m SW	Unspecified Tank	1967 - 1976	862916
AM	129m SW	Unspecified Tank	1990	881809
21	131m NW	Unspecified Depot	1967	907655
22	138m S	Disused Military Camp	1968	817082
23	140m E	Cuttings	1983	795560
AH	146m NW	Unspecified Tanks	1967 - 1976	850633
AH	146m NW	Unspecified Tanks	1990	979315
AH	147m NW	Unspecified Tanks	1990	912078
AH	147m NW	Unspecified Tanks	1967 - 1976	887660
AH	149m NW	Unspecified Tanks	1990	884156
AH	149m NW	Unspecified Tanks	1967 - 1976	920057

ID	Location	Land use	Dates present	Group ID
AP	150m S	Unspecified Tank	1990	824913
AH	151m NW	Unspecified Tanks	1990	847081
AH	151m NW	Unspecified Tanks	1967 - 1976	896440
AR	152m N	Unspecified Works	1968	830058
AS	157m SW	Unspecified Tanks	1976	919234
AS	157m SW	Unspecified Tanks	1990	959825
B	164m S	Unspecified Tanks	1990	815272
B	166m S	Chimney	1990	835736
AV	179m SW	Unspecified Tank	1990	867401
AV	179m SW	Unspecified Tank	1967 - 1976	931787
AW	179m N	Cuttings	1953	989802
AW	181m N	Cuttings	1908 - 1938	875477
V	182m N	Cuttings	1908 - 1938	902285
V	182m N	Cuttings	1908	958671
V	182m N	Cuttings	1938	930376
V	183m N	Cuttings	1953	876742
AX	185m N	Cuttings	1967 - 1976	909047
AX	185m N	Cuttings	1990	936340
AW	198m NE	Cuttings	1897	946752
AH	198m NW	Unspecified Tanks	1967 - 1976	954348
AH	198m NW	Unspecified Tanks	1990	964394
29	199m W	Unspecified Depot	1983	859290
AH	200m NW	Unspecified Tanks	1990	846880
AH	200m NW	Unspecified Tanks	1967 - 1976	892056
30	201m E	Canal Deposit Tip	1968	813318
AZ	205m NW	Sewage Works	1990	811820
BA	210m NE	Railway Sidings	1897 - 1908	954069
BA	221m NE	Railway Sidings	1938	880884

ID	Location	Land use	Dates present	Group ID
31	227m W	Unspecified Works	1983	887973
H	229m W	Unspecified Tanks	1976	869062
H	229m W	Unspecified Tanks	1990	907906
BC	232m SW	Unspecified Tanks	1976	957285
BC	232m SW	Unspecified Tanks	1990	983062
AH	239m NW	Unspecified Tanks	1967 - 1976	934894
AH	239m NW	Unspecified Tanks	1990	940154
AH	240m NW	Unspecified Tanks	1967 - 1976	956442
AH	240m NW	Unspecified Tanks	1990	988603
AZ	250m NW	Filter Beds	1990	814539
AZ	253m NW	Sludge Beds	1990	832236
BD	255m NE	Unspecified Heap	1929	975762
BE	259m N	Unspecified Commercial/Industrial	1976	876036
BE	259m N	Unspecified Commercial/Industrial	1990	980664
33	261m NW	Unspecified Mill	1897	810250
BD	269m NE	Unspecified Heap	1949	896892
34	273m SE	Chimney	1990	835737
H	278m W	Unspecified Ground Workings	1967	800210
BG	279m W	Unspecified Tanks	1983	814903
BH	280m N	Unspecified Heaps	1967 - 1976	860024
BJ	295m W	Unspecified Pit	1990	938590
BJ	295m W	Unspecified Pit	1976	958963
BL	298m W	Unspecified Tanks	1990	949258
BL	298m W	Unspecified Tanks	1976	970481
BN	326m NW	Pumping Mill	1938	939579
BO	328m NE	Cuttings	1976	874250
BO	328m NE	Cuttings	1990	889405
BP	345m W	Unspecified Tanks	1967 - 1976	913380

ID	Location	Land use	Dates present	Group ID
BP	345m W	Unspecified Tanks	1990	967911
BO	351m NE	Unspecified Tank	1990	883312
BO	351m NE	Unspecified Tank	1967 - 1976	940101
BN	354m NW	Pumping Mill	1912	946709
BQ	360m NE	Unspecified Tank	1990	912844
BQ	360m NE	Unspecified Tank	1976	990111
BR	363m SW	Unspecified Tanks	1967 - 1976	901009
BR	363m SW	Unspecified Tanks	1990	916030
BS	366m W	Unspecified Tanks	1967	814902
BT	370m NE	Cuttings	1953	981688
BU	370m NE	Cuttings	1938	948993
40	373m NE	Cuttings	1897 - 1908	956186
BO	374m N	Unspecified Tank	1967 - 1976	847626
BO	374m N	Unspecified Tank	1990	949231
BU	380m NE	Cuttings	1949	915413
BW	385m SW	Unspecified Tanks	1976	933955
BW	385m SW	Unspecified Tanks	1990	981187
BX	387m W	Unspecified Tanks	1967	814901
42	388m E	Refuse Heap	1990	828605
BN	391m NW	Pumping Mill	1912	940108
BY	391m W	Unspecified Tanks	1968	814917
BW	392m SW	Unspecified Tanks	1967	957573
BV	394m W	Unspecified Tanks	1968	814918
BO	395m N	Cuttings	1976	871673
BO	395m N	Cuttings	1990	897330
BO	397m NE	Unspecified Tank	1990	889741
BO	397m NE	Unspecified Tank	1976	897032
46	410m NW	Unspecified Heap	1967 - 1976	899510

ID	Location	Land use	Dates present	Group ID
BX	413m SW	Unspecified Tank	1967 - 1983	988549
BO	417m N	Unspecified Tank	1990	869918
BO	417m N	Unspecified Tank	1976	988595
47	431m SW	Cuttings	1983	795559
CA	441m N	Unspecified Tank	1976	890586
CA	441m N	Unspecified Tank	1990	975879
BO	441m NE	Unspecified Tank	1990	911480
BO	441m NE	Unspecified Tank	1976	940502
50	458m W	Electric Generating Station	1990	842029
BO	460m NE	Unspecified Tank	1990	869788
BO	460m NE	Unspecified Tank	1976	918676
BX	463m SW	Unspecified Tank	1983	824906
BX	468m W	Chimney	1983	835678
53	471m NW	Smithy	1897	843214
BX	472m SW	Unspecified Tanks	1967 - 1983	954427
CB	479m W	Chimney	1968	835700
54	480m NE	Railway Sidings	1897 - 1938	990549
BX	484m W	Unspecified Tank	1967	824907
CB	489m W	Chimney	1968	835683
CC	490m NW	Railway Station	1967 - 1976	962285
CC	490m NW	Railway Station	1990	990107

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**325**

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 13**

ID	Location	Land use	Dates present	Group ID
7	On site	Tanks	1980 - 1993	127500
8	On site	Unspecified Tank	1993	110821
9	On site	Tanks	1993	105022
A	On site	Tanks	1993	123736
A	On site	Unspecified Tank	1959	110820
A	On site	Tanks	1993	122297
A	On site	Tanks	1980	122862
A	On site	Tanks	1993	123757
A	On site	Tanks	1964 - 1990	127533
A	On site	Unspecified Tank	1993	128072
A	On site	Tanks	1980	128656
A	On site	Unspecified Tank	1970 - 1993	129380
A	On site	Tanks	1959 - 1993	129694
A	On site	Unspecified Tank	1980 - 1993	129833
A	On site	Tanks	1993	130396
A	On site	Tanks	1980	131163
A	On site	Tanks	1993	131989
A	On site	Tanks	1959 - 1970	132859
A	On site	Unspecified Tank	1959 - 1964	134238
A	On site	Tanks	1993	135783
A	On site	Tanks	1993	136080
A	On site	Unspecified Tank	1980	136304
A	On site	Tanks	1959 - 1980	136772
A	On site	Tanks	1980	136913
A	On site	Tanks	1964	136925
A	On site	Unspecified Tank	1993	137217
A	On site	Tanks	1964	137347

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1959 - 1970	138090
A	On site	Tanks	1980	138590
A	On site	Tanks	1993	138654
A	On site	Tanks	1980	138693
A	On site	Tanks	1993	139072
A	On site	Tanks	1980	139458
A	On site	Tanks	1993	140430
A	On site	Tanks	1980	142250
A	On site	Unspecified Tank	1959 - 1970	142463
A	On site	Tanks	1993	143087
A	On site	Unspecified Tank	1980 - 1993	143649
A	On site	Tanks	1959 - 1993	144501
A	On site	Unspecified Tank	1959 - 1970	146460
A	On site	Tanks	1980	147354
A	On site	Unspecified Tank	1959 - 1970	148570
A	On site	Tanks	1993	148938
A	On site	Tanks	1990 - 1993	149052
C	On site	Tanks	1993	133089
C	On site	Tanks	1980	130028
C	On site	Tanks	1993	140307
C	On site	Unspecified Tank	1980 - 1993	147614
C	On site	Tanks	1993	148583
D	On site	Unspecified Tank	1980 - 1993	123650
F	On site	Tanks	1993	143256
F	On site	Tanks	1980	148017
G	On site	Tanks	1993	129140
G	On site	Tanks	1980	132442
G	On site	Tanks	1993	138943

ID	Location	Land use	Dates present	Group ID
J	On site	Unspecified Tank	1959 - 1964	135582
K	On site	Unspecified Tank	1980	110817
K	On site	Unspecified Tank	1980	110818
K	On site	Tanks	1993	139466
L	On site	Tanks	1980 - 1993	123664
L	On site	Tanks	1980 - 1993	126059
L	On site	Tanks	1980 - 1993	143688
M	On site	Tanks	1993	123607
M	On site	Tanks	1980	124725
M	On site	Unspecified Tank	1980 - 1993	134619
M	On site	Tanks	1993	145605
M	On site	Tanks	1980	149224
O	On site	Tanks	1993	131483
O	On site	Tanks	1993	132517
O	On site	Unspecified Tank	1993	137565
O	On site	Tanks	1980	138701
O	On site	Tanks	1980	144153
O	On site	Tanks	1993	148241
O	On site	Tanks	1993	148268
R	On site	Tanks	1959 - 1964	127709
R	On site	Unspecified Tank	1980	110813
R	On site	Unspecified Tank	1993	110814
R	On site	Unspecified Tank	1959	110815
R	On site	Tanks	1993	122645
R	On site	Tanks	1980	125847
R	On site	Tanks	1980 - 1993	127329
R	On site	Tanks	1980	133595
R	On site	Tanks	1964	133625

ID	Location	Land use	Dates present	Group ID
R	**On site**	**Tanks**	**1959**	**134467**
R	**On site**	**Tanks**	**1980**	**136085**
R	**On site**	**Tanks**	**1980 - 1993**	**139217**
R	**On site**	**Tanks**	**1993**	**140315**
R	**On site**	**Unspecified Tank**	**1980 - 1993**	**141213**
R	**On site**	**Tanks**	**1959 - 1980**	**141535**
R	**On site**	**Tanks**	**1980 - 1993**	**141916**
R	**On site**	**Unspecified Tank**	**1959 - 1964**	**142447**
R	**On site**	**Tanks**	**1980 - 1993**	**146594**
R	**On site**	**Tanks**	**1964**	**148317**
S	**On site**	**Unspecified Tank**	**1970**	**110819**
S	**On site**	**Tanks**	**1970**	**123044**
S	**On site**	**Tanks**	**1970**	**140325**
S	**On site**	**Tanks**	**1990 - 1993**	**144943**
11	6m N	Unspecified Tank	1993	145321
D	21m E	Tanks	1980 - 1993	145505
U	24m SW	Tanks	1980	131674
V	24m N	Unspecified Tank	1970 - 1993	126909
U	25m SW	Tanks	1993	133945
13	28m SW	Unspecified Tank	1993	110822
R	30m NW	Unspecified Tank	1993	110816
R	30m NW	Tanks	1980 - 1993	146430
R	31m NW	Unspecified Tank	1980 - 1993	123189
X	38m S	Tanks	1971	124609
W	39m NW	Tanks	1980 - 1993	129944
X	39m S	Tanks	1984 - 1992	125617
V	41m N	Tanks	1970	127169
V	41m N	Tanks	1993	131001

ID	Location	Land use	Dates present	Group ID
W	43m NW	Tanks	1993	144423
W	45m NW	Tanks	1959 - 1980	142702
14	46m SW	Unspecified Tank	1993	125580
V	47m N	Tanks	1970	137783
R	47m NW	Tanks	1993	127120
W	48m NW	Tanks	1993	123003
W	48m NW	Tanks	1964	129287
W	49m NW	Tanks	1959 - 1980	143088
Y	50m S	Unspecified Tank	1971 - 1992	134061
X	51m S	Tanks	1992	144908
Z	53m S	Tanks	1971	140697
Z	53m S	Tanks	1984	136568
Z	53m S	Tanks	1992	122874
V	54m N	Tanks	1970 - 1990	132662
V	54m N	Tanks	1993	140564
V	56m N	Tanks	1970	123292
AA	57m NW	Unspecified Tank	1959 - 1964	133513
W	57m NW	Tanks	1959 - 1964	140978
V	60m N	Tanks	1970 - 1993	146042
V	60m N	Tanks	1990	137839
V	64m N	Tanks	1970 - 1993	128209
AD	68m SW	Unspecified Tank	1964	141281
AD	69m SW	Unspecified Tank	1959 - 1993	123697
V	69m N	Tanks	1990 - 1993	126511
AB	74m SW	Unspecified Tank	1964 - 1993	122995
AB	75m SW	Unspecified Tank	1959 - 1980	136002
V	77m N	Tanks	1970	131134
AE	85m E	Tanks	1984 - 1992	130755

ID	Location	Land use	Dates present	Group ID
R	86m NW	Tanks	1993	143128
R	88m NW	Tanks	1993	125937
AF	92m S	Tanks	1984 - 1992	139999
AG	93m S	Tanks	1971	137804
AG	93m S	Tanks	1984 - 1992	135152
AH	99m NW	Tanks	1993	145395
AH	101m NW	Tanks	1959 - 1980	146373
19	102m S	Unspecified Tank	1971 - 1992	148567
AH	102m NW	Tanks	1964	122774
AJ	103m NW	Tanks	1970 - 1993	129246
R	103m NW	Unspecified Tank	1993	149029
AH	104m NW	Tanks	1993	144361
AH	105m NW	Tanks	1959 - 1980	146016
AJ	108m N	Unspecified Tank	1990 - 1993	128218
V	108m NE	Unspecified Tank	1970	144718
AH	108m NW	Tanks	1993	143777
AJ	108m N	Tanks	1993	130816
AH	108m NW	Tanks	1959 - 1980	128136
V	108m N	Tanks	1990 - 1993	144244
AH	109m NW	Tanks	1959 - 1993	128853
V	109m NE	Unspecified Tank	1990 - 1993	143534
AH	110m NW	Tanks	1964	141321
R	115m NW	Unspecified Tank	1993	127443
AL	115m SW	Tanks	1964	126625
AE	119m E	Tanks	1971	144816
AJ	119m NW	Tanks	1970	105018
AE	120m E	Tanks	1984 - 1992	144534
AJ	121m NW	Unspecified Tank	1993	145979

ID	Location	Land use	Dates present	Group ID
AL	122m SW	Tanks	1959 - 1980	148391
AL	123m SW	Unspecified Tank	1993	133282
AM	131m SW	Unspecified Tank	1964	137589
AM	132m SW	Unspecified Tank	1959 - 1980	122486
AN	135m N	Unspecified Tank	1990 - 1993	141677
V	139m N	Unspecified Tank	1970	111317
AN	140m N	Unspecified Tank	1990 - 1993	136850
AK	143m W	Unspecified Tank	1959 - 1962	146359
AL	144m SW	Unspecified Tank	1993	131184
V	145m N	Tanks	1990 - 1993	125730
B	146m S	Unspecified Tank	1971 - 1992	148931
AH	147m NW	Tanks	1993	143706
AH	148m NW	Tanks	1959 - 1980	137359
V	149m N	Tanks	1990	134683
V	149m N	Tanks	1993	136031
AP	150m S	Unspecified Tank	1984 - 1992	148101
AP	150m S	Unspecified Tank	1971	147046
AQ	151m S	Tanks	1971	134267
AH	151m NW	Tanks	1993	128571
AH	152m NW	Tanks	1959 - 1980	138575
AQ	152m S	Tanks	1984	122745
AH	152m NW	Tanks	1964	144594
AH	152m NW	Tanks	1964 - 1993	136831
AH	153m NW	Tanks	1993	145669
AH	153m NW	Tanks	1959 - 1993	123512
AQ	153m S	Tanks	1992	139476
AH	153m NW	Tanks	1959 - 1980	130322
AH	153m NW	Tanks	1964	128687

ID	Location	Land use	Dates present	Group ID
AQ	153m S	Tanks	1992	144300
H	159m W	Unspecified Tank	1993	110810
H	159m W	Unspecified Tank	1993	110811
AT	160m SE	Tanks	1984	132232
V	161m N	Tanks	1990	144845
V	161m N	Tanks	1993	144271
AT	162m SE	Tanks	1971	126695
AT	163m SE	Tanks	1992	142181
AS	163m SW	Tanks	1980	122603
B	165m S	Tanks	1971	126991
AS	165m SW	Tanks	1993	138437
AQ	170m S	Unspecified Tank	1984	111309
AT	171m SE	Tanks	1984	135964
B	173m S	Unspecified Tank	1984 - 1992	127721
B	173m S	Tanks	1971	105203
H	175m W	Unspecified Tank	1993	148734
AU	178m SW	Tanks	1993	137842
AU	178m SW	Tanks	1993	139445
AV	178m SW	Unspecified Tank	1964	125176
AV	179m SW	Unspecified Tank	1959 - 1980	123874
B	182m S	Tanks	1971 - 1992	123631
B	182m S	Tanks	1984	128948
H	184m W	Unspecified Tank	1993	137254
B	186m S	Tanks	1984 - 1992	130032
AU	196m SW	Tanks	1993	122953
AH	199m NW	Tanks	1993	143757
AH	200m NW	Tanks	1959 - 1980	125862
AH	201m NW	Tanks	1964	136004

ID	Location	Land use	Dates present	Group ID
AS	202m SW	Unspecified Tank	1993	123151
AY	202m SE	Tanks	1971 - 1984	146130
AH	202m NW	Tanks	1959 - 1993	130110
AH	203m NW	Tanks	1964	134115
AH	204m NW	Tanks	1964 - 1993	136028
AY	204m SE	Tanks	1992	122415
AH	205m NW	Tanks	1959 - 1980	132940
AV	213m SW	Unspecified Tank	1993	128297
H	228m W	Unspecified Tank	1986	110806
H	228m W	Tanks	1993	142281
AR	232m N	Unspecified Tank	1964	111089
BC	235m SW	Tanks	1986	105002
AH	237m NW	Tanks	1959 - 1993	126782
AH	239m NW	Tanks	1959 - 1993	136869
AH	239m NW	Tanks	1964	142211
AH	241m NW	Tanks	1964	138092
AH	243m NW	Unspecified Tank	1959	111320
BC	247m SW	Unspecified Tank	1986	110803
AZ	248m NW	Tanks	1993 - 1996	134439
AZ	249m NW	Unspecified Tank	1972 - 1984	146804
H	252m W	Tanks	1986	128917
BC	253m SW	Tanks	1986	105019
AZ	255m NW	Tanks	1972	123669
AZ	255m NW	Unspecified Tank	1993 - 1996	132154
AZ	256m NW	Tanks	1984 - 1993	132674
AZ	263m NW	Unspecified Tank	1993 - 1996	144598
AZ	263m NW	Tanks	1972	125664
AZ	264m NW	Tanks	1984 - 1993	133327

ID	Location	Land use	Dates present	Group ID
AZ	265m NW	Unspecified Tank	1993 - 1996	140079
AZ	267m NW	Tanks	1972	138035
AZ	268m NW	Unspecified Tank	1993 - 1996	127458
AZ	271m NW	Tanks	1993 - 1996	134014
H	275m W	Tanks	1986	126214
H	277m W	Tanks	1993	142076
H	277m W	Tanks	1986	127657
H	278m W	Tanks	1993	136535
36	282m NE	Unspecified Tank	1993	149081
BG	282m W	Tanks	1993	134695
BG	282m W	Tanks	1976	138572
BI	282m E	Unspecified Tank	1981 - 1993	135580
AZ	292m NW	Tanks	1972 - 1984	125249
BL	302m SW	Tanks	1986	105001
39	304m SE	Unspecified Tank	1981 - 1993	134746
BI	310m E	Unspecified Tank	1873	111086
BL	317m SW	Unspecified Tank	1986	110804
H	320m W	Unspecified Tank	1986	110812
H	321m W	Tanks	1986 - 1993	146660
BJ	324m W	Tanks	1986 - 1993	130845
H	328m W	Unspecified Tank	1986	110805
BP	334m W	Tanks	1986 - 1993	125903
BP	343m W	Tanks	1958 - 1959	134525
BO	352m NE	Unspecified Tank	1993	128829
BO	352m NE	Unspecified Tank	1968 - 1982	148290
BN	355m NW	Tanks	1986 - 1993	126771
BQ	356m NE	Unspecified Tank	1982 - 1993	147312
BR	363m SW	Tanks	1958	105020

ID	Location	Land use	Dates present	Group ID
BR	363m SW	Unspecified Tank	1993	133218
BR	363m SW	Unspecified Tank	1959 - 1986	128794
BS	365m W	Unspecified Tank	1993	140755
BS	365m W	Tanks	1959	105021
BS	366m W	Unspecified Tank	1962	126730
BS	366m W	Unspecified Tank	1993	148459
BO	374m N	Unspecified Tank	1968 - 1993	144673
BV	375m W	Tanks	1971	105081
BH	377m N	Unspecified Tank	1993	111318
BT	382m NE	Unspecified Tank	1959	111316
41	385m W	Tanks	1986 - 1993	142268
BX	389m W	Unspecified Tank	1959 - 1962	129168
BY	391m W	Tanks	1964 - 1972	142831
BV	392m W	Unspecified Tank	1964	111312
BY	392m W	Tanks	1984	125999
43	393m W	Tanks	1986 - 1993	135175
BW	393m SW	Tanks	1958 - 1959	131256
BO	394m NE	Unspecified Tank	1982 - 1993	123794
BR	395m SW	Unspecified Tank	1964	122230
BR	395m SW	Unspecified Tank	1959 - 1986	148470
BR	395m SW	Unspecified Tank	1993	143277
BR	396m SW	Unspecified Tank	1993	127733
BS	411m W	Unspecified Tank	1962	125267
BY	412m W	Unspecified Tank	1964 - 1971	126958
BY	413m W	Unspecified Tank	1984	135997
BS	413m W	Unspecified Tank	1958	136970
BS	414m W	Unspecified Tank	1958	130368
BX	414m SW	Unspecified Tank	1958 - 1994	140750

ID	Location	Land use	Dates present	Group ID
BX	414m SW	Unspecified Tank	1959 - 1976	125577
BX	415m SW	Unspecified Tank	1962	136856
BO	415m N	Unspecified Tank	1982 - 1993	130005
BX	422m SW	Unspecified Tank	1958	130374
BX	423m SW	Unspecified Tank	1983	123083
BX	432m W	Unspecified Tank	1958	145756
CA	437m N	Unspecified Tank	1982 - 1993	128473
BO	437m NE	Unspecified Tank	1982 - 1993	144566
49	454m W	Unspecified Tank	1964	111313
BO	456m NE	Unspecified Tank	1982 - 1993	149074
51	460m W	Tanks	1986 - 1993	149381
52	463m W	Unspecified Tank	1964	111315
BX	467m SW	Unspecified Tank	1983 - 1994	129147
BS	467m W	Tanks	1983 - 1994	142191
BX	474m SW	Tanks	1958 - 1994	126037
BX	474m SW	Tanks	1958	129211
BX	484m W	Unspecified Tank	1958	139288
55	492m W	Unspecified Tank	1958 - 1994	134506

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**40**

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 13**

ID	Location	Land use	Dates present	Group ID
J	**On site**	**Electricity Substation**	**1993**	**67428**
J	**On site**	**Electricity Substation**	**1980**	**69448**
P	**On site**	**Electricity Substation**	**1993**	**79051**
P	**On site**	**Electricity Substation**	**1976**	**81897**
P	**On site**	**Electricity Substation**	**1993**	**84788**
Q	**On site**	**Electricity Substation**	**1993**	**64585**
AC	57m SE	Electricity Substation	1992	60452
20	102m W	Electricity Substation	1987 - 1995	72022
AO	145m NW	Electricity Substation	1993	67779
AO	148m NW	Electricity Substation	1981	68000
24	155m E	Electricity Substation	1978 - 1992	69517
25	165m E	Electricity Substation	1978 - 1992	72919
26	169m N	Electricity Substation	1978 - 1992	73829
27	186m N	Electricity Substation	1978 - 1992	64852
28	197m S	Electricity Substation	1992	60455
AQ	201m SE	Electricity Substation	1992	60454
AQ	206m SE	Electricity Substation	1992	60453
BB	224m W	Electricity Substation	1992 - 1995	76343
BB	225m W	Electricity Substation	1987	76348
32	241m N	Gas Governor	1992	63539
BF	262m N	Electricity Substation	1992	60476
BF	273m N	Electricity Substation	1978	60477
35	274m N	Electricity Substation	1978 - 1992	69700
37	290m NE	Electricity Substation	1982 - 1993	65344
BK	297m W	Electricity Generating Station	1989	64274
BK	297m W	Electricity Generating Station	1992	76338
38	298m W	Electric Generating Station	1984	71326
BM	326m N	Electricity Substation	1992	73491

ID	Location	Land use	Dates present	Group ID
BM	327m N	Electricity Substation	1978	72496
BS	395m W	Electricity Substation	1976	74793
BS	398m W	Electricity Substation	1993 - 1994	81534
44	398m E	Electricity Substation	1978 - 1992	72900
BZ	399m W	Electricity Substation	1978	64465
BZ	399m W	Electricity Substation	1992	80063
45	403m N	Electricity Substation	1978 - 1992	71154
BZ	404m W	Electricity Substation	1984	64792
BZ	407m W	Electricity Substation	1992	74268
BS	413m W	Electricity Substation	1983	84181
BZ	419m W	Electricity Substation	1978	64850
48	431m NW	Electricity Substation	1987 - 1993	81852

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	2

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
I	**On site**	**Garage**	**1993**	**22078**
I	**On site**	**Garage**	**1962 - 1981**	**27700**

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m	**1**

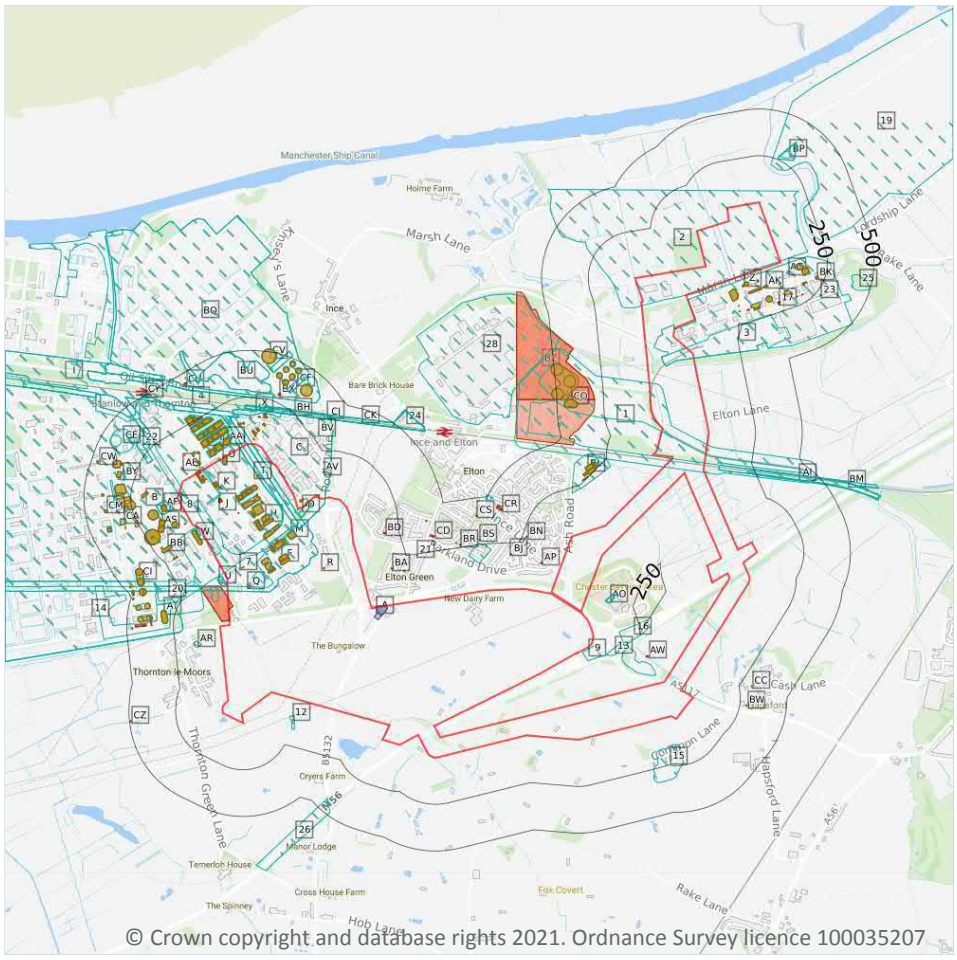
Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

Features are displayed on the Past land use map on **page 13**

ID	Location	Site Name	Date of Operation	Activities
10	**On site**	**ROF Dunham-on-the-Hill**	**1941-1990**	**c.WW2: Used as a site for storage and distribution of explosives (Neonite, Cordite, TNT); After WW2 site was used for storage of shells including Phospher bombs; 1957-1985 site was retained as a "Buffer"store for food storage by the Ministry of Agriculturem Fisheries and Food (MAFF). Site disposed of to the private sector in 1990**

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

Historical garages

2.1 Historical industrial land uses

Records within 500m	274

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 37**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Unspecified Works**	**1968**	**830055**
2	**On site**	**Marshes**	**1908**	**826512**
3	**On site**	**Railway Sidings**	**1990**	**794508**

ID	Location	Land Use	Date	Group ID
4	On site	Mineral Railway Sidings	1967	872772
5	On site	Unspecified Pit	1967	839994
6	On site	Railway Sidings	1968	794511
A	On site	Smithy	1908	959526
A	On site	Smithy	1897	959526
A	On site	Smithy	1908	889023
A	On site	Smithy	1949	871752
A	On site	Garage	1968	985804
A	On site	Garage	1983	985804
A	On site	Smithy	1938	871752
B	On site	Oil Refinery	1976	992028
B	On site	Unspecified Works	1967	869082
B	On site	Oil Refinery	1990	987243
C	On site	Research Centre	1976	844670
C	On site	Research Centre	1990	844633
D	On site	Cuttings	1990	904612
D	On site	Cuttings	1967	938577
D	On site	Unspecified Pit	1976	839993
E	On site	Unspecified Commercial/Industrial	1990	796490
F	On site	Unspecified Tanks	1990	970175
F	On site	Unspecified Tanks	1976	866555
G	On site	Unspecified Tanks	1990	945840
G	On site	Unspecified Tanks	1990	912938
G	On site	Unspecified Tanks	1976	931309
G	On site	Unspecified Tanks	1976	922809
H	On site	Unspecified Tanks	1990	853300
H	On site	Unspecified Tanks	1990	898505
H	On site	Unspecified Tanks	1990	919251

ID	Location	Land Use	Date	Group ID
H	On site	Unspecified Tanks	1990	930555
H	On site	Unspecified Tanks	1990	891429
H	On site	Unspecified Tanks	1990	901821
H	On site	Unspecified Tanks	1990	953565
H	On site	Unspecified Tanks	1990	912514
H	On site	Unspecified Tank	1967	824920
H	On site	Unspecified Tanks	1967	849123
H	On site	Unspecified Tanks	1967	941190
H	On site	Unspecified Tanks	1967	974859
H	On site	Unspecified Tanks	1976	849123
H	On site	Unspecified Tanks	1976	941190
H	On site	Unspecified Tanks	1976	929174
H	On site	Unspecified Tanks	1976	859691
H	On site	Unspecified Tanks	1976	897945
H	On site	Unspecified Tanks	1976	902642
H	On site	Unspecified Tanks	1976	947416
H	On site	Unspecified Tanks	1976	974935
I	On site	Railway Sidings	1990	986657
I	On site	Railway Sidings	1976	946691
J	On site	Unspecified Tank	1990	934036
J	On site	Unspecified Tank	1967	881647
J	On site	Unspecified Tank	1976	916424
K	On site	Unspecified Tank	1990	910949
K	On site	Unspecified Ground Workings	1967	800209
K	On site	Unspecified Tank	1976	854204
L	On site	Unspecified Tanks	1990	988927
L	On site	Unspecified Tanks	1976	961287
M	On site	Unspecified Tanks	1990	847882

ID	Location	Land Use	Date	Group ID
M	**On site**	**Unspecified Tanks**	**1976**	**952638**
N	**On site**	**Unspecified Tanks**	**1990**	**958031**
N	**On site**	**Unspecified Tanks**	**1976**	**920350**
O	**On site**	**Unspecified Tanks**	**1990**	**964190**
O	**On site**	**Unspecified Tanks**	**1976**	**896592**
U	2m W	Unspecified Pit	1990	856696
U	2m W	Unspecified Pit	1967	887152
U	2m W	Unspecified Pit	1976	887152
9	9m SE	Cuttings	1983	795561
W	21m SW	Unspecified Tanks	1990	896385
W	21m SW	Unspecified Tanks	1976	928358
Y	37m NW	Unspecified Tanks	1990	918024
Y	37m NW	Unspecified Tanks	1976	961976
Z	38m S	Unspecified Tank	1990	824911
Y	42m NW	Unspecified Tanks	1990	945333
Y	42m NW	Unspecified Tanks	1967	888088
Y	42m NW	Unspecified Tanks	1976	888088
AA	43m NW	Unspecified Tanks	1990	945333
AA	43m NW	Unspecified Tanks	1967	888088
AA	43m NW	Unspecified Tanks	1976	888088
11	47m N	Council Yard	1983	806800
AC	48m S	Unspecified Tank	1990	824912
P	52m W	Unspecified Heaps	1967	831278
AD	52m S	Unspecified Tanks	1990	815271
AE	56m NW	Unspecified Tank	1990	948127
AE	56m NW	Unspecified Tank	1967	901756
AE	56m NW	Unspecified Tank	1976	901756
Y	57m NW	Unspecified Tanks	1967	908828

ID	Location	Land Use	Date	Group ID
AF	57m SW	Unspecified Heap	1990	990038
AF	57m SW	Unspecified Heap	1967	952364
AF	57m SW	Unspecified Heap	1976	952364
AG	59m SE	Chimney	1990	835735
AH	67m SW	Unspecified Tank	1990	922027
AH	67m SW	Unspecified Tank	1967	861532
AH	67m SW	Unspecified Tank	1976	861532
AF	72m SW	Unspecified Tank	1990	931337
AF	72m SW	Unspecified Tank	1967	863837
AF	72m SW	Unspecified Tank	1976	863837
AI	74m NE	Railway Sidings	1949	921689
AI	74m NE	Railway Sidings	1968	921689
AJ	85m E	Unspecified Tanks	1990	815267
12	90m S	Unspecified Quarry	1897	816568
AK	90m S	Unspecified Tanks	1990	815269
AL	92m S	Unspecified Tanks	1990	815270
13	96m SE	Unspecified Pit	1983	839995
AM	99m NW	Unspecified Tanks	1990	917899
AM	99m NW	Unspecified Tanks	1967	850749
AM	99m NW	Unspecified Tanks	1976	850749
AM	101m NW	Unspecified Tanks	1990	917899
AM	101m NW	Unspecified Tanks	1967	850749
AM	101m NW	Unspecified Tanks	1976	850749
AO	102m E	Unspecified Pit	1949	932592
AM	102m NW	Unspecified Tanks	1990	927315
AM	102m NW	Unspecified Tanks	1990	942445
AM	102m NW	Unspecified Tanks	1967	892091
AM	102m NW	Unspecified Tanks	1967	857401

ID	Location	Land Use	Date	Group ID
AM	102m NW	Unspecified Tanks	1976	857401
AM	102m NW	Unspecified Tanks	1976	892091
AO	103m E	Unspecified Pit	1938	956431
AO	103m E	Unspecified Pit	1938	956431
AO	103m E	Unspecified Pit	1908	936215
AR	109m W	Telephone Exchange	1983	827432
AJ	116m E	Unspecified Tanks	1990	815268
AS	121m SW	Unspecified Tanks	1990	847286
AS	121m SW	Unspecified Tanks	1967	857289
AS	121m SW	Unspecified Tanks	1976	857289
AS	121m SW	Unspecified Tanks	1976	857289
AT	125m W	Mineral Railway Sidings	1967	872772
AU	129m SW	Unspecified Tank	1990	881809
AU	129m SW	Unspecified Tank	1967	862916
AU	129m SW	Unspecified Tank	1976	862916
14	131m NW	Unspecified Depot	1967	907655
15	138m S	Disused Military Camp	1968	817082
16	140m E	Cuttings	1983	795560
AM	146m NW	Unspecified Tanks	1990	979315
AM	146m NW	Unspecified Tanks	1967	850633
AM	146m NW	Unspecified Tanks	1976	850633
AM	147m NW	Unspecified Tanks	1990	912078
AM	147m NW	Unspecified Tanks	1967	887660
AM	147m NW	Unspecified Tanks	1976	887660
AM	149m NW	Unspecified Tanks	1990	884156
AM	149m NW	Unspecified Tanks	1967	920057
AM	149m NW	Unspecified Tanks	1976	920057
AX	150m S	Unspecified Tank	1990	824913

ID	Location	Land Use	Date	Group ID
AM	151m NW	Unspecified Tanks	1990	847081
AM	151m NW	Unspecified Tanks	1967	896440
AM	151m NW	Unspecified Tanks	1976	896440
AZ	152m N	Unspecified Works	1968	830058
BB	157m SW	Unspecified Tanks	1990	959825
BB	157m SW	Unspecified Tanks	1976	919234
E	164m S	Unspecified Tanks	1990	815272
E	166m S	Chimney	1990	835736
BG	179m SW	Unspecified Tank	1990	867401
BG	179m SW	Unspecified Tank	1967	931787
BG	179m SW	Unspecified Tank	1976	931787
BH	179m N	Cuttings	1953	989802
BH	181m N	Cuttings	1908	875477
X	182m N	Cuttings	1908	902285
X	182m N	Cuttings	1908	958671
X	182m N	Cuttings	1938	930376
X	183m N	Cuttings	1953	876742
X	183m N	Cuttings	1938	902285
BI	185m N	Cuttings	1990	936340
BI	185m N	Cuttings	1967	909047
BI	185m N	Cuttings	1976	909047
BH	193m NE	Cuttings	1938	875477
BH	198m NE	Cuttings	1897	946752
AM	198m NW	Unspecified Tanks	1990	964394
AM	198m NW	Unspecified Tanks	1967	954348
AM	198m NW	Unspecified Tanks	1976	954348
18	199m W	Unspecified Depot	1983	859290
AM	200m NW	Unspecified Tanks	1990	846880

ID	Location	Land Use	Date	Group ID
AM	200m NW	Unspecified Tanks	1967	892056
AM	200m NW	Unspecified Tanks	1976	892056
AM	200m NW	Unspecified Tanks	1990	846880
AM	200m NW	Unspecified Tanks	1967	892056
AM	200m NW	Unspecified Tanks	1976	892056
19	201m E	Canal Deposit Tip	1968	813318
BL	205m NW	Sewage Works	1990	811820
BM	210m NE	Railway Sidings	1908	954069
BM	210m NE	Railway Sidings	1897	954069
BM	221m NE	Railway Sidings	1938	880884
20	227m W	Unspecified Works	1983	887973
B	229m W	Unspecified Tanks	1990	907906
B	229m W	Unspecified Tanks	1976	869062
BO	232m SW	Unspecified Tanks	1990	983062
BO	232m SW	Unspecified Tanks	1976	957285
AM	239m NW	Unspecified Tanks	1990	940154
AM	239m NW	Unspecified Tanks	1967	934894
AM	239m NW	Unspecified Tanks	1976	934894
AM	240m NW	Unspecified Tanks	1990	988603
AM	240m NW	Unspecified Tanks	1967	956442
AM	240m NW	Unspecified Tanks	1976	956442
BL	250m NW	Filter Beds	1990	814539
BL	253m NW	Sludge Beds	1990	832236
BP	255m NE	Unspecified Heap	1929	975762
BP	255m NE	Unspecified Heap	1929	975762
BQ	259m N	Unspecified Commercial/Industrial	1990	980664
BQ	259m N	Unspecified Commercial/Industrial	1976	876036
22	261m NW	Unspecified Mill	1897	810250

ID	Location	Land Use	Date	Group ID
BP	269m NE	Unspecified Heap	1949	896892
23	273m SE	Chimney	1990	835737
B	278m W	Unspecified Ground Workings	1967	800210
BT	279m W	Unspecified Tanks	1983	814903
BU	280m N	Unspecified Heaps	1967	860024
BU	280m N	Unspecified Heaps	1976	860024
BY	295m W	Unspecified Pit	1990	938590
BY	295m W	Unspecified Pit	1976	958963
CA	298m W	Unspecified Tanks	1990	949258
CA	298m W	Unspecified Tanks	1976	970481
CE	326m NW	Pumping Mill	1938	939579
CF	328m NE	Cuttings	1990	889405
CF	328m NE	Cuttings	1976	874250
CG	345m W	Unspecified Tanks	1990	967911
CG	345m W	Unspecified Tanks	1967	913380
CG	345m W	Unspecified Tanks	1976	913380
CF	351m NE	Unspecified Tank	1990	883312
CF	351m NE	Unspecified Tank	1967	940101
CF	351m NE	Unspecified Tank	1976	940101
CE	354m NW	Pumping Mill	1912	946709
CH	360m NE	Unspecified Tank	1990	912844
CH	360m NE	Unspecified Tank	1976	990111
CI	363m SW	Unspecified Tanks	1990	916030
CI	363m SW	Unspecified Tanks	1967	901009
CI	363m SW	Unspecified Tanks	1976	901009
AT	366m W	Unspecified Tanks	1967	814902
CJ	370m NE	Cuttings	1953	981688
24	370m NE	Cuttings	1938	948993

ID	Location	Land Use	Date	Group ID
CK	373m NE	Cuttings	1908	956186
CK	373m NE	Cuttings	1897	956186
CF	374m N	Unspecified Tank	1990	949231
CF	374m N	Unspecified Tank	1967	847626
CF	374m N	Unspecified Tank	1976	847626
CK	380m NE	Cuttings	1949	915413
CN	385m SW	Unspecified Tanks	1990	981187
CN	385m SW	Unspecified Tanks	1976	933955
AT	387m W	Unspecified Tanks	1967	814901
25	388m E	Refuse Heap	1990	828605
CE	391m NW	Pumping Mill	1912	940108
CO	391m W	Unspecified Tanks	1968	814917
CN	392m SW	Unspecified Tanks	1967	957573
CL	394m W	Unspecified Tanks	1968	814918
CF	395m N	Cuttings	1990	897330
CF	395m N	Cuttings	1976	871673
CF	397m NE	Unspecified Tank	1990	889741
CF	397m NE	Unspecified Tank	1976	897032
CT	410m NW	Unspecified Heap	1967	899510
CT	410m NW	Unspecified Heap	1976	899510
AT	413m SW	Unspecified Tank	1967	988549
AT	413m SW	Unspecified Tank	1983	988549
CF	417m N	Unspecified Tank	1990	869918
CF	417m N	Unspecified Tank	1976	988595
26	431m SW	Cuttings	1983	795559
CV	441m N	Unspecified Tank	1990	975879
CV	441m N	Unspecified Tank	1976	890586
CF	441m NE	Unspecified Tank	1990	911480

ID	Location	Land Use	Date	Group ID
CF	441m NE	Unspecified Tank	1976	940502
28	458m W	Electric Generating Station	1990	842029
CF	460m NE	Unspecified Tank	1990	869788
CF	460m NE	Unspecified Tank	1976	918676
AT	463m SW	Unspecified Tank	1983	824906
AT	468m W	Chimney	1983	835678
30	471m NW	Smithy	1897	843214
AT	472m SW	Unspecified Tanks	1967	954427
AT	472m SW	Unspecified Tanks	1983	954427
CB	479m W	Chimney	1968	835700
CX	480m NE	Railway Sidings	1938	990549
CX	484m NE	Railway Sidings	1908	990549
CX	484m NE	Railway Sidings	1897	990549
AT	484m W	Unspecified Tank	1967	824907
CX	486m NE	Cuttings	1949	915413
CB	489m W	Chimney	1968	835683
CY	490m NW	Railway Station	1990	990107
CY	490m NW	Railway Station	1967	962285
CY	490m NW	Railway Station	1976	962285

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**573**

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 37**

ID	Location	Land Use	Date	Group ID
7	**On site**	**Tanks**	**1993**	**105022**

ID	Location	Land Use	Date	Group ID
8	On site	Unspecified Tank	1993	110821
D	On site	Unspecified Tank	1993	123650
D	On site	Unspecified Tank	1980	123650
D	On site	Unspecified Tank	1993	123650
F	On site	Tanks	1993	129140
F	On site	Tanks	1993	138943
F	On site	Tanks	1980	132442
F	On site	Tanks	1993	129140
F	On site	Tanks	1993	138943
G	On site	Tanks	1980	126059
G	On site	Tanks	1980	123664
G	On site	Tanks	1980	143688
G	On site	Tanks	1993	143688
G	On site	Tanks	1993	126059
G	On site	Tanks	1993	123664
H	On site	Tanks	1993	130396
H	On site	Tanks	1993	129694
H	On site	Tanks	1993	144501
H	On site	Unspecified Tank	1993	128072
H	On site	Tanks	1993	139072
H	On site	Tanks	1993	148938
H	On site	Tanks	1993	140430
H	On site	Tanks	1993	123757
H	On site	Tanks	1993	122297
H	On site	Tanks	1993	131989
H	On site	Tanks	1993	138654
H	On site	Tanks	1993	143087
H	On site	Tanks	1993	136080

ID	Location	Land Use	Date	Group ID
H	On site	Tanks	1993	123736
H	On site	Unspecified Tank	1993	129833
H	On site	Unspecified Tank	1993	137217
H	On site	Tanks	1959	132859
H	On site	Unspecified Tank	1959	142463
H	On site	Unspecified Tank	1959	146460
H	On site	Unspecified Tank	1959	148570
H	On site	Unspecified Tank	1959	138090
H	On site	Unspecified Tank	1980	129833
H	On site	Tanks	1980	136913
H	On site	Tanks	1980	122862
H	On site	Tanks	1980	128656
H	On site	Tanks	1980	147354
H	On site	Tanks	1980	138693
H	On site	Unspecified Tank	1980	136304
H	On site	Tanks	1980	138590
H	On site	Tanks	1980	139458
H	On site	Tanks	1980	131163
H	On site	Tanks	1980	142250
H	On site	Unspecified Tank	1980	143649
H	On site	Tanks	1980	136772
H	On site	Tanks	1980	129694
H	On site	Tanks	1980	144501
H	On site	Unspecified Tank	1959	134238
H	On site	Tanks	1959	136772
H	On site	Tanks	1959	144501
H	On site	Tanks	1959	129694
H	On site	Unspecified Tank	1959	110820

ID	Location	Land Use	Date	Group ID
H	On site	Tanks	1970	132859
H	On site	Unspecified Tank	1970	148570
H	On site	Unspecified Tank	1970	138090
H	On site	Unspecified Tank	1970	146460
H	On site	Unspecified Tank	1970	142463
H	On site	Unspecified Tank	1970	129380
H	On site	Tanks	1964	127533
H	On site	Tanks	1964	136925
H	On site	Tanks	1964	137347
H	On site	Unspecified Tank	1964	134238
H	On site	Unspecified Tank	1990	129380
H	On site	Tanks	1990	149052
H	On site	Tanks	1990	127533
H	On site	Unspecified Tank	1993	129380
H	On site	Tanks	1993	149052
H	On site	Tanks	1993	135783
H	On site	Tanks	1993	135783
H	On site	Tanks	1993	149052
H	On site	Unspecified Tank	1993	129380
H	On site	Tanks	1993	129694
H	On site	Tanks	1993	130396
H	On site	Tanks	1993	139072
H	On site	Unspecified Tank	1993	129833
H	On site	Unspecified Tank	1993	128072
H	On site	Tanks	1993	123736
H	On site	Unspecified Tank	1993	137217
H	On site	Unspecified Tank	1993	143649
H	On site	Tanks	1993	148938

ID	Location	Land Use	Date	Group ID
H	On site	Tanks	1993	140430
H	On site	Tanks	1993	123757
H	On site	Tanks	1993	143087
H	On site	Tanks	1993	138654
H	On site	Tanks	1993	122297
H	On site	Tanks	1993	131989
H	On site	Tanks	1993	144501
H	On site	Tanks	1993	136080
J	On site	Unspecified Tank	1959	135582
J	On site	Unspecified Tank	1964	135582
K	On site	Unspecified Tank	1980	147614
K	On site	Tanks	1980	130028
K	On site	Unspecified Tank	1993	147614
K	On site	Tanks	1993	133089
K	On site	Tanks	1993	148583
K	On site	Tanks	1993	140307
L	On site	Tanks	1993	148241
L	On site	Tanks	1993	148268
L	On site	Tanks	1993	132517
L	On site	Tanks	1993	131483
L	On site	Unspecified Tank	1993	137565
L	On site	Tanks	1980	138701
L	On site	Tanks	1980	144153
L	On site	Unspecified Tank	1993	137565
L	On site	Tanks	1993	148268
L	On site	Tanks	1993	132517
L	On site	Tanks	1993	148241
L	On site	Tanks	1993	131483

ID	Location	Land Use	Date	Group ID
M	On site	Tanks	1993	143256
M	On site	Tanks	1980	148017
M	On site	Tanks	1993	143256
N	On site	Tanks	1993	123607
N	On site	Tanks	1993	145605
N	On site	Unspecified Tank	1993	134619
N	On site	Unspecified Tank	1980	134619
N	On site	Tanks	1980	149224
N	On site	Tanks	1980	124725
N	On site	Tanks	1993	145605
N	On site	Tanks	1993	123607
N	On site	Unspecified Tank	1993	134619
O	On site	Tanks	1993	139466
O	On site	Unspecified Tank	1980	110818
O	On site	Unspecified Tank	1980	110817
O	On site	Tanks	1993	139466
R	On site	Tanks	1993	127500
R	On site	Tanks	1980	127500
R	On site	Tanks	1993	127500
S	On site	Tanks	1993	122645
S	On site	Tanks	1993	139217
S	On site	Unspecified Tank	1993	141213
S	On site	Tanks	1993	146594
S	On site	Tanks	1993	127329
S	On site	Tanks	1993	140315
S	On site	Tanks	1993	141916
S	On site	Tanks	1980	141535
S	On site	Tanks	1980	127329

ID	Location	Land Use	Date	Group ID
S	On site	Unspecified Tank	1980	141213
S	On site	Unspecified Tank	1980	110813
S	On site	Tanks	1980	133595
S	On site	Tanks	1980	141916
S	On site	Tanks	1980	146594
S	On site	Tanks	1980	139217
S	On site	Tanks	1980	136085
S	On site	Tanks	1980	125847
S	On site	Tanks	1959	141535
S	On site	Unspecified Tank	1959	142447
S	On site	Tanks	1959	134467
S	On site	Unspecified Tank	1959	110815
S	On site	Tanks	1959	127709
S	On site	Tanks	1964	133625
S	On site	Tanks	1964	127709
S	On site	Tanks	1964	148317
S	On site	Unspecified Tank	1964	142447
S	On site	Tanks	1993	146594
S	On site	Unspecified Tank	1993	110814
S	On site	Tanks	1993	122645
S	On site	Tanks	1993	139217
S	On site	Tanks	1993	127329
S	On site	Unspecified Tank	1993	141213
S	On site	Tanks	1993	140315
T	On site	Tanks	1970	140325
T	On site	Tanks	1970	123044
T	On site	Unspecified Tank	1970	110819
T	On site	Tanks	1990	144943

ID	Location	Land Use	Date	Group ID
T	**On site**	**Tanks**	**1993**	**144943**
T	**On site**	**Tanks**	**1993**	**144943**
V	6m N	Unspecified Tank	1993	145321
V	6m N	Unspecified Tank	1993	145321
D	21m E	Tanks	1993	145505
D	21m E	Tanks	1993	145505
D	22m E	Tanks	1980	145505
W	24m SW	Tanks	1980	131674
X	24m N	Unspecified Tank	1993	126909
X	24m N	Unspecified Tank	1993	126909
X	24m N	Unspecified Tank	1970	126909
X	25m N	Unspecified Tank	1990	126909
W	25m SW	Tanks	1993	133945
W	25m SW	Tanks	1993	133945
10	28m SW	Unspecified Tank	1993	110822
S	30m NW	Unspecified Tank	1993	110816
S	30m NW	Tanks	1993	146430
S	31m NW	Tanks	1980	146430
S	31m NW	Unspecified Tank	1993	123189
S	32m NW	Unspecified Tank	1993	123189
S	33m NW	Unspecified Tank	1980	123189
Z	38m S	Tanks	1971	124609
Y	39m NW	Tanks	1993	129944
Y	39m NW	Tanks	1993	129944
Z	39m S	Tanks	1984	125617
Y	40m NW	Tanks	1980	129944
X	41m N	Tanks	1970	127169
X	41m N	Tanks	1993	131001

ID	Location	Land Use	Date	Group ID
X	41m N	Tanks	1993	131001
Z	41m S	Tanks	1992	125617
Y	43m NW	Tanks	1993	144423
Y	43m NW	Tanks	1993	144423
Y	45m NW	Tanks	1980	142702
Y	45m NW	Tanks	1959	142702
Y	45m NW	Tanks	1964	142702
AB	46m SW	Unspecified Tank	1993	125580
AB	46m SW	Unspecified Tank	1993	125580
X	47m N	Tanks	1970	137783
S	47m NW	Tanks	1993	127120
AA	48m NW	Tanks	1993	123003
AA	48m NW	Tanks	1964	129287
AA	48m NW	Tanks	1993	123003
AA	49m NW	Tanks	1980	143088
AA	49m NW	Tanks	1959	143088
AC	50m S	Unspecified Tank	1971	134061
AC	50m S	Unspecified Tank	1984	134061
Z	51m S	Tanks	1992	144908
AC	52m S	Unspecified Tank	1992	134061
AD	53m S	Tanks	1971	140697
AD	53m S	Tanks	1984	136568
AD	53m S	Tanks	1992	122874
X	54m N	Tanks	1970	132662
X	54m N	Tanks	1993	140564
X	54m N	Tanks	1993	140564
X	55m N	Tanks	1990	132662
X	56m N	Tanks	1970	123292

ID	Location	Land Use	Date	Group ID
AE	57m NW	Unspecified Tank	1959	133513
AE	57m NW	Unspecified Tank	1964	133513
Y	57m NW	Tanks	1959	140978
Y	58m NW	Tanks	1964	140978
X	60m N	Tanks	1970	146042
X	60m N	Tanks	1990	137839
X	60m N	Tanks	1993	146042
X	60m N	Tanks	1993	146042
X	64m N	Tanks	1970	128209
X	65m N	Tanks	1993	128209
X	65m N	Tanks	1993	128209
AH	68m SW	Unspecified Tank	1964	141281
AH	69m SW	Unspecified Tank	1980	123697
AH	69m SW	Unspecified Tank	1959	123697
AH	69m SW	Unspecified Tank	1993	123697
AH	69m SW	Unspecified Tank	1993	123697
X	69m N	Tanks	1990	126511
X	69m N	Tanks	1993	126511
X	69m N	Tanks	1993	126511
AF	74m SW	Unspecified Tank	1964	122995
AF	75m SW	Unspecified Tank	1980	136002
AF	75m SW	Unspecified Tank	1959	136002
AF	75m SW	Unspecified Tank	1993	122995
AF	75m SW	Unspecified Tank	1993	122995
X	77m N	Tanks	1970	131134
AJ	85m E	Tanks	1984	130755
S	86m NW	Tanks	1993	143128
S	87m NW	Tanks	1993	143128

ID	Location	Land Use	Date	Group ID
AJ	87m E	Tanks	1992	130755
S	88m NW	Tanks	1993	125937
S	88m NW	Tanks	1993	125937
AK	92m S	Tanks	1984	139999
AL	93m S	Tanks	1971	137804
AL	93m S	Tanks	1984	135152
AK	94m S	Tanks	1992	139999
AL	94m S	Tanks	1992	135152
AM	99m NW	Tanks	1993	145395
AM	99m NW	Tanks	1993	145395
AM	101m NW	Tanks	1980	146373
AM	101m NW	Tanks	1959	146373
AN	102m S	Unspecified Tank	1984	148567
AM	102m NW	Tanks	1964	122774
AN	102m S	Unspecified Tank	1971	148567
AQ	103m NW	Tanks	1970	129246
S	103m NW	Unspecified Tank	1993	149029
AQ	103m NW	Tanks	1990	129246
S	103m NW	Unspecified Tank	1993	149029
AN	103m S	Unspecified Tank	1992	148567
AM	104m NW	Tanks	1993	144361
AM	104m NW	Tanks	1993	144361
AQ	104m NW	Tanks	1993	129246
AQ	104m NW	Tanks	1993	129246
AM	105m NW	Tanks	1980	146016
AM	105m NW	Tanks	1959	146016
AM	106m NW	Tanks	1964	146016
AQ	108m N	Unspecified Tank	1990	128218

ID	Location	Land Use	Date	Group ID
X	108m NE	Unspecified Tank	1970	144718
AM	108m NW	Tanks	1993	143777
AM	108m NW	Tanks	1993	143777
AQ	108m N	Tanks	1993	130816
AQ	108m N	Tanks	1993	130816
AM	108m NW	Tanks	1980	128136
AM	108m NW	Tanks	1959	128136
X	108m N	Tanks	1993	144244
X	108m N	Tanks	1993	144244
X	108m N	Tanks	1990	144244
AQ	109m N	Unspecified Tank	1993	128218
AQ	109m N	Unspecified Tank	1993	128218
AM	109m NW	Tanks	1964	128136
AM	109m NW	Tanks	1993	128853
AM	109m NW	Tanks	1993	128853
X	109m NE	Unspecified Tank	1990	143534
X	110m NE	Unspecified Tank	1993	143534
X	110m NE	Unspecified Tank	1993	143534
AM	110m NW	Tanks	1980	128853
AM	110m NW	Tanks	1959	128853
AM	110m NW	Tanks	1964	141321
S	115m NW	Unspecified Tank	1993	127443
S	115m NW	Unspecified Tank	1993	127443
AS	115m SW	Tanks	1964	126625
AJ	119m E	Tanks	1971	144816
AQ	119m NW	Tanks	1970	105018
AJ	120m E	Tanks	1984	144534
AQ	121m NW	Unspecified Tank	1993	145979

ID	Location	Land Use	Date	Group ID
AQ	121m NW	Unspecified Tank	1993	145979
AS	122m SW	Tanks	1980	148391
AS	122m SW	Tanks	1959	148391
AJ	123m E	Tanks	1992	144534
AS	123m SW	Unspecified Tank	1993	133282
AS	123m SW	Unspecified Tank	1993	133282
AU	131m SW	Unspecified Tank	1964	137589
AU	132m SW	Unspecified Tank	1980	122486
AU	132m SW	Unspecified Tank	1959	122486
AV	135m N	Unspecified Tank	1993	141677
AV	135m N	Unspecified Tank	1993	141677
AV	135m N	Unspecified Tank	1990	141677
X	139m N	Unspecified Tank	1970	111317
AV	140m N	Unspecified Tank	1993	136850
AV	140m N	Unspecified Tank	1993	136850
AV	140m N	Unspecified Tank	1990	136850
AR	143m W	Unspecified Tank	1962	146359
AR	143m W	Unspecified Tank	1959	146359
AS	144m SW	Unspecified Tank	1993	131184
AS	144m SW	Unspecified Tank	1993	131184
X	145m N	Tanks	1993	125730
X	145m N	Tanks	1993	125730
X	145m N	Tanks	1990	125730
E	146m S	Unspecified Tank	1984	148931
E	146m S	Unspecified Tank	1992	148931
E	146m S	Unspecified Tank	1971	148931
AM	147m NW	Tanks	1993	143706
AM	147m NW	Tanks	1993	143706

ID	Location	Land Use	Date	Group ID
AM	148m NW	Tanks	1980	137359
AM	148m NW	Tanks	1959	137359
AM	149m NW	Tanks	1964	137359
X	149m N	Tanks	1990	134683
X	149m N	Tanks	1993	136031
X	149m N	Tanks	1993	136031
AX	150m S	Unspecified Tank	1984	148101
AX	150m S	Unspecified Tank	1971	147046
AY	151m S	Tanks	1971	134267
AX	151m S	Unspecified Tank	1992	148101
AM	151m NW	Tanks	1993	128571
AM	151m NW	Tanks	1993	128571
AM	152m NW	Tanks	1980	138575
AM	152m NW	Tanks	1959	138575
AY	152m S	Tanks	1984	122745
AM	152m NW	Tanks	1964	144594
AM	152m NW	Tanks	1993	136831
AM	153m NW	Tanks	1993	145669
AM	153m NW	Tanks	1993	145669
AM	153m NW	Tanks	1993	123512
AY	153m S	Tanks	1992	139476
AM	153m NW	Tanks	1980	123512
AM	153m NW	Tanks	1980	130322
AM	153m NW	Tanks	1959	123512
AM	153m NW	Tanks	1959	130322
AM	153m NW	Tanks	1964	136831
AM	153m NW	Tanks	1964	128687
AY	153m S	Tanks	1992	144300

ID	Location	Land Use	Date	Group ID
B	159m W	Unspecified Tank	1993	110810
B	159m W	Unspecified Tank	1993	110811
BC	160m SE	Tanks	1984	132232
X	161m N	Tanks	1990	144845
X	161m N	Tanks	1993	144271
X	161m N	Tanks	1993	144271
BC	162m SE	Tanks	1971	126695
BC	163m SE	Tanks	1992	142181
BB	163m SW	Tanks	1980	122603
E	165m S	Tanks	1971	126991
BB	165m SW	Tanks	1993	138437
BB	165m SW	Tanks	1993	138437
AY	170m S	Unspecified Tank	1984	111309
BC	171m SE	Tanks	1984	135964
E	173m S	Unspecified Tank	1984	127721
E	173m S	Tanks	1971	105203
E	173m S	Unspecified Tank	1992	127721
B	175m W	Unspecified Tank	1993	148734
BF	178m SW	Tanks	1993	137842
BF	178m SW	Tanks	1993	139445
BG	178m SW	Unspecified Tank	1964	125176
BG	179m SW	Unspecified Tank	1980	123874
BG	179m SW	Unspecified Tank	1959	123874
E	182m S	Tanks	1971	123631
E	182m S	Tanks	1984	128948
E	182m S	Tanks	1992	123631
B	184m W	Unspecified Tank	1993	137254
E	186m S	Tanks	1984	130032

ID	Location	Land Use	Date	Group ID
E	187m S	Tanks	1992	130032
BF	196m SW	Tanks	1993	122953
AM	199m NW	Tanks	1993	143757
AM	199m NW	Tanks	1993	143757
AM	200m NW	Tanks	1980	125862
AM	200m NW	Tanks	1959	125862
AM	201m NW	Tanks	1964	136004
BB	202m SW	Unspecified Tank	1993	123151
BB	202m SW	Unspecified Tank	1993	123151
BK	202m SE	Tanks	1984	146130
AM	202m NW	Tanks	1993	130110
AM	202m NW	Tanks	1993	130110
BK	203m E	Tanks	1971	146130
AM	203m NW	Tanks	1964	134115
AM	203m NW	Tanks	1980	130110
AM	203m NW	Tanks	1959	130110
AM	204m NW	Tanks	1993	136028
AM	204m NW	Tanks	1993	136028
BK	204m SE	Tanks	1992	122415
AM	205m NW	Tanks	1980	132940
AM	205m NW	Tanks	1959	132940
AM	205m NW	Tanks	1964	136028
BG	213m SW	Unspecified Tank	1993	128297
B	228m W	Tanks	1993	142281
B	228m W	Unspecified Tank	1986	110806
AZ	232m N	Unspecified Tank	1964	111089
BO	235m SW	Tanks	1986	105002
AM	237m NW	Tanks	1993	126782

ID	Location	Land Use	Date	Group ID
AM	238m NW	Tanks	1993	126782
AM	239m NW	Tanks	1980	126782
AM	239m NW	Tanks	1959	126782
AM	239m NW	Tanks	1993	136869
AM	239m NW	Tanks	1993	136869
AM	239m NW	Tanks	1964	142211
AM	241m NW	Tanks	1980	136869
AM	241m NW	Tanks	1959	136869
AM	241m NW	Tanks	1964	138092
AM	243m NW	Unspecified Tank	1959	111320
BO	247m SW	Unspecified Tank	1986	110803
BL	248m NW	Tanks	1993	134439
BL	248m NW	Tanks	1996	134439
BL	248m NW	Tanks	1993	134439
BL	249m NW	Unspecified Tank	1972	146804
BL	250m NW	Unspecified Tank	1984	146804
B	252m W	Tanks	1986	128917
BO	253m SW	Tanks	1986	105019
BL	255m NW	Unspecified Tank	1993	132154
BL	255m NW	Tanks	1972	123669
BL	255m NW	Unspecified Tank	1996	132154
BL	256m NW	Tanks	1984	132674
BL	256m NW	Tanks	1993	132674
BL	263m NW	Unspecified Tank	1993	144598
BL	263m NW	Unspecified Tank	1996	144598
BL	263m NW	Tanks	1972	125664
BL	264m NW	Tanks	1993	133327
BL	264m NW	Tanks	1984	133327

ID	Location	Land Use	Date	Group ID
BL	265m NW	Unspecified Tank	1993	140079
BL	265m NW	Unspecified Tank	1996	140079
BL	267m NW	Tanks	1972	138035
BL	268m NW	Unspecified Tank	1993	127458
BL	268m NW	Unspecified Tank	1996	127458
BL	271m NW	Tanks	1993	134014
BL	271m NW	Tanks	1996	134014
BL	271m NW	Tanks	1993	134014
B	275m W	Tanks	1986	126214
B	277m W	Tanks	1993	142076
B	277m W	Tanks	1986	127657
B	278m W	Tanks	1993	136535
B	278m W	Tanks	1986	127657
BV	282m NE	Unspecified Tank	1993	149081
BV	282m NE	Unspecified Tank	1993	149081
BT	282m W	Tanks	1993	134695
BT	282m W	Tanks	1993	134695
BT	282m W	Tanks	1976	138572
BW	282m E	Unspecified Tank	1981	135580
BW	283m E	Unspecified Tank	1993	135580
BL	292m NW	Tanks	1972	125249
BL	293m NW	Tanks	1984	125249
CA	302m SW	Tanks	1986	105001
CC	304m SE	Unspecified Tank	1981	134746
CC	304m SE	Unspecified Tank	1993	134746
BW	310m E	Unspecified Tank	1873	111086
CA	317m SW	Unspecified Tank	1986	110804
B	320m W	Unspecified Tank	1986	110812

ID	Location	Land Use	Date	Group ID
B	321m W	Tanks	1986	146660
B	322m W	Tanks	1993	146660
BY	324m W	Tanks	1993	130845
BY	324m W	Tanks	1986	130845
B	328m W	Unspecified Tank	1986	110805
CG	334m W	Tanks	1993	125903
CG	335m W	Tanks	1986	125903
CG	343m W	Tanks	1958	134525
CG	344m W	Tanks	1959	134525
CF	352m NE	Unspecified Tank	1968	148290
CF	352m NE	Unspecified Tank	1982	148290
CF	352m NE	Unspecified Tank	1993	128829
CE	355m NW	Tanks	1993	126771
CE	355m NW	Tanks	1986	126771
CH	356m NE	Unspecified Tank	1982	147312
CH	356m NE	Unspecified Tank	1993	147312
CI	363m SW	Unspecified Tank	1993	133218
CI	363m SW	Tanks	1958	105020
CI	363m SW	Unspecified Tank	1986	128794
CI	363m SW	Unspecified Tank	1959	128794
AT	365m W	Unspecified Tank	1993	140755
AT	365m W	Unspecified Tank	1993	140755
AT	365m W	Tanks	1959	105021
AT	366m W	Unspecified Tank	1962	126730
AT	366m W	Unspecified Tank	1993	148459
AT	366m W	Unspecified Tank	1993	148459
CF	374m N	Unspecified Tank	1993	144673
CF	374m N	Unspecified Tank	1968	144673

ID	Location	Land Use	Date	Group ID
CF	374m N	Unspecified Tank	1982	144673
CL	375m W	Tanks	1971	105081
BU	377m N	Unspecified Tank	1993	111318
CJ	382m NE	Unspecified Tank	1959	111316
CM	385m W	Tanks	1986	142268
CM	386m W	Tanks	1993	142268
AT	389m W	Unspecified Tank	1959	129168
AT	390m W	Unspecified Tank	1962	129168
CO	391m W	Tanks	1964	142831
CO	391m W	Tanks	1972	142831
CL	392m W	Unspecified Tank	1964	111312
CO	392m W	Tanks	1984	125999
CN	393m SW	Tanks	1958	131256
CP	393m W	Tanks	1993	135175
CP	394m W	Tanks	1986	135175
CN	394m SW	Tanks	1959	131256
CF	394m NE	Unspecified Tank	1982	123794
CI	395m SW	Unspecified Tank	1964	122230
CI	395m SW	Unspecified Tank	1986	148470
CI	395m SW	Unspecified Tank	1959	148470
CF	395m NE	Unspecified Tank	1993	123794
CI	395m SW	Unspecified Tank	1993	143277
CI	396m SW	Unspecified Tank	1980	148470
CI	396m SW	Unspecified Tank	1959	148470
CI	396m SW	Unspecified Tank	1993	127733
CI	396m SW	Unspecified Tank	1993	127733
AT	411m W	Unspecified Tank	1962	125267
CO	412m W	Unspecified Tank	1971	126958

ID	Location	Land Use	Date	Group ID
CO	412m W	Unspecified Tank	1964	126958
CO	413m W	Unspecified Tank	1984	135997
AT	413m W	Unspecified Tank	1958	136970
AT	414m W	Unspecified Tank	1958	130368
AT	414m SW	Unspecified Tank	1993	140750
AT	414m SW	Unspecified Tank	1993	140750
AT	414m SW	Unspecified Tank	1976	125577
AT	414m SW	Unspecified Tank	1959	125577
AT	415m SW	Unspecified Tank	1962	136856
CF	415m N	Unspecified Tank	1982	130005
CF	415m N	Unspecified Tank	1993	130005
AT	422m SW	Unspecified Tank	1958	140750
AT	422m SW	Unspecified Tank	1994	140750
AT	422m SW	Unspecified Tank	1958	130374
AT	423m SW	Unspecified Tank	1983	123083
AT	432m W	Unspecified Tank	1958	145756
AT	433m W	Unspecified Tank	1958	145756
CV	437m N	Unspecified Tank	1993	128473
CF	437m NE	Unspecified Tank	1993	144566
CF	437m NE	Unspecified Tank	1982	144566
CV	437m N	Unspecified Tank	1982	128473
27	454m W	Unspecified Tank	1964	111313
CF	456m NE	Unspecified Tank	1993	149074
CF	456m NE	Unspecified Tank	1982	149074
CW	460m W	Tanks	1993	149381
CW	460m W	Tanks	1986	149381
29	463m W	Unspecified Tank	1964	111315
AT	467m SW	Unspecified Tank	1994	129147

ID	Location	Land Use	Date	Group ID
AT	467m W	Tanks	1994	142191
AT	467m SW	Unspecified Tank	1983	129147
AT	468m W	Tanks	1983	142191
AT	474m SW	Tanks	1994	126037
AT	474m SW	Tanks	1958	126037
AT	474m SW	Tanks	1958	129211
AT	475m SW	Tanks	1983	126037
AT	484m W	Unspecified Tank	1958	139288
AT	484m W	Unspecified Tank	1958	139288
CZ	492m W	Unspecified Tank	1958	134506
CZ	492m W	Unspecified Tank	1958	134506
CZ	492m W	Unspecified Tank	1994	134506

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**59**

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 37**

ID	Location	Land Use	Date	Group ID
J	**On site**	**Electricity Substation**	**1980**	**69448**
J	**On site**	**Electricity Substation**	**1993**	**67428**
J	**On site**	**Electricity Substation**	**1993**	**67428**
P	**On site**	**Electricity Substation**	**1993**	**64585**
P	**On site**	**Electricity Substation**	**1993**	**64585**
Q	**On site**	**Electricity Substation**	**1993**	**79051**
Q	**On site**	**Electricity Substation**	**1993**	**84788**
Q	**On site**	**Electricity Substation**	**1976**	**81897**

ID	Location	Land Use	Date	Group ID
Q	**On site**	**Electricity Substation**	**1993**	**79051**
AG	57m SE	Electricity Substation	1992	60452
AP	102m W	Electricity Substation	1992	72022
AP	102m W	Electricity Substation	1995	72022
AP	102m W	Electricity Substation	1993	72022
AP	103m W	Electricity Substation	1987	72022
AW	145m NW	Electricity Substation	1993	67779
AW	148m NW	Electricity Substation	1981	68000
BA	155m E	Electricity Substation	1978	69517
BA	155m E	Electricity Substation	1992	69517
BD	165m E	Electricity Substation	1978	72919
BD	166m E	Electricity Substation	1992	72919
BE	169m N	Electricity Substation	1992	73829
BE	170m N	Electricity Substation	1978	73829
BJ	186m N	Electricity Substation	1992	64852
BJ	186m N	Electricity Substation	1978	64852
17	197m S	Electricity Substation	1992	60455
AY	201m SE	Electricity Substation	1992	60454
AY	206m SE	Electricity Substation	1992	60453
BN	224m W	Electricity Substation	1992	76343
BN	225m W	Electricity Substation	1995	76343
BN	225m W	Electricity Substation	1993	76343
BN	225m W	Electricity Substation	1987	76348
21	241m N	Gas Governor	1992	63539
BR	262m N	Electricity Substation	1992	60476
BR	273m N	Electricity Substation	1978	60477
BS	274m N	Electricity Substation	1992	69700
BS	274m N	Electricity Substation	1978	69700

ID	Location	Land Use	Date	Group ID
BX	290m NE	Electricity Substation	1993	65344
BX	290m NE	Electricity Substation	1982	65344
BZ	297m W	Electricity Generating Station	1992	76338
CB	298m W	Electric Generating Station	1984	71326
BZ	299m W	Electric Generating Station	1984	71326
CD	326m N	Electricity Substation	1992	73491
CD	327m N	Electricity Substation	1978	72496
AT	395m W	Electricity Substation	1976	74793
AT	398m W	Electricity Substation	1993	81534
AT	398m W	Electricity Substation	1993	81534
CQ	398m E	Electricity Substation	1978	72900
CQ	399m E	Electricity Substation	1992	72900
CR	399m W	Electricity Substation	1978	64465
CR	399m W	Electricity Substation	1992	80063
CS	403m N	Electricity Substation	1992	71154
CS	403m N	Electricity Substation	1978	71154
CR	404m W	Electricity Substation	1984	64792
CR	407m W	Electricity Substation	1992	74268
AT	412m W	Electricity Substation	1994	81534
AT	413m W	Electricity Substation	1983	84181
CR	419m W	Electricity Substation	1978	64850
CU	431m NW	Electricity Substation	1987	81852
CU	435m NW	Electricity Substation	1993	81852

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	3

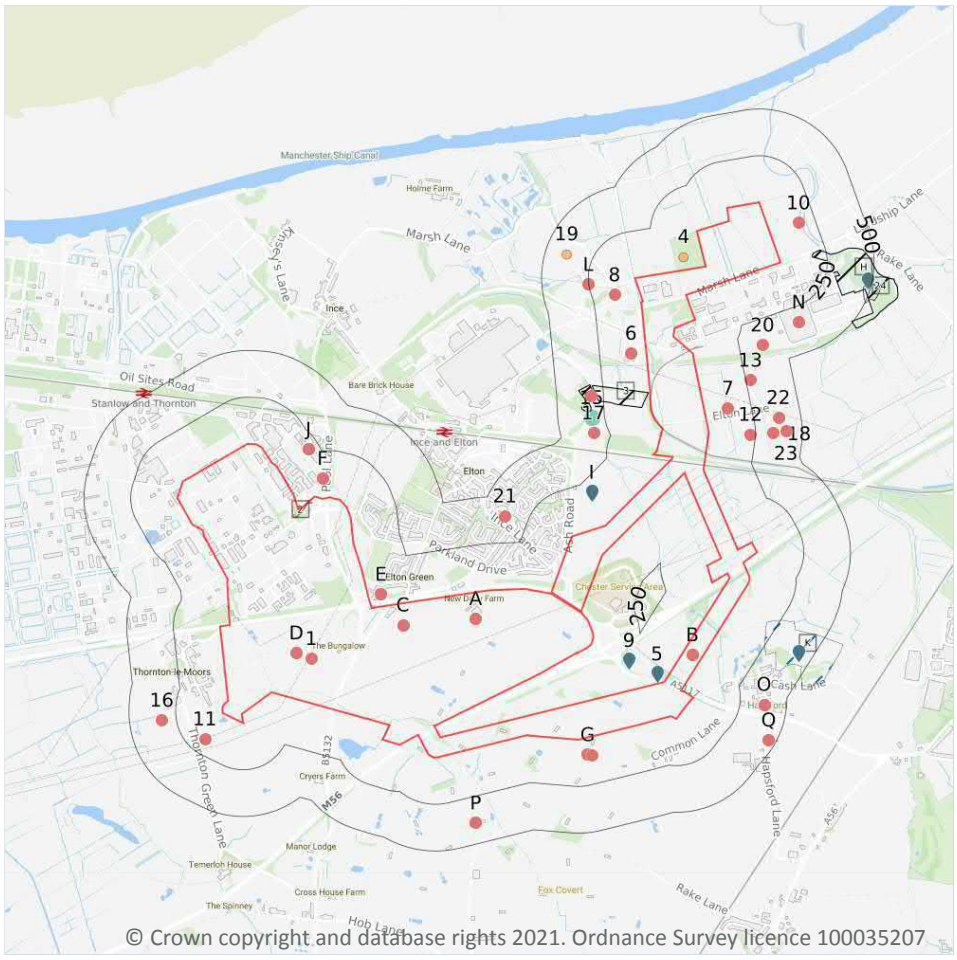
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 37**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Garage**	**1993**	**22078**
A	**On site**	**Garage**	**1962**	**27700**
A	**On site**	**Garage**	**1981**	**27700**

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Active or recent landfill

Historical landfill (EA/NRW)

Historical landfill (BGS)

Historical landfill (LA/OS)

Historical waste sites

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 72**

ID	Location	Details	
K	195m SE	Operator: Brock Plc Site Address: Land /premises At, Moor Lane, Hapsford, Frodsham, Cheshire, WA6 OJU	WML Number: 53584 EPR Reference: BPL008 Landfill type: A02: Other Landfill Site taking Special Waste Status: Closure IPPC Reference: - EPR Number: EA/EPR/AP3592CX/A001

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

3.2 Historical landfill (BGS records)

Records within 500m	**1**

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.

Features are displayed on the Waste and landfill map on **page 72**

ID	Location	Address	BGS Number	Risk	Waste Type
15	320m W	Ince Power Stn, Chester	2784	Risk to major aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	**1**

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

Features are displayed on the Waste and landfill map on **page 72**

ID	Location	Site address	Source	Data type
24	464m E	Refuse Tip	1971 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	**4**

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 72**

ID	Location	Details		
3	9m W	Site Address: Ince Power Station, Ash Road, Chester, Cheshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Central Electricity Generating Board Licence Holder: - First Recorded 31/12/1960 Last Recorded: -
H	172m E	Site Address: Kemira Growhow Landfill Site, Chester, Ince, Cheshire Licence Holder Address: Chester, Ince, Cheshire	Waste Licence: Yes Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 04/01/1988 Licence Surrender: 10/10/2012	Operator: Kemira Growhow Landfill Site Licence Holder: Growhow U K Ltd First Recorded 09/12/2010 Last Recorded: -
M	297m W	Site Address: Ince A Power Station, Ash Road, Ince, Chester, Cheshire Licence Holder Address: Europa House, Bird Hall Lane, Cheadle Heath, Stockport	Waste Licence: Yes Site Reference: O73, 60314 Waste Type: Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 12/05/1977 Licence Surrender: 10/05/1982	Operator: - Licence Holder: Central Electricity Generating Board First Recorded 31/12/1977 Last Recorded: 10/05/1982
14	319m W	Site Address: Ince A Power Station / Tip, Ince Power Station, Ince, Chester, Cheshire Licence Holder Address: Europa House, Bird Hall Lane, Cheadle Heath, Stockport	Waste Licence: - Site Reference: 034, 60314 Waste Type: Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Central Electricity Generating Board First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	**4**

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

Features are displayed on the Waste and landfill map on **page 72**

ID	Location	Address	Further Details	Date
2	**On site**	**Site Address: N/A**	**Type of Site: Ground Workings and Refuse Heap** **Planning application reference: N/A** **Description: N/A** **Data source: Historic Mapping** **Data Type: Polygon**	**1978**
4	43m N	Site Address: Wilton 11,Wilton, Redcar, or, Ince Marshes site in Cheshire, REDCAR, Cleveland, TS10	Type of Site: Energy from Waste Planning application reference: N/A Description: Scheme comprises a proposal for an energy from waste facility. Covanta are proposing a site at Ince Marshes in Cheshire and SITA, the Wilton International site in Teesside. Each bidder is proposing the facility for the production of energy in the form of electricity and/or heat from household waste, to treat approximately 500,000 tonnes per year of the region's waste. Construction - piled foundations; pre-cast concrete frame. A Certificate of Lawfulness has been applied for. The whole Wilton site is co vered by an instrument of consent, so this application has been submitted to inform the council of the proposal only. We have been advised competitive dialogue stage continues. Wilton 11 will be constructed adjacent to the existing Wilton Power Station . The new waste incinerator on behalf of Sita will convert non hazardous rubbish collected from homes and businesses in he surrounding area into energy. The plant should prevent approximately 130,000 tonnes of polluting carbon emmissions. The plant is ex pected to be covered by existing planning permission for the Wilton site and the partnership intends to start construction on the facility following a public consultation in 2012, with it becoming operational in 2015. Discussions for feedstock for the pr oposed plant are currently on-going, with SITA hopeful of sourcing material from business and local authorities in the Teesside area. Covanta propose construction of an Energy from Waste plant. The 35.5MW plant will generate enough energy for around 50, 000 homes. Competitive dialogue for this project continues and a preferred bidder will be announced late 2011. Public consultations are to be held during 2012. Merseyside Waste Disposal Authority (MWDA) has narrowed the options for a new PFI wa Data source: Historic Planning Application Data Type: Point	01/10/2012

ID	Location	Address	Further Details	Date
F	76m N	Site Address: Shell Technology Centre Thornt, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Type of Site: Waste Transfer Station Planning application reference: 13/00244/WAS Description: Scheme comprises excavation, removal and infilling of contaminated ground and infilling of open pits and chambers following demolitions at the redundant LNG area within Shell Technology Centre Thornton. The use of imported of granular fill material neces sary to complete the infilling. Data source: Historic Planning Application Data Type: Point	26/02/2013
19	362m W	Site Address: Ince Resource Recovery Park, Grinsome Road, Ellesmere Port, Cheshire, CH65	Type of Site: Timber Recycling Plant Planning application reference: 16/03210/REM Description: scheme comprises appearance and scale reserved matters pursuant to outline planning permission 14/02271/S73 which relates to the development of a timber recycling plant and associated infrastructure on plot 3 of protos, on land at Ince Marshes, Grinsome Road, Ince, Cheshire the associated works include sewer systems, landscaping, infrastructure, enabling and access roads. Data source: Historic Planning Application Data Type: Point	04/10/2016

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

3.6 Licensed waste sites

Records within 500m **8**

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

Features are displayed on the Waste and landfill map on **page 72**

ID	Location	Details		
5	48m N	Site Name: Hapsford Composting Site Site Address: Land/premises At, Bypass Road, Hapsford, Cheshire, WA6 0HA Correspondence Address: -	Type of Site: Composting Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WHI004 EPR reference: EA/EPR/SP3094CA/A001 Operator: George Whittaker And Sons (Knutsford) Ltd Waste Management licence No: 50233 Annual Tonnage: 24999	Issue Date: 24/09/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
9	154m N	Site Name: Hapsford Composting Site Site Address: Land/premises At, Bypass Road, Hapsford, Cheshire, WA6 0HA Correspondence Address: -	Type of Site: Composting Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WHI004 EPR reference: EA/EPR/SP3094CA/A001 Operator: George Whittaker And Sons (Knutsford) Ltd Waste Management licence No: 50233 Annual Tonnage: 24999	Issue Date: 24/09/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
I	177m NW	Site Name: Formula International Carriers Ltd. Site Address: Ash Road Industrial Estate, Ash Road, Elton, Chester, Cheshire, CH2 4RQ Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FIC001 EPR reference: EA/EPR/FP3292CU/S002 Operator: Formula International Carriers Ltd. Waste Management licence No: 53509 Annual Tonnage: 50000	Issue Date: 20/03/1998 Effective Date: - Modified: - Surrendered Date: Mar 29 2001 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered
I	177m NW	Site Name: Formula International Carriers Ltd. Site Address: Ash Road Industrial Estate, Ash Road, Elton, Chester, Cheshire, CH2 4RQ Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FIC001 EPR reference: EA/EPR/FP3292CU/S002 Operator: Formula International Carriers Ltd. Waste Management licence No: 53509 Annual Tonnage: 50000	Issue Date: 20/03/1998 Effective Date: - Modified: - Surrendered Date: Mar 29 2001 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered

ID	Location	Details		
K	428m SE	Site Name: Hapsford Landfill Site Site Address: Land /premises At, Moor Lane, Hapsford, Frodsham, Cheshire, WA6 OJU Correspondence Address: -	Type of Site: Other Landfill Site taking Special Waste Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BPL008 EPR reference: EA/EPR/AP3592CX/A001 Operator: Brock Plc Waste Management licence No: 53584 Annual Tonnage: 50000	Issue Date: 11/12/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
K	428m SE	Site Name: Hapsford Landfill Site Site Address: Land /premises At, Moor Lane, Hapsford, Frodsham, Cheshire, WA6 OJU Correspondence Address: -	Type of Site: Other Landfill Site taking Special Waste Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BPL008 EPR reference: EA/EPR/AP3592CX/A001 Operator: Brock Plc Waste Management licence No: 53584 Annual Tonnage: 50000	Issue Date: 11/12/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
H	477m E	Site Name: Kemira Growhow Landfill Site Site Address: Ince, Chester, Cheshire, CH2 4LB Correspondence Address: Kemira Growhow Uk Ltd, Ince, Ellesmere Port, Cheshire, CH2 4LB	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KIL001 EPR reference: - Operator: Kemira Growhow Uk Ltd Waste Management licence No: 53980 Annual Tonnage: 0	Issue Date: 04/01/1988 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 04/06/1998 Cancelled Date: - Status: Issued
H	477m E	Site Name: Kemira Growhow Landfill Site Site Address: Ince, Chester, Cheshire, CH2 4LB Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KIL001 EPR reference: XP3191CR/A001 Operator: Growhow Uk (west) Ltd. Waste Management licence No: 53980 Annual Tonnage: 262500	Issue Date: 04/01/1988 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

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

3.7 Waste exemptions

Records within 500m **92**

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 72**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	On site	Land at Thornton-le-Moor	EPR/AE5885QF/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Disposing of waste exemption	On a Farm	Burning waste in the open
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Using waste exemption	On a Farm	Use of waste in construction
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Using waste exemption	On a Farm	Use of waste for a specified purpose
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Storing waste exemption	On a Farm	Storage of sludge
A	On site	NEW DAIRY FARM, BY-PASS ROAD, ELTON GREEN, ELTON, CHESTER, CH2 4LJ	WEX147215	Storing waste exemption	On a Farm	Storage of waste in a secure place
B	On site	-	WEX056352	Storing waste exemption	On a farm	Storage of sludge
B	On site	Depmore Farm Depmore Lane FRODSHAM WA6 6UE	EPR/VF0003ZH/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
B	On site	Land at Hapsford Grid Ref: SJ 4694 7463 WA6 0JT	EPR/XE5243XY/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge

ID	Location	Site	Reference	Category	Sub-Category	Description
C	**On site**	**Village Farm Ince**	**EPR/PE5782XB/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
C	**On site**	**Land at NGR: SJ4539074790 Village Green Farm Frodsham**	**EPR/GE5647TV/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
D	**On site**	**Village Green farm Ince**	**EPR/CE5487ZA/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
D	**On site**	**Land at Thornton-le-Moor**	**EPR/WE5885QT/A001**	**Storing waste exemption**	**Non-Agricultural Waste Only**	**Storage of sludge**
E	62m N	NEW DAIRY FARM ELTON CHESTER CHESHIRE CH2 4LJ	EPR/ZE5247NY/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
E	62m N	NEW DAIRY FARM ELTON CHESTER CHESHIRE CH2 4LJ	EPR/ZE5247NY/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
E	62m N	NEW DAIRY FARM ELTON CHESTER CHESHIRE CH2 4LJ	EPR/ZE5247NY/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
E	62m N	NEW DAIRY FARM ELTON CHESTER CHESHIRE CH2 4LJ	EPR/ZE5247NY/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
E	62m N	NEW DAIRY FARM ELTON CHESTER CHESHIRE CH2 4LJ	EPR/ZE5247NY/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
6	83m W	Cheetham Hill Construction Chester Cheshire West and Chester CH2 4LB	EPR/ZF0301FD/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
G	92m S	-	WEX204695	Using waste exemption	On a Farm	Use of mulch
G	92m S	-	WEX204695	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
G	92m S	-	WEX050691	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters

ID	Location	Site	Reference	Category	Sub-Category	Description
G	92m S	-	WEX050691	Disposing of waste exemption	On a farm	Burning waste in the open
G	92m S	-	WEX050691	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
G	92m S	-	WEX050691	Using waste exemption	On a farm	Use of waste in construction
G	92m S	-	WEX050691	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
G	99m S	Holme Farm Ince Cheshire CH2 4NR	EPR/VE5142BW/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
F	102m N	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX172361	Using waste exemption	On a farm	Use of waste for a specified purpose
F	102m N	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX172361	Treating waste exemption	On a farm	Screening and blending of waste
F	102m N	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX172361	Storing waste exemption	On a farm	Storage of waste in a secure place
F	102m N	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX172361	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
7	125m E	Harleys Ince CH2 4LB	EPR/AE5149ZH/A001	Using waste exemption	Agricultural Waste Only	Use of waste derived biodiesel as fuel
8	134m W	-	WEX131167	Using waste exemption	Not on a farm	Use of waste in construction
10	159m E	Holme Farm Ince Cheshire CH2 4NR	EPR/VE5842BG/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
11	172m SW	Land at Thornton-le-Moor	EPR/RE5885QM/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
J	190m NE	UNIVERSITY OF CHESTER, POOL LANE, INCE, CHESTER, CH2 4NU	WEX228725	Using waste exemption	Not on a farm	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
J	190m NE	UNIVERSITY OF CHESTER, POOL LANE, INCE, CHESTER, CH2 4NU	WEX083309	Using waste exemption	Not on a farm	Use of waste for a specified purpose
J	190m NE	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX013584	Storing waste exemption	On a farm	Storage of waste in a secure place
J	190m NE	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX013584	Treating waste exemption	On a farm	Screening and blending of waste
J	190m NE	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX013584	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
J	190m NE	ELTON LANE FARM, ELTON LANE, ELTON, CHESTER, CH2 4NU	WEX013584	Using waste exemption	On a farm	Use of waste for a specified purpose
12	222m E	Woodside Farm	EPR/UE5545CG/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
L	254m W	-	WEX247968	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
L	254m W	-	WEX106014	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
13	273m E	Woodside Farm	EPR/UE5645CT/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
M	316m W	-	WEX085445	Using waste exemption	Not on a farm	Use of waste in construction
16	329m W	Village Green Farm The Square Chester Cheshire CH2 4NN	EPR/FF0302CQ/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
17	332m W	TXM Rail (A Division of TXM Plant Ltd) Ash Road Chester Cheshire CH2 4LF	EPR/WF0605UJ/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste for a specified purpose
N	337m S	PLOT 3, PROTOS, GRINSTONE ROAD, INCE, CH2 4LB	WEX104968	Using waste exemption	Not on a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
N	338m S	PLOT 3, PROTOS, GRINSTONE ROAD, INCE, CH2 4LB	WEX248609	Using waste exemption	Not on a farm	Use of waste in construction
18	342m E	Land at Helsby SJ47377582 WA6 0HT	EPR/UE5945SG/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
20	374m E	NG Shellstar AGI Kemira Elton Cheshire CH2 4LB	EPR/NF0634RF/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
21	374m W	INCE LANE, ELTON, CHESTER, CH2 4LU	WEX257560	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
O	379m E	Manor Farm Moor Lane FRODSHAM WA6 0JT	EPR/PH0216YA/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
22	380m E	Harleys Chester Cheshire CH2 4LB	EPR/AE5749ZJ/A001	Using waste exemption	Agricultural Waste Only	Use of waste derived biodiesel as fuel
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit

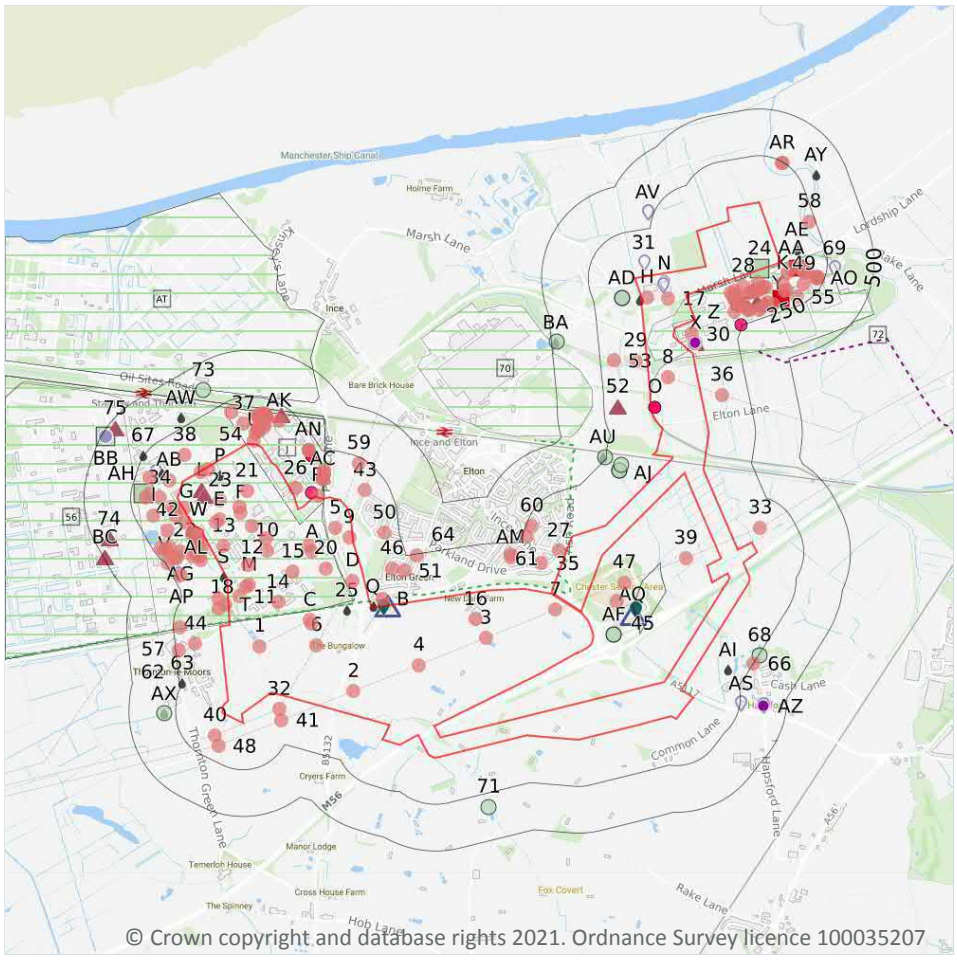
ID	Location	Site	Reference	Category	Sub-Category	Description
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Using waste exemption	On a Farm	Pig and poultry ash
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Using waste exemption	On a Farm	Use of waste for a specified purpose
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Using waste exemption	On a Farm	Use of waste in construction
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Treating waste exemption	On a Farm	Crushing waste fluorescent tubes
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Storing waste exemption	On a Farm	Storage of waste in secure containers
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Storing waste exemption	On a Farm	Storage of waste in a secure place
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Disposing of waste exemption	On a Farm	Disposal by incineration
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX162843	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Disposing of waste exemption	On a farm	Disposal by incineration

ID	Location	Site	Reference	Category	Sub-Category	Description
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Storing waste exemption	On a farm	Storage of waste in secure containers
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Storing waste exemption	On a farm	Storage of waste in a secure place
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Treating waste exemption	On a farm	Crushing waste fluorescent tubes
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Using waste exemption	On a farm	Use of waste in construction
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Using waste exemption	On a farm	Pig and poultry ash
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
O	382m E	MANOR FARM, MOOR LANE, HAPSFORD, FRODSHAM, WA6 0JT	WEX000745	Using waste exemption	On a farm	Use of waste for a specified purpose
P	393m S	-	WEX129192	Storing waste exemption	On a farm	Storage of sludge
P	393m S	-	WEX220038	Storing waste exemption	On a farm	Storage of sludge
P	393m S	re-registered - Jones, Covert Place - WJ3	WEX266609	Storing waste exemption	On a farm	Storage of sludge
P	393m S	-	WEX070963	Storing waste exemption	On a farm	Storage of sludge
23	412m E	Land at Helsby WA6 0HT	EPR/FE5845SN/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
Q	463m SE	Manor Farm, Hapford, Frodsham, Warrington, WA6 0JR	WEX112208	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
Q	463m SE	Manor Farm, Hapford, Frodsham, Warrington, WA6 0JR	WEX112208	Using waste exemption	On a farm	Incorporation of ash into soil

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
- Current or recent petrol stations
- Electricity cables
- Gas pipelines
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Historical licensed industrial activities
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Radioactive Substance Authorisations
- Licensed Discharges to controlled waters
- List 1 Dangerous Substances
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers

4.1 Recent industrial land uses

Records within 250m	200

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Pylon**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
2	**On site**	**Pylon**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
3	**On site**	**Pylon**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**

ID	Location	Company	Address	Activity	Category
4	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
5	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
6	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
7	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
8	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
9	On site	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
10	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
11	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
12	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
13	On site	Electricity Sub Stations	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
14	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
15	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
16	On site	D J J E & R Brown	New Dairy Farm By-Pass Road, Elton Green, Elton, Chester, Cheshire, CH2 4LJ	Dairy Farming	Farming
17	On site	Chimney	Cheshire, CH2	Chimneys	Industrial Features
18	On site	Cooling Towers	Cheshire, CH2	Chimneys	Industrial Features
19	On site	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
20	On site	Tanks	Cheshire, CH2	Tanks (Generic)	Industrial Features
21	On site	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
22	On site	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
23	On site	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
A	**On site**	**Mast**	**Cheshire, CH2**	**Telecommunications Features**	**Infrastructure and Facilities**
A	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
C	**On site**	**Pylon**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
C	**On site**	**Mast**	**Cheshire, CH2**	**Telecommunications Features**	**Infrastructure and Facilities**
D	**On site**	**Pylon**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
E	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
E	**On site**	**Chimney**	**Cheshire, CH2**	**Chimneys**	**Industrial Features**
F	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
F	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
G	**On site**	**Electricity Sub Stations**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
G	**On site**	**Tank**	**Cheshire, CH2**	**Tanks (Generic)**	**Industrial Features**
H	**On site**	**Biogas Power Station**	**Cheshire, CH2**	**Energy Production**	**Industrial Features**
M	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
M	**On site**	**Electricity Sub Station**	**Cheshire, CH2**	**Electrical Features**	**Infrastructure and Facilities**
R	11m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
T	17m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
U	21m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
26	25m NE	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
V	28m SW	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
V	33m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
V	34m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	38m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
27	40m W	Indulgence Furniture	137, Parkland Drive, Elton, Chester, Cheshire, CH2 4QG	Furniture	Consumer Products
W	41m SW	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
B	41m N	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
V	42m W	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	45m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
V	48m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
V	49m SW	Electricity Sub Stations	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
T	50m W	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
W	50m SW	Electricity Sub Stations	Cheshire, CH65	Electrical Features	Infrastructure and Facilities
X	51m NE	Growhow (UK) Ltd	Ince, Chester, Cheshire, CH2 4LB	Agricultural Machinery and Goods	Industrial Products
T	52m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
W	52m SW	Electricity Sub Stations	Cheshire, CH65	Electrical Features	Infrastructure and Facilities
28	54m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	58m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	62m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
29	62m W	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
Z	62m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
30	62m S	Works	Cheshire, CH2	Unspecified Works Or Factories	Industrial Features
AA	65m SE	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
Z	65m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AA	66m SE	Chimney	Cheshire, CH2	Chimneys	Industrial Features
U	73m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	73m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AB	73m W	Electricity Sub Station	Cheshire, CH65	Electrical Features	Infrastructure and Facilities
32	76m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
U	76m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	79m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
U	81m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	85m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	86m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	87m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
Z	88m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
33	91m NE	Pylon	Cheshire, WA6	Electrical Features	Infrastructure and Facilities
34	95m W	Flare Stack	Cheshire, CH65	Gas Features	Infrastructure and Facilities
Y	96m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	97m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	99m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	99m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	99m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	99m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	100m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	100m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	100m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Y	100m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
AC	102m N	High Growth Centre	University of Chester, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Business Parks and Industrial Estates	Industrial Features
AC	102m N	Wood Group UK Ltd	Stanney Building Part Ground Floor B Thornton Science Park, Pool Lane, Chester, Cheshire, CH2 4NU	Special Purpose Machinery and Equipment	Industrial Products
AC	102m N	Bakerrisk Europe Ltd	Shell Technology Centre Thornton, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Civil Engineers	Engineering Services
AA	103m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
V	105m SW	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
35	105m W	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
Z	106m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	107m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	107m NE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
K	109m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
36	110m E	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
37	112m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	113m NE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AA	117m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
38	119m NW	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
39	122m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
40	125m SW	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AA	127m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
41	128m S	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
42	133m SW	Electricity Sub Station	Cheshire, CH65	Electrical Features	Infrastructure and Facilities
43	133m NE	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
AC	135m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AA	139m SE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AA	141m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
44	142m W	Telephone Exchange	Cheshire, CH2	Telecommunications Features	Infrastructure and Facilities
Z	144m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	145m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	146m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	146m S	Chimney	Cheshire, CH2	Chimneys	Industrial Features
U	146m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	146m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	147m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	147m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	148m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AC	148m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	148m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	149m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	150m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AG	152m SW	Chimney	Cheshire, CH2	Chimneys	Industrial Features
U	152m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
K	152m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AH	153m W	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
U	153m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AA	153m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
K	154m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	154m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	154m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	155m NE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
I	157m SW	Cooling Tower	Cheshire, CH65	Chimneys	Industrial Features
U	157m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
45	158m E	Chester Motorway Service Area	Chester Service Area, M56 Junction 14, Elton, Chester, Cheshire, CH2 4QZ	Motorway Service Stations	Road and Rail
U	158m N	Mast (Telecommunication)	Cheshire, CH2	Telecommunications Features	Infrastructure and Facilities
46	159m E	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
Z	159m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	161m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	162m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
47	162m E	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
U	162m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	163m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	163m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	165m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	165m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	166m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
48	166m SW	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
U	166m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
49	169m SE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	169m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
U	170m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	170m S	Chimney	Cheshire, CH2	Chimneys	Industrial Features
AK	170m NE	E S L Fuels	Thornton Science Park, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
U	170m N	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
50	171m E	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AL	171m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AM	171m N	Trophy Pet Foods Wirral	30, Alvanley View, Elton, Chester, Cheshire, CH2 4QD	Animal Feeds, Pet Foods, Hay and Straw	Foodstuffs
AH	172m W	Tank	Cheshire, CH65	Tanks (Generic)	Industrial Features
51	174m N	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
K	177m S	Works	Cheshire, CH2	Unspecified Works Or Factories	Industrial Features
53	178m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AB	178m W	Electricity Sub Station	Cheshire, CH65	Electrical Features	Infrastructure and Facilities
AG	181m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	182m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
Z	184m S	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AM	190m N	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AN	191m NE	Intero Integrity	University of Chester, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Civil Engineers	Engineering Services
AN	191m NE	Byotrol	Building 303 Thornton Science Park, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Colours, Chemicals and Water Softeners and Supplies	Industrial Products
AN	191m NE	Altimex Ltd	University of Chester, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Electrical Components	Industrial Products
K	193m S	Tanks	Cheshire, CH2	Tanks (Generic)	Industrial Features
AL	193m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
54	193m NW	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AG	199m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
K	200m S	Chimney	Cheshire, CH2	Chimneys	Industrial Features
K	200m S	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
55	201m SE	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
AO	207m SE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AP	208m SW	Chimney	Cheshire, CH2	Chimneys	Industrial Features
AL	209m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AL	210m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AO	211m SE	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AO	212m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
AO	216m E	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
57	218m W	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
58	220m E	Frodsham Marshes Turbine	Cheshire, CH2	Energy Production	Industrial Features
59	221m NE	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
60	221m W	N J P Vehicle Valeting	19, Pinewood Close, Elton, Chester, Cheshire, CH2 4QQ	Vehicle Cleaning Services	Personal, Consumer and Other Services
61	226m W	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
62	232m W	Cranmore Instant Print Ltd	Cranmore House, The Village, Thornton-le-Moors, Chester, Cheshire, CH2 4HU	Published Goods	Industrial Products
AG	243m SW	Tank	Cheshire, CH2	Tanks (Generic)	Industrial Features
64	244m N	Gas Governor Station	Cheshire, CH2	Gas Features	Infrastructure and Facilities
AR	245m NE	Frodsham Marshes Turbine	Cheshire, CH2	Energy Production	Industrial Features
AR	245m NE	Wind Turbine	Cheshire, CH2	Energy Production	Industrial Features
66	249m SE	Pumping Station	Cheshire, WA6	Water Pumping Stations	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	2

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Company	Address	LPG	Status
B	**On site**	**ESSAR**	**Bypass Road, Old Cryers Lane, Elton, Chester, Cheshire West And Chester, CH2 4LD**	**No**	**Closed**
AQ	232m E	SHELL	M56 J14, A5117, Elton, Chester, Cheshire West And Chester, CH2 4QZ	Yes	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	1

High voltage underground electricity transmission cables.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Cable Set	Cable Route	Details	
D	**On site**	**-**	**-**	**Cable Make: -** **Cable Type: PILOT** **Operating Voltage (kV): -**	**Year of installation: Not specified** **Cable in tunnel? Not specified**

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Pipe Name	Details	
72	353m E	HELSBY TO SHELLSTAR	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 300 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

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	11

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Company	Address	Operational status	Tier
I	On site	Shell Gas Ltd	Shell Gas Ltd, Oilsites Road, Stanlow, Ellesmere Port	Historical NIHHS Site	-
I	On site	Shell Gas Ltd (t/a Brittania [lpg] ltd)	Shell Gas Ltd (t/a Brittania [lpg] ltd), Stanlow Shell, Delivery Terminal, Stanlow South Refinery	Historical NIHHS Site	-
I	On site	Essar Oil (UK) Limited	Essar Oil (UK) Limited, Stanlow, Stanlow Manufacturing Complex, PO Box 3, Ellesmere Port, Cheshire, CH65 4HB	Current COMAH Site	COMAH Upper Tier Operator
J	On site	Shell Research Ltd	Shell Research Ltd, South Wirral/shell Research Ltd, Shell Technology Centre Thornton, T/a Global Solutions Uk, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Historical COMAH Site	-
J	On site	Shell Research Ltd	Shell Research Ltd, Thornton Research And Technology Centre, Poole Lane, Ince, Thornton Le Moors, Cheshire, CH2 4NU	Historical COMAH Site	-
K	On site	Growhow Uk Ltd	Growhow Uk Ltd, Ince Marshes, Ince Marshes, Ince, Chester, Cheshire, CH2 4LB	Historical NIHHS Site	-
K	On site	CF Fertilisers UK Limited	CF Fertilisers UK Limited, Ince Marshes, Ince Marshes, Ince, Chester, Cheshire, CH2 4LB	Current COMAH Site	COMAH Upper Tier Operator

ID	Location	Company	Address	Operational status	Tier
56	213m W	Avanti Gas Limited	Avanti Gas Limited, Ellesmere Port, Britannia Road, Ellesmere Port, Cheshire, CH65 4HB	Current COMAH Site	COMAH Upper Tier Operator
AT	258m N	Stanlow Terminals Limited	Stanlow Terminals Limited, Stanlow, Stanlow Terminal, Gate 2, Oil Sites Road, Ellesmere Port, Wirral, CH65 4BD	Current COMAH Site	COMAH Lower Tier Operator
AT	258m N	Stanlow Terminals Limited	Stanlow Terminals Limited, Stanlow, Stanlow Terminal, Gate 2, Oil Sites Road, Ellesmere Port, Wirral, CH65 4BD	Current COMAH Site	COMAH Lower Tier Operator
70	308m W	Encirc Limited	Encirc Limited, Chester, Ash Road, Elton, Chester, Chershire, CH2 4LF	Current COMAH Site	COMAH Lower Tier Operator

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	**14**

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Details	
L	**On site**	**Application reference number: No Details** **Application status: Approved** **Application date: No Details** **Address: United Utilities Waste Management Limited, PO Box 17, Oil Sites Road, Ellesmere Port, Cheshire, England, CH65 4HF**	**Details: No Details.** **Enforcement: No Enforcement Notified** **Date of enforcement: No Enforcement Notified** **Comment: No Enforcement Notified**

ID	Location	Details	
L	**On site**	**Application reference number: P/93/108/ST/709** **Application status: Historical Consent** **Application date: 25/02/1994** **Address: Shell Gas Limited t/a Brittania LPG Ltd, South Site, Stanlow Refinery, Oil Sites, Brittania Road, Ellesmere Port, Cheshire, CH65 4SA**	**Details: Deemed (amendment) Xylene Storage** **Enforcement: No Enforcement Notified** **Date of enforcement: No Enforcement Notified** **Comment: No Enforcement Notified**
L	**On site**	**Application reference number: P/94/108/ST/50** **Application status: Historical Consent** **Application date: 09/02/1994** **Address: Shell UK Ltd, North Road, Ellesmere Port, Cheshire, CH65 1AB**	**Details: Replacement Dope Acid Plant and Storage Facilities** **Enforcement: No Enforcement Notified** **Date of enforcement: No Enforcement Notified** **Comment: No Enforcement Notified**
X	50m NE	Application reference number: No Details Application status: Approved Application date: No Details Address: CF Fertilisers UK Ltd, Ince Site, Ince, Chester, Cheshire, England, CH2 4LB	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details
K	163m S	Application reference number: P/2000/108/ST/729 Application status: Historical Consent Application date: 30/11/2000 Address: Kemira Fertilisers, Pool Lane, Ince, Chester, Cheshire, CH2 4NX	Details: Storage of up to 70 tonnes of anhydrous ammonia. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
52	175m W	Application reference number: 10/00532/HAZ Application status: Historical Consent Application date: 30/01/2012 Address: GrowHow West UK Ltd, Ince Marshes, Grinsome Road, Ince, Chester, CH2 4LB	Details: Storage of up to 190000 tonnes of ammonium nitrate Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
K	186m S	Application reference number: P/99/108/ST/660 Application status: Historical Consent Application date: 02/11/1999 Address: Kemira Fertilisers, Pool Lane, Ince, Chester, Cheshire, CH2 4NX	Details: Claim for deemed hazardous substances consent Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
K	186m S	Application reference number: P/93/108/ST/335 Application status: Historical Consent Application date: 13/08/1993 Address: Kemira Fertilisers, Pool Lane, Ince, Chester, Cheshire, CH2 4NX	Details: Storage of Fertilisers (Ammonium Nitrate & Compound) Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
AK	200m NE	Application reference number: 10/01256/HAZ Application status: Approved Application date: 12/08/2010 Address: Shell Research Ltd, trading as Shell Global Solutions, Shell Technology Centre, Thornton, Pool Lane, Ince, Cheshire, England, CH2 4NU	Details: Storage of up to 30 tonnes of flammable substances Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Location	Details	
AK	200m NE	Application reference number: 10/01256/HAZ Application status: Historical Consent Application date: 12/08/2010 Address: Shell Research Ltd, trading as Shell Global, Shell Technology Centre, Thornton, Pool Lane, Ince, Chester, Cheshire, CH2 4NU	Details: Storage of up to 30 tonnes of flammable substances Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
74	426m SW	Application reference number: 10/02312/HAZ Application status: Historical Consent Application date: 12/01/2011 Address: Shell Gas Limited t/a Brittania LPG Ltd, South Site, Stanlow Refinery, Oil Sites, Brittania Road, Ellesmere Port, Cheshire, CH65 4SA	Details: Storage of up to 20.5 tonnes of hydrogen Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
75	461m NW	Application reference number: No Details Application status: Approved Application date: No Details Address: Stanlow Terminals Limited, Stanlow Terminal, Gate No 2, Oil Sites Road, Ellesmere Port, Wirral, Cheshire, England, CH64 4BD	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details
BC	495m SW	Application reference number: P/2006/108/ST/839 Application status: Historical Consent Application date: 05/08/2008 Address: Shell Gas Limited t/a Brittania LPG Ltd, South Site, Stanlow Refinery, Oil Sites, Brittania Road, Ellesmere Port, Cheshire, CH65 4SA	Details: Hazardous Substances Consent for Hydrogen (max one tonne) with Additional Storage Areas for Hydrogen Trailers Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
BC	495m SW	Application reference number: P/2004/108/ST/329 Application status: Historical Consent Application date: 08/04/2004 Address: Shell Gas Limited t/a Brittania LPG Ltd, South Site, Stanlow Refinery, Oil Sites, Brittania Road, Ellesmere Port, Cheshire, CH65 4SA	Details: Continuation of Hazardous Substance Consent (P/99/644) with an Additional Storage Area for Solid Catalyst Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	**48**

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Details	
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AL7855	Original Permit Number: IPCAIRAPP Date Approved: 31-8-1994 Effective Date: 1-10-1994 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AR6509	Original Permit Number: IPCMINVAR Date Approved: 27-11-1995 Effective Date: 1-12-1995 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AY6546	Original Permit Number: IPCMINVAR Date Approved: 22-8-1997 Effective Date: 1-9-1997 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BD9432	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BG3805	Original Permit Number: IPCMINVAR Date Approved: 21-9-1999 Effective Date: 1-10-1999 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI0971	Original Permit Number: IPCMINVAR Date Approved: 29-3-2000 Effective Date: 5-4-2000 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI2087	Original Permit Number: IPCMINVAR Date Approved: 11-4-2000 Effective Date: 18-4-2000 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI3601	Original Permit Number: IPCMINVAR Date Approved: 20-4-2000 Effective Date: 27-4-2000 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BK3484	Original Permit Number: IPCMINVAR Date Approved: 15-1-2001 Effective Date: 22-1-2001 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BL0308	Original Permit Number: IPCMINVAR Date Approved: 25-4-2001 Effective Date: 2-5-2001 Status: Superseded By Variation

ID	Location	Details	
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BQ2979	Original Permit Number: IPCMINVAR Date Approved: 8-1-2002 Effective Date: 15-1-2002 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BU8533	Original Permit Number: IPCMINVAR Date Approved: 8-7-2003 Effective Date: 15-7-2003 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BV9403	Original Permit Number: IPCMINVAR Date Approved: 7-10-2003 Effective Date: 13-10-2003 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BX1489	Original Permit Number: IPCMINVAR Date Approved: 13-1-2004 Effective Date: 19-1-2004 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BY5749	Original Permit Number: IPCMINVAR Date Approved: 22-10-2004 Effective Date: 1-11-2004 Status: Superseded By Variation
X	45m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BZ4721	Original Permit Number: IPCMINVAR Date Approved: 31-8-2005 Effective Date: 5-9-2005 Status: Revoked - Now Ippc
BB	477m NW	Operator: Shell (UK) Ltd Address: Stanlow Manufacturing Complex, South Wirral, Merseyside, L65 4HB Process: Petrochemical Processes Permit Number: BK2852	Original Permit Number: IPCMINVAR Date Approved: - Effective Date: - Status: Valid
BB	477m NW	Operator: Shell Chemicals UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Combustion Processes Permit Number: AA1139	Original Permit Number: IPCAIRAPP Date Approved: 5-8-1992 Effective Date: 5-8-1992 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Combustion Processes Permit Number: AA2844	Original Permit Number: IPCAIRAPP Date Approved: 5-8-1992 Effective Date: 5-8-1992 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: AF8246	Original Permit Number: IPCAIRAPP Date Approved: 9-12-1993 Effective Date: 20-12-1993 Status: Revoked

ID	Location	Details	
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: AF8394	Original Permit Number: IPCAIRAPP Date Approved: 30-3-1994 Effective Date: 30-4-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Recovery Processes Permit Number: AG8195	Original Permit Number: IPCAIRAPP Date Approved: 9-12-1993 Effective Date: 20-12-1993 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: AJ5720	Original Permit Number: IPCAIRAPP Date Approved: 17-3-1994 Effective Date: 31-3-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: AJ5738	Original Permit Number: IPCAIRAPP Date Approved: 31-3-1994 Effective Date: 5-4-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Combustion Processes Permit Number: AJ9873	Original Permit Number: IPCMINVAR Date Approved: 11-11-1993 Effective Date: 19-11-1993 Status: Revoked
BB	477m NW	Operator: Shell Chemicals UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Combustion Processes Permit Number: AJ9881	Original Permit Number: IPCMINVAR Date Approved: 11-11-1993 Effective Date: 11-11-1993 Status: Revoked
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: AK3927	Original Permit Number: IPCAIRAPP Date Approved: 30-3-1994 Effective Date: 5-4-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: AK3935	Original Permit Number: IPCAIRAPP Date Approved: 17-3-1994 Effective Date: 31-3-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: AK3943	Original Permit Number: IPCAIRAPP Date Approved: 30-3-1994 Effective Date: 5-4-1994 Status: Superseded By Variation

ID	Location	Details	
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: AK3951	Original Permit Number: IPCAIRAPP Date Approved: 17-3-1994 Effective Date: 31-3-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: AN4369	Original Permit Number: IPCAIRAPP Date Approved: 25-3-1996 Effective Date: 29-3-1996 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Incineration Permit Number: AN4377	Original Permit Number: IPCMINVAR Date Approved: 18-11-1994 Effective Date: 21-11-1994 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: AQ8727	Original Permit Number: IPCMINVAR Date Approved: 29-3-1995 Effective Date: 31-3-1995 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: AU6412	Original Permit Number: IPCMINVAR Date Approved: 25-3-1996 Effective Date: 29-3-1996 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: AU6439	Original Permit Number: IPCMINVAR Date Approved: 25-3-1996 Effective Date: 29-3-1996 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: BC6497	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked - Now Ippc
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: BC6519	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: BC6527	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked

ID	Location	Details	
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Manufacture And Use Of Organic Chemicals Permit Number: BC6535	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked - Now Ippc
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: BC8686	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked - Now Ippc
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Incineration Permit Number: BC8694	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: BD1156	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: BD4139	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petrochemical Processes Permit Number: BD4147	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Revoked - Now Ippc
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: BH6834	Original Permit Number: IPCMINVAR Date Approved: 14-3-2000 Effective Date: 20-3-2000 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Recovery Processes Permit Number: BI9359	Original Permit Number: IPCMINVAR Date Approved: 28-7-2000 Effective Date: 28-7-2000 Status: Superseded By Variation
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Petroleum Processes Permit Number: BT7582	Original Permit Number: IPCMINVAR Date Approved: 30-3-2003 Effective Date: 1-4-2003 Status: Revoked - Now Ippc

ID	Location	Details	
BB	477m NW	Operator: Shell UK Ltd Address: Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR Process: Recovery Processes Permit Number: BZ1374	Original Permit Number: IPCMINVAR Date Approved: 2-12-2005 Effective Date: 28-12-2005 Status: Revoked - Now Ippc

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m **164**

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

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Details	
N	**On site**	**Operator: COVANTA ENERGY LTD** **Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX** **Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR** **Permit Number: LP3032CB** **Original Permit Number: LP3132FX**	**EPR Reference: -** **Issue Date: 03/05/2012** **Effective Date: 03/05/2012** **Last date noted as effective: 01/04/2021** **Status: SUPERCEDED**
N	**On site**	**Operator: COVANTA ENERGY LTD** **Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX** **Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.** **Permit Number: TP3331EE** **Original Permit Number: LP3132FX**	**EPR Reference: -** **Issue Date: 23/01/2014** **Effective Date: 23/01/2014** **Last date noted as effective: 01/04/2021** **Status: SUPERCEDED**
N	**On site**	**Operator: COVANTA ENERGY LTD** **Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX** **Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR** **Permit Number: LP3132FX** **Original Permit Number: LP3132FX**	**EPR Reference: -** **Issue Date: 06/10/2011** **Effective Date: 06/10/2011** **Last date noted as effective: 01/04/2021** **Status: SUPERCEDED**

ID	Location	Details	
N	On site	Operator: COVANTA ENERGY LIMITED Installation Name: PROTOS REFUSE DERIVED FUEL PLANT Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: XP3735QQ Original Permit Number: LP3132FX	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 31/01/2019 Status: DETERMINATION
N	On site	Operator: COVANTA ENERGY LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: QP3631FR Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 19/03/2012 Effective Date: 19/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
N	On site	Operator: PEEL ENVIRONMENTAL INCE LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/TP3135LS Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: TP3135LS Original Permit Number: TP3135LS	EPR Reference: - Issue Date: 21/12/2006 Effective Date: 21/12/2006 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
N	On site	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: ASSOCIATED PROCESS Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
N	On site	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
N	On site	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: COMBUSTION; ANY FUEL =>50MW Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; GASES EG AMMONIA Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: COMBUSTION; ANY FUEL =>50MW Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: ASSOCIATED PROCESS Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: JP3837KT Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: LP3638NC Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: WP3838FR Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: ASSOCIATED PROCESS Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE

ID	Location	Details	
X	45m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; GASES EG AMMONIA Permit Number: ZP3934RM Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
X	45m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
31	71m N	Operator: COVANTA ENERGY LIMITED Installation Name: PROTOS REFUSE DERIVED FUEL PLANT - EPR/LP3132FX Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: BP3537JA Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 29/01/2019 Effective Date: 29/01/2019 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; HYDROCARBONS EG AROMATICS Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING BIOLOGICAL TREATMENT Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE

ID	Location	Details	
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: CRUDE OIL Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; NON METALS ETC EG CALCIUM CARBIDE Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AB	151m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: FP3506PQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: CRUDE OIL Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: INCINERATION OF HAZARDOUS WASTE Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: CRUDE OIL Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: COMBUSTION; ANY FUEL =>50MW Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: REFINING MINERAL OILS Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: INCINERATION OF HAZARDOUS WASTE Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: REFINING MINERAL OILS Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: KP3735VE Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 08/04/2014 Effective Date: 08/04/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: FP3139FN Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 01/08/2011 Effective Date: 01/08/2011 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: REFINING MINERAL OILS Permit Number: JP3737FS Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 27/01/2012 Effective Date: 27/01/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: KP3638NF Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 31/03/2014 Effective Date: 31/03/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: KP3736FB Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 22/03/2012 Effective Date: 22/03/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: REFINING MINERAL OILS Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/01/2018 Status: EFFECTIVE

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: REFINING MINERAL OILS Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/01/2018 Status: EFFECTIVE
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: ORGANIC CHEMICALS; SULPHUR CONTAINING COMPOUNDS EG SULPHIDES Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: REFINING MINERAL OILS Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX Process: REFINING MINERAL OILS Permit Number: JP3530RD Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INORGANIC CHEMICALS; USING HYDROGEN CYANIDE/SULPHIDE Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL (UK) LIMITED Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: NP3030QZ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 26/09/2018 Effective Date: 26/09/2018 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: ESSAR OIL UK LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/FP3139FN Process: INCINERATION OF HAZARDOUS WASTE Permit Number: DP3530CQ Original Permit Number: FP3139FN	EPR Reference: - Issue Date: 28/12/2012 Effective Date: 28/12/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: COMBUSTION; ANY FUEL =>50MW Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: INCINERATION OF HAZARDOUS WASTE Permit Number: NP3237LS Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 21/12/2007 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: COMBUSTION; ANY FUEL =>50MW Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AH	186m W	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MANUFACTURING COMPLEX EPR/NP3237LS Process: LOADING/STORAGE/TREATMENT ETC OF CRUDE OIL Permit Number: UP3234GJ Original Permit Number: NP3237LS	EPR Reference: - Issue Date: 23/12/2008 Effective Date: 23/12/2008 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AP	220m SW	Operator: SHELL UK OIL PRODUCTS LTD Installation Name: - Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BW0932 Original Permit Number: BW0932	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 01/10/2004 Status: SUPERSEDED BY PAS
AP	220m SW	Operator: SHELL OIL PRODUCTS LTD Installation Name: STANLOW MP FIRETUBE BOILERS Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BW0932IS Original Permit Number: BW0932IS	EPR Reference: - Issue Date: 23/06/2004 Effective Date: 21/12/2007 Last date noted as effective: 01/04/2021 Status: REVOKED
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: ZP3237ME Original Permit Number: ZP3237ME	EPR Reference: EA/EPR/ZP3237ME/V002 Issue Date: 01/10/2007 Effective Date: 01/10/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: FP3532GT Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 11/02/2009 Effective Date: 11/02/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: ASSOCIATED PROCESS Permit Number: FP3532GT Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 11/02/2009 Effective Date: 11/02/2009 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: ASSOCIATED PROCESS Permit Number: ZP3237ME Original Permit Number: ZP3237ME	EPR Reference: EA/EPR/ZP3237ME/V002 Issue Date: 01/10/2007 Effective Date: 01/10/2007 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: ASSOCIATED PROCESS Permit Number: XP3638KY Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 26/01/2010 Effective Date: 26/01/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AS	255m E	Operator: MESSERS H SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: XP3638KY Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 26/01/2010 Effective Date: 26/01/2010 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AV	282m W	Operator: BALLAST PHEONIX Installation Name: INCE MARSHES EPR/TP3836FC Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: TP3836FC Original Permit Number: TP3836FC	EPR Reference: - Issue Date: 03/05/2012 Effective Date: 03/05/2012 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AV	282m W	Operator: BALLAST PHOENIX LIMITED Installation Name: INCE MARSHES EPR/TP3836FC Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: HP3437AZ Original Permit Number: TP3836FC	EPR Reference: - Issue Date: - Effective Date: 05/08/2015 Last date noted as effective: 01/04/2021 Status: SURRENDER EFFECTIVE
AV	282m W	Operator: BALLAST PHOENIX LIMITED Installation Name: INCE MARSHES EPR/TP3836FC Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: RP3631ER Original Permit Number: TP3836FC	EPR Reference: - Issue Date: 21/01/2014 Effective Date: 21/01/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
69	289m E	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE LANDFILL Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: KP3133PW Original Permit Number: KP3133PW	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 02/10/2006 Status: DETERMINATION
AZ	376m E	Operator: SCHOFIELD; SCHOFIELD; SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: ASSOCIATED PROCESS Permit Number: MP3932VE Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 21/07/2014 Effective Date: 21/07/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED

ID	Location	Details	
AZ	376m E	Operator: SCHOFIELD; SCHOFIELD; SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: MP3932VE Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 21/07/2014 Effective Date: 21/07/2014 Last date noted as effective: 01/04/2021 Status: SUPERCEDED
AZ	376m E	Operator: SCHOFIELD; SCHOFIELD; SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: ASSOCIATED PROCESS Permit Number: TP3603SC Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 09/09/2020 Effective Date: 09/09/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE
AZ	376m E	Operator: SCHOFIELD; SCHOFIELD; SCHOFIELD Installation Name: MANOR POULTRY FARM EPR/ZP3237ME Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: TP3603SC Original Permit Number: ZP3237ME	EPR Reference: - Issue Date: 09/09/2020 Effective Date: 09/09/2020 Last date noted as effective: 01/04/2021 Status: EFFECTIVE

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

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

Records within 500m **2**

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Address	Details	
B	**On site**	**Elton Green Services, Shotwick-Frosham Road, Elton Green, Elton, CH2 4LD**	**Process: Unloading of Petrol into Storage at Service Stations** **Status: Current Permit** **Permit Type: Part B**	**Enforcement: No enforcements notified** **Date of enforcement: No enforcements notified** **Comment: No enforcements notified**
AQ	256m E	Shell Hapsford, Junct 14/M56, Hapsford, CH2 4QZ	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**12**

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

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Address	Details	
O	**On site**	**Alderley Park, Alderley Edge, SK10 4TG**	**Operator: Alderley Park Limited** **Type: -** **Permission number: WB3594DU** **Date of approval: -**	**Effective from: 23/05/2017** **Last date of update: 01/01/2020** **Status: Issued**
O	**On site**	**Mereside, Alderley Park, Alderley Edge, SK10 4TG**	**Operator: Medicines Discovery Catapult Limited** **Type: -** **Permission number: LB3191DM** **Date of approval: -**	**Effective from: 23/04/2019** **Last date of update: 01/01/2020** **Status: Issued**
R	26m NW	TBE004, Beeston Building, Thornton Science Park, Pool Lane, Chester, CH2 4NU	Operator: MDECON Limited Type: - Permission number: AB3998DQ Date of approval: -	Effective from: - Last date of update: 01/01/2020 Status: Surrendered
X	45m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation
X	45m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 28/10/2003	Effective from: 21/11/2003 Last date of update: 01/01/2015 Status: Superseded By Variation
X	45m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 15/04/2009	Effective from: 13/05/2009 Last date of update: 01/01/2015 Status: Revoked/cancelled
X	45m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AB8767 Date of approval: 28/10/2003	Effective from: 28/10/2003 Last date of update: 01/01/2015 Status: Superseded By Variation

ID	Location	Address	Details	
X	45m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AB8767 Date of approval: 15/04/2009	Effective from: 15/04/2009 Last date of update: 01/01/2015 Status: Revoked/cancelled
AN	187m NE	Shell Research Ltd, Thornton Research Centre, Ince, Chester, Cheshire, CH1 3SH	Operator: Shell Research Ltd Type: - Permission number: AC3060 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
AN	187m NE	Shell Research Ltd, Thornton Research Centre, Ince, Chester, Cheshire, CH1 3SH	Operator: Shell Research Ltd Type: - Permission number: AC3078 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
65	246m S	Ince, Chester, CH2 4LB	Operator: CF Fertilisers UK Limited Type: - Permission number: UP3793SP Date of approval: -	Effective from: 19/08/2010 Last date of update: 01/01/2020 Status: Issued
BB	477m NW	Shell Uk Ltd, Stanlow Manufacturing Complex, Ellesmere Port, South Wirral, Merseyside, CH65 4FR	Operator: Shell Uk Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC3116 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled

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

4.13 Licensed Discharges to controlled waters

Records within 500m **55**

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 87**

ID	Location	Address	Details	
25	**On site**	**ELTON GREEN, NR ELLESMERE PORT**	**Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY** **Permit Number: 016880990** **Permit Version: 3** **Receiving Water: VIA HIGHWAY DRAIN TO R. GOWY**	**Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995)** **Issue date: 28/10/2004** **Effective Date: 28/10/2004** **Revocation Date: -**

ID	Location	Address	Details	
P	**On site**	**STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890150 Permit Version: 1 Receiving Water: GALE BROOK**	**Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1980 Revocation Date: 24/07/1988**
P	**On site**	**STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890150 Permit Version: 2 Receiving Water: GALE BROOK**	**Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/07/1988 Revocation Date: 05/12/1991**
P	**On site**	**STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890150 Permit Version: 3 Receiving Water: GALE BROOK**	**Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 06/12/1991 Revocation Date: 09/08/1993**
P	**On site**	**STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890150 Permit Version: 4 Receiving Water: GALE BROOK**	**Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 10/08/1993 Revocation Date: 31/07/1995**
Q	5m N	ELTON GREEN, NR ELLESMERE PORT	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 016880990 Permit Version: 1 Receiving Water: TO HIGHWAY DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1900 Revocation Date: 11/09/1989
Q	5m N	ELTON GREEN, NR ELLESMERE PORT	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 016880990 Permit Version: 2 Receiving Water: TO HIGHWAY DRAIN	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 12/09/1989 Revocation Date: 27/10/2004
Q	5m N	ELTON GREEN, NR ELLESMERE PORT	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 01CHE0004 Permit Version: 1 Receiving Water: HIGHWAY DRAIN(A5117)	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995

ID	Location	Address	Details	
H	14m W	INCE PARK BIOMASS PLANT, MBV ENERGY RECOVERY, PLOT 9A GRINSOME ROAD, INCE, CHESTER, CH2 4LB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRDB3891ND Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/05/2016 Effective Date: 19/05/2016 Revocation Date: 31/01/2019
H	14m W	INCE PARK BIOMASS PLANT, MBV ENERGY RECOVERY, PLOT 9A GRINSOME ROAD, INCE, CHESTER, CH2 4LB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRDB3891ND Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/05/2016 Effective Date: 01/02/2019 Revocation Date: 30/04/2019
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 1 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1980 Revocation Date: 31/05/1983
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 2 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/06/1983 Revocation Date: 23/06/1987
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 3 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 24/06/1987 Revocation Date: 21/07/1991
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 4 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 22/07/1991 Revocation Date: 05/12/1991
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 5 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 06/12/1991 Revocation Date: 05/12/1992

ID	Location	Address	Details	
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 6 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 06/12/1992 Revocation Date: 17/11/1993
S	14m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890152 Permit Version: 7 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 18/11/1993 Revocation Date: 19/01/1995
V	33m SW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016890884 Permit Version: 1 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 03/08/1993 Revocation Date: 03/08/1993
AE	104m E	NO 6 DREDGING DEPOSIT GROUND, FRODSHAM MARSH	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016992247 Permit Version: 1 Receiving Water: HOLPOOL GUTTER	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1991 Revocation Date: 21/06/1994
AE	104m E	NO 6 DREDGING DEPOSIT GROUND, FRODSHAM MARSH	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016992247 Permit Version: 2 Receiving Water: HOLPOOL GUTTER	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 22/06/1994 Revocation Date: 21/09/1994
AE	104m E	NO 6 DREDGING DEPOSIT GROUND, FRODSHAM MARSH	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016992247 Permit Version: 3 Receiving Water: HOLPOOL GUTTER	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 22/09/1994 Revocation Date: 30/10/1995
AE	104m E	NO 6 DREDGING DEPOSIT GROUND, FRODSHAM MARSH	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016992247 Permit Version: 4 Receiving Water: HOLPOOL GUTTER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 31/10/1995 Revocation Date: -

ID	Location	Address	Details	
AB	120m W	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890212 Permit Version: 1 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 06/11/1980 Revocation Date: 30/09/1985
AB	120m W	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890212 Permit Version: 2 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1985 Revocation Date: 17/03/1994
AB	120m W	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 01AJ5720 Permit Version: 1 Receiving Water: GALE BROOK	Status: REVOKED AND REPLACED BY IPC AUTHORISATION Issue date: - Effective Date: 17/03/1994 Revocation Date: 17/03/1994
AI	154m SE	HAPSFORD SPS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016810286 Permit Version: 1 Receiving Water: HORNSMILL BROOK	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 23/04/1976 Revocation Date: -
AI	154m SE	HAPSFORD SPS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0015 Permit Version: 1 Receiving Water: -	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/07/1991 Revocation Date: 31/12/1994
AI	154m SE	HAPSFORD SPS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0015 Permit Version: 2 Receiving Water: -	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995
63	234m W	THORNTON MANOR NURSING HOME, THORNTON LANE, THORNTON-LE-MOOR	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016891578 Permit Version: 2 Receiving Water: WATERCOURSE	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: - Effective Date: 18/04/1994 Revocation Date: 01/10/1995

ID	Location	Address	Details	
67	254m NW	STANLOW REFINERY, SHELL (UK) LTD, STANLOW, ELLESMERE PORT, CHESHIRE, L65 4HB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016890143 Permit Version: 1 Receiving Water: GALE BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/04/1980 Revocation Date: 01/04/2011
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 12/01/1980 Revocation Date: 30/01/1985
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 12/01/1980 Revocation Date: 30/01/1985
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1985 Revocation Date: 12/10/1989
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1985 Revocation Date: 12/10/1989
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 3 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 13/10/1989 Revocation Date: 01/11/1989

ID	Location	Address	Details	
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 3 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 13/10/1989 Revocation Date: 01/11/1989
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 4 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 02/11/1989 Revocation Date: 24/03/1991
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 4 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 02/11/1989 Revocation Date: 24/03/1991
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992

ID	Location	Address	Details	
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0025 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN, MERSEY EST	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 30/03/1992 Effective Date: 02/11/1989 Revocation Date: -
AU	268m NW	ELTON PS, INCE LANE, ELTON	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 01CHE0025 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN, MERSEY EST	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 30/03/1992 Effective Date: 02/11/1989 Revocation Date: -
AW	299m NW	THORNTON RESEARCH LABORATORIES, PO BOX 1, CHESTER	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890139 Permit Version: 1 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1980 Revocation Date: 31/10/1981
AW	299m NW	THORNTON RESEARCH LABORATORIES, PO BOX 1, CHESTER	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890139 Permit Version: 2 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/11/1981 Revocation Date: 31/05/1983
AW	299m NW	THORNTON RESEARCH LABORATORIES, PO BOX 1, CHESTER	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890139 Permit Version: 3 Receiving Water: GALE BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/06/1983 Revocation Date: 30/10/1995
AW	299m NW	THORNTON RESEARCH LABORATORIES, PO BOX 1, CHESTER	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016890139 Permit Version: 4 Receiving Water: GALE BROOK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 31/10/1995 Revocation Date: -
AX	313m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0003 Permit Version: 3 Receiving Water: UNNAMED TRIB OF THORNTON BROOK	Status: VARIED UNDER EPR 2010 Issue date: 10/06/2016 Effective Date: 10/06/2016 Revocation Date: -

ID	Location	Address	Details	
AX	315m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 016881536 Permit Version: 1 Receiving Water: TO DITCH	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1900 Revocation Date: 01/01/1900
AX	315m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES Permit Number: 01CHE0003 Permit Version: 1 Receiving Water: DITCH	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
AX	315m W	THORNTON-LE-MOORS WW NTWK PS (11004, S/0 N0. 8 PARK ROAD, THORNTON-LE-MOORS, CHESTER, CHESHIRE, CH2 4JH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0003 Permit Version: 2 Receiving Water: UNNAMED WATERCOURSE	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 09/06/2016
AY	335m NE	MSC CO. NO 4 DEPOSIT GND, FRODSHAM	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 0167/527 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: - Effective Date: 06/04/1967 Revocation Date: 05/05/1994
AY	335m NE	MSC CO. NO 4 DEPOSIT GND, FRODSHAM	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016891699 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: - Effective Date: 05/05/1994 Revocation Date: 19/06/1995
BA	479m W	ENCIRC, ASH ROAD, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892435 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER TRIBUTARY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/01/2006 Effective Date: 13/01/2006 Revocation Date: -
BA	479m W	ENCIRC, ASH ROAD, ELTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892436 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER TRIBUTARY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/01/2006 Effective Date: 13/01/2006 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	3

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Name	Status	Receiving Water	Authorised Substances
AA	94m E	Kemira Growhow Uk Ltd	Not Active	Mersey Estuary	Mercury (other), Cadmium
K	182m S	Kemira Growhow Uk Ltd, Kemira Works, Ch2 4lb	Active	Hornsmill Brook, Any	Mercury (other), Cadmium
K	182m S	Kemira Growhow Uk Ltd, Kemira Works, Ch2 4lb	Active	Hornsmill Brook, Any	Mercury (other), Cadmium

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

4.17 List 2 Dangerous Substances

Records within 500m	5

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.

Features are displayed on the Current industrial land use map on **page 87**

ID	Location	Name	Status	Receiving Water	Authorised Substances
24	**On site**	**Kemira Agro Uk Ltd**	**Not Active**	**Mersey Estuary**	**Arsenic, Chromium, Copper, Lead, Nickel, Zinc, Total metals (total)**
AH	186m W	Shell Oil Products Ltd , Stanlow Manufacturing Complex	Active	Mersey Estuary	Cyanide, pH, Phenol
AH	186m W	Shell Oil Products Ltd , Stanlow Manufacturing Complex	Active	Mersey Estuary	Cyanide, pH, Phenol
AH	186m W	Shell Oil Products Ltd , Stanlow Manufacturing Complex	Active	Mersey Estuary	Cyanide, pH, Phenol
BB	478m NW	Shell (uk) Ltd, Stanlow Manufacturing Complex	Not Active	Mersey Estuary	Copper, Nickel, Zinc, Benzene, Toluene, Xylene

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	**13**

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 87**

ID	Location	Details	
AD	102m W	Incident Date: 24/04/2001 Incident Identification: 3294 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
AD	102m W	Incident Date: 24/04/2001 Incident Identification: 3294 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
AF	110m E	Incident Date: 25/02/2003 Incident Identification: 139226 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
AF	110m E	Incident Date: 25/02/2003 Incident Identification: 139226 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
AJ	155m NW	Incident Date: 01/06/2001 Incident Identification: 7259 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
AJ	155m NW	Incident Date: 01/06/2001 Incident Identification: 7259 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
AJ	169m NW	Incident Date: 14/06/2001 Incident Identification: 9198 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
68	255m SE	Incident Date: 30/07/2001 Incident Identification: 20469 Pollutant: Oils and Fuel Pollutant Description: Kerosene and Aviation Fuel	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
AU	259m W	Incident Date: 14/07/2003 Incident Identification: 173400 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
AX	311m W	Incident Date: 28/03/2002 Incident Identification: 67449 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
71	322m S	Incident Date: 12/05/2001 Incident Identification: 5301 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
73	366m NW	Incident Date: 22/08/2018 Incident Identification: 1646077 Pollutant: Organic Chemicals/Products Pollutant Description: Hydrocarbons	Water Impact: Category 3 (Minor) Land Impact: Category 1 (Major) Air Impact: Category 3 (Minor)
BA	471m W	Incident Date: 30/10/2008 Incident Identification: 631779 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) 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	**17**

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.

Features are displayed on the Current industrial land use map on **page 87**

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Particulate matter - total	10000kg	91000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Mercury	0.1kg	0.2kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	627116000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Cadmium	1kg	1kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Zinc	100kg	546kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	11600kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Chlorides - as Cl	2000000kg	Below Reporting Threshold
Controlled Waters	Chromium	20kg	Below Reporting Threshold
Controlled Waters	Copper	20kg	Below Reporting Threshold
Controlled Waters	Iron	1000kg	Below Reporting Threshold
Controlled Waters	Lead	20kg	Below Reporting Threshold
Controlled Waters	Nickel	20kg	Below Reporting Threshold
Controlled Waters	Phosphorus - as total P	5000kg	Below Reporting Threshold
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Air	Tetrachloroethylene (PER)	100kg	Below Reporting Threshold
Controlled Waters	Total organic carbon (TOC)	50000kg	Below Reporting Threshold

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Arsenic	5kg	7kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals

Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrous oxide	10000kg	38100kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon monoxide	100000kg	1782000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Nitrogen - as total N	50000kg	189000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methane	10000kg	2147000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrogen oxides (NO and NO2) as NO2	100000kg	669000kg

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector Chemicals, Sub-sector: Chemicals
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ammonia	1000kg	1107000kg

ID: AZ, Location: 376m E, Permit: ZP3237ME
Operator: MESSERS H SCHOFIELD
Activity: INTENSIVE FARMING; > 40,000 POULTRY
Address: Manor Farm Poultry Unit Manor Farm Hapsford Helsby Frodsham Cheshire WA6 0JT
Sector Agriculture, Sub-sector: Intensive Farming
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ammonia	1000kg	4352kg

ID: AZ, Location: 376m E, Permit: ZP3237ME
Operator: MESSERS H SCHOFIELD
Activity: INTENSIVE FARMING; > 40,000 POULTRY
Address: Manor Farm Poultry Unit Manor Farm Hapsford Helsby Frodsham Cheshire WA6 0JT
Sector Agriculture, Sub-sector: Intensive Farming
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Particulate matter - PM10	1000kg	4267kg

ID: AZ, Location: 376m E, Permit: ZP3237ME
Operator: MESSERS H SCHOFIELD
Activity: INTENSIVE FARMING; > 40,000 POULTRY
Address: Manor Farm Poultry Unit Manor Farm Hapsford Helsby Frodsham Cheshire WA6 0JT
Sector: Agriculture, Sub-sector: Intensive Farming
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methane	10000kg	Below Reporting Threshold
Air	Nitrogen oxides (NO and NO2) as NO2	100000kg	Below Reporting Threshold

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

4.20 Pollution inventory waste transfers

Records within 500m	**2**

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.

Features are displayed on the Current industrial land use map on **page 87**

ID: X, Location: 45m NE, Permit: JP3837KT
Operator: CF Fertilisers UK Limited
Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
Sector: Chemicals, Sub-sector: Chemicals
Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.02	Absolute Value	16 03 04	inorganic wastes other than those mentioned in 16 03 03	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	177.5	Absolute Value	16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified	No
R1	Use principally as a fuel or other means to generate energy	104	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	No
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	40.76	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	12.14	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	No
R4	Recycling/reclamation of metals and metal compounds	101.16	Absolute Value	17 04 07	mixed metals	No
D1	Deposit into or onto land (eg landfill, etc.)	13.72	Absolute Value	17 04 07	mixed metals	No
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	0.62	Absolute Value	17 05 04	soil and stones other than those mentioned in 17 05 03	No
D1	Deposit into or onto land (eg landfill, etc.)	20.04	Absolute Value	17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	440.22	Absolute Value	19 06 04	digestate from anaerobic treatment of municipal waste	No
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	11.52	Absolute Value	19 09 05	saturated or spent ion exchange resins	No
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	1.7	Absolute Value	06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	2.775	Absolute Value	11 01 14	degreasing wastes other than those mentioned in 11 01 13	No
D1	Deposit into or onto land (eg landfill, etc.)	14.3	Absolute Value	19 12 09	minerals (for example sand, stones)	No
R4	Recycling/reclamation of metals and metal compounds	327	Absolute Value	20 01 40	metals	No
D4	Surface impoundment (eg placemcent of liquid or sludgy discards into pits, ponds or lagoons, etc.)	5.82	Absolute Value	20 01 40	metals	No
D1	Deposit into or onto land (eg landfill, etc.)	0.68	Absolute Value	20 01 08	biodegradable kitchen and canteen waste	No
R4	Recycling/reclamation of metals and metal compounds	6.02	Absolute Value	20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	No
R1	Use principally as a fuel or other means to generate energy	116.64	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1.66	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	No
D1	Deposit into or onto land (eg landfill, etc.)	2.02	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	No
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	1.16	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	No
R1	Use principally as a fuel or other means to generate energy	1.56	Absolute Value	20 02 01	biodegradable waste	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1.18	Absolute Value	20 02 01	biodegradable waste	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	5.98	Absolute Value	20 02 01	biodegradable waste	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	47	Absolute Value	20 02 02	soil and stones	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	1134.704	Absolute Value	20 03 04	septic tank sludge	No
R1	Use principally as a fuel or other means to generate energy	2.94	Absolute Value	20 03 01	mixed municipal waste	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	3.54	Absolute Value	20 03 01	mixed municipal waste	No
D1	Deposit into or onto land (eg landfill, etc.)	51.06	Absolute Value	20 03 01	mixed municipal waste	No
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	106.56	Absolute Value	20 03 01	mixed municipal waste	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	53.24	Absolute Value	20 03 03	street-cleaning residues	No
D1	Deposit into or onto land (eg landfill, etc.)	0.16	Absolute Value	20 03 03	street-cleaning residues	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	100.18	Absolute Value	20 03 04	septic tank sludge	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	24.96	Absolute Value	20 03 06	waste from sewage cleaning	No
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.424	Absolute Value	16 03 05	organic wastes containing dangerous substances	Yes

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.604	Absolute Value	16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	Yes
R6	Regeneration of acids or bases	7.68	Absolute Value	16 07 09	wastes containing other dangerous substances	Yes
D1	Deposit into or onto land (eg landfill, etc.)	4.16	Absolute Value	16 11 05	linings and refractories from non-metallurgical processes containing dangerous substances	Yes
R1	Use principally as a fuel or other means to generate energy	7.08	Absolute Value	17 02 04	glass, plastic and wood containing or contaminated with dangerous substances	Yes
D1	Deposit into or onto land (eg landfill, etc.)	3.48	Absolute Value	17 02 04	glass, plastic and wood containing or contaminated with dangerous substances	Yes
R9	Oil e-refining or other reuses of oil	4.24	Absolute Value	17 05 03	soil and stones containing dangerous substances	Yes
D1	Deposit into or onto land (eg landfill, etc.)	7.9	Absolute Value	17 05 03	soil and stones containing dangerous substances	Yes
D1	Deposit into or onto land (eg landfill, etc.)	12.2	Absolute Value	17 06 01	insulation materials containing asbestos	Yes
D1	Deposit into or onto land (eg landfill, etc.)	5.29	Absolute Value	17 06 05	construction materials containing asbestos	Yes
R1	Use principally as a fuel or other means to generate energy	26.12	Absolute Value	03 01 04	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	4.04	Absolute Value	03 01 04	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	2.5	Absolute Value	06 02 05	other bases	Yes

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.424	Absolute Value	07 01 04	other organic solvents, washing liquids and mother liquors	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.424	Absolute Value	08 01 11	waste paint and varnish containing organic solvents or other dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	4.4	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	Yes
R9	Oil e-refining or other reuses of oil	1.14	Absolute Value	13 03 07	mineral-based non-chlorinated insulating and heat transmission oils	Yes
R2	Solvant reclamation/regeneration	0.66	Absolute Value	13 03 07	mineral-based non-chlorinated insulating and heat transmission oils	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	20.34	Absolute Value	13 05 07	oily water from oil/water separators	Yes
R9	Oil e-refining or other reuses of oil	50.76	Absolute Value	13 05 07	oily water from oil/water separators	Yes
R2	Solvant reclamation/regeneration	90.72	Absolute Value	13 05 07	oily water from oil/water separators	Yes
R2	Solvant reclamation/regeneration	14.42	Absolute Value	13 07 01	fuel oil and diesel	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.565	Absolute Value	14 06 03	other solvents and solvent mixtures	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.984	Absolute Value	15 01 10	packaging containing residues of or contaminated by dangerous substances	Yes

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R4	Recycling/reclamation of metals and metal compounds	2.18	Absolute Value	15 01 10	packaging containing residues of or contaminated by dangerous substances	Yes
R1	Use principally as a fuel or other means to generate energy	0.42	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	4.22	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes
R4	Recycling/reclamation of metals and metal compounds	0.74	Absolute Value	20 01 21	fluorescent tubes and other mercury-containing waste	Yes

ID: AZ, Location: 376m E, Permit: ZP3237ME
Operator: MESSERS H SCHOFIELD
Activity: INTENSIVE FARMING; > 40,000 POULTRY
Address: Manor Farm Poultry Unit Manor Farm Hapsford Helsby Frodsham Cheshire WA6 0JT
Sector: Agriculture, Sub-sector: Intensive Farming
Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D1	Deposit into or onto land (eg landfill, etc.)	-	Below Reporting Threshold	15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	No
D1	Deposit into or onto land (eg landfill, etc.)	-	Below Reporting Threshold	15 01 03	wooden packaging	No
D1	Deposit into or onto land (eg landfill, etc.)	-	Below Reporting Threshold	02 01 04	waste plastics (except packaging)	No
R5	Recycling/reclamation of other inorganic materials	-	Below Reporting Threshold	02 01 09	agrochemical waste other than those mentioned in 02 01 08	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D1	Deposit into or onto land (eg landfill, etc.)	-	Below Reporting Threshold	16 01 20	glass	No
D1	Deposit into or onto land (eg landfill, etc.)	-	Below Reporting Threshold	15 01 01	paper and cardboard packaging	No
R4	Recycling/reclamation of metals and metal compounds	-	Below Reporting Threshold	16 01 17	ferrous metal	No
R4	Recycling/reclamation of metals and metal compounds	0.001	Absolute Value	20 01 21	fluorescent tubes and other mercury-containing waste	Yes

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

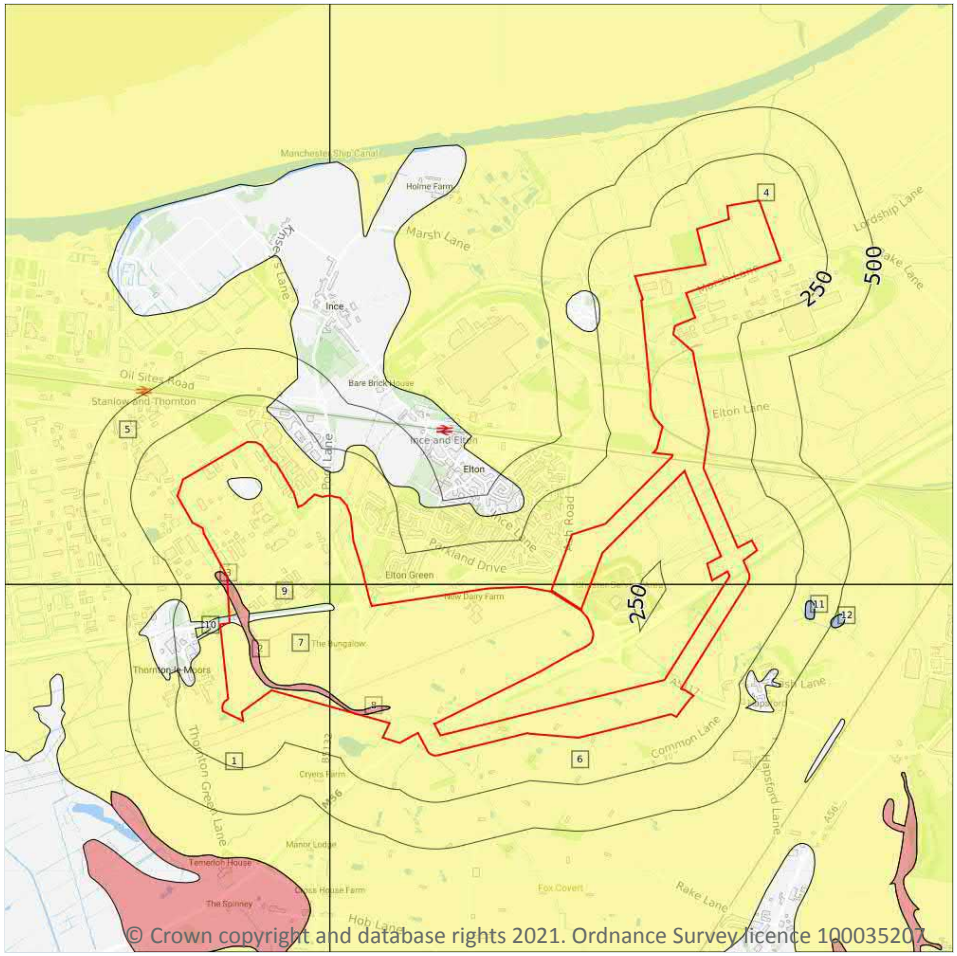
4.21 Pollution inventory radioactive waste

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



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	12

Aquifer status of groundwater held within superficial geology.

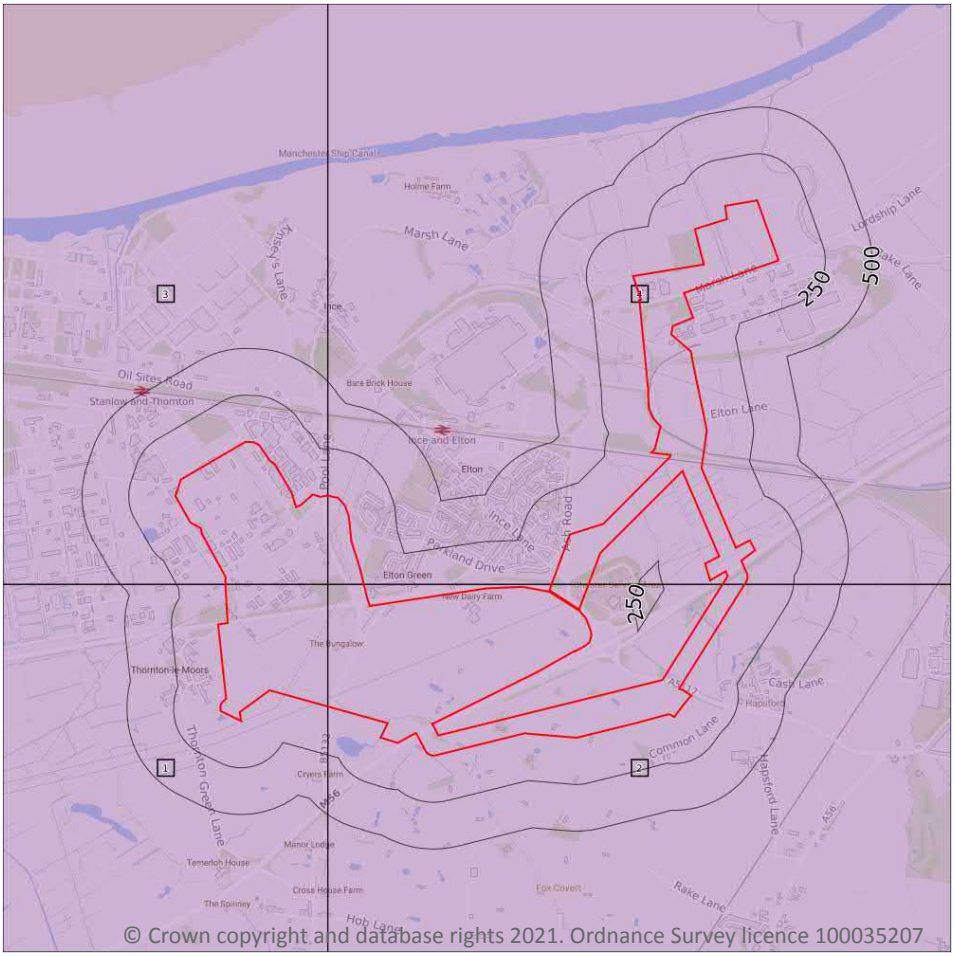
Features are displayed on the Hydrogeology map on **page 160**

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 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	**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**
4	**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**
5	**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**
6	**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**
7	**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**
8	**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**
9	**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**
10	52m W	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
11	332m E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
12	490m SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

Bedrock aquifer



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5.2 Bedrock aquifer

Records within 500m	4

Aquifer status of groundwater held within bedrock geology.

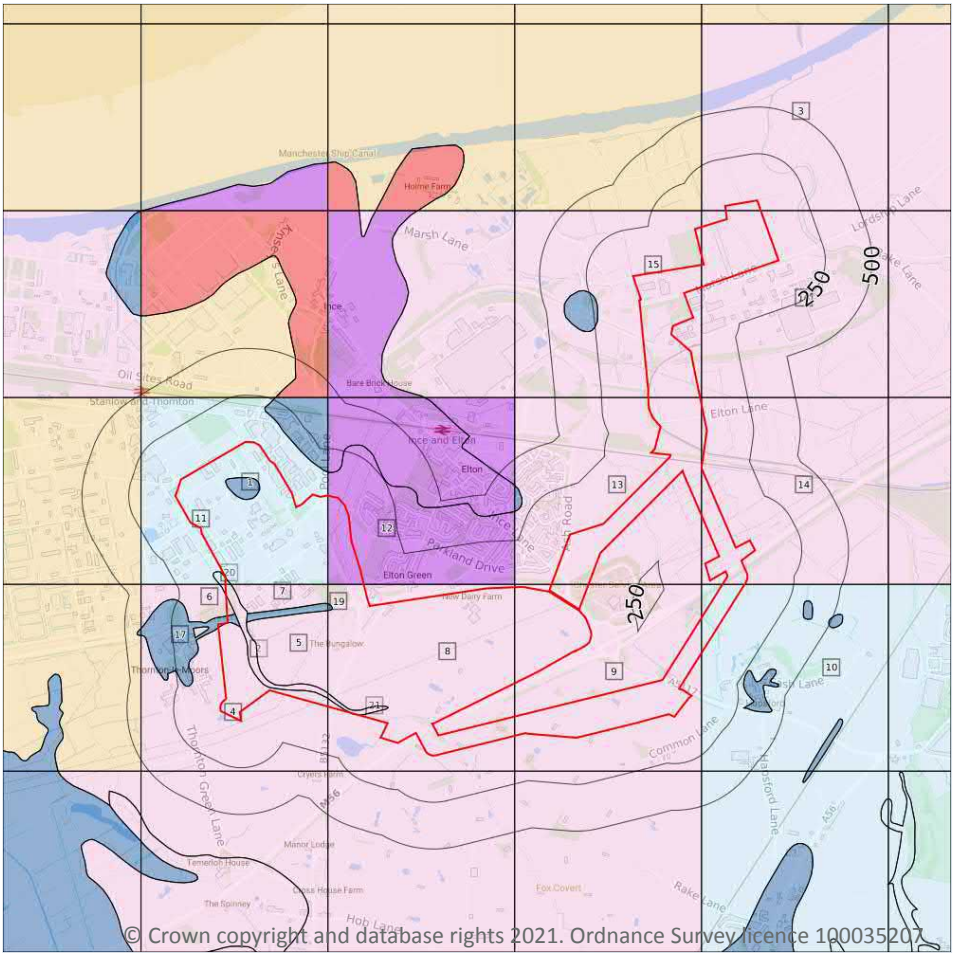
Features are displayed on the Bedrock aquifer map on **page 162**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

ID	Location	Designation	Description
3	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
4	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major 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	21

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 164**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
5	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
6	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
8	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
9	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
10	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
11	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
12	On site	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
14	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
15	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
16	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
17	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
18	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
19	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
20	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
21	**On site**	**Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**

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.

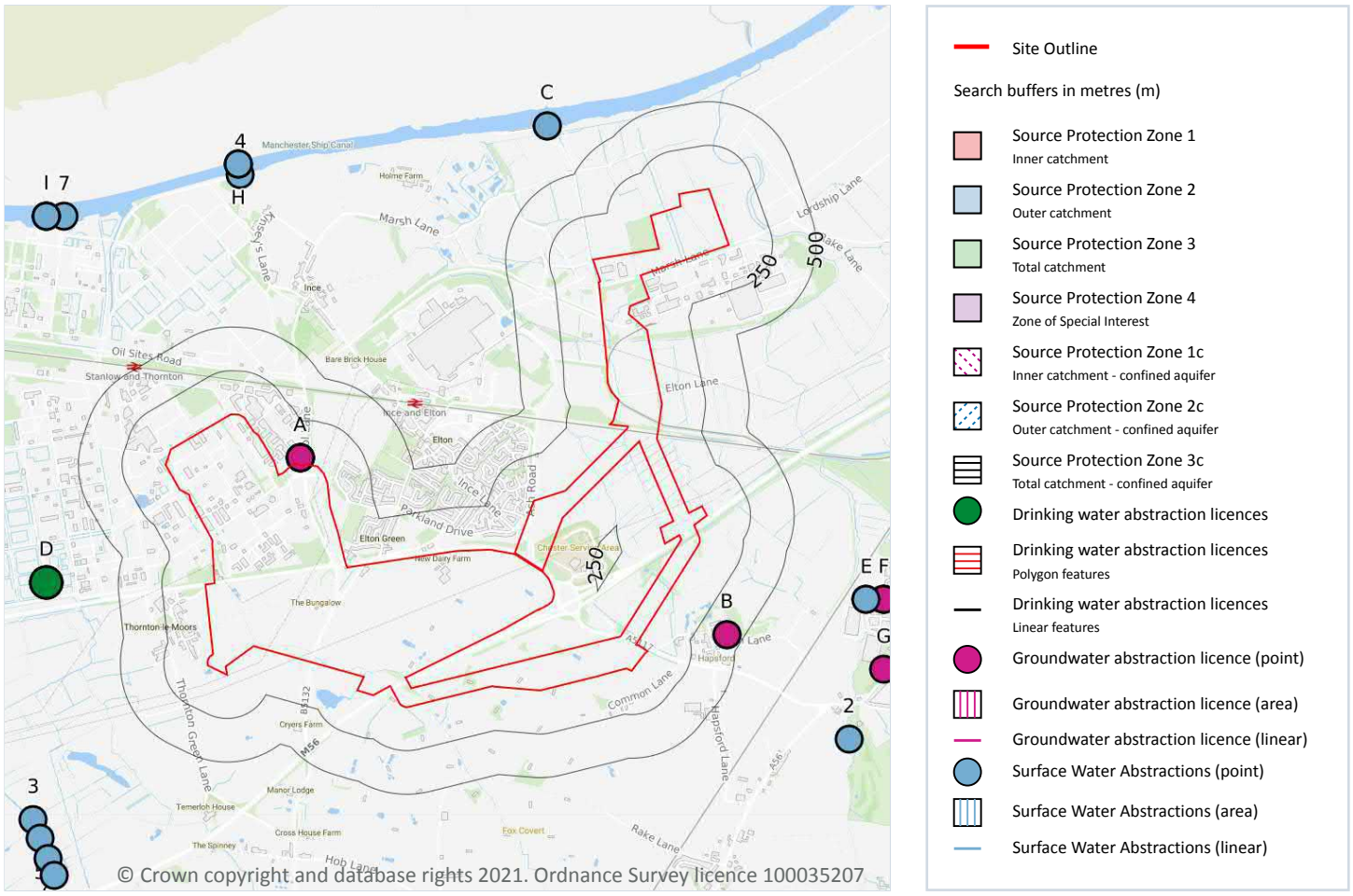
5.5 Groundwater vulnerability- local information

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



5.6 Groundwater abstractions

Records within 2000m	35

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 169**

ID	Location	Details	
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -

ID	Location	Details	
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
B	409m SE	Status: Historical Licence No: 2568005002 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT MERSEY BANK FARM, HAPSFORD, HELSBY" Data Type: Point Name: LEATHERBARROW Easting: 347400 Northing: 374500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/07/1970 Version End Date: -
B	409m SE	Status: Historical Licence No: 2568005002 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MERSEY BANK FARM, HAPSFORD, HELSBY Data Type: Point Name: LEATHERBARROW Easting: 347400 Northing: 374500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/07/1970 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: 2568006001 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: 2568006001 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLES (21) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -

ID	Location	Details	
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON LE MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
F	1105m E	Status: Historical Licence No: 2568005006 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES AT HELSBY Data Type: Point Name: BALFOUR BEATTY PLC Easting: 348300 Northing: 374700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/12/2000 Version End Date: -

ID	Location	Details	
F	1105m E	Status: Historical Licence No: 2568005006 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES AT HELSBY Data Type: Point Name: BALFOUR BEATTY PLC Easting: 348300 Northing: 374700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/12/2000 Version End Date: -
F	1105m E	Status: Historical Licence No: 2568005006 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES AT HELSBY Data Type: Point Name: BALFOUR BEATTY PLC Easting: 348300 Northing: 374700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/12/2000 Version End Date: -
G	1278m SE	Status: Active Licence No: 2568005008 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT HELSBY PUMPING STATION Data Type: Point Name: United Utilities Water Ltd Easting: 348300 Northing: 374300	Annual Volume (m^3): 454,600 Max Daily Volume (m^3): 2,727.60 Original Application No: - Original Start Date: 15/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/03/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**21**

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 169**

ID	Location	Details	
C	788m NW	Status: Historical Licence No: NW/068/0009/001 Details: Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL, INCE Data Type: Point Name: Covanta Energy Limited Easting: 346369 Northing: 377418	Annual Volume (m^3): 5,867,448 Max Daily Volume (m^3): 16076 Original Application No: - Original Start Date: 24/01/2011 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 06/06/2011 Version End Date: -
C	788m NW	Status: Historical Licence No: NW/068/0009/001 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL, INCE Data Type: Point Name: Covanta Energy Limited Easting: 346369 Northing: 377418	Annual Volume (m^3): 5,867,448 Max Daily Volume (m^3): 16076 Original Application No: - Original Start Date: 24/01/2011 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 06/06/2011 Version End Date: -
-	990m W	Status: Active Licence No: NW/068/0006/016 Details: Hydraulic Testing Direct Source: Surface, Non-Tidal - North West Region Point: INLAND WATER - THORNTON BROOK AT STANLOW MANUFACTURING Data Type: Line Name: Essar Oil (UK) LTD Easting: 343173 Northing: 375839	Annual Volume (m^3): 41,500 Max Daily Volume (m^3): 2,420 Original Application No: - Original Start Date: 07/12/2017 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 07/12/2017 Version End Date: -
E	1010m E	Status: Historical Licence No: 2568005005 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: HORNSMILL BRK AT HELSBY Data Type: Point Name: BROOKHOUSE HELSBY LTD Easting: 348200 Northing: 374700	Annual Volume (m^3): 681900 Max Daily Volume (m^3): 2727.6 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 18/02/2004 Version End Date: -
E	1010m E	Status: Historical Licence No: 2568005005 Details: General Use Relating To Secondary Category (Very Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: HORNSMILL BRK AT HELSBY Data Type: Point Name: BROOKHOUSE HELSBY LTD Easting: 348200 Northing: 374700	Annual Volume (m^3): 681900 Max Daily Volume (m^3): 2727.6 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 105 Version Start Date: 25/02/2008 Version End Date: -

ID	Location	Details	
2	1258m SE	Status: Historical Licence No: 2568005013 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: PECKMILL BRK AT HELSBY Data Type: Point Name: LEN NORBURY Easting: 348100 Northing: 373900	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 45.46 Original Application No: - Original Start Date: 14/01/1985 Expiry Date: - Issue No: 101 Version Start Date: 13/05/2008 Version End Date: -
3	1335m SW	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT D GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343425 Northing: 373439	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -
4	1376m N	Status: Active Licence No: 2568009001 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) LTD Easting: 344613 Northing: 377138	Annual Volume (m^3): 60,000,000 Max Daily Volume (m^3): 60,000,000 Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 14/09/2012 Version End Date: -
5	1378m SW	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT B GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343465 Northing: 373334	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -

ID	Location	Details	
H	1438m N	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT ELLESMERE PORT *25 Data Type: Point Name: SHELL UK OIL PRODUCTS LTD Easting: 344600 Northing: 377200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/03/2001 Version End Date: -
H	1438m N	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT ELLESMERE PORT Data Type: Point Name: SHELL UK OIL PRODUCTS LTD Easting: 344600 Northing: 377200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/03/2001 Version End Date: -
H	1438m N	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) LTD Easting: 344600 Northing: 377200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 19/01/2012 Version End Date: -
6	1439m SW	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT C GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343508 Northing: 373213	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -

ID	Location	Details	
7	1460m NW	Status: Active Licence No: 2568009001 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) LTD Easting: 343603 Northing: 376896	Annual Volume (m^3): 60,000,000 Max Daily Volume (m^3): 60,000,000 Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 14/09/2012 Version End Date: -
8	1491m SW	Status: Active Licence No: NW/068/0006/004 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: POINT A GOWY MEADOWS Data Type: Point Name: The Cheshire Wildlife Trust Limited Easting: 343543 Northing: 373120	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/01/2012 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 12/01/2012 Version End Date: -
I	1516m NW	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT ELLESMERE PORT 77 Data Type: Point Name: SHELL UK OIL PRODUCTS LTD Easting: 343500 Northing: 376900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/03/2001 Version End Date: -
I	1516m NW	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT ELLESMERE PORT $77 Data Type: Point Name: SHELL UK OIL PRODUCTS LTD Easting: 343500 Northing: 376900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/03/2001 Version End Date: -

ID	Location	Details	
I	1516m NW	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT ELLESMERE PORT Data Type: Point Name: SHELL UK OIL PRODUCTS LTD Easting: 343500 Northing: 376900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/03/2001 Version End Date: -
I	1516m NW	Status: Historical Licence No: 2568009001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) LTD Easting: 343500 Northing: 376900	Annual Volume (m^3): - Max Daily Volume (m^3): 60,000,000 Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 19/01/2012 Version End Date: -
-	1640m W	Status: Active Licence No: 2568006113 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R GOWY AT STANLOW Data Type: Point Name: VEOLIA ENVIRONMENTAL SERVICES (UK) LTD Easting: 342600 Northing: 375900	Annual Volume (m^3): 2,186,670 Max Daily Volume (m^3): 6,000 Original Application No: - Original Start Date: 20/02/1989 Expiry Date: - Issue No: 102 Version Start Date: 19/06/2008 Version End Date: -
-	1640m W	Status: Active Licence No: 2568006113 Details: Gas Suppression/Scrubbing Direct Source: Surface, Non-Tidal - North West Region Point: R GOWY AT STANLOW Data Type: Point Name: VEOLIA ENVIRONMENTAL SERVICES (UK) LTD Easting: 342600 Northing: 375900	Annual Volume (m^3): 2,186,670 Max Daily Volume (m^3): 6,000 Original Application No: - Original Start Date: 20/02/1989 Expiry Date: - Issue No: 102 Version Start Date: 19/06/2008 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**7**

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 169**

ID	Location	Details	
A	42m N	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m^3): 955,636 Max Daily Volume (m^3): 2,618.20 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT" Data Type: Point Name: SHELL REFINING COMPANY LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/03/1966 Version End Date: -
D	912m W	Status: Historical Licence No: 2568006001 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 9,953,550 Max Daily Volume (m^3): 27276 Original Application No: - Original Start Date: 24/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/10/2011 Version End Date: -

ID	Location	Details	
D	912m W	Status: Historical Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: SHELL RESEARCH LTD Easting: 343500 Northing: 374800	Annual Volume (m^3): 955636 Max Daily Volume (m^3): 2618.18 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
D	912m W	Status: Active Licence No: NW/068/0006/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLES (22) AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: Essar Oil (UK) Ltd Easting: 343500 Northing: 374800	Annual Volume (m^3): 8,997,914 Max Daily Volume (m^3): 24,657.82 Original Application No: - Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 13/01/2014 Version End Date: -
F	1105m E	Status: Historical Licence No: 2568005006 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES AT HELSBY Data Type: Point Name: BALFOUR BEATTY PLC Easting: 348300 Northing: 374700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/12/2000 Version End Date: -
G	1278m SE	Status: Active Licence No: 2568005008 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT HELSBY PUMPING STATION Data Type: Point Name: United Utilities Water Ltd Easting: 348300 Northing: 374300	Annual Volume (m^3): 454,600 Max Daily Volume (m^3): 2,727.60 Original Application No: - Original Start Date: 15/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/03/1966 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0

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.

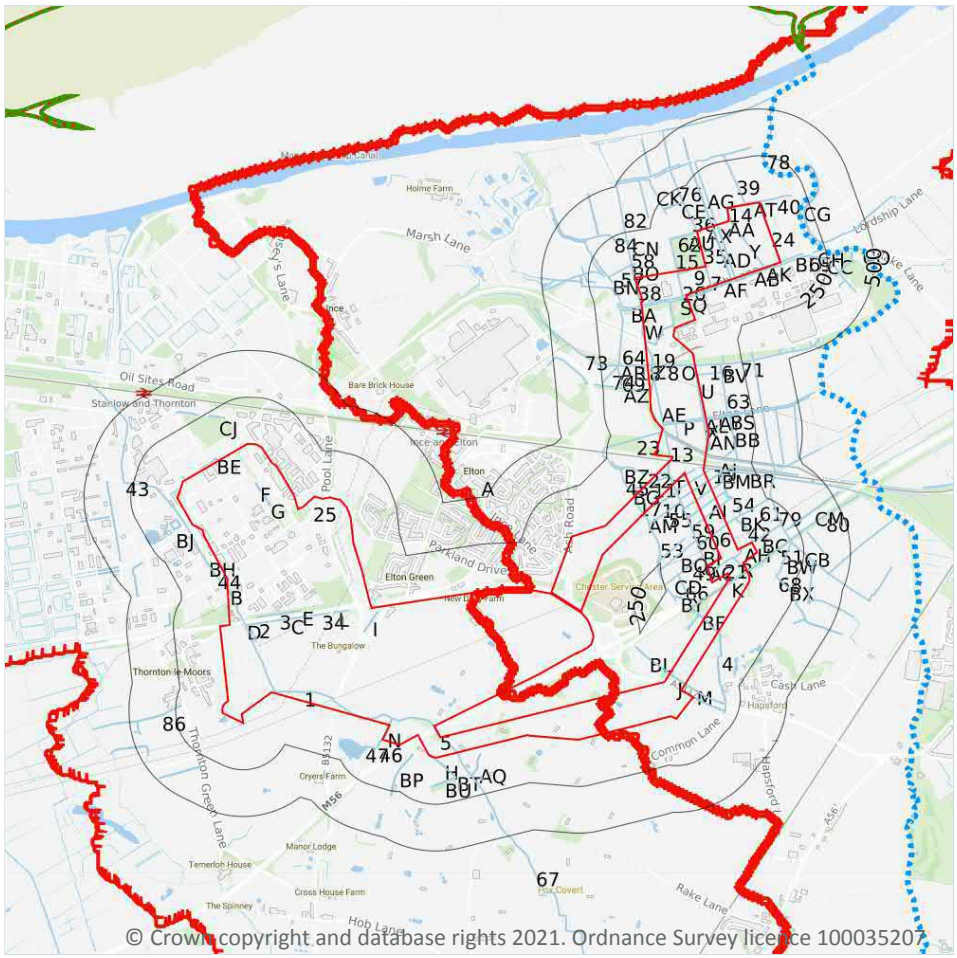
5.10 Source Protection Zones (confined aquifer)

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



6.1 Water Network (OS MasterMap)

Records within 250m	369

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 187**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
14	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
15	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
16	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
17	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
21	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
23	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
24	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
34	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
R	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
S	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AD	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AD	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AG	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AK	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AL	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
35	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AF	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
T	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AF	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AF	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AU	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
AX	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
36	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	1m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	2m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AF	2m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
38	3m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	3m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AZ	3m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
39	3m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	3m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	3m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	3m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
40	4m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	5m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	6m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	7m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	7m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AK	8m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	8m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	9m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	9m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	9m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	9m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	10m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AK	10m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	11m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	11m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AB	12m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AF	12m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	13m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	14m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AF	14m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	15m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BD	15m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BE	16m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
42	20m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	23m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	24m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
43	32m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
BF	34m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BF	34m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	34m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	36m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	37m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	37m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	37m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BG	37m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BA	39m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	41m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
44	41m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
BG	41m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
45	42m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
46	44m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	48m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BH	49m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	53m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
47	54m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	55m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
49	55m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BI	56m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	58m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BK	59m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
51	60m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BL	61m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	61m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
53	62m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AM	62m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
54	64m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	64m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
55	65m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	70m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	70m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	71m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	71m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	71m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
57	72m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BO	72m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BF	73m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BP	74m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
58	74m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BO	74m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	78m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	79m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	80m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
59	81m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
60	81m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	82m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	82m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BK	82m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BI	83m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BQ	83m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BR	89m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	92m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BC	96m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BK	98m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AJ	101m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
61	103m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	108m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	109m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	111m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	113m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	114m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	114m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	114m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BA	115m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	115m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BA	116m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
62	116m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	116m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
63	118m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BS	118m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	119m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BT	119m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BA	120m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	121m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
64	122m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	123m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BT	123m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	123m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BB	125m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BS	126m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BS	127m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	128m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BT	128m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BU	129m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
65	130m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BV	130m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	131m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BV	131m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BR	132m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BJ	133m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BA	133m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BQ	134m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	136m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
66	139m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
67	139m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	140m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	141m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
68	143m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BS	144m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BW	144m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BS	144m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BX	146m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BY	147m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	148m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	148m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
69	148m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BV	149m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	151m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	152m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AJ	153m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	154m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
71	155m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	155m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CC	156m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BS	156m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BN	158m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
73	160m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	160m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
74	160m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	161m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	162m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	167m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
76	172m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CE	172m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	173m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BY	174m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	175m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	175m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CG	176m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Hoolpool Gutter
CH	178m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
78	179m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Hoolpool Gutter
CE	180m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CJ	181m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CE	182m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	183m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	183m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	183m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	184m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
79	184m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	184m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CE	185m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
BC	187m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	187m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	187m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
80	189m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CB	189m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	194m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CG	197m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CM	198m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CN	201m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CN	202m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CN	202m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CN	203m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
82	203m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CN	203m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	204m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CN	204m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
84	207m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	210m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CK	212m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CH	216m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CO	216m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Hoolpool Gutter
86	219m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	223m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CH	234m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
CD	235m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	235m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
CH	245m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	245m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	248m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	249m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**76**

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 187**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**2**

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 187**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
25	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**168**	**Gowy**	**Weaver Gowy**
X	**On site**	**River WB catchment**	**Peckmill Brook, Hoolpool Gutter at Ince Marshes.**	**GB112068060330**	**Gowy**	**Weaver Gowy**

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 187**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
77	176m E	River	Peckmill Brook, Hoolpool Gutter at Ince Marshes.	GB112068060330	Poor	Good	Poor	2016

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

6.5 WFD Groundwater bodies

Records on site	2

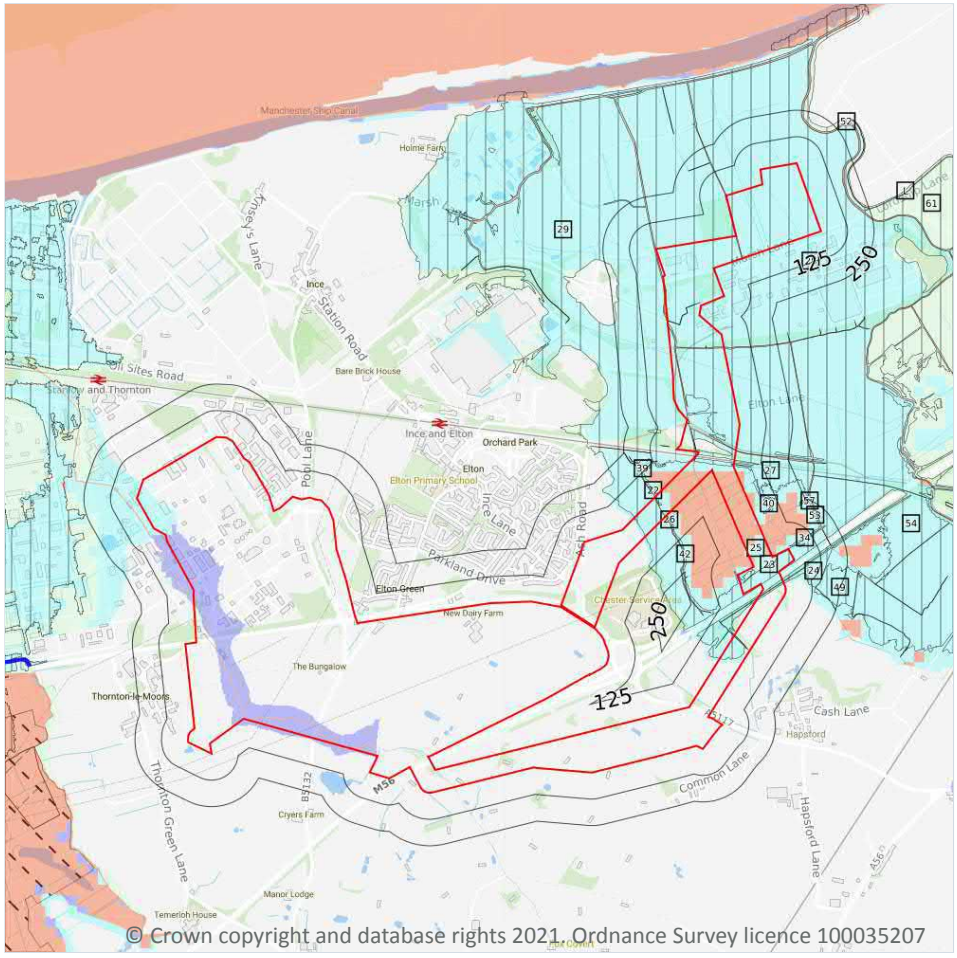
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 187**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2015**
A	**On site**	**Wirral and West Cheshire Permo-Triassic Sandstone Aquifers**	**GB41101G202600**	**Poor**	**Poor**	**Good**	**2016**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

Environment Agency river and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m	44

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 218**

Distance	RoFRaS flood risk
On site	**High**
0 - 50m	High

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	20

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.

Features are displayed on the River and coastal flooding map on **page 218**

ID	Location	
22	**On site**	**Area benefiting from flood defences**
23	**On site**	**Area benefiting from flood defences**
24	**On site**	**Area benefiting from flood defences**
25	**On site**	**Area benefiting from flood defences**
26	**On site**	**Area benefiting from flood defences**
27	**On site**	**Area benefiting from flood defences**
28	**On site**	**Area benefiting from flood defences**
29	**On site**	**Area benefiting from flood defences**

ID	Location	
E	**On site**	**Area benefiting from flood defences**
34	16m NE	Area benefiting from flood defences
39	39m NW	Area benefiting from flood defences
40	44m NE	Area benefiting from flood defences
42	67m SE	Area benefiting from flood defences
49	144m E	Area benefiting from flood defences
52	180m E	Area benefiting from flood defences
53	182m NE	Area benefiting from flood defences
54	185m NE	Area benefiting from flood defences
L	199m E	Area benefiting from flood defences
57	208m N	Area benefiting from flood defences
61	224m E	Area benefiting from flood defences

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

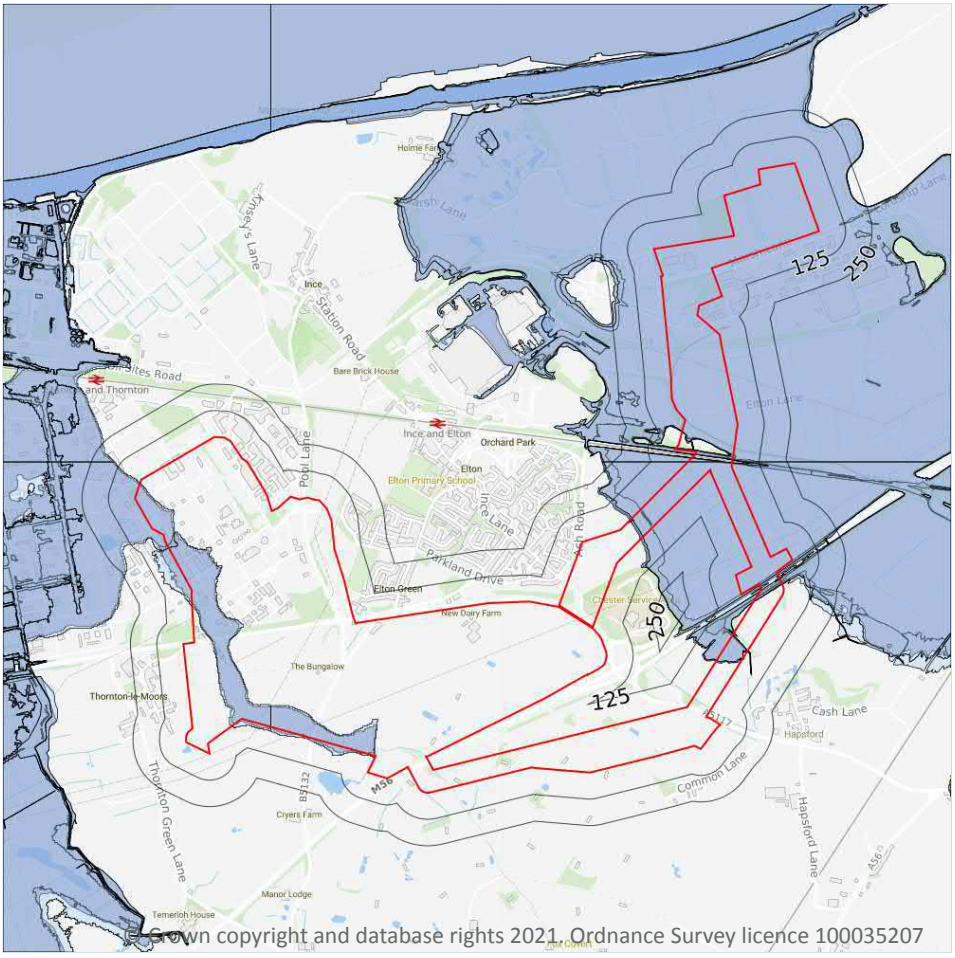
7.5 Flood Storage Areas

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



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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.

Features are displayed on the River and coastal flooding map on **page 218**

Location	Type
On site	**Zone 2 - (Fluvial /Tidal Models)**

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

7.7 Flood Zone 3

Records within 50m	1

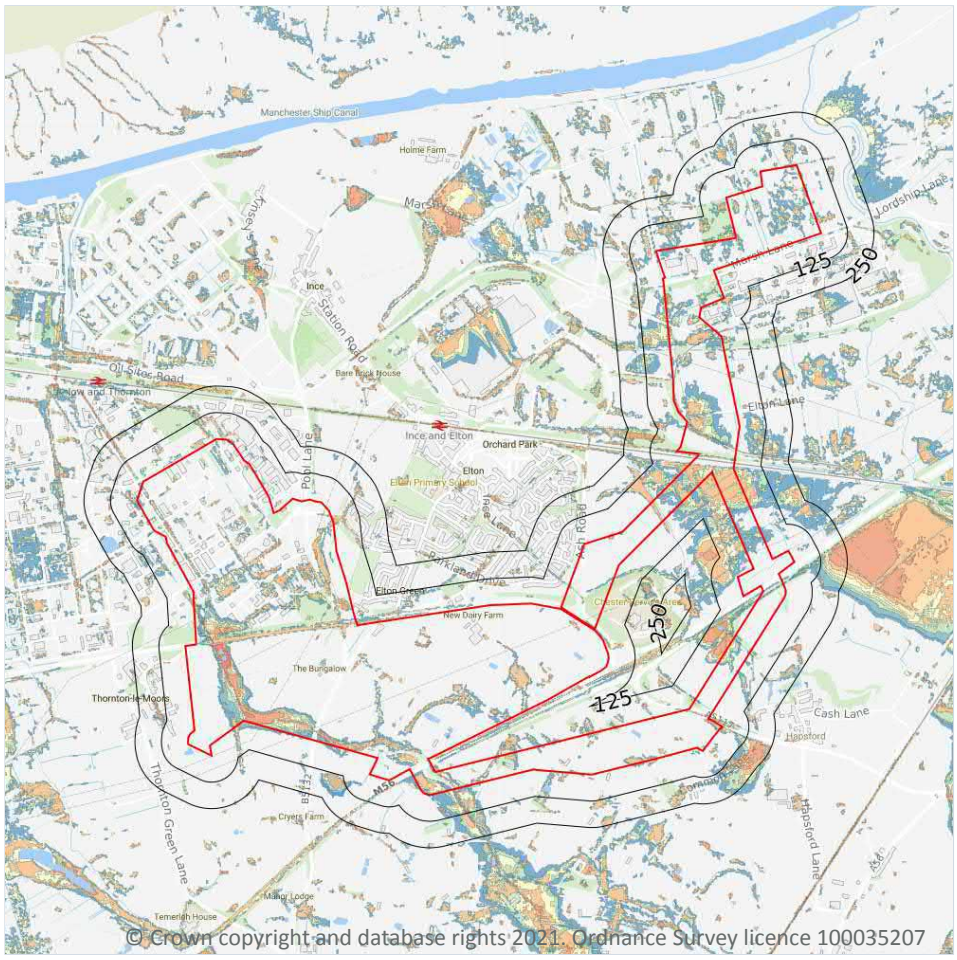
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 218**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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, Greater than 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 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 223**

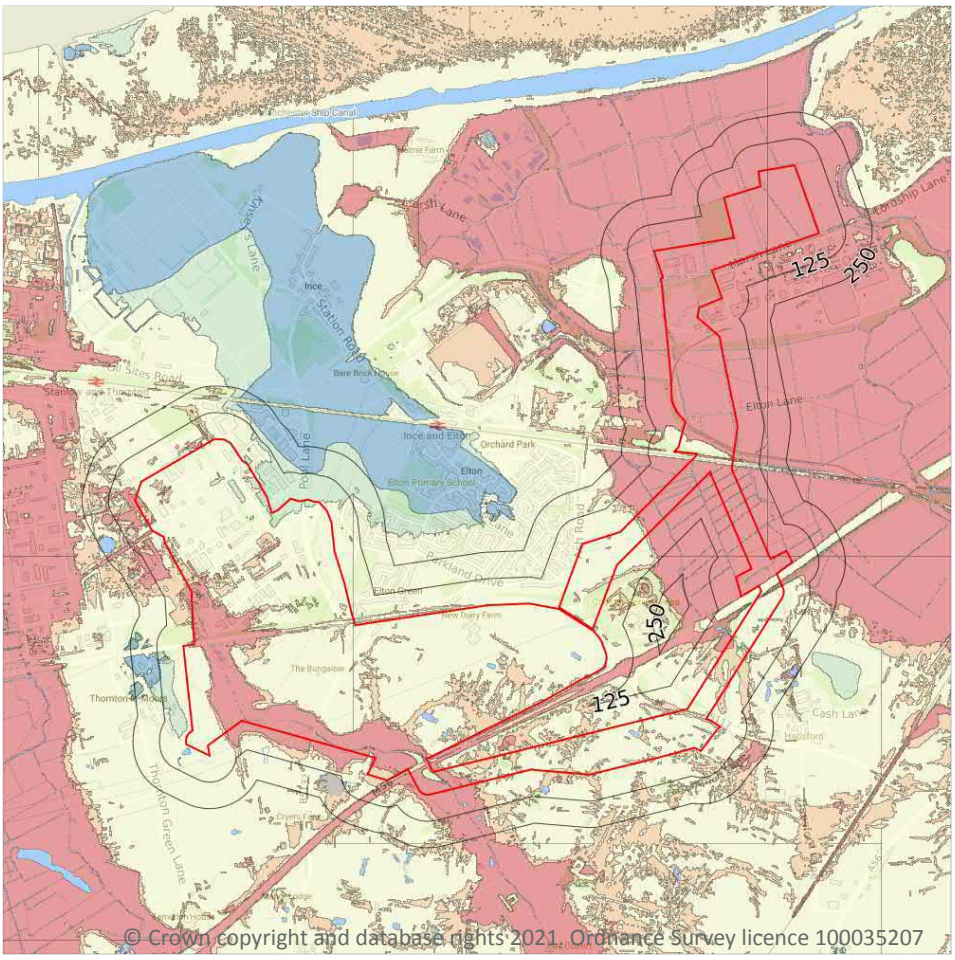
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



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9.1 Groundwater flooding

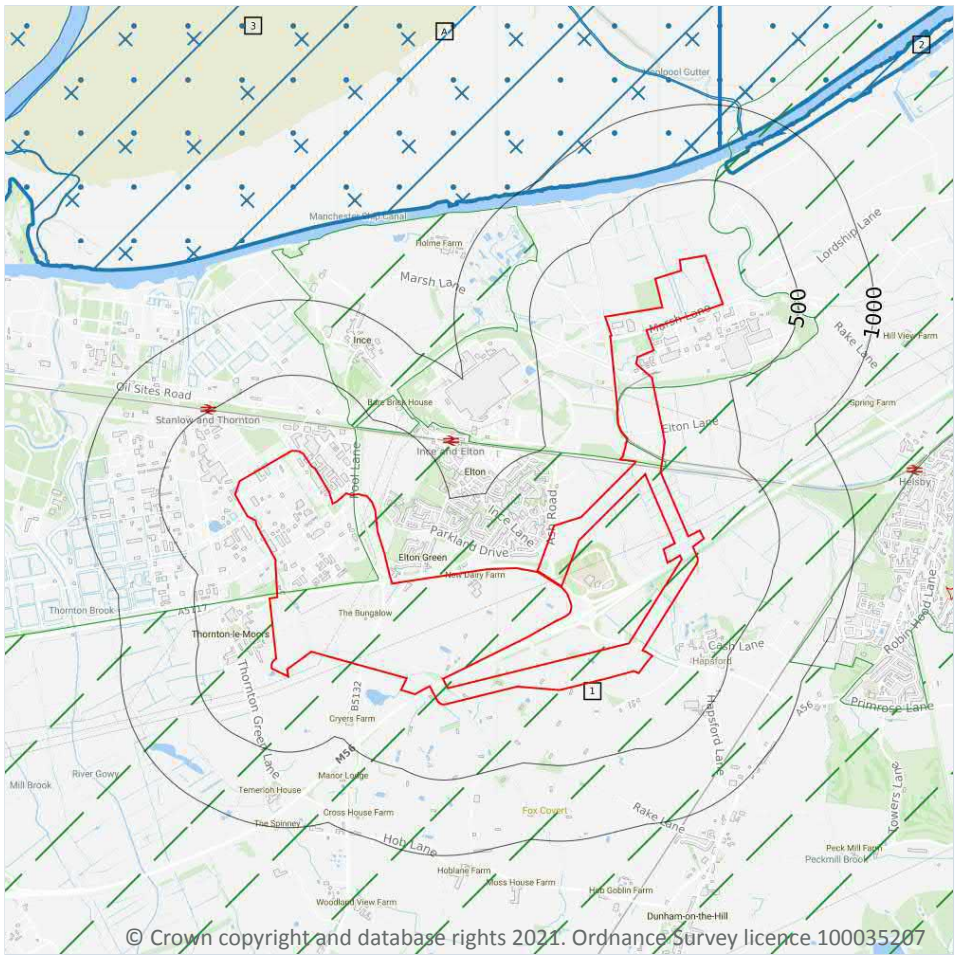
Highest risk on site	**High**
Highest risk within 50m	**High**

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 225**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Conserved wetland sites (Ramsar sites)

Special Protection Areas (SPA)

Local Nature Reserves (LNR)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	3

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.

Features are displayed on the Environmental designations map on **page 226**

ID	Location	Name	Data source
2	574m N	Mersey Estuary	Natural England

ID	Location	Name	Data source
3	611m N	Mersey Estuary	Natural England
4	715m N	Mersey Estuary	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	**1**

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.

Features are displayed on the Environmental designations map on **page 226**

ID	Location	Site	Details
A	610m N	Name: Mersey Estuary Site status: Listed Data source: Natural England	Overview: The Mersey is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand and mudflats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain. Ramsar criteria: -

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	1

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.

Features are displayed on the Environmental designations map on **page 226**

ID	Location	Name	Species of interest	Habitat description	Data source
A	611m N	Mersey Estuary	Great crested grebe; Common shelduck; Eurasian wigeon; Eurasian teal; Northern pintail; Ringed plover; European golden plover; Grey plover; Northern lapwing; Eurasian curlew; Common redshank; Common redshank; Black-tailed godwit; Dunlin	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes	Natural England

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	1

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.

Features are displayed on the Environmental designations map on **page 226**

ID	Location	Name	Data source
5	1638m E	Helsby Quarry	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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.

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 226**

ID	Location	Name	Local Authority name
1	**On site**	**Merseyside and Greater Manchester**	**Cheshire West and Chester**

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

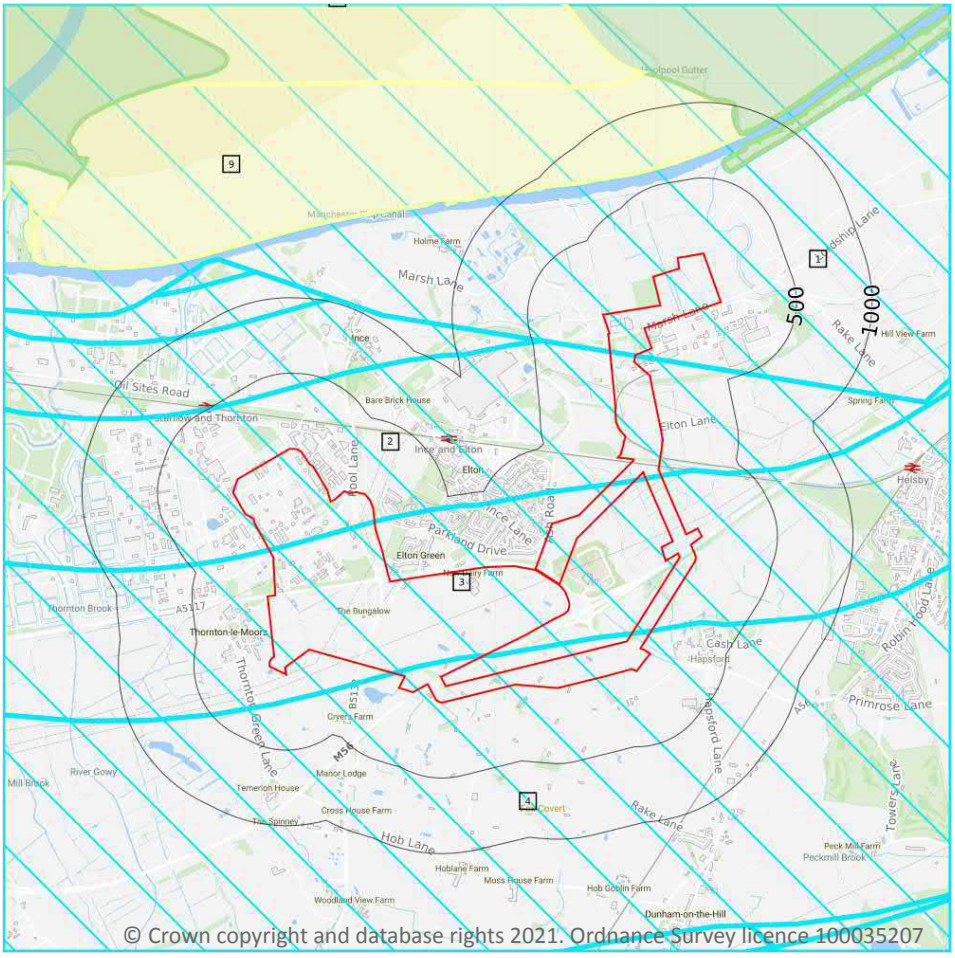
Records within 2000m	**11**

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.

Location	Name	Type	NVZ ID	Status
On site	**Peckmill Brook, Hoolpool Gutter at Ince Marshes. NVZ**	**Surface Water**	**S635**	**Existing**
On site	**River Gowy (Milton Brook to Mersey) NVZ**	**Surface Water**	**S629**	**Existing**
On site	**Peckmill Brook, Hoolpool Gutter at Ince Marshes. NVZ**	**Surface Water**	**S635**	**Existing**
92m SW	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	S629	Existing
222m NW	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	S629	Existing
1133m SW	Stanney Mill Brook NVZ	Surface Water	S630	Existing
1380m W	Stanney Mill Brook NVZ	Surface Water	S630	Existing
1415m SE	Delamere Sandstone	Groundwater	G46	Existing
1667m SE	Barrow Brook NVZ	Surface Water	S634	Existing
1676m NE	River Weaver (Dane to Frodsham) NVZ	Surface Water	S636	Changed
1984m E	Delamere Sandstone	Groundwater	G46	Existing

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	4

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 232**

ID	Location	Type of developments requiring consultation
1	**On site**	**All applications - All Planning Applications - Except Householder Applications.** **Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**

ID	Location	Type of developments requiring consultation
2	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha Residential - Residential development of 50 units or more. Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location). Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**
3	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location). Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**

ID	Location	Type of developments requiring consultation
4	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t) 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 Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location) Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**4**

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.

Features are displayed on the SSSI Impact Zones and Units map on **page 232**

ID: 7
Location: 574m N
SSSI name: Mersey Estuary
Unit name: Frodsham Lagoons
Broad habitat: Standing Open Water And Canals
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, Anas acuta	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, Tringa totanus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Teal, Anas crecca	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Wigeon, Anas penelope	Not Recorded	01/01/1900
Estuaries	Not Recorded	01/01/1900

ID: 9
Location: 611m N
SSSI name: Mersey Estuary
Unit name: Ince Bank Saltmarsh South
Broad habitat: Littoral Sediment
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Curlew, Numenius arquata	Favourable	12/10/2010
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Favourable	12/10/2010
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Pintail, Anas acuta	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Redshank, Tringa totanus	Favourable	12/10/2010
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Favourable	12/10/2010
Aggregations of non-breeding birds - Teal, Anas crecca	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Wigeon, Anas penelope	Unfavourable - Recovering	12/10/2010
Estuaries	Favourable	12/10/2010
Littoral sediment	Favourable	12/10/2010
SM4-28 - Saltmarsh	Unfavourable - Recovering	12/10/2010

ID: 10
Location: 829m N
SSSI name: Mersey Estuary
Unit name: Frodsham Score To Runcorn Bridge
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, Anas acuta	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, Tringa totanus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Teal, Anas crecca	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Wigeon, Anas penelope	Not Recorded	01/01/1900
Estuaries	Not Recorded	01/01/1900
Littoral sediment	Not Recorded	01/01/1900
SM4-28 - Saltmarsh	Not Recorded	01/01/1900

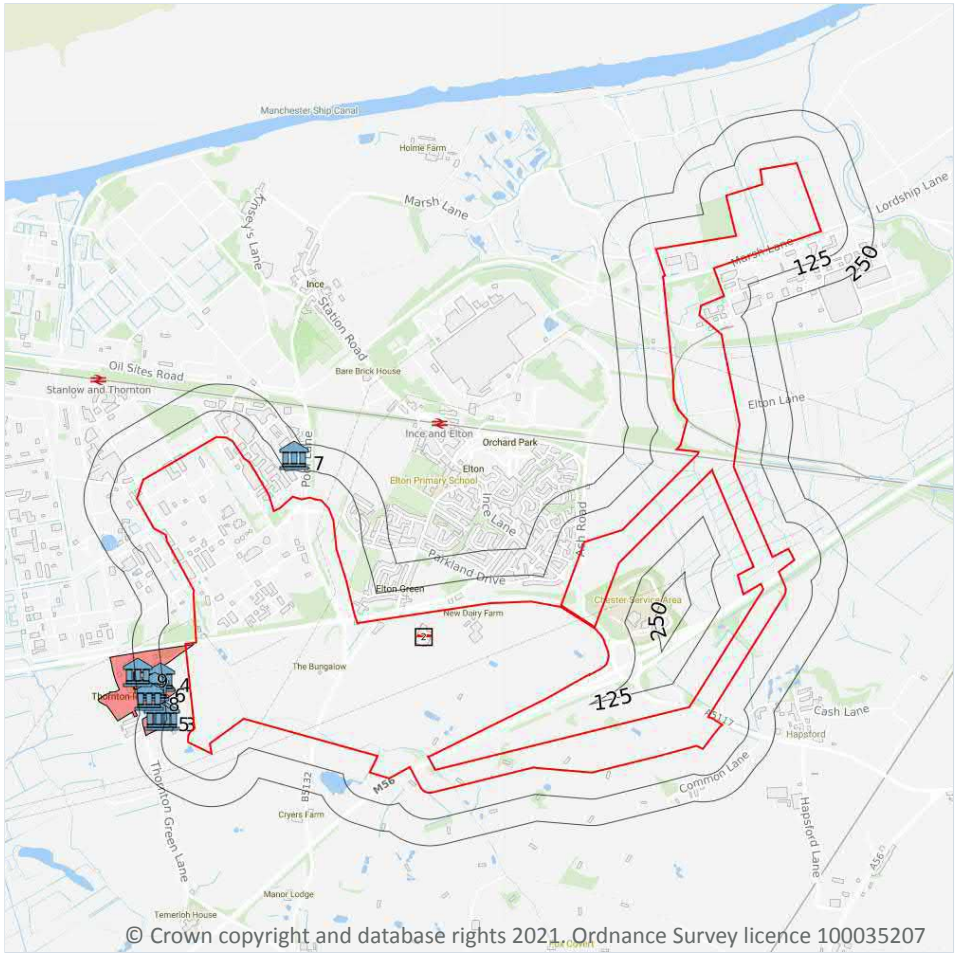
ID: 13
Location: 1221m N
SSSI name: Mersey Estuary
Unit name: Ince Bank Saltmarsh North
Broad habitat: Littoral Sediment
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Curlew, Numenius arquata	Favourable	12/10/2010
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Favourable	12/10/2010
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Pintail, Anas acuta	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Redshank, Tringa totanus	Favourable	12/10/2010

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Favourable	12/10/2010
Aggregations of non-breeding birds - Teal, Anas crecca	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Wigeon, Anas penelope	Unfavourable - Recovering	12/10/2010
Estuaries	Favourable	12/10/2010
Littoral sediment	Favourable	12/10/2010
SM4-28 - Saltmarsh	Unfavourable - Recovering	12/10/2010

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	7

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.

Features are displayed on the Visual and cultural designations map on **page 238**

ID	Location	Name	Grade	Reference Number	Listed date
3	131m W	Yew Tree House, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1130651	20/12/1983
4	135m W	Barn To North East Of Thornton Hall, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1130654	17/06/1982
5	160m W	Church House Farmhouse Including Shippon Abutting On North, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1330240	17/06/1982

ID	Location	Name	Grade	Reference Number	Listed date
6	164m W	Thornton Hall, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1130653	17/06/1982
7	194m N	Building 50 At Thornton Aero Engine Research Laboratory, Cheshire West And Chester, CH2	II	1392326	05/12/2007
8	197m W	Glebe Farmhouse, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1130652	23/11/1981
9	240m W	Church Farmhouse Including Cottage Wing To West, Thornton-Le-Moors, Cheshire West And Chester, CH2	II	1330241	17/06/1982

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

11.5 Conservation Areas

Records within 250m	**1**

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.

Features are displayed on the Visual and cultural designations map on **page 238**

ID	Location	Name	District	Date of designation
1	**On site**	**Thornton le Moors, Cheshire West and Chester**	**Cheshire West and Chester**	**14/10/1981**

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

11.6 Scheduled Ancient Monuments

Records within 250m	**1**

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.

Features are displayed on the Visual and cultural designations map on **page 238**

ID	Location	Ancient monument name	Reference number
2	**On site**	**Moated site, fishpond and connnecting channel, Elton**	**1012122**

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

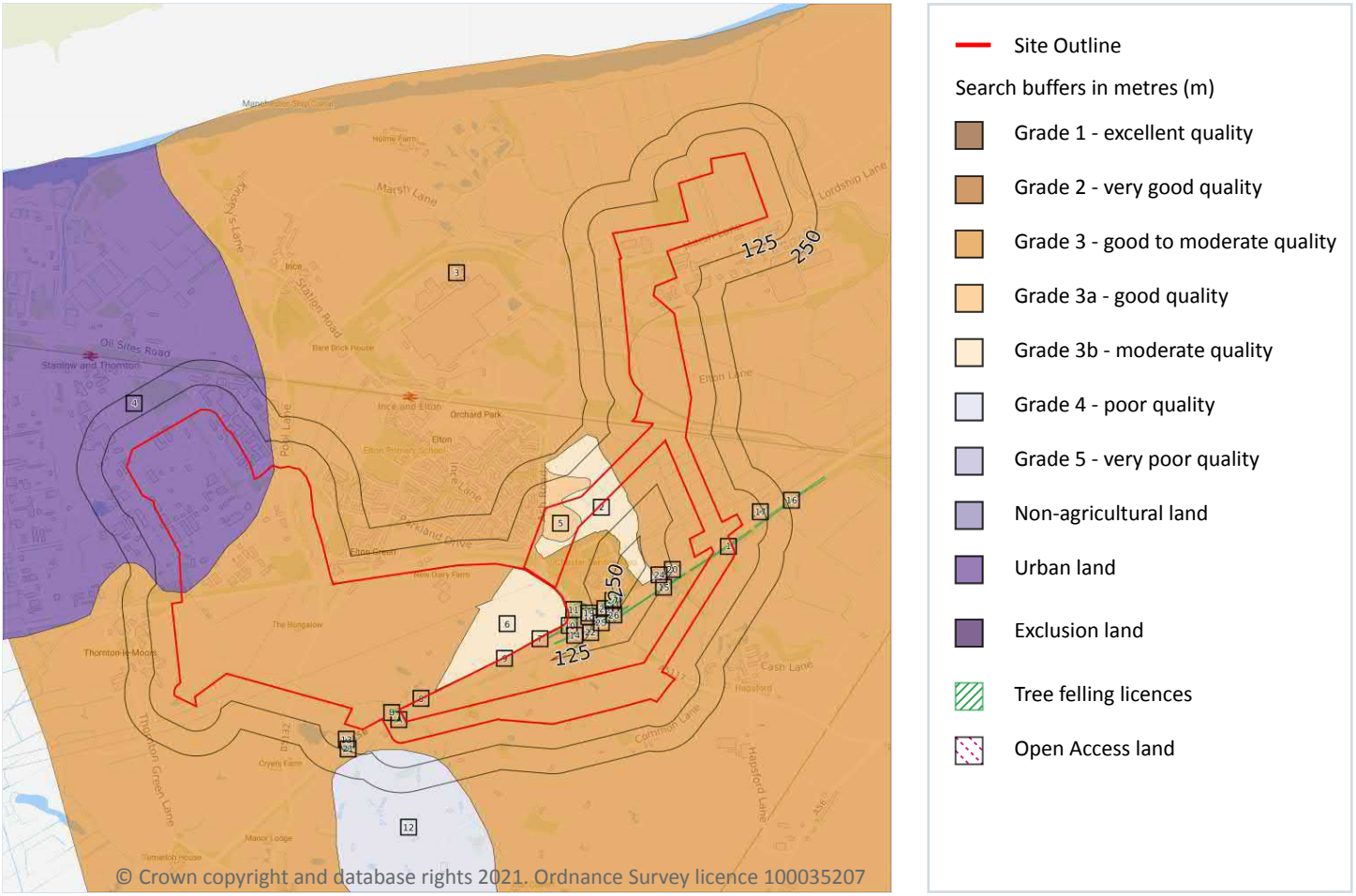
11.7 Registered Parks and Gardens

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



12.1 Agricultural Land Classification

Records within 250m	6

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 242**

ID	Location	Classification	Description
2	**On site**	**Grade 3b**	**Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.**

ID	Location	Classification	Description
3	**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.**
4	**On site**	**Urban**	**-**
5	**On site**	**Grade 3a**	**Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.**
6	**On site**	**Grade 3b**	**Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.**
12	33m S	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	**23**

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.

Features are displayed on the Agricultural designations map on **page 242**

ID	Location	Description	Reference	Application date
1	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**

ID	Location	Description	Reference	Application date
7	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
8	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
A	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
B	**On site**	**Selective Fell/Thin (Unconditional)**	**018/366/15-16**	**-**
9	1m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
10	14m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	19m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
13	55m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
14	58m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
15	60m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
16	62m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
17	68m NE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
18	73m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
19	79m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
20	87m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
21	96m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
22	99m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
23	154m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
24	154m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
25	159m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
26	174m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
27	174m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**1**

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
188m SW	AG00351970	Entry Level plus Higher Level Stewardship	01/03/2012	28/02/2022

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

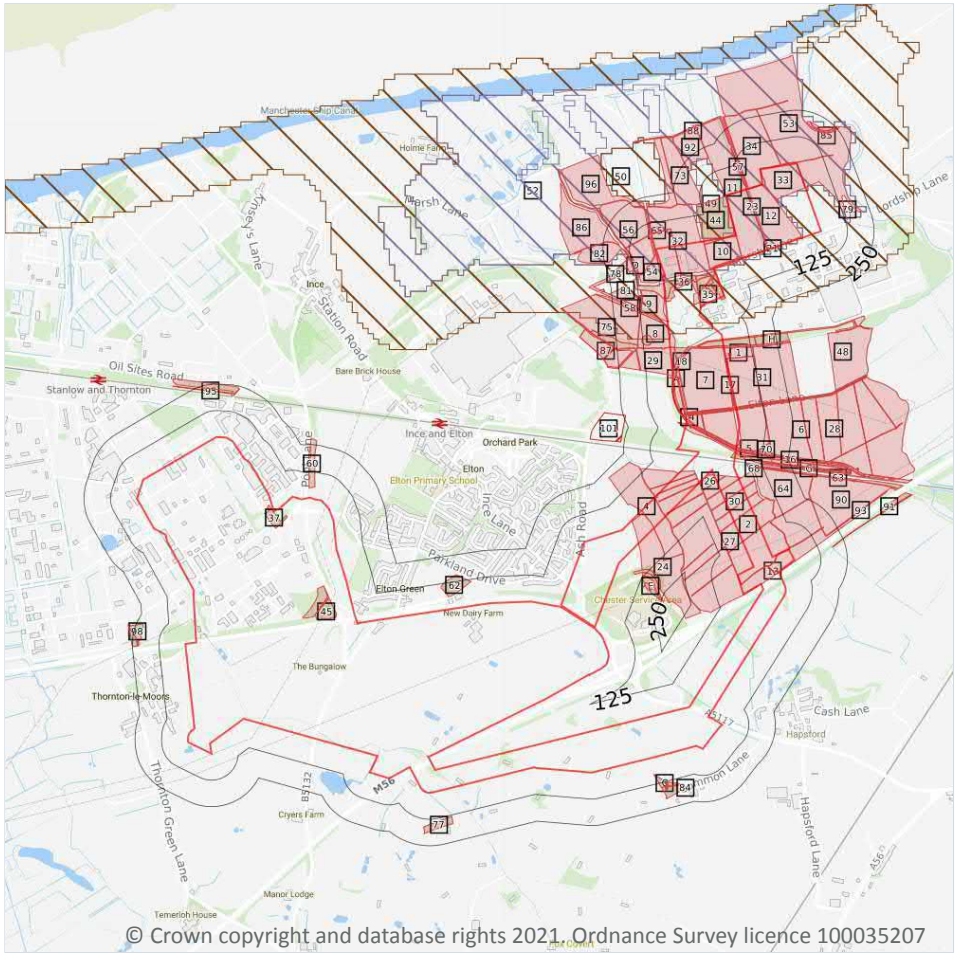
Records within 250m	**8**

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
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**823002**	**Countryside Stewardship (Middle Tier)**	**01/01/2020**	**31/12/2024**
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1053565**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
85m SW	1053565	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
189m SW	1053565	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025

This data is sourced from Natural England.

13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m	113

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 246**

ID	Location	Main Habitat	Other habitats
1	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
2	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
3	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
4	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
6	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
7	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
8	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
9	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
10	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
11	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
12	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
13	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
14	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
15	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
16	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
17	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
18	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
19	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
20	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
21	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
22	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
23	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
24	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
25	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
26	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
27	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
28	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
29	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
30	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
31	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
32	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

ID	Location	Main Habitat	Other habitats
33	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
34	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
35	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
36	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
37	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
38	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
39	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
40	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
41	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
42	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
43	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
44	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%); Additional: CFPGM (INV 50%)**
45	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
46	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
47	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
48	**On site**	**No main habitat but additional habitats present**	**Additional: DWOOD (INV 50%)**
51	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
A	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
A	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
A	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
B	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
B	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
53	0m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
54	5m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
55	14m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
56	16m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
57	17m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

ID	Location	Main Habitat	Other habitats
58	24m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
59	40m E	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
60	45m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
61	57m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
62	59m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
63	59m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
64	65m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
66	79m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	80m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
67	81m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
68	82m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
69	90m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
70	103m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
71	107m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
72	110m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	114m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
73	118m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
74	121m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
75	124m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	126m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
E	126m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
76	128m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
77	131m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
78	131m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	132m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
F	132m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
G	132m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
F	135m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
E	148m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	149m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	150m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
H	151m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
80	152m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
H	155m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
81	160m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
82	161m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
83	168m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
84	168m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
G	172m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
86	177m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
88	182m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
I	182m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
89	183m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
90	185m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
91	190m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
I	190m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
92	197m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
93	199m NE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
95	199m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
96	203m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
97	208m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
98	209m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
99	220m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
100	226m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	7

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.

Features are displayed on the Habitat designations map on **page 246**

ID	Location	Type	Habitat
49	**On site**	**Network Enhancement Zone 2**	**Not specified**
50	**On site**	**Restorable Habitat**	**Not specified**
52	**On site**	**Network Enhancement Zone 2**	**Not specified**
65	72m N	Network Enhancement Zone 2	Not specified
79	137m E	Network Enhancement Zone 2	Not specified
85	175m NE	Network Enhancement Zone 2	Not specified
94	199m N	Network Enhancement Zone 2	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	2

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.

Features are displayed on the Habitat designations map on **page 246**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
87	180m W	NLUD Ref: 60500085; HLD_refs: EAHLD17076	Low	National Land Use Database - Previously Developed Land	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography
101	241m W	NLUD Ref: 60500085; HLD_refs: EAHLD17076	Low	National Land Use Database - Previously Developed Land	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography

This data is sourced from Natural England.

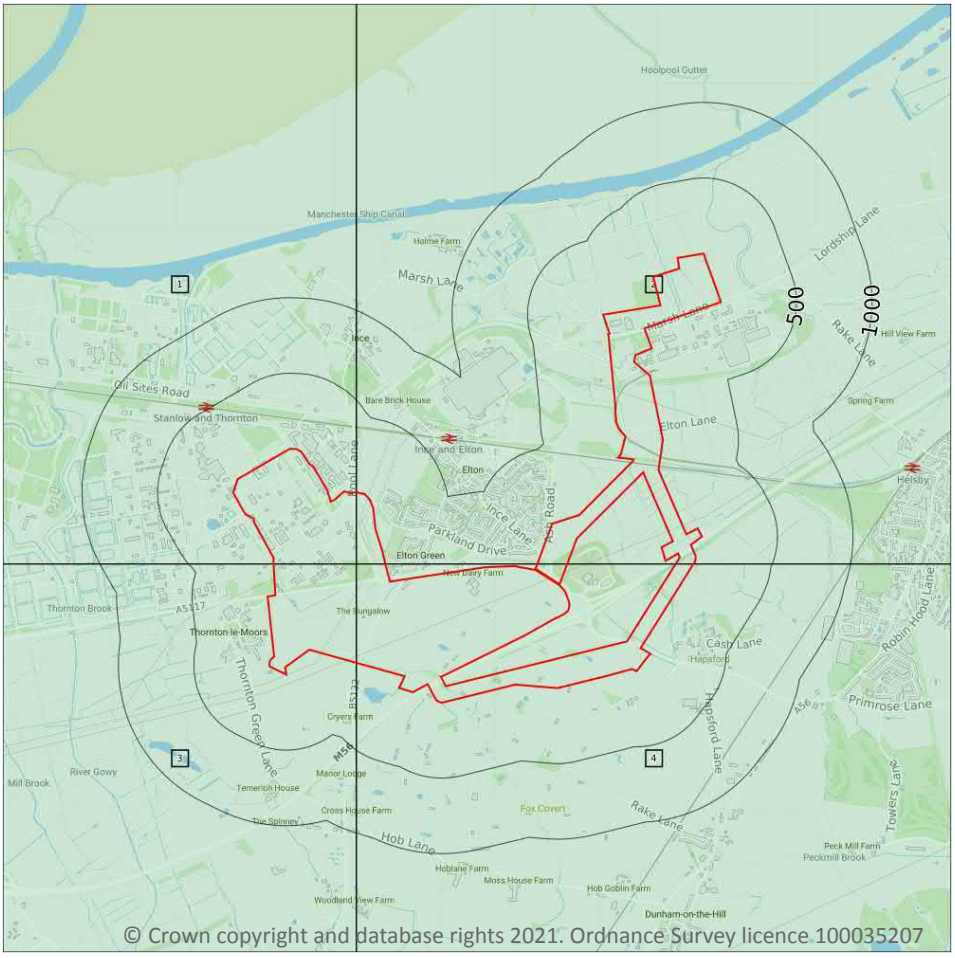
13.4 Limestone Pavement Orders

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



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

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 253**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SJ47NW
2	On site	No coverage	Full	Full	No coverage	SJ47NE
3	On site	No coverage	Full	Full	No coverage	SJ47SW
4	On site	No coverage	Full	Full	No coverage	SJ47SE

This data is sourced from the British Geological Survey.

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

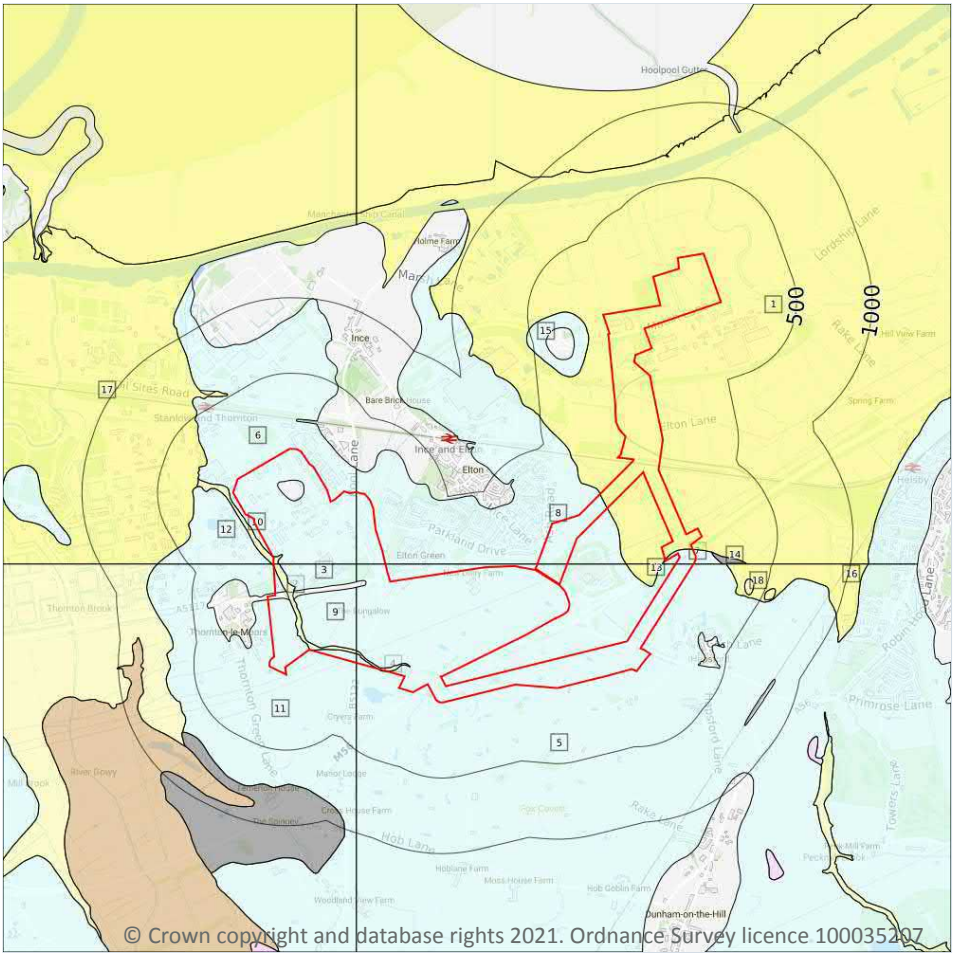
14.2 Artificial and made ground (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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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 **18**

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 256**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TFD-XCZS**	**Tidal Flat Deposits - Clay, Silt And Sand**	**Clay, Silt And Sand**
2	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
3	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**

ID	Location	LEX Code	Description	Rock description
4	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
5	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
6	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
7	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
8	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
9	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
10	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
11	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
12	12m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
13	32m SW	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
14	109m E	GFSDD-S	Glaciofluvial Sheet Deposits, Devensian - Sand	Sand
15	130m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
16	206m E	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
17	229m NW	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
18	362m E	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

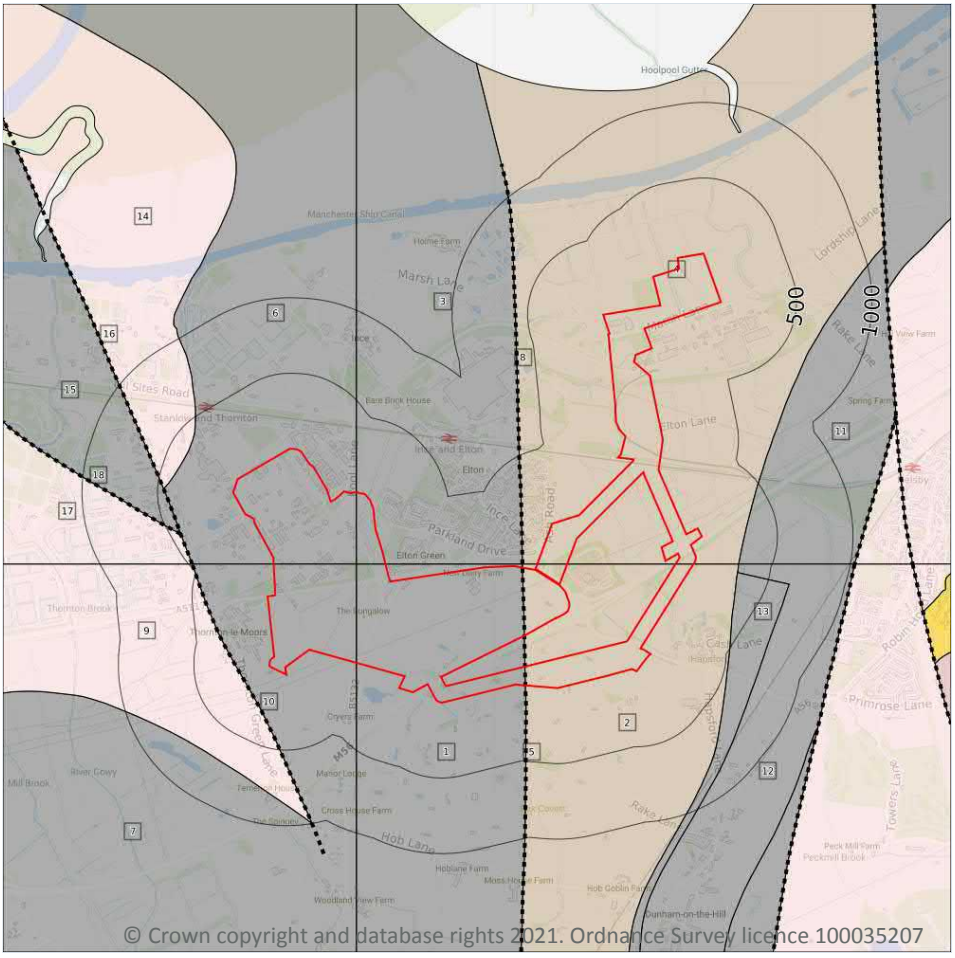
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	13

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 258**

ID	Location	LEX Code	Description	Rock age
1	On site	CPB-PESST	Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone	Early Triassic Epoch
2	On site	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
3	On site	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch

ID	Location	LEX Code	Description	Rock age
4	**On site**	**KNSF-SDST**	**Kinnerton Sandstone Formation - Sandstone**	**Early Triassic Epoch**
6	**On site**	**CPB-SDST**	**Chester Pebble Beds Formation - Sandstone**	**Early Triassic Epoch**
7	**On site**	**CPB-PESST**	**Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone**	**Early Triassic Epoch**
9	193m SW	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch
11	274m E	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
12	286m E	CPB-CONG	Chester Pebble Beds Formation - Conglomerate	Early Triassic Epoch
13	291m E	CPB-PESST	Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone	Early Triassic Epoch
14	375m NW	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch
15	419m W	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
17	437m SW	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m **5**

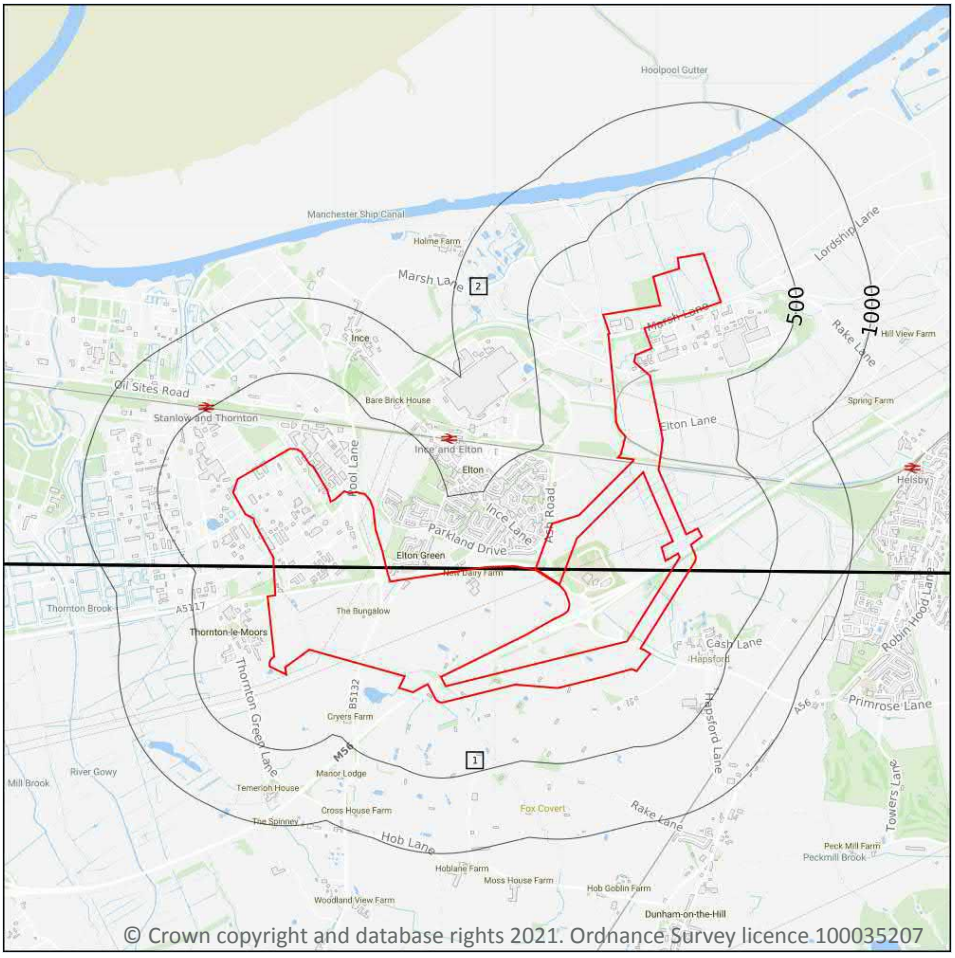
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 258**

ID	Location	Category	Description
5	**On site**	**FAULT**	**Normal fault, inferred; crossmarks on downthrow side**
8	24m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
10	193m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
16	419m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
18	437m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

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	2

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 260**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW109_chester_v4
2	On site	No coverage	Full	Full	No coverage	EW097_runcorn_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.

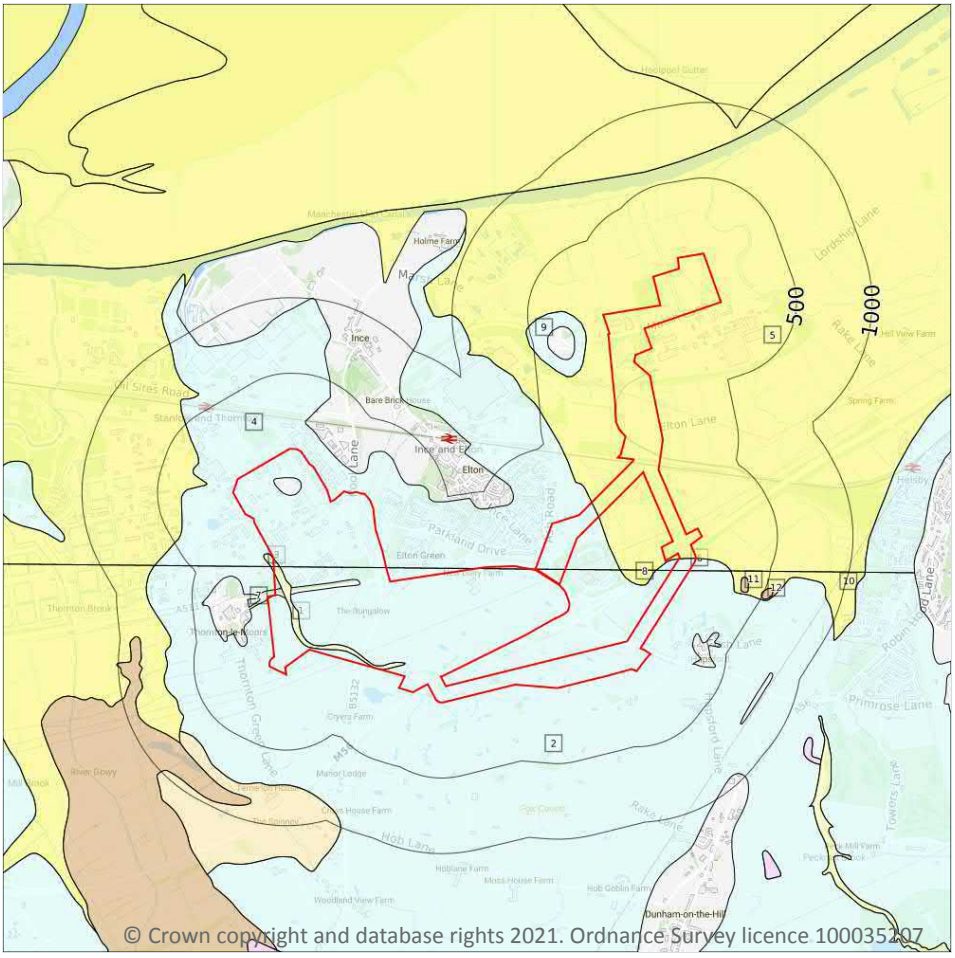
15.3 Artificial ground permeability (50k)

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	12

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 262**

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
5	**On site**	**TFD-XCZS**	**TIDAL FLAT DEPOSITS**	**CLAY, SILT AND SAND**
6	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
7	52m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
8	88m NW	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
9	147m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
10	244m E	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
11	332m E	PEAT-P	PEAT	PEAT
12	490m SE	PEAT-P	PEAT	PEAT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **12**

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	**Intergranular**	**High**	**Very Low**
On site	**Intergranular**	**High**	**Very Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Intergranular**	**High**	**Very Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Mixed**	**High**	**Low**
On site	**Intergranular**	**Moderate**	**Very Low**
On site	**Mixed**	**High**	**Low**

Location	Flow type	Maximum permeability	Minimum permeability
23m E	Intergranular	Moderate	Very 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.

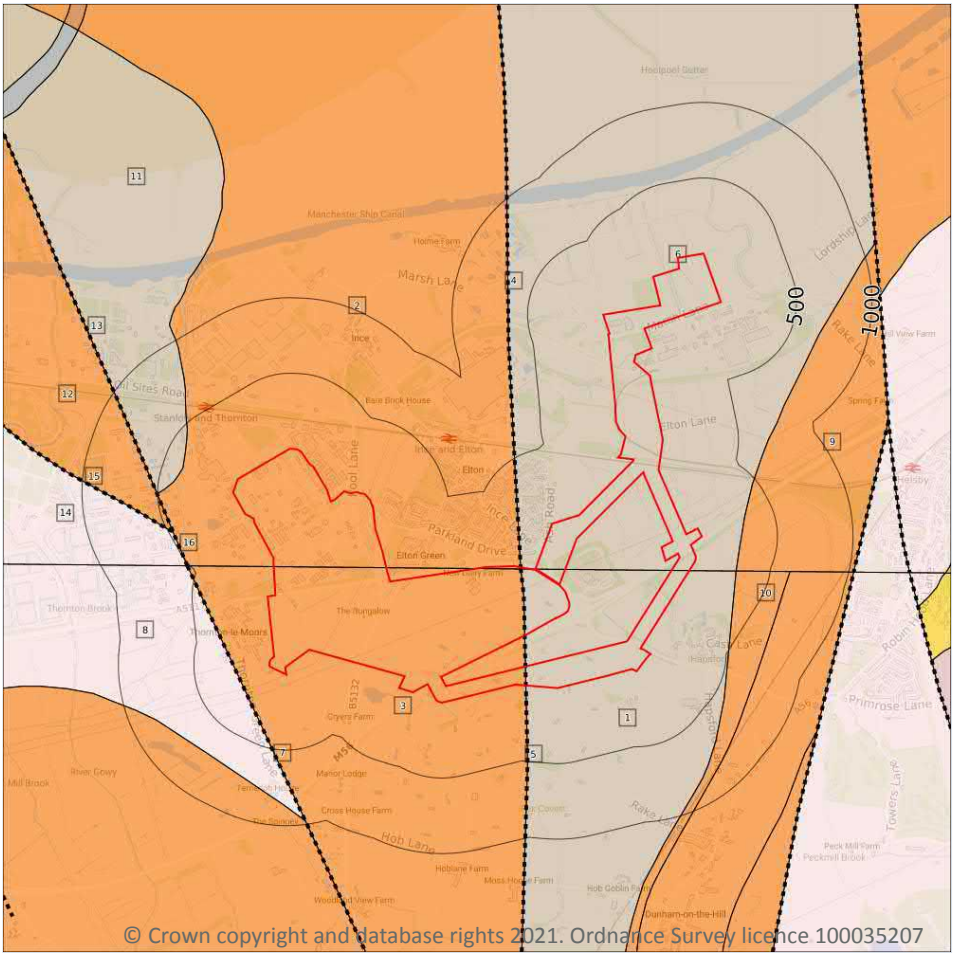
15.7 Landslip permeability (50k)

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	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 265**

ID	Location	LEX Code	Description	Rock age
1	On site	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
2	On site	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
3	On site	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
6	On site	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-

ID	Location	LEX Code	Description	Rock age
8	215m SW	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-
9	258m E	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
10	278m E	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
11	367m W	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
12	467m SW	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
14	474m SW	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **6**

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	**Intergranular**	**High**	**High**
On site	**Mixed**	**High**	**Moderate**
On site	**Intergranular**	**High**	**High**
On site	**Mixed**	**High**	**Moderate**
On site	**Mixed**	**High**	**Moderate**
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **6**

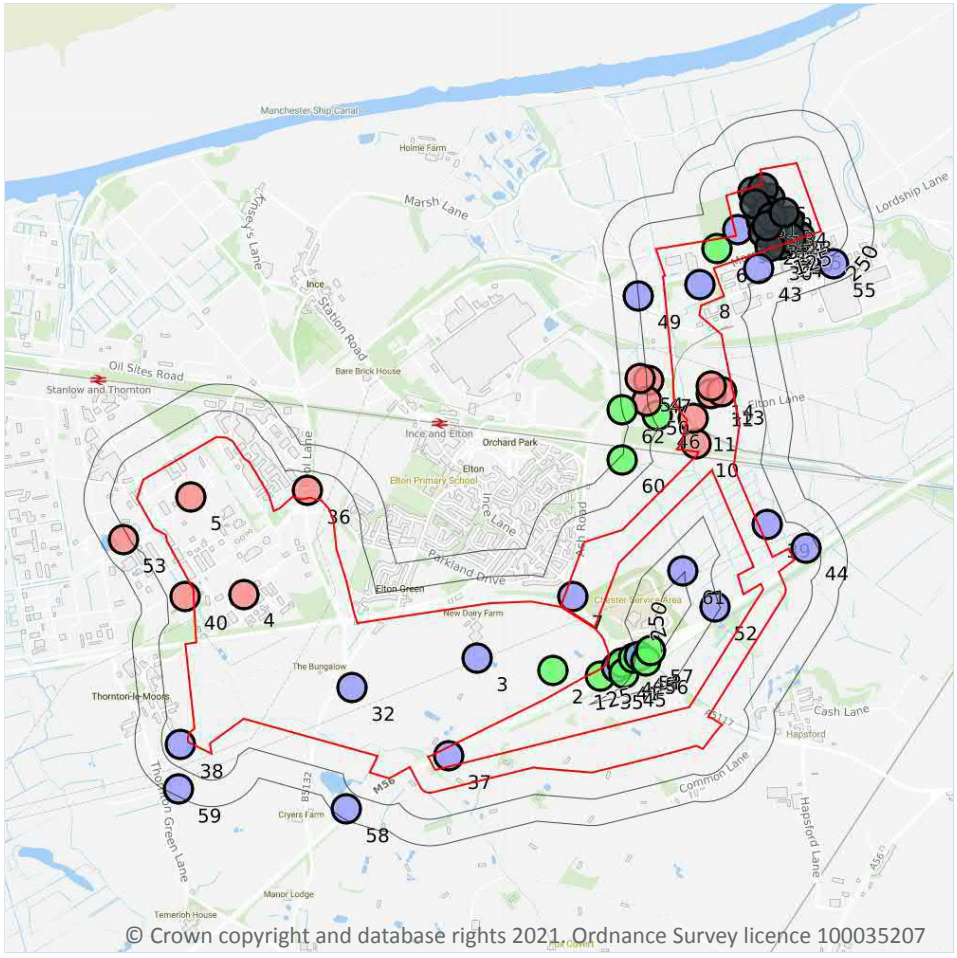
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 265**

ID	Location	Category	Description
4	**On site**	**FAULT**	**Fault, inferred**
5	**On site**	**FAULT**	**Fault, inferred, displacement unknown**
7	215m SW	FAULT	Fault, inferred, displacement unknown
13	467m SW	FAULT	Fault, inferred
15	474m SW	FAULT	Fault, inferred
16	474m SW	FAULT	Fault, 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	62

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 268**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	347180 376800	PROPOSED CHP PLANT KEMIRA INCE TP7	-	Y	N/A
2	On site	346146 374659	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-07	15.0	N	163552

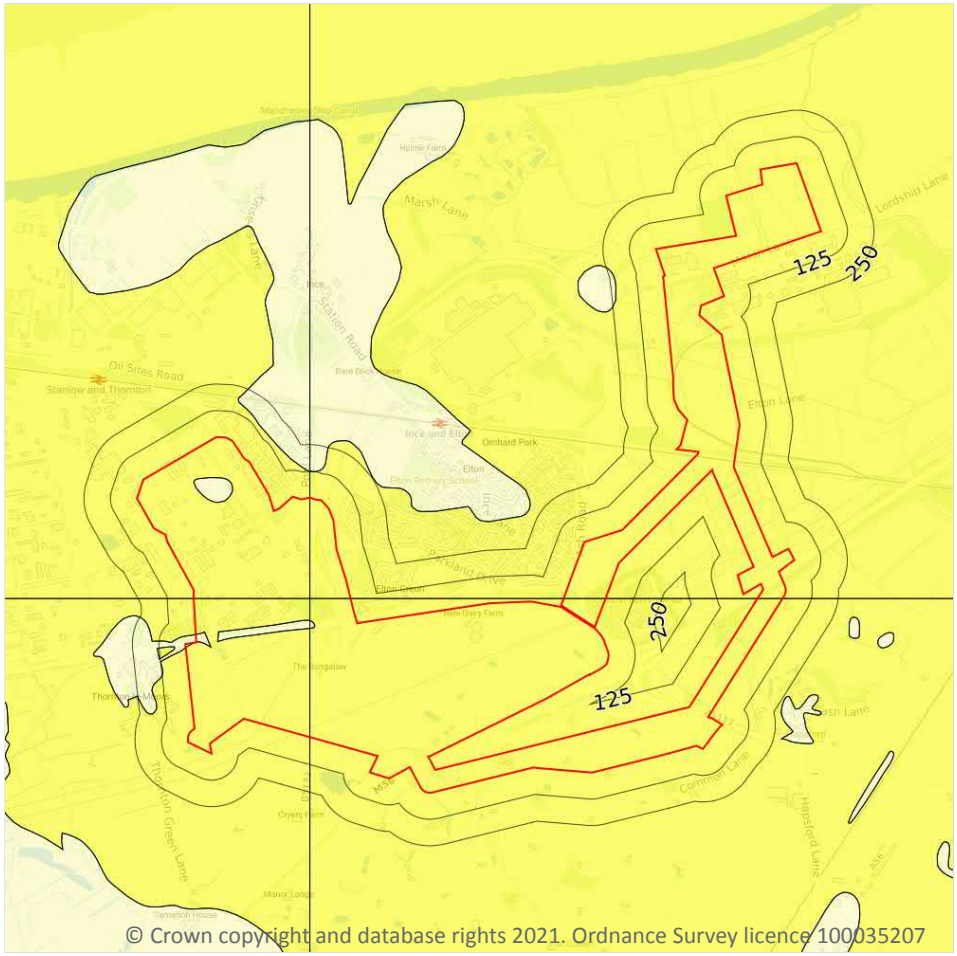
ID	Location	Grid reference	Name	Length	Confidential	Web link
3	On site	345790 374720	RUNCORN INDUSTRIAL WATER SUPPLY TP 6	1.6	N	163548
4	On site	344690 375020	SHELL REFININING CO 6	152.4	N	163382
5	On site	344440 375480	SHELL REFINING CO 8	142.1	N	163377
6	On site	346920 376650	U.K.FERTILISERS INCE NO.8	28.2	N	163357
7	On site	346240 375010	RUNCORN INDUSTRIAL WATER SUPPLY TP 7	2.5	N	163308
8	On site	346840 376480	FRODSHAM NEW RD 4	4.0	N	163263
9	On site	347020 376740	INCE 3 RIVER MERSEY	8.7	N	163345
10	On site	346822 375730	INCE POWER STATION E	30.48	N	20292722
11	On site	346810 375850	INCE POWER STATION Ø	30.48	N	20292736
12	On site	346895 375967	UKGEOS CHESHIRE A-101	121.2	N	20864053
13	On site	346944 375978	UKGEOS CHESHIRE A-102	40.0	N	20864054
14	On site	346895 376002	UKGEOS CHESHIRE A-103	39.0	N	20864055
15	On site	347190 376710	PROPOSED CHP PLANT KEMIRA INCE TP12	-	Y	N/A
16	On site	347130 376780	PROPOSED CHP PLANT KEMIRA INCE 1	-	Y	N/A
17	On site	347210 376740	PROPOSED CHP PLANT KEMIRA INCE 3	-	Y	N/A
18	On site	347120 376900	PROPOSED CHP PLANT KEMIRA INCE TP3	-	Y	N/A
19	On site	347170 376890	PROPOSED CHP PLANT KEMIRA INCE TP5	-	Y	N/A
20	On site	347220 376780	PROPOSED CHP PLANT KEMIRA INCE TP9	-	Y	N/A
21	On site	347250 376730	PROPOSED CHP PLANT KEMIRA INCE TP13	-	Y	N/A
22	On site	347140 376730	PROPOSED CHP PLANT KEMIRA INCE TP10	-	Y	N/A
23	On site	347090 376920	PROPOSED CHP PLANT KEMIRA INCE TP1	-	Y	N/A
24	On site	347220 376670	PROPOSED CHP PLANT KEMIRA INCE TP14	-	Y	N/A
25	On site	347310 376710	PROPOSED CHP PLANT KEMIRA INCE 5	-	Y	N/A
26	On site	347140 376940	PROPOSED CHP PLANT KEMIRA INCE TP2	-	Y	N/A
27	On site	347160 376830	PROPOSED CHP PLANT KEMIRA INCE TP6	-	Y	N/A
28	On site	347260 376780	PROPOSED CHP PLANT KEMIRA INCE TP11	-	Y	N/A
29	On site	347270 376700	PROPOSED CHP PLANT KEMIRA INCE TP15	-	Y	N/A
30	On site	347170 376660	PROPOSED CHP PLANT KEMIRA INCE 4	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
31	**On site**	**347100 376860**	**PROPOSED CHP PLANT KEMIRA INCE TP4**	**-**	**Y**	**N/A**
32	**On site**	**345200 374580**	**RUNCORN INDUSTRIAL WATER SUPPLY TP 5**	**2.2**	**N**	**163547**
33	**On site**	**347160 376760**	**PROPOSED CHP PLANT KEMIRA INCE TP8**	**-**	**Y**	**N/A**
34	**On site**	**347240 376820**	**PROPOSED CHP PLANT KEMIRA INCE 2**	**-**	**Y**	**N/A**
35	28m SE	346372 374636	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK 102	11.95	N	18118094
36	35m N	344990 375510	SHELL REFININING CO 7	152.4	N	163383
37	37m SE	345654 374258	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-06	9.7	N	163551
38	38m W	344390 374310	RUNCORN INDUSTRIAL WATER SUPPLY TP 4	2.5	N	163698
39	40m NE	347160 375350	FRODSHAM NEW RD 28	4.0	N	163253
40	41m W	344410 375010	SHELL REFINING CO 1	45.72	N	163378
41	52m E	346449 374674	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK TP 101	1.25	N	18118104
42	68m E	346473 374695	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK 103	12.5	N	18118096
43	69m S	347120 376560	FRODSHAM NEW RD 5	4.0	N	163264
44	74m NE	347340 375240	RUNCORN INDUSTRIAL WATER SUPPLY TP 10	3.3	N	163309
45	92m SE	346481 374647	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK 101	12.5	N	18118090
46	100m SW	346641 375865	INCE POWER STATION F	24.08	N	20292724
47	114m W	346600 376030	INCE 2	85.0	N	163287
48	118m E	346528 374720	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK 104	11.0	N	18118097
49	126m W	346550 376430	FRODSHAM NEW RD 3	4.0	N	163262
50	128m W	346590 375930	CEGB INCE 'B' PRODUCTION 3	85.5	N	163285
51	143m E	346553 374727	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK TP 102	1.6	N	18118107
52	149m SW	346910 374960	RUNCORN INDUSTRIAL WATER SUPPLY TP 9	3.1	N	163549
53	151m SW	344120 375280	SHELL REFINING CO 9	153.01	N	163376
54	154m W	346560 376040	INCE 1	86.0	N	163286
55	164m S	347470 376580	FRODSHAM NEW RD 6	4.0	N	163265

ID	Location	Grid reference	Name	Length	Confidential	Web link
56	175m E	346584 374707	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-08	15.0	N	163553
57	201m E	346609 374757	M56 JUNCTION 14 DRAINAGE REMEDIAL WORK 105	12.5	N	18118099
58	205m SW	345173 374007	NMCS2 COMMUNICATIONS SYSYEM-MS2 CANTILEVER-M56 BH-05	5.75	N	163550
59	220m SW	344380 374100	ELTON GREEN	-2.0	N	163748
60	234m NW	346475 375656	UKGEOS CHESHIRE E-101	15.45	N	20864056
61	240m SE	346760 375130	FRODSHAM NEW RD 27	3.0	N	163252
62	249m W	346474 375890	INCE POWER STATION L	29.56	N	20292732

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

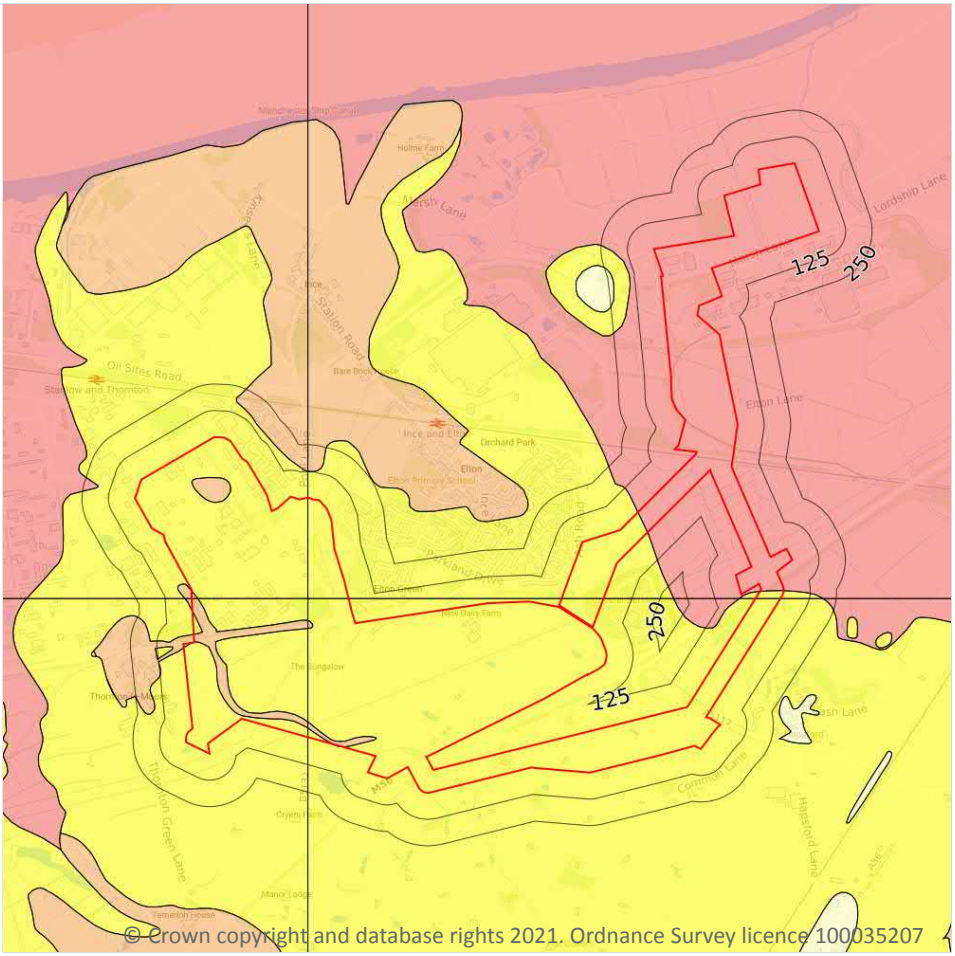
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 272**

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

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

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.

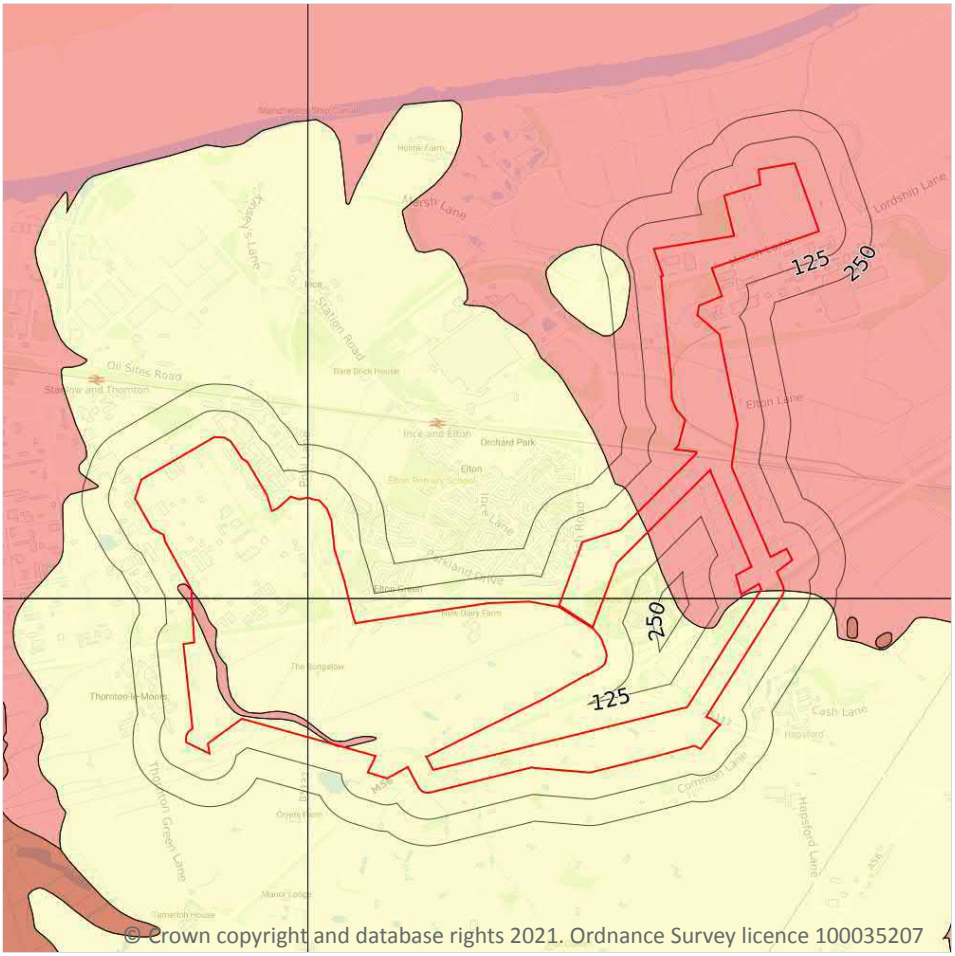
Features are displayed on the Natural ground subsidence - Running sands map on **page 273**

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
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**
On site	**Moderate**	**Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.**
23m SW	Moderate	Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	3

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.

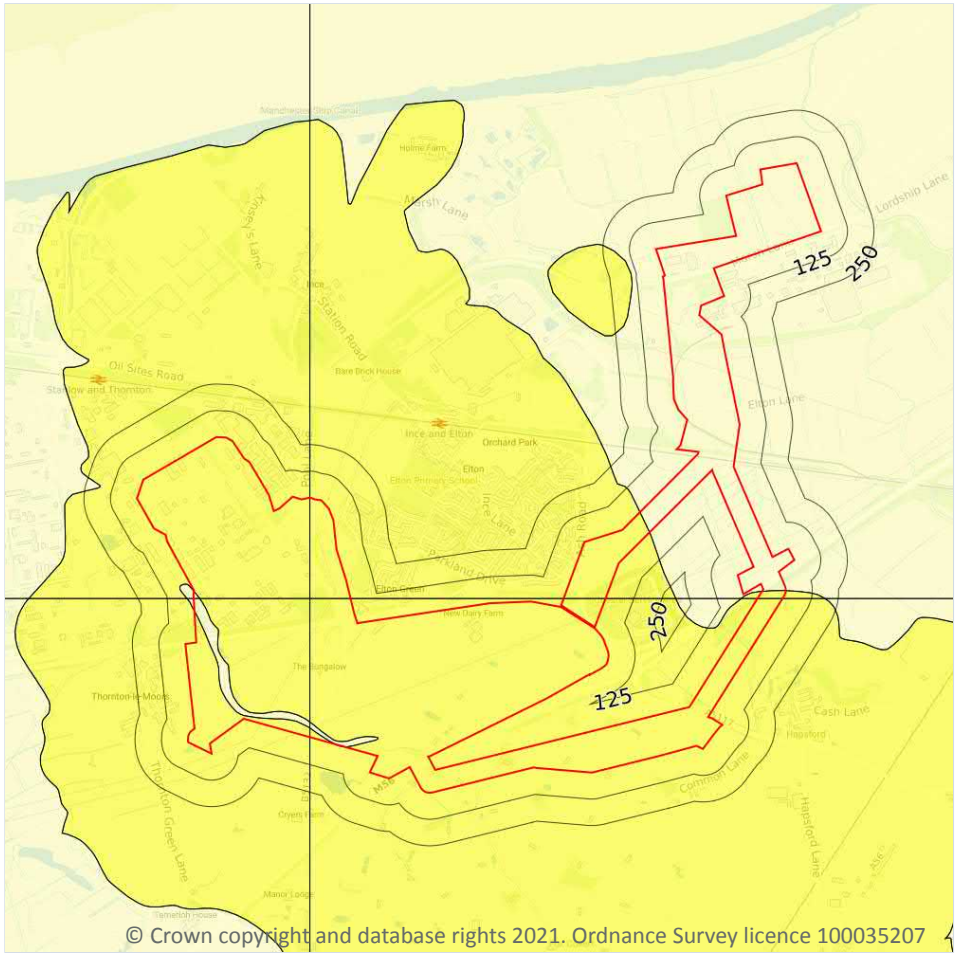
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 275**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

Location	Hazard rating	Details
23m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

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	3

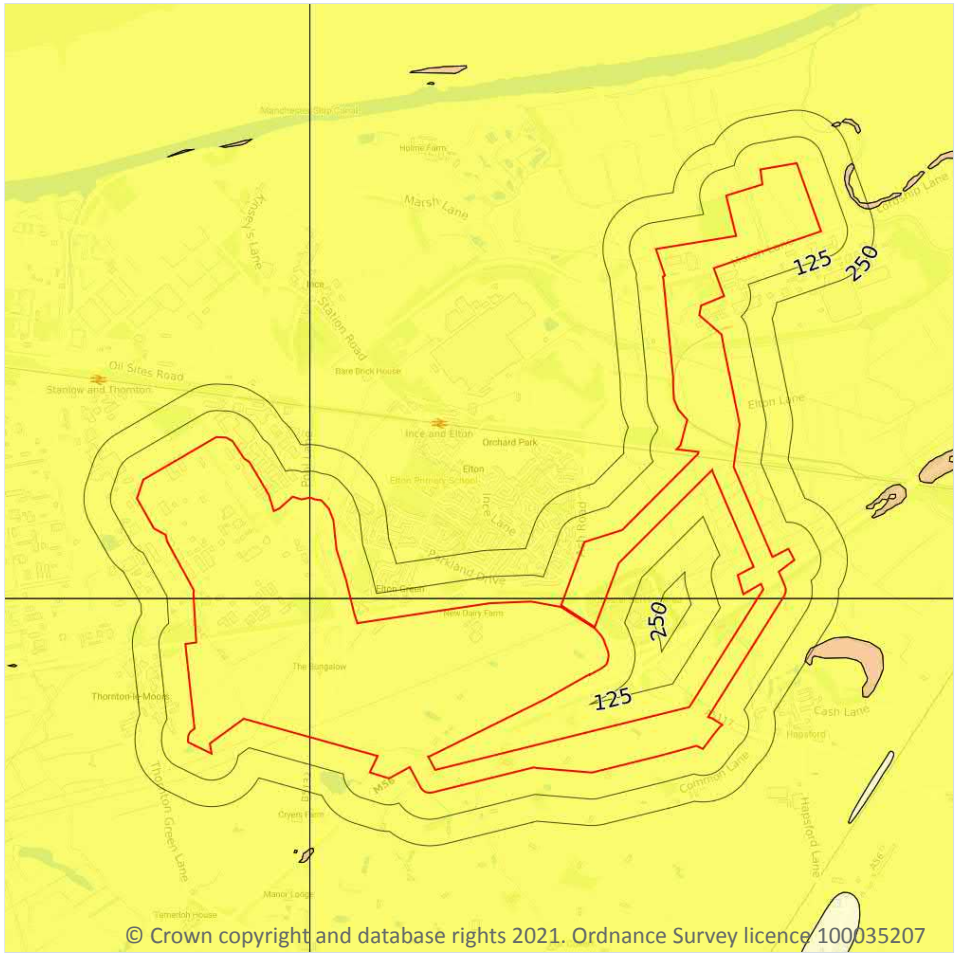
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 277**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
23m SW	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

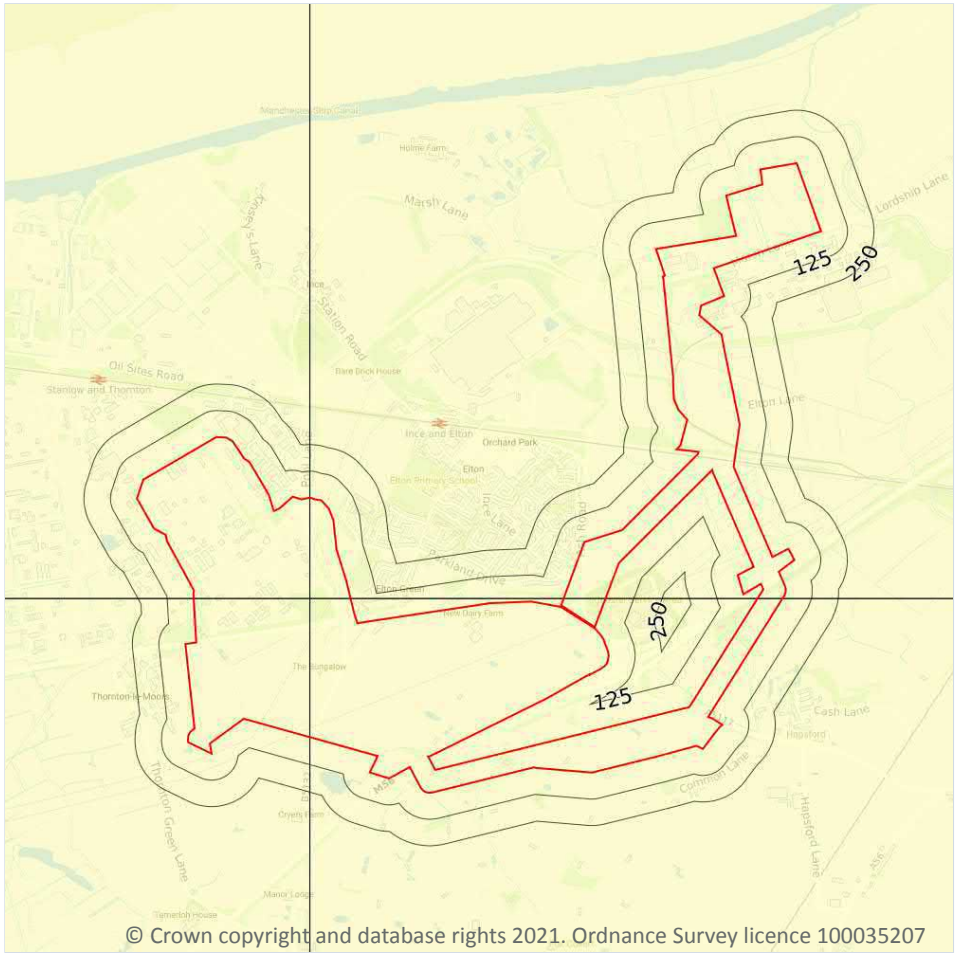
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 279**

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.**

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 280**

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



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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	0

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.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	171

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 282**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Pond	1983	1:10000
2	On site	Pond	1949	1:10560
3	On site	Pond	1968	1:10560
4	On site	Pond	1967	1:10560
5	On site	Unspecified Pit	1967	1:10560
6	On site	Unspecified Ground Workings	1967	1:10560
A	On site	Pond	1953	1:10560
A	On site	Pond	1967	1:10560
A	On site	Pond	1908	1:10560
A	On site	Pond	1897	1:10560
A	On site	Pond	1938	1:10560
A	On site	Pond	1908	1:10560
B	On site	Ponds	1983	1:10000
B	On site	Ponds	1949	1:10560
B	On site	Pond	1908	1:10560
B	On site	Pond	1897	1:10560
B	On site	Ponds	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	On site	Ponds	1983	1:10000
C	On site	Ponds	1949	1:10560
C	On site	Ponds	1968	1:10560
D	On site	Ponds	1983	1:10000
D	On site	Ponds	1949	1:10560
D	On site	Ponds	1968	1:10560
D	On site	Ponds	1908	1:10560
D	On site	Ponds	1897	1:10560
D	On site	Ponds	1938	1:10560
D	On site	Ponds	1908	1:10560
E	On site	Ponds	1983	1:10000
E	On site	Ponds	1949	1:10560
E	On site	Ponds	1968	1:10560
E	On site	Ponds	1908	1:10560
E	On site	Ponds	1897	1:10560
F	On site	Pond	1983	1:10000
F	On site	Pond	1949	1:10560
F	On site	Pond	1968	1:10560
F	On site	Pond	1908	1:10560
F	On site	Pond	1897	1:10560
F	On site	Pond	1938	1:10560
F	On site	Pond	1908	1:10560
G	On site	Unspecified Pit	1976	1:10000
G	On site	Cuttings	1990	1:10000
G	On site	Cuttings	1967	1:10560
H	On site	Ponds	1949	1:10560
H	On site	Ponds	1908	1:10560
H	On site	Ponds	1897	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
H	On site	Ponds	1938	1:10560
I	On site	Pond	1983	1:10000
I	On site	Pond	1949	1:10560
I	On site	Pond	1908	1:10560
I	On site	Pond	1897	1:10560
I	On site	Pond	1938	1:10560
J	On site	Pond	1949	1:10560
J	On site	Pond	1908	1:10560
J	On site	Pond	1897	1:10560
J	On site	Pond	1938	1:10560
J	On site	Pond	1908	1:10560
K	On site	Ponds	1949	1:10560
K	On site	Pond	1968	1:10560
L	On site	Pond	1949	1:10560
L	On site	Pond	1968	1:10560
L	On site	Pond	1908	1:10560
L	On site	Pond	1897	1:10560
L	On site	Pond	1938	1:10560
L	On site	Pond	1908	1:10560
M	On site	Pond	1949	1:10560
M	On site	Pond	1968	1:10560
M	On site	Pond	1908	1:10560
M	On site	Pond	1897	1:10560
M	On site	Pond	1938	1:10560
M	On site	Pond	1908	1:10560
N	On site	Ponds	1949	1:10560
N	On site	Ponds	1908	1:10560
N	On site	Pond	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
O	1m SW	Pond	1949	1:10560
P	2m W	Unspecified Pit	1976	1:10000
P	2m W	Unspecified Pit	1990	1:10000
P	2m W	Unspecified Pit	1967	1:10560
O	3m SW	Pond	1912	1:10560
O	8m SW	Pond	1912	1:10560
O	8m SW	Pond	1983	1:10000
O	8m SW	Pond	1967	1:10560
O	8m SW	Pond	1938	1:10560
7	9m SE	Cuttings	1983	1:10000
8	12m N	Ponds	1908	1:10560
Q	13m N	Ponds	1949	1:10560
Q	21m N	Ponds	1908	1:10560
Q	21m N	Ponds	1897	1:10560
R	24m W	Pond	1912	1:10560
R	24m W	Pond	1938	1:10560
R	26m W	Pond	1912	1:10560
S	29m S	Ponds	1908	1:10560
S	29m S	Ponds	1897	1:10560
S	29m S	Ponds	1938	1:10560
S	31m S	Ponds	1949	1:10560
S	31m S	Ponds	1968	1:10560
T	45m E	Ponds	1949	1:10560
T	48m E	Ponds	1908	1:10560
T	48m E	Ponds	1897	1:10560
U	48m SE	Ponds	1908	1:10560
U	48m SE	Ponds	1897	1:10560
T	49m E	Ponds	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
U	50m SE	Ponds	1949	1:10560
U	51m SE	Ponds	1938	1:10560
9	52m W	Unspecified Heaps	1967	1:10560
V	57m SW	Unspecified Heap	1976	1:10000
V	57m SW	Unspecified Heap	1990	1:10000
V	57m SW	Unspecified Heap	1967	1:10560
W	63m S	Pond	1908	1:10560
W	63m S	Pond	1897	1:10560
W	64m S	Pond	1949	1:10560
W	64m S	Pond	1968	1:10560
W	65m S	Pond	1908	1:10560
W	66m S	Pond	1938	1:10560
X	70m S	Pond	1983	1:10000
X	70m S	Pond	1968	1:10560
Y	79m W	Pond	1983	1:10000
Y	79m W	Pond	1967	1:10560
Z	85m S	Pond	1983	1:10000
Z	85m S	Pond	1967	1:10560
AA	88m S	Pond	1967	1:10560
Z	90m S	Unspecified Quarry	1897	1:10560
10	96m SE	Unspecified Pit	1983	1:10000
AA	97m S	Pond	1908	1:10560
AA	97m S	Pond	1897	1:10560
AA	99m S	Pond	1938	1:10560
AA	100m S	Pond	1949	1:10560
AA	100m S	Pond	1908	1:10560
AB	102m E	Unspecified Pit	1949	1:10560
AB	103m E	Unspecified Pit	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
AB	103m E	Unspecified Pit	1938	1:10560
AB	103m E	Unspecified Pit	1908	1:10560
AB	104m E	Pond	1908	1:10560
AC	130m S	Ponds	1908	1:10560
AC	130m S	Ponds	1897	1:10560
11	131m S	Pond	1968	1:10560
AC	132m S	Ponds	1949	1:10560
AC	132m S	Ponds	1968	1:10560
12	133m E	Pond	1990	1:10000
13	135m S	Pond	1968	1:10560
14	136m E	Ponds	1968	1:10560
15	140m E	Cuttings	1983	1:10000
AD	157m SW	Pond	1912	1:10560
AD	157m SW	Pond	1897	1:10560
AD	161m SW	Pond	1912	1:10560
AD	162m SW	Pond	1938	1:10560
16	177m SW	Pond	1912	1:10560
AE	179m N	Cuttings	1953	1:10560
AF	180m E	Pond	1949	1:10560
AE	181m N	Cuttings	1908	1:10560
AG	182m N	Cuttings	1908	1:10560
AG	182m N	Cuttings	1908	1:10560
AG	182m N	Cuttings	1938	1:10560
AG	183m N	Cuttings	1953	1:10560
AG	183m N	Cuttings	1938	1:10560
AF	184m E	Pond	1938	1:10560
AF	184m E	Pond	1908	1:10560
AH	185m N	Cuttings	1976	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
AH	185m N	Cuttings	1990	1:10000
AH	185m N	Cuttings	1967	1:10560
AF	187m E	Pond	1908	1:10560
AF	187m E	Pond	1897	1:10560
AE	193m NE	Cuttings	1938	1:10560
AE	198m NE	Cuttings	1897	1:10560
17	201m E	Canal Deposit Tip	1968	1:10560
AI	205m NW	Sewage Works	1990	1:10000
AJ	242m NW	Pond	1908	1:10560
AJ	242m NW	Pond	1897	1:10560
AK	247m S	Pond	1983	1:10000
AK	247m S	Pond	1967	1:10560
AJ	247m NW	Pond	1968	1:10560
AI	250m NW	Filter Beds	1990	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	**0**

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**1**

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 282**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
19	267m SE	Hapsford	Sandstone	Surface mineral working	Application	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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).

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	0

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

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

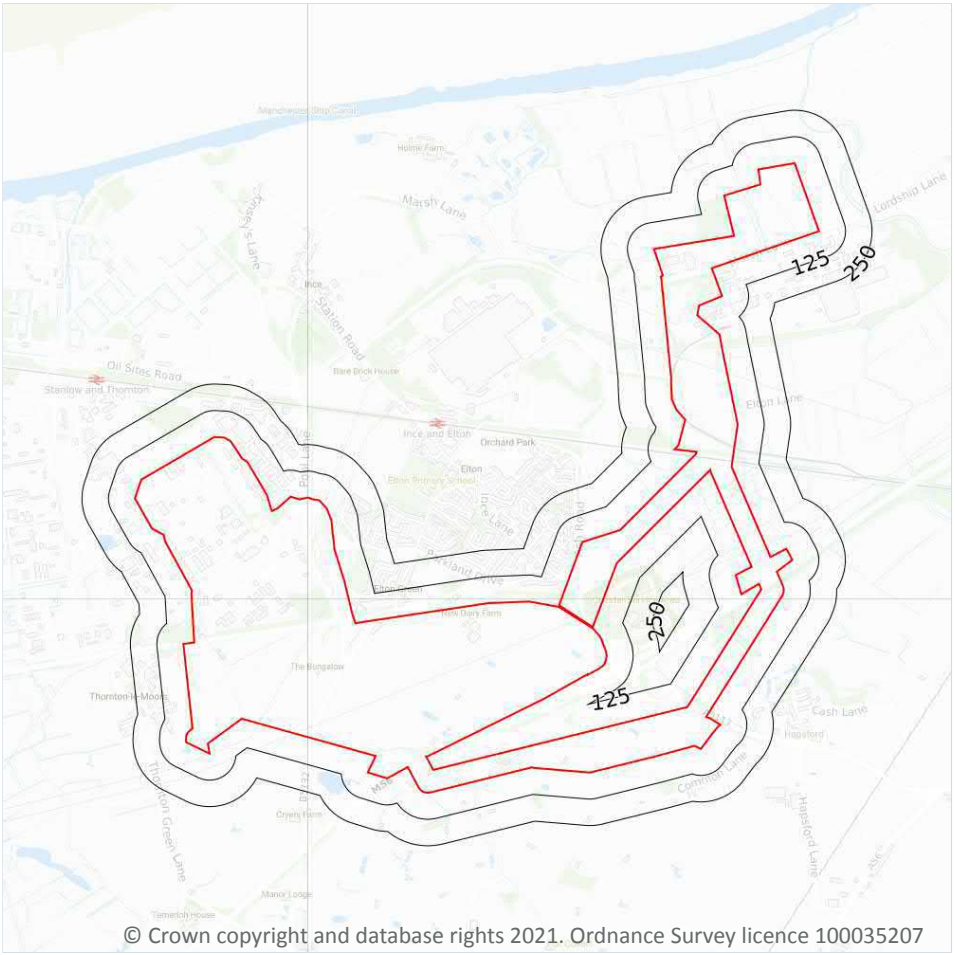
18.13 Clay mining

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



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19.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 292**

Location	Estimated properties affected	Radon Protection Measures required
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 **76**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 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	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 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	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	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	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	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 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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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	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	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	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
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
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	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 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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	40 - 60 mg/kg	15 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	90 - 120 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
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**	**40 - 60 mg/kg**	**15 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**	**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**	**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**	**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**	**40 - 60 mg/kg**	**15 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**	**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**	**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**	**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**	**40 - 60 mg/kg**	**15 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**	**40 - 60 mg/kg**	**15 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**	**40 - 60 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
8m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
8m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
14m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
16m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
19m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
23m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
23m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
23m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 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 km^2).

This data is sourced from the British Geological Survey.

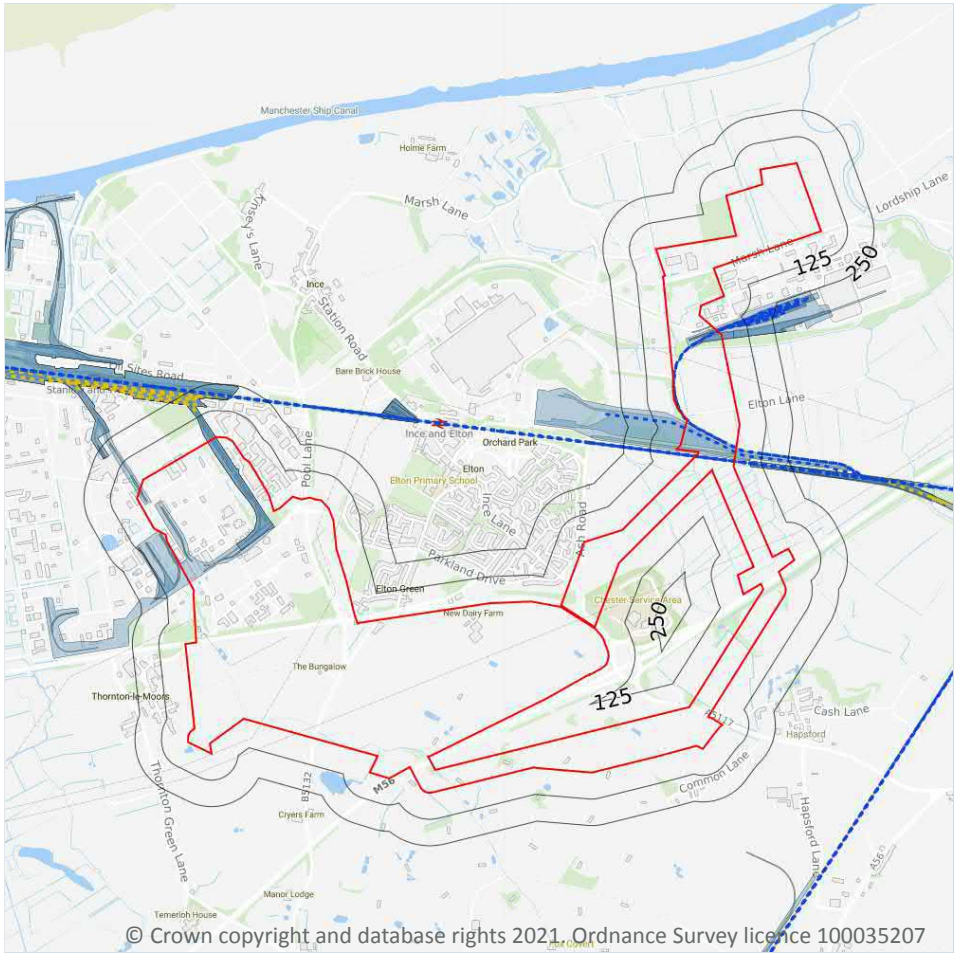
20.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

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

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	62

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.

Features are displayed on the Railway infrastructure and projects map on **page 297**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1993**	**1250**
On site	**Railway Sidings**	**1959**	**1250**
On site	**Railway Sidings**	**1980**	**1250**
On site	**Railway Sidings**	**1970**	**1250**
On site	**Railway Sidings**	**1971**	**2500**
On site	**Railway Sidings**	**1964**	**2500**
On site	**Railway Sidings**	**1972**	**2500**
On site	**Railway Sidings**	**1984**	**2500**
On site	**Railway Sidings**	**1990**	**1250**
On site	**Railway Sidings**	**1992**	**1250**
On site	**Railway Sidings**	**1992**	**2500**
On site	**Railway Sidings**		**-**
On site	**Railway Sidings**	**1978**	**-**
On site	**Mineral Railway Sidings**	**1964**	**2500**
On site	**Mineral Railway Sidings**	**1967**	**10560**
On site	**Railway Sidings**	**1990**	**10000**
On site	**Railway Sidings**	**1968**	**10560**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1976**	**10000**
4m SW	Mineral Railway Sidings	1964	2500
8m SW	Railway Sidings	1959	1250
53m E	Railway Sidings	1992	2500
54m E	Railway Sidings	1984	2500
62m NW	Mineral Railway Sidings	1959	1250
64m NW	Railway Sidings	1993	1250
64m NW	Railway Sidings	1978	-
65m NW	Railway Sidings	1980	1250
67m NE	Railway Sidings	1984	2500
67m NE	Railway Sidings	1992	2500
67m E	Railway Sidings	1964	2500
69m E	Railway Sidings	1972	2500
71m E	Railway Sidings	1992	2500
74m NE	Railway Sidings	1949	10560
74m NE	Railway Sidings	1968	10560
75m E	Railway Sidings	1898	2500
75m E	Railway Sidings	1910	2500
125m W	Mineral Railway Sidings	1967	10560
164m SW	Railway Sidings	1962	2500
166m NW	Mineral Railway Sidings	1964	2500
178m N	Railway Sidings	1959	1250
178m N	Railway Sidings	1970	1250
179m N	Railway Sidings	1993	1250
179m N	Railway Sidings		-
181m N	Railway Sidings	1990	1250
188m N	Railway Sidings	1993	1250
188m N	Railway Sidings		-

Location	Land Use	Year of mapping	Mapping scale
188m NW	Mineral Railway Sidings	1964	2500
200m N	Railway Sidings	1959	1250
200m N	Railway Sidings	1970	1250
201m N	Mineral Railway Sidings	1964	2500
201m N	Railway Sidings	1990	1250
202m N	Railway Sidings	1993	1250
202m N	Railway Sidings		-
205m NW	Railway Sidings	1993	1250
205m NW	Railway Sidings	1978	-
206m NW	Railway Sidings	1980	1250
210m NE	Railway Sidings	1908	10560
210m NE	Railway Sidings	1897	10560
211m N	Railway Sidings	1959	1250
211m N	Railway Sidings	1970	1250
212m N	Railway Sidings	1993	1250
213m N	Mineral Railway Sidings	1964	2500
221m NE	Railway Sidings	1938	10560

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	**7**

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

Features are displayed on the Railway infrastructure and projects map on **page 297**

Location	Description
140m NW	Abandoned
174m NW	Abandoned
193m N	Abandoned
202m NW	Abandoned
203m N	Abandoned
207m N	Abandoned
219m NW	Abandoned

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	**34**

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

Features are displayed on the Railway infrastructure and projects map on **page 297**

Location	Name	Type
On site	**Ellesmere Port to Warrington Line**	**rail**
On site	**Ellesmere Port to Warrington Line**	**rail**
On site	**Enric works siding**	**rail**
On site		**rail**
On site	**Not given**	**Multi Track**
On site	**Not given**	**Multi Track**
On site	**Not given**	**Single Track**
On site	**Not given**	**Single Track**
3m NE		rail

Location	Name	Type
3m NE		rail
13m NE	Not given	Single Track
13m NE	Not given	Single Track
32m NE		rail
36m E	Not given	Multi Track
56m NE		rail
56m NE		rail
67m E	Ellesmere Port to Warrington Line	rail
67m E	Ellesmere Port to Warrington Line	rail
85m NE		rail
85m NE		rail
88m E	Ellesmere Port to Warrington Line	rail
88m E	Ellesmere Port to Warrington Line	rail
88m NE		rail
116m NE		rail
128m E	Not given	Single Track
157m NE		rail
157m NE		rail
169m E		rail
193m N	Ellesmere Port to Warrington Line	rail
195m N	Not given	Multi Track
195m N	Not given	Multi Track
195m N	Not given	Multi Track
197m N	Ellesmere Port to Warrington Line	rail
250m NE	Not given	Multi Track

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 [redacted]

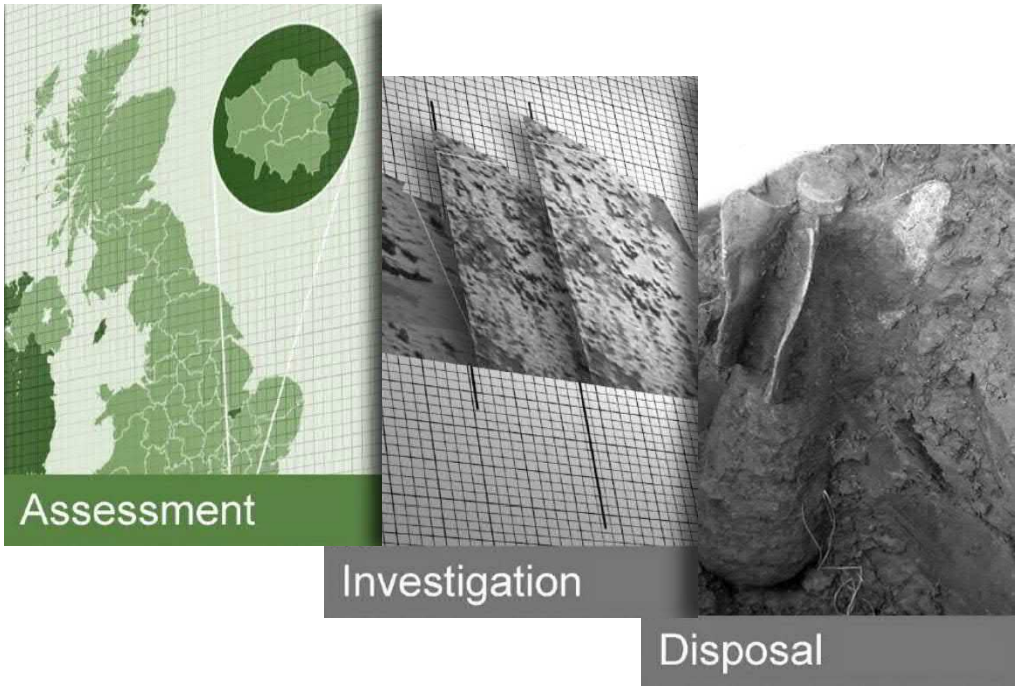
Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link:[redacted]

Annex C

UNEXPLODED ORDNANCE DESK STUDY AND RISK ASSESSMENT

It should be noted that this annex was produced at a point in time during the development of the Basic Design of the DCO Proposed Development. Therefore, the design information presented herein may be different to the final Basic Design which is described in **Chapter 3 – Description of the DCO Proposed Development (Volume II).** However, this annex remains applicable to informing the Environmental Impact Assessment and any associated limitation or assumptions are discussed in the respective Environmental Statement Chapter and Appendix.



Flint to Stanlow Oil Refinery - UXO Desk Study & Risk Assessment

Drafted by Matthew Eatough
Checked by Joe Lingard
Authorised by Stefan Lang

Document Title	**UXO Desk Study & Risk Assessment**
Document Ref.	**P11010-21-R1**
Revision	**A**
Project Location	**Flint to Stanlow Oil Refinery**
Client	**WSP**
Date	**15th October 2021**

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UXO DESK STUDY & RISK ASSESSMENT

EXECUTIVE SUMMARY

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: UXO awareness briefing for staff involved in excavations.

UXO Hazard Assessment

Records have been found indicating that 1No. High Explosive (HE) bomb fell on the Site during World War Two (WWII) and exploded. No further bombing has been identified on the Site.

No evidence of other significant military activity or other sources of UXO hazard has been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figures, reproduced as Figures 8 and 9 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P11010-21-R1-MAP01-A.

UXO hazard zone plan of the western part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Very Low		Low	Moderate	
	High		Very High		

UXO hazard zone plan of the eastern part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Very Low		Low	Moderate	
	High		Very High		

The main findings of the report are summarised below.

- No records of bombing or military activity on the Site during World War One (WWI) have been found.
- During WWII Royal Air Force (RAF) Hawarden was located on land encroaching on the central part of the Site. This was used as an aircraft shadow factory and training airfield, in addition to having aircraft repair and maintenance facilities.
- In 1941, Royal Ordnance Factory (ROF) depot Dunham-on-the-Hill was located on land encroaching on the eastern part of the Site. This was used for the storage and distribution of explosives.
- During WWII, 1No. bombing decoy, designated QF No. P5 was established on land encompassing the eastern part of the Site.
- During WWII the main strategic targets in the vicinity of the Site included wharves and warehouses in Ellesmere Port, oil refineries, aircraft, engineering works, public utilities and transport infrastructure.
- Records indicate that 1No. HE bomb fell on the central part of the Site during WWII and exploded. No further significant bombing has been identified on the Site.
- Post-WWII, ROF depot Dunham-on-the-Hill continued to store explosives until its redevelopment in 1956.
- The RAF vacated Hawarden in 1957 and the airfield continues to manufacture parts for civilian aircraft.

Data Confidence Level

The findings of this report were based on good corroborative evidence of the military activity and bombing on the Site.

Proposed Works

Works on the Site are associated with the installation of a HyNet pipeline.

Initial works on the Site are understood to comprise of ground investigations, including excavations, drilling and Cone Penetration Testing (CPT), up to 40m below ground level (bgl). Future works may include further ground investigations and drilling associated with the installation of the pipeline.

Risk Assessment

The Table below, reproduced as Table 5 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the methodology for the risk assessment are provided in Section 7.2 of the main report.

UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Excavations	1	1	1	1	5	5	Low
	Boreholes/CPT	1	1	1	1	4	4	Low
Other UXO	Excavations	1	1	1	1	4	4	Low
	Boreholes/CPT	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								

Risk Mitigation Plan

The Table below, reproduced as Table 6 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

Summary of UXO risk and mitigation recommendation

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		**UXO Awareness Briefing** – Given the history of military activity on and in close proximity to the Site, it is recommended that a formal UXO awareness briefing is provided to staff involved in excavations.
Boreholes/Piling		**Proceed with works**

In summary, it is recommended that staff involved in excavations are provided with a formal awareness briefing so that they take appropriate action in the event of a suspect find.

What Do I Do Next?

If you require a quote for an awareness briefing, or have any questions, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

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Accompanying GIS Data

P11010-21-R1-MAP01-A (UXO Desk Study)

ABBREVIATIONS

AA	Anti-Aircraft
ALARP	As Low As Reasonably Practicable
ARP	Air Raid Precaution
ATA	Air Transport Auxiliary
AXO	Abandoned Explosive Ordnance
BD	Bomb Disposal
BDO	Bomb Disposal Officer
BDU	Bomb Disposal Unit
CMD	Conventional Munitions Disposal
DCLG	Department of Communities and Local Government
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESA	Explosive Substances and Articles
FFE	Free From Explosives
FPP	Ferry Pilots Pool
HAA	Heavy Anti-Aircraft
HE	High Explosive
HSE	Health and Safety Executive
IB	Incendiary Bomb
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
JSEODOC	Joint Services EOD Operations Centre
LAA	Light Anti-Aircraft
MGTC	Machine Gun Training Centre
MNT	Mono-nitrotoluene
MoD	Ministry of Defence
MU	Maintenance Unit
NC	Nitrocellulose
OB	Oil Bomb
OTU	Operational Training Unit
PM	Parachute Mine
PoW	Prisoner of War
PUCA	Pick Up and Carry Away
RAF	Royal Air Force
TEP	Time Expired Pyrotechnics
TNT	Trinitrotoluene
UXAA	Unexploded Anti-Aircraft
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
WWI	World War One
WWII	World War Two

UXO DESK STUDY & RISK ASSESSMENT

Please read: Zetica has colour coded each paragraph. Paragraphs with black text on a white background are paragraphs that provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background are paragraphs providing general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

1 INTRODUCTION

1.1 Project Outline

Zetica Ltd was commissioned by WSP to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for a route of approximately 35.4 kilometres (km) in length across the Anglo-Welsh border between Stanlow Oil Refinery and Flint, in Cheshire and Flintshire (the 'Site').

The aim of this report is to gain a fair and representative view of the UXO hazard for the Site and its immediate surrounding area in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

1.2 Sources of Information

Zetica Ltd researched the military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

1.2.1 Zetica Ltd Defence Related Site Records

Zetica Ltd's in-house records were consulted, including reference books and archived materials from past work in the region. Relevant documents have been cited within the bibliography of this report.

1.2.2 Zetica Ltd Bombing Density Records and Maps

Reference has been made to the Zetica Ltd bomb risk maps located on Zetica's website (http://zeticauxo.com/downloads-and-resources/risk-maps/).

1.2.3 Ministry of Defence and Government Records

Government departments and units within the Ministry of Defence (MoD) were approached for information of past and present military activity in the area. These included the Department of Communities and Local Government (DCLG) records of abandoned bombs.

1.2.4 Other Historical Records, Maps and Drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), the Royal Air Force (RAF) Museum, the Central Register of Aerial Photography for Wales (CRAPW), Historic England, Coflein, Britain from Above and the Defence of Britain Project.

The British Geological Survey (BGS) was consulted for borehole information.

1.2.5 Local Authority Records

Information was obtained from Chester West & Chester Council and Flintshire County Council.

1.2.6 Local Record Offices and Libraries

Cheshire Archives Local Studies and the Flintshire Record Office were consulted for records.

1.2.7 Local Historical and Other Groups

Local history groups and archaeological bodies were consulted, including the Cheshire Historic Environment Record (HER) and Clwyd-Powys HER.

1.3 Data Confidence Level

In general, there is a high level of confidence in the researched information sources used for this report.

Due to Covid-19 restrictions, access to Historic England has been limited during the writing of this report. As such, Zetica has relied on aerial photography gathered for previous projects in the area, in addition to readily available historical aerial photography where necessary.

It is possible that additional aerial photography is potentially available at archives, although it is considered unlikely that this would change the UXO hazard assessment for the Site.

2 THE SITE

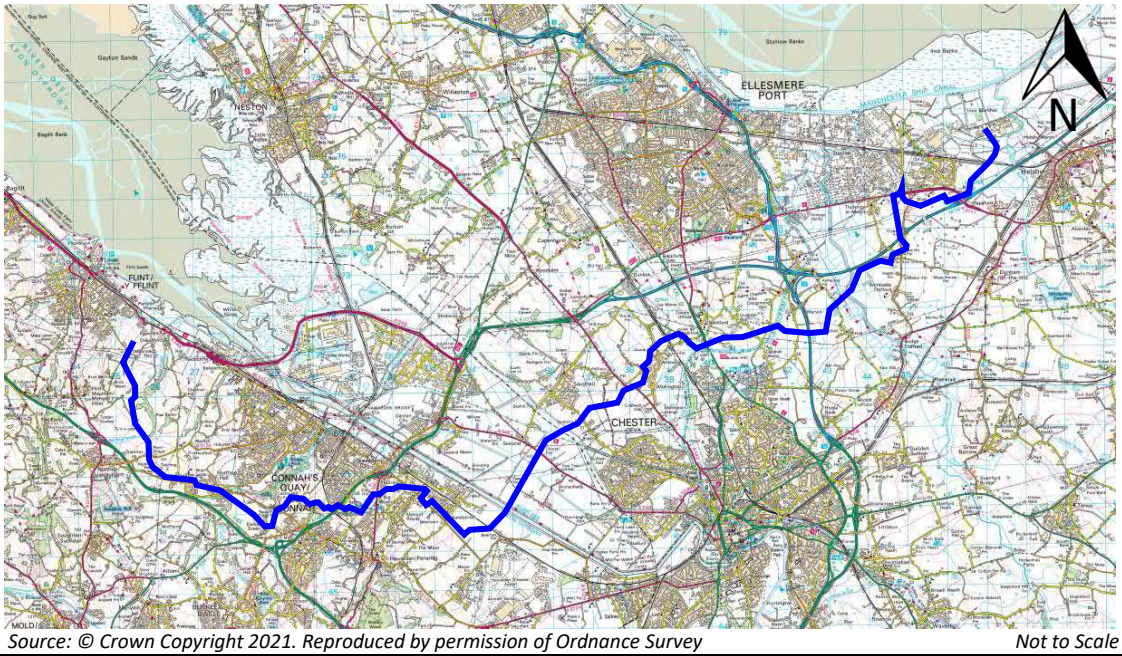
2.1 Site Location

The Site commences south of Flint at Ordnance Survey National Grid Reference (OSNGR) SJ 253711 and terminates near Stanlow Oil Refinery SJ 467764.

The Site comprises mostly agricultural land and sections of roadway. It is bounded primarily by agricultural land, roadway, residential buildings and industrial premises.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

Figure 1 Site location map



Source: © Crown Copyright 2021. Reproduced by permission of Ordnance Survey *Not to Scale*

Legend	Site boundary

Plate 1 Recent aerial photograph of the Site



Source: Google Earth *Not to Scale*

Legend	Site boundary

3 MILITARY ACTIVITY

The following sections outline the recorded military activity in the vicinity of the Site. The potential UXO hazard from World War One (WWI) and World War Two (WWII) bombing is detailed in Section 4.

Each sub-section provides hyperlinks to further information on potential sources of UXO hazard. These are also available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

3.1 Military Airfields

For further information on military airfields, and the potential UXO hazards associated with them see Appendix 2.1. Alternatively, use the following link.

- Military Airfields

During WWII Royal Air Force (RAF) Hawarden was constructed on land encroaching on the central part of the Site. A brief operational history of the airfield is provided below.

3.1.1 Operational History of RAF Hawarden

In 1937, an aircraft manufacturing works was established at Broughton (SJ 348644) as a shadow factory for Vickers-Armstrong Ltd. This had an associated landing ground, located approximately 1km south of the Site.

Aircraft assembly began in May 1939 and continued until 1945. During this time the factory produced ~5,540No. Vickers Wellington medium bombers and ~235No. Avro Lancaster heavy bombers.

On the 1st September 1939, No. 48 Maintenance Unit (MU) was formed at the airfield, which became known as RAF Hawarden. This was responsible for the maintenance, storage and disposal of aircraft.

From 1940, No. 3 Ferry Pilots Pool (FPP) of the Air Transport Auxiliary (ATA) were also attached to the airfield. Its pilots ferried thousands of military aircraft from the factory and maintenance facilities to and from RAF bases throughout the UK.

In June 1940, No. 7 Operational Training Unit (OTU) was formed at Hawarden. The OTU was equipped with Supermarine Spitfire fighter aircraft, it taught pilots dogfighting techniques and other important fighter tactics. Records indicate that the OTU also possessed a small battle flight of 3No. aircraft used to defend the airfield and surrounding area.

During this period, RAF Hawarden underwent considerable expansion to accommodate its growing operational requirements. The airfield grew to consist of several sperate sites, which bordered the edge of the central landing ground. The nearest was the 'Main Site', located approximately 0.6km southeast of the central part of the Site, which comprised the main technical area and base Headquarters (HQ). In the spring of 1941, the central landing ground was expanded to accommodate two extra concrete runways.

5No. separate dispersal sites were also constructed outside the perimeter of the main airfield. The nearest, known as 'The Beeches', was established off the north-western boundary of the airfield, encroaching onto the Site.

This was an informal parking area for aircraft under supervision of No. 48 MU. Records indicate it was used infrequently.

In 1943, RAF Hawarden became home to No. 41 OTU, flying aircraft such as the Hawker Hurricane and North American Mustang. As the war entered its final stages, training at

Hawarden reduced and by March 1945, the OTU left the airfield. It was briefly replaced by No. 58 OTU before it too was disbanded. By July 1945, all training operations at Hawarden had ceased.

Plate 2 is an aerial photograph of RAF Hawarden, dated the 17th January 1947. 'The Beeches' dispersal area has been highlighted in red.

Plate 2 Aerial photograph of RAF Hawarden, 17th January 1947



CRAPW *Not to Scale*

Legend	Site boundary	Airfield Boundary
	Vickers-Armstrong factory	'The Beeches' Disperal Site

Post-WWII, No. 48 MU remained at Hawarden until 1957, when it was disbanded. With the disbandment of the MU 'The Beeches' dispersal area became disused. Part of the concrete parking areas remain extant.

In 1948, the former Vickers-Armstrong factory was acquired by de Havilland, and aircraft production shortly returned to the airfield. Over the latter half of the 20th century a variety of successful civilian and military aircraft would be produced at Hawarden, including the Mosquito, the Vampire and the British Aerospace 125 (Dominie).

The Broughton factory is currently owned and operated by Airbus UK, which continues to manufacture parts for civilian aircraft as part of the Airbus UK East Factory.

Hawarden airport is currently operated by the Aviation Park Group (APG), organising private and charted flights from the airfield.

Details of activities at RAF Hawarden that may provide a source of UXO hazard are given in the Sections below.

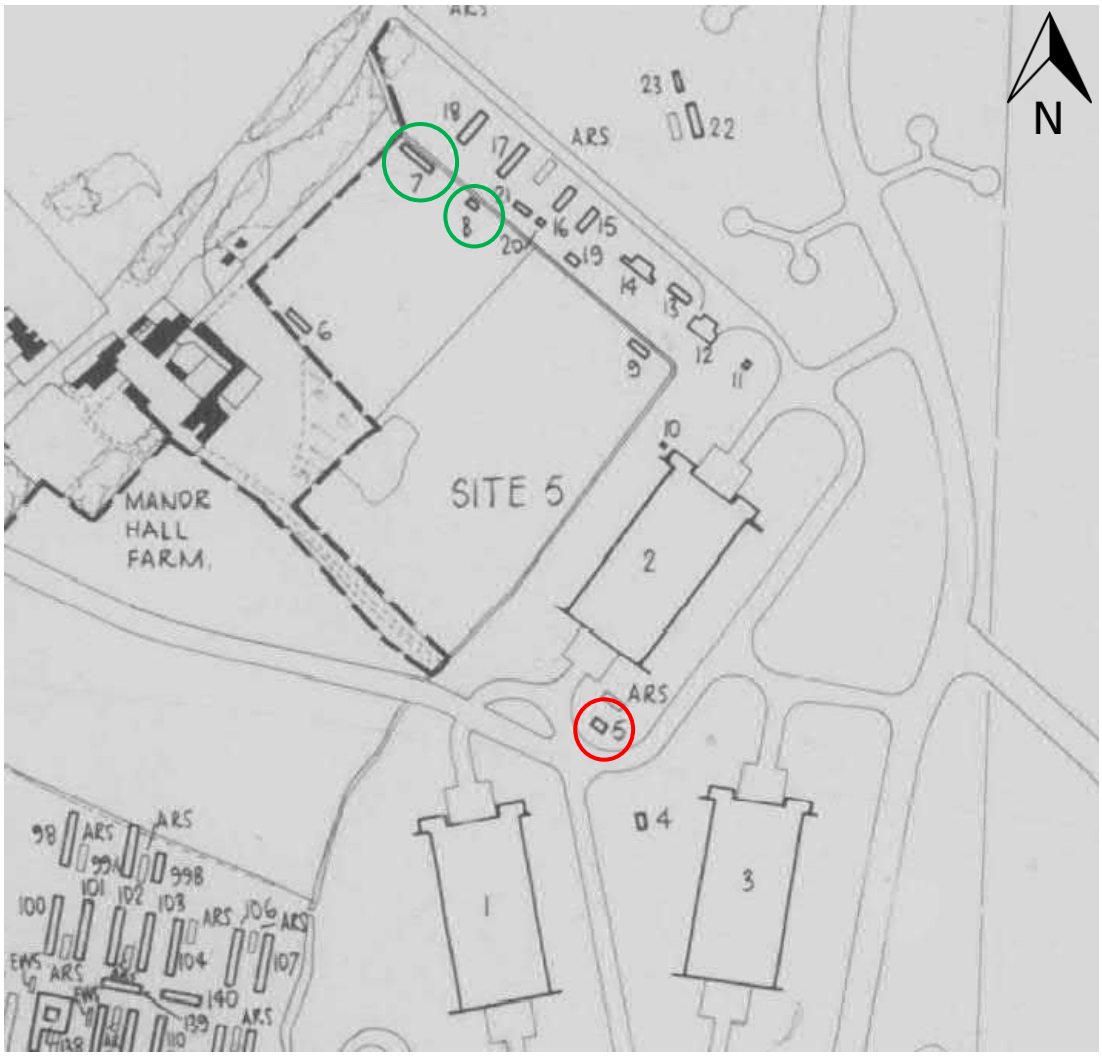
3.1.2 Airfield activities at RAF Hawarden

Bomb and Munition Stores

No records of bomb and munition stores on the Site have been found. RAF Hawarden was not equipped with dedicated bomb stores.

2No. Small Arms Ammunition (SAA) stores were located at 'Site 5', approximately 0.8km south of the Site, as well as a small armoury, located approximately 1.1km south of the Site. These are shown in Figure 2, an extract from a plan of RAF Hawarden, dating from 1945.

Figure 2 Extract from a plan of RAF Hawarden showing the armoury and SAA stores, 1945



Source: RAF Museum *Not to Scale*

Legend	Armoury ○	SAA stores ○

Post-WWII, the stores were removed.

Bomb and munitions stores are not considered to provide a source of UXO hazard to the Site.

Ranges

No records of any small arms ranges on the Site have been found.

Records indicate that RAF Hawarden was equipped with 1No. 25-yard (yd) machine gun and cannon range, located approximately 1.6km south of the Site.

Small arms ranges are not considered to provide a source of UXO hazard to the Site.

Munitions Disposal Areas

No records of any official munitions disposal areas at RAF Hawarden have been found.

During the course of normal operations, it is likely that some munitions became unserviceable and had to be disposed of.

Munitions disposal was usually carried out in remote areas of the airfield and would normally have involved destruction by burning or controlled explosion.

Given that the Site comprised part of a dispersal area outside the main airfield boundary, it is considered unlikely that any munitions disposal would have taken place on the Site.

Munitions disposal areas are not considered to provide a source of UXO hazard to the Site.

Airfield defences

During WWII, the airfield was ringed by at least 4No. pillboxes. The nearest was located near Chester Road (SJ 343658), approximately 0.4km south of the Site.

Records indicate this was a Type. 23 pillbox. The pillbox became disused following WWII.

Several guard huts were also constructed around the airfield perimeter, the nearest was located approximately 0.5km south of the Site, overlooking 'The Beeches' dispersal site. This guard post had become disused by 1945.

Airfield defences are not considered to provide a significant source of UXO hazard to the Site.

Pipe Mines

No records have been found indicating that pipe mines were installed at RAF Hawarden.

Bombing Ranges

No records have been found indicating that a bombing range was located on or in close proximity to RAF Hawarden.

3.2 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- Anti-Aircraft Guns
- Anti-Invasion Defences
- Barrage Balloons
- Bombing Decoys
- Home Guard
- Mined Locations
- Mortar & Gun Emplacements
- Pillboxes

3.2.1 Bombing Decoys

In December 1940, 1No. permanent Civil "Starfish" bombing decoy SF No. 11b was established off Stanlow Oil Refinery (SJ 473765), on land adjacent to the eastern part of the Site.

The decoy comprised dummy buildings and electric lights to imitate central Liverpool. In 1941, the decoy was expanded onto land encompassing the Site with a "QF" installation No. C6g, comprising controlled fires to simulate buildings damaged by bombing.

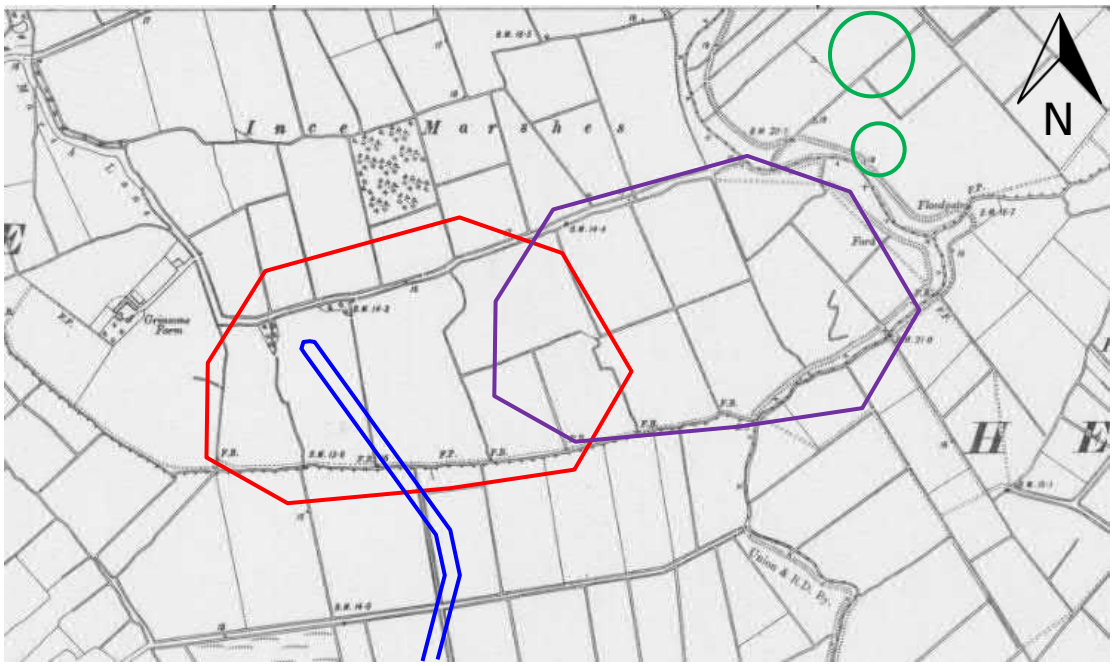
By August 1941, an additional Oil QF decoy No. P5 was constructed adjacent to No. SF 11b, on the Site. This comprised 1No. oil ring, 2No. 25-ton fires, and 48No. fire baskets, imitating Stanlow Oil Refinery.

The decoys were operated by RAF personnel from No. 8 Balloon Centre at RAF Fazakerley, approximately 22km north of the Site. Several small camps and military buildings were

established on land approximately 1.2km east-northeast of the Site. These would have likely been used as accommodation and technical buildings by the decoy personnel.

Figure 3 is a historical map, dating from 1944, showing the locations of the decoy installations and associated military buildings.

Figure 3 Historical map showing the location of the Stanlow bombing decoys, 1944



Source: © Crown Copyright. Reproduced by permission of Ordnance Survey *Not to Scale*

Legend	Site boundary	Oil QF Decoys	Civil SF/QF
	Military buildings		

Potential UXO Hazard

No records have been found indicating the decoys were attacked (see Section 4). The Oil QF decoy No. P5 was abandoned by March 1942, followed by the Civilian SF/QF decoys by April 1943.

By the end of WWII, all decoy installations and associated military buildings were removed.

Bombing decoys are not considered to provide a source of UXO hazard to the Site.

3.2.2 Anti-Aircraft Guns

During WWI there were 3No. Anti-Aircraft (AA) batteries within 10km of the Site. The nearest was located at Ewloe (SJ 3006622), approximately 0.6km south of the Site. It was armed with 1No. 12-pounder (-pdr) gun.

During WWII there were 11No. Heavy AA (HAA) and ZAA batteries within 10km of the Site. The nearest was located at Sandycroft (SJ 342672), approximately 0.5km northwest of the Site. It was armed with 4No. 3.7 inch (“) guns.

The nearest recorded WWII AA shell incident to the Site is described below.

Date unknown

1No. AA shell fell near Leaholme, Grove Road, Mollington, approximately 0.3km north of the Site. This was recorded as an Unexploded AA (UXAA) shell.

Potential UXO Hazard

Given the number of HAA gun batteries in the surrounding area during WWII, the potential for a UXAA shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

3.2.3 Home Guard

During WWII, the 18th Cheshire (Ellesmere Port) Home Guard Battalion operated in the vicinity of the central and eastern parts of the Site. The Battalion was responsible for patrolling local transport links and strategic targets, notably the various oil installations and industrial facilities running along the Manchester Ship Canal.

The Battalion HQ was initially located at Stanlow Oil Refinery, approximately 0.7km north-northeast of the Site, and later moved to the old cement works at Ellesmere Port, approximately 3.5km northwest of the Site.

Records indicate that the Battalion occasionally held training exercises on the Ince Marshes, approximately 0.3km north of the Site.

The 5th Flintshire (Hawarden) Home Guard Battalions operated in the vicinity of the western part of the Site, patrolling the banks of the River Dee, local utilities and transport infrastructure, and manning regional anti-invasion defences.

Potential UXO Hazard

It should be noted that records of Home Guard activities were rarely kept. Training activities were usually unofficial or unsanctioned.

Storage and disposal of munitions by the Home Guard was poorly documented and surplus supplies were often buried or dumped in lakes and ponds.

Home Guard activities are not considered to provide a significant source of UXO hazard to the Site.

3.3 Explosives Factories, Munitions Depots and Disposal Areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- Explosives Factories
- Munitions Depots
- Munitions Disposal Areas

3.3.1 Dunham-on-the-Hill ROF Depot

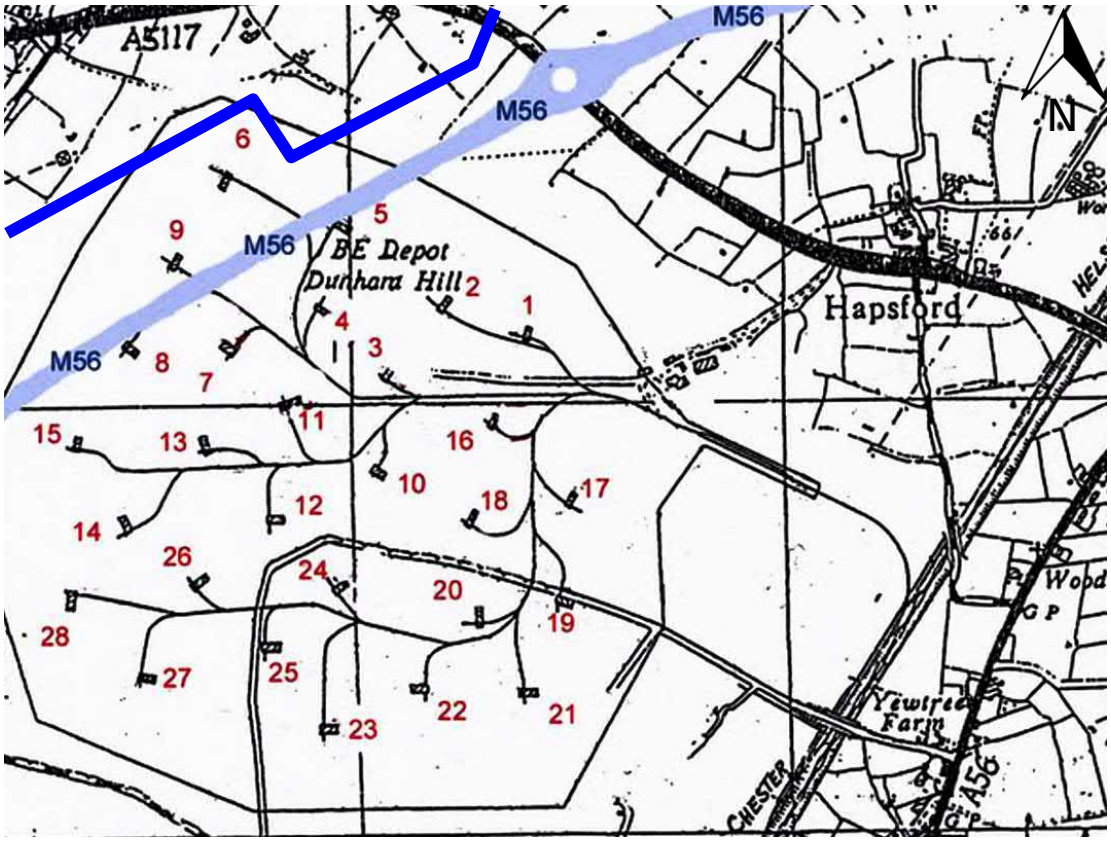
In August 1941, a Royal Ordnance Factory (ROF) depot was established at Dunham-on-the-Hill (SJ 466739), on land encroaching on the eastern part of the Site. This was used for the storage and distribution of explosives.

The depot comprised 28No. separate storage sheds connected by standard-gauge railway to Dunham-on-the-Hill Station. It was located to receive shipments from trans-Atlantic convoys entering the Mersey ports and was suitably placed well away from German bombing routes over Liverpool (see Section 4).

Records indicate that the depot was used to store Neonite, Cordite and Trinitrotoluene (TNT). These explosives would arrive by rail already packed in cloth bags and placed in wooden crates. They would be unloaded into the storage sheds, from where they were subsequently redistributed to other ROF establishments as fillings for shells and munitions.

Figure 4 is a plan of Dunham-on-the-Hill ROF Depot, dating from circa. 1950. It shows the locations of the 28No. storage sheds. This also demonstrates that the flow of materials into and out of the nearest shed was located on the opposite side to the Site.

Figure 4 Plan of Dunham-on-the-Hill ROF Depot, c. 1950



Source: Airfield Information Exchange *Not to Scale*

Legend	Site boundary

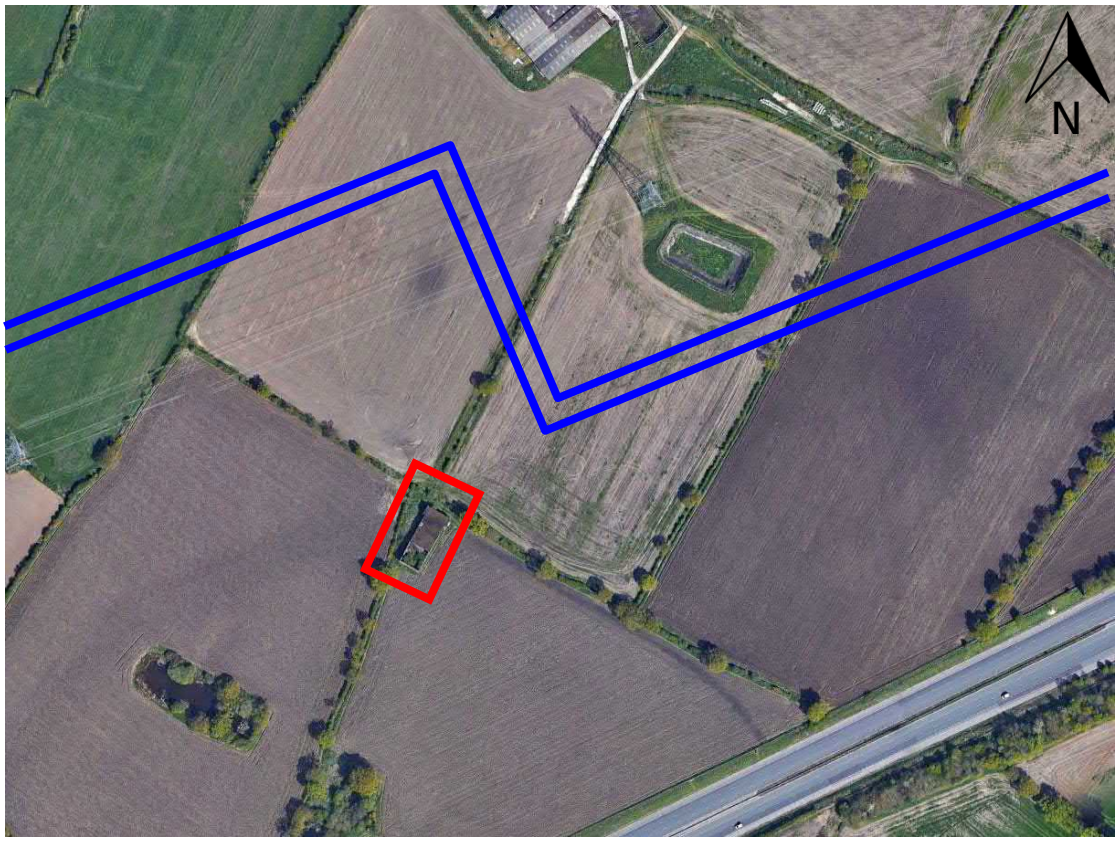
After WWII, Dunham-on-the-Hill ROF Depot remained in use as a bulk storage facility, continuing to store explosives until 1956.

By the 1960s the railway tracks had been removed and the storage facility adapted to stockpile food and agricultural produce. It remained employed in this role until the late-1980s, before it was sold in 1990. It has since been developed into agricultural land.

Several storage sheds remain extant in the vicinity of the Site. The nearest is storage shed No. 6, located approximately 60 metres (m) southwest of the Site.

Plate 3 is a recent aerial photograph of the former Dunham-on-the-Hill ROF Depot. This shows the extant shed.

Plate 3 Recent aerial photograph of former Dunham-on-the-Hill ROF Depot



Source: Google Earth *Not to Scale*

Legend	Site boundary	Former storage shed

Potential UXO Hazard

No records have been found indicating that ordnance associated with Dunham-on-the-Hill ROF depot was stored on the Site.

Whilst it cannot be discounted that loose explosive material could have been scattered during loading and unloading activities at the depot shed, it is very unlikely that and explosive material would have fallen on the Site.

The storage sheds associated with operations at Dunham-on-the-Hill ROF Depot will have been cleared after operations ceased in 1956, when the area was redeveloped for agriculture.

Dunham-on-the-Hill ROF Depot is not considered to provide a source of UXO hazard to the Site.

3.3.2 CRD Backford/Mollington Station Depot

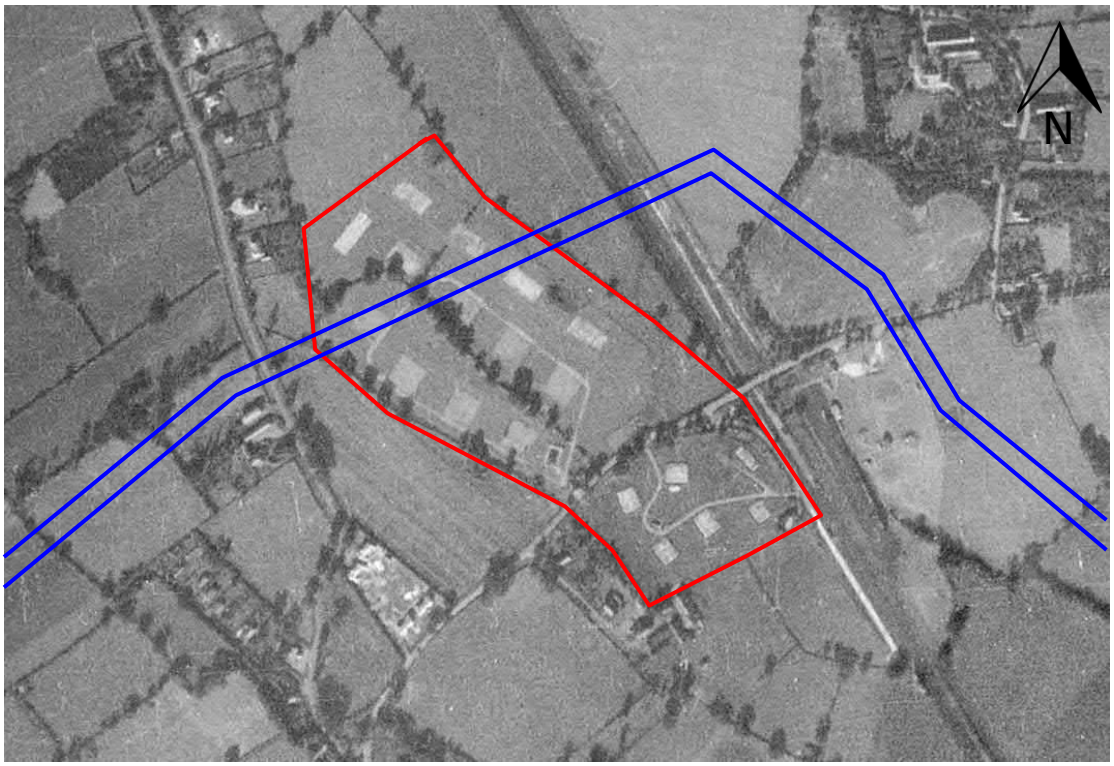
During WWII, an underground aviation fuel depot known as Civil Reserve Depot (CRD) Backford was constructed on land near Backford (SJ 412717), approximately 0.1km north of the Site. It consisted of multiple underground storage tanks designed to hold a total capacity of 60,000 tons of aviation fuel.

This fuel was fed to the depot underground from Stanlow Oil Refinery. It is understood that this was part of a system of interconnecting pipelines used to distribute fuel to RAF bases throughout the UK. These would later become essential for Operation PLUTO (Pipeline Line Under The Ocean), under which fuel was pumped to Europe during the closing stages of the war.

Records indicate that a separate fuel storage tank facility was also constructed at Mollington Train Station (SJ 389710), on land encompassing the Site. These fuel tanks were used for the loading of oil products onto the mainline railway.

Plate 4 is an aerial photograph of Mollington Station Depot, dating from circa. 1945.

Plate 4 Aerial photograph of Mollington Station Depot, c. 1945



Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary	Mollington Station Depot

After WWII, the Mollington Station fuel tanks were removed. The land has since been re-developed into agricultural land.

CRD Backford remains in use as a Petroleum Storage Depot (PSD), linking Stanlow Oil Refinery to RAF bases in northwest England and northern Wales.

CRD Backford and Mollington Station Depot are not considered to provide a source of UXO hazard to the Site.

3.3.3 HMEF Queensferry

In 1915, land at the disused Williams & Robinson boiler works, Queensferry (SJ 322682), approximately 0.3km northeast of the Site, was requisitioned for use as a Prisoner of War (PoW) camp.

In May 1915, after the remaining prisoners had been moved to the Isle of Man, work began on modifying the old factory to produce Nitrocellulose (NC), commonly known as guncotton. It became known as His Majesty's Explosives Factory (HMEF) Queensferry. The first consignment of NC left the factory on the 25th December 1915.

A second factory was established under the management of the Asiatic Petroleum Co Ltd at Sandycroft (SJ 341672), approximately 0.4km north of the Site, for the manufacture of Mono-nitrotoluene (MNT). This was originally known as HMEF Sandycroft.

The 2No. factories were soon amalgamated as HMEF Queensferry, covering approximately 298 acres.

This expansion allowed for the construction of additional facilities for producing Tetryl, TNT, TNT acids, NC and Grillo Oleum (sulphuric acid containing free sulphur trioxide). By October 1916, these facilities were all fully operational.

Between March 1917 and March 1918 HMEF Queensferry produced 25,700 tons of TNT, at up to 500 tons per week.

The former HMEF Sandycroft site remained designated as the MNT manufacturing section of the factory. The MNT was stored in tanks until its transfer to the main Queensferry site, where the entire manufacturing process, from the chemical compounds (including acids) through to the finished explosives was conducted.

By 1918, HMEF Queensferry was still operational, although the requirement for explosives was decreasing and production slowed. During this time, bulk explosives are understood to have been stored in a marshalling yard at the former HMEF Sandycroft site.

At the end of WWI, HMEF Queensferry was decommissioned.

By 1920 the majority of the former HMEF Queensferry premises had been sold, with only a small area retained for storage purposes.

The remaining storage areas were put up for sale by the government in 1931 but in 1938 they were re-acquired for military use. The area then became known as the Queensferry Ordnance Storage Depot (see Section 3.4.2).

Plate 5 is a recent aerial photograph showing the extents of the former HMEF Queensferry and HMEF Sandycroft, which have subsequently been redeveloped.

Plate 5 Recent aerial photograph showing the extents of former HMEF Queensferry and Sandycroft



Source: Google Earth *Not to Scale*

Legend	Site boundary	HMEF Queensferry	HMEF Sandycroft

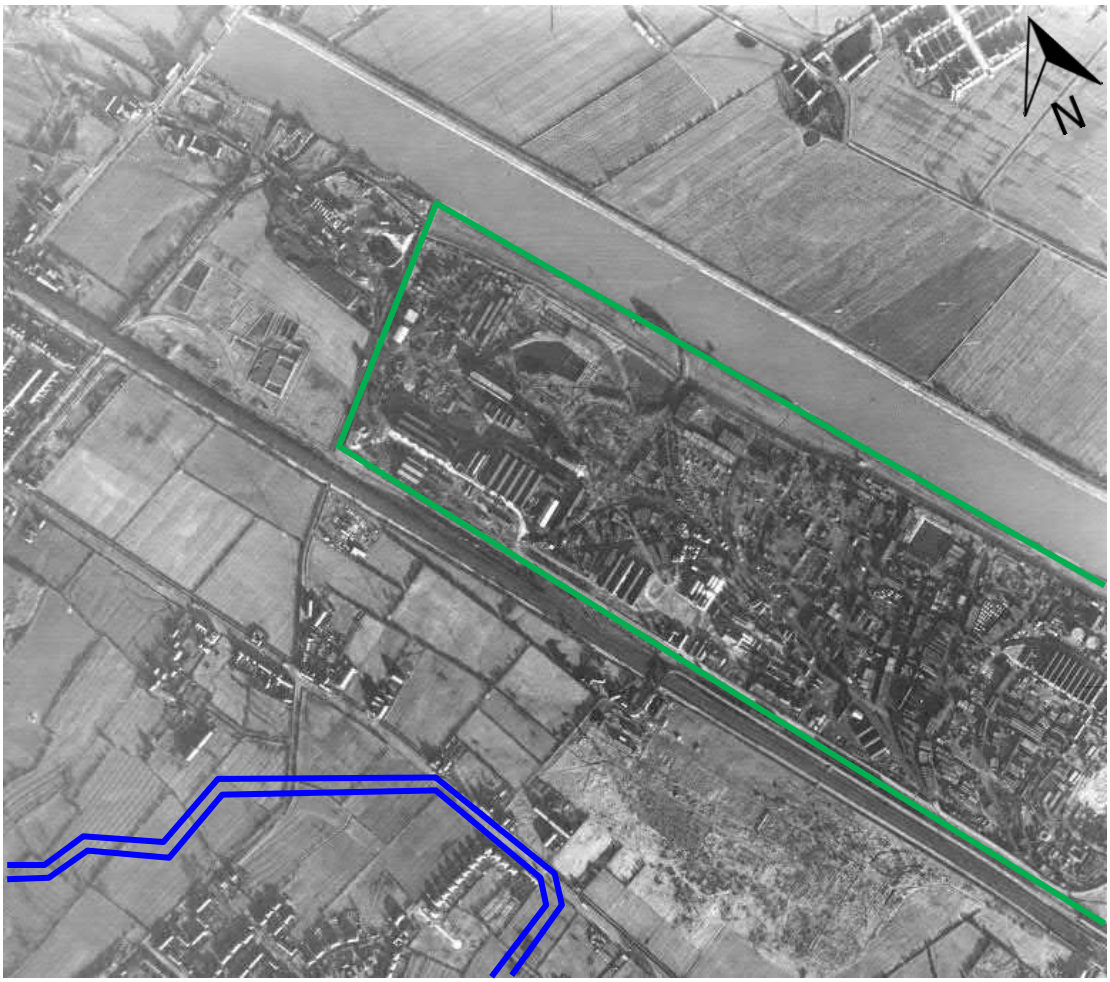
HMEF Queensferry is not considered to provide a source of UXO hazard to the Site.

3.3.4 Queensferry Ordnance Storage Depot

During WWII, land at the former HMEF Queensferry, approximately 0.3km northeast of the Site, was requisitioned for use as an ordnance storage depot.

Plate 6 is an aerial photograph, dated the 17th January 1947. This shows the extent of the military storage area. Several of the buildings associated with HMEF Queensferry had been demolished to allow open storage areas, with others having been retained and repurposed.

Plate 6 Aerial photograph showing Queensferry Ordnance Storage Depot, 17th January 1947



Source: CRAPW *Not to Scale*

Legend	Site boundary	Queensferry Ordnance Storage Depot

The remaining Ministry of Defence (MoD) land at the former HMEF Queensferry was sold between 1971 and 1973.

By the early 20th century, the majority of the former HMEF Queensferry site had been redeveloped for industrial use.

Queensferry Ordnance Storage Depot is not considered to provide a source of UXO hazard to the Site.

3.4 Aircraft Crashes

For further information on military aircraft crashes, and the potential UXO hazards associated with them see Appendix 2.2. Alternatively, use the following link.

- Aircraft Crashes

No records of any aircraft crashes on the Site have been found. The nearest are described below.

9th September 1940

1No. Miles Master I (N7967) advanced trainer aircraft crashed near Northop (SJ 249688), approximately 0.4km west of the Site.

30th March 1942

1No. Supermarine Spitfire Mk.1a (R7117) fighter aircraft crashed in a field off Mancot (SJ 323669), approximately 0.5km southwest of the Site.

10th August 1942

1No. Supermarine Spitfire Mk.1a (N3276) fighter aircraft crashed in the River Dee, at Saltney Ferry (SJ 369558), approximately 2.4km southwest of the Site.

10th October 1942

1No. Supermarine Spitfire Mk.1a (X-4605) fighter aircraft crashed in a small field just northwest of the cross-roads at Ewloe (SJ 299667), approximately 0.2km south of the Site.

8th April 1952

1No. Canberra B.2 (WD985) medium bomber aircraft crashed in a field 1 mile southeast of RAF Sealand (SJ 342681), approximately 0.9km northwest of the Site.

Potential UXO Hazard

Some of these aircraft crashes may have resulted in SAA from the aircraft guns being scattered across a wide area, potentially including the Site.

SAA is not considered to provide a significant UXO hazard due to its low risk of accidental detonation (see Appendix 1).

3.5 Firing Ranges and Military Training Areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- Artillery Ranges
- Bombing Ranges
- Military Training Areas
- Small Arms Ranges

No records of any firing ranges or military training areas on or in close proximity to the Site have been found.

3.6 Other Military Establishments

No other military establishments have been identified on the Site. The nearest is described below.

3.6.1 Dale Barracks

At the outbreak of WWI, Moston Hall (SJ 399705), approximately 0.4km south of the Site, was requisitioned for use as a military hospital.

In 1938, the house and its surrounding grounds, commonly referred to as 'The Dale' were purchased by the War Office.

By the start of WWII, The Dale was being used as a depot for the 22nd (Cheshire) Regiment of Foot. In September 1941, the depot was transformed into the No. 24 Machine Gun Training Centre (MGTC). Records indicate a firing range was located in the campgrounds, approximately 0.7km south of the Site.

Post-WWII, The Dale remained in use as a military barracks. From 1946 to 1949 it was used as a Primary Training Centre for infantry training. Between 1956 and 1987 The Dale became a secure asylum after which it was returned to military use. It remains in use as a military training ground for infantry regiments.

Dale Barracks is not considered to provide a source of UXO hazard to the Site.

4 BOMBING

4.1 WWI Bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.4. Alternatively, use the following link.

- WWI Bombing

No records have been found indicating that the Site was bombed during WWI.

4.2 WWII Bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.5. Alternatively, use the following link.

- WWII Bombing

Records have been found indicating that part of the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

4.2.1 Bombing in Cheshire and North Wales

From prior to the declaration of war in 1939, Cheshire and North Wales were subjected to reconnaissance flights by the Luftwaffe which was building up a photographic record of potential targets.

The rural areas of North Cheshire and Deeside were subjected to fewer air raids than many other parts of the country. Bombing in the Cheshire-Flintshire region mainly resulted from overspill during raids on nearby industrial towns and cities such as Ellesmere Port, Liverpool, Birkenhead and Manchester. Liverpool was one of the most heavily bombed cities outside of London. The combined dock facilities of Birkenhead and Liverpool formed the country's largest west coast port which was vital for handling supplies of food and other cargo from the USA and Canada.

The majority of these raids were concentrated on targets more than 8km north from the Site, with only minor amounts of overspill in the vicinity of the Site. These raids were mostly the result of aircraft jettisoning unused bombs or opportunistic attacks against military establishments and transport infrastructure.

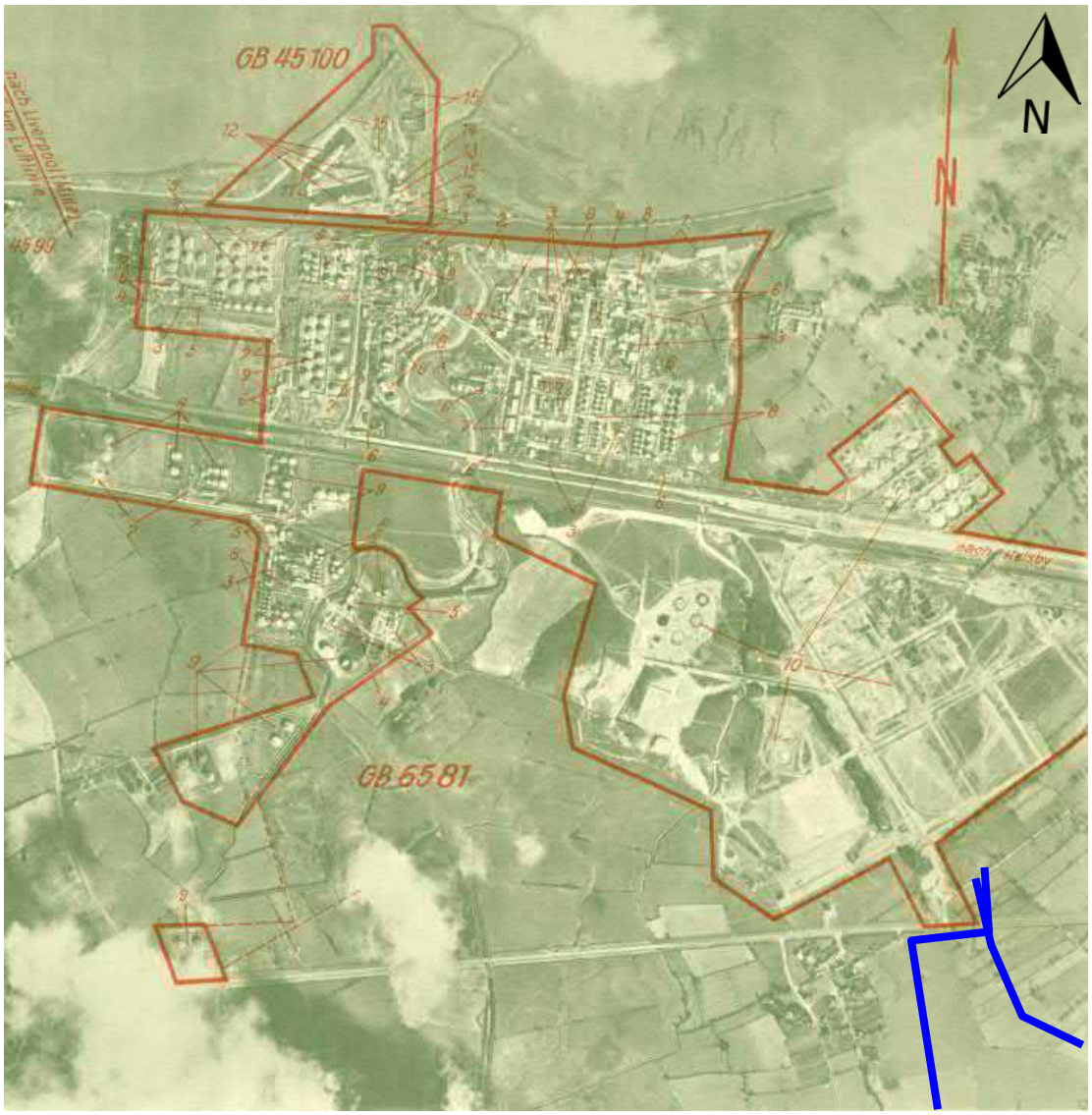
It should be noted that although rural areas were bombed less heavily than urban districts, Air Raid Precaution (ARP) records may also under-represent the number and frequency with which bombs fell in rural areas.

4.2.2 Strategic Targets

The Site was located in an area which contained numerous potential strategic targets, including wharves and warehouses in Ellesmere Port, oil refineries, aircraft manufacturing and engineering works, public utilities and transport infrastructure.

Plate 7 is a Luftwaffe target photograph of Stanlow Oil Refinery, dated the 17th September 1940. This shows Stanlow Oil Refinery (GB 65 81), adjacent to the the Site, and Stanlow Oil Port (GB 45 100), located approximately 2.6km northwest of the Site.

Plate 7 Luftwaffe target photograph of Stanlow Oil Refinery, 17th September 1940

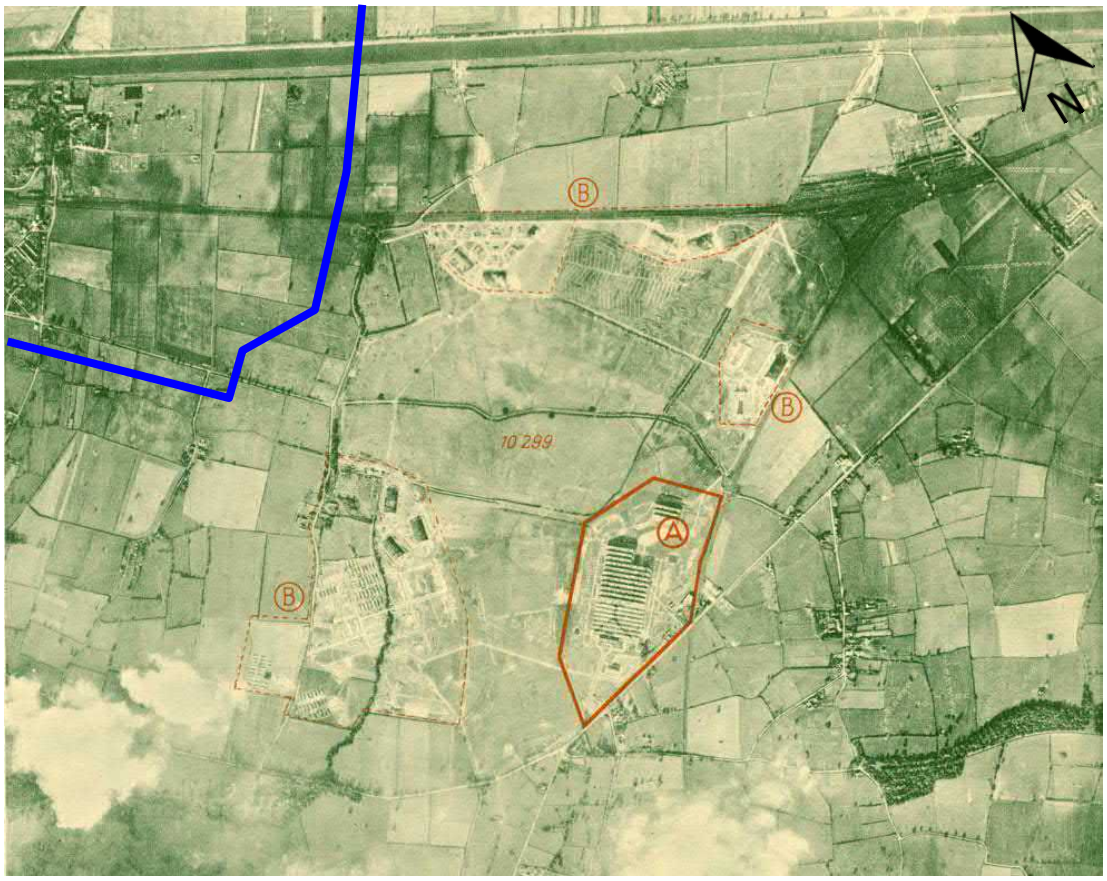


Source: NARA *Not to Scale*

Legend	Site boundary

Plate 8 is a Luftwaffe target photograph of RAF Hawarden, dated the 29th September 1940. This shows the Vickers-Armstrong shadow factory (Target A), located approximately 1.7km south of the Site, and aircraft hangers (Target B), the nearest is located approximately 0.6km southeast from the Site.

Plate 8 Luftwaffe target photograph of RAF Hawarden, 29th September 1940



Source: NARA *Not to Scale*

Legend	Site boundary

4.2.3 Bombing Densities and Incidents

Table 1 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site (highlighted by bold text). These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal or Metropolitan Boroughs (MB) and County Boroughs (CB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Table 1 Bombing statistics

Area	Bombs Recorded				
	High Explosive	Parachute Mines	Other	Total	Bombs per 405ha (1000 acres)
Ellesmere Port UD	80	2	3	85	9.3
Flint MB	53	0	0	53	7.8
Chester RD	235	4	5	244	5.6
Hawarden RD	167	0	7	174	5.5
Holywell RD	108	4	0	112	1.9

Note that Table 1 excludes the figures Incendiary Bombs (IBs). Discrepancies between this list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

Details of the nearest recorded bombing incidents to the Site are given in the following section. Appendix 5 provides further details of recorded bombing incidents in the immediate vicinity of the Site.

9th September 1940

3No. HE bombs fell on a field adjoining Rake Farm, Sandycroft, approximately 0.4km southwest of the Site. These were all recorded as Unexploded Bombs (UXBs).

18th October 1940

1No. HE bomb fell south of the Stanlow Oil Refinery, approximately 0.1km north of the Site. This was recorded as UXB.

1st November 1940

1No. HE bomb fell on the Stanlow Oil Refinery, approximately 0.4km north-northeast of the Site.

21st December 1940

1No. HE bomb fell on a field near Mollington, approximately 0.5km south of the Site.

9th January 1941

Several IBs fell between Aston Hill and Higher Shotton, within approximately 0.3km north of the Site.

15th February 1941

3No. HE bombs fell on a field near Great Saughall, Wirral, approximately 0.3km north of the Site. 1No. of these was recorded as a Delayed Action Bomb (DAB).

8th April 1941

1No. HE bomb fell on a field at Llwyn Onn, Flint, approximately 0.3km northwest of the Site.

1No. HE bomb fell on a field at Coed Onn, Flint, approximately 0.3km north of the Site.

26th April 1941

50No. IBs fell across fields at Church Farm, Sealand, within approximately 0.1km southeast of the Site.

20th October 1941

4No. HE bombs fell on the old factory grounds, Queensferry, approximately 0.4km northeast of the Site.

1st November 1941

1No. HE bomb fell on the junction of Chester Road and Leaches Lane, on the central part of the Site.

4No. HE bombs fell on fields facing the new houses, Pentre, Sandycroft, approximately 50m south of the Site.

100No. IBs fell on land off Bees Nurseries, Sealand, within approximately 0.3km east of the Site.

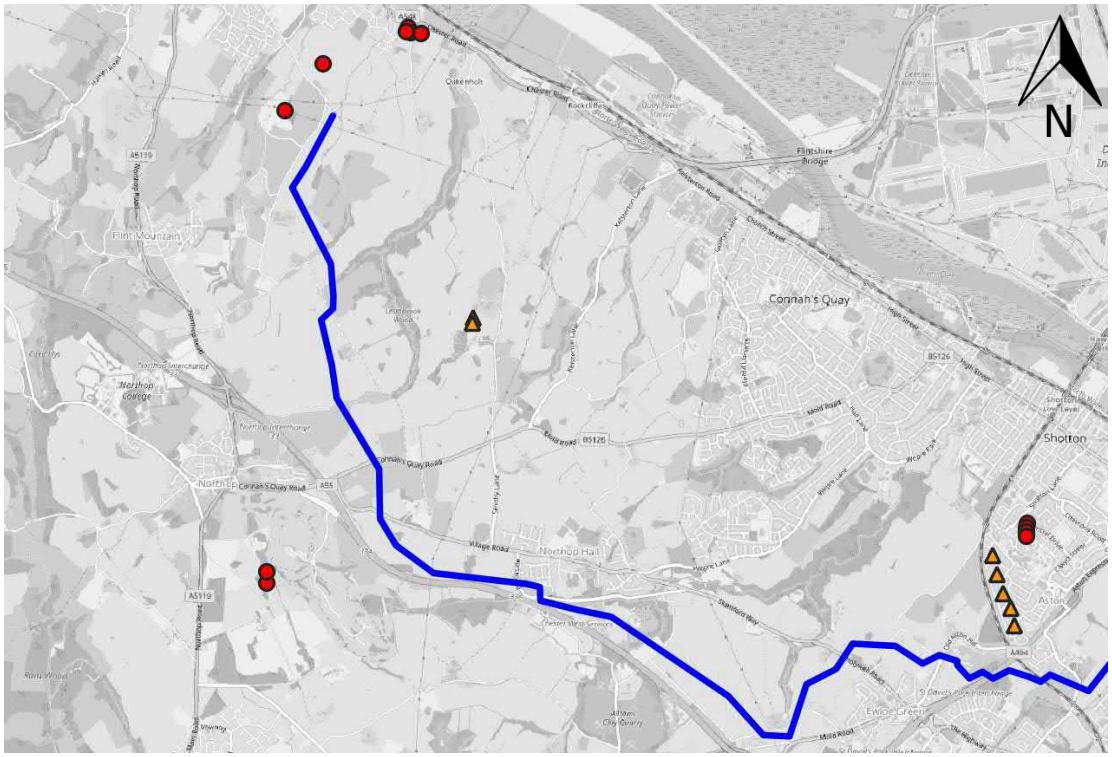
It should be noted that during WWII, many UXBs were mapped and subsequently removed as and when conditions and demands on Bomb Disposal teams allowed. Their removal was not always accurately recorded and sometimes records were later destroyed. In practice, most UXB were probably removed and only a much smaller number were actually registered as officially abandoned bombs.

Figures 5, 6 and 7 show the approximate location of recorded bomb impacts in the immediate vicinity of the Site. IBs shown are indicative of larger numbers of similar devices that fell within the given area.

The map has been compiled from a number of different sources, including air raid incident reports, historical aerial photographs and bomb census maps.

The bomb map is also given in the accompanying P11010-21-R1-MAP01-A.

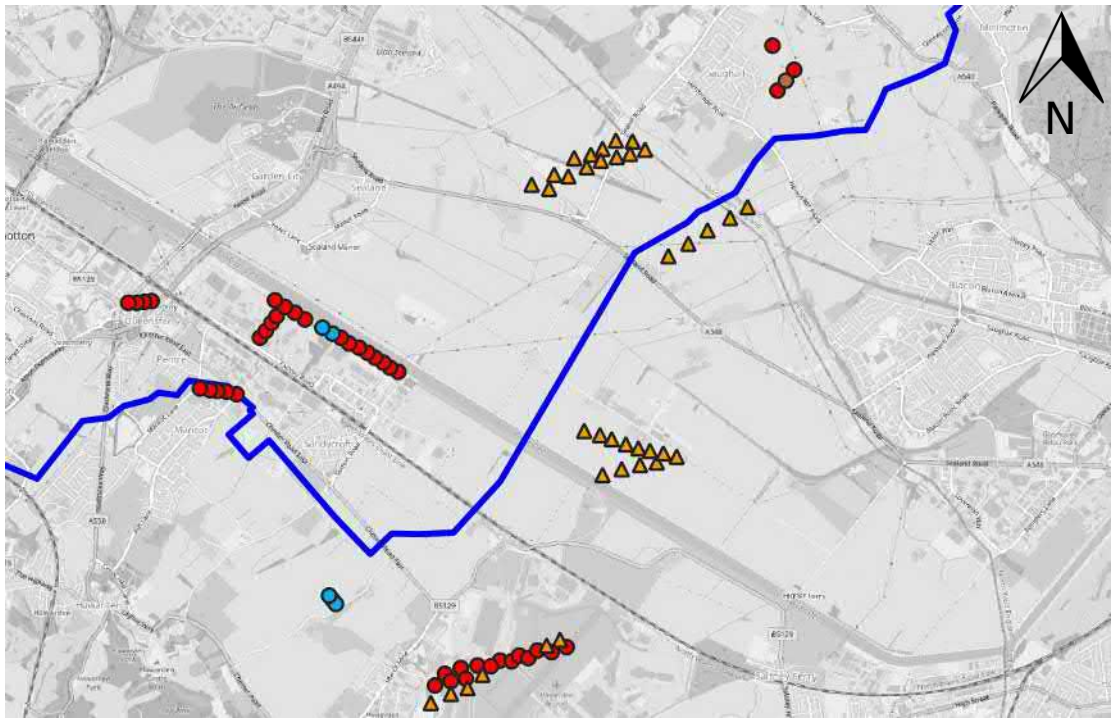
Figure 5 Compiled bomb impact map for of the western part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Site boundary	HE bomb	IBs

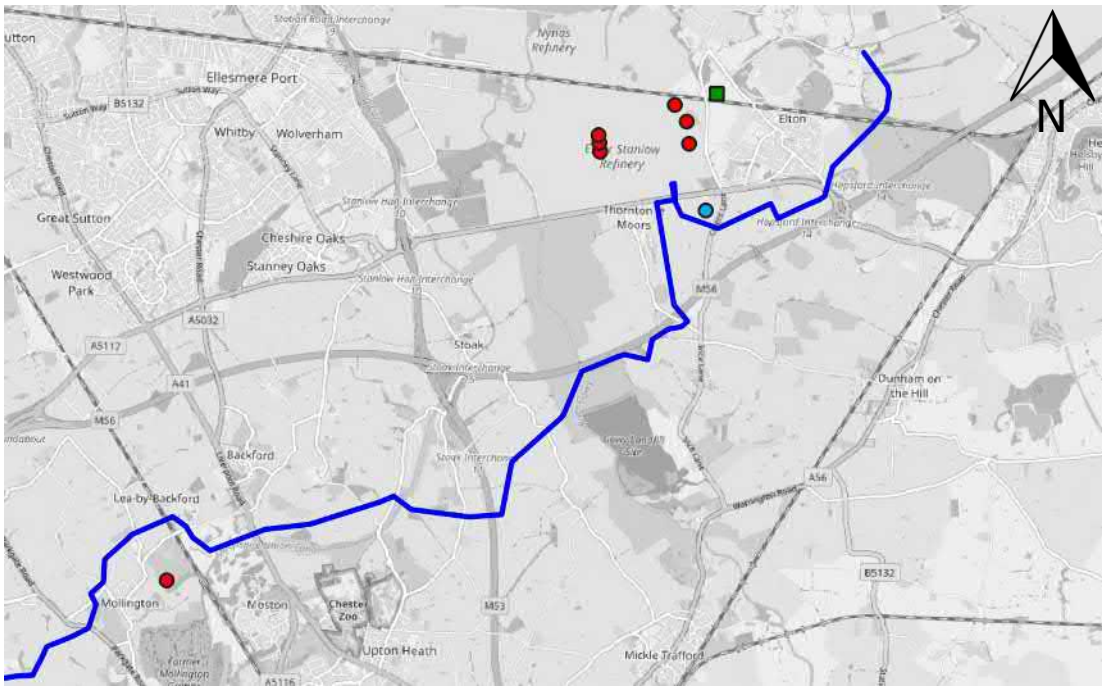
Figure 6 Compiled bomb impact map for the central part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Site boundary	HE bomb	
	IBs	UXB	DAB

Figure 7 Compiled bomb impact map for the eastern part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Site boundary	HE bomb
	PM	UXB

Plate 9 is an aerial photograph showing the north-eastern part of the Site, dating from circa. 1945. No bomb damage or cratering has been identified on the Site.

Plate 9 Aerial photograph of the north-eastern part of the Site, c. 1945 (SJ 467762)

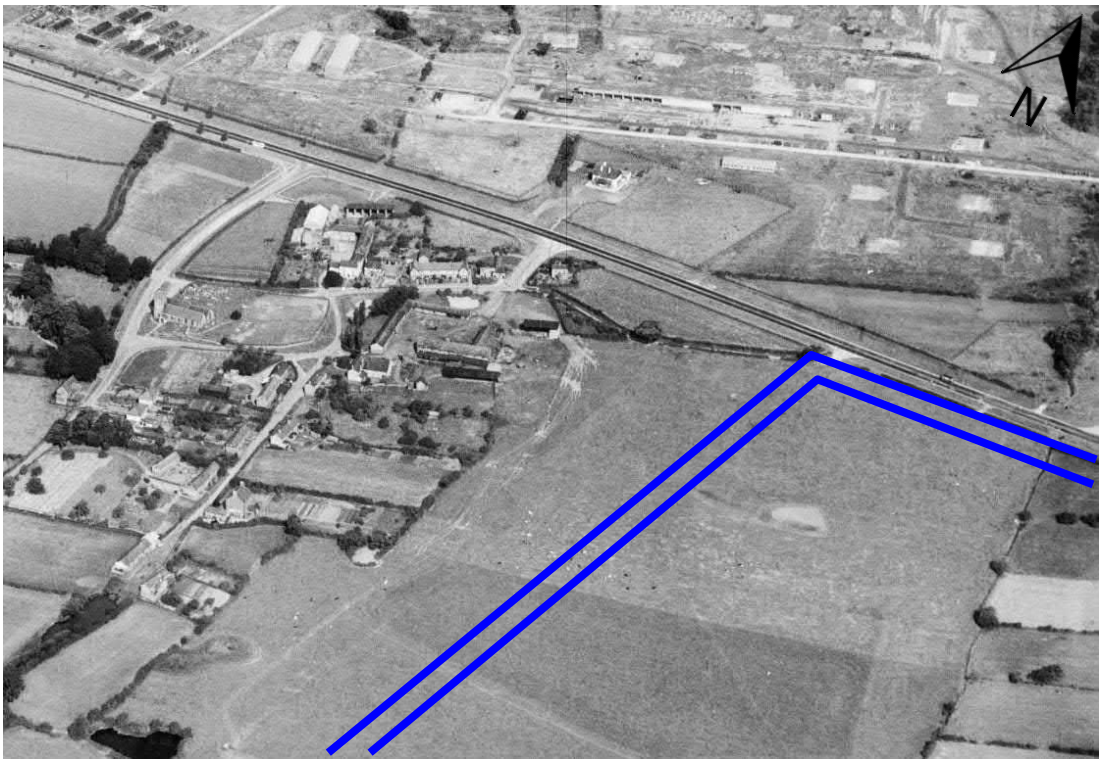


Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Plate 10 is an oblique aerial photograph of the Thornton-le-Moors part of the Site, dated the 1st August 1947. No bomb damage or cratering has been identified on the Site.

Plate 10 Oblique aerial photograph of Thornton-le-Moors, 1st August 1947 (SJ 444745)



Source: Britain from Above *Not to Scale*

Legend	Site boundary

Plate 11 is aerial photograph showing the south-eastern part of the Site, dated the 5th January 1941. No bomb damage or cratering has been identified on the Site.

Plate 11 Aerial photograph of the south-eastern part of the Site, 5th January 1941 (SJ 445739)



Source: Historic England *Not to Scale*

Legend	Site boundary

Plates 12, 13 and 14 are aerial photographs covering the central part of the Site, dating from circa. 1945. No bomb damage or cratering has been identified on the Site.

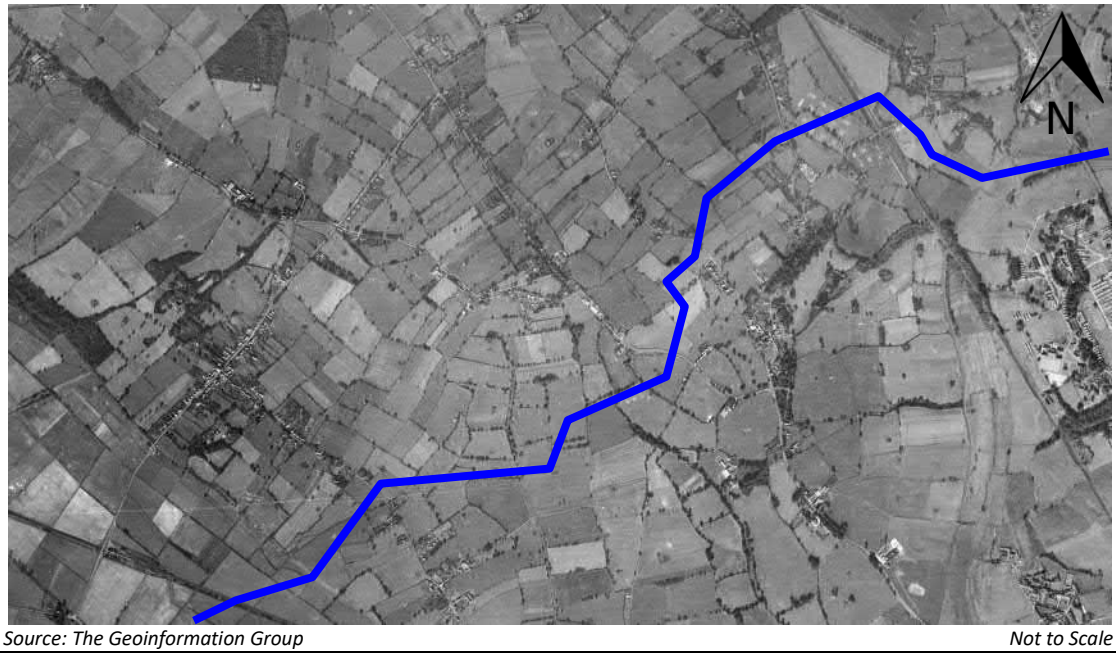
Plate 12 Aerial photograph of the central part of the Site, c. 1945 (SJ 419714)



Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Plate 13 Aerial photograph of the central part of the Site, c. 1945 (SJ 385706)



Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Plate 14 Aerial photograph of the central part of the Site, c. 1945 (SJ 356680)



Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Plate 15 is an aerial photograph of the RAF Hawarden part of the Site, dated the 11th May 1951. No bomb damage or cratering has been identified on the Site.

Plate 15 Aerial photograph of the RAF Hawarden part of the Site, 11th May 1951 (SJ 344667)

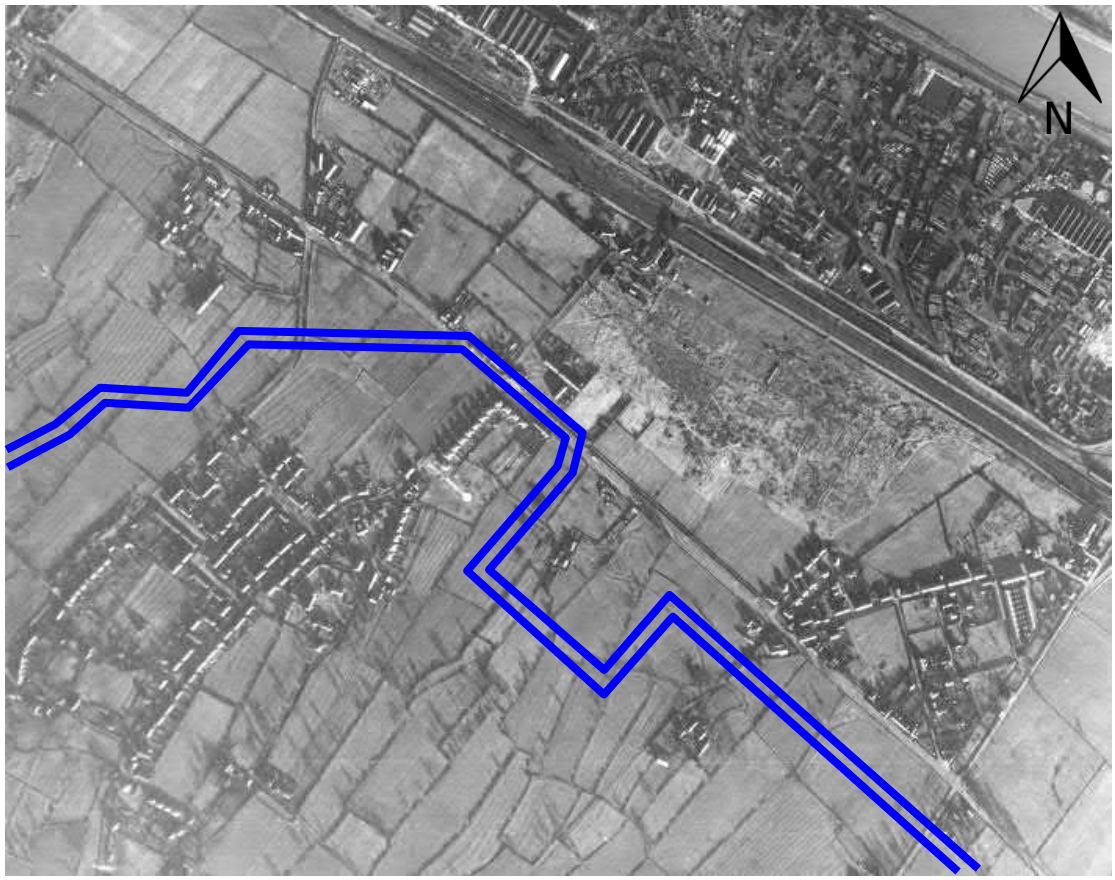


Source: CRAPW *Not to Scale*

Legend	Site boundary

Plate 16 is an aerial photograph of the Queensferry part of the Site, dated the 17th January 1941. No bomb damage or cratering has been identified on the Site.

Plate 16 Aerial photograph of the Queensferry part of the Site, 17th January 1941 (SJ 327673)



Source: CRAPW *Not to Scale*

Legend	Site boundary

Plate 17 is an aerial photograph of the Aston part of the Site, dating from circa. 1945. No bomb damage or cratering has been identified on the Site.

Plate 17 Aerial photograph of the Aston part of the Site, c. 1945 (SJ 300671)

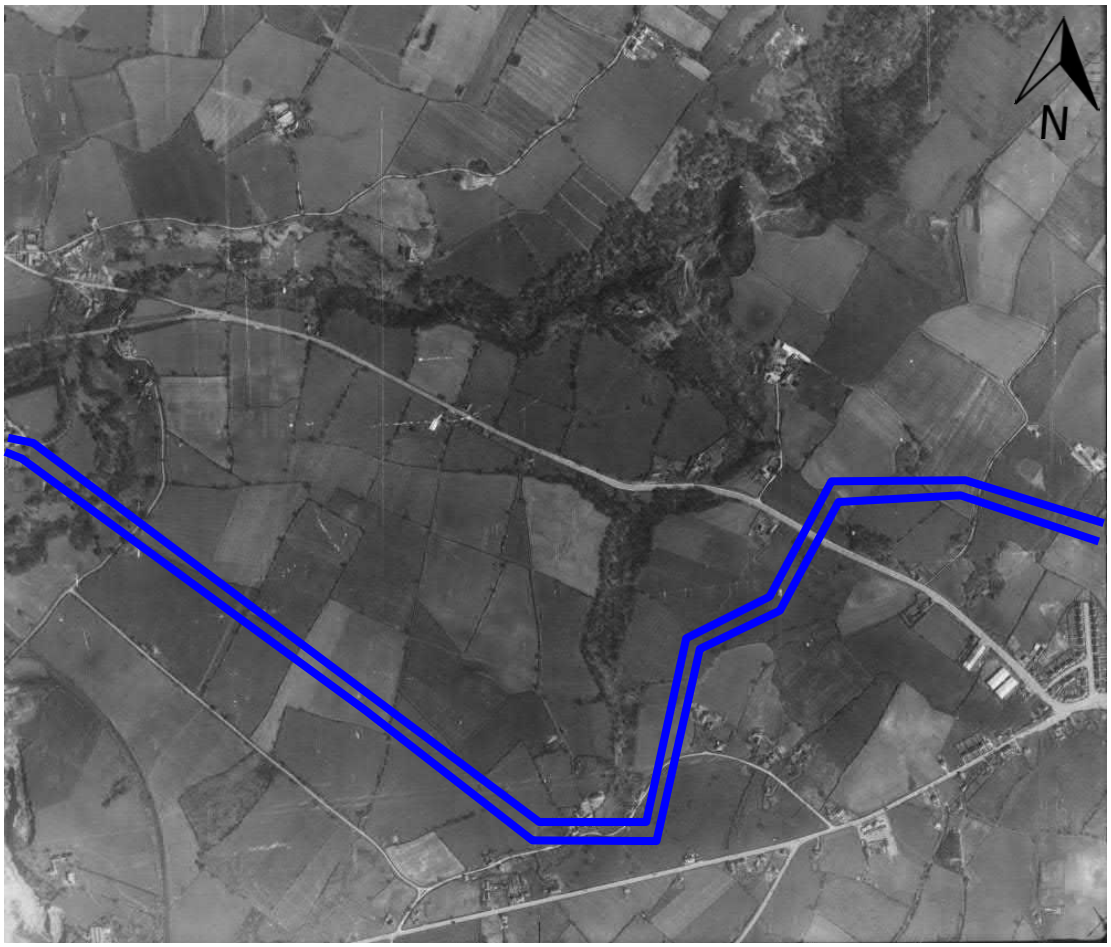


Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Plate 18 is an aerial photograph of the Ewloe part of the Site, dated the 11th May 1951. No bomb damage or cratering has been identified on the Site.

Plate 18 Aerial photograph of the Ewloe part of the Site, 11th May 1951 (SJ 283668)



Source: CRAPW *Not to Scale*

Legend	Site boundary

Plate 19 is an aerial photograph of the western part of the Site, dating from circa. 1945. No bomb damage or cratering has been identified on the Site.

Plate 19 Aerial photograph of the western part of the Site, circa. 1945 (SJ 252708)



Source: The Geoinformation Group *Not to Scale*

Legend	Site boundary

Potential UXO Hazard

Records have been found to indiacte that 1No. HE bomb fell on the Site during WWII and exploded. No further records of bombing on the Site have been found and no bomb damage or cratering has been identified on the Site on historical aerial photography.

Given that most air raids in the vicinity were low intensity, carried out by single aircraft dropping small numbers of bombs, the probability of encountering a UXB on the Site is considered to be low.

WWII bombing is not considered to provide a source of UXO hazard to the Site.

4.2.4 Geology and Bomb Penetration Depths

It is important to consider the geological materials present at the time that a bomb was dropped in order to establish its maximum penetration depth.

At the time of writing, no Site-specific ground investigation data was available.

British Geological Survey (BGS) 1:50,000 Sheets 97 Runcorn (Solid & Drift), 108 Flint (Solid & Drift) and BGS borehole records from nearby investigations have been consulted to get an indicative overview of the Site geology.

The geology of the western part of the Site is understood to consist of topsoil, over Devensian Till, overlying the Pennine Middle Coal Measures Formation.

Table 2 provides an estimate of average maximum bomb penetration depths for the western part of the Site assuming WWII ground conditions of 0.5m of topsoil (modelled as soft clay), over 5m of stiff clay, overlying more than 20m of weak rock.

Table 2 Estimated average maximum bomb penetration depths (western part of the Site)

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	5.5m
	250kg	7.0m
	500kg	9.0m

The geology of the Site in vicinity of the River Dee is understood to consist of topsoil, over Tidal Flat Deposits, overlying the Kinnerton Sandstone Formation.

Table 3 provides an estimate of average maximum bomb penetration depths for the Site in the vicinity of the River Dee assuming WWII ground conditions of 0.5m of topsoil (modelled as soft clay), over 2m of stiff clay, over 5m of sand and gravel, overlying more than 20m of weak rock.

Table 3 Estimated average maximum bomb penetration depths (River Dee)

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	4.0m
	250kg	5.0m
	500kg	7.5m

The geology of the eastern part of the Site is understood to consist of topsoil, over Tidal Flat Deposits, overlying sandstone of the Chester and Kinnerton Sandstone Formations.

Table 4 provides an estimate of average maximum bomb penetration depths for the eastern part of the Site assuming WWII ground conditions of 0.5m of topsoil (modelled as soft clay), over 10m of soft to firm clay, overlying more than 20m of sand and gravel.

Table 4 Estimated average maximum bomb penetration depths (eastern part of the Site)

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	6.5m
	250kg	10.0m
	500kg	13.0m

These calculations can be refined on receipt of Site-specific information.

The estimated bomb penetration depths given in Tables 2 - 4 are from the WWII ground level and are based on the following assumptions:

a) High level release of the bomb resulting in an impact velocity of 260m/s (>5,000m altitude).

b) A strike angle of 10 to 15 degrees to the vertical.

c) That the bomb is stable, both in flight and on penetration.

d) That no retarding units are fitted to the bomb.

e) That the soil type is homogenous.

A high altitude release of a bomb will result in ground entry at between 10° and 15° to the vertical with the bomb travelling on this trajectory until momentum is nearly lost. The bomb will then turn abruptly to the horizontal before coming to rest. The distance between the centre of the entry hole and the centre of the bomb at rest is known as the 'offset'. A marked lateral movement from the original line of entry is common.

Low-level attacks may have an impact angle of 45° or more, which will frequently lead to a much greater amount of offset movement during soil penetration.

The average offset is one third of the penetration depth, i.e. an offset of 2m may be expected for a 50kg bomb in dry silts and clays. If hard standings or Made Ground were present during WWII, bomb penetration depths would have been significantly reduced but offset distances may have been up to four times greater.

5 EXPLOSIVE ORDNANCE CLEARANCE ACTIVITIES

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (representing 11%) were recorded as UXBs. However, records from the Royal Engineers who were responsible for bomb disposal at the time indicate that as of 27th February 1946 upwards of 45,000No. UXBs were disposed of.

On average 8.5% of UXBs later self-exploded. In some cases the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office statistics also show that between October 1940 and May 1941 most of the UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and the size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

5.1 Abandoned Bombs

For further information on abandoned bombs, and the potential UXO hazard associated with them, follow the link below:

- Abandoned Bombs

No records have been found indicating that any officially abandoned bombs are located on the Site.

5.2 EOC Tasks

Records held by Zetica Ltd show that the following post-WWII EOC tasks have taken place in the vicinity of the Site.

May 1991

150No. WWII-era mines were discovered during excavation work at former HMEF Queensferry, approximately 0.6km northeast of central part of the Site. The mines were removed by an Explosive Ordnance Disposal (EOD) team. No records as to their condition or type are kept and it is not clear as to whether the mines were live.

26th June 2020

1No. WWII-era HE bomb was discovered at Deeside Industrial Estate, approximately 1.8km north of the central part of the Site. It was removed.

6 UXO HAZARD ASSESSMENT

6.1 UXO Hazard Level

The definitions for the levels of UXO hazard are provided below.

Definitions of UXO Hazard Level for a Site	
Hazard Level	**Definition**
Very Low	There is positive evidence that UXO is not present, e.g. through physical constraints or removal.
Low	There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted.
Moderate	There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO.
High	There is positive evidence that UXO is present.
Very High	As high, but requires immediate or special attention due to the potential hazard.

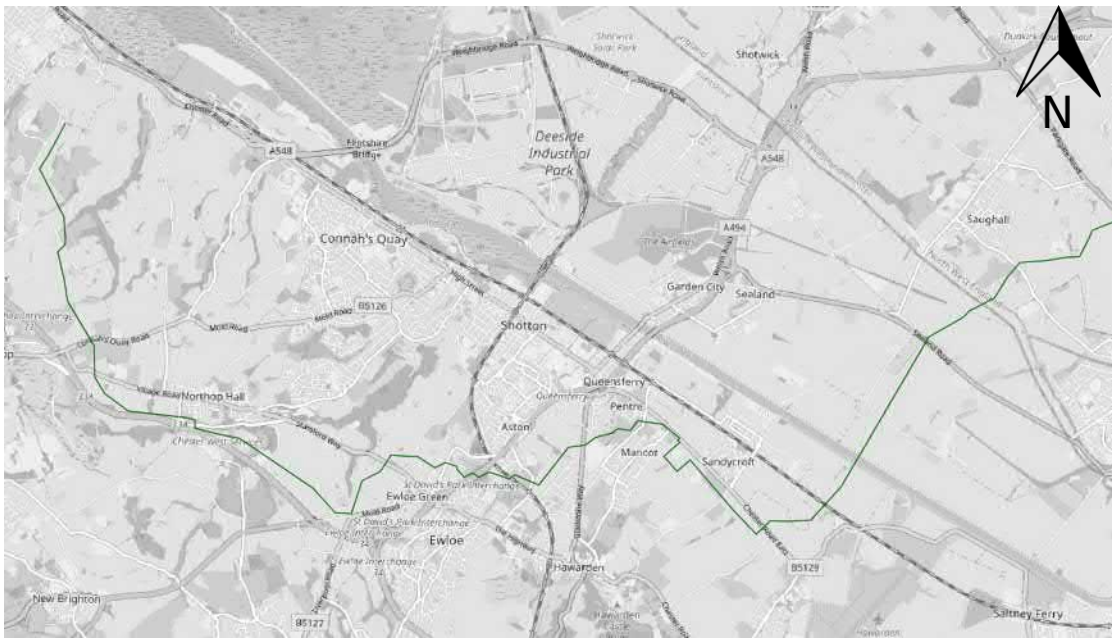
Records have been found indicating that 1No. HE bomb fell on the Site during WWII and exploded. No further bombing has been identified on the Site.

No evidence of other significant military activity or other sources of UXO hazard has been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown Figures 8 and 9 below.

The UXO hazard zone plan of the Site is also given in the accompanying P11010-21-R1-MAP01-A.

Figure 8 UXO hazard zone plan of the western part of the Site



Source: OpenStreetMap *Not to Scale*

Legend					
	Very Low		Low		Moderate	
	High		Very High		

Figure 9 UXO hazard zone plan of the eastern part of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Very Low	Low	Moderate
	High	Very High	

7 UXO RISK ASSESSMENT

7.1 Proposed Works

Works on the Site are associated with the installation of a HyNet pipeline.

Initial works on the Site are understood to comprise of ground investigations, including excavations, drilling and Cone Penetration Testing (CPT), up to 40m below ground level (bgl). Future works may include further ground investigations and drilling associated with the installation of the pipeline.

7.2 Risk Assessment Methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard.

Firstly, the probability of encountering UXO (PE) has been considered and rated for the different construction techniques, as detailed below.

Probability of Encounter (PE)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Secondly, the probability of detonating a UXO (PD) has been considered and rated for the different construction techniques, as detailed below.

Probability of Detonation (PD)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

P = PE x PD	LIKELIHOOD of Encounter and Detonation	Rating
21 to 25	Frequent, highly likely, almost certain.	5
16 to 20	Probable, more likely to happen than not.	4
6 to 15	Occasional, increased chance or probability.	3
2 to 5	Remote, unlikely to happen but could.	2
1	Improbable, highly unlikely.	1
0	Impossible	0
P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.		

The likelihood of encountering and detonating UXO during site works is multiplied by the severity of such an event occurring (P x S), in order to provide a risk level using the following matrix.

Severity (S)	Rating
Multiple fatalities	5
Major injury, long term health issues, single fatality.	4
Minor injury, short term health issues, no fatalities.	3
First aid case but no lost time or ill health.	2
Minor injuries, no first aid.	1
No injuries.	0

UXO Risk Matrix							
	SEVERITY (S)						
LIKELIHOOD (P)		5	4	3	2	1	0
	5	25	20	15	10	5	0
	4	20	16	12	8	4	0
	3	15	12	9	6	3	0
	2	10	8	6	4	2	0
	1	5	4	3	2	1	0
	0	0	0	0	0	0	0

7.3 UXO Risk Level

The UXO risk assessment for proposed works on the Site is given in Table 5.

Table 5 UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Excavations	1	1	1	1	5	5	Low
	Boreholes/CPT	1	1	1	1	4	4	Low
Other UXO	Excavations	1	1	1	1	4	4	Low
	Boreholes/CPT	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								

8 RISK MITIGATION PLAN

Key findings: No significant sources of UXO hazard have been identified.

Key actions: UXO awareness briefing for staff involved in excavations.

8.1 UXO Risk Summary

Table 6 summarises the UXO risk for proposed works on the Site and recommended actions.

Table 6 Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		**UXO Awareness Briefing** – Given the history of military activity on and in close proximity to the Site, it is recommended that a formal UXO awareness briefing is provided to staff involved in excavations.
Boreholes/Piling		**Proceed with works**

In summary, it is recommended that staff involved in excavation are provided with a formal awareness briefing so that they take appropriate action in the event of a suspect find.

8.2 Risk Mitigation Techniques

Should you wish to provide staff involved in excavations with increased awareness regarding the potential (albeit low) for UXO encounter, this can be done through a formal briefing.

8.2.1 UXO Awareness Briefing

Typically ~1hour in duration, these briefings will be expected to provide site workers with:-

- Background to the potential UXO hazards that could be encountered.
- Awareness of how the UXO hazard could present a risk.
- Knowledge of what to do in the event that a suspect item is encountered.

The briefing is to be provided along with back-up materials such as UXO awareness posters, emergency contact numbers and other background information to assist site workers in becoming familiar with what potential UXO can look like.

The materials can also be used by key staff to pass on the relevant points of the induction to others who visit or work on the Site.

By providing the UXO awareness briefing, it ensures that in the unlikely event that UXO is encountered:-

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

8.3 What Do I Do Next?

If you require a quote for an awareness briefing, or have any questions, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

APPENDICES

Appendix 1 Anticipated Ordnance Types

The probability of encountering UXO on the Site is considered to be low. As with any similar site in the UK, there is always a background risk of finding ordnance and potential types to be encountered are detailed below. For a more comprehensive set of ordnance data sheets, see [redacted].

Information Data Sheet

Category Small Arms Ammunition
Type Various



Description: Small Arms Ammunition (SAA) is one of the more recognisable categories of ordnance which is primarily designed for anti-personnel use. SAA include items such as bullets, generally up to a calibre (diameter) of 20mm.

Generally small arms ordnance has a relatively low risk as UXO, although the larger calibre categories may have the same detonation risk as larger high explosive ordnance.

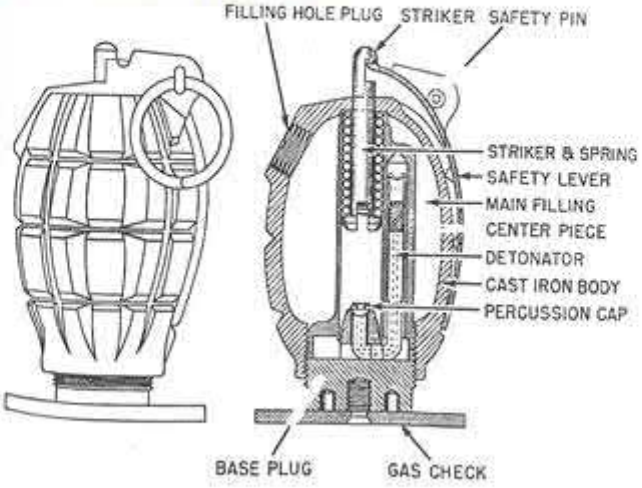
SAA is often associated with discarded ammunition boxes around firing practice ranges and training areas and is often found scattered across former military airfields as a result of aircraft crashes and localised disposal.





Information Data Sheet

Category Grenades (British)
Type No. 36 Hand Grenade ('Mills Bomb')



Variants	-	**Dimensions**	101.6mm x 61mm (4" x 2.4")
Weight	2 lbs	**Delay**	4 seconds
Filling	Baratol	**Material**	Cast Iron
Description	Lemon-shaped, cast-iron body filled with high explosive. Three holes in the body; one in the base for priming, one near the top for filling; one on the top holding striker.		
Function	Used as a defence against enemy personnel.		

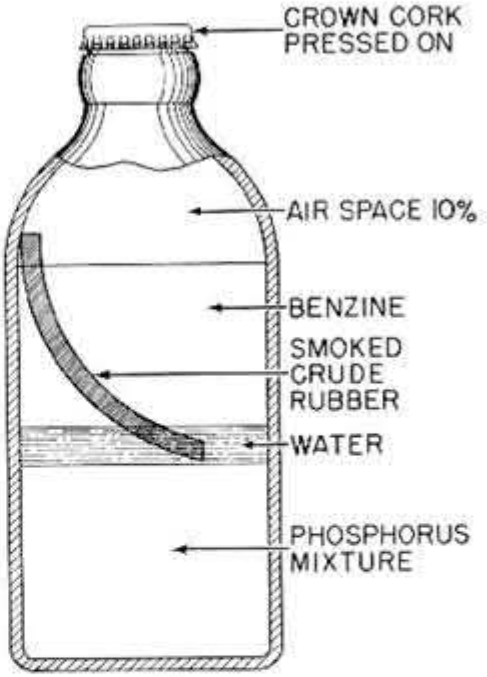




Information Data Sheet

Category Grenades (British)
Type No. 76 Self-Igniting Phosphorus Grenade

Variants	-
Dimensions	152.4mm x 63.5mm (6" x 2.5")
Weight	1lb
Fuze	Self-igniting upon breakage
Material	Glass
Description	Glass bottle filled with white phosphorus, benzene, water and crude rubber.
Function	Introduced as an emergency anti-tank measure for the Home Guard early in WWII. Intended to ignite the engine compartment of advancing tanks.



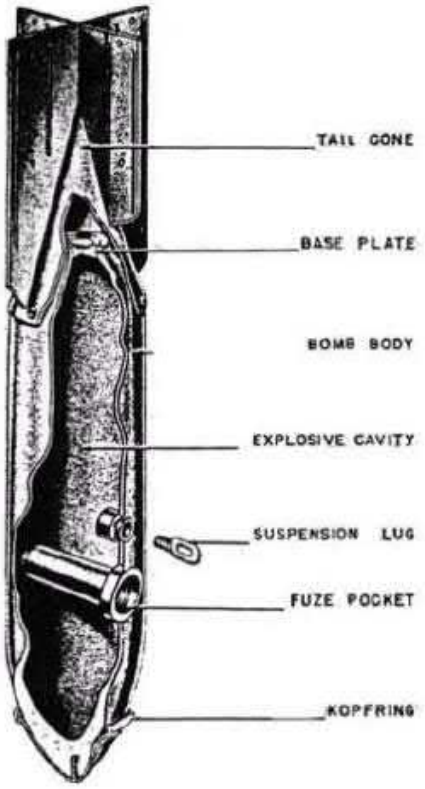




Information Data Sheet

Category Bomb (Luftwaffe)
Type Sprengbombe-Cylindrisch (SC) 50kg

Variants	8
Body Dimensions	762 x 200mm (30" x 7.9")
Weight	55kg (122lbs)
Charge Weight	25kg (54lbs)
Fuze	Single electric impact fuze. Some have short time delay
Composition	Sheet steel
Description	Thick nose welded to a steel body. Nose may be attached to Kopfring (a triangular section steel ring) or spike. Suspension bolt in eye/body and sheet metal tail attached to body with rivets/screws. Originally painted green-grey with a yellow stripe on the tail. Cast TNT, Amatol or Trialen filling.
Function	Designed to maximise shock waves through air, water and earth and for general demolition. Used against easily damageable targets, including roads, aircraft hangars, rolling stock and small buildings. Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) were used against rail lines and country roads, with Kopfring used against naval targets.



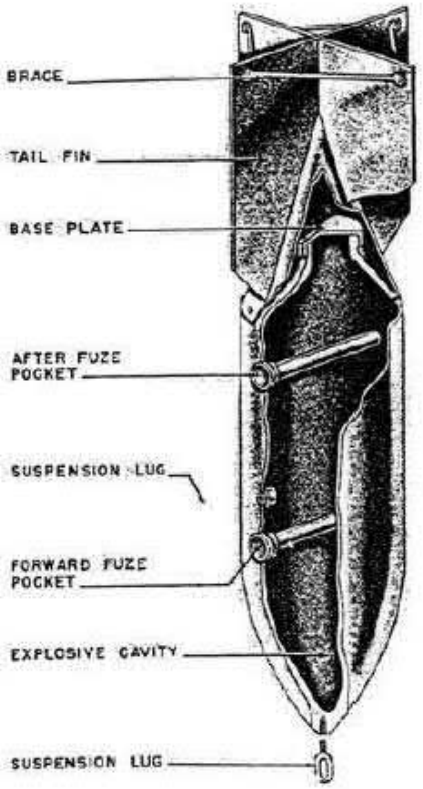




Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 250kg

Variants	8
Body Dimensions	1194mm x 368mm (47" x 14.5")
Weight	249-264 kg (548-582lbs)
Charge Weight	130-145 kg (287-320lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze
Composition	Sheet steel with stays
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring) or spike. Sheet metal tail attached to body with rivets/ screws. Suspension eye bolt in the nose/body. Originally painted green-grey with a yellow stripe on the tail. TNT; amatol; TNT and aluminium powder, naphthalene, ammonium nitrate and wax/ wood meal filling.
Function	Designed to maximise shock waves through air, water and earth and general demolition. Used against railway installations, large buildings, ammunition depots and below-ground installations (to 8m). Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) used against rail lines and country roads.



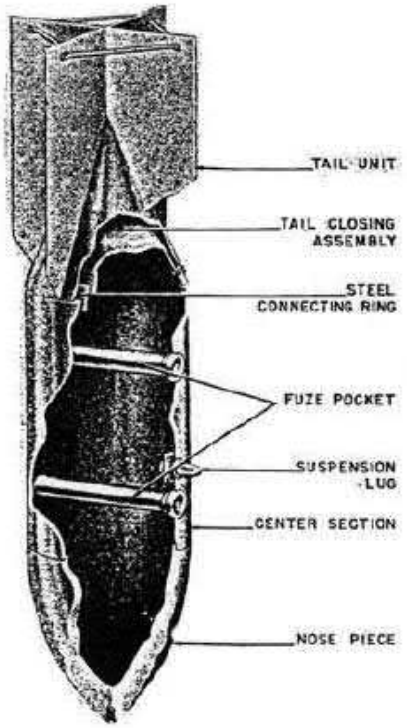




Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 500kg

Variants	-
Body Dimensions	1414–1486mm x 470mm (55.7-58.5" x 18.5")
Weight	500kg (1,100lbs)
Charge Weight	220kg (484lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze.
Composition	Sheet steel with stays or drum
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring). Tail either steel sheet or drum-shaped. Suspension band. Originally painted green-grey/ buff (some later versions sky blue) with yellow stripe on tail. Filled with amatol, TNT or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition. Used against railway property, large buildings, shipping and below-ground installations.



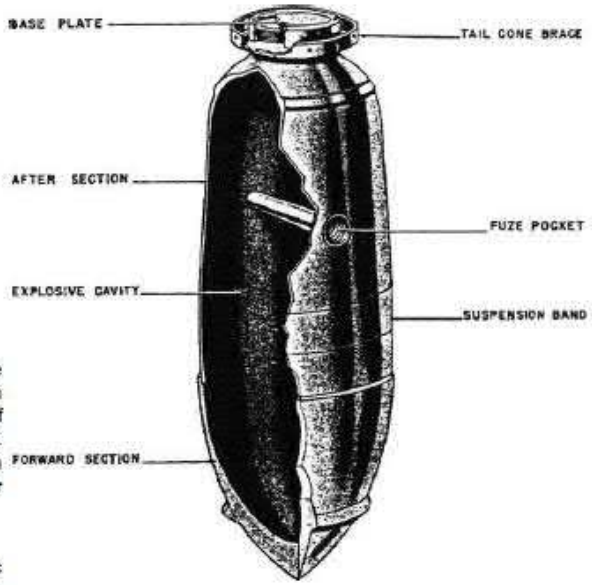


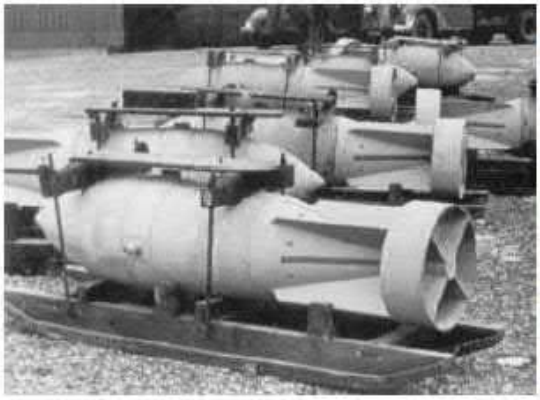


Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 1,000kg (HERMANN)

Variants	3
Body Dimensions	1742-1905mm x 648–660mm (68.6-75" x 25.5-26")
Weight	1,000-1,088kg (2,204-2,398lbs)
Charge Weight	529-619kg (1,166-1,364lbs)
Fuze	Electric impact fuze/ electric clockwork time fuze & electric anti-disturbance fuze
Composition	Magnesium alloy with drum
Description	Thick nose welded to steel body. Nose attached to Kopfring (triangular section steel ring). Drum-shaped tail made of magnesium alloy. Suspension band. Originally painted sky-blue. Filled with amatol, TNT/aluminium/wood meal or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition.



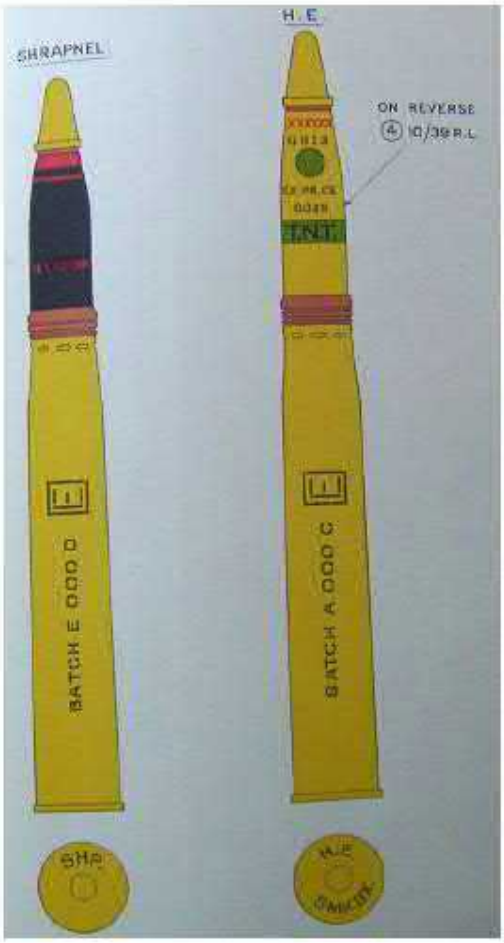




Information Data Sheet

Category Projectile
Type 3.7" Anti-Aircraft Shell

Variants	6
Body Dimensions	94mm x 360mm (3.7 x 14.7")
Weight	12.7kg (28lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Brass cartridge case. Square-based shell with tapered nose, filled with Amatol, TNT or RDX/TNT. MK6 had forward centring bands and a wider driving band.
Function	Used as a defence against enemy aircraft, fired from fixed batteries and mobile mountings. Could fire approximately 20 rounds per minute with a maximum ceiling of 41,000ft and horizontal range of 20,600 yards.



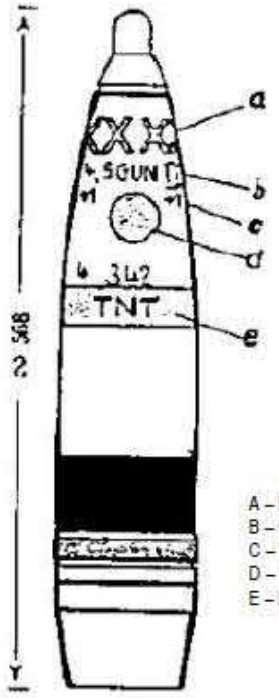




Information Data Sheet

Category Projectile
Type 4.5" Shell (Mark II – Anti-Aircraft)

Variants	-
Body Dimensions	114mm x 566mm (4.5" x 21.9")
Weight	24.9kg (55lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Square-based, tapered-nosed shell filled with TNT or Amatol. Steel casing, rotating band of either copper or gilding metal located 3.5" in front of the base end with single groove.
Function	Used as field artillery and adapted for use in anti-aircraft defence from fixed batteries. Rate of fire of 8 rounds per minute, maximum ceiling of 44,000ft and horizontal range of 22,800 yards.



A – Missile Identification
B – Gun and Bullet Type
C – Weight
D – Smoke pot
E – Explosives Ring







Appendix 2 Sources of UXO Hazard

The sections below provide background information on the potential sources of UXO hazard (albeit low) affecting the Site. For a more comprehensive set of UXO information sheets, see http://zeticauxo.com/downloads-and-resources/uxo-information-sheets/.

Appendix 2.1 Military Airfields

During WWII, there was an urgent need for an increasing number of military airfields in the UK. This requirement grew further as the war progressed, particularly after the arrival of American troops in 1942. Airfields were constructed for a variety of purposes, including training, as fighter and bomber stations, and for maintenance units (MUs).

Many former airfield sites have not been significantly redeveloped in the post-WWII period. As such, a number of potential sources of UXO relating to former airfield activity still remain. The types of UXO that may be present depends on the operational history of the airfield. Almost all military airfields had a similar set of features, including ordnance storage and disposal areas, alongside offensive and defensive weapons.

Pipe Mines: Pipe mines were laid beneath critical infrastructure such as runways and designed to be detonated in the event of an invasion to prevent enemy use of the airfield. Airfields that were most likely to have been equipped with pipe mines were those considered vulnerable to invasion, particularly along the South and East Coast. Airfields further inland, and those built after the main threat of German invasion had passed, are unlikely to have had pipe mines installed.

Whilst the majority of the pipe mines at airfields were removed at the end of WWII, it is known that some were left in situ or were not detected during post-WWII clearance operations. Pipe mines are periodically found during development at former airfields.

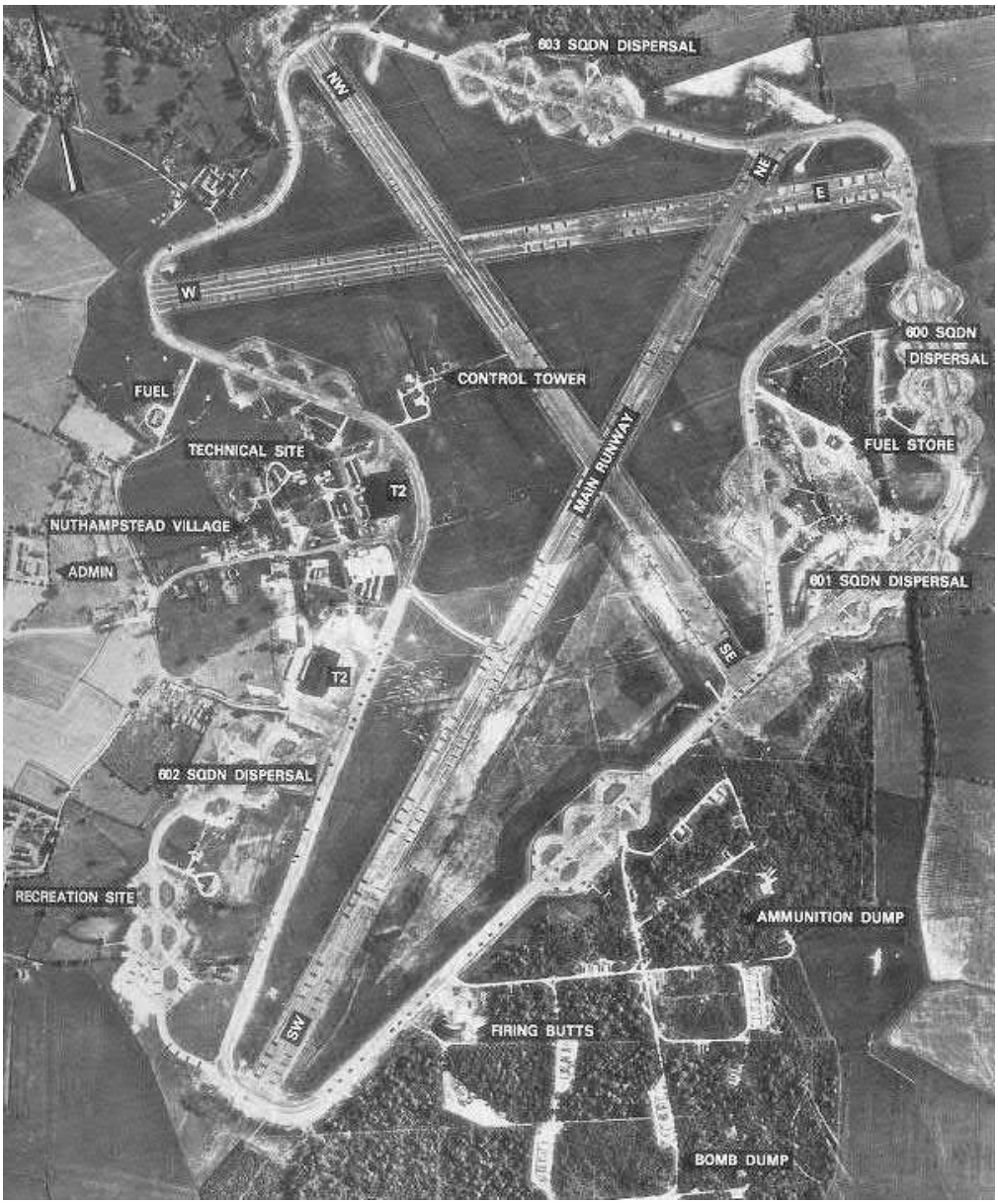
Bomb and Munitions Stores: These were typically constructed in a remote area of an airfield, linked to the perimeter track by a service road. Bomb stores often contained a combination of both practice and live ordnance, in addition to components such as fuzes, detonators and gaines.

Munitions stores also often held close combat ordnance (such as grenades and mortars) and small arms ammunition for airfield defence.

Whilst the bomb stores at airfields were typically subjected to ordnance clearance operations during decommissioning, the sophistication and thoroughness of the clearance was often insufficient to ensure confidence that most of the potential UXO were removed. Incidents of ordnance burial and the accidental spillage of smaller munitions components in the vicinity of the bomb stores is known to have occurred, although such disposal usually occurred in designated areas away from the storage area.

Machine Gun Test Butts: On an airfield, the butts were a designated area where aircraft tested their guns. The butts were often located at the end of access runways or dispersals and incorporated a mound of Made Ground, sand or soil into which firing took place. Whilst machine gun rounds were typically tested at the butts, some aircraft fired cannon shells into the butts.

Small Arms Ranges: Small arms ranges (such as rifle ranges) and close combat ranges (such as mortar and grenade ranges) were provided for training the troops involved in ground defence of the airfield. (See the small arms ranges information sheet for further information on these sites).



Munitions Disposal Areas: For any operational military airfield, an ordnance disposal facility is required. During wartime, this typically took the form of a burning or burial pit and commonly took place in areas around the perimeter of an airfield, away from aircraft operations and buildings.

The most likely disposal operations at airfields during WWII involved the burial or burning of aircraft ammunition and close combat munitions related to airfield defence. Larger munitions, such as bombs, were usually returned to regional ordnance depots, for reuse or for disposal. It is known, however, that the buried disposal of HE bombs occurred at some airfields and UXBs relating to such practices are occasionally found.

Aircraft Breaking: Specialist Maintenance Units (MU) were responsible for the modification, maintenance and repair of damaged aircraft. Those aircraft considered beyond all repair were stripped of useful and salvageable parts and disposed of in a pit or 'aircraft graveyard', usually in areas around the perimeter of an airfield. Waste from aircraft disposal should be considered hazardous. It contains a range of conventional contaminants and potentially radioactive materials (such as radium from luminescent dials).

Appendix 2.2 Aircraft Crashes

These were a common occurrence during the exigencies of wartime. Collisions, damage sustained during operational duty, pilot error and adverse weather conditions were all causes for crashes.

The nature of aircraft crashes means that debris was often scattered over a wide area around the crash site, sometimes up to a distance of two miles.



Aircraft crash sites provide a potential source of UXO hazard, largely depending on the type of aircraft that crashed, its operational status, its ordnance load and any efforts made to clear up the crash site. The MoD advises that if crashed aircraft are found, the safest policy is to leave them alone where possible. Unless disturbed there is no statutory requirement for the MoD to clear such sites.

The most common source of ordnance associated with aircraft crash sites is small arms ammunition. This may be scattered over a wide area but does not typically constitute a significant UXO hazard. Some later aircraft designs were armed with cannons, the shells of which contain a higher explosive content.

Bomber aircraft crashing with full or partial bomb loads provide a further potential hazard. If the crash site was inaccessible or remote it would commonly be left during wartime. As such, UXBs may still be present around bomber aircraft crash sites.

It is generally the case that post-WWII crash sites are more thoroughly cleared of debris and residues than those which occurred during wartime.

It should be noted that in some cases where a fatal crash site is located, the disturbance of the site may be prohibited due to its status as a war grave.

Appendix 2.3 Bombing Decoys

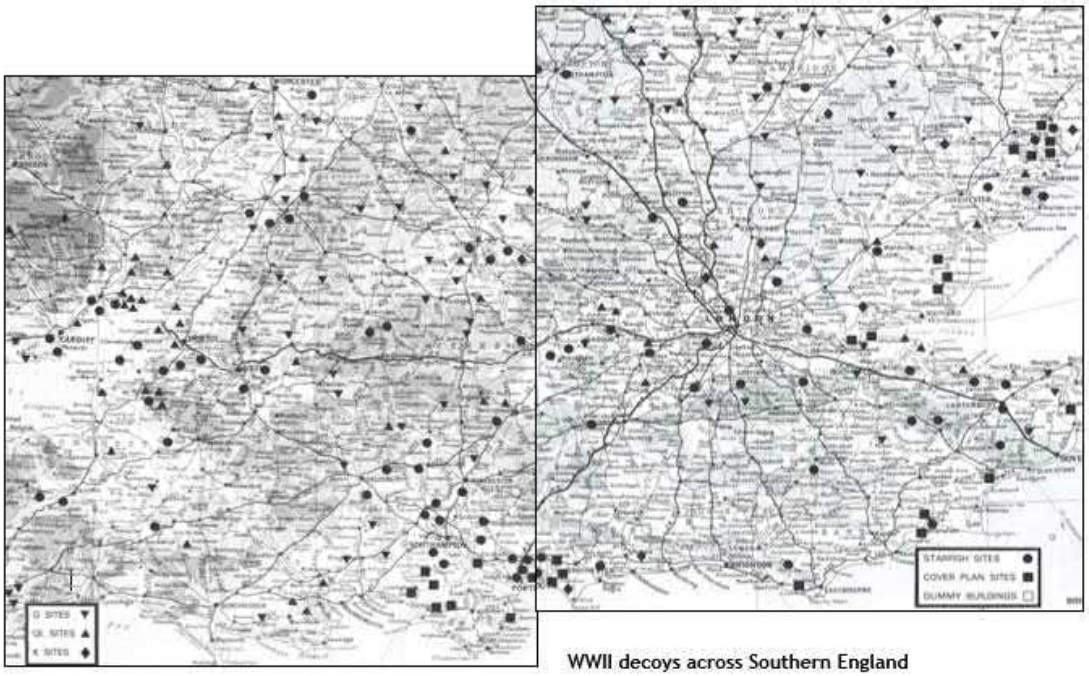
Bombing decoys were developed between 1940 and 1941, with the intention of creating false bombing targets that were realistic enough to divert enemy aircraft away from the authentic ones. The decoy system proved to be successful in many areas of the UK with at least 5% of the total weight of bombs drawn away from their intended targets. Approximately 729No. static bombing decoys were built at 593No. locations in the UK. Additionally, several temporary and mobile decoys were deployed.

Several different types of decoy were devised:

- Night time dummy airfields (Q sites).
- Daytime dummy airfields (K sites).
- Diversionary fires to simulate successful bombing raids on airfields (QF sites),petroleum depots (P sites) and major towns and cities (Starfish [SF] Sites).
- Simulated urban lighting (QL sites).
- Dummy Heavy Anti-Aircraft (HAA) batteries, factories and buildings (C series).
- Mobile decoys representing 'hards' for troop embarkation (MQLs), tanks and other vehicles.

The country was divided into four areas:

- '**K1**' referred to the area covering Scotland, Northumberland and Durham,
- '**K2**' - Yorkshire and Lincolnshire
- '**K3**' covering East Anglia and the counties to the west
- '**K4**' encompassing the south-east of the country.



WWII decoys across Southern England

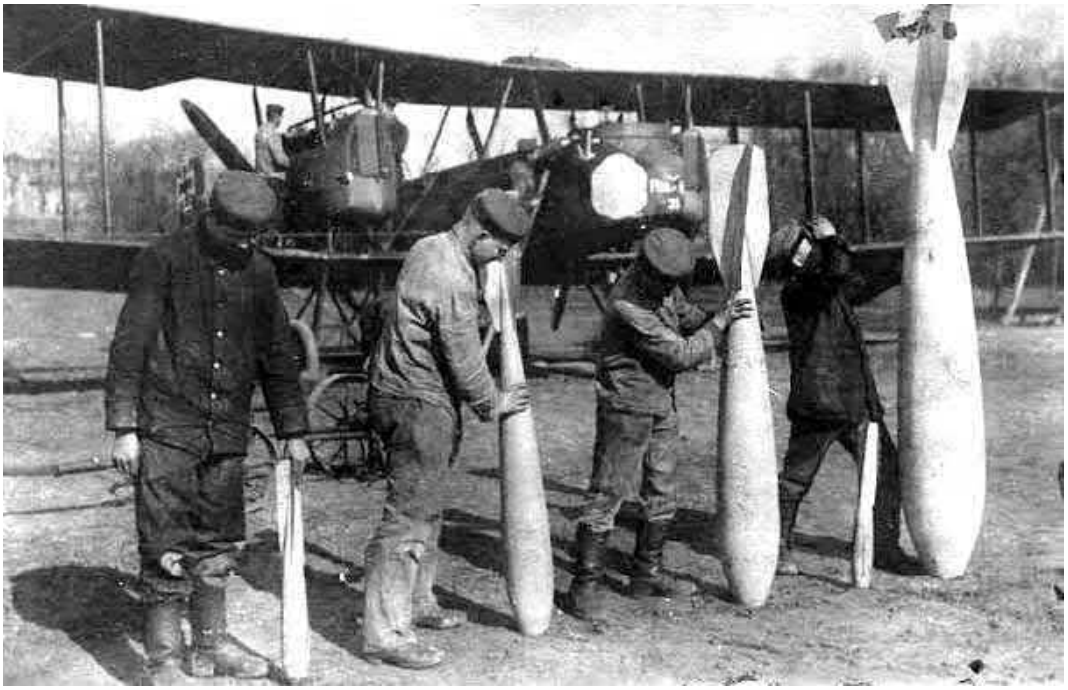
Appendix 2.4 WWI Bombing

It is not generally realised that during World War One (WWI) significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used. More than 1,400No. people were killed during these raids.

Most air raids were carried out on London and Southeast England. Areas along the East Coast were also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. high explosive bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than a WWII UXB given the lower bombing densities during raids in the Great War.

Some areas which were subjected to sustained bombing raids, such as parts of London and coastal towns, recorded a higher number of UXB. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

Appendix 2.5 WWII Bombing

Bombing raids began in the summer of 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities or strategic targets such as docks, harbours, industrial premises, power stations and airfields. In addition to London, industrial cities and ports, including Birmingham, Coventry, Southampton, Liverpool, Hull and Glasgow, were heavily targeted, as well as seaside towns such as Eastbourne and cathedral cities such as Canterbury.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). The most common HE bombs were the 50kg and 250kg bombs, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped.

The HE bombs tended to contain about half of their weight in explosives and were fitted with one or sometimes two fuzes. Not all HE bombs were intended to explode on impact. Some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied Incendiary Bombs (IBs) to a 250kg 'Oil Bomb' (OB) and a 500kg 'C300' IB. In some cases the IBs were fitted with a bursting charge. This exploded after the bomb had been alight for a few minutes causing burning debris to be scattered over a greater area. The C300 bombs were similar in appearance to 500kg HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineers to deal with their disposal.



Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. 2No. types of anti-personnel bombs were in common use, the 2kg and the 12kg bomb. The 2kg bomb could inflict injury across an area up to 150m away from the impact. PMs (which were up to 4m in length) could be detonated either magnetically or by noise/vibration.

Anti-shipping parachute mines were commonly dropped over navigable rivers, dockland areas and coastlines. The Royal Navy was responsible for ensuring that the bombs were made safe. Removal and disposal was still the responsibility of the Bomb Disposal Unit of the Royal Engineers.

In 1944, the Germans introduced new weapons; the V1, a 'flying bomb' and guided missile, and the V2, a ballistic missile rocket that travelled at such speed that no one could see or hear its approach. London was the main target for these attacks.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb

load of 50kg HE bombs mixed with IBs which was aimed at a specific location might not just miss the intended target but fall some considerable distance away.



It is understood that the local Civil Defence authorities in urban areas had a comprehensive system for reporting bomb incidents and dealing with any Unexploded Bombs (UXB) or other UXO. In more rural areas, fewer bombing raids occurred. It is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling in rural and coastal areas. Bombs were either released over targets or as part of 'tip and run' raids where bomber crews would drop their bombs to avoid anti-aircraft fire or Allied fighter aircraft on the route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids on rural and coastal areas often went unrecorded or entered as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout the Second World War and an estimated 11% of all bombs dropped during the war failed to detonate.

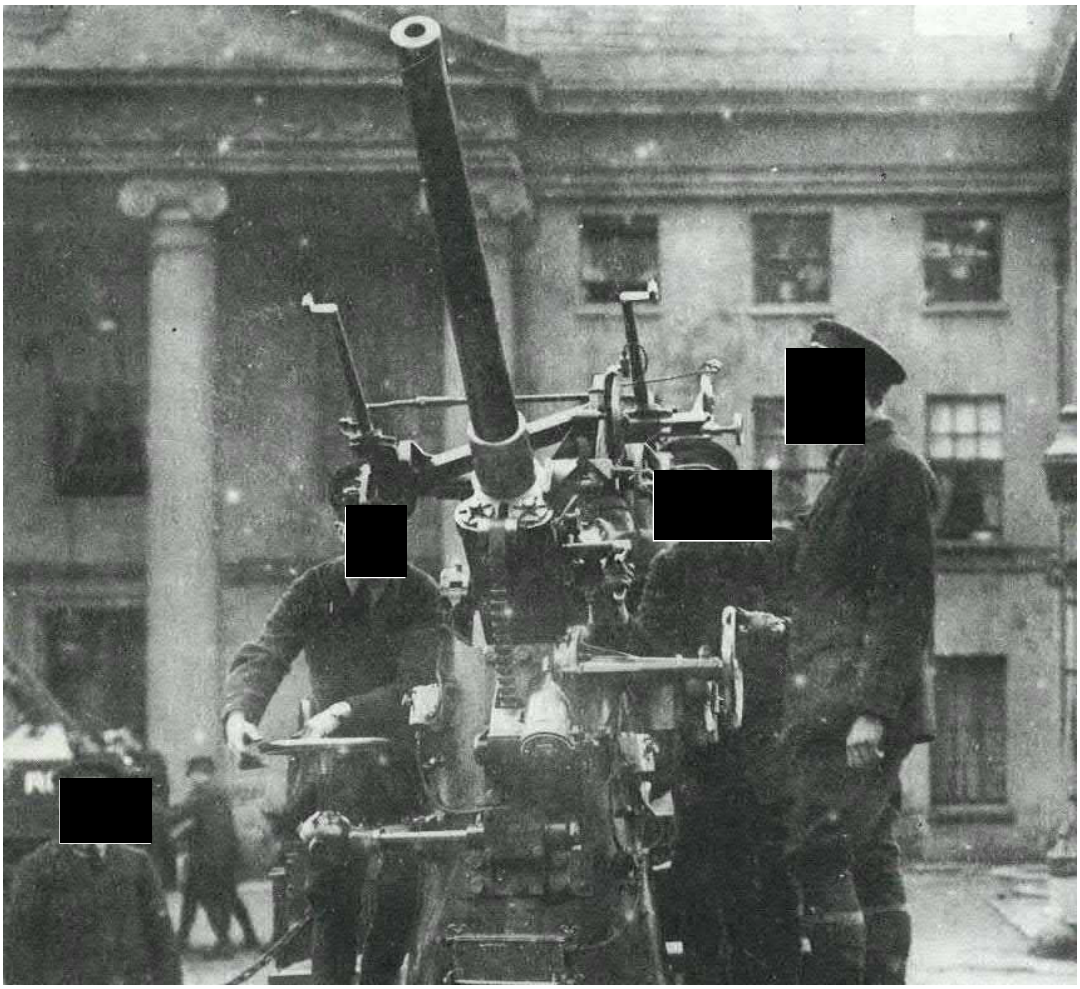
The potential for a UXB hazard to exist on a site depends on a variety of factors. Were there strategic targets in the surrounding area? Was the site bombed? Could a UXB impact have been missed? Even in rural areas, the potential for UXB cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

Appendix 2.6 Anti-Aircraft Guns

As aerial bombardment first began during WWI, Anti-Aircraft (AA) gun batteries were established were gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271No. AA guns and 258No. searchlight installations defending London alone.

Common AA defences during WWI included 3-inch, 75 millimetre, 6-pounder and 1-pounder guns. Many of these guns were mobile, being mounted on lorry chassis. They were driven about following the course of an airship and fired from any area of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although more typically fell within 10km.



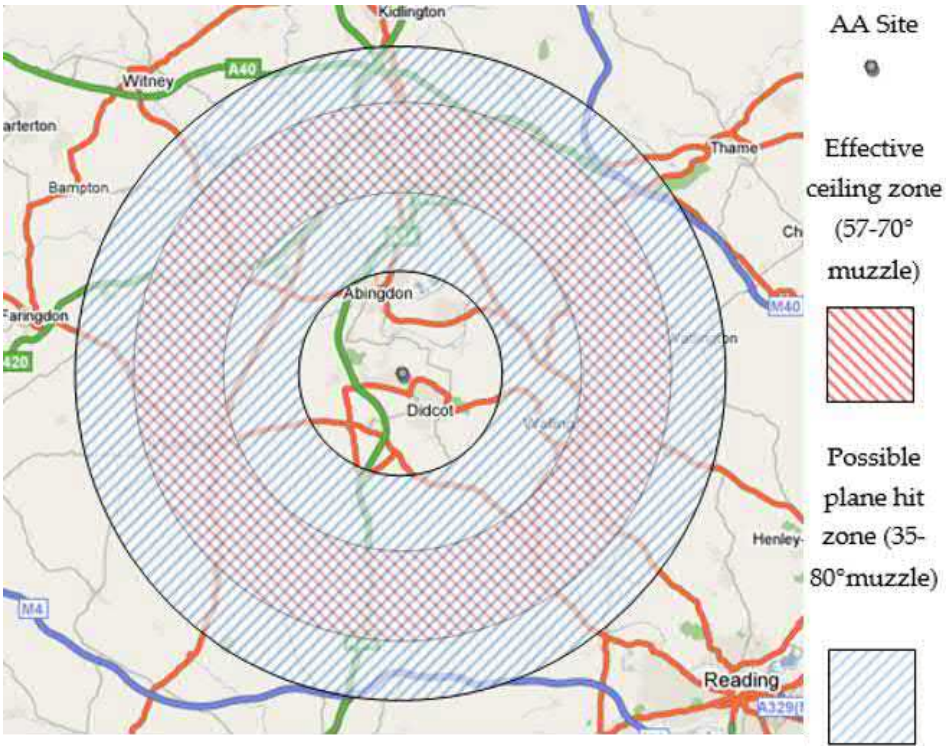
AA gun batteries were used extensively during WWII to counter the threat posed by enemy aircraft. In many instances, AA shells caused damage to Allied territory and in some areas caused significant numbers of civilian fatalities.

During WWII, AA shells could land up to 27km from the firing point, although more typically fell within 15km. These could be distributed over a wide area.

3No. types of AA batteries existed:

- **Heavy Anti-Aircraft (HAA)** batteries of large guns (typically 3.7", 4.5" and 5.25" calibre) designed to engage high flying bomber aircraft. These tended to be relatively permanent gun emplacements.
- **Light Anti-Aircraft (LAA)** weaponry, designed to counter low flying aircraft. These were often mobile and were moved periodically to new locations around strategic targets such as airfields. They typically fired 40mm shells and machine gun ammunition.
- **Rocket batteries (ZAA)** firing 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km were typically permanent emplacements.

Unexploded AA (UXAA) shells were a common occurrence during WWII. As the figure below demonstrates, shells were unlikely to fall in the immediate vicinity of a gun battery but in the surrounding area. This would be dependent upon the angle of fire and the flight height of the attacking aircraft.



AA batteries were deliberately targeted by the Luftwaffe and therefore areas surrounding a gun battery may have a greater risk of UXB being present.

Munitions stores were also established around AA batteries. These stored the shells for the batteries and small arms ammunition for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

Appendix 3 Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

It is still important to note that explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay or similar materials.

The effects of an accidental UXO detonation are usually extremely fast, often catastrophic and invariably traumatic to any personnel involved. Such occurrences are largely restricted to current theatres of war and overseas minefields, with occasional events in mainland Europe.

The sections below provide a brief summary of recent significant UXO finds in the UK. To keep up to date with the latest UXO finds, visit [redacted]

On the 11th February 2018, 1No. 500kg UXB was found in King George V Dock in London, resulting in the temporary closure of the adjacent London City Airport. The UXB was freed from a silt bed and towed along the River Thames to Shoeburyness where it was destroyed in a controlled explosion.

On the 20th May 2018, a 1,000kg German sea mine washed ashore at Elmer beach near Bognor Regis, West Sussex. A 1 mile exclusion zone was enforced before an EOD team towed the device out to sea for a controlled explosion.

On the 10th July 2018, a suspected 1,000kg German UXB was found by scuba divers near Teignmouth Pier in Devon. The UXB was towed out into open sea by a RN EOD team for a controlled explosion.

On the 30th August 2018, a 2,000lb German PM was trawled up by a fishing vessel off Mersea in Essex. The PM was moved to an area of open sea where it was destroyed in a controlled explosion by a RN EOD team.

On the 21st January 2019 a suspected 1,000lb torpedo was brought into Brixham Harbour by a fishing trawler. It was towed back out to sea and destroyed by a Naval EOD team.

On the 14th March 2019 an unexploded pipe mine was found at the former RAF Manston airfield near Ramsgate, Kent. It was destroyed in a controlled explosion.

On the 23rd May 2019 a 250kg German UXB was found by workers on a building site at Kingston University in London. The UXB could not be safely removed and was consequently destroyed in situ by an EOD team.

On the 7th June 2019 a 50kg German fragmentation UXB was found at a building site in Kings Hill at the former RAF West Malling airfield. It was destroyed in a controlled explosion by an EOD team the following day. On the 26th September 2019 another 50kg German UXB was found at Kings Hill and was destroyed in a controlled explosion the next day.

On the 20th September 2019 a suspected 250kg German UXB was found on a construction site in Bordon, Hampshire. It was destroyed in a controlled explosion by an EOD team.

On the 3rd February 2020, a 500kg German UXB was found on a building site in Soho, London. It was removed by an EOD team.

On the 22nd and 23rd February 2020, storms uncovered 16No. items of UXO on beaches near Southend-on-Sea in Essex, prompting a race to locate, identify and dispose of each item before they were lost to incoming tides. They were destroyed in-situ by a Royal Navy EOD team.

On the 5th March 2020, several items of historic unexploded ordnance was uncovered at Sandwich Bay in Kent and investigated by a Royal Logistics Corps EOD team. A similar event occurred in the same area in 2016.

On the 18th April 2020, a 500lb British UXB was discovered by a farmer near Drayton in Oxfordshire. The area had been used as an RAF practice bombing range during WWII and after an in-situ disposal was completed the item was found to have contained no explosives.

On the 4th May 2020, a UXB was discovered by builders at Kings Hill on the former RAF West Malling airfield, the fourth found since 2017. It was destroyed in a controlled explosion.

On the 21st July 2020, more than 100No. items of UXO were washed ashore at Eskmeals beach in Cumbria. An army EOD team attended the site and confirmed they had come from the nearby MoD Eskmeals Range. Whilst many items were found to be inert, those which contained explosives were destroyed in-situ.

On the 19th September 2020, 2No. anti-submarine torpedoes were uncovered on Sand Bay near Weston-super-Mare, Somerset. Both items were confirmed to be 'test' devices and destroyed in-situ by a Royal Navy EOD team.

On the 1st December 2020, a research vessel discovered an unexploded marine mine containing 350kg of explosives in Wemyss Bay in the Firth of Clyde. RN divers investigated the item and destroyed it.

On the 25th December 2020, a UXB was found on Eastney Beach, Hampshire. An army EOD team closed the beach and carried out a controlled explosion of the item.

On the 26th February 2021, a 1,000kg German "Hermann" UXB was discovered by builders at Exeter University campus (see plate below). It was investigated and detonated in-situ following the evacuation of nearby properties and University halls of residence.



Appendix 4 Glossary and Definitions

Abandoned Explosive Ordnance (AXO)	Abandoned Explosive Ordnance is explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.
Close Combat Munitions	Items of ordnance thrown, propelled or placed during land warfare, to include grenades, mortars, projectiles, rockets and land mines.
Demil	Derived from the term 'Demilitarisation', it refers to the break down and the recycling or disposal of ordnance components.
Detonation	The high-speed chemical breakdown of an energetic material producing heat, pressure, flame and a shock wave.
Device	This term is used for any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells or bombs.
Explosive	The term explosive refers to compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat and pressure. Obviously, these are extremely dangerous and should only be handled by qualified professionals.
Explosive Ordnance (EO)	Explosive Ordnance is all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads, guided and ballistic missiles, artillery, mortar, rocket, small arms ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs & dispensers, cartridge & propellant actuated devices, electro-explosive devices, clandestine & improvised explosive devices, and all similar or related items or components explosive in nature.
Explosive Ordnance Clearance (EOC)	Explosive Ordnance Clearance is a term used to describe the operation of ordnance detection, investigation, identification and removal, with EOD being a separate operation.
Explosive Ordnance Disposal (EOD)	Explosive Ordnance Disposal is the detection, identification, on-site evaluation, rendering safe, recovery and final disposal of unexploded explosive ordnance.
Explosive Ordnance Reconnaissance (EOR)	Explosive Ordnance Reconnaissance is the detection, identification and on-site evaluation of unexploded explosive ordnance before Explosive Ordnance Disposal.
Explosive Remnants of War (ERW)	Explosive Remnants of War are Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO), excluding landmines.

Explosive Substances and Articles (ESA)	Explosive substances are solid or liquid substances (or a mixture of substances), which are either: • capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. • designed to produce an effect by heat, light, sound, gas or smoke, or a combination of these as a result of a non-detonative, self-sustaining, exothermic reaction. Explosive article is an article containing one or more explosive substances.
Fuze	A fuze is the part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and in particular in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance.
Gaine	Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition.
Geophysical survey	A geophysical survey is essentially a range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance as disturbance of ordnance items is to be avoided where ever possible.
Gold line	This is the estimated limit of blast damage from an explosive storage magazine. It usually means that development within this zone is restricted.
High Explosive	Secondary explosives (commonly known as High Explosives (HE)) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are: Nitro glycerine (NG), Trinitrotoluene (TNT), AMATOL (Ammonia nitrate + TNT), Gunpowder (GP), and Cyclotrimethylenetrinitramine (RDX).
Munition	Munition is the complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions. This includes those munitions that have been suitably modified for use in training, ceremonial or non-operational purposes. These fall into three distinct categories:- • inert - contain no explosives whatsoever. • live - contain explosives and have not been fired. • blind - have fired but failed to function as intended.

Primary Explosive	Primary explosives are usually extremely sensitive to friction, heat, and pressure. These are used to initiate less sensitive explosives. Examples of primary explosives are: Lead Azide, Lead Styphnate, and Mercury Fulminate. Primary explosive are commonly found in detonators.
Propellants	Propellants provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are: Ballistite often found in a flake form and Cordite used in small arms ammunition.
Pyrotechnic	A pyrotechnic is an explosive article or substance designed to produce an effect by heat, light, sound, gas or smoke, or a combination of any of these, as a result of non-detonative, self-sustaining, exothermic chemical reactions.
Small Arms Ammunition (SAA)	SAA includes projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns and machine guns.
Unexploded Anti-Aircraft (UXAA) Shell	UXAA shells are army ordnance commonly containing HE, though they can also contain pyrotechnic compounds that produce smoke. Most commonly, these were 3.7” and 4.5” HE shells, although they ranged from 2” to 5.25” calibre.
Unexploded Bomb (UXB)	UXB is a common term for unexploded air-dropped munitions.
Unexploded Ordnance (UXO)	UXO is explosive ordnance that has been either primed, fuzed, armed or prepared for use and has been subsequently fired, dropped, launched, projected or placed in such a manner as to present a hazard to operations, persons or objects and remains unexploded either by malfunction or design.

Appendix 5 WWII Bombing Incident List

17th August 1940

10No. HE bombs fell along the southern bank of the River Dee, from the old Sandycroft foundry towards Queensferry, approximately 0.8km northeast of the Site. 2No. of there were recorded as UXBs.

4No. HE bombs fell on the old factory grounds, Queensferry, approximately 0.7km northeast of the Site.

30th August 1940

4No. HE bombs fell in the vicinity of Queens Street, Queensferry, approximately 0.6km north of the Site.

9th September 1940

3No. HE bombs fell on a field adjoining Rake Farm, Sandycroft, approximately 0.4km southwest of the Site. These were recorded as UXBs.

28th September 1940

12No. IBs fell on fields at Bee's Nurseries, Sealand, within approximately 0.6km east of the Site.

18th October 1940

1No. HE bomb fell south of the Stanlow Oil Refinery, approximately 0.1km north of the Site. This was recorded as UXB.

19th October 1940

2No. HE bombs fell 200 yards (yds) north of Soughton Hall, Northop, approximately 0.9km west-southwest of the Site.

1st November 1940

1No. HE bomb fell on the Stanlow Oil Refinery, approximately 0.4km north-northeast of the Site.

14th November 1940

14No. HE bombs and 350No. IBs fell on RAF Hawarden, within approximately 1km south of the Site.

28th November 1940

1No. HE bomb fell on the Stanlow Oil Refinery, approximately 0.9km north of the Site.

21st December 1940

1No. HE bomb fell on a field near Mollington, approximately 0.5km south of the Site.

1No. HE bomb fell on a field near Saughall, approximately 0.7km north of the Site.

9th January 1941

Several IBs fell between Aston Hill and Higher Shotton, within approximately 0.3km north of the Site.

2No. IBs fell on a field next to Plas Bellin Wood, Northop, approximately 1km east of the Site.

15th February 1941

3No. HE bombs fell on a field near Great Saughall, Wirral, approximately 0.3km north of the Site. 1No. of these was recorded as a Delayed Action Bomb (DAB).

12th March 1941

1No. Parachute Mine (PM) fell between the Stanlow Oil Refinery and HAA Battery Mersey H26, approximately 1km north of the Site.

8th April 1941

1No. HE bomb fell on a field at Llwyn Onn, Flint, approximately 0.3km northwest of the Site.

1No. HE bomb fell on a field at Coed Onn, Flint, approximately 0.3km north of the Site.

26th April 1941

50No. IBs fell across fields at Church Farm, Sealand, within approximately 0.1km southeast of the Site.

29th May 1941

500No. IBs fell across small holdings from Green Lane, Sealand, towards the Cheshire county border, within approximately 0.6km north of the Site.

20th October 1941

4No. HE bombs fell on the old factory grounds, Queensferry, approximately 0.4km northeast of the Site.

22nd October 1941

4No. HE bombs fell on a field off Shotton Lane, Shotton, approximately 1km north of the Site.

1st November 1941

1No. HE bomb fell on the junction of Chester Road and Leaches Lane, on the central part of the Site.

4No. HE bombs fell on fields facing the new houses, Pentre, Sandycroft, approximately 50m south of the Site.

100No. IBs fell on land off Bees Nurseries, Sealand, within approximately 0.3km east of the Site.

4No. HE bombs fell on fields at the top end of Leadbrook Drive, Flint, approximately 0.8km northeast of the Site.

10th January 1942

HE bombs (number unspecified) fell on the Stanlow Oil Refinery, within approximately 0.8km northwest of the Site.

14th January 1942

1No. HE bomb fell on the Stanlow Oil Refinery, approximately 0.6km north of the Site.

Appendix 6 Bibliography

Birtles P, World War 2 Airfields, 1999

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, Land Contamination: Technical Guidance on Special Sites: MoD Land

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S, & Slade N J, R&D Technical Report P5-042/TR/03, Land Contamination: Technical Guidance on Special Sites: Explosives Manufacturing & Processing Sites

CIRIA, Unexploded Ordnance (UXO), a Guide for the Construction Industry, 2009

Clarke N J, Luftwaffe Target Reconnaissance, German aerial Photography 1939-1942, 1996

Clarke N J, Adolf's British Holiday Snaps: Luftwaffe Aerial Reconnaissance Photographs of England, Scotland and Wales, 2012

Cheshire County Council, Wartime Cheshire 1939-1945, 1985

Cocroft W D, Dangerous Energy, 2000

Cocroft W D, Thomas R J, Cold War, 2003

Department of the Environment, Sampling Strategies for Contaminated Land, Department of the Environment: Contaminated Land Research Report, CLR Report No. 4, 1994.

Dobinson C S, Twentieth Century Fortifications in England, Volume I 1, Anti-aircraft artillery, England's air defence gun sites. 1914 – 46. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 2, Anti-aircraft artillery, Site gazetteer, WWI. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I. 3. Anti-aircraft artillery, 1914-46, Site gazetteer, WWII HAA & ZAA. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 4, Anti-aircraft artillery, Site gazetteer, WWII LAA. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 5, Anti-aircraft artillery, Sources. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume II, Anti-invasion defences of WWII. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume III, Bombing decoys of WWII, England's passive air defence 1939-45. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume VIII, Civil defence in WWII, Protecting England's Civil Population. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Supporting paper AA/1 Searchlight sites in WWII. Council for British Archaeology, 1996

Dobinson C S, Fields of Deception, Britain's Bombing Decoys of World War II, 2000

Dobinson C S, AA Command, 2001

Fegan T, The Baby Killers, 2002

Freethy R, Cheshire: The Secret War 1939-1945, 2012

Morris J, German Air Raids on Britain 1914-1918, 1993

Naval & Military Press Ltd, History of the Cheshire Home Guard: 1940-1944, 2015

Price A, Blitz on Britain 1939-45, 2000

Ramsey W, The Blitz Then and Now, Vol 1, 1987

Ramsey W, The Blitz Then and Now, Vol 2, 1988

Ramsey W, The Blitz Then and Now, Vol 3, 1990

Zetica, ZeticaUXO Handbook: a guide to dealing with UXO during construction, 2018

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- ☑ Utility services detection
- ☑ Environmental and engineering geophysical surveys
- ☑ Transport infrastructure surveys
- ☑ Pipeline & cable route surveys
- ☑ Intrusive ground investigations

More details are available at




zeticaUXO

Pre-Desk Study Assessment

Site:	Block Valve 1, Flintshire, Wales
Client:	WSP
Contact:	Emily Morgan
Date:	2nd August 2021
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was located in the Rural District (RD) of Holywell, which officially recorded 112No. High Explosive (HE) bombs with a bombing density of 1.9 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Pre-Desk Study Assessment

Site:	Block Valve 2, Flintshire, Wales
Client:	WSP
Contact:	Emily Morgan
Date:	2nd August 2021
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was located in the Rural District (RD) of Holywell, which officially recorded 112No. High Explosive (HE) bombs with a bombing density of 1.9 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Pre-Desk Study Assessment

Site:	Block Valve 3, Flintshire, Wales
Client:	WSP
Contact:	Emily Morgan
Date:	2nd August 2021
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including chemical works.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities. ■ Military training areas.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was located in the Municipal Borough (MB) of Flint, adjacent to the Rural District (RD) of Holywell. Flint MB officially recorded 53No. High Explosive (HE) bombs with a bombing density of 7.8 bombs per 405 hectares (ha). Holywell RD officially recorded 112No. HE bombs with a bombing density of 1.9 bombs per 405 ha. No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Annex D

GEOLOGICAL DESKTOP STUDY

It should be noted that this annex was produced at a point in time during the development of the Basic Design of the DCO Proposed Development. Therefore, the design information presented herein may be different to the final Basic Design which is described in **Chapter 3 – Description of the DCO Proposed Development (Volume II).** However, this annex remains applicable to informing the Environmental Impact Assessment and any associated limitation or assumptions are discussed in the respective Environmental Statement Chapter and Appendix.

LBA CCS Transport and Storage Project

Onshore Pipeline

GEOLOGICAL DESKTOP STUDY

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RA	Revision Index							

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Project / Initiative name	LBA CCS Transport and Storage Project
Document Title	GEOLOGICAL DESKTOP STUDY

Abstract

This document provides a DESK REVIEW OF THE GEOLOGICAL CONDITIONS to be expected along the path of the newbuild buried onshore pipelines for CO_2 service and Above Ground Installations, namely:

- 20” pipeline from Grinsome Road AGI to Stanlow AGI
- 36” pipeline from Stanlow Above Ground Installation to Connah’s Quay Above Ground Installation.
- Grinsome Road Above Ground Installation (AGI)
- Connah’s Quay AGI

Mostly, glacial environment (till “boulder clay” and fluvioglacial sand and gravel) and Holocene (tidal flat and lacustrine-fluvial clay, sand, peat) deposits are to be excavated. Other Quaternary palustrine and fluvial sediments are much rarer along the planned alignment. Bedrock formations (mostly sandstone, then siltstone, mudstone, shales) will be met too, directly cropping out or buried at shallow depth. Considerations are also provided regarding the geological hazards to be expected along the routes.

Document Verification

Company	Prepared by: SOIL & DPH	Signature	Date
	Approved by:	Signature	Date

Company Interdisciplinary Review	Verified by:	Unit	Signature	Date
	Verified by	Unit	Signature	Date
	Verified by	Unit	Signature	Date

Company Approved	Approved by:	Unit	Signature	Date
	Approved by	Unit	Signature	Date

Company Endorsed	Endorsed by	Unit	Signature	Date
	Endorsed by	Unit	Signature	Date

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REVISION LIST

00	Revision from previous version 104900BLRV80010 which now includes Geohazards – coal mining; salt mining and further information along the route length. 12” line from Grinsome Road AGI to Stanlow AGI also upgraded to 20” line

HOLD RECORD

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1.0 INTRODUCTION

1.1 Project Overview

Eni's Liverpool Bay CCS Transport & Storage Project is being developed in parallel with and as a key part of the HyNet Northwest full-chain hydrogen and CCS industrial decarbonisation project (the HyNet Project), which is designed to transform a region of the UK into the world's first low carbon industrial cluster by 2030.

The HyNet Project was conceived in 2016 with the objective of decarbonising the entire industrial cluster to Net Zero. While industrial decarbonisation is the anchor, the HyNet Project builds the infrastructure backbone for a full regional hydrogen economy and leverages the opportunity to repurpose for future CCS service the existing oil and gas facilities at Point of Ayr and offshore in Liverpool Bay. CO_2 storage is provided in depleted and well known gas fields that are owned and operated by Eni UK. The HyNet Project's CCS network will provide the infrastructure to transport and store the CO_2 produced as a by-product of the hydrogen production process and CO_2 from a number of the UK's largest industrial emitters, including Stanlow Refinery, Ince Fertiliser plant and Padeswood Cement plant located in this cluster.

The HyNet Project is designed for an initial capacity of 3MTPA of CO_2 but is engineered for later expansion to 10MTPA. The long term vision scenario of the HyNet Project is depicted in Figure 1-1.

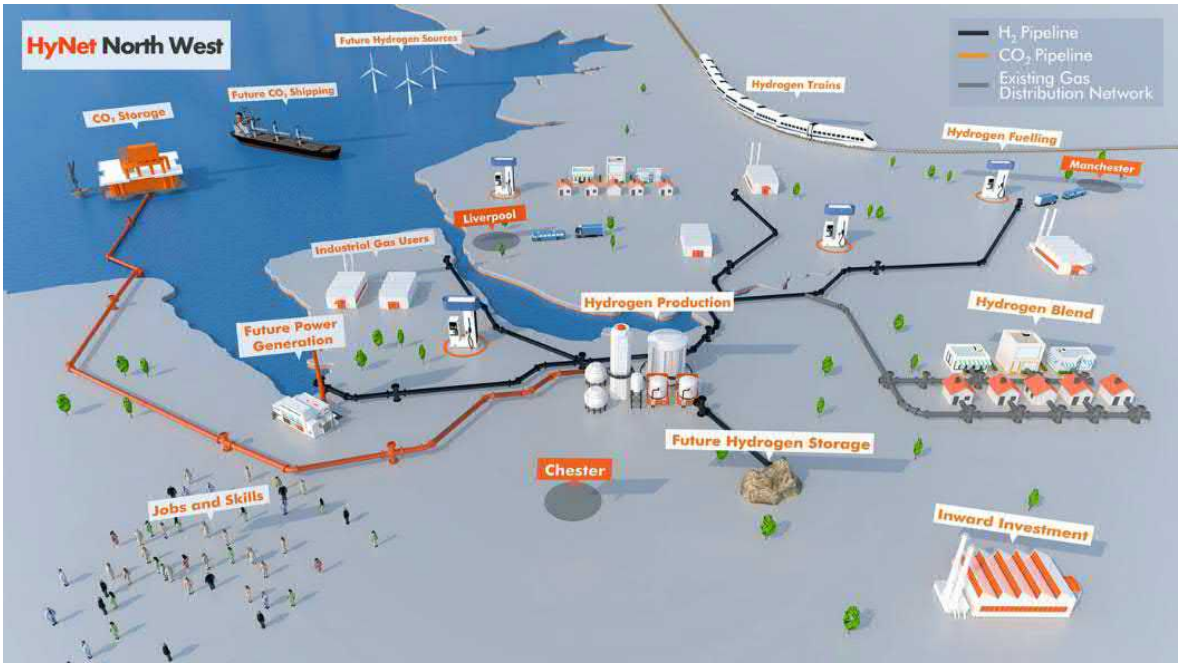


Figure 1-1 Facilities Location

Eni's Liverpool Bay CCS Transport & Storage (T&S) Project scope (Figure 1-2) includes:

- A new onshore pipeline (36" dia. and approximately 33km long) to transport CO_2 from the emitters at Stanlow to Connah's Quay (CQY). There is also a short 20" dia. section of pipe north east of Stanlow.
- Repurposing of the existing onshore 24" dia. Point of Ayr (PoA) to CQY natural gas line to carry CO_2 in the opposite direction. During later expansion this pipeline will be replaced or have its capacity expanded by a second pipeline to reach the 10MTPA capacity.
- Development of the onshore assets at PoA to provide onshore compression, which will be expanded in later phases.
- Repurposing of existing sub-sea natural gas pipelines for CO_2 service. In later years pipelines will be replaced as required for expansion.

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- Development of the Douglas, Hamilton Main, Hamilton North and Lennox platforms, in an incremental manner for CO_2 sequestration service.
- Development of the Hamilton Main, Hamilton North and Lennox reservoirs for CO_2 storage



Figure 1-2 Eni's Liverpool Bay CCS T&S Project Scope

Refer to LBA CCS Basis of Design document [Ref 1] for further LBA CCS project details.

1.2 Document Objective and Scope

This document is aimed at providing a desk review of the geological conditions to be expected along the path of the newbuild buried onshore pipelines for CO_2 service and Above Ground Installations, namely:

- 20" Grinsome Road AGI to Stanlow AGI
- 36" Stanlow AGI to CQY AGI
- Grinsome Road AGI
- CQY AGI
- Northop Hall BVS
- Aston Hall BVS
- Mollington BVS
- Rock Bank BVS

As per [Ref 2] the project battery limits are shown in Figure 1-3.

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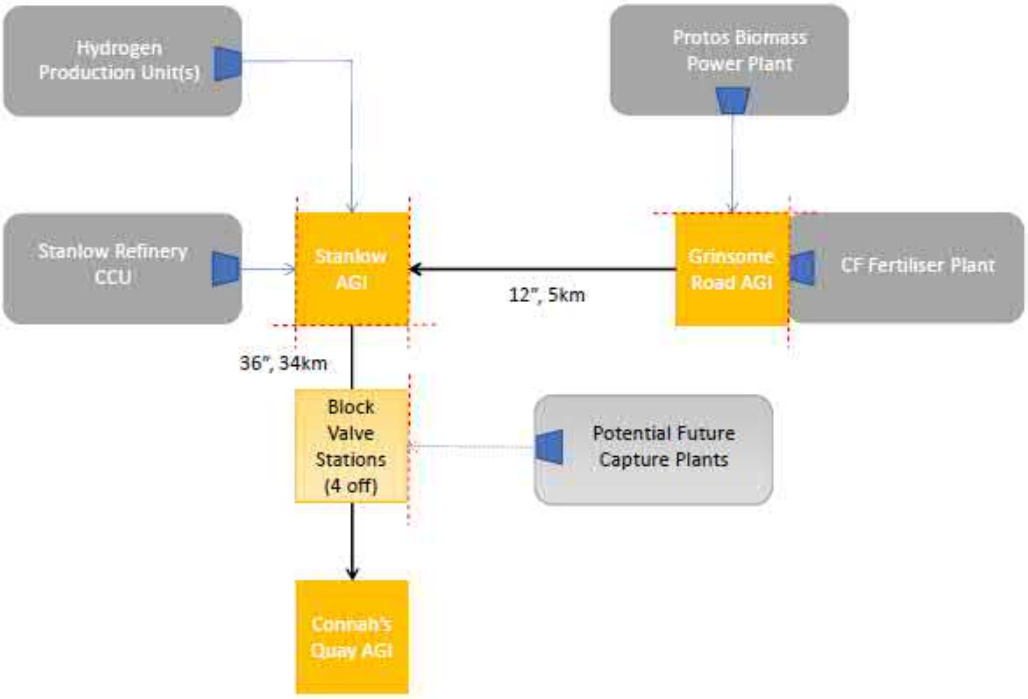


Figure 1-3 Project Battery Limits (12" line is now 20" line)

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2.0 NEW BUILD FACILITIES OVERVIEW

The Onshore Pipelines scope covers the design and installation of new pipeline infrastructure to collect CO_2 from the emitters and deliver the gas to an Above Ground Installation (AGI) at Connah's Quay for onwards transmission to the Point of Ayr (PoA) Terminal. The pipelines will operate in the gas phase. No compression facilities will be provided within the new pipelines system; the gas will free flow to PoA under all flowrate scenarios.

Refer to LBA CCS Basis of Design – Onshore Pipelines [Ref 2] for further project details.

2.1 Above Ground Installations

Above Ground Installations will provide the transition between the T&S system and the CO_2 emitters. AGIs will be provided at the Ince Fertliser Plant (Grinsome Road AGI) (Figure 2-1), Stanlow and at Connah's Quay (Figure 2-2). Pigging facilities will be provided at the AGIs. The Stanlow AGI is outside of the T&S project scope.



Figure 2-1 - Grinsome Road AGI Preliminary Location [Ref 3]



Figure 2-2 - Connah's Quay AGI Preliminary Location [Ref 4]

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2.2 Grinsome Road to Stanlow Pipeline

A new pipeline (currently sized as 20" – revised from 12" in early June 2021) will be installed between the Grinsome Road AGI (a brownfield site inside the CF Fertiliser Plant boundary) to an AGI at the Essar Stanlow Refinery (a brownfield site, inside the existing boundary). This pipeline will initially transport gas from the Ince Fertiliser Plant however a tie-in will be provided inside the AGI battery limit to allow the future capture of CO_2 from the Protos Biomass Power Plant.

For the purpose of this document, the 20" pipeline total length is assumed to be 4.2km, and buried to a minimum cover of 1.2 metres to top of pipe. Where the pipeline crosses a highway or river, the minimum depth of cover to top of pipe shall be 2m and 4m respectively. Several routes have been considered for this pipeline, which is still under review at the time of this report with the preferred route shown in the figure below.



Figure 2-3 Grinsome Road to Stanlow 12" Pipeline Preliminary Route

2.3 Stanlow to Connah's Quay Pipeline

CO_2 from various units inside the Stanlow Refinery (the existing Catalytic Cracking Unit and future Hydrogen Production Units) will enter the T&S system at a new AGI located on the site of the former Alcohols Plant. A new pipeline (currently sized as 36") will be installed to transport the gas to the Connah's Quay (CQY) AGI.

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For the purpose of this document, the 36” pipeline total length is assumed to be 31.4km, and buried to a minimum cover of 1.2 metres to top of pipe. Where the pipeline crosses a highway or river, the minimum depth of cover to top of pipe shall be 2m and 4m or deeper as required by the authority concerned with the infrastructure.



Figure 2-4 Stanlow to Connah’s Quay 36” Pipeline Preliminary Route

Intermediate block valve stations will be provided at various locations along the length of the new 36” pipeline. The block valve stations will allow sections of the pipeline to be isolated and depressured if maintenance is required. Permanent venting facilities will not be provided at the block stations, but connections will be provided to allow connection of a temporary vent stack. The block valve stations will not be manned but will be monitored and controlled via the new Integrated Control and Safety Systems to be provided at the Point of Ayr terminal. Table 2.1 details the assumed locations of the block valve stations.

Block Valve Station Name	Approximate Distance from Stanlow AGI
Rock Bank	7km
Mollington	10km
Aston Hall	21.5km
Northrop Hall	25km

Table 2.1: Block Valve Station Distances from Stanlow AGI (approximate locations)

The block valve stations will be fenced off gravelled areas served by access roads linking them to the local road network. The main items of equipment within the BVSs will be a substantial valve to the 36” pipeline housed in a concrete pit, an electrical/instrumentation kiosk, and a vent stack.

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3.0 DEFINITIONS AND ABBREVIATIONS

3.1 Geodetic datum and grid coordinate system

The geodetic datum and grid coordinate system applied throughout this document are according to the British National Grid (OSGB 1936, EPSG 27700).

3.2 Units

In the present document, the International System (SI) Units are used, as listed below:

- Linear units are international meters (m);
- Angular unit are degrees (°).

3.3 Abbreviations

AGI	Above Ground Installation
a.s.l.	above sea level
BGS	British Geological Survey
BH	Borehole(s)
b.s.l.	below sea level
CCS	Carbon Capture and Storage
CO_2	Carbon Dioxide
CQY	Connah's Quay
FEED	Front End Engineering Design
ISG	Irish Sea Glacier
LBA	Liverpool Bay Area
LGM	Last Glacial Maximum (ca. 25-20 ka)
TD	Total Depth
WMS	Web Map Service

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4.0 REFERENCES

4.1 Project Documents

[Ref 1] 104900FGRB09001 Basis of Design
[Ref 2] 104900FGRB09021 Basis of Design – Onshore Pipelines
[Ref 3] 104900FTDG62065 Grinsome Road AGI Plot Plan
[Ref 4] 104900FTDG62065 Connah's Quay AGI Plot Plan

4.2 Bibliography

[Ref 5] British Geological Survey (BGS) website https://www.bgs.ac.uk
[Ref 6] Chiverrell R.C., Powell Thomas G.S., Matthew Burke, Alicia Medialdea, Rachel Smedley, Mark Bateman, Chris Clark, Geoffrey A. T. Duller, Derek Fabel, Geraint Jenkins, Xianjiao Ou, Helen Marie Roberts, James Scourse (2020). The evolution of the terrestrial-terminating Irish Sea glacier during the last glaciation. Journal of Quaternary Science, 1–28, ISSN 0267-8179. DOI: 10.1002/jqs.3229
[Ref 7] DEFRA website https://environment.data.gov.uk/DefraDataDownload
[Ref 8] Howells, M F. (2007). British regional geology: Wales. Keyworth, Nottingham: British Geological Survey.
[Ref 9] Musson R.M.W. (2004). A critical history of British earthquakes. Annals of Geophysics, 47(2-3), 597-609.
[Ref 10] Musson R.M.W. (2007). British earthquakes. Proceedings of the Geologists' Association, 118, 4, 305-337.
[Ref 11] Musson R.M.W. (2008). The seismicity of the British Isles to 1600. BGS, Earth Hazards and Systems, Internal Report OR/08/049, 90 pp.
[Ref 12] Phillips, E, Hodgson, DM, and Emery, AR (2017). The Quaternary Geology of the North Sea Basin. Journal of Quaternary Science, 32 (2),117-339. ISSN 0267-8179.
[Ref 13] Shennan, I., Bradley, S., Milne, G., Brooks, A., Bassett, S. & Hamilton, S. (2006). Relative sea-level changes, glacial isostatic modelling and ice-sheet reconstructions from the British Isles since the Last Glacial Maximum. Journal of Quaternary Science 21: 585-599.
[Ref 14] Shennan, I., Milne, G. & Bradley, S.L. (2009). Late Holocene relative land - and sea-level changes: providing information for stakeholders. GSA Today 19(9): 52-53.

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5.0 GEOLOGICAL DESKTOP STUDY OVERVIEW

As anticipated in previous sections, within the Eni's Liverpool Bay CCS Transport & Storage (T&S) Project scope, part of the HyNet Northwest full-chain hydrogen and CCS industrial decarbonisation project, conceived in 2016, there is a new onshore pipeline (36" dia., approximately 33 km long) to transport CO_2 from the emitters at Stanlow to Connah's Quay (CQY). There is also a shorter (4 to 5 km long) 20" dia. section of pipe northeast of Stanlow connecting it to the Grinsome Road AGI. In general, the pipelines will be entrenched at (relatively) shallow depth, whereas at the crossing of all major infrastructure corridors they will be buried at adequate depth (with trenchless excavation techniques) in order not to interfere with the existing infrastructures.

This document illustrates the desk study carried out to investigate the geological aspects of the work and in particular to provide a prediction of the lithologies to be expected along the foreseen pipeline routes, in the form of lithological/geological maps and sections.

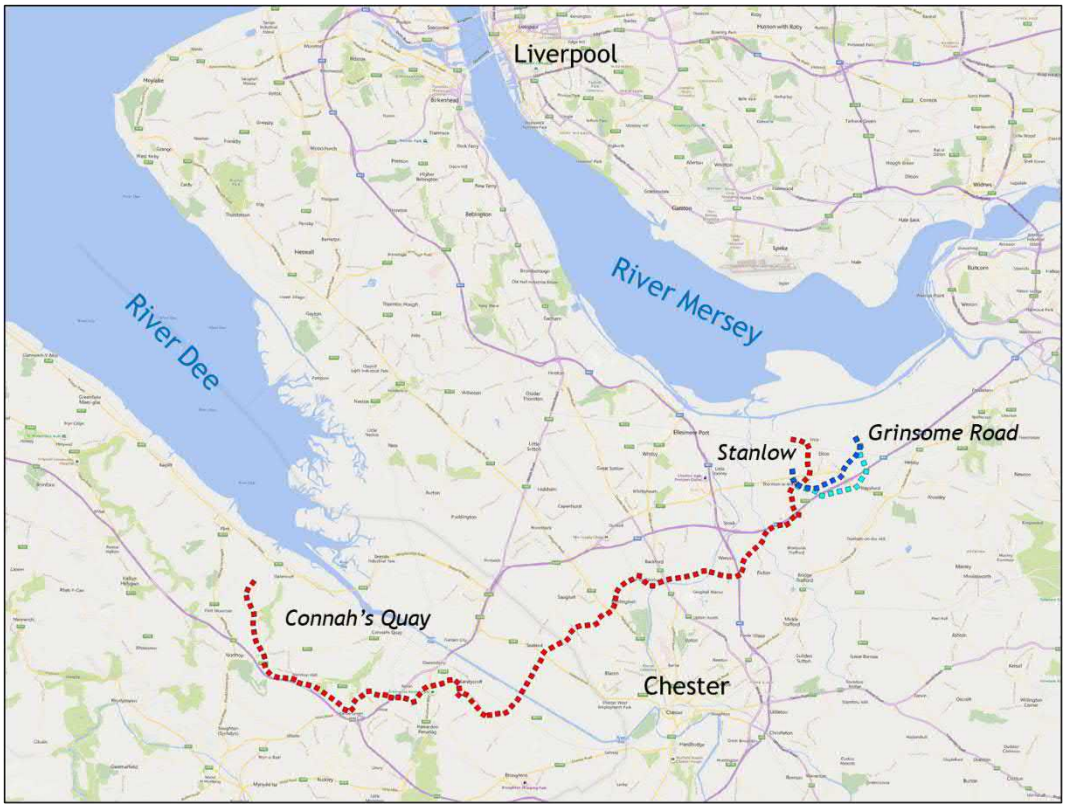


Figure 5-1 Facilities Location

The present geological desk study has covered the above cited extent of the foreseen grid of pipelines (Figure 5-1). The work has been based on the most accurate literature data that has been possible to gather thus far, principally represented by the geological maps and the borehole stratigraphies provided by the British Geological Survey (BGS) through its website (https://www.bgs.ac.uk). A wealth of useful information is provided, especially as web map service (WMS), in particular the digital geological map at scale 1:50,000, separated for superficial deposits (drift) and basement (solid rocks), and the original borehole logs, that have permitted to infer with enough detail the local geology.

At the same source it is also possible to explore, but not download, the original sheets of the geological map series at scale 1:63,360 and 1:50,000 (https://webapps.bgs.ac.uk/data/maps/maps.cfc?method=listResults&MapName=&series=E50k&scale=&pageSize=100&getLatest=Y).

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6.0 GEOLOGICAL BACKGROUND

The morphology of the study area is mostly flat with locally emerging smoothed hills and higher ground (Figure 6-1). Valleys and hillsides show a prevailing NW-SE trend. Along track, the pipeline route will reach a maximum elevation of ca. 32 m in its eastern half and around 110 m in the west. Its eastern extremity is at ca.12 m a.s.l. and the western one at 46 m a.s.l., the lowest point at ca. 4 m a.s.l., according to the 2m LIDAR grid provided by DEFRA (https://environment.data.gov.uk/DefraDataDownload/?Mode=survey).

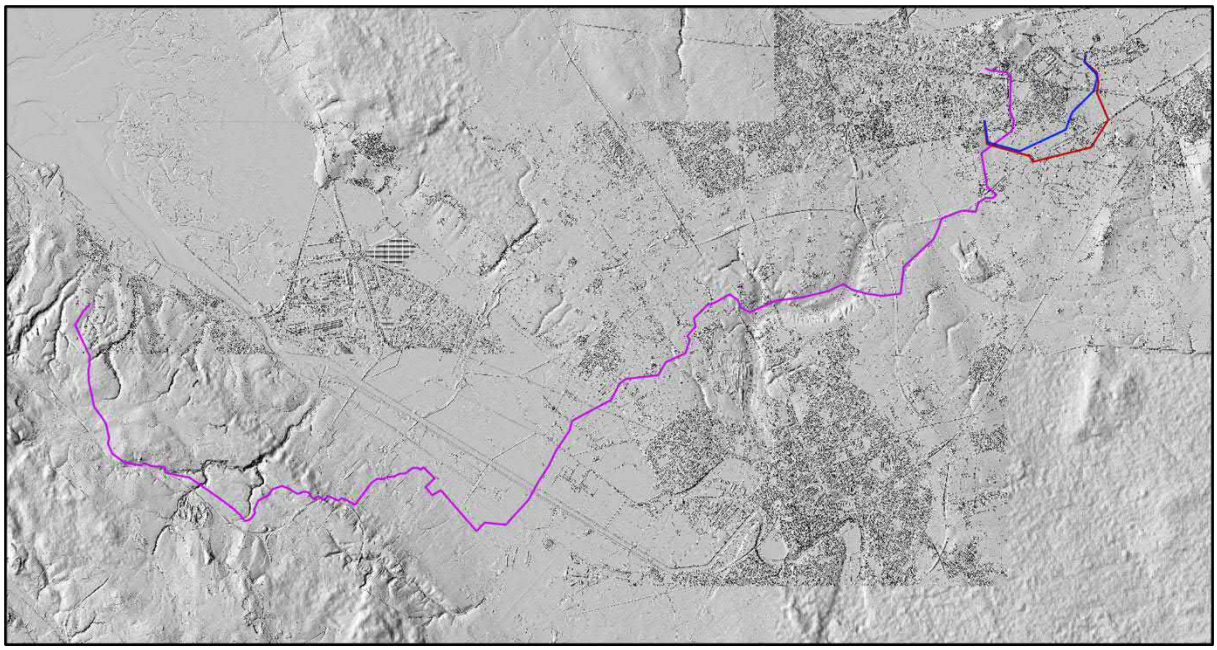


Figure 6-1 Small scale morphology of the study area (hillshaded relief from 2m resolution LIDAR along the pipeline route, SRTM 30m resolution elsewhere, vertical exaggeration 3x). The main 36" pipeline route (Option 5A hereinafter) is shown in purple in the above image. In blue and red the two alternative routes of the 20" pipeline to reach Grinsome Road (southern route A and B, respectively – the blue route is the current chosen route with the red route not currently an option).

In brief, the geology of the region is the following: the Palaeozoic Caledonian and Hercynian orogeneses were followed by the deposition of thick bodies of continental, mostly coastal plain, sediments, in particular the coal-rich Carboniferous Pennine Coal Measures and fluvial deposits, dated until the Permian. Successively, a long period of erosion and peneplanation characterized the region until the Quaternary. The only major interruption occurred in the Mesozoic, when the Pangea megacontinent split, in particular the British Isles were separated from the Americas by the opening of the Atlantic Ocean (Figure 6-2, Figure 6-3).

The Quaternary evolution is mostly determined by astronomically-driven climatic events. In particular, the episode that mostly shaped the current superficial morphology and stratigraphy of the study area was the cold period that followed the warm stage (Eutyrrhenian in the Mediterranean) that marked the onset of the Late Pleistocene epoch (125 ka). Especially the cold peak episode that marked the concluding phase of the Pleistocene, the so-called Last Glacial Maximum (LGM), which lasted for several thousand years (ca. 25-20 ka), left a profound imprint worldwide, including the British Isles.

Concerning the current geological setting of the study area, this is located in between the southern side of the long and wide estuary of the River Mersey in its ca. east-west section, where Ellesmere Port and Stanlow are sited and the even larger estuary of the River Dee. These estuaries might actually be the remnant of glacial valleys excavated by ice lobes during the advance and/or retreat of the glacier from the Irish Sea (ISG) that reached up to ca. 60 km inland from the Liverpool region during the Last Glacial Maximum (LGM) (ca. 25-20

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ka), when the sea level dropped globally at least -110 m (e.g., Phillips et alii 2017, Chiverrell et alii 2020, and references therein) (Figure 6-4, Figure 6-5).

Thus, during the LGM (named Devensian in the British geology), the coastal land was covered by ice that shaped the ground both eroding the protruding rocks (by esaration process) and depositing frontal and lateral moraines and till in glacial lakes. The following sea level rise (latest Pleistocene, Holocene) caused river overflows, floods (with deposition of mostly sand and gravel) and the development of palustrine-lacustrine environments (with deposition of clay and peat) in coastal plains. Sand dunes and shore and tidal flat deposits still characterize the low coast.

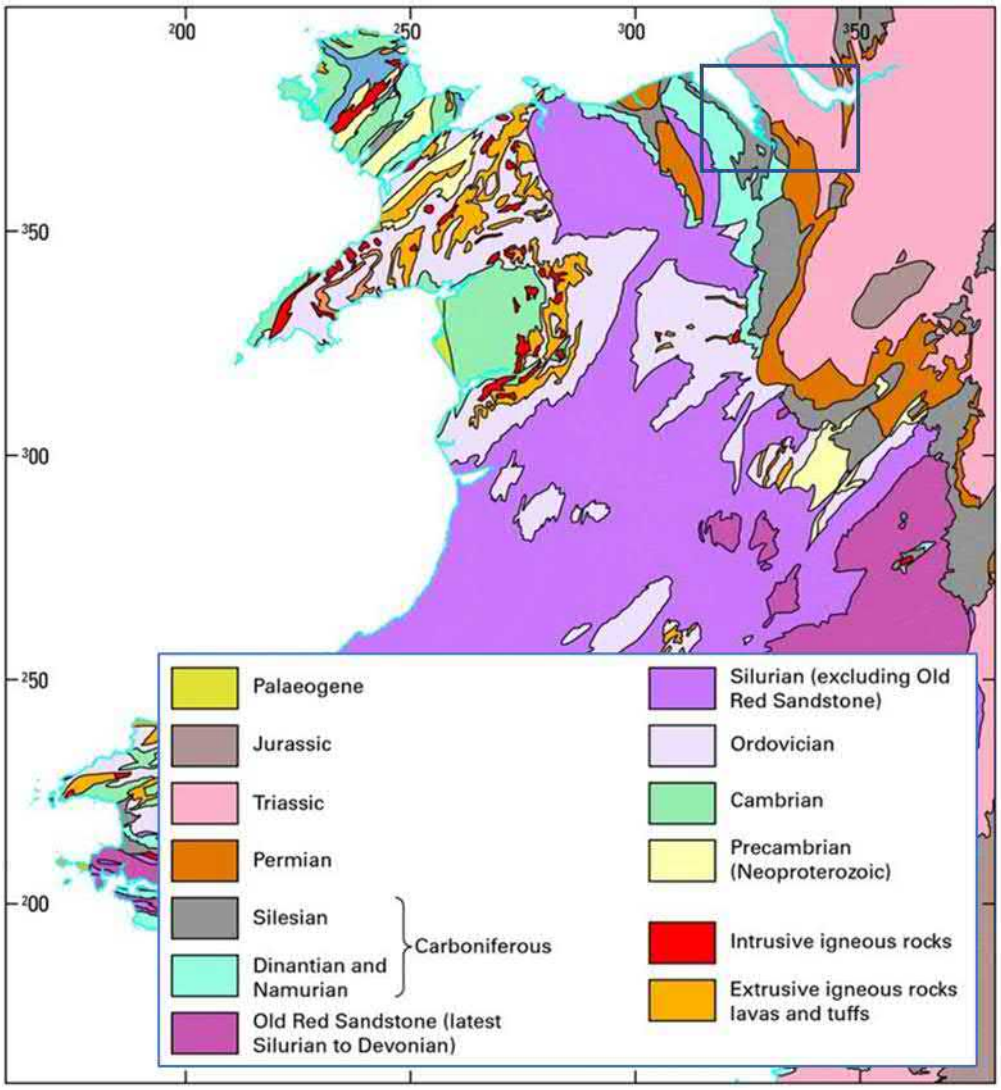


Figure 6-2 Bedrock geology of Wales (from Howells 2007, modified). Study area in box in upper right.

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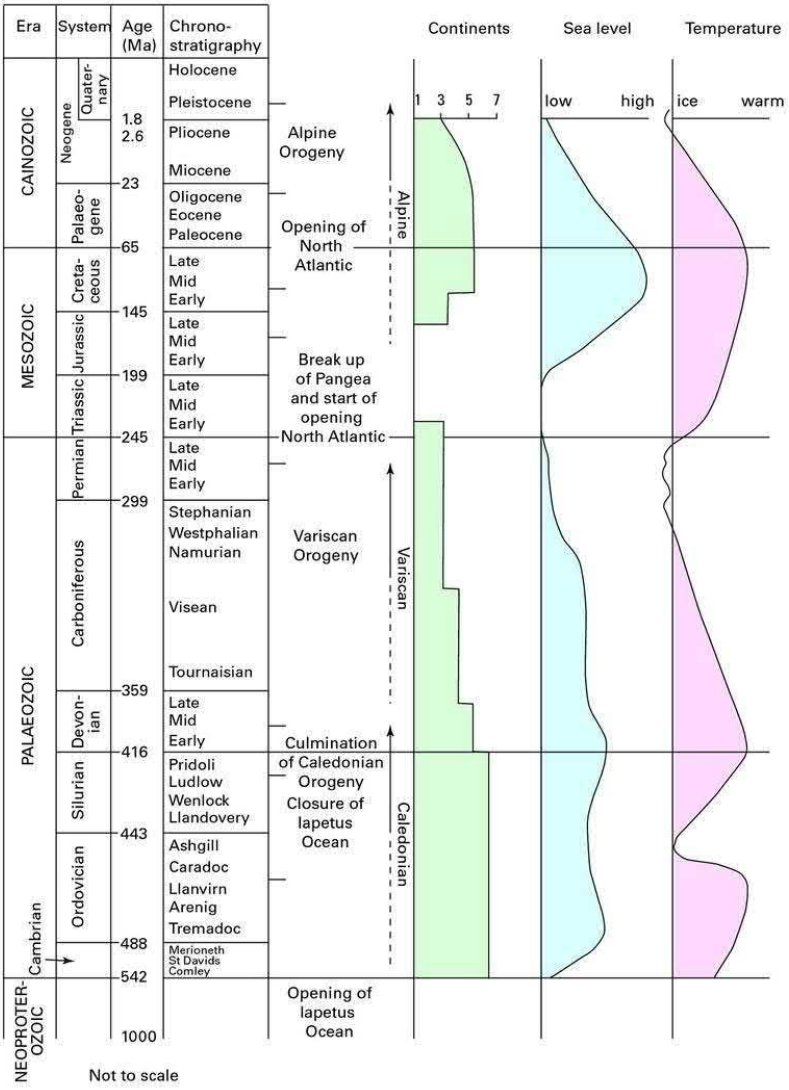


Figure 6-3 Timescale of major geological events in Wales (Howells 2007).

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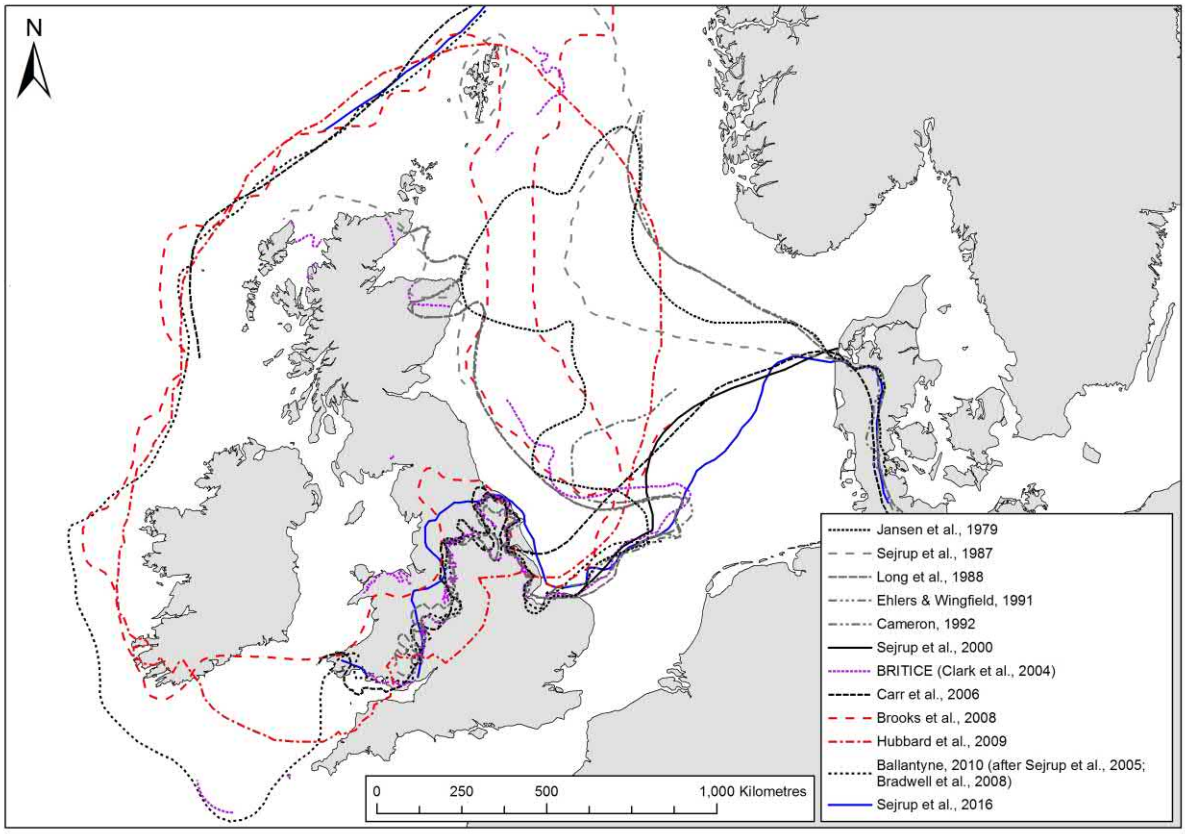


Figure 6-4. Extent of the glacial ice during the LGM (25-20 ka) around the British Isles (Phillips et al. 2017).

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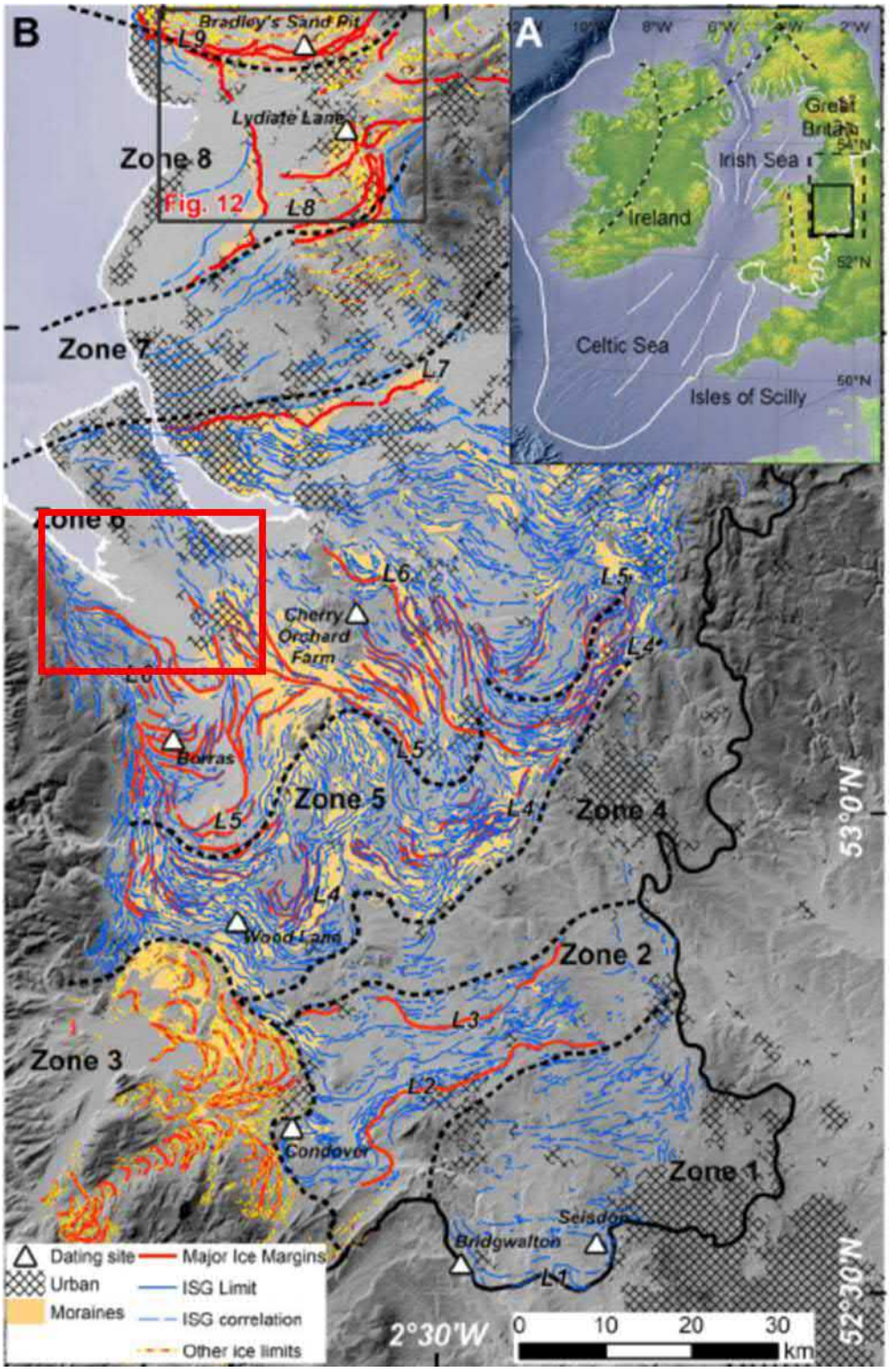


Figure 6-5. Extent inland of the glacial ice from the Irish Sea glacier (ISG) during the LGM (Chiverrell et al. 2020). The study area is marked by the red box in the northwestern half of the figure (Zone 6). Inset A shows the maximum extent reached by the glacial ice.

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The bedrock is made of mainly Carboniferous to Permian continental coastal estuaries and deltas fluvial-lacustrine sediments, which locally crop out or are found at variable shallow depth under the Late Quaternary sediments. The evolution drafted before is reflected in the formations represented in the BGS geological maps at scale 1:50,000 (sheets 96 Liverpool, 97 Runcorn, 108 Flint and 109 Chester).

The Quaternary deposits can be grouped in

A. Holocene alluvial and tidal flat sediments made of loose sand and gravel, soft clay and peat, especially the latter with very poor geotechnical properties. A soil of variable thickness, from a few tens of centimeters to over a meter generally covers all deposits, commonly developed from them.
B. Glacial and glacio-fluvial deposits, made of sand, gravel and *till*. In general, these materials are rather compact and unyielding. The behavior can be quite variable depending on local conditions.
C. Other Quaternary sediments, mostly fluvio-lacustrine, with quite variable geotechnical properties, depending on the level of compaction/diagenesis for the granular sediments and sometimes poor for the organic-rich palustrine deposits, again depending on local conditions of alteration.

The solid rock basement is made of Palaeozoic sediments principally deposited in a continental coastal environment. As a consequence of the high level of diagenesis, the materials are generally lithoid, ranging from mudstone to siltstone, sandstone and conglomerate. Also the coal beds are quite hard. In general, the geotechnical properties are expected to assure stable excavation slopes. However, a degradation of these properties might be encountered near surface or across zones of denser fracturing, e.g., along fault zones, with subsequent rock alteration, and shale-rich layers.

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7.0 DETAILED MORPHOLOGY AND GEOLOGY ALONG THE PROPOSED PIPELINE ROUTES

7.1 Morphology

The local landscape is represented here as elevation profiles along the alignments (

Figure 7-1) and shaded relief maps that also show the pipeline routes (Figure 7-2, Figure 7-3, Figure 7-4, Figure 7-5), both processed from the 2m resolution LiDAR.

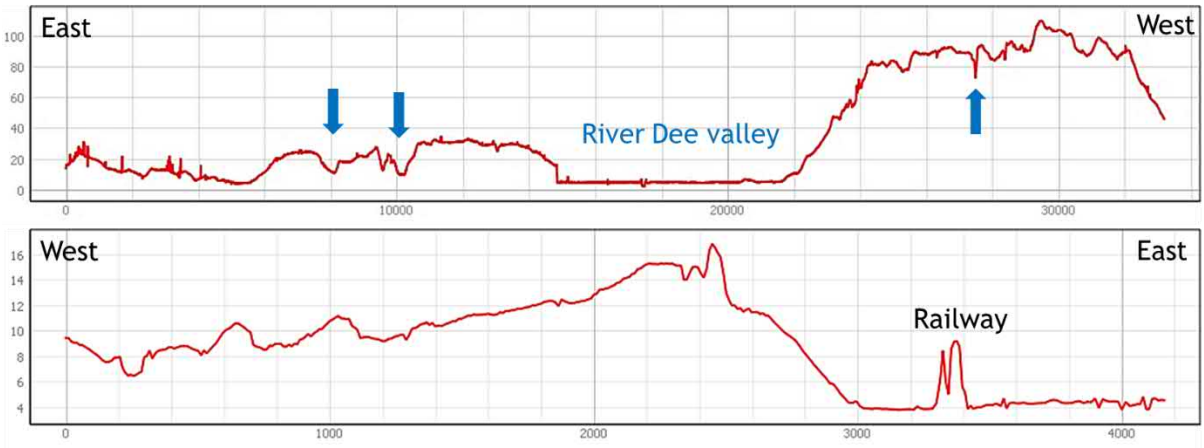
Along its path from east to west, the pipeline (Stanlow to Connah's Quay, option 5A) will run on a rather flat, gently undulated territory for about 4 km, where it will cross a wide and flat valley (ca. 1 km wide) with a channelized stream. The smooth drop in elevation is from ca 12 to 4 m a.s.l. Then the path rises to ca 24 m for crossing at ca km 8 a much narrower valley (ca. 200 m wide), again with a channelized stream. This time the drop is down to around 11 m a.s.l.

Then, for almost 3 km, the alignment runs on a more undulated ground following in part the left flank of the same valley. The following path is rather flat rising to almost 34 m and then lowering to 16 m a.s.l until km 14.8, where a drop to 5 m a.s.l. will permit to enter the flat valley of the River Dee, the valley itself is approximately 5 km wide.

At km 17.5, the pipeline will have to cross the artificial river channel ca. 150 m large as a whole. On the left side of the valley, the path climbs the gentle slope to reach a smooth hillside at around 80 m a.s.l. At ca. km 26.2 and km 27.5 the path crosses minor gullies, the first near its tail and the second one where the narrow stream incision (80 m from rim to rim) is about 10 m deep.

From this point to the terminal, the undulated path initially rises up to around 110 m a.s.l and then gently slopes down to 46 m. The route of the 20" pipeline (Grinsome Road to Stanlow; ca. 4.1) runs on relatively level land rising gently from 9 to 15 m for the first kilometres and then sloping down to 4 m a.s.l.

Topography along the route.
Top image is for the main 36" route (Option 5A). Bottom image is 20" line.



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Chainage (m)

Figure 7-1. The top elevation profile represents the 36" pipeline along the option 5A path (exaggeration 20x). Arrows point to the main stream incisions cited in text. The bottom elevation profile represents the 20" pipeline route. Most positive spikes along the profiles are artefacts of the 2m resolution LIDAR. Vertical exaggeration ca. 50 times. Elevation in metres

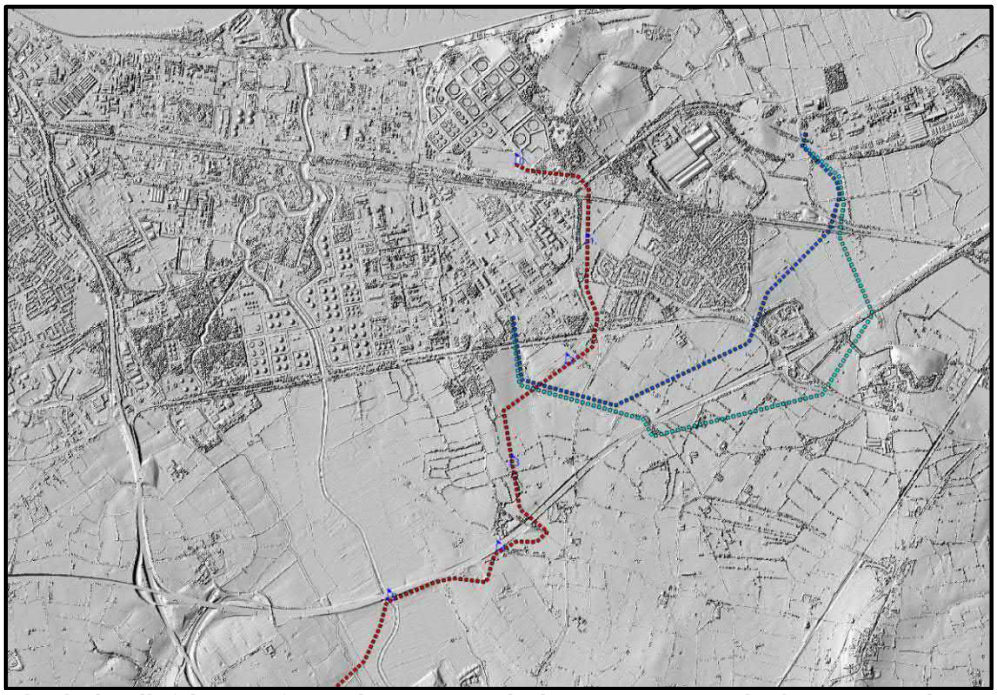


Figure 7-2. Shaded relief image from the 2m resolution LIDAR. Vertical exaggeration 3 times. The industrial area is readily evident. The red line marks the easternmost section of the Option 5A pipeline route from Km 0 to almost km 6 (1km flags). The blue (20" Route A) and cyan (secondary 20" route option route) lines are the proposed routes of the 20" pipeline. The resulting elevation profiles are shown in

Figure 7-1.

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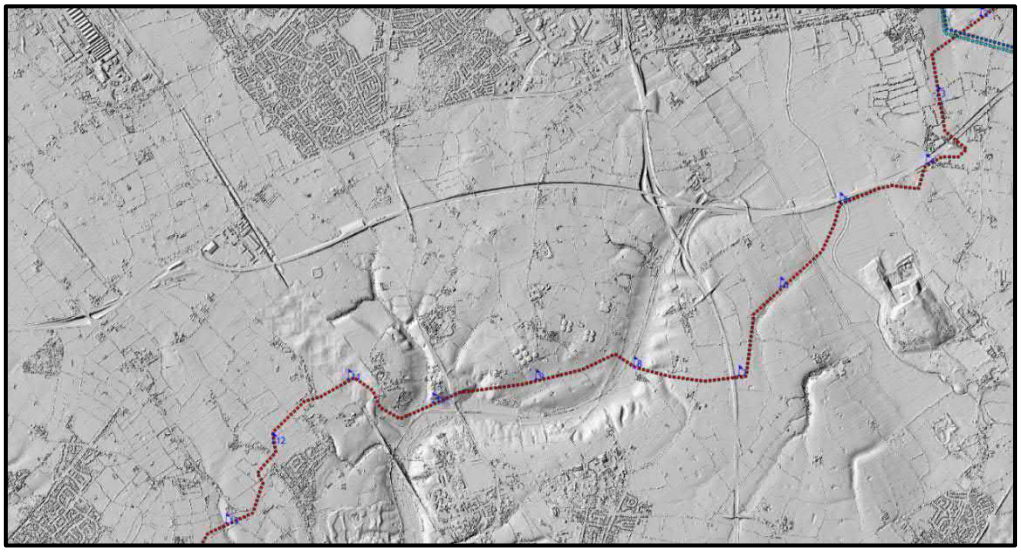


Figure 7-3. Footprint of the Option 5A path from km 2 to 13 (1km flags). Shaded relief image from the 2m resolution LIDAR. Vertical exaggeration 3 times. The resulting elevation profile is shown in

Figure 7-1.

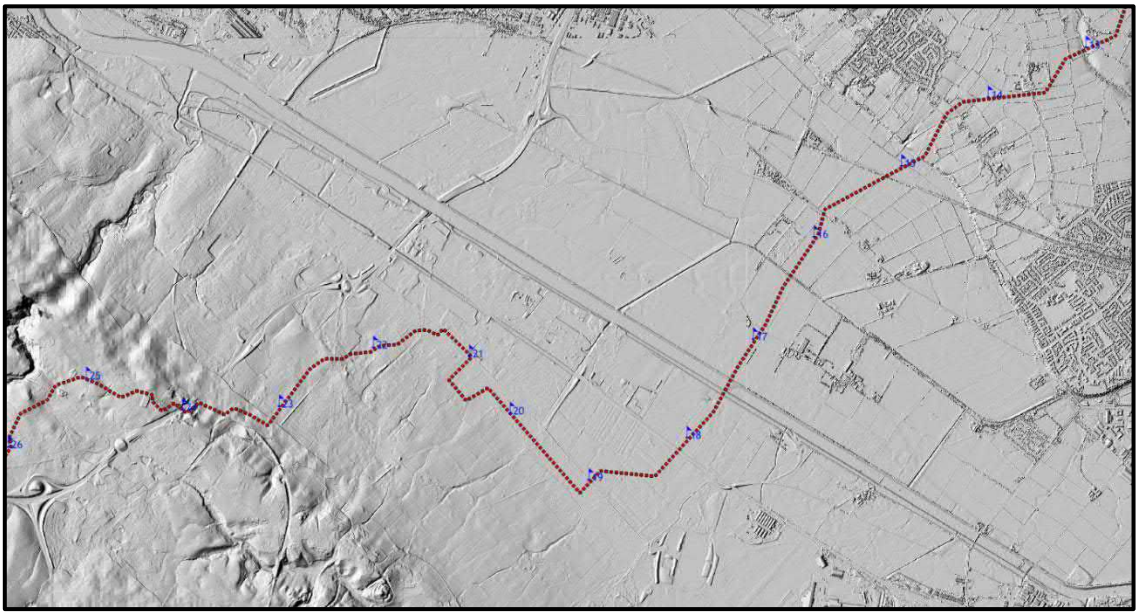


Figure 7-4. Shaded relief image from the 2m resolution LIDAR. Vertical exaggeration 3 times. Print of the Option 5A path from km 13 to 26 (1km flags). At km 14.8, there is a stepdown in topography to enter the Dee River Valley. At km 17.5, the path meets the channelized Dee River. The resulting elevation profile is shown in

Figure 7-1.

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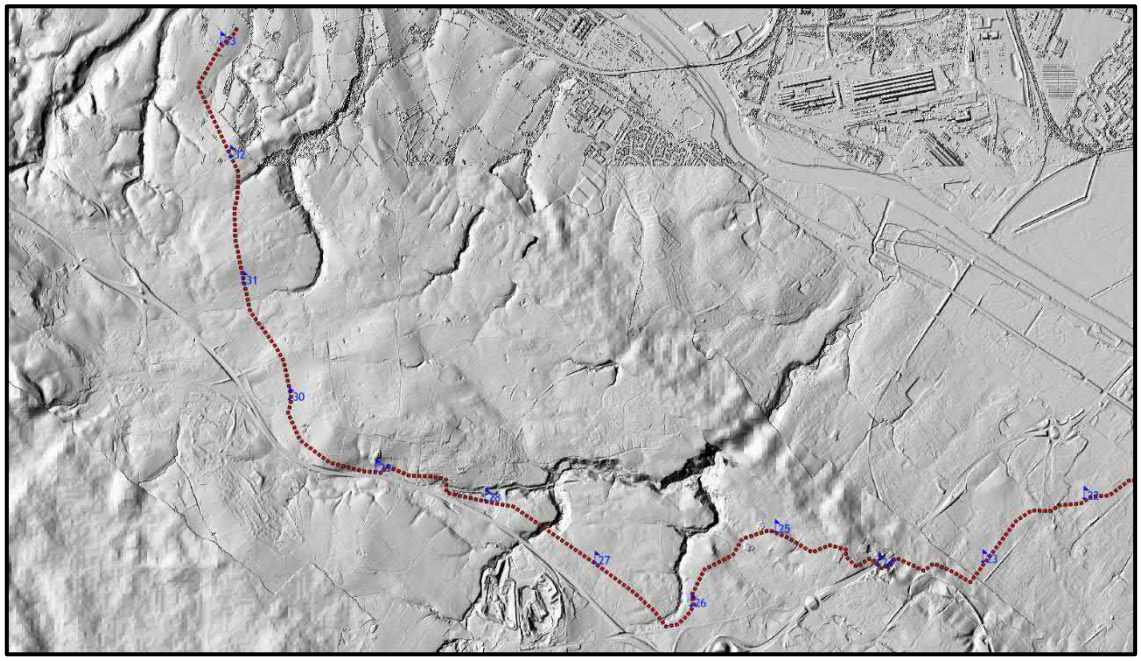


Figure 7-5. Shaded relief image from the 2m resolution LIDAR. Vertical exaggeration 3 times. Print of the Option 5A path from km 22 to 32.2 (end) (1km flags). Between km 26 to 30, the morphology is more undulating, compared to rest of the route. The resulting elevation profile is shown in

Figure 7-1.

7.2 Infrastructure crossings

Along the path, the pipelines (option 5A and both proposed southern routes) will have to cross two-track railways and some important motorways with 2 lanes in each direction.

In correspondence at least of these infrastructures, underground excavation with trenchless technique could be a viable solution; the same approach may be followed also in correspondence of other crossings. The following tables show the interference chainage with the main infrastructures. (There are several other crossing of smaller roads and water courses that are not included in the table below). The images are shown below the tables for the crossings.

Route Option 5A	
Item to be Crossed	**Approximate Chainage**
M56 Motorway (Plate 1)	1700
M53 Motorway (Plate 2)	5250
A41 Dual Carriageway (Plate 3)	8000
2-tracks railway (Plate 4)	9500
River Dee (Plate 5)	15500
2-tracks railway (Plate 6)	16500
2-tracks railway (Plate 7)	21500
A494 Dual Carriageway (Plate 8)	22500

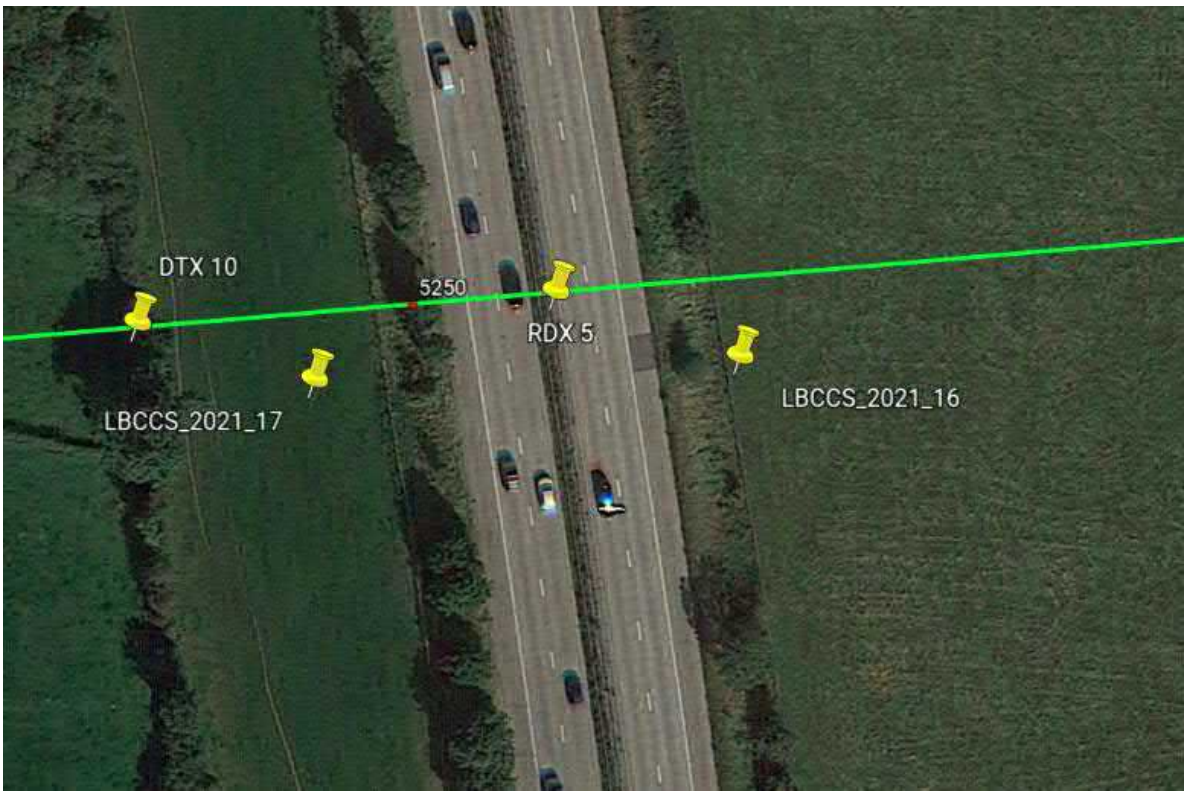
20” Pipeline

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Item to be Crossed	Approximate Chainage
1-track railway (Plate 9)	750
2-track railway (Plate 9)	850



Plate 1: 36” line - M56 Crossing (from Google Earth)



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Plate 2: 36” line - M53 Crossing (from Google Earth)



Plate 3: 36” line - A41 Crossing (from Google Earth)

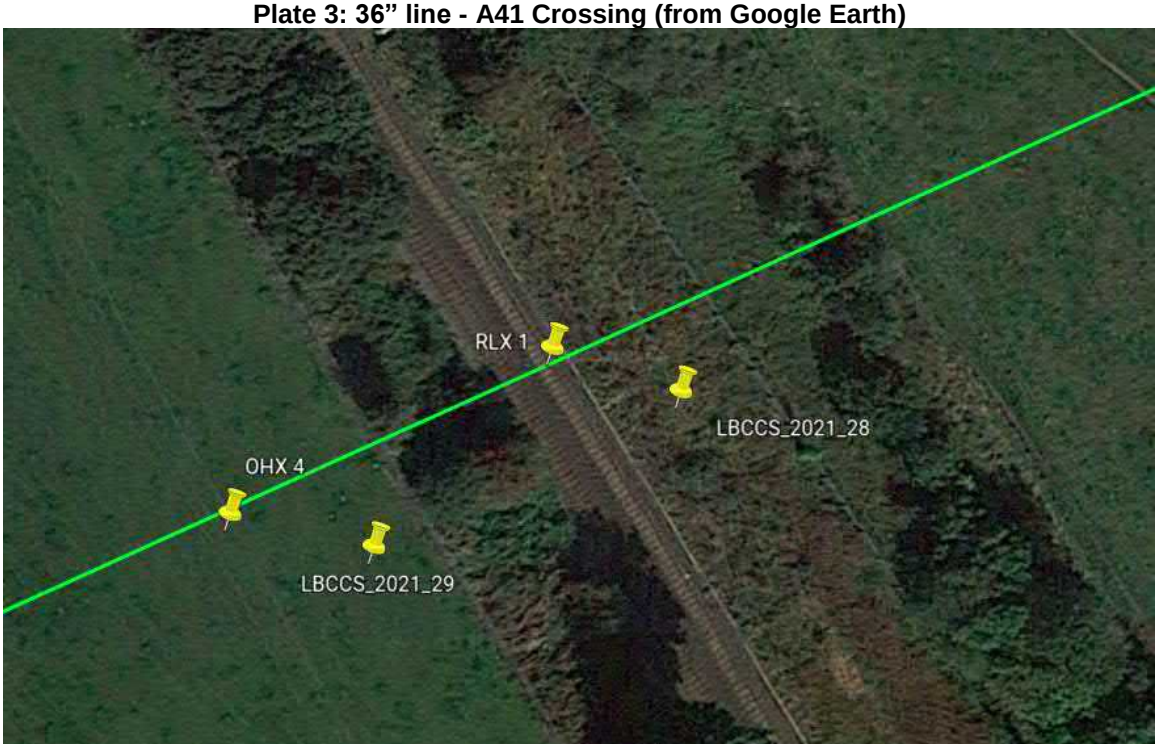


Plate 4: 36” line - 1st Railway Crossing (from Google Earth)

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Plate 5: 36”line - River Dee Crossing (from Google Earth)

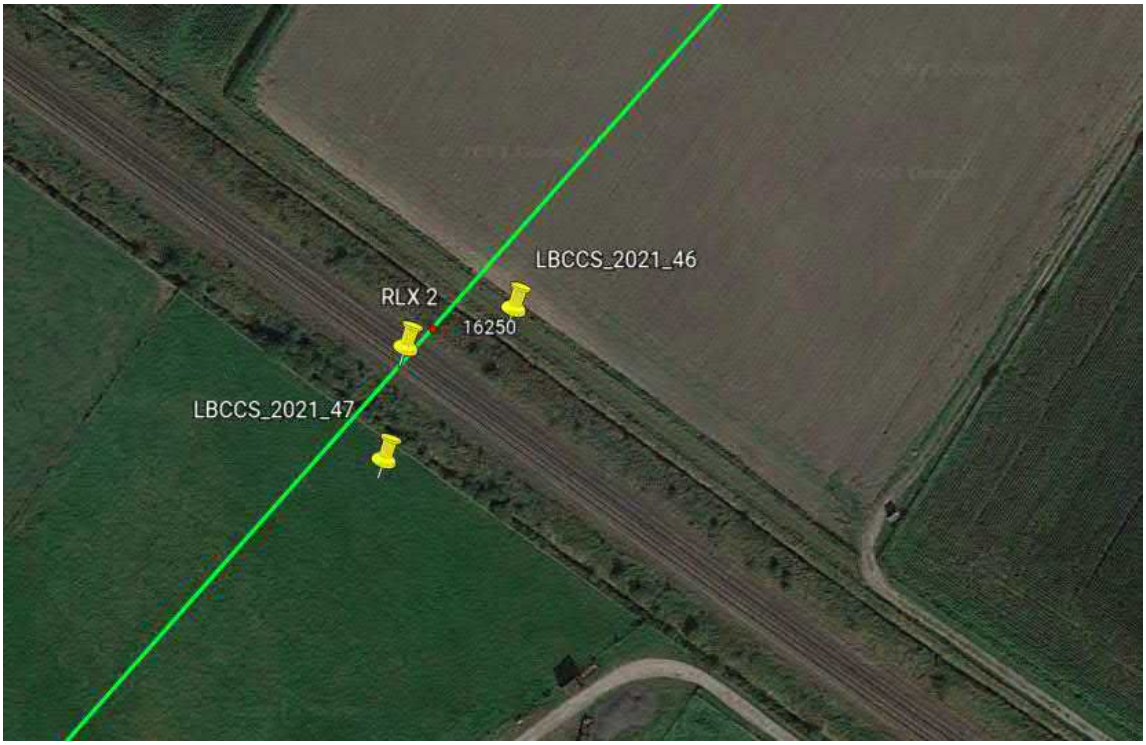


Plate 6: 36” line - 2nd Railway Crossing (from Google Earth)

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Plate 7: 36”line - 3rd Railway Crossing (from Google Earth)

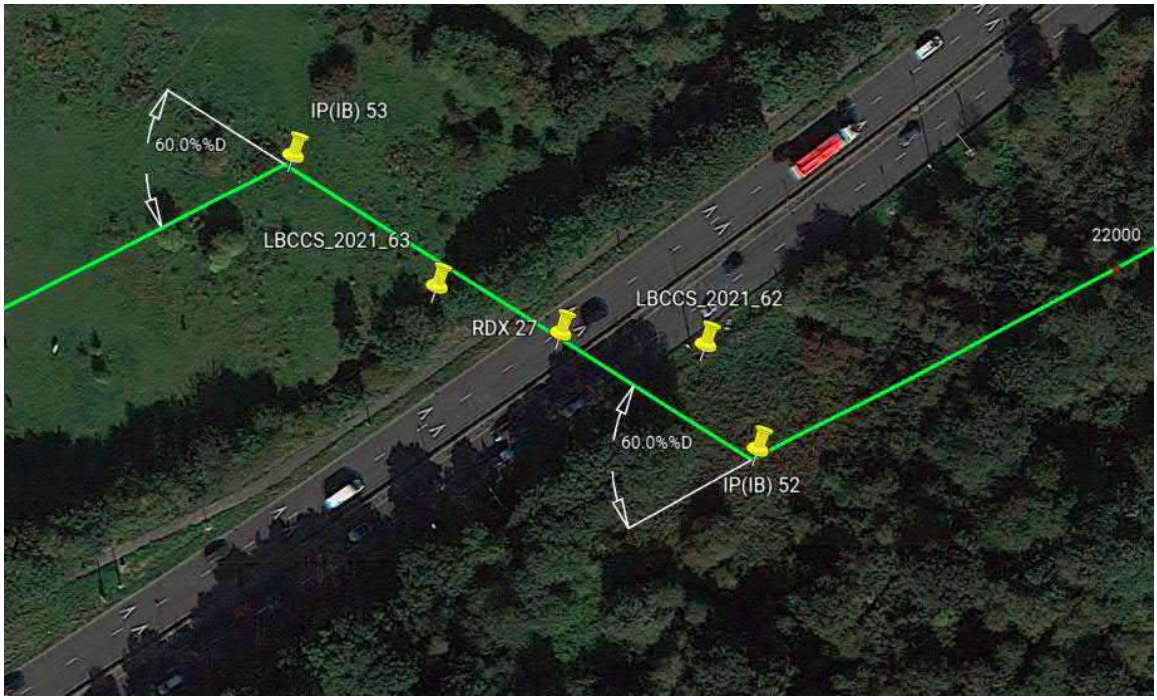


Plate 8: 36" line - A494 Crossing (from Google Earth)

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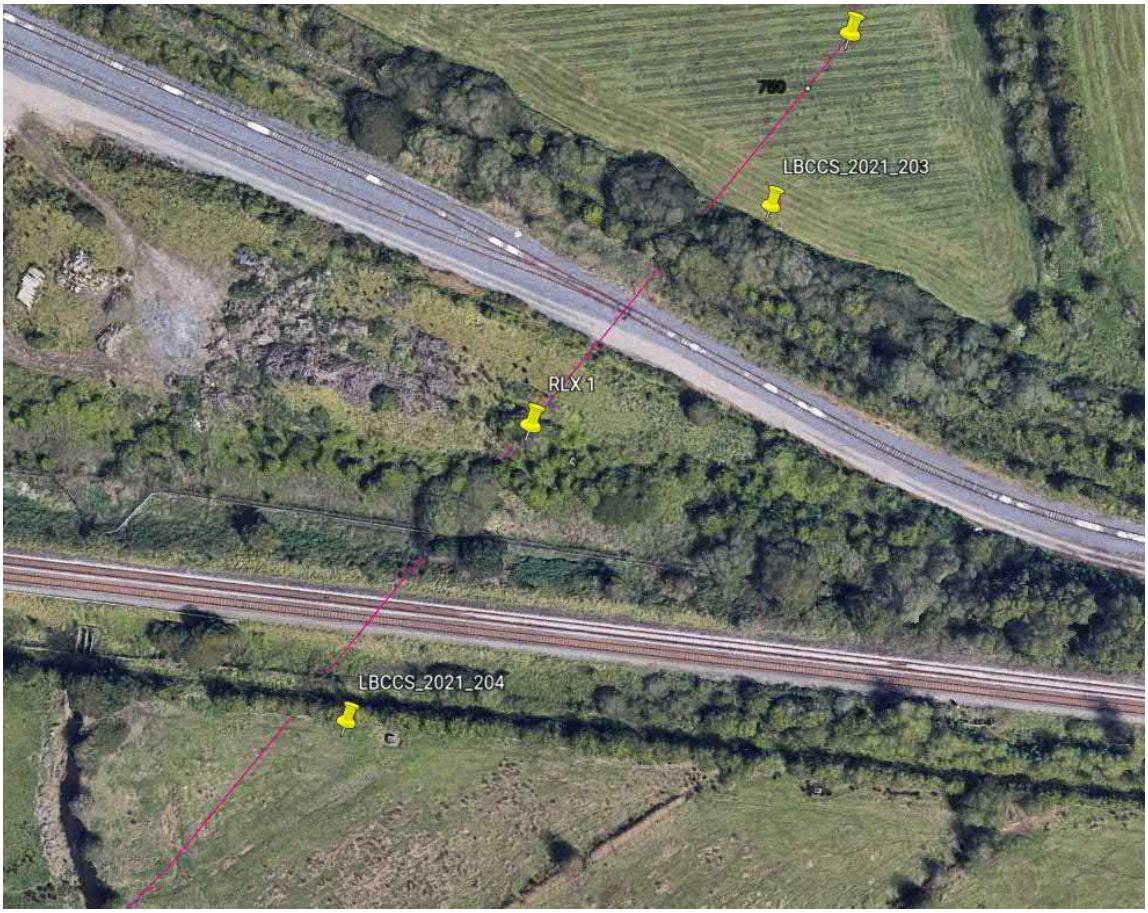


Plate 9: 20" line - 1st and 2nd Railway Crossing (from Google Earth)

7.3 Geology

As cited before, the lithologies to be met during the realization of the pipelines have been inferred from the geological maps and collection of boreholes reports from BGS, both available online in the BGS website. The mapping legend is given below, based on the BGS descriptions in the WMS, divided in two figures, one for *drift* deposits (Quaternary superficial sediments) and one for *solid rock*s (bedrock).

The numeric code adopted for each formation is the BGS reference; also, the Lexicon code is given. For the sake of completeness, all the formations within the established buffer zone of 250 meters from both sides of the alignments are listed, even if not directly under the traces and also if not likely to be met by the excavation being inferred to be deeper than it. The summary description given in this legend is considered adequate at this stage of investigation. A more precise account would have required a field survey, out of the scope of work of present desktop study.

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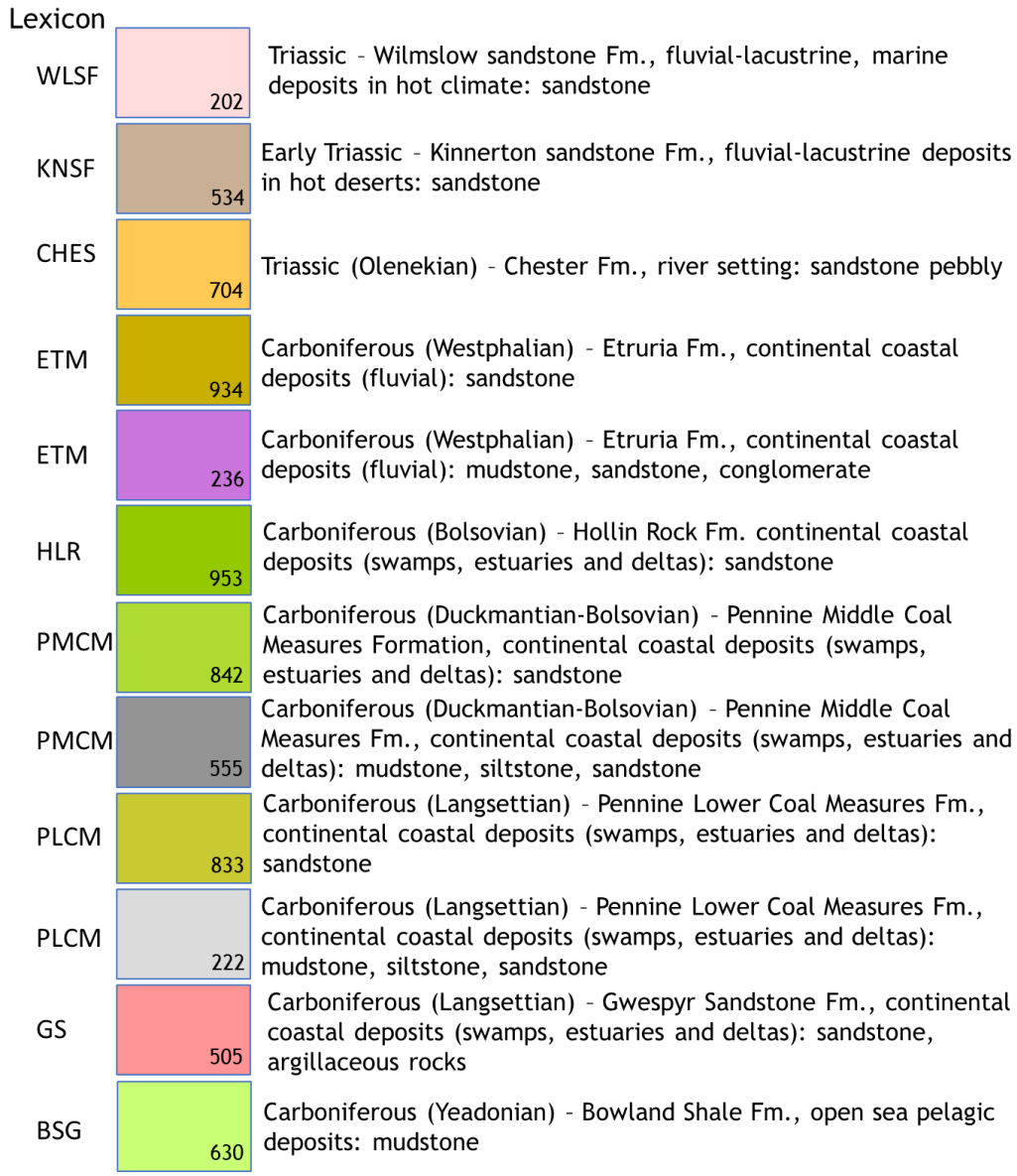
DRIFT

Lexicon

ALV	400	Holocene - floodplain alluvium: variable sediment of mud, sand and gravel with some peat in places
TFD	600	Holocene - Tidal flat deposits (shorelines): clay, silt and sand
GFDUD	3	Quaternary (Devensian) - outwash glacio-fluvial deposits (ice age): sand and gravel
TILLD	20	Quaternary (Devensian) - glacial till deposits (ice age): diamicton (unsorted sediment with gravel in a fine mud matrix)
PEAT	624	Quaternary - lacustrine-palustrine organic accumulations: peat
HEAD	424	Quaternary - Subaerial fan and downslope deposits: unsorted mud sediment (clay, silt) with sand and gravel clasts
BSA	401	Quaternary - wind blown deposits, often forming dunes: sand
AFD	504	Quaternary - alluvial fan deposits: sand and gravel
LDE	513	Quaternary - lacustrine deposits: clay and silt
SUPD	1000	Quaternary - undifferentiated continental deposits

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SOLID ROCKS



7.3.1 Boreholes

A fundamental piece of information has been provided by the original logs of the many boreholes (BH) scattered in the study region, filtered to be within the buffer zone, but in a few cases, where no useful logs were available inside it, information needed to be gathered from distance up to 1 km. It must be brought in mind that the BH are generally widely scattered and unevenly distributed, making poorly reliable any correlation between Quaternary layers found in different BH.

Mostly, the boreholes were drilled for mining exploration (coal), water abstraction and geotechnics (especially for existing infrastructures design). Sometimes, the boring time goes back to the XIX and early XX centuries, only a few are recent (last decades). Depending on the primary aim, the log description can be general (sand, gravel, coal, even only *drift*), or may contain more detail which allows a better understanding of the likely formation. *Boulder clay* is a term commonly found, used to define a group of poorly sorted materials (clay with

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dispersed granular material ranging from sand to stones and boulders) generally deposited in a glacial environment, also described by the non-genetic term *diamicton*, (i.e., till). Also (hard) *sandstone* is common, to define a range of Triassic to Palaeozoic rocks.

The total depth of the boreholes ranges from 2m (superficial pit) to over 150 m. Very rarely, boreholes are met close enough to the alignment, more often at distances ranging from a few tens to several hundred meters. An effort has been made to extrapolate the information in the right position (horizontally and vertically, but the margins of uncertainty can be very large, sometimes in the range of tens of meters, more often less, especially for the Quaternary units, commonly rather shallow, with the exception of the main river valleys, where the thickness of the Late Quaternary deposits grows to reach about 30 m (River Dee valley). As well, in the same environment, the glacial sediments can go deep to at least -45 m b.s.l.

All the original borehole logs consulted for this study are appended to this document (**Appendix A**), named according to the coding scheme of BGS. A summary table listing for each borehole its coordinates, projection along the alignment, main stratigraphic data, water-table, where provided, has been compiled for each of the three alignments, given as **Appendix B**. The map position of most boreholes is represented in the figures given in the following two sections 7.3.2 and 7.3.3.

7.3.2 Geological profiles

The geological profiles, as resulted from the interpretation of surface geology and borehole logs, are reproduced in **Appendix C**. They have been separated in several sections with same length (5 km) for better representation. A vertical exaggeration of 10 times has been introduced to allow the representation of the Quaternary layers, generally very thin, but inside the main river valleys.

The stratigraphic log has been inferred down to about 40 meters of depth below ground level, since locally some of the many necessary crossings might require a deeper excavation with respect to the foreseen quite shallow positioning of the pipeline along most of its track.

It must be stressed that especially the top of the bedrock depicted in the geological profiles is often only an expert guess, being poorly constrainable due to the lack of sufficient borehole control. Also where several borehole logs are available, they often do not meet the bedrock, and we can only infer that the bedrock is deeper than the bottom of the boring (TD, total depth). In such cases, a depth corresponding to the TD of the borehole + 5 m has been often assumed. The actual depth might vary considerably.

As to be expected, the surface contacts between formations correspond to those met in the geological map. However, not all formations have been reproduced in the profiles, especially where the cropping out formation was interpreted to be too thin in section (< 1m ca.) for a proper rendering at the scale of drawing. This often occurs for the Holocene units (e.g., 400 and 504). As well, in the case of the Devensian fluvioglacial deposits (3) sometimes found on top of the Devensian till (20), it was decided not to differentiate them in the profiles, but to adopt a “mixed” symbol, composed by the colours of both geological units, unless a proper distinction was made possible by the available BH data. This necessary choice, that is deemed not to severely impact the interpretation, has to be considered in the future investigation plan. Moreover, in many BH, fluvioglacial sand and gravel lenses are encountered interlayered with *till*, making a distinction in the profiles unfeasible, also because the lateral extent of the fluvioglacial lenses cannot be assessed from the scattered and unevenly distributed BH.

Regarding the many faults reported in the geological mapping of BGS, they only affect the bedrock, so they have been drawn as dashed lines in the profiles. Being mostly characterized by normal kinematics and high dip angles (as inferred by the rather straight traces, since dips are not provided in the maps), the choice was made to represent them as subvertical lines, which is justified also by the steepening effect resulting from the high vertical exaggeration.

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7.3.3 Stanlow to Connah's Quay (Option 5A)

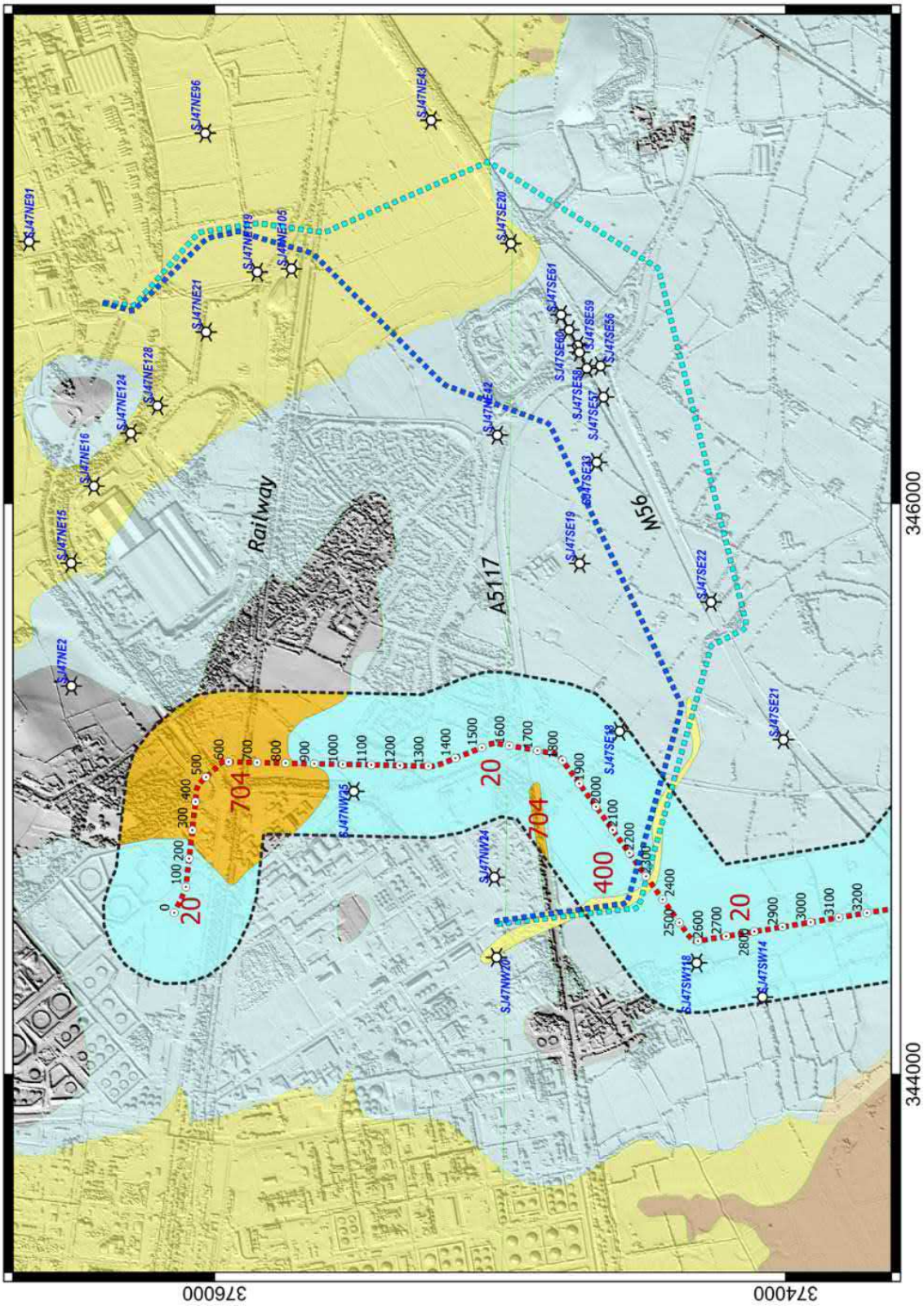
The description follows the alignment starting from the Stanlow AGI. The foreseen line, slightly above 33 km long. Chainage distances from Stanlow are given to locate the descriptions on the annexed geological profiles and maps.

After 250 meters in Devensian glacial alluvium (till, 20 in Legend), the excavation will encounter bedrock (pebbly sandstone of the Chester Fm., 704 in Legend) until ca. 840 m. Then again till (20) until chainage 3,595, when the trench will be in Quaternary deposits, wind-blown sand until 4,648 (401 in Legend) and then lacustrine sediments likely rich in peat till 5,690 (624 in Legend). The thickness of such materials might reach close to, or even over, 5 m at the deepest point. These Holocene deposits rest above the glacial units (20), cropping out until close to 8,000 m.

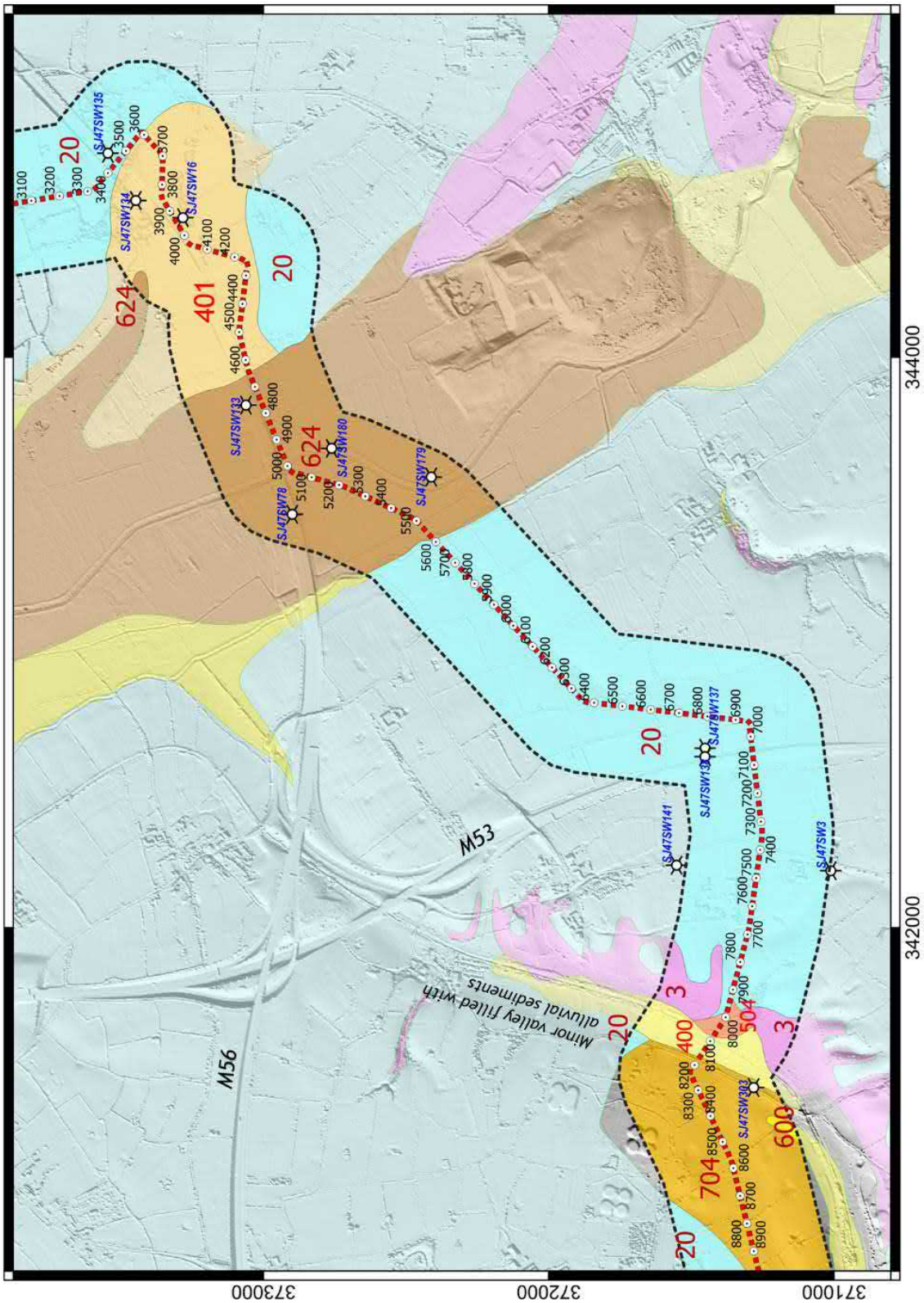
The bedrock, again the pebbly sandstones of the Chester Fm. (704) will be encountered cropping out at 8,168 to 9,042, but the excavation will probably meet it one to two hundred meters before under a veneer of Late Quaternary alluvial sand and gravel, possibly with some peat layer after 8,080 (504 and 400 in Legend). Then a section follows until 10,320 with bedrock (704) at shallow depth covered by glacial till (20) and fluvio-glacial sand and gravel (3) or cropping out at surface. Devensian glacial till follows until the edge of the River Dee valley at 14,870, where a sheer drop in elevation of ca. 11 m permits to enter the valley floor, with elevation slightly above 4 m a.s.l. and therefore a high probability to meet the water table near surface. The valley-floor sediments (from 14,870 to just after 21,600) are of tidal flat environment (600 in Legend), thus rich in organic clay, silt and sand. The channelized river will have to be crossed at 17,400-17,550 ca.

Once reached the left flank of the valley, overall Devensian glacial till (20) and locally fluvio-glacial sand and gravel beds will be excavated. Only at some points (approximately at 22,400-22,700, 27,400-27,530, 28,100-28,200, 29,280-29,360), the bedrock will be encountered at surface and therefore it will be found at shallow depth nearby, despite not more precisely constrained by boreholes. The bedrock formations are basically Carboniferous in age, mostly *Pennine Coal Measures*, made of mudstone, siltstone and sandstone with some shale layers, and coal of course, and other coastal-environment sediments (mostly sandstones laid by recurring floods). The distribution of bedrock formations according to the BGS mapping is reported in Figure 7-7, together with the network of bedrock faults, extending only in part outside the buffer zone. The strikes are largely between NW-SE to N-S. None of these faults appears to cut through the Quaternary sediments, so they are not shown in Figure 7-6. Actually, capable faults are not supposed to occur in the region, considering the low seismicity and rate of tectonic processes.

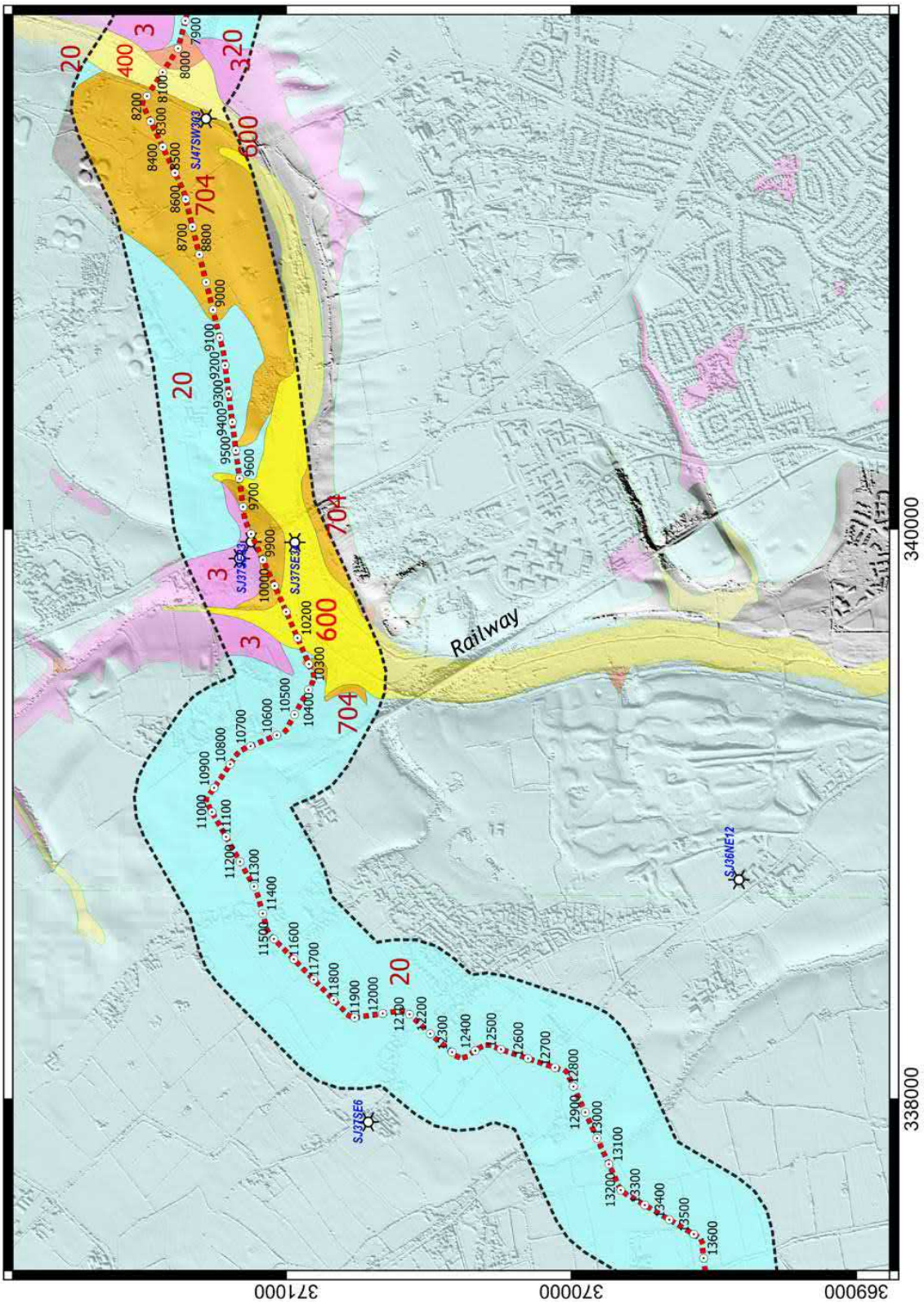
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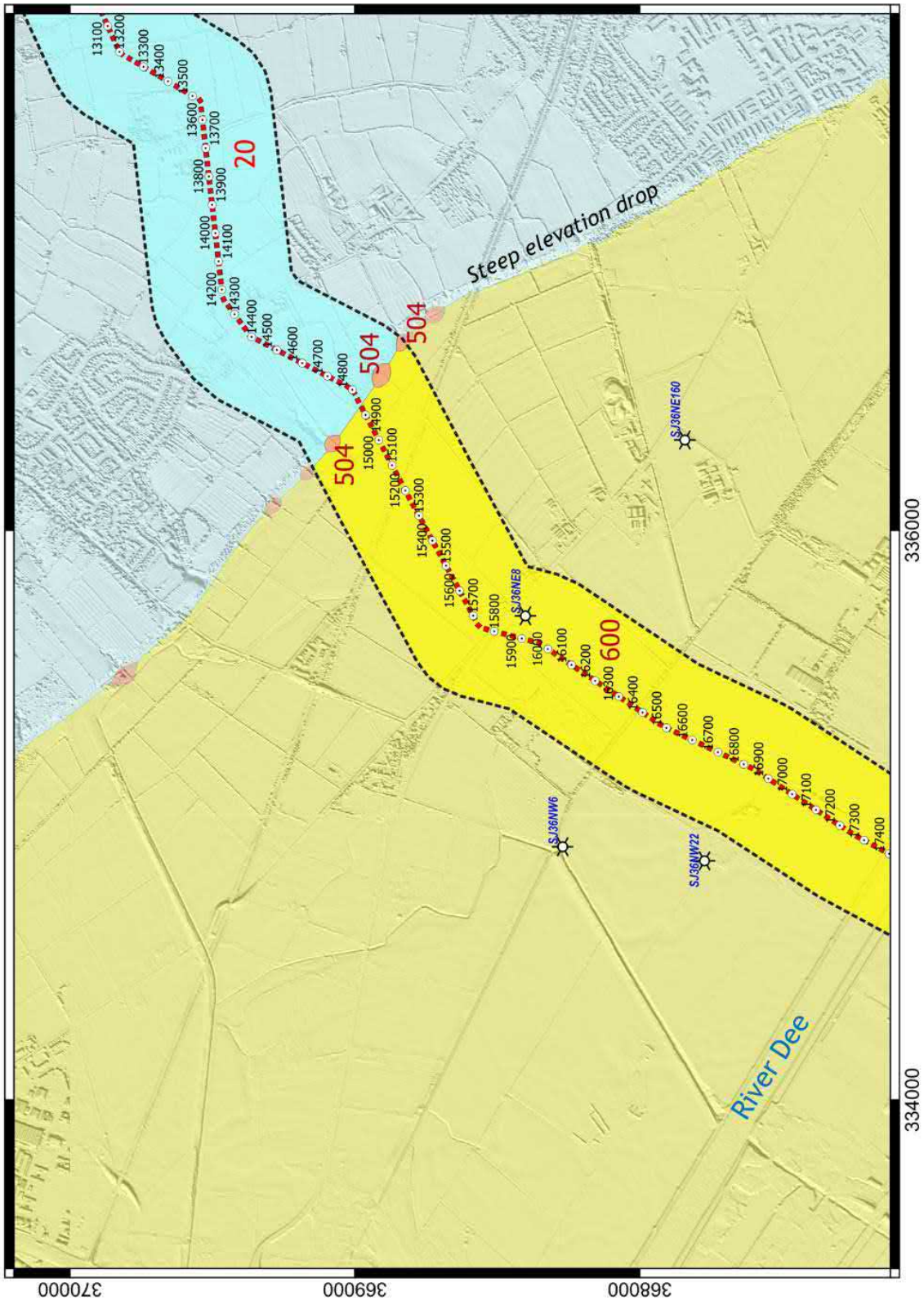
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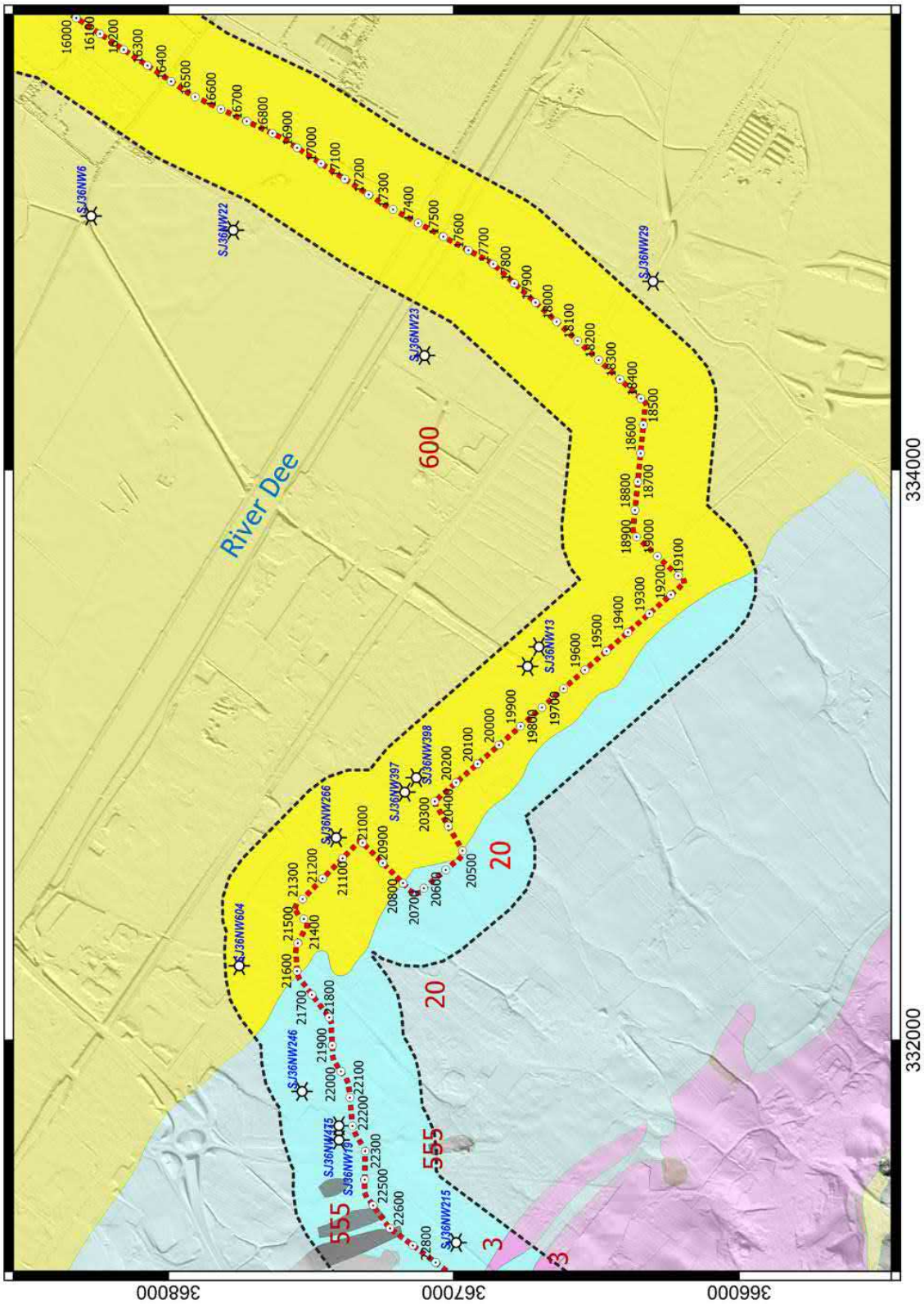
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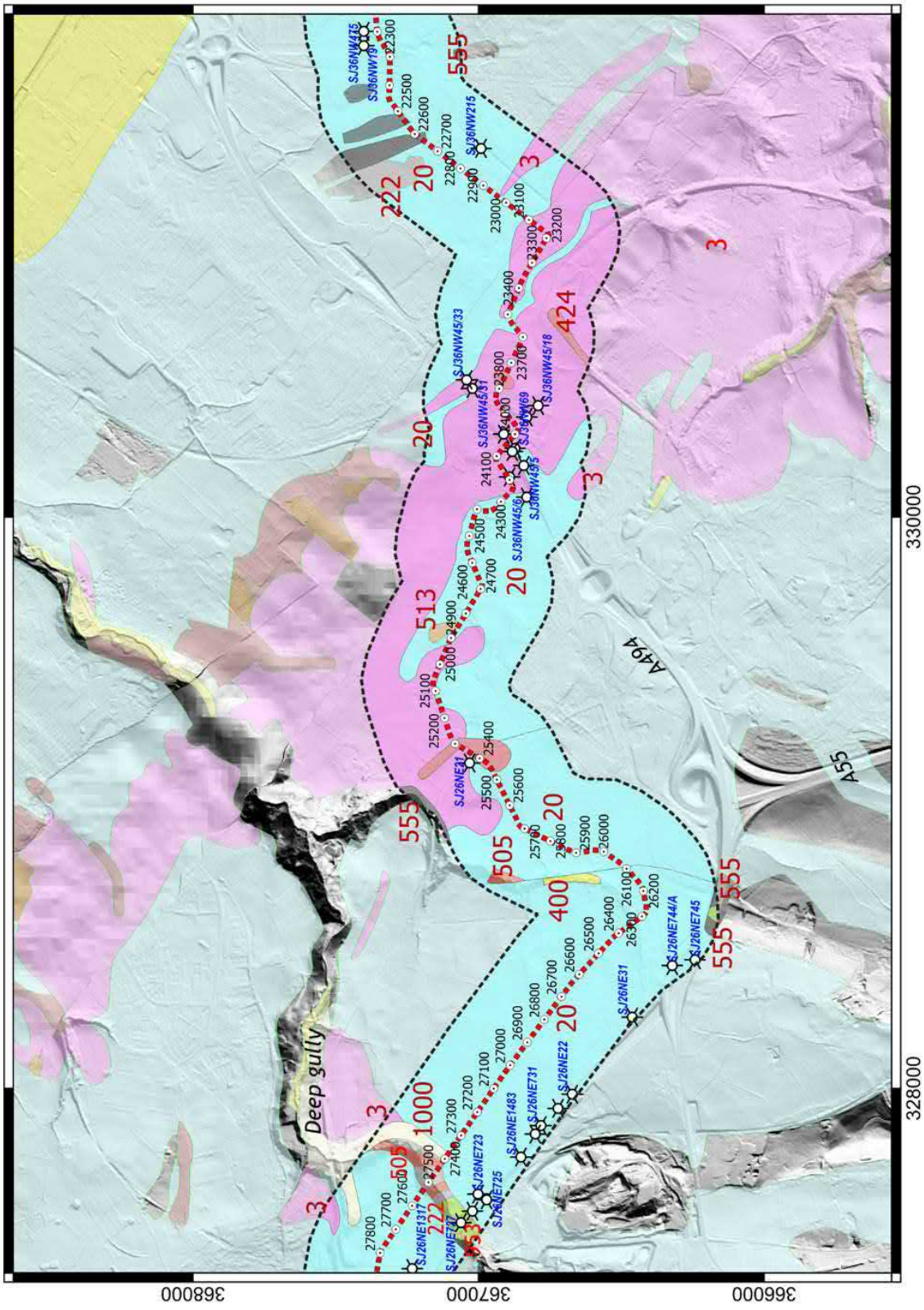
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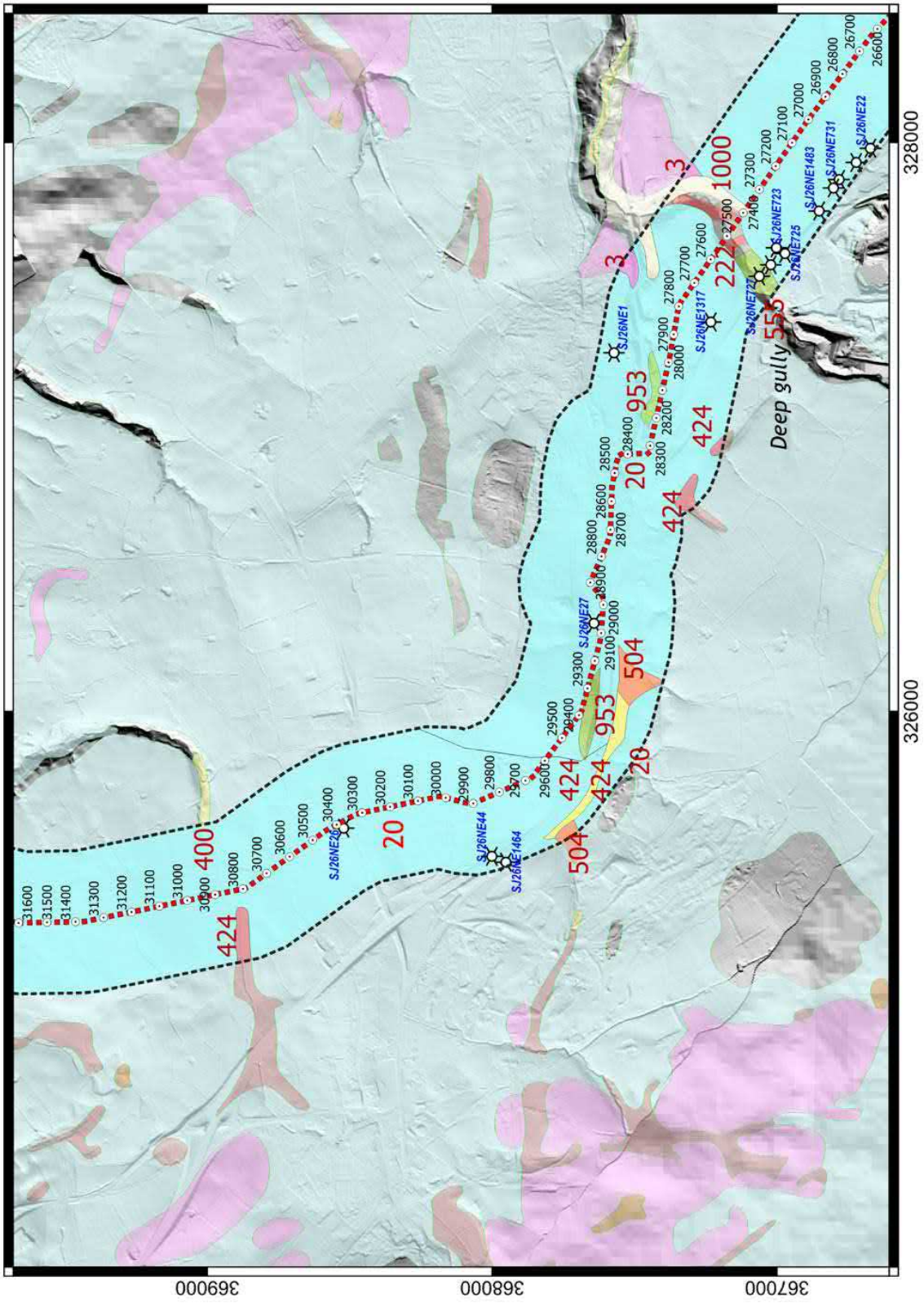
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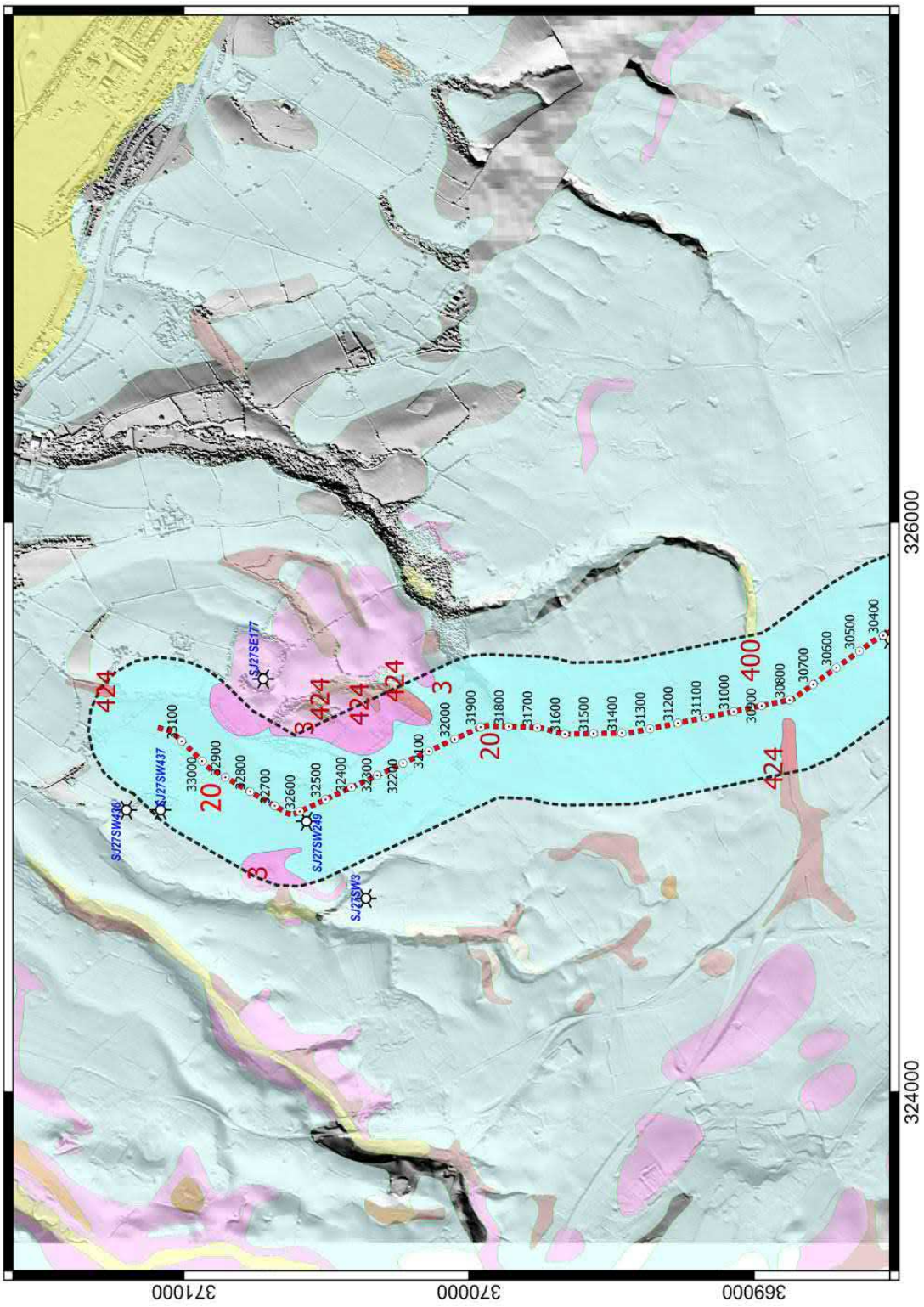
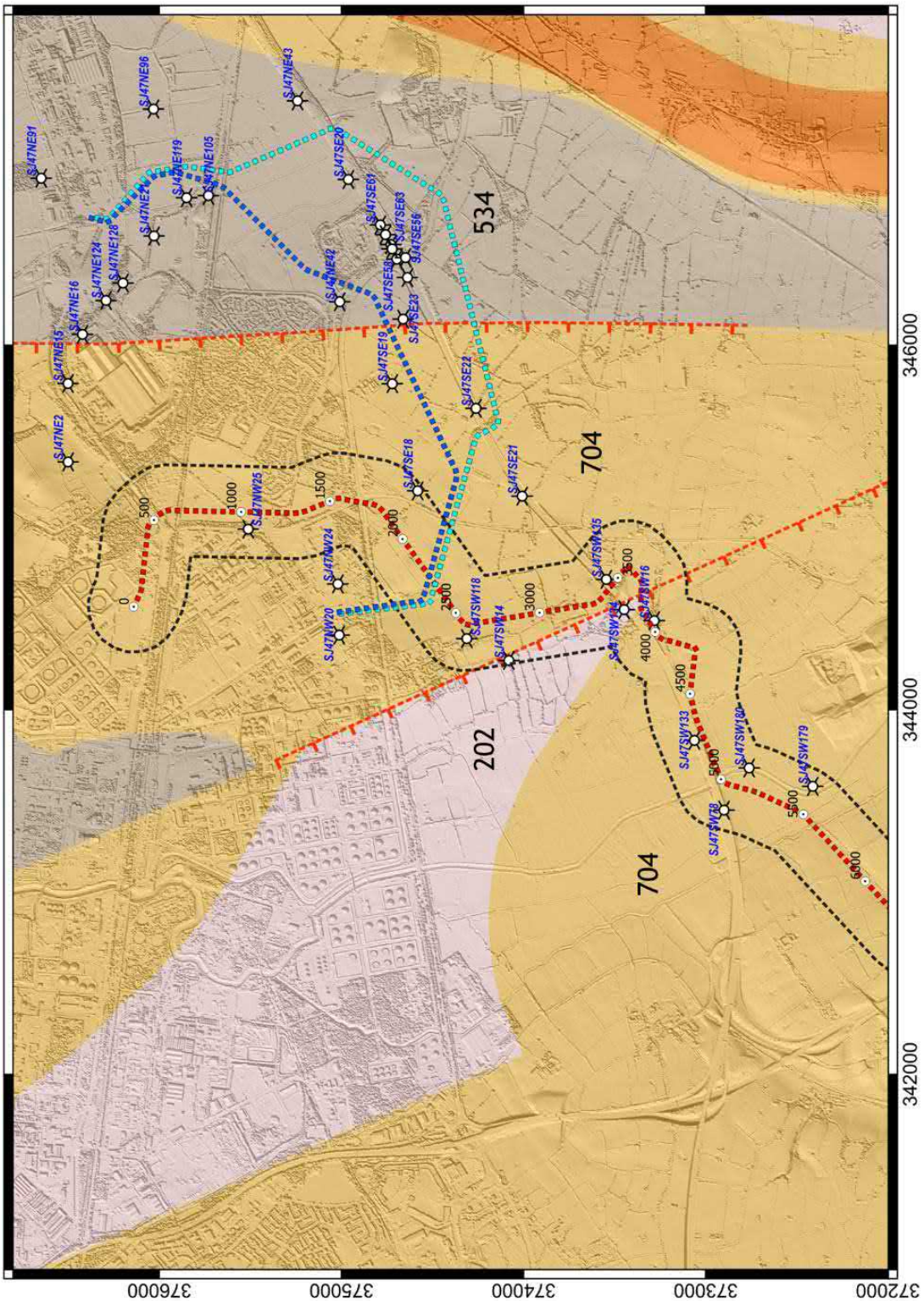
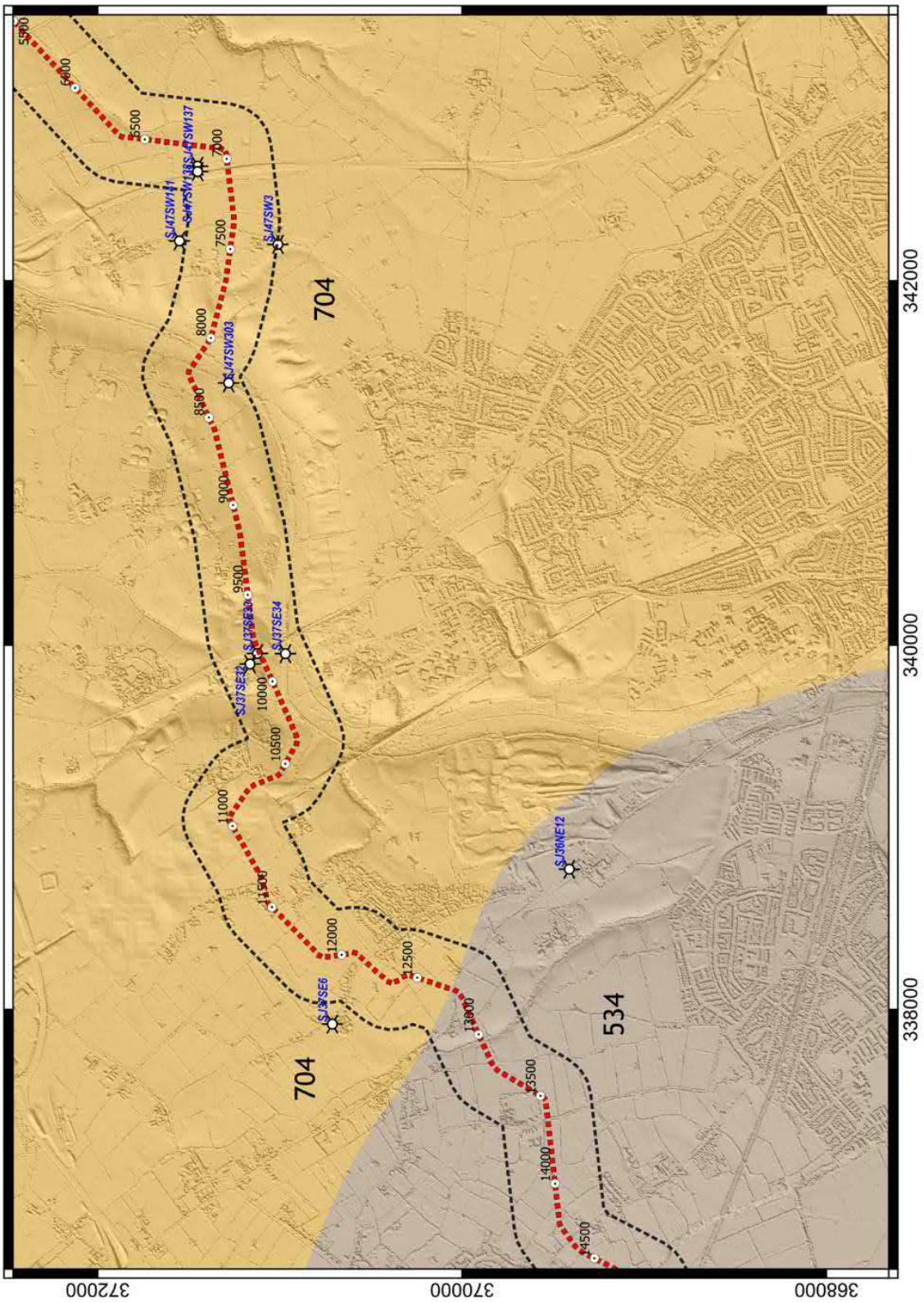


Figure 7-6. Geological map along the area where the pipeline connection from Stanlow to Connah's Quay AGI is planned (option 5A). The grey areas outside the buffer correspond to bedrock outcrops; in cyan the Devensian glacial till (20), in pink the Devensian glacio-fluvial deposits (3), in vivid yellow the tidal flat deposits (600), in light yellow the Holocene alluvium (400); other lithologies according to BGS coding (as in Legend in text) (inside the 250 m buffer zones, lighter colours outside). The selected boreholes are also shown with their name according to BGS coding. Chainages in meters.

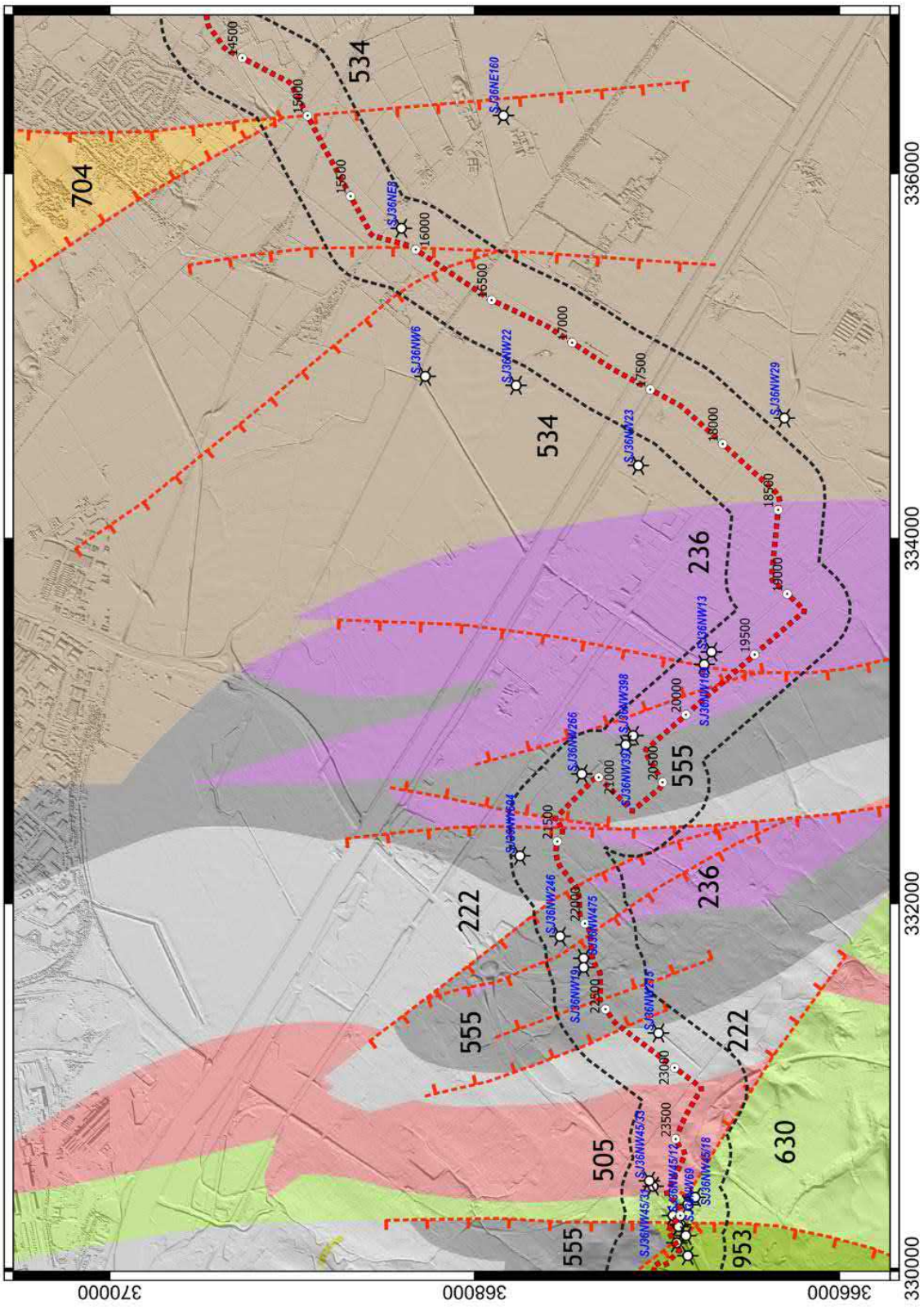
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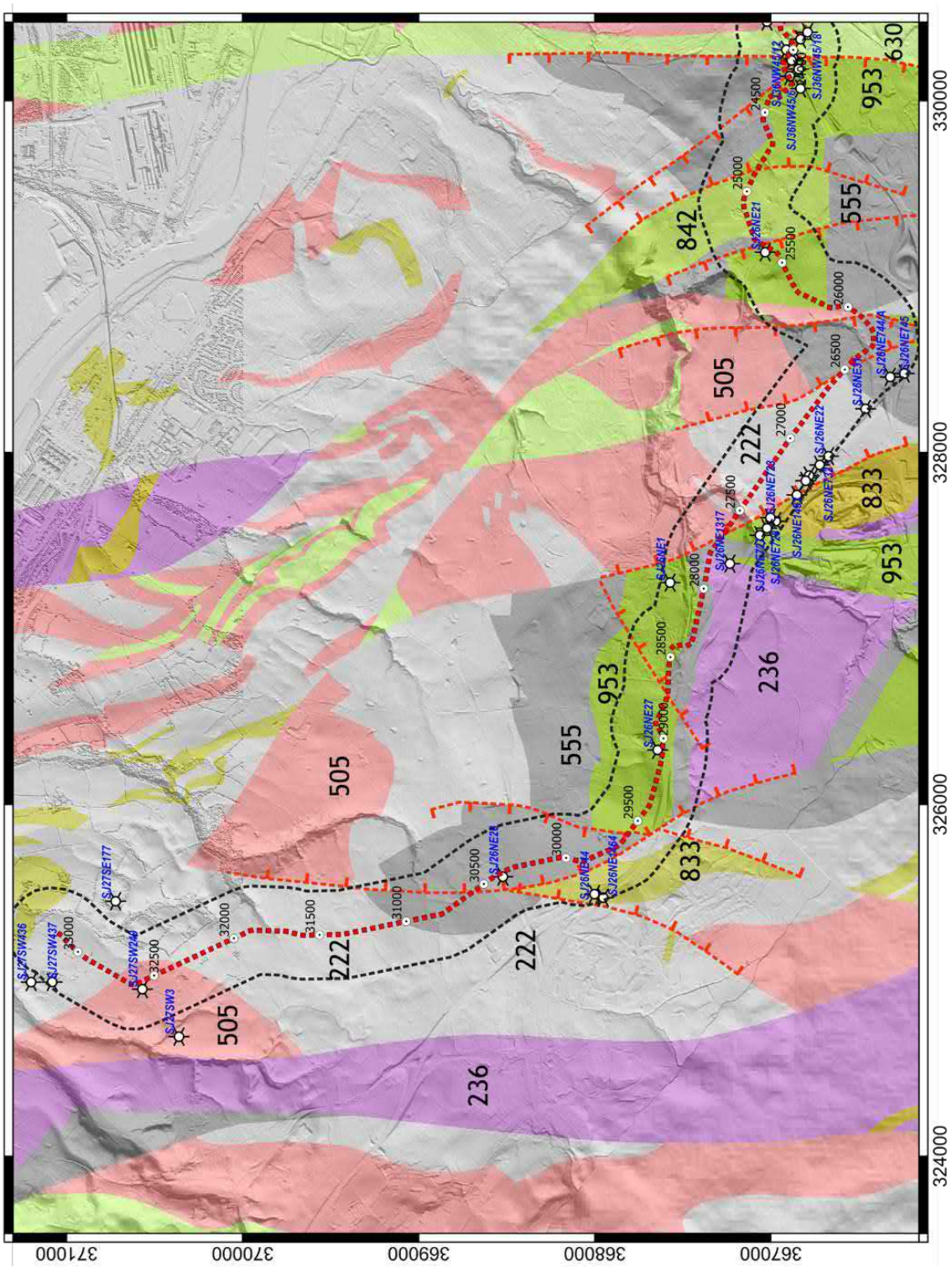


Figure 7-7. Geological map of the bedrock formations along the area where the pipeline connections from Stanlow to Connah's Quay AGI (option 5A) and Stanlow to Grinsome road AGI are planned (topmost figure). Formations labelled according to BGS coding (as in Legend in text). The selected boreholes are also shown with their name according to BGS coding. Chainages in meters from Stanlow.

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7.3.4 Stanlow to Grinsome road AGI

The preferred route A is ca. 4,160 whilst the secondary route B is 5,090 m, respectively. Grinsome Road AGI is located NE of Stanlow, at an elevation, around 4 to 4.5 meters a.s.l., on a low terraced surface, therefore with a water table expected to be quite near surface. Stanlow is slightly higher, close to 10 m a.s.l.

About 150 meters from the beginning, after a first section in Devensian glacial till (20 in Legend) at surface, a first crossing will be in the pebbly sandstone of the Triassic Chester Fm. (704 in Legend, Figure 7-7 - topmost figure, Figure 7-8), exposed by an artificial trench. Then, the bedrock will remain buried for the whole alignments, at depth ranging from near surface at the beginning deepening to no more than 10 m until the terrace flat toward the arrival point. Here, the land is made of a thick cover of Holocene tidal flat deposits (600 in Legend) reaching at least 10 m of depth, terraced with respect to the current floor of the River Mersey nearby to the north. Thus, for two/thirds of their lengths the alignments are basically in Devensian glacial till, locally blanketed by a veneer of Holocene alluvial sediments (400 in Legend) until ca. 1,200, plunging under the thick cover of Holocene deposits (600), in their last third part (chainage 2,890 for Route A and 3,580 for Route B). The inferred sediment geometry suggests a palaeo-valley incising the bedrock between chainage 3,000 and 3,900 for route A and 3,700 to 4900 for route B.

Only in the first 300 meters of the alignments there is a chance to meet the bedrock near-surface. Also, at the arrival, a chance does exist to find the bedrock (704) near surface, since it crops out ca 300 m to the west and is found buried at ca - 5 m b.s.l.

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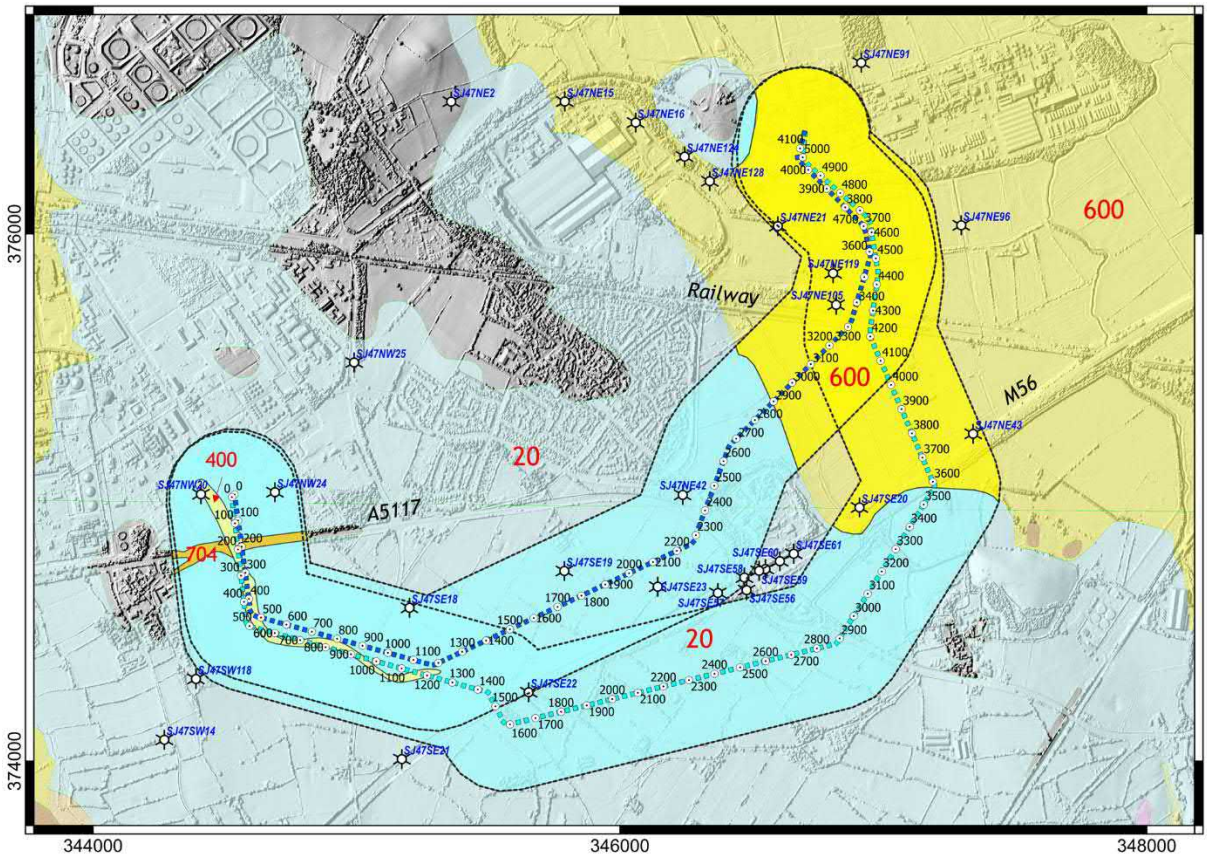


Figure 7-8. Geological map of the area where the pipeline connection from Stanlow to Grinsome Road AGI is planned (options A, shorter, and B). The grey areas correspond to bedrock outcrops, only the bedrock crossed by the routes is shown in orange (704); in cyan the Devensian glacial till (20), in vivid yellow the tidal flat deposits (600), in light yellow the Holocene alluvium (400) (inside the 250 m buffer zones, lighter colours outside). The selected boreholes are also shown with their name according to BGS coding. Chainages in meters.

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8.0 GEOLOGICAL HAZARDS

8.1 Slope stability and subsidence

In general, slope stability does not appear to represent a relevant hazard, thanks to the gentle slope angles of the hill areas, exceeding 15° only around 14,870, 25,550 and 28,400, generally much less (< 5°), and the near surface lithologies, but a field verification of the actual state is advisable.

As a whole, North Wales is still experiencing land rising as a consequence of the unloading after the LGM, although at very low pace (< 0.5 mm/a) (e.g., Shennan et alii 2006, 2009). However, coastal lowlands are locally affected by subsidence, which is commonly caused by natural compaction phenomena enhanced by water abstraction, as typically observed in such settings and also reported in the surroundings of the study area (e.g., Figure 8-1, based on satellite interferometry). Upswelling (i.e., the opposite phenomenon) is less likely, but not impossible in case of halting of water abstraction and consequent rising of water table). A precise evaluation of the subsidence to be expected along the planned works is beyond the scope of this desk study. The detailed geological setting illustrated in the previous chapter has shown that the alignments will cross at several places soft Holocene sediments, rich in organic clay and peat, thus, it is recommended to properly evaluate this source of hazard in the next stage of field investigations.

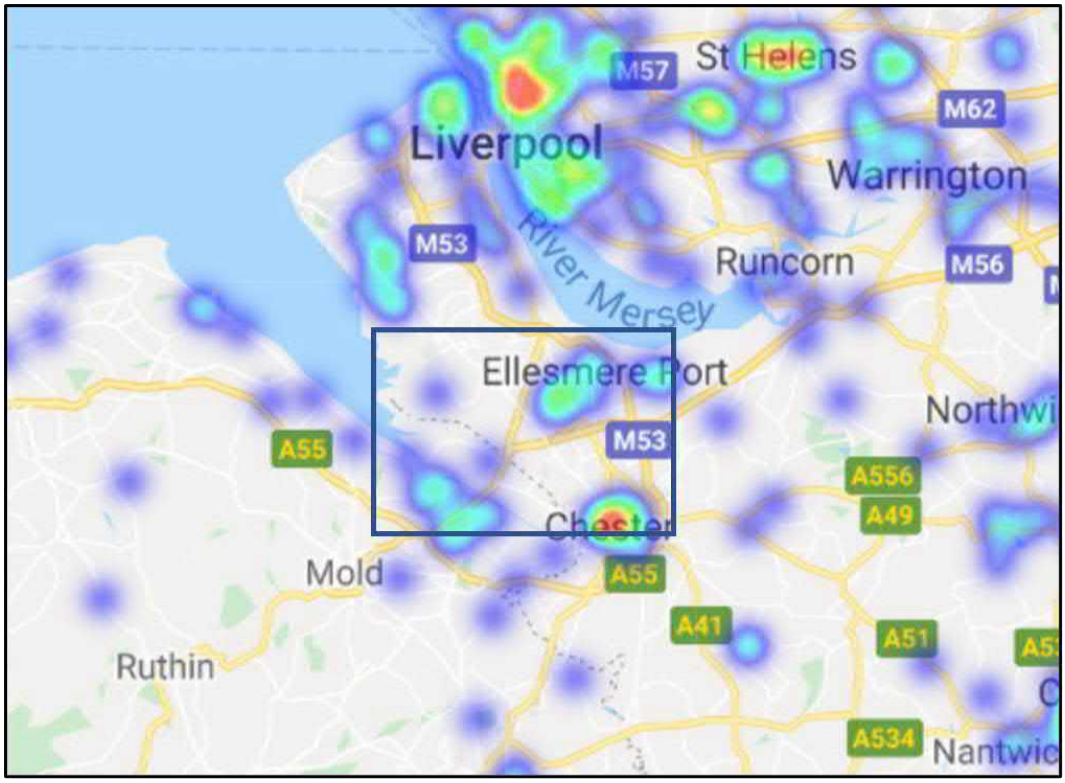


Figure 8-1. Subsidence hotspots in North Wales according to the mapping by GEOBEAR (https://www.geobear.co.uk/wp-content/uploads/sites/4/2019/12/subsidence-map-uk-england-north-wales.pdf), based on satellite interferometry (2013-2019). Study area inside box.

It can be anticipated that such a phenomenon might pose an actual hazard only where the thickness of Holocene sediments is highest, therefore mostly from chainages around 3,900 to 5,600 and 15,000 to 21,500 (River Dee valley) along the route option 5A, and from 3,000 to end (Southern Route A) and 3,600 to end (Southern Route B), corresponding to the southern edge of the River Mersey estuary, according to the *provisional* geological profiles illustrated before. Figure 8-1 confirms that subsidence mostly affects the lowland

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comprised and surrounding the Dee and Mersey estuaries and the inhabited and industrial settlements, where water abstraction and land loading is highest.

8.2 Mining

Several different types of mining have taken place historically and are reviewed in sections below.

8.2.1 Metals mining

A potential source of hazard is the pervasive system of underground metals and coal mining shafts in the area. Along the left bank of the River Dee estuary, lead, zinc and silver were already mined in Roman times. This mining however is not expected to influence the pipeline implementation along the currently chosen route (5a) as the research has indicated the mining was predominately located to the northwest along the River Dee estuary and north east inland away from the site development area.

8.2.2 Coal Mining

Coal mining has been present to the west of Chester and Connah's Quay along the route to the Flint (connection point into the existing pipeline) for many year with significant exploitation though the 19th and 20th centuries. There are several carboniferous beds (Pennine Coal Measures) and these are within the area of interest to the pipeline route near between Northop Hall village / Shotton / Buckley area in particular where several potential mine entries have been noted along the route.

In Appendix D coal mining reports were obtained from the UK Coal Authority along sections of the route that were identified as being potentially at risk from historical coal mining operations. The historical coal mining is present to the west of the River Dee near to Shotton and Northrop Hall. Several mine shafts have been identified within this area, some of these shafts have been remediated whilst others do not have any information currently available.

An area of considerable coal mining activity is location to the South East of Northrop Hall around grid coordinate E 327737 N 367118 which is the location of entry to adits. These adits have been infilled, however with an unknown material, and there was subsequent additional settlement. Today this area is next to a minor country road with fields surrounding but with woodland to the north and western areas.

Several additional shafts are recorded from Northrop Hall to Ewloe Green which have no records of any remediation. Several shaft locations appear today to be small woodlands / scrubland indicating that potentially no remediation has taken place.

There is also potential for unrecorded mining along the western section of the route from historic times.

8.2.3 Salt Mining

The Cheshire Salt field is an area extensively mined for several purposes, including providing salt for the UK roads. Having reviewed maps and data from several sources the mines are to the south and east of the proposed development area and are not anticipated to have any impact on the development area.

8.3 Hydrology and flooding

The lowest sections of the alignments, cited above with reference to the subsidence hazard, are also areas more potentially prone to river flooding. Thus, also this source of potential hazard has to be accounted for in the design of the works. Also the presence of the water table at very shallow depth should be considered, especially for the stability of the trench walls and floor during their excavation.

The River Dee River Basin District is managed by Natural Resources Wales with several statutory bodies and other parties involved in the overall management of the River Dee. (See Figure 8-2 below)

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The route crosses a section that was canalised in the mid 1700's to improve navigation for shipping and to reduce silting.

The Environment Agency Wales is responsible for the earth embankments that are located either side of the canalised section. These are continuously under review to assess the viability of increasing the height of the embankments in the future along with other measures to cope with climate change.

A review of the embankment construction and restrictions / methodology of passing under the River Dee is required.

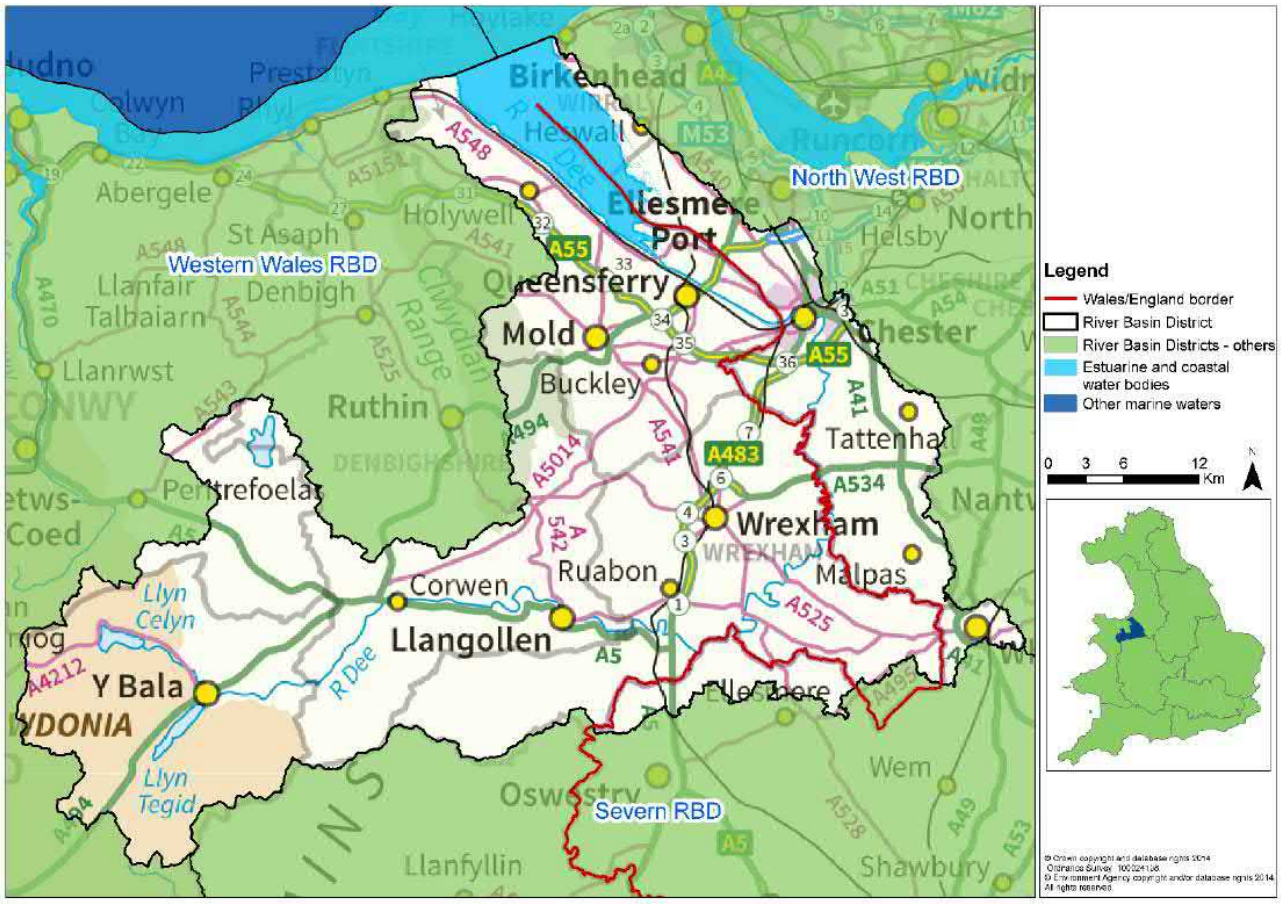


Figure 8-2. River Dee River Basin Area. (https://naturalresourceswales.gov.uk/media/3210/consultation-on-updating-the-dee-river-basin-management-plan.pdf)

8.4 Seismicity

UK is not prone to seismicity of high magnitude. However, moderate-size events have hit several regions of the British Isles, as revealed by the historical record (e.g., Musson 2004, 2007, 2008) and the instrumental data (e.g., https://earthquakes.bgs.ac.uk/earthquakes/UKsignificant/index.html).

In the study area, historically (Musson 2008, https://quakes.bgs.ac.uk/historical/query_eq/), damage was reported in Cheshire County (that includes Chester) in 1119. Then, tremors were felt in 1534, 1575 (Intensity EMS = 6 in Chester), 1750 (Intensity 5 in Chester and Liverpool), 1768 (Intensity 5). Based on this record, shaking is not expected to cause damage to infrastructures or liquefaction in the Late Quaternary tidal flat deposits. Nonetheless, a deeper analysis might be considered, especially of the liquefaction potential under dynamic loading of the granular layers found in the lowlands crossed by the pipelines.

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As already considered before, capable faulting, i.e., a significant coseismic or aseismic tectonic displacement on one of the many bedrock faults crossed by the alignments, can be ruled out based on the current knowledge.

The United Kingdom Onshore Pipeline Operators' Association (UKOPA) Good Practice Guide for Seismic screening assessment of UK onshore pipeline and associated installations (UKOPA/GP/019 Edition 1) was reviewed. This document is primarily concerned with gas supply to domestic and industrial supplies and is not written for transportation of carbon dioxide back to offshore but is the closest UK guidance available for review.

Within the documentation the area for the pipeline installation around Liverpool using the seismic hazard map measures less than 0.1g for peak ground acceleration (PGA) and therefore for buried pipelines a seismic assessment if not required.

The seismic assessment is combined with an importance class which takes into account Economic, Social and Environmental Consequences. The lowest class is I, medium II and High III. These are assigned by the operator. For this installation for the majority of the route it would be considered Class I, as the pipeline is in open fields with a low risk to personnel. Class II may be applicable near to built up areas for above ground installations however all these are currently located in open fields with none planned near to any houses.

Using the guidance no seismic screening criteria are required for either buried pipelines or for above ground installations. There a seismic assessment is not required.

8.5 Landfills

A review of the landfills along the route has also been undertaken. Several landfills have been highlighted across the area however at present only one active landfill is currently along the chosen route.

This is the Gowy Landfill Site operated by 3c Waste. This landfill has been in operation since 1987 and is currently operational.

The pipeline route currently crosses the northern edge of the landfill area, form current knowledge this area which is parallel to the M56 motorway does not appear to have been developed however confirmation of this will be required.

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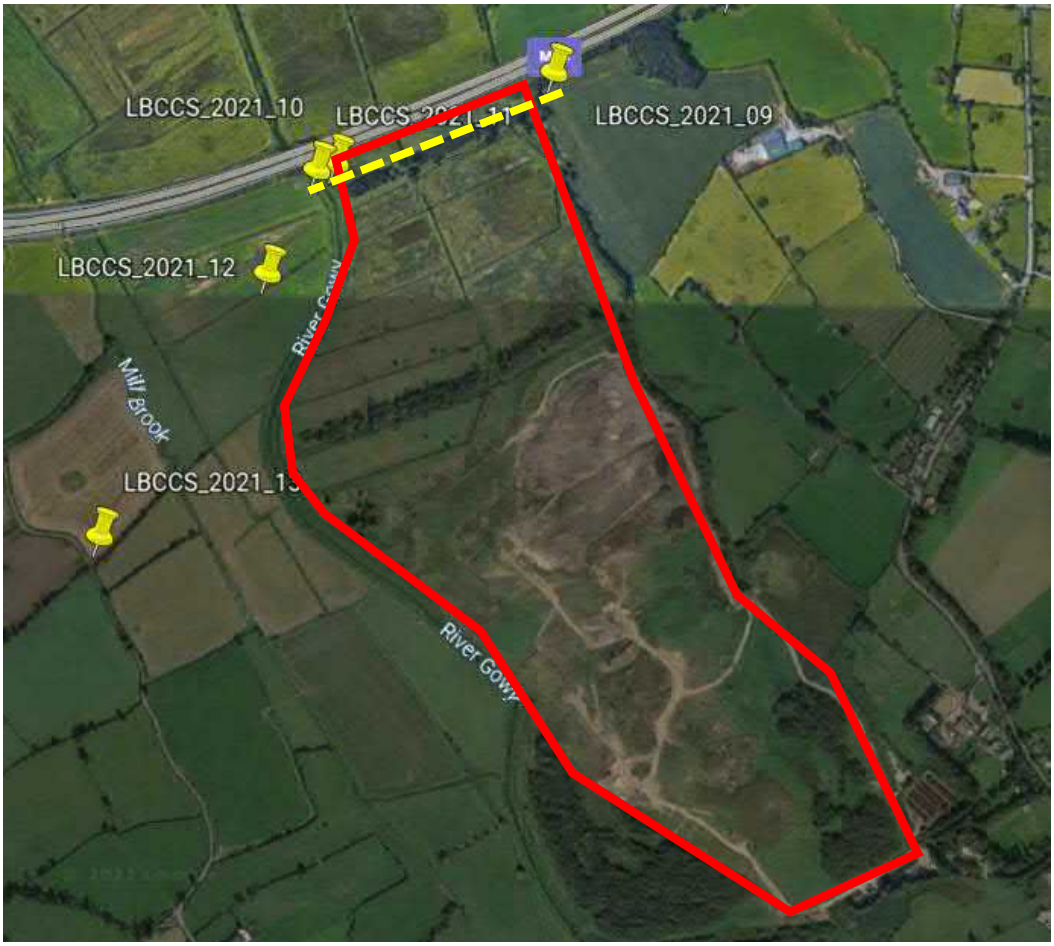


Plate 10: Gowy Landfill Area (from Google Earth)
(Red outline Gowy Landfill – Yellow line proposed pipeline route)

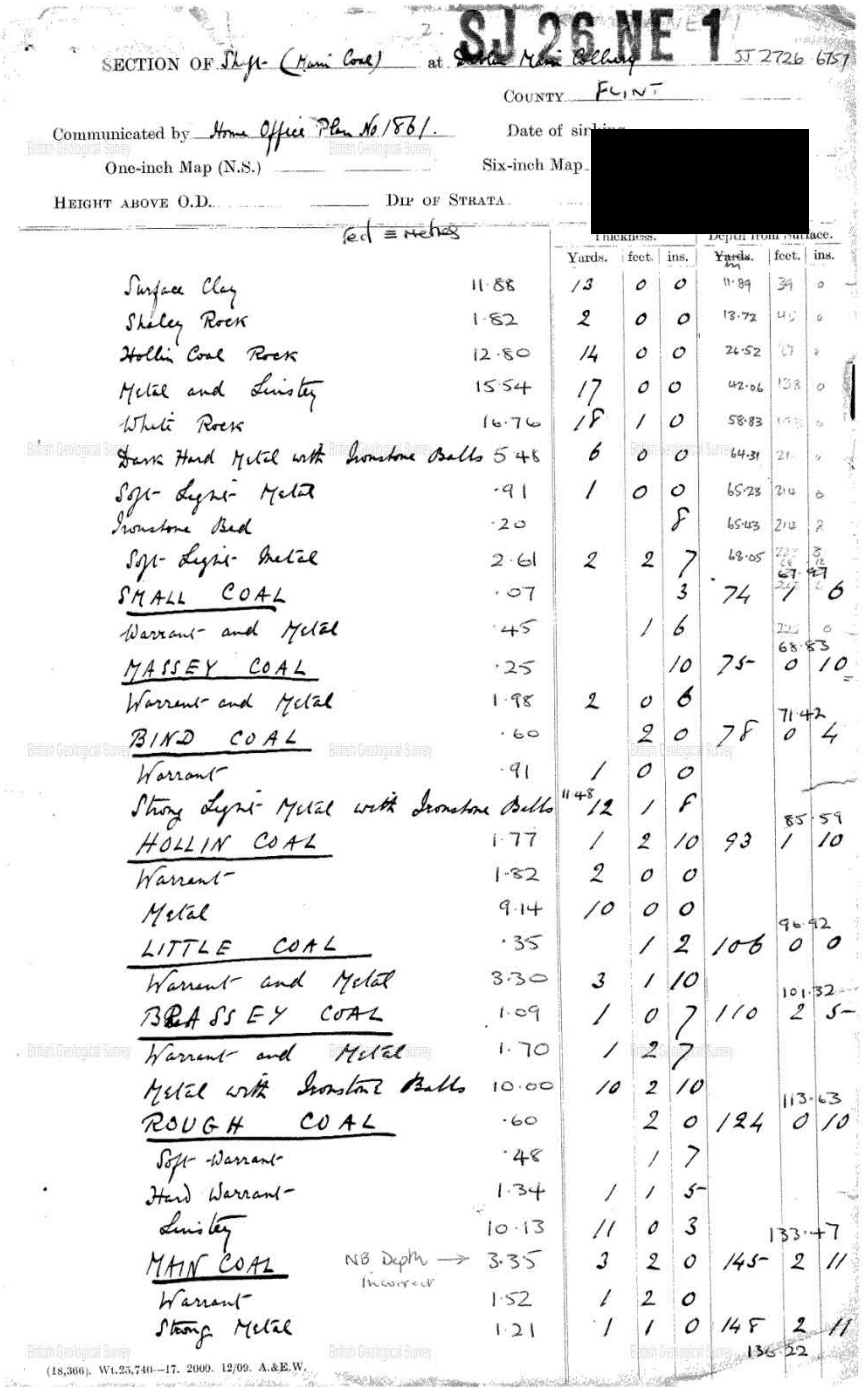
Historic landfills are present within Wales, they appear to be related primarily to historic coal mining as near to known mine shafts. Most of these historic landfills are outside of the pipeline corridor, one however is located to the south west of Northop Hall between Robin Hood Lane and Alltami Brook which is near to shafts and adits as highlighted in the Coal Authority Report.

8.6 Peat

Peat is located along the route primarily around the Gowy Landfill (highlighted in Section 8.5 above). It is not believed to be particularly deep (<1m) but will require assessment during the geological survey.

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APPENDIX A – GATHERED BOREHOLE LOGS



SJ 26 NE 1

SECTION OF Shfr- (Main Coal) at [redacted] SJ 2726 6757

COUNTY FLINT

Communicated by Home Office Plan No 1861. Date of sinking [redacted]

One-inch Map (N.S.) Six-inch Map [redacted]

HEIGHT ABOVE O.D. DIP OF STRATA

feet = metres

		Thickness. Yards.	feet.	ins.	Depth from Surface. Yards.	feet.	ins.
Surface Clay	11·88	13	0	0	11·89	34	0
Shirley Rock	1·82	2	0	0	13·72	41	0
Hollin Coal Rock	12·80	14	0	0	26·52	67	0
Metal and Limestone	15·54	17	0	0	42·06	108	0
White Rock	16·76	18	1	0	58·83	151	0
Dark Hard Metal with Ironstone Balls	5·48	6	0	0	64·31	21	0
Soft Light Metal	·91	1	0	0	65·23	214	0
Ironstone Band	·20			8	65·43	214	8
Soft Light Metal	2·61	2	2	7	68·05	227 26	3 67 19
SMALL COAL	·07			3	74	247	6
Warrant and Metal	·45		1	6		225	0
MASSEY COAL	·25			10	75	68·83 0	10
Warrant and Metal	1·98	2	0	6			
BIND COAL	·60		2	0	78	71·42 0	4
Warrant	·91	1	0	0			
Strong Light Metal with Ironstone Balls	11·48 12	1	8				
HOLLIN COAL	1·77	1	2	10	93	85·59 1	10
Warrant	1·82	2	0	0			
Metal	9·14	10	0	0			
LITTLE COAL	·35		1	2	106	96·92 0	0
Warrant and Metal	3·30	3	1	10			
BRASSEY COAL	1·09	1	0	7	110	101·32 2	5
Warrant and Metal	1·70	1	2	7			
Metal with Ironstone Balls	10·00	10	2	10			
ROUGH COAL	·60		2	0	124	113·63 0	10
Soft Warrant	·48		1	7			
Hard Warrant	1·34	1	1	5			
Limestone	10·13	11	0	3		133·47	
MAIN COAL	3·35	3	2	0	145	2	11
NB Depth → Incorrect							
Warrant	1·52	1	2	0			
Strong Metal	1·21	1	1	0	148	2	11
						136·22	

(18,366). Wt.25,740—17. 2009. 12/09. A.&E.W.

SJ26NE1

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SJ 26 NE/21 (1 108)

SUB SOIL SURVEYS LTD
MANCHESTER

2914 6703

BOREHOLE No. 1
Ref:-

EXPLORATORY BORING RECORD

SITE Hawarden — Site Ref :- 72/149

Boring Method Shell — Ground Level 78.68 O.D.

DATE	DEPTH OF CASING BELOW G.L. (m)	WATER LEVEL MORNING & EVENING	DEPTH OF STRATA BELOW G.L.	STRATA (APPROX. SCALE)	NO. OF SAMP	TYPE OF SAMP	PENETRATION OF SAMPLER OR CORE BARREL (metres) FROM	TO	NO. OF BLOWS	CORE RECOVERY
15.8.72			0.5	Topsoil and ashes with roots and bricks - Fill Material	1	D	0.3			
				Compact brown clayey sand and gravel with cobbles and bands of sandy stony clay	2	D	0.5			
					3	X	1.15	1.45	19	
					4	D	2.0			
			3.9		5	B	2.0	2.5		
				Stiff to very stiff brown sandy clay with stone incls.	6	X	2.65	2.95	16	
					7	W	2.5			
					8	D	3.5			
15.8.72	4.0				9	U	4.0	4.5	32	
16.8.72		Nil	5.2		10	D	4.5			
				Firm to stiff and very stiff grey and brown sandy clay with stone inclusions and bands of sand and gravel	11	X	5.35	5.65	43	
					12	W	5.2			
					13	U	6.0	6.5	40	
					14	D	6.5			
			7.3		15	X	7.15	7.45	44	
				Hard red, brown and yellow sandy clay with sandstone pieces	16	D	8.0			
					17	X	8.35	8.65	47	
					18	D	9.0			
					19	X	10.0	10.15	82	
			10.0		20	X	11.0	11.15	78	
16.8.72	9.0	9.0		Firm red, brown and yellow sandstone	21	X	12.0	12.15	81	
17.8.72		3.5								
17.8.72			12.2							

Samples shown thus: Disturbed D. Undisturbed U. Standard Pen. Test X. Water W. Bulk B.

WATER OBSERVED AT THE FOLLOWING DEPTHS * - overnight seepage	DEPTH OF CASING WHEN SEALED (N.S. - NOT SEALED)	ESTIMATED SEEPAGE	WATER ADDED AT FOLLOWING DEPTHS TO ASSIST BORING
1. 2.5m	4.0m	Slow	
2. 5.2m	N.S.	Medium	
3.			
4.			
5.			
6.			

WATER LEVEL IN CASED / UNCASED BOREHOLE ON COMPLETION

DATE	WATER LEVEL	DEPTH OF CASING
18.8.72	2.30	

DIA. OF CASING ____ m.m. to depth of ____ metres
____ m.m. to depth of ____ metres
____ m.m. to depth of ____ metres

REMARKS: 1) Time spent chiselling into marl - 2 hours

[redacted]

SJ26NE21

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SJ 26NE/22

SUB SOIL SURVEYS LTD
MANCHESTER

BOREHOLE No. 8 (1"108)
Ref:-

EXPLORATORY BORING RECORD 2798 6667

SITE Hawarden Site Ref :- 72/149

Boring Method Shell Ground Level 92.58 O.D.

DATE	DEPTH OF CASING BELOW G.L. (m)	WATER LEVEL MORNING & EVENING	DEPTH OF STRATA BELOW G.L.	STRATA (APPROX. SCALE)	NO. OF SAMP	TYPE OF SAMP	PENETRATION OF SAMPLER OR CORE BARREL (metres) FROM	TO	NO. OF BLOWS	CORE RECOVERY
29.8.72	8"		0.25	Topsoil						
			1.1	Hard brown and grey sandy clay with sand zones	1	D	0.4			
					2	U	0.6	1.1	58	
					3	D	1.1			
					4	U	1.2	1.7	22	
			1.35	Very stiff brown and grey silty clay	5	D	1.7			
					6	X	1.95	2.25	9	
					7	U	2.5	3.0	22	
			2.0	Loose brown and grey sandy silt with bands or lenses of sand and clayey zones	8	D	3.0			
					9	D	3.5			
					10	U	4.0	4.5	21	
			2.4	Firm brown silty clay with grey fissures	11	D	4.5			
					12	U	4.7	5.2	18	
			4.0	Very stiff brown sandy silty clay with stone inclusions	13	D	5.2			
					14	W	5.2			
					15	D	5.8			
					16	U	6.2	6.7	21	
			6.6	Firm to stiff brown silty sandy clay with stone incls. and thin bands of sand	17	D				
					18	U	6.9	7.4	44	
					19	D	7.4			
			7.1	Firm brown sandy silty clay with small bands of sand and numerous stone inclusions	20	X	7.65	7.95	34	
					21	X	8.65	8.95	57	
				Stiff grey shaly clay onto Very soft grey shale with ore stained fissures						
29.8.72	7.0	7.6	9.0							

Samples shown thus: Disturbed D. Undisturbed U. Standard Pen. Test X. Water W. Bulk B.

	WATER OBSERVED AT THE FOLLOWING DEPTHS * - overnight seepage	DEPTH OF CASING WHEN SEALED (N.S. - NOT SEALED)	ESTIMATED SEEPAGE	WATER ADDED AT FOLLOWING DEPTHS TO ASSIST BORING	WATER LEVEL IN CASED / UNCASED BOREHOLE ON COMPLETION DATE	WATER LEVEL	DEPTH OF CASING
1.	4.4	5.5	Slow				
2.	6.6	N.S	Medium				
3.							
4.				DIA. OF CASING	m.m. to depth of		metres
5.					m.m. to depth of		metres
6.					m.m. to depth of		metres

REMARKS:

SJ26NE22

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SJ 26 NE 26 **2559 6852** **Pont-Einon** 1" no. 108

Surface level +102 m
Water struck at +90 m
Shell and Auger, 203 mm diameter
November 1979

Waste 17.1 m+

British Geological Survey

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy	0.4	0.4
Till	Sand, 'clayey', pebbly	0.9	1.3
	Clay, red-brown, pebbly, silty at base	9.2	10.5
Glacial Sand and Gravel	Sand, 'clayey', red-brown	2.3	12.8
Till	Clay, red-brown, pebbly	1.7	14.5
Glacial Sand and Gravel	Gravel, coarse, mainly quartzite and sandstone	1.5	16.0
Till	Clay, silty, grey; pebbles and cobbles of siltstone and quartzite; especially at base	1.1+	17.1
	Borehole abandoned due to obstruction		

SJ26NE26

SJ 26 NE 27 **2631 6764** **Plas-Ifan** 1" no. 108 **Block B**

Surface level +89 m
Water struck at +83 m
Shell and Auger, 203 mm diameter
November 1979

Overburden 6.3 m
Mineral 6.8 m
Bedrock 0.5 m+

British Geological Survey

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy and 'clayey'	0.2	0.2
Till	Clay, red-brown, with pebbles of sandstone, limestone and siltstone	6.1	6.3
Glacial Sand and Gravel	Gravel Gravel: fine to coarse with cobbles; subangular quartzite Sand: coarse and medium	6.8	13.1
Coal Measures	Mudstone, grey	0.5+	13.6

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
				Fines	Sand			Gravel		
Fines	Sand	Gravel		-¼	+¼ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
5	41	54	6.3-7.3	3	1	5	9	26	37	19
			7.3-8.3	8	2	19	31	25	10	5
			8.3-9.3	6	6	31	18	19	6	14
			9.3-10.3	2	4	26	23	12	15	18
			10.3-11.3	2	3	16	18	29	18	14
			11.3-12.3	9	3	13	14	23	28	10
			12.3-13.1	3	3	18	25	20	28	3
			Mean	5	3	18	20	22	20	12

COMPOSITION

Depth below surface (m)	percentages by weight in +8 mm fraction								
	Quartz	Quartzite	Greywacke	Sandstone	Limestone	Siltstone	Mudstone	Igneous	Chert, Flint, etc.
6.3-13.1	1	57	3	19	3	10	1	3	3

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SJ26NE27

SJ 26 NE 31 **2825 6646** **Homestead** 1" no. 108 **Block C**

Surface level +91 m
Water struck at +83 m
Shell and Auger, 203 mm diameter
November 1979

Overburden 8.8 m
Mineral 5.0
Waste 1.0
Bedrock 0.5 m+

British Geological Survey

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey	0.2	0.2
Till	Clay, red-brown to 8.0 m but grey below, stony	8.6	8.8
Glacial Sand and Gravel	'Clayey' gravel on 'very clayey' sand Gravel: mainly fine, subangular sandstone and mudstone Sand: mainly medium	5.0	13.8
Till	Clay, grey, stony	1.0	14.8
Coal Measures	Mudstone, grey	0.5+	15.3

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1 -4	+4 -16	+16 -64	+64 mm
25	65	10	8.8-9.8	10	3	27	13	26	18	3
			9.8-10.8	19	60	18	2	1	0	0
			10.8-13.8	32	58	10	0	0	0	0
			Mean	**25**	**47**	**15**	**3**	**5**	**4**	**1**

SJ26NE31

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SJ 26 NE/ 44

DOUGLAS TECHNICAL SERVICES LIMITED

2549 6800

1^no. 108

RECORD OF BORING

CONTRACT No 25-1525

BORED FOR CLWYD COUNTY COUNCIL
LOCATION A55 NORTHOP BYPASS
CHAINAGE 4700

BOREHOLE No. 36

TYPE OF BORING SHELL & AUGER

NATIONAL GRID REF.
GROUND SURFACE LEVEL 97·36 m. A.O.D.
DATE STARTED 8/10/81
DATE COMPLETED 8/10/81

DIAMETER 200 mm
LINING TUBES TO 5·00 m
INCLINATION VERTICAL

DESCRIPTION OF STRATA	SECTION	DEPTH BELOW SURFACE m	THICKNESS m	O.D. LEVEL	SAMPLES TYPE	SAMPLES No.	SAMPLES DEPTH m	S.P.T. Blows per 300mm	GROUND WATER OBSERVATIONS	REMARKS
TOPSOIL (DRILLER'S DESCRIPTION)		0·00	0·40	97·36						
		0·40		96·96	●	1	0·50			
FIRM BROWN VERY SANDY & SILTY CLAY WITH FRAGMENTS OF WEATHERED RED MICACEOUS SANDSTONE,							1·00			
					▮	2				U 105 80 BLOWS
BECOMING			(2·90)		●	3	1·45			
STIFF BROWN SANDY SILTY CLAY WITH A LITTLE FINE GRAVEL					●	4	1·80			
					▯	5	2·00			S.P.T.
							2·45	23		9,6,7,6,4
(GLACIAL TILL)							3·00			
		(3·30)		(94·06)	▮	6				U 105 52 BLOWS
							3·45			
BROWN FINE TO COARSE SAND WITH A LITTLE FINE GRAVEL, BECOMING MEDIUM DENSE FINE TO COARSE SAND & FINE TO COARSE GRAVEL WITH SOME COBBLES			(1·70)		●	7	3·80			
			pen.				4·00			S.P.T.
					B	8		23		12,7,6,5,5 (CONE USED)
							4·45			
							4·55			
(GLACIAL SAND & GRAVEL)					B	9		22		S.P.T. 13,6,7,5,4 (CONE USED)
		5·00		92·36			5·00			
END OF BOREHOLE										

GROUNDWATER SUMMARY

DATE	TIME	HOLE DEPTH (m)	CASING DEPTH (m)	WATER DEPTH (m)	REMARKS
8/10/81	15·30	3·45	NIL	3·45	
8/10/81	15·50	3·45	NIL	3·40	20 mins. LATER STANDING LEVEL
8/10/81		5·00	NIL	2·10	CASING PULLED

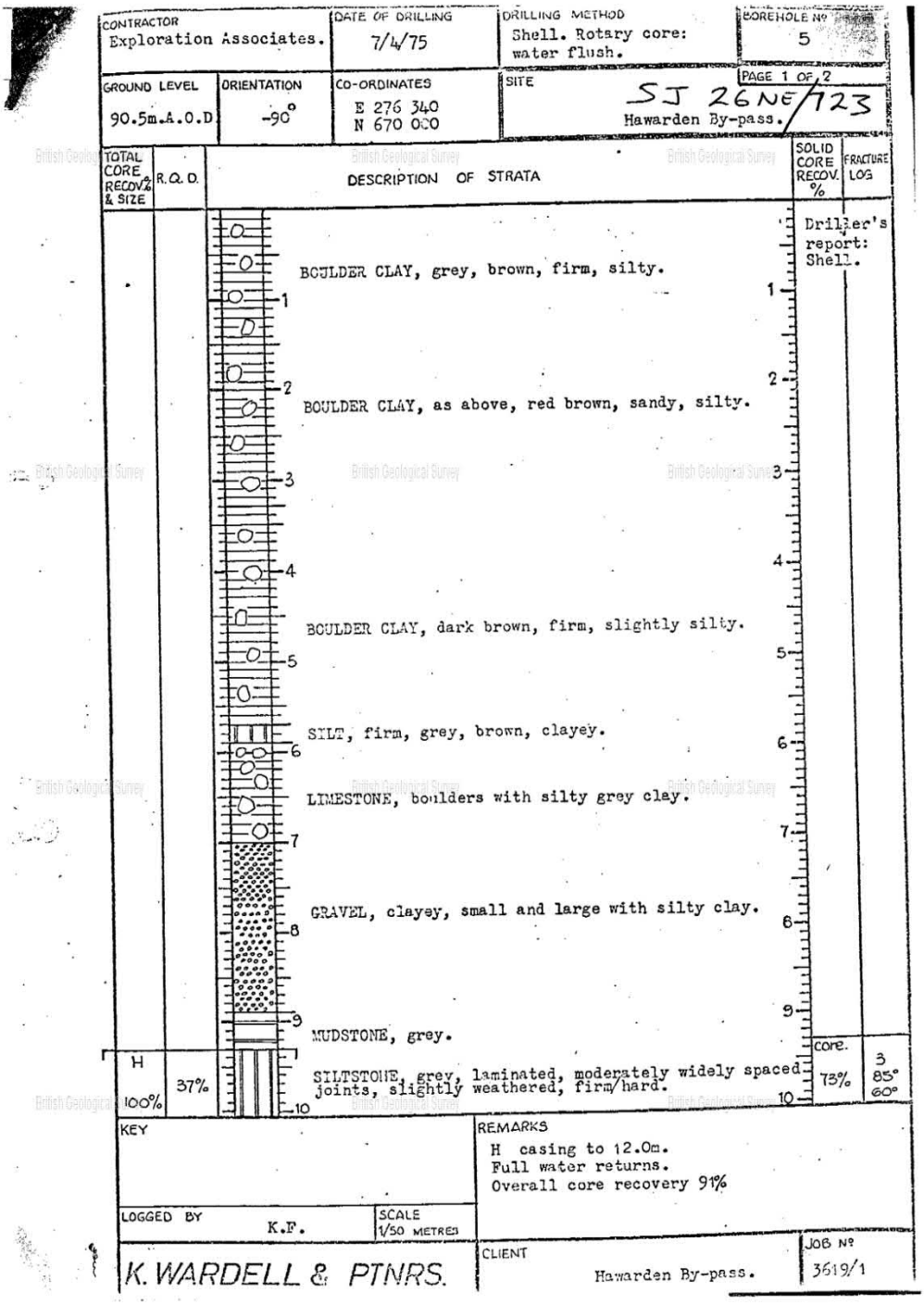
WEATHER

● DISTURBED SAMPLE
● B BULK SAMPLE
▮ UNDISTURBED SAMPLE
W GROUND WATER SAMPLE
VERTICAL SCALE 1:50
▯ STANDARD PENETRATION TEST

FIG 47

SJ26NE44

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CONTRACTOR: Exploration Associates. | DATE OF DRILLING: 7/4/75 | DRILLING METHOD: Shell. Rotary core: water flush. | BOREHOLE Nº: 5

GROUND LEVEL: 90.5m.A.O.D | ORIENTATION: -90° | CO-ORDINATES: E 276 340 N 670 000 | SITE: SJ 26 NE/723 Hawarden By-pass. | PAGE 1 OF 2

TOTAL CORE RECOV & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		BOULDER CLAY, grey, brown, firm, silty.		Driller's report: Shell.
		BOULDER CLAY, as above, red brown, sandy, silty.		
		BOULDER CLAY, dark brown, firm, slightly silty.		
		SILT, firm, grey, brown, clayey.		
		LIMESTONE, boulders with silty grey clay.		
		GRAVEL, clayey, small and large with silty clay.		
		MUDSTONE, grey.		
H 100%	37%	SILTSTONE, grey, laminated, moderately widely spaced joints, slightly weathered, firm/hard.	core. 73%	3 85° 60°

KEY

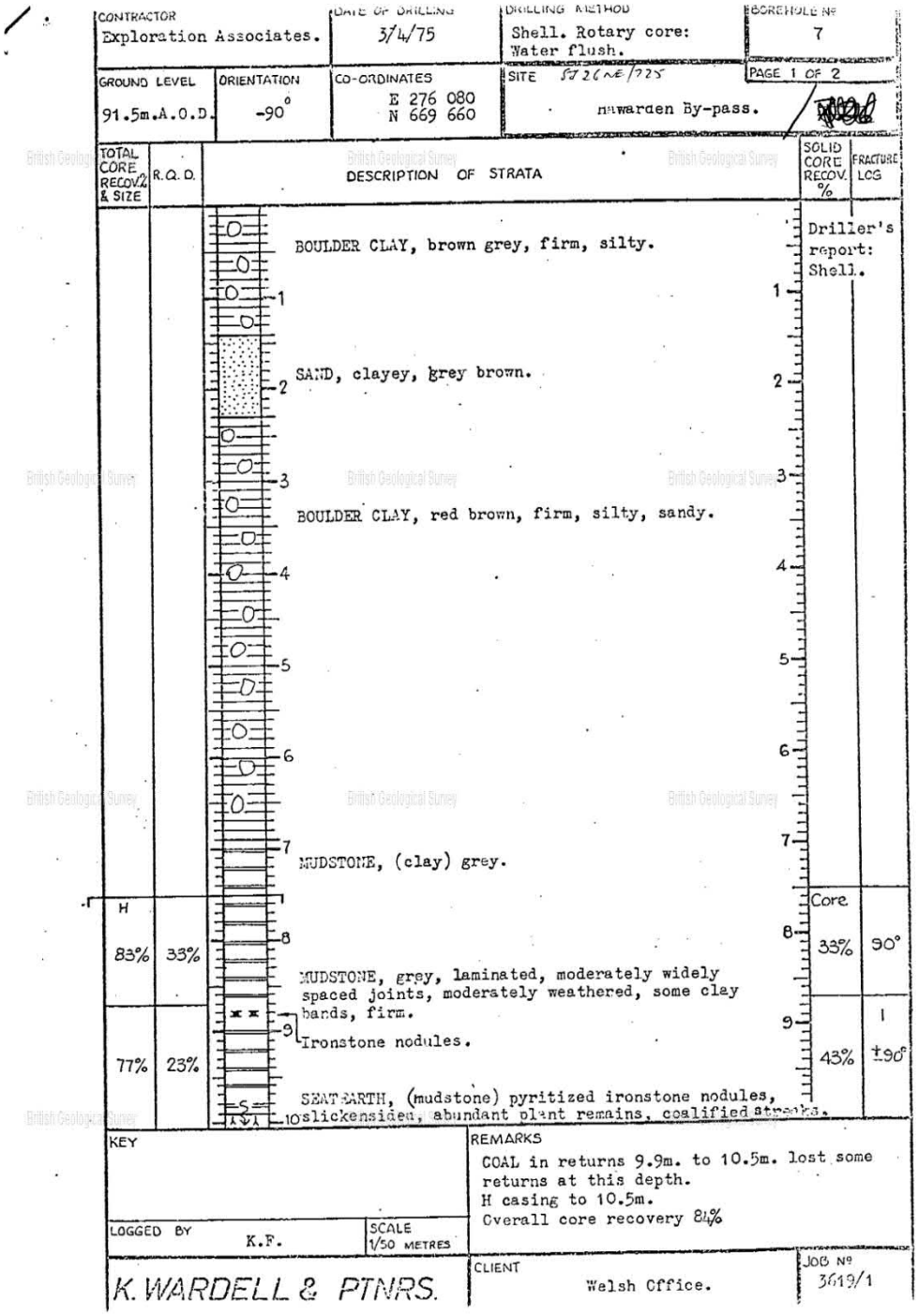
REMARKS
H casing to 12.0m.
Full water returns.
Overall core recovery 91%

LOGGED BY: K.F. | SCALE: 1/50 METRES

K. WARDELL & PTNRS. | CLIENT: Hawarden By-pass. | JOB Nº: 3619/1

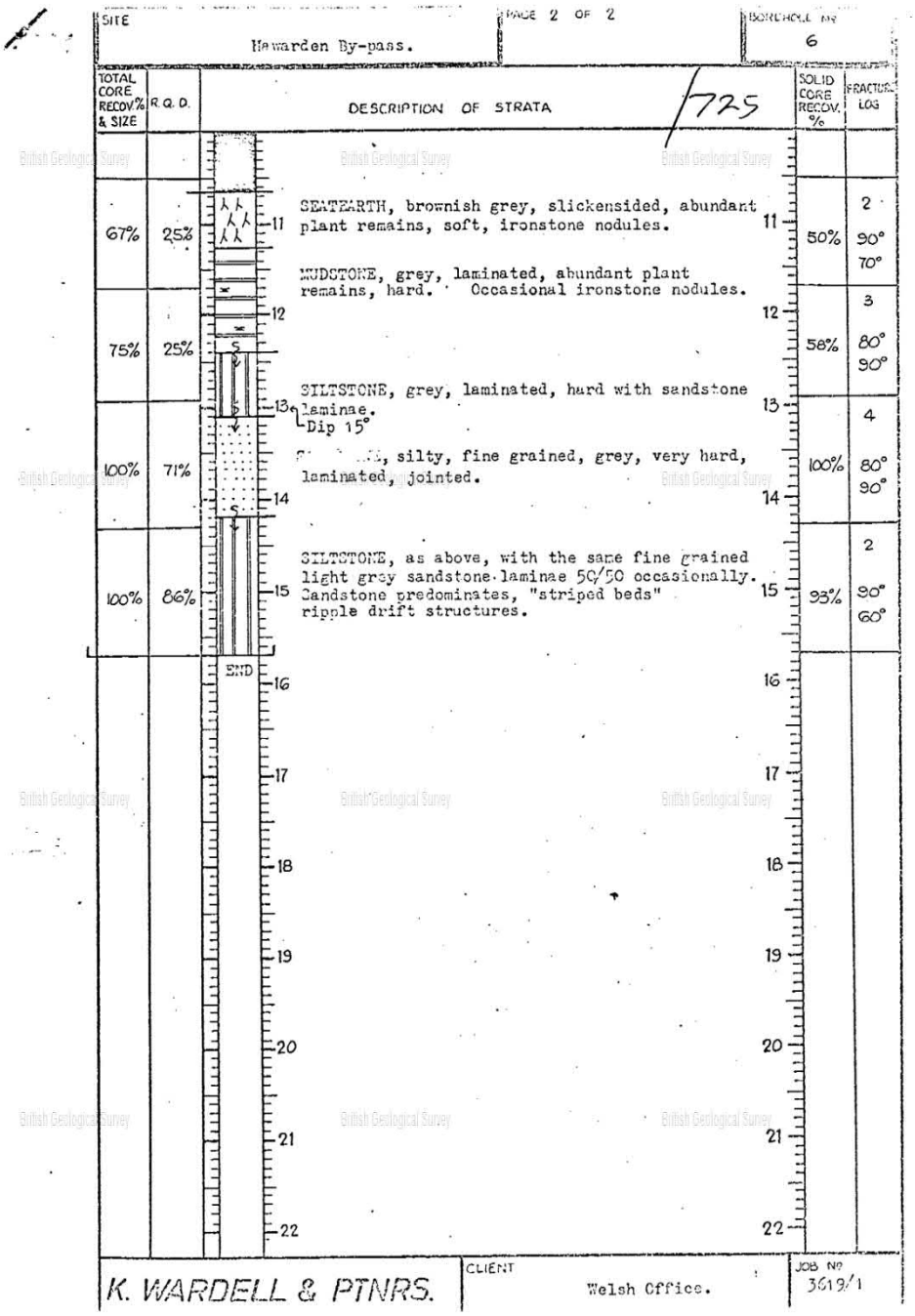
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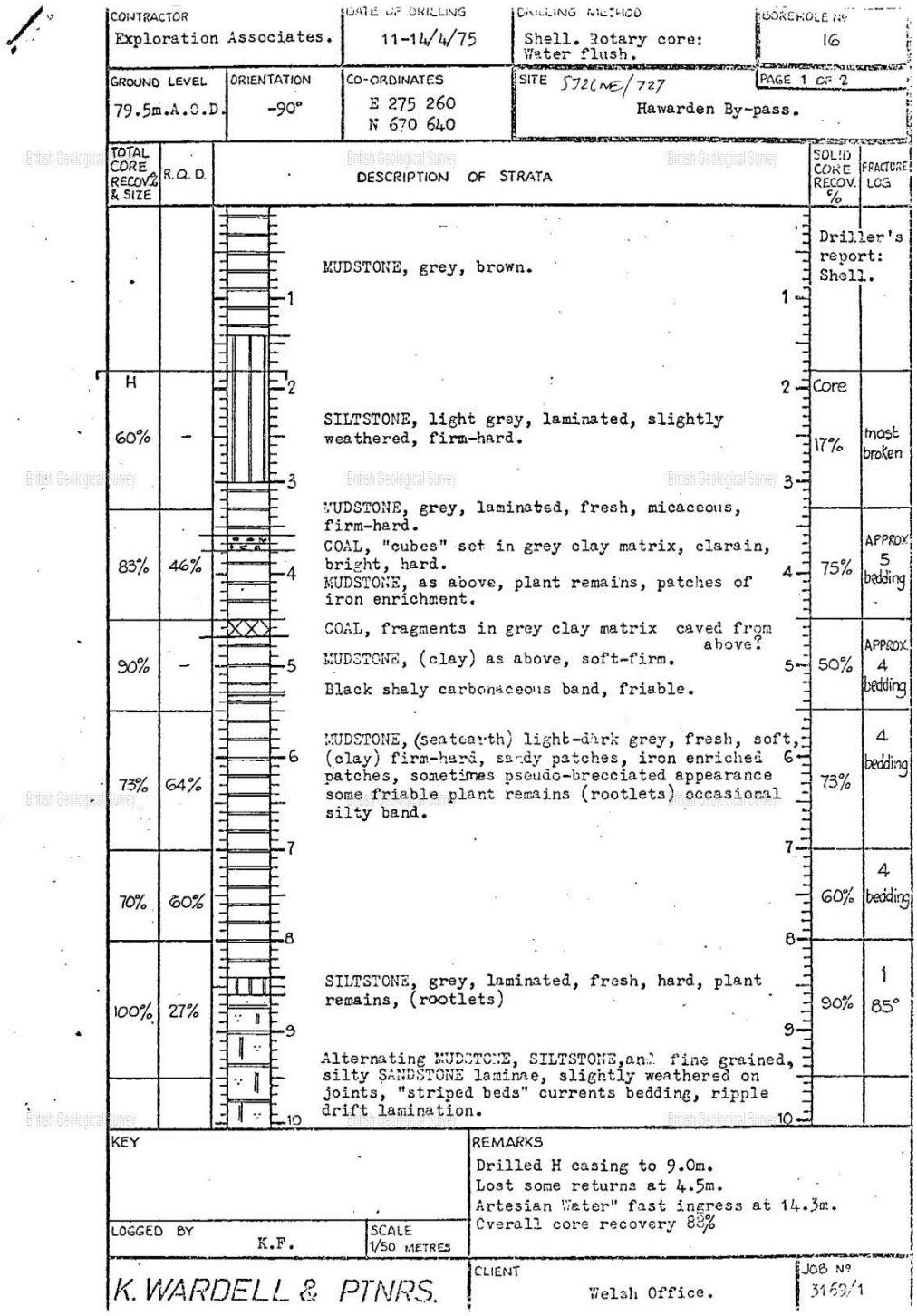
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CONTRACTOR: Exploration Associates. | DATE OF DRILLING: 11-14/4/75 | DRILLING METHOD: Shell. Rotary core: Water flush. | BOREHOLE No: 16

GROUND LEVEL: 79.5m.A.O.D. | ORIENTATION: -90° | CO-ORDINATES: E 275 260 N 670 640 | SITE: SJ26NE/727 Hawarden By-pass. | PAGE 1 OF 2

TOTAL CORE RECOV% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		MUDSTONE, grey, brown.		Driller's report: Shell.
H 60%	–	SILTSTONE, light grey, laminated, slightly weathered, firm-hard.	Core 17%	most broken
83%	46%	MUDSTONE, grey, laminated, fresh, micaceous, firm-hard. COAL, "cubes" set in grey clay matrix, clarain, bright, hard. MUDSTONE, as above, plant remains, patches of iron enrichment.	75%	APPROX 5 bedding
90%	–	COAL, fragments in grey clay matrix caved from above? MUDSTONE, (clay) as above, soft-firm. Black shaly carbonaceous band, friable.	50%	APPROX 4 bedding
73%	64%	MUDSTONE, (seatearth) light-dark grey, fresh, soft, (clay) firm-hard, sandy patches, iron enriched patches, sometimes pseudo-brecciated appearance some friable plant remains (rootlets) occasional silty band.	73%	4 bedding
70%	60%		60%	4 bedding
100%	27%	SILTSTONE, grey, laminated, fresh, hard, plant remains, (rootlets)	90%	1 85°
		Alternating MUDSTONE, SILTSTONE, and fine grained, silty SANDSTONE laminae, slightly weathered on joints, "striped beds" currents bedding, ripple drift lamination.		

KEY

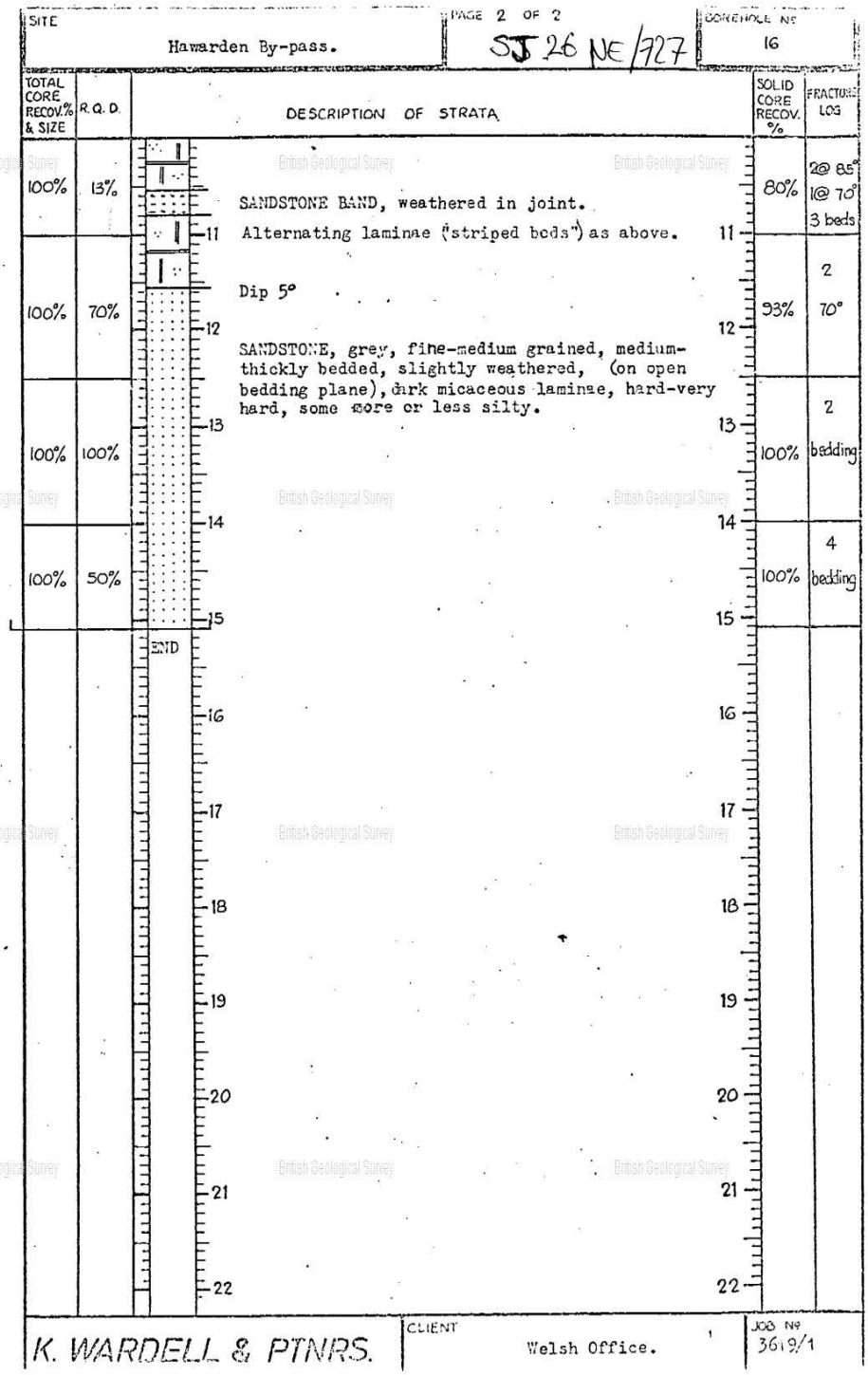
REMARKS
Drilled H casing to 9.0m.
Lost some returns at 4.5m.
Artesian Water" fast ingress at 14.3m.
Overall core recovery 88%

LOGGED BY: K.F. | SCALE: 1/50 METRES

K. WARDELL & PTNRS. | CLIENT: Welsh Office. | JOB No: 3169/1

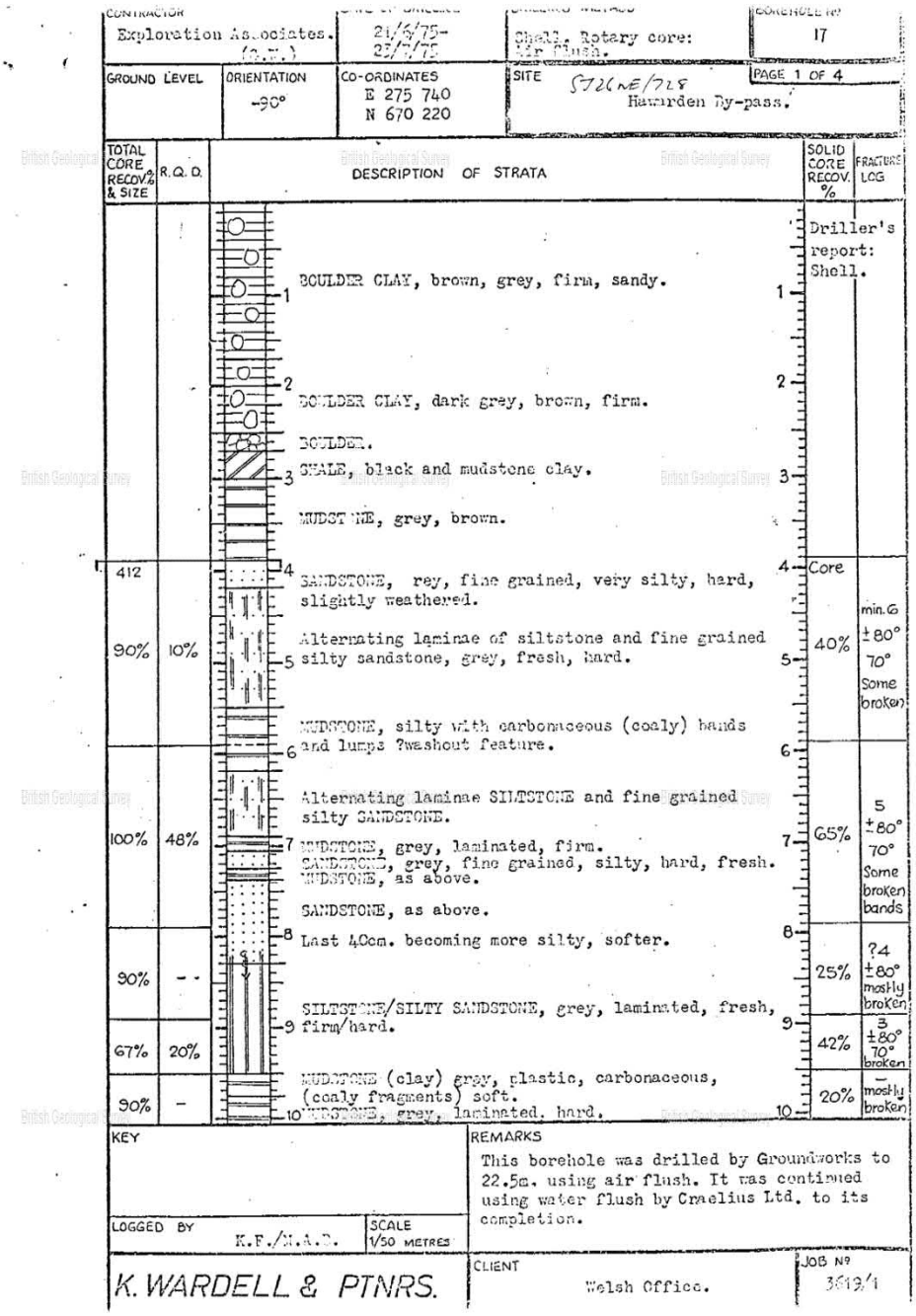
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CONTRACTOR: Exploration Associates. (G.W.S.) | DATE OF DRILLING: 21/6/75 - 25/7/75 | DRILLING METHOD: Shell. Rotary core: Air flush. | COREHOLE No: 17

GROUND LEVEL | ORIENTATION: -90° | CO-ORDINATES: E 275 740 N 670 220 | SITE: SJ26NE/728 Hawarden By-pass. | PAGE 1 OF 4

TOTAL CORE RECOV% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		1 BOULDER CLAY, brown, grey, firm, sandy.		Driller's report: Shell.
		2 BOULDER CLAY, dark grey, brown, firm. BOULDER.		
		3 SHALE, black and mudstone clay. MUDSTONE, grey, brown.		
412 90%	10%	4 SANDSTONE, grey, fine grained, very silty, hard, slightly weathered. Alternating laminae of siltstone and fine grained 5 silty sandstone, grey, fresh, hard.	Core 40%	min. 6 ±80° 70° Some broken
100%	48%	MUDSTONE, silty with carbonaceous (coaly) bands 6 and lumps ?washout feature. Alternating laminae SILTSTONE and fine grained silty SANDSTONE. 7 MUDSTONE, grey, laminated, firm. SANDSTONE, grey, fine grained, silty, hard, fresh. MUDSTONE, as above. SANDSTONE, as above.	65%	5 ±80° 70° Some broken bands
90%	- -	8 Last 40cm. becoming more silty, softer.	25%	?4 ±80° mostly broken
67%	20%	SILTSTONE/SILTY SANDSTONE, grey, laminated, fresh, 9 firm/hard.	42%	3 ±80° 70° broken
90%	-	MUDSTONE (clay) grey, plastic, carbonaceous, (coaly fragments) soft. 10 SILTSTONE, grey, laminated, hard.	20%	- mostly broken

KEY

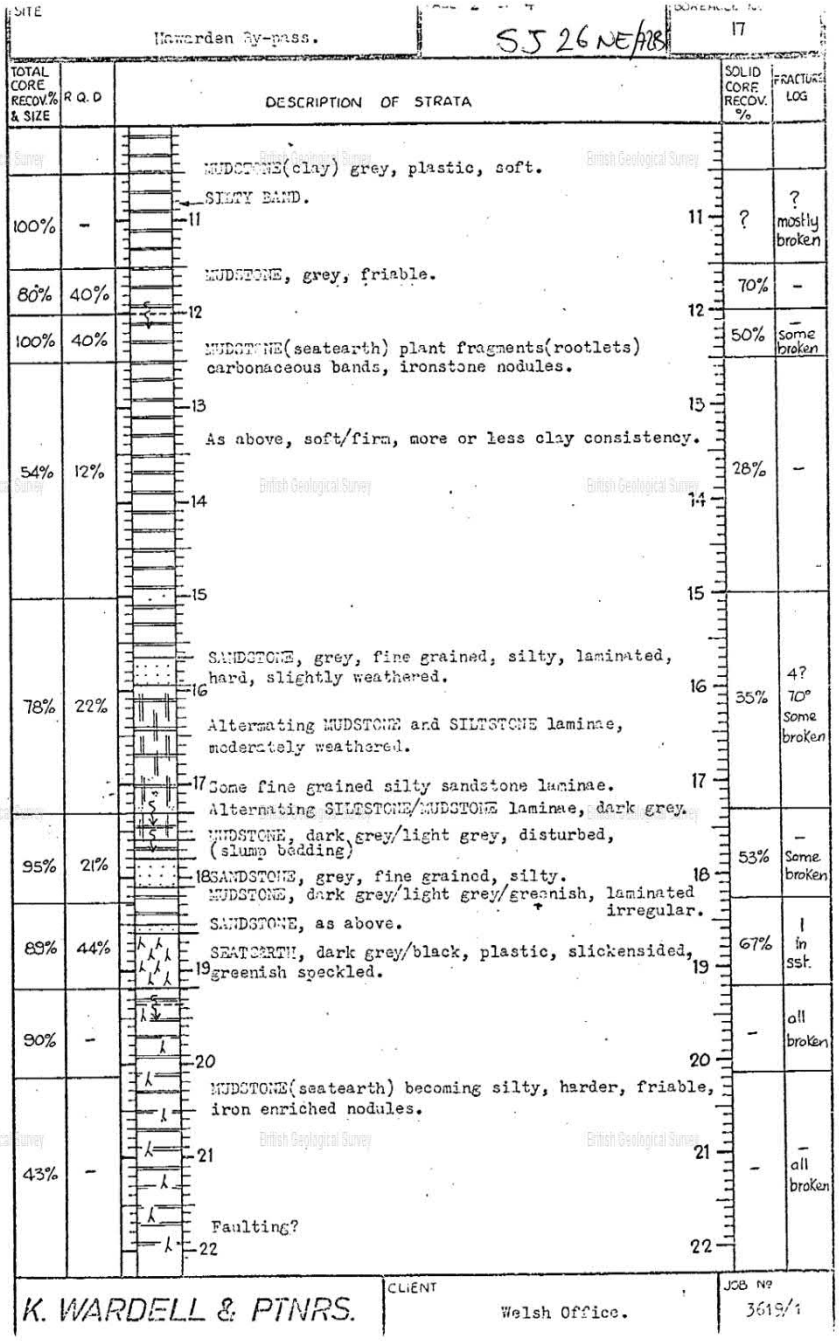
REMARKS: This borehole was drilled by Groundworks to 22.5m. using air flush. It was continued using water flush by Craelius Ltd. to its completion.

LOGGED BY: K.F./M.A.D. | SCALE: 1/50 METRES

K. WARDELL & PTNRS. | CLIENT: Welsh Office. | JOB No: 3613/1

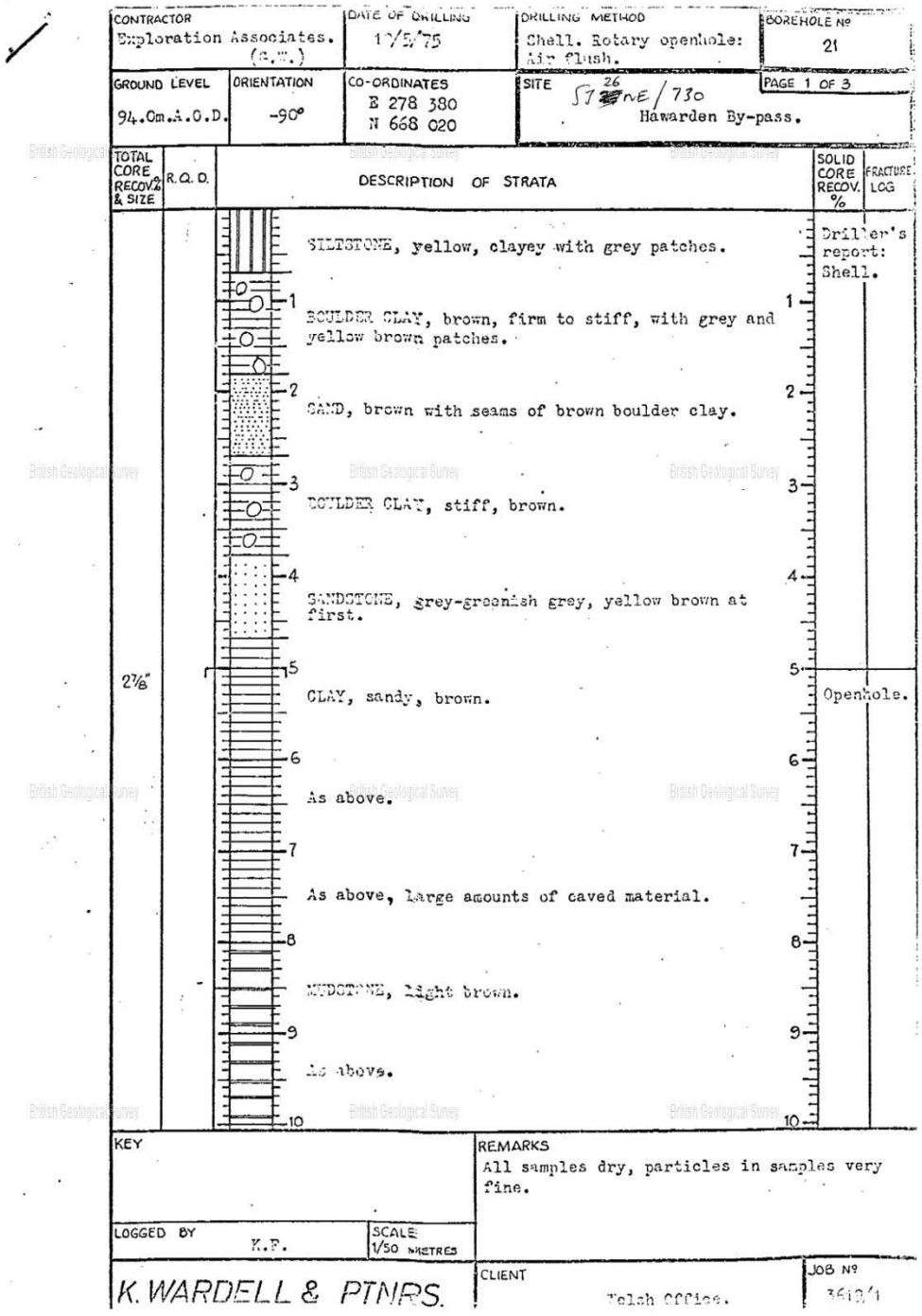
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CONTRACTOR: Exploration Associates. (C.W.)
DATE OF DRILLING: 1/5/75
DRILLING METHOD: Shell. Rotary openhole: Air flush.
BOREHOLE Nº: 21
GROUND LEVEL: 94.0m.A.O.D.
ORIENTATION: -90°
CO-ORDINATES: E 278 380 N 668 020
SITE: SJ 26 NE/730 Hawarden By-pass.
PAGE 1 OF 3

TOTAL CORE RECOV.% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		SILTSTONE, yellow, clayey with grey patches.		Driller's report: Shell.
		BOULDER CLAY, brown, firm to stiff, with grey and yellow brown patches.		
		SAND, brown with seams of brown boulder clay.		
		BOULDER CLAY, stiff, brown.		
		SANDSTONE, grey-greenish grey, yellow brown at first.		
2⅞"		CLAY, sandy, brown.		Openhole.
		As above.		
		As above, large amounts of caved material.		
		MUDSTONE, light brown.		
		As above.		

KEY

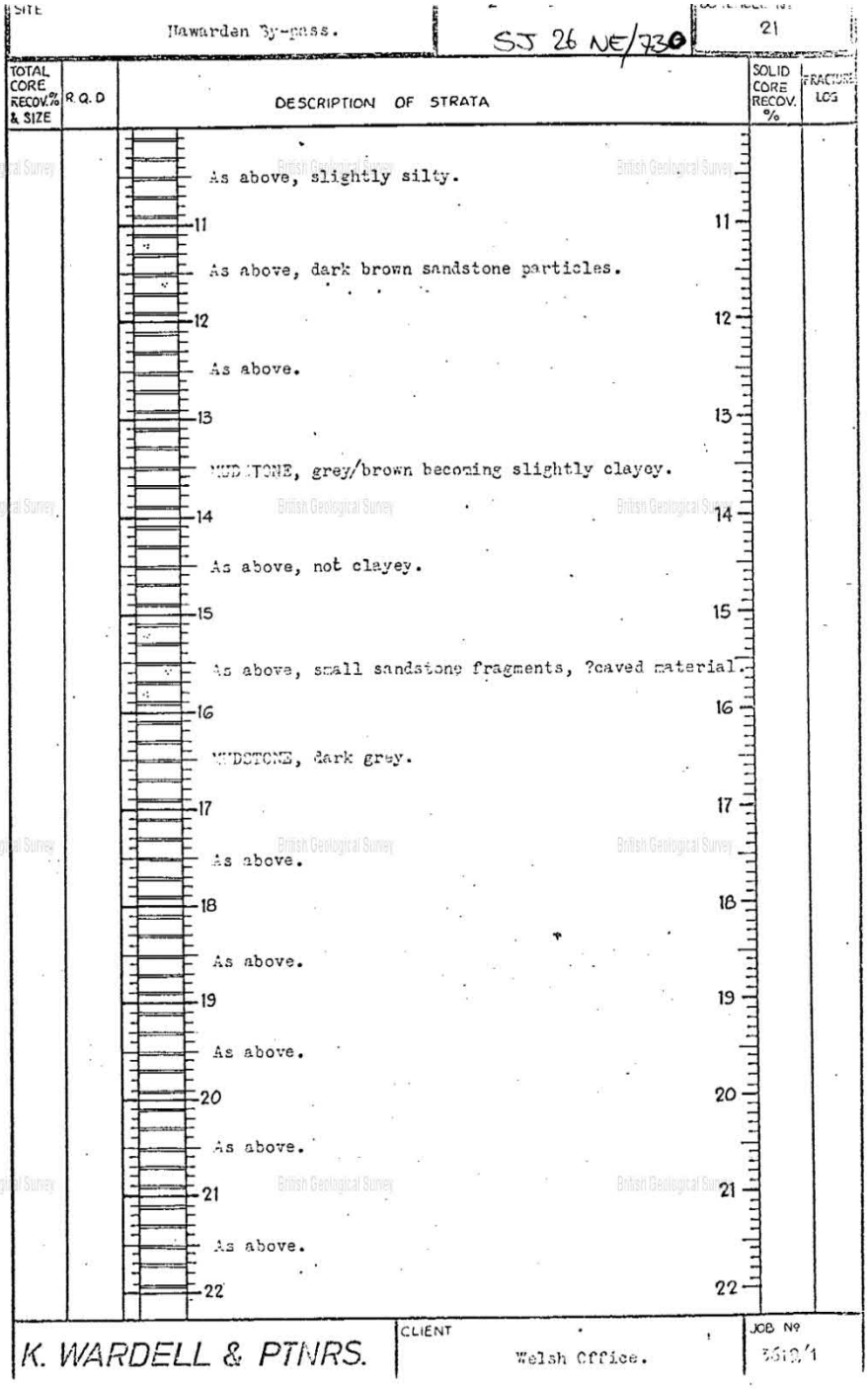
REMARKS: All samples dry, particles in samples very fine.

LOGGED BY: K.P.
SCALE: 1/50 METRES

K. WARDELL & PTNRS.
CLIENT: Welsh Office.
JOB Nº: 3618/1

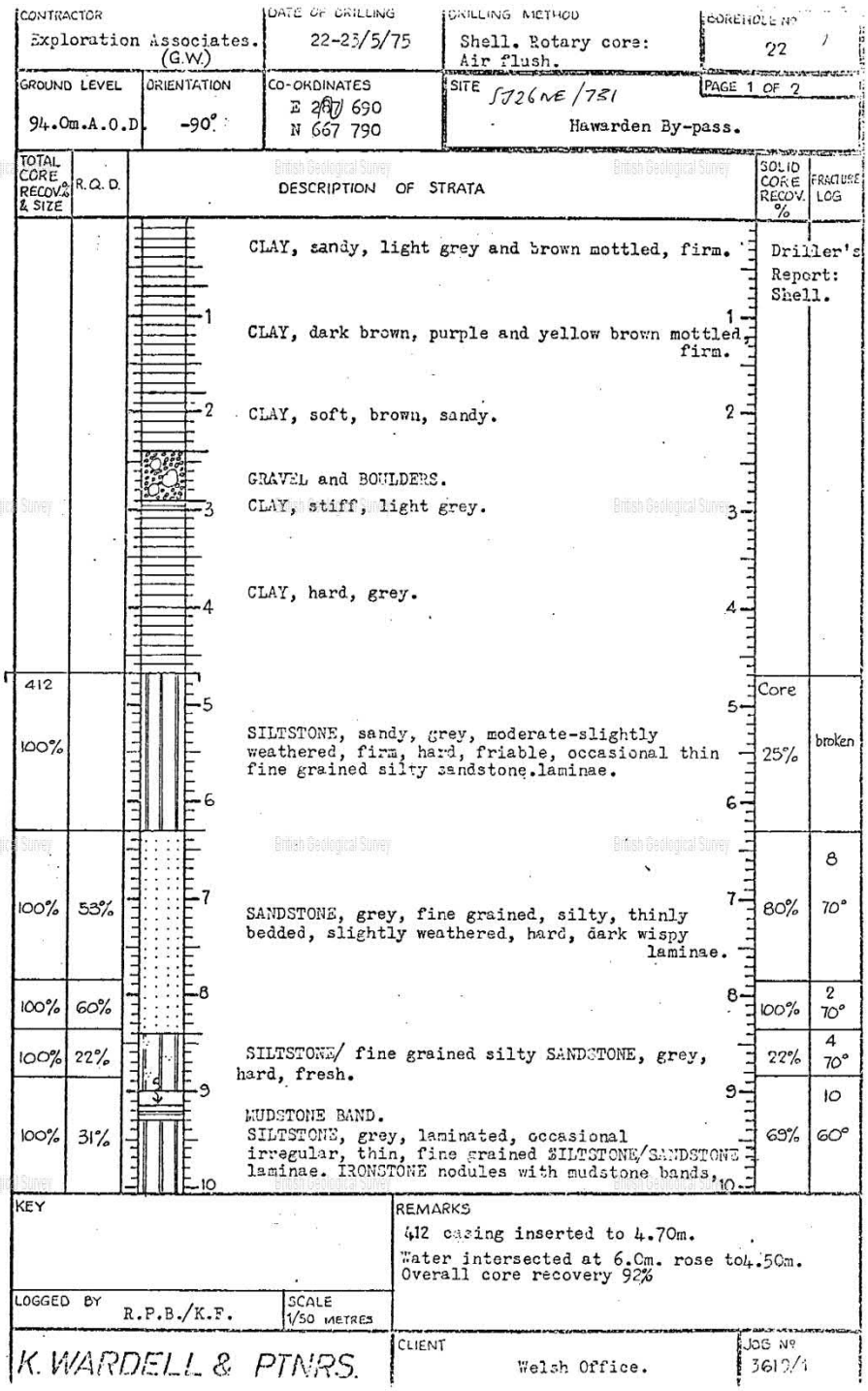
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CONTRACTOR: Exploration Associates. (G.W.)
DATE OF DRILLING: 22-23/5/75
DRILLING METHOD: Shell. Rotary core: Air flush.
BOREHOLE No: 22
GROUND LEVEL: 94.0m.A.O.D.
ORIENTATION: -90°
CO-ORDINATES: E 267 690 N 667 790
SITE: SJ26NE/731 Hawarden By-pass.
PAGE 1 OF 2

TOTAL CORE RECOV.% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		CLAY, sandy, light grey and brown mottled, firm.		Driller's Report: Shell.
		CLAY, dark brown, purple and yellow brown mottled, firm.		
		CLAY, soft, brown, sandy.		
		GRAVEL and BOULDERS.		
		CLAY, stiff, light grey.		
		CLAY, hard, grey.		
412 100%		SILTSTONE, sandy, grey, moderate-slightly weathered, firm, hard, friable, occasional thin fine grained silty sandstone laminae.	Core 25%	broken
100%	53%	SANDSTONE, grey, fine grained, silty, thinly bedded, slightly weathered, hard, dark wispy laminae.	80%	8 70°
100%	60%		100%	2 70°
100%	22%	SILTSTONE/ fine grained silty SANDSTONE, grey, hard, fresh.	22%	4 70°
100%	31%	MUDSTONE BAND. SILTSTONE, grey, laminated, occasional irregular, thin, fine grained SILTSTONE/SANDSTONE laminae. IRONSTONE nodules with mudstone bands,	69%	10 60°

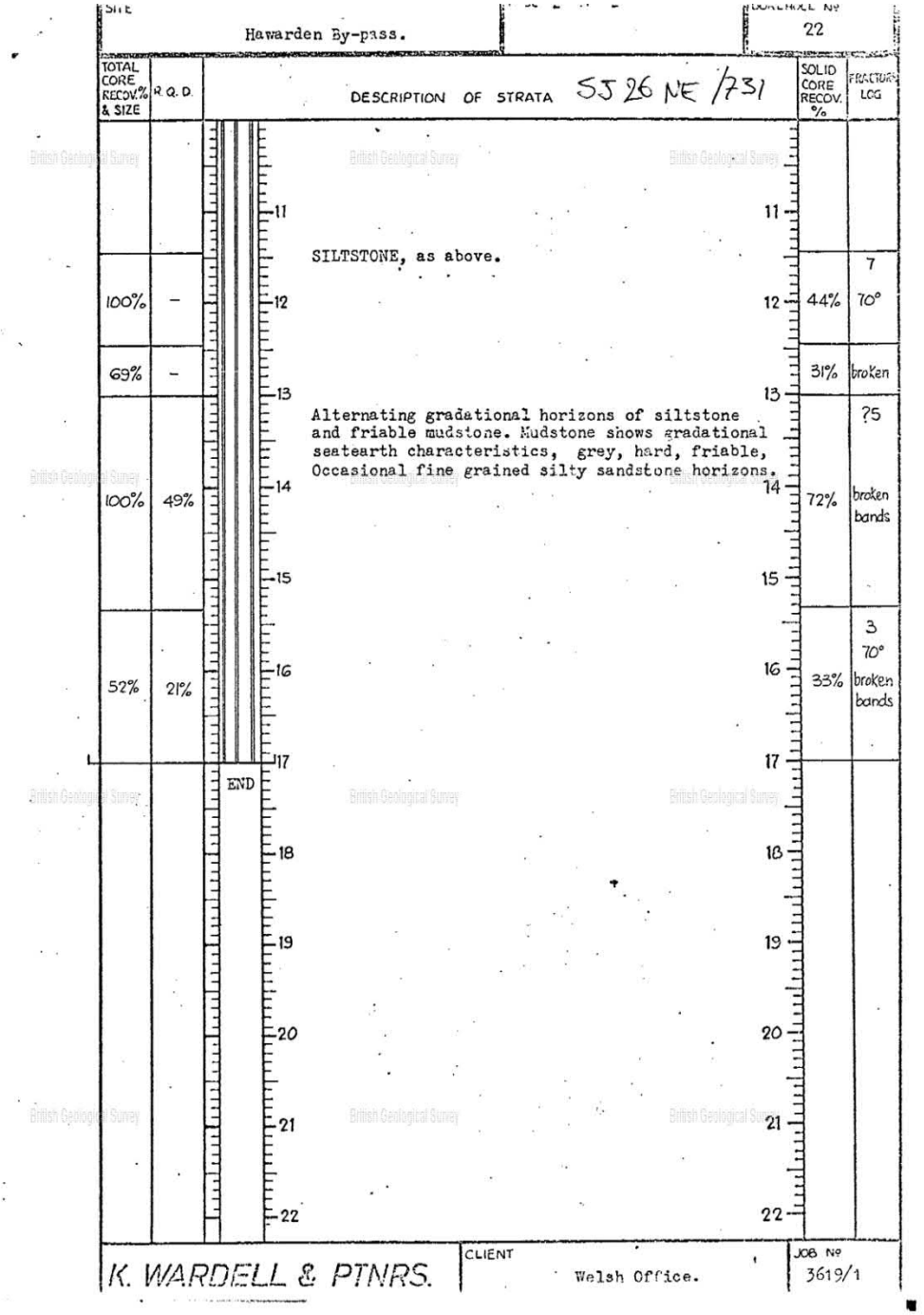
KEY

REMARKS
412 casing inserted to 4.70m.
Water intersected at 6.0m. rose to 4.50m.
Overall core recovery 92%

LOGGED BY: R.P.B./K.F.
SCALE: 1/50 METRES
K. WARDELL & PTNRS.
CLIENT: Welsh Office.
JOB No: 3610/1

SJ26NE731_1

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Hawarden By-pass.

22

DESCRIPTION OF STRATA SJ 26 NE /731

TOTAL CORE RECOV.% & SIZE	R.Q.D.	SOLID CORE RECOV. %	FRACTURE LOG
100%	–	44%	7 70°
69%	–	31%	broken
100%	49%	72%	?5 broken bands
52%	21%	33%	3 70° broken bands

SILTSTONE, as above.

Alternating gradational horizons of siltstone and friable mudstone. Mudstone shows gradational seatearth characteristics, grey, hard, friable, Occasional fine grained silty sandstone horizons.

END

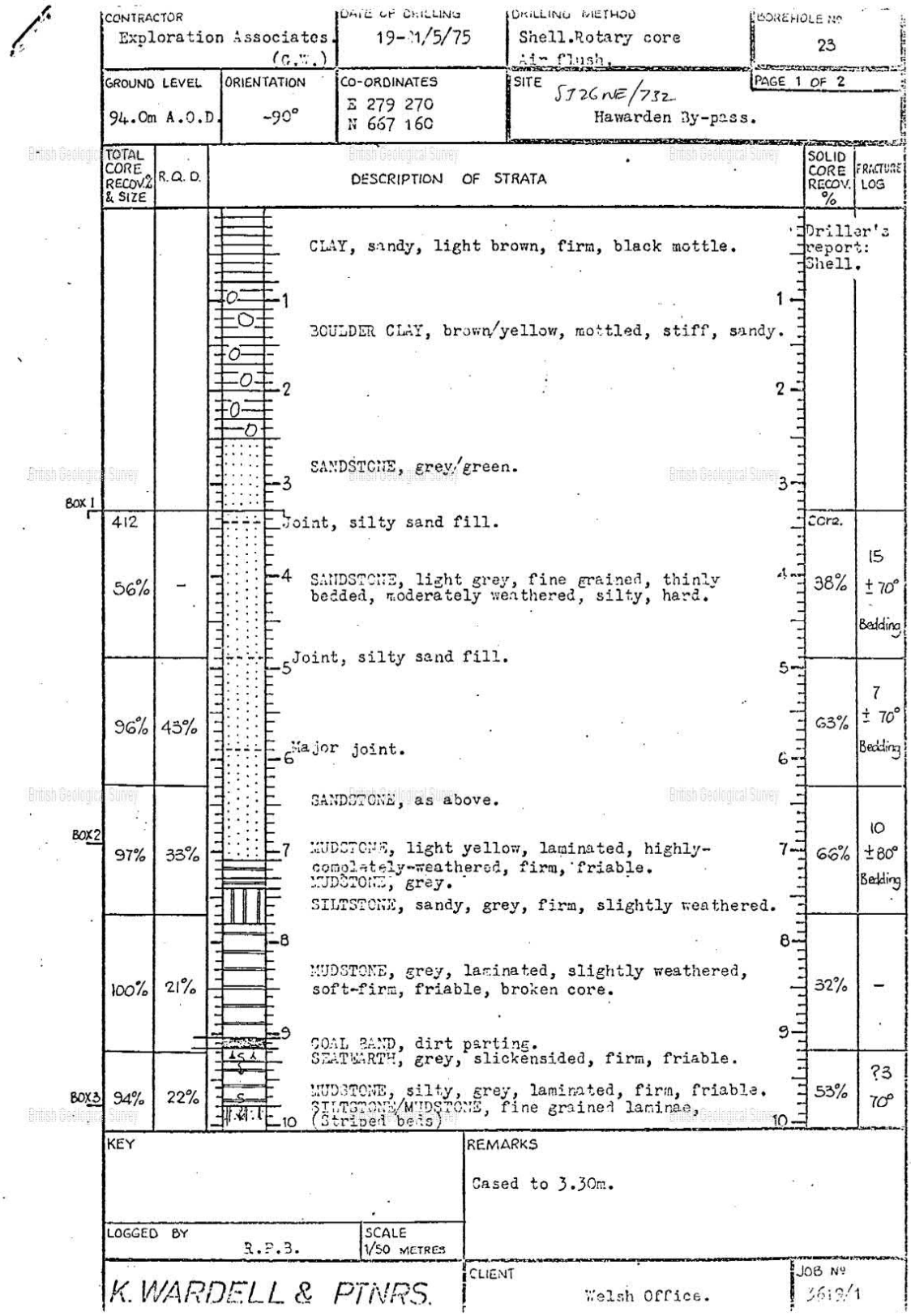
K. WARDELL & PTNRS.

CLIENT Welsh Office.

JOB No 3619/1

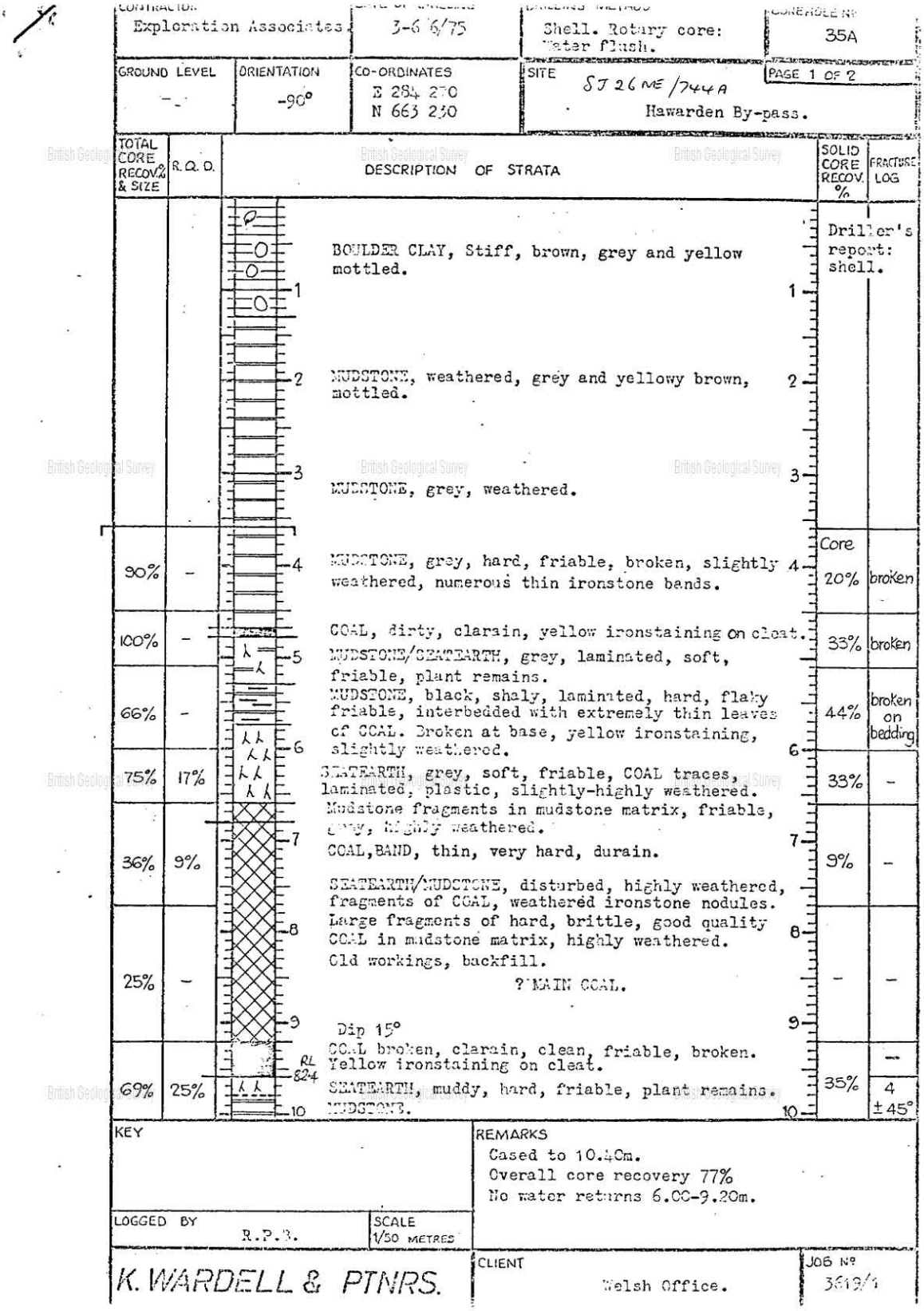
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CONTRACTOR: Exploration Associates | DATE OF DRILLING: 3-6 6/75 | DRILLING METHOD: Shell. Rotary core: Water flush. | CORE HOLE NO: 35A | PAGE 1 OF 2

GROUND LEVEL: - | ORIENTATION: -90° | CO-ORDINATES: E 284 270 N 663 230 | SITE: SJ 26 NE /744A Hawarden By-pass.

TOTAL CORE RECOV% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		BOULDER CLAY, Stiff, brown, grey and yellow mottled.	Driller's report: shell.	
		MUDSTONE, weathered, grey and yellowy brown, mottled.		
		MUDSTONE, grey, weathered.		
90%	-	MUDSTONE, grey, hard, friable, broken, slightly weathered, numerous thin ironstone bands.	Core 20%	broken
100%	-	COAL, dirty, clarain, yellow ironstaining on cleat.	33%	broken
66%	-	MUDSTONE/SEATEARTH, grey, laminated, soft, friable, plant remains. MUDSTONE, black, shaly, laminated, hard, flaky friable, interbedded with extremely thin leaves of COAL. Broken at base, yellow ironstaining, slightly weathered.	44%	broken on bedding
75%	17%	SEATEARTH, grey, soft, friable, COAL traces, laminated, plastic, slightly-highly weathered. Mudstone fragments in mudstone matrix, friable, grey, highly weathered.	33%	-
36%	9%	COAL, BAND, thin, very hard, durain. SEATEARTH/MUDSTONE, disturbed, highly weathered, fragments of COAL, weathered ironstone nodules. Large fragments of hard, brittle, good quality COAL in mudstone matrix, highly weathered. Old workings, backfill.	9%	-
25%	-	?MAIN COAL. Dip 15°	-	-
69%	25%	COAL broken, clarain, clean, friable, broken. Yellow ironstaining on cleat. RL 824 SEATEARTH, muddy, hard, friable, plant remains. MUDSTONE.	35%	- / 4 ±45°

KEY

REMARKS
Cased to 10.40m.
Overall core recovery 77%
No water returns 6.00-9.20m.

LOGGED BY: R.P.B. | SCALE: 1/50 METRES

K. WARDELL & PTNRS. | CLIENT: Welsh Office. | JOB Nº: 3619/1

SJ26NE744A

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CONTRACTOR	DATE OF DRILLING	DRILLING METHOD	BOREHOLE No
Exploration Associates. (G.W.)	6/5/75	Shell. Rotary openhole: Air flush.	36

GROUND LEVEL	ORIENTATION	CO-ORDINATES	SITE	PAGE
95.0m.A.O.D.	-90°	E 284 460 N 662 440	SJ26NE/745 Hawarden By-pass.	1 OF 3

TOTAL CORE RECOV% & SIZE	R.Q.D.	DESCRIPTION OF STRATA	SOLID CORE RECOV. %	FRACTURE LOG
		BOULDER CLAY, brown, grey, silty, sandy, soft to firm.		Driller's report: Shell.
		MUDSTONE/CLAY, grey, brown, firm.		
		MUDSTONE, grey, with fine clay bands.		
		MUDSTONE/SILTSTONE, fine grained silty SANDSTONE laminae, grey.		Openhole.
		MUDSTONE, grey.		
		MUDSTONE/SILTSTONE, dark grey.		
		MUDSTONE/SILTSTONE, as above.		
		MUDSTONE/SILTSTONE, as above.		
		MUDSTONE/SILTSTONE, as above.		

KEY

REMARKS

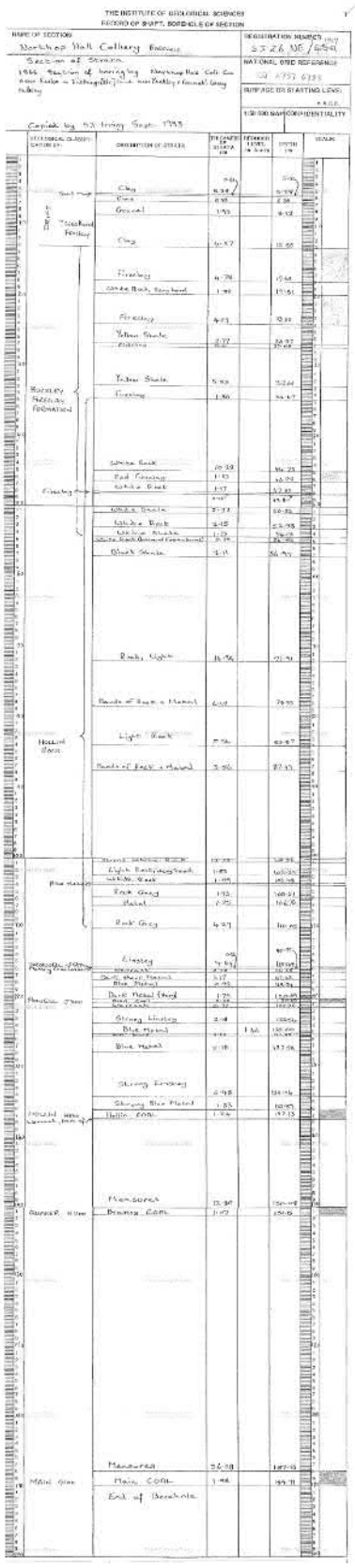
Cased to 5.0m.
Water intersected at 11.0m.

LOGGED BY	SCALE	CLIENT	JOB No
K.F.	1/50 METRES	Welsh Office.	3619/1

K. WARDELL & PTNRS.

SJ26NE745

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SJ26NE1317

Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration: SJ 27 SE/177

Name and Number of Shaft or Borehole: LEADBROOK HALL FARM (BOREHOLE NO 13)

National Grid Reference: SJ 2545 7072

For whom made: BGS

Town or Village: FLINT County: DELYN

Exact site (reference to a fixed point on 1-in or 1:50 000 Map)

1-in or 1:50 000 New Series Map No.: 108

Enter 'C' i: Confidentia

Purpose for which made: To investigate drift deposits

Ground level at shaft bore relative to O.D. ~ 57.00 m. If not ground level give O.D. of beginning of shaft bore _____ m.

Made by: Norwest Holst Date of sinking: 8.12.86

Information from: Examined by: M Smith

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
Made ground	Reddish brown clayey sand with occasional pebbles variegated = fill	5.0	5.0
Boulder clay	Dark reddish brown boulder clay with lenses of clayey sand and gravel	12.10	17.10
	Borehole terminated due to difficult penetration		

SJ27SE177

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1063 Wt. 22438/0384 10M 7/45 (51) F.&S.

RECORD OF WELL (SHAFT OR BORE)

SJ 27 SW 8

(For Survey use only) 1-inch Map Registered No.

9 NE/2. 1.

At TY GWYN

Town or Village NORTHOP

County FLINTSHIRE Six-inch quarter sheet 9.NE/E

For Mr. WALKER WILLIAMS

Exact site of well Lat. 53°-13'-30" W.Lon. 3°-7'-40" { Attach a tracing from a map, or a sketch-map, if possible.

Level of ground surface above sea level (O.D.) ft. If well-top is not at ground level, state how far ... { above; below; ft.

SHAFT ft.; diameter ft. Details of headings

BORE 70 ft.; diameter of bore: at top 4 ins.; at bottom ins. Lengths, diameters, perforations, etc., of lining tubes 61 Ft: of 4" Galv: Tube. 9Ft: of 4 Copper Tube Slotted.

Water struck at depths, below well top, of (feet)

Rest-level of water 18 ft. ~~above~~ below well-top. Suction at ft. Yield on hours' / days' pumping, 720 gal. per hr. with depression to 20'-6 ft. below well-top, Capacity of pump g.p.h. Recovery to rest level in mins. / hours Date of measurements 1/1/35 Date of well 23/1/35

Quality of water (*attach copy of analysis if available*) Satisfactory

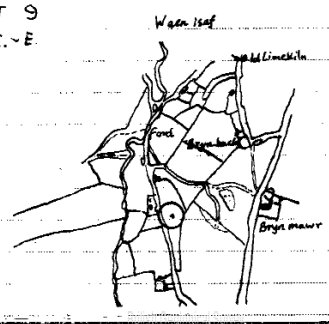
Well made by WYATT BROS. (WHITCHURCH) LTD. WHITCHURCH, SALOP

Information from do.

Additional notes in space overleaf.

(For Survey use only) Geological Classification	Nature of Strata (If measurements start below ground surface, e.g., from bottom of an existing shaft, state how far)	Thickness Feet	Thickness Ins.	Depth Feet	Depth Ins.
	SOIL	2	0·61	2	0·61
	CLAY	22	6·46	24	7·47
	SAND	1	0·46	26	7·93
	CLAY	16	7·32	42	12·81
	ROCK	13	3·96	55	16·77
	SAND AND GRAVEL	15	4·57	70	21·34

FLINT 9 N.E.-E.



Continue over leaf

Geological Survey and Museum, South Kensington, London, S.W.7.	Date received	Correspondence File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map	Site marked (use symbol) on 6" Map
			108			

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Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration: SJ 27 SW/249

Name and Number of Shaft or Borehole: TROES-Y-MYNYDD (BOREHOLE NO 8)

National Grid Reference: SJ /2495 7057/

For whom made: BGS

Town or Village: FLINT MOUNTAIN *County*: DELYN

Exact site (reference to a fixed point on 1-in or 1:50 000 Map): 900 m NE of chapel in Flint Mt

1-in or 1:50 000 New Series Map No.: 108

Enter 'C' i Confidentia

Purpose for which made: Investigation of drift deposits

Ground level at shaft bore relative to O.D. 69.00 *m. If not ground level give O.D. of beginning of shaft bore* _____ *m.*

Made by: Norwest Holst *Date of sinking*: 3.12.86

Information from: _____ *Examined by*: M Smith

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
Head	Thin cover of slope wash comprising dark brown silty clay	0.3	0.3
Boulder clay	Dark reddish brown clayey sands and stiff silty clays with abundant pebbles and cobbles	5.1	5.4
Sands & gravel	Dark reddish brown clayey sand passing down into well sorted clean orange/reddish brown sands	4.1	9.5
Boulder clay	Dark brown clayey sands and gravels passing rapidly into firm boulder clay		
	Borehole terminated at obstruction	1.7	11.2

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IGS 2a 500 12/70

Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No.: SJ27SW /436

Name and Number of Shaft or Borehole: Ground Looker

National Grid Reference: 2499 7120

For whom made

Town or Village ____ County ____

Exact site (reference to a fixed point on 1-in or 1:50 000 Map:

1-in or 1:50 000 New Series Map No.: 108

Enter 'C' if Confidential

Purpose for which made

Ground level at shaft bore relative to O.D. ____ m. If not ground level give O.D. of beginning of shaft bore ____ m.

Made by ____ Date of sinking ____

Information from Wells Gullidge Plat 9 NE 1912

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Red clay with stones Soft	.	15 .24
		.	.
		.	.
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IGS 2a 500 12/70

Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No.

SJ 27SW/437

Name and Number of Shaft or Borehole : Unnamed borehole

National Grid Reference

499
2[illegible] 7108

For whom made

Town or Village _____ County _____

Exact site (reference to a fixed point on 1-in or 1:50 000 Map:

1-in or 1:50 000 New Series Map No.	Enter 'C' if Confidential
108	

Purpose for which made

Ground level at shaft / bore relative to O.D. _____ m. If not ground level give O.D. of beginning of shaft / bore _____ m.

Made by _____ Date of sinking _____

Information from Well Fieldhip Plant Dec 1912

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Red clay with stones & gravel		12.19

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SJ 36 NE 8

RECORD OF WELL (SHAFT OR BORE)

N.S. 8
O.S.
Grid Ref. 11SW 1.

At Church Farm, Sealand 357 684

Town or Village Sealand County FLINT Six-inch quarter sheet 11SW

Exact site near Chester (See 1"=1" maps.) (A rough sketch-map or a tracing from a map is very desirable)

in parish of

Level of ground surface above sea-level (O.D.) c. 20 ft. If well starts below ground surface, state how far ft.

Shaft ft., diameter ft. Bore 120 (36.58 m.) ft. Diameter of bore: 3½ (0.09 m.) ins.; at bottom ins.

Details of permanent lining tubes (internal diameters preferred)

Water overflowing at the surface at a gallon per minute

Water struck at depths of (feet)

Rest-level of water below / above top of well feet. Suction at feet. Yield on hours' / days' test

gallons per (with pump of capacity g.p.h.); depressing water level to feet

below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by Ridgways Castle Street for Mr. Date of well 19

Information from Chester.

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
Drift	Sand and clay 18.29 m.	60	0	60	0
Bunter	Soft sandstone rock	60	0	120	0 (36.58)

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON. LONDON, S.W.7.

(*11815) Wt.29051/O.369 10,000 9/39 A.& E.W.Ltd. Gp.686

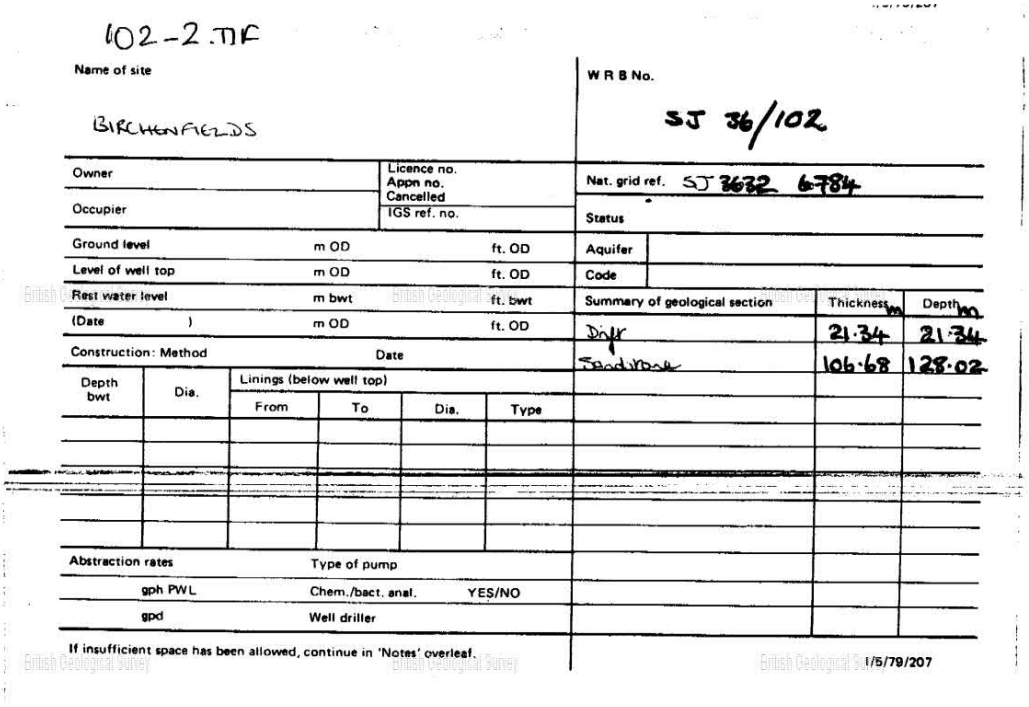
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SJ 36NE/12

(For Institute use only) Geological Classification	NATURE OF STRATA If measurements start below ground surface, state how far.	Thickness Feet	Inches	Metres	Depth Feet	Inches	Metres
	Top Soil.	2	0	0.61	2	0	0.61m
	Brown Clay.	64	0	19.51	66	0	20.12
	Very Soft Sandstone.	3	0	0.91	69	0	21.03
	Soft Sandstone.	21	0	6.40	90	0	27.43
	Hard Sandstone.	110	0	33.53	200	0	60.96

SJ36NE12

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102-2.TIF

Name of site

BIRCHENFIELDS

W R B No.

SJ 36/102

Owner	Licence no. / Appn no. / Cancelled	Nat. grid ref.	SJ 3632 6784
Occupier	IGS ref. no.	Status	
Ground level	m OD ft. OD	Aquifer	
Level of well top	m OD ft. OD	Code	
Rest water level	m bwt ft. bwt		
(Date)	m OD ft. OD		

Construction: Method Date

Depth bwt	Dia.	Linings (below well top) From	To	Dia.	Type

Abstraction rates Type of pump

gph PWL Chem./bact. anal. YES/NO

gpd Well driller

If insufficient space has been allowed, continue in 'Notes' overleaf.

Summary of geological section	Thickness m	Depth m
Drift	21.34	21.34
Sandstone	106.68	128.02

1/5/79/207

SJ36NE160

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3489 6827

RECORD OF WELL (SHAFT OR BORE) SJ 36 NW N.S. 6/108 O.S.

At Sealand Exploration Company No 3 Bore Grid Ref. 105E 6.

Town or Village Sealand County Flint Six-inch quarter sheet 10SE

Exact site 730 yards S.S.W. of Sealand church 667.51m. in parish of } (A rough sketch-map or a tracing from a map is very desirable)

Level of ground surface above sea-level (O.D.) x.18 5.49m. ft. If well starts below ground surface, state how far ft.

Shaft ft., diameter ft. Bore 1637 ft. Diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes (internal diameters preferred)

Water struck at depths of (feet)

Rest-level of water below / above top of well feet. Suction at feet. Yield on hours' / days' test

gallons per (with pump of capacity g.p.h.); depressing water level to feet below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by for Mr. Date of well

Information from Flint Memoir Supplement. 1898. p. 5.

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	m.	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.	m.
Estuarine	Sea sand	13.11	43	-	43	-	13.11
(Doubtful)	Sand and gravel	9.30	30	6	73	6	22.40
Glacial	Stiff boulder clay	1.83	6	-	79	6	24.23
New Red Sandstone	Red sandstone with one foot of conglomerate at 897 feet from the surface, and very coarse-grained in the lowest 25 feet 273.41 m. 7.62m.	261.98	859	6	939	-	286.21
	Red and grey shale with sandstone	9.75	32	-	971	-	295.96
	Limestone	1.07	3	6	974	6	297.03
	Red shales	7.92	26	-	1000	6	304.95
	Grey sandstone	18.14	59	6	1060	-	323.09
	Grey limestone and spar	0.30	1	-	1061	-	323.39
	Grey sandstone	5.33	17	6	1078	6	328.73
	Limestone	0.30	1	-	1079	6	329.03
	Grey sandstone, calcareous	0.61	2	-	1081	6	329.64
	Limestone	0.30	1	-	1082	6	329.95
	Grey sandstone and shale	7.16	23	6	1106	-	337.11
	Red sandstone	4.57	15	-	1121	-	341.68
	Grey sandstone	4.57	15	-	1136	-	346.25
Upper Coal Measures	Red and grey sandstone	6.71	22	-	1158	-	352.96
	Purple and blue shale	31.78	104	3	1262	3	384.73
	Dark-grey and purple sandstone	13.44	44	9	1307	-	398.37
	Purple and blue shale	1.07	3	6	1310	6	399.44
	Grey limestone with black partings	0.61	2	-	1312	6	400.05
	Purple and blue shale with purple sandstone	21.18	69	6	1382	-	421.23
	Reddish grey limestone	0.30	1	-	1383	-	421.54
	Purple and blue shale with ironstone	5.94	19	6	1402	6	427.48

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

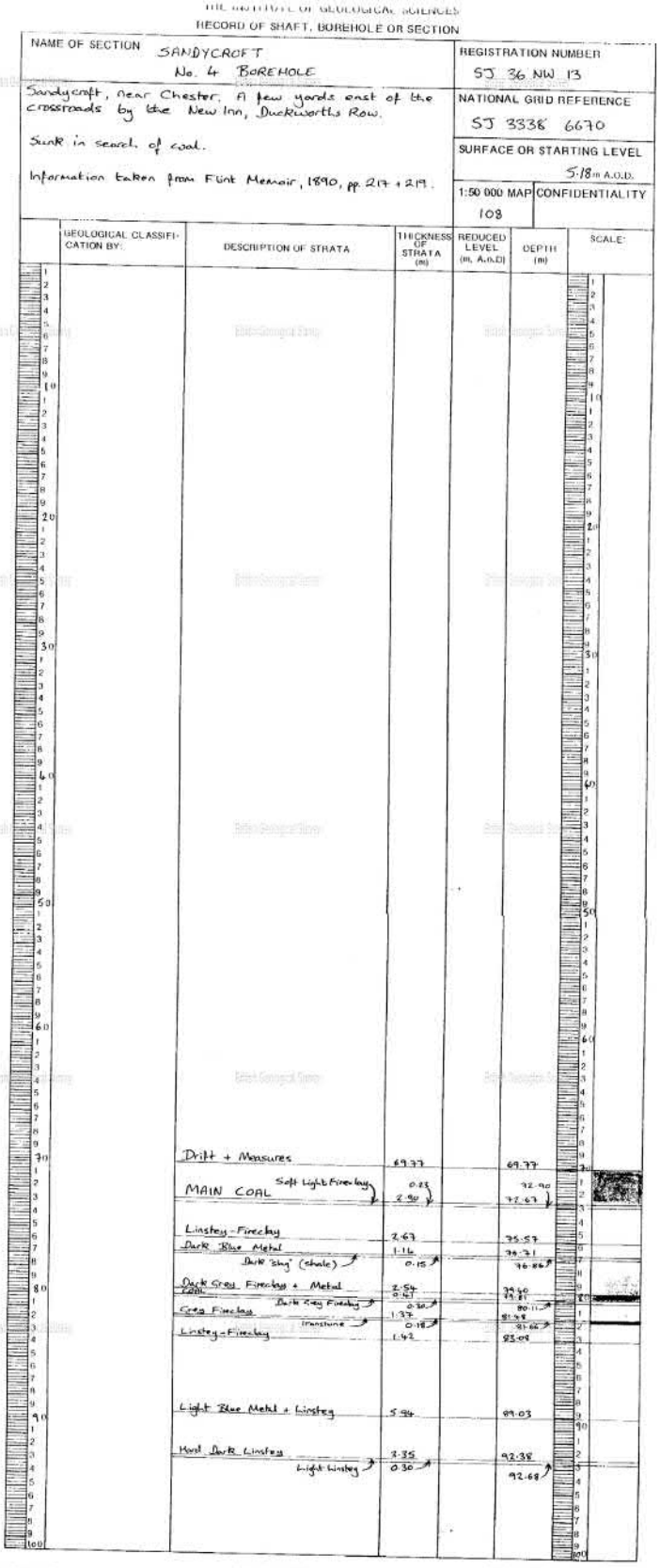
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British Geological Survey

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THE INSTITUTE OF GEOLOGICAL SCIENCES

RECORD OF SHAFT, BOREHOLE OR SECTION

NAME OF SECTION: SANDYCROFT No. 4 BOREHOLE

REGISTRATION NUMBER: SJ 36 NW 13

Sandycroft, near Chester. A few yards east of the crossroads by the New Inn, Duckworths Row.

Sunk in search of coal.

Information taken from Flint Memoir, 1890, pp. 217 + 219.

NATIONAL GRID REFERENCE: SJ 3338 6670

SURFACE OR STARTING LEVEL: 5.18 m A.O.D.

1:50 000 MAP: 108

CONFIDENTIALITY:

GEOLOGICAL CLASSIFICATION BY:	DESCRIPTION OF STRATA	THICKNESS OF STRATA (m)	REDUCED LEVEL (m, A.O.D)	DEPTH (m)	SCALE:
	Drift + Measures	69.77		69.77	
	MAIN COAL — Soft Light Fireclay	0.25		72.90	
		2.90		75.67	
	Linsey-Fireclay	2.67		75.57	
	Dark Blue Metal	1.14		76.71	
	Dark 'Slaty' (shale)	0.15		76.86	
	Dark Grey Fireclay + Metal	2.54		79.40	
	Dark Grey Fireclay	0.41		79.81	
	Grey Fireclay	0.30		80.11	
	Limestone	1.77		81.88	
	Linsey-Fireclay	0.18		82.06	
		1.42		83.48	
	Light Blue Metal + Linsey	5.94		89.03	
	Hard Dark Linsey	3.35		92.38	
	Light Linsey	0.30		92.68	

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SJ 36 NW 19.

SECTION OF No 5 Pit (above Fault) at Queen's Ferry Colliery, Flintshire

3165 (740

Communicated by [redacted] Date of sinking Copied for 19. Flint 108

One-inch Map (N.S.) 10 S Six-inch Map 10 SE 108

HEIGHT ABOVE O.D. DIP OF STRATA

	m.	Thickness. Yards.	feet.	ins.	Depth from Surface. Yards.	feet.	ins.
Soil and clay	7·95	8	2	1	7·95	26	1
Rock bands	2·74	3	—	—	10·69	35	1
Grey Sandstone	0·71	—	2	4	11·40	37	5
Purple Metal	2·62	2	2	7	14·02	46	—
Black Slag	1·68	1	2	6	15·70	51	6
Ironstone	0·15	—	—	6	15·85	52	—
Rough Coal	0·61	—	2	—	16·46	54	—
Fireclay	2·74	3	—	—	19·20	63	—
Brown Metal	19·81	21	2	—	39·01	128	—
Main Coal (faulty)	1·22	1	1	—	40·23	132	—
Fireclay	1·22	1	1	—	41·45	136	—
Purple Metal	5·49	6	—	—	46·94	154	—
Coal	0·30	—	1	—	47·24	155	—
Fireclay	2·13	2	1	—	49·38	162	—
Dark Metal	8·84	9	2	—	58·22	191	—
Coal	0·30	—	1	—	58·52	192	—
Fireclay with Ironstone Nodules	2·13	2	1	—	60·66	199	—
White Sandstone	0·76	—	2	6	61·42	201	6
Purple Metal	0·15	—	—	6	61·57	202	—
White Sandstone	0·46	—	1	6	62·03	203	6
Purple Metal	2·90	3	—	6	64·92	213	—
Ironstone	0·15	—	—	6	65·07	213	6
Purple Metal	2·90	3	—	6	67·97	223	—
Ironstone	0·05	—	—	2	68·02	223	2
Purple Metal	1·07	1	—	6	69·09	226	8
Ironstone	0·13	—	—	5	69·22	227	1
Purple Metal	0·33	—	1	1	69·55	228	2
Ironstone	0·15	—	—	6	69·70	228	8
Slag	1·07	1	—	6	70·76	232	2
Grey Sandstone	0·76	—	2	6	71·53	234	8

[The section of No. 4 Shaft (O.M. p. 204) gives the Purple thickness (22 ft.) between the Main coal and Brown Metal as 5·49 m. but I retain the Memoir figure by preference]

(57,005). Wt.4857—7. 2000. 5/12. A.&E.W.

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14-1.TIF

SJ3N/14

N3465

REPORT.

FROM
E. TIMMINS & SONS LTD.,
WATERWORKS CONTRACTORS.
RUNCORN, CHESHIRE.
SJ 3483 6777

TEL. NO.
RUNCORN 2338.

108/11

Name of Client Messrs. Bee's, Ltd.

Date 6-3-1953.

Client's Ref.

Site Sealand Nurseries. six inch quarter sheet.

Borehole No. 1. Level of ground above O.D. feet.

	Strata.	Thickness.	Depth.
ALLUVIUM	Sand.	68'-0"	68'-0"
	Sand and Gravel.	20'-0"	88'-0"
	Running Sand.	4'-0"	92'-0"
	Sand and Gravel.	3'-0"	95'-0"
TRIASSIC LOWER MOTTLED SANDSTONE	Reddish Clay and Stones.	8'-0"	103'-0"
	Red Sandstone with Marl Pockets.	197'-0"	300'-0"

E. Addison 15.2.77

TOTAL DEPTH OF BOREHOLE. 300'-0"

WATER LEVELS

	FEET BELOW SURFACE
REST WATER LEVEL	8'-0"
DEPRESSED WATER LEVEL WHEN PUMPING 4,000 G.P.H	57'-9"

DETAILS OF TUBES INSERTED.

Inside Dia. Inches.	Length of Tube.	Base of Tube Below Surface.	Remarks :
8"	111'-6"	97'-6"	
6"	40'-0"	135'-0"	

UNLINED BOREHOLE.

Size of Tools Inches.	Type of Tool.	From Feet Below Surface.	To Feet Below Surface.	=	Feet of Drilling

FOR [redacted]

Rec. 11.53

SJ36NW22

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SJ 36 NW/23

STRATA	M	THICKNESS	DEPTH M
Sand	15·39	50'-6"	50'-6" 15·39
Gravel	0·3	1'-0"	51'-6" 15·7
Clay	0·76	2'-6"	54'-0" 16·46
Sand and Gravel	1·68	5'-6"	59'-6" 18·14
Brown Clay	12·34	40'-6"	100'-0" 30·48
Stiff Brown Clay	2·13	7'-0"	107'-0" 32·61
Stiff Brown Stoney Clay	2·44	8'-0"	115'-0" 35·05
Stiff Brown Clay	9·45	31'-0"	146'-0" 44·5
Stiff Brown Stoney Clay	9·14	30'-0"	176'-0" 53·64
Reddish Clay and Stones	7·32	24'-0"	200'-0" 60·96
Brown Clay and Stones	3·25	10'-9"	210'-9" 64·24
Brown Sand Sand and Gravel Coarse Sand and Shells	5·56	18'-3"	229'-0" 69·8
Brown Sand	2·74	9'-0"	238'-0" 72·54
Brown Sandy Clay	0·61	2'-0"	240'-0" 73·15
Brown Sand	0·91	3'-0"	243'-0" 74·07
Reddish Brown Sand and Gravel	0·91	3'-0"	246'-0" 74·98
Rough Sand and Gravel	2·13	7'-0"	253'-0" 77·11
Brown Sand	1·07	3'-6"	256'-6" 78·18
Sand and Gravel	3·66	12'-0"	268'-6" 81·84
Small Gravel	0·33	1'-1"	269'-7" 82·17
Sand	9·58	31'-5"	301'-0" 91·74
Sand and Small Gravel	0·91	3'-0"	304'-0" 92·66
Sandy Clay	3·96	13'-0"	317'-0" 96·62
Sandy Clay and Stones	5·79	19'-0"	336'-0" 102·41
Soft Sandy Clay	4·85	16'-0"	352'-0" 107·29
Stiff Sandy Clay	1·22	4'-0"	356'-0" 108·51
Hard Sandy Clay	0·61	2'-0"	358'-0" 109·12
Sand	7·32	24'-0"	382'-0" 116·43
Sandy Clay	0·91	3'-0"	385'-0" 117·35
Sandstone	1·52	5'-0"	390'-0" 118·87
Sandstone and Marl	1·52	5'-0"	395'-0" 120·4
Sandstone	17·37	57'-0"	452'-0" 137·77
Sandstone and Marl	1·22	4'-0"	456'-0" 138·99
Sandstone	3·05	10'-0"	466'-0" 142·04
Hard Sandstone	7·32	24'-0"	490'-0" 149·35
Soft Red Marl	14·94	49'-0"	539'-0" 164·29
Hard Red Marl	2·44	8'-0"	547'-0" 166·73

SJ36NW23

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(For Survey use only) Geological Classification	NATURE OF STRATA If measurements start below ground surface, state how far...		Thickness Feet	Thickness Inches	Depth Feet	Depth Inches	
	River sand	15.54	51	-	51	-	15.54
	Gravel bed	0.91	3	-	54	-	16.46
	Clay	26.21	86	-	140	-	42.67
	Hard dry sand	1.46	21	-	161	-	49.07
	Sandy clay	1.83	6	-	167	-	50.90
	Red sand and sandstone	0.91	3	-	170	-	51.82

SJ36NW29

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SJ 36 NW 45

FLINTSHIRE COUNTY COUNCIL

BOREHOLE DATA FOR BOREHOLES IN QUEENSFERRY AREA

Borehole No.	Date Bored	Ground Level		Data	
1 3227 6846	17.3.1960	23.0 A.O.D. 7.01	1.37 17.68	0' – 4'6" 4'6"– 58'0" 58'0"– 75'0"	Soil, stones and ashes Sand Dark brown clay
2 3275 6883	18.3.1960	18.0 5.49	1.17 1.83 2.82	0'– 3'8" 3'8"– 6'0" 6'0"– 9'3" 9'3"– 34'0"	Ashes, boulders, sand & clay Sand Sand and clay Sand
3 ST26NE/10	21.3.1960	267.6 81.56	0.23 4.06 4.42	0' – 0'9" 0'9"– 13'4" 13'4"–14'6" 14'6"– 20'0"	Soil Light brown sandy clay Gravel Sand and gravel
4 3008 6678 ~~3244 6689~~	22.3.1960	270.0 82.30	0.23 3.51 7.11	0' – 0'9" 0'9"– 11'6" 11'6"– 23'4" 23'4"– 33'0"	Soil Brown sandy clay Coarse sand and small gravel Coarse sand
5 3018 6684	24.3.1960	257.8 78.58	0.23 0.91 3.28 6.60 7.62 9.14 10.01	0' – 0'9" 0'9"– 3'0" 3'0"– 10'9" 10'9"– 21'8" 21'8"– 25'0" 25'0"– 30'0" 30'0"– 32'10" 32'10"–40'0"	Soil Light brown clay Coarse sand Sand and fine gravel Boulder clay Coarse sand Sandy clay Sand & boulders with clay bands.
6 3007 6683	25.3.1960	267.2 81.44	0.23 1.52 3.20 4.70 6.81 7.62	0' – 0'9" 0'9"– 5'0" 5'0"– 10'6" 10'6"– 15'5" 15'5"– 22'4" 22'4" –25'0" 25'0" –30'0"	Soil Clay and stones Coarse sand Coarse sand and gravel Sandy clay, coal traces Coarse sand and boulders Coarse sand, small gravel and lines of clay
7 3003 6880	28.3.1960	274.3 83.61	0.30 2.34 3.43 7.01 8.69 9.45	0' – 1'0" 1'0"– 7'8" 7'8"– 11'3" 11'3"– 23'0" 23'0"– 28'6" 28'6" –31'0" 31' – 37'	Soil Sandy clay Red clay Sand and gravel Coarse sand Sand and gravel Sand
8 3001 6874	30.3.1960	274.6 83.70	0.30 3.35 5.08 8.94	0' – 1'0" 1'0"– 11'0" 11'0"– 16'8" 16'8"– 29'4" 29'4"– 35'	Soil and stones Sandy clay Sand and gravel Sandy clay Coarse sand
9 3015 6681	31.3.1960	266.0. 81.08	0.30 1.27 3.35 4.88 6.17 6.99	0' – 1'0" 1'0"– 4'2" 4'2"– 11'0" 11' – 16'0" 16' – 20'3" 20'3"– 22'11" 22'11"–27'1"	Soil and stones Sandy clay Sand Sand and gravel Sand, gravel, boulders & clay Sand and boulders Clay and boulders

SJ36NW45/5

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SJ 36 NW 45

FLINTSHIRE COUNTY COUNCIL

BOREHOLE DATA FOR BOREHOLES IN QUEENSFERRY AREA

Borehole No.	Date Bored	Ground Level m.		Data	
1 3227 6846	17.3.1960	23.0 A.O.D. 7.01	1.37 17.68	0' – 4'6" 4'6"– 58'0" 58'0"– 75'0" 22.86m.	Soil, stones and ashes Sand Dark brown clay
2 3275 6883	18.3.1960	18.0 5.49	1.12 1.83 2.82	0'– 3'8" 3'8"– 6'0" 6'0"– 9'3" 9'3"– 34'0" 10.36m.	Ashes, boulders, sand & clay Sand Sand and clay Sand
3 SJ26 NE/10	21.3.1960	267.6 81.56	0.23 4.06 4.42	0' – 0'9" 0'9"– 13'4" 13'4"–14'6" 14'6"– 20'0" 6.10m.	Soil Light brown sandy clay Gravel Sand and gravel
4 3008 6678 ~~3214 6689~~	22.3.1960	270.0 82.30	0.23 3.51 7.11	0' – 0'9" 0'9"– 11'6" 11'6"– 23'4" 23'4"– 33'0" 10.06m.	Soil Brown sandy clay Coarse sand and small gravel Coarse sand
5 3018 6684	24.3.1960	257.8 78.58	0.23 0.91 3.28 6.60 7.62 9.14 10.01	0' – 0'9" 0'9"– 3'0" 3'0"– 10'9" 10'9"– 21'8" 21'8"– 25'0" 25'0"– 30'0" 30'0"– 32'10" 32'10"–40'0" 12.19m.	Soil Light brown clay Coarse sand Sand and fine gravel Boulder clay Coarse sand Sandy clay Sand & boulders with clay bands.
6 3007 6683	25.3.1960	267.2 81.44	0.23 1.52 3.20 4.70 6.81 7.62	0' – 0'9" 0'9"– 5'0" 5'0"– 10'6" 10'6"– 15'5" 15'5"– 22'4" 22'4" –25'0" 25'0" –30'0" 9.14m.	Soil Clay and stones Coarse sand Coarse sand and gravel Sandy clay, coal traces Coarse sand and boulders Coarse sand, small gravel and lines of clay
7 3003 6680	28.3.1960	274.3 83.61	0.30 2.74 3.43 7.01 8.69 9.45	0' – 1'0" 1'0"– 7'8" 7'8"– 11'3" 11'3"– 23'0" 23'0"– 28'6" 28'6" –31'0" 31' – 37' 11.28m.	Soil Sandy clay Red clay Sand and gravel Coarse sand Sand and gravel Sand
8 3001 6874	30.3.1960	274.6 83.70	0.30 2.35 5.08 8.94	0' – 1'0" 1'0"– 11'0" 11'0"– 16'8" 16'8"– 29'4" 29'4"– 35'	Soil and stones Sandy clay Sand and gravel Sandy clay Coarse sand
9 3015 6681	31.3.1960	266.0. 81.08	0.30 1.27 3.35 4.88 6.17 6.99	0' – 1'0" 1'0"– 4'2" 4'2"– 11'0" 11' – 16'0" 16' – 20'3" 20'3"– 22'11" 22'11"–27'1" 8.25m.	Soil and stones Sandy clay Sand Sand and gravel Sand, gravel, boulders & clay Sand and boulders Clay and boulders

SJ36NW45/6

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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.		Data	
9 (contd.)	31.3.1960	266.0 / 81.08	8.25 / 9.86	27'1" – 32'4" / 32'4" – 35'0" 10.67m	Sand / Sand, clay & boulders
10 3019 6679	2.4.1960	243.0 / 74.07	0.30 / 1.37 / 3.15 / 6.44 / 5.94 / 9.55	0' – 1'0" / 1'0" – 4'6" / 4'6" – 10'4" / 10'4" – 14'7" / 14'7" – 19'6" / 19'6" – 31'4" / 31'4" – 35'0" 10.67m	Soil and stones / Dark brown sandy clay / Sand and boulders / Sand and gravel / Clay and boulders / Sand and boulders / Sand, clay and boulders
11 3026 6678	4.4.1960	257.5 / 78.49	0.30 / 1.45 / 3.05 / 3.58 / 4.98 / 5.99 / 7.62	0' – 1'0" / 1' – 4'9" / 4'9" – 10'0" / 10'0" – 11'9" / 11'9" – 16'4" / 16'4" – 19'8" / 19'8" – 25' / 25' – 30' 9.14m	Soil and stones / Sandy clay and stones / Sand / Sand and gravel / Clay / Sand / Clay and boulders / Sand
12 3029 6691	6.4.1960	209.39 / 63.82	0.30 / 0.61 / 7.01 / 8.05	0' – 1'0" / 1' – 2'0" / 2' – 23' / 23' – 26'5" / 26'5" – 30' 9.14m	Soil and stones / Sandy clay and stones / Coarse sand and boulders / Fine sand / Fine sand with clay bands
13 3023 6688	7.4.1960	238.8 / 72.79	0.30 / 0.91 / 1.52 / 4.57 / 5.49 / 7.01 / 9.91 / 11.48	0' – 1'0" / 1' – 3' / 3' – 5' / 5' – 15' / 15' – 18' / 18' – 23' / 23' – 32'6" / 32'6" – 37'8" / 37'8" – 38' 11.58m	Soil and stones / Sandy clay and stones / Coarse sand / Coarse sand and boulders / Coarse sand / Coarse sand and small gravel / Sand / Clay and boulders / Sand
14 3014 6689	8.4.1960	254.34 / 77.52	0.30 / 0.91 / 2.44 / 5.44	0' – 1' / 1' – 3' / 3' – 8' / 8' – 17'10" / 17'10"–20' 6.10m	Soil and stones / Sandy clay and stones / Coarse sand / Sand and gravel / Clay and stones
15 3035 6683	9.4.1960	248.8 / 75.83	0.30 / 0.76 / 2.13 / 3.51	0' – 1' / 1' – 2'6" / 2'6" – 7' / 7' – 11'6" / 11'6" – 20' 6.10m	Soil and stones / Sandy clay and stones / Sand and boulders / Sand and gravel / Sand

SJ36NW45/12

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1:10

SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.	m.	Data	
9 (contd.)	31.3.1960	266.0 81.08	8.25 9.98	27'1" – 32'4" 32'4" – 35'0" 10.67m	Sand Sand, clay & boulders
10 3019 6679	2.4.1960	243.0 74.07	0.30 1.37 3.15 6.44 5.94 9.55	0' – 1'0" 1'0" – 4'6" 4'6" – 10'4" 10'4" – 14'7" 14'7" – 19'6" 19'6" – 31'4" 31'4" – 35'0" 10.67m	Soil and stones Dark brown sandy clay Sand and boulders Sand and gravel Clay and boulders Sand and boulders Sand, clay and boulders
11 3026 6678	4.4.1960	257.5 78.49	0.30 1.45 3.05 3.58 4.98 5.99 7.62	0' – 1'0" 1' – 4'9" 4'9" – 10'0" 10'0" – 11'9" 11'9" – 16'4" 16'4" – 19'8" 19'8" – 25' 25' – 30' 9.14m	Soil and stones Sandy clay and stones Sand Sand and gravel Clay Sand Clay and boulders Sand
12 3029691	6.4.1960	209.39 63.82	0.30 0.61 7.01 8.05	0' – 1'0" 1' – 2'0" 2' – 23' 23' – 26'5" 26'5" – 30' 9.14m	Soil and stones Sandy clay and stones Coarse sand and boulders Fine sand Fine sand with clay bands
13 3023688	7.4.1960	238.8 72.79	0.30 0.91 1.52 4.57 5.49 7.01 9.91 11.48	0' – 1'0" 1' – 3' 3' – 5' 5' – 15' 15' – 18' 18' – 23' 23' – 32'6" 32'6" – 37'8" 37'8" – 38' 11.58m.	Soil and stones Sandy clay and stones Coarse sand Coarse sand and boulders Coarse sand Coarse sand and small gravel Sand Clay and boulders Sand
14 3014 6689	8.4.1960	254.34 77.52	0.30 0.91 2.44 5.44	0' – 1' 1' – 3' 3' – 8' 8' – 17'10" 17'10"–20' 6.10m.	Soil and stones Sandy clay and stones Coarse sand Sand and gravel Clay and stones
15 3035 6683	9.4.1960	248.8 75.83	0.30 0.76 2.13 3.51	0' – 1' 1' – 2'6" 2'6" – 7' 7' – 11'6" 11'6" – 20' 6.10m.	Soil and stones Sandy clay and stones Sand and boulders Sand and gravel Sand

SJ36NW45/13

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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.		Depth m.	Date
9 (contd.)	31.3.1960	266.0 81.08	8·25 9·86	27'1" – 32'4" 32'4" – 35'0" 10·67	Sand Sand, clay & boulders
10 3019 6679	2.4.1960	243.0 74.07	0·30 1·37 3·15 6·44 5·94 9.55	0' – 1'0" 1'0" – 4'6" 4'6" – 10'4" 10'4" – 14'7" 14'7" – 19'6" 19'6" – 31'4" 31'4" – 35'0" 10·67m	Soil and stones Dark brown sandy clay Sand and boulders Sand and gravel Clay and boulders Sand and boulders Sand, clay and boulders
11 3026 6678	4.4.1960	257.5 78.49	0·30 1.65 3·05 3.58 4·98 5·99 7·62	0' – 1'0" 1' – 4'9" 4'9" – 10'0" 10'0" – 11'9" 11'9" – 16'4" 16'4" – 19'8" 19'8" – 25' 25' – 30' 9.14m	Soil and stones Sandy clay and stones Sand Sand and gravel Clay Sand Clay and boulders Sand
12 3029 6691	6.4.1960	209.39 63.82	0·30 0·61 7·01 8·05	0' – 1'0" 1' – 2'0" 2' – 23' 23' – 26'5" 26'5" – 30' 9.14m	Soil and stones Sandy clay and stones Coarse sand and boulders Fine sand Fine sand with clay bands
13 3023 6688	7.4.1960	238.8 72.79	0·30 0·91 1·52 4·57 5·49 7·01 9·91 11·48	0' – 1'0" 1' – 3' 3' – 5' 5' – 15' 15' – 18' 18' – 23' 23' – 32'6" 32'6" – 37'8" 37'8" – 38' 11.58m.	Soil and stones Sandy clay and stones Coarse sand Coarse sand and boulders Coarse sand Coarse sand and small gravel Sand Clay and boulders Sand
14 3014 6689	8.4.1960	254.34 77.52	0·30 0·91 2·44 5·44	0' – 1" 1' – 3' 3' – 8' 8' – 17'10" 17'10"–20' 6.10m.	Soil and stones Sandy clay and stones Coarse sand Sand and gravel Clay and stones
15 3035 6683	9.4.1960	248.8 75.83	0·30 0·76 2·13 3·51	0' – 1' 1' – 2'6" 2'6" – 7' 7' – 11'6" 11'6" – 20' 6.10m.	Soil and stones Sandy clay and stones Sand and boulders Sand and gravel Sand

SJ36NW45/14

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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.		Data	
9 (contd.)	31.3.1960	266.0 81.08	8.25 9.98	27'1" - 32'4" 32'4" - 35'0" 10.67m	Sand Sand,clay & boulders
10 3019 6679	2.4.1960	243.0 74.07	0.30 1.37 3.15 4.44 5.94 9.55	0' - 1'0" 1'0" - 4'6" 4'6" - 10'4" 10'4" - 14'7" 14'7" - 19'6" 19'6" - 31'4" 31'4" - 35'0" 10.67m	Soil and stones Dark brown sandy clay Sand and boulders Sand and gravel Clay and boulders Sand and boulders Sand,clay and boulders
11 3026 6678	4.4.1960	257.5 78.49	0.30 1.45 3.05 3.58 4.98 5.99 7.62	0' - 1'0" 1' - 4'9" 4'9" - 10'0" 10'0" - 11'9" 11'9" - 16'4" 16'4" - 19'8" 19'8" - 25' 25' - 30' 9.14m	Soil and stones Sandy clay and stones Sand Sand and gravel Clay Sand Clay and boulders Sand
12 3029691	6.4.1960	209.39 63.82	0.30 0.61 1.01 8.05	0' - 1'0" 1' - 2'0" 2' - 23' 23' - 26'5" 26'5" - 30' 9.14m	Soil and stones Sandy clay and stones Coarse sand and boulders Fine sand Fine sand with clay bands
13 3023688	7.4.1960	238.8 72.79	0.30 0.91 1.52 4.57 5.49 7.01 9.91 11.48	0' - 1'0" 1' - 3' 3' - 5' 5' - 15' 15' - 18' 18' - 23' 23' - 32'6" 32'6" - 37'8" 37'8" - 38' 11.58m	Soil and stones Sandy clay and stones Coarse sand Coarse sand and boulders Coarse sand Coarse sand and small gravel Sand Clay and boulders Sand
14 3014 6689	8.4.1960	254.34 77.52	0.30 0.91 2.44 5.44	0' - 1' 1' - 3' 3' - 8' 8' - 17'10" 17'10"-20' 6.10m	Soil and stones Sandy clay and stones Coarse sand Sand and gravel Clay and stones
15 3035 6683	9.4.1960	248.8 75.83	0.30 0.76 2.13 3.51	0' - 1' 1' - 2'6" 2'6" - 7' 7' - 11'6" 11'6" - 20' 6.10m	Soil and stones Sandy clay and stones Sand and boulders Sand and gravel Sand

SJ36NW45/15

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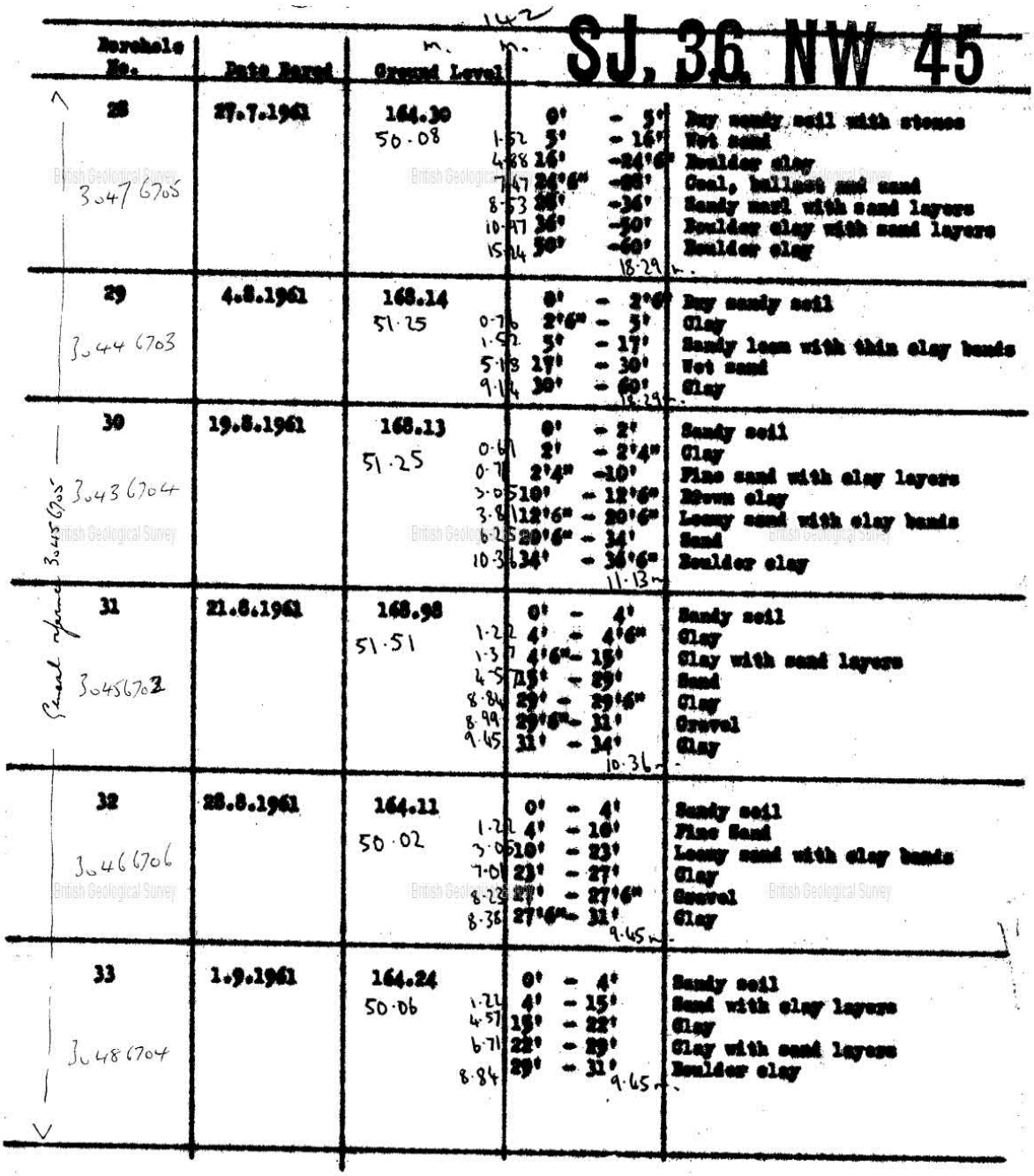
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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.			Strata
16	12.4.1960	256.7		0' – 1'	Soil and stones
3035 6677		78.24	0.30	1' – 2'6"	Sandy clay and stones
			0.76	2'6" – 3'6"	Sand
			0.91	3' – 7'5"	Sand and boulders
			2.26	7'5" – 21'	Sand and gravel
			6.40	21' – 38'	Sand and boulders
					11.58
17	13.4.1960	250.50		0' – 1'	Soil and stones
3038 6677		76.35	0.30	1' – 6'9"	Sand and stones
			2.06	6'9" – 13'6"	Sand and gravel
			4.11	13'6" – 36'	Sand and boulders
					10.97
18	14.4.1960	233.73		0' – 1'	Soil and stones
3039 6679		71.24	0.30	1' – 15'	Sand and boulders
					4.57
19	20.4.1960	36.5		0' – 1"	Soil
3038 6786		11.13	0.30	1' – 3'9"	Coal and shale
			1.14	3'9" – 5'4"	Clay and coal
			1.63	5'4" – 8'6"	Sand
			2.59	8'6" – 20'0"	Clay and boulders
					6.10
20	20.4.1960	39.0		0' – 1'	Soil
3130 6784		11.89	0.30	1' – 15'	Clay and boulders
			4.57	15' – 20'	Clay
					6.10
21	21.4.1960	24.5		0' – 1'	Soil and stones
3148 6795		7.47	0.30	1' – 4'9"	Sand and boulders
			1.45	4'9" – 10'	Clay and boulders
			3.05	10' – 15'	Clay
			4.57	15' – 20'	Sandy clay
					6.10
22	22.4.1960	17.1		0' – 1'	Soil
3179 6805		5.21	0.30	1' – 6'6"	Clay
			1.98	6'6" – 15'	Sand
					4.57
23	23.4.1960	16.7		0' – 1'	Soil and stones
3192 6805		5.09	0.30	1' – 6'	Sandy clay
			1.83	6' – 20'	Sand
					6.10
24	4.5.1960	16.5		0' – 1'	Soil
3223 6846		5.03	0.30	1' – 4'9"	Clay
			1.45	4'9" – 52'3"	Sand
			15.98	52'3" – 56'9"	Clay
					17.30
3317 6930 25	7.5.1960	14.7		0' – 0'9"	Soil
		4.48	0.23	0'9" – 20'	Sand
					6.10
3315 6923 26	9.5.1960	15.0		0' – 0'9"	Soil
		4.57	0.23	0'9" – 20'	Sand
					6.10
3314 6914 27	10.5.1960	14.9		0' – 1'9"	Sandy soil
		4.54	0.53	1'9" – 10'	Sand
			3.05	10' – 14'	Sand and boulders
			4.27	14' – 20'	Sand
					6.10

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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level			Strata
28	27.7.1961	164.30	50.08	0' – 5'	Dry sandy soil with stones
			1.52	5' – 16'	Wet sand
			4.88	16' – 24'6"	Boulder clay
			7.47	24'6" – 28'	Coal, ballast and sand
			8.53	28' – 36'	Sandy marl with sand layers
			10.97	36' – 50'	Boulder clay with sand layers
			15.24	50' – 60'	Boulder clay
				18.29 m.	
29	4.8.1961	168.14	51.25	0' – 2'6"	Dry sandy soil
			0.76	2'6" – 5'	Clay
			1.52	5' – 17'	Sandy loam with thin clay bands
			5.18	17' – 30'	Wet sand
			9.14	30' – 60'	Clay
				18.29 m.	
30	19.8.1961	168.13	51.25	0' – 2'	Sandy soil
			0.61	2' – 2'4"	Clay
			0.71	2'4" – 10'	Fine sand with clay layers
			3.05	10' – 12'6"	Brown clay
			3.81	12'6" – 20'6"	Loamy sand with clay bands
			6.25	20'6" – 34'	Sand
			10.36	34' – 36'6"	Boulder clay
				11.13 m.	
31	21.8.1961	168.98	51.51	0' – 4'	Sandy soil
			1.22	4' – 4'6"	Clay
			1.37	4'6" – 15'	Clay with sand layers
			4.57	15' – 29'	Sand
			8.84	29' – 29'6"	Clay
			8.99	29'6" – 31'	Gravel
			9.45	31' – 34'	Clay
				10.36 m.	
32	28.8.1961	164.11	50.02	0' – 4'	Sandy soil
			1.22	4' – 10'	Fine Sand
			3.05	10' – 23'	Loamy sand with clay bands
			7.01	23' – 27'	Clay
			8.23	27' – 27'6"	Gravel
			8.38	27'6" – 31'	Clay
				9.45 m.	
33	1.9.1961	164.24	50.06	0' – 4'	Sandy soil
			1.22	4' – 15'	Sand with clay layers
			4.57	15' – 22'	Clay
			6.71	22' – 29'	Clay with sand layers
			8.84	29' – 31'	Boulder clay
				9.45 m.	

SJ36NW45/31

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SJ 36 NW 45

Borehole No.	Date Bored	Ground Level m.			Strata
28	27.7.1961	164.30		0' – 5'	Dry sandy soil with stones
3047 6705		50.08	1.52	5' – 16'	Wet sand
			4.88	16' – 24'6"	Boulder clay
			7.47	24'6" – 28'	Coal, ballast and sand
			8.53	28' – 36'	Sandy marl with sand layers
			10.97	36' – 50'	Boulder clay with sand layers
			15.24	50' – 60'	Boulder clay
				18.29 m.	
29	4.8.1961	168.14		0' – 2'6"	Dry sandy soil
3044 6703		51.25	0.76	2'6" – 5'	Clay
			1.52	5' – 17'	Sandy loam with thin clay bands
			5.18	17' – 30'	Wet sand
			9.14	30' – 60'	Clay
				18.29 m.	
30	19.8.1961	168.13		0' – 2'	Sandy soil
3043 6704		51.25	0.61	2' – 2'4"	Clay
			0.71	2'4" – 10'	Fine sand with clay layers
			3.05	10' – 12'6"	Brown clay
			3.81	12'6" – 20'6"	Loamy sand with clay bands
			6.25	20'6" – 34'	Sand
			10.36	34' – 36'6"	Boulder clay
				11.13 m.	
31	21.8.1961	168.98		0' – 4'	Sandy soil
3045 6702		51.51	1.22	4' – 4'6"	Clay
			1.37	4'6" – 15'	Clay with sand layers
			4.57	15' – 29'	Sand
			8.84	29' – 29'6"	Clay
			8.99	29'6" – 31'	Gravel
			9.45	31' – 34'	Clay
				10.36 m.	
32	28.8.1961	164.11		0' – 4'	Sandy soil
3046 6706		50.02	1.22	4' – 10'	Fine Sand
			3.05	10' – 23'	Loamy sand with clay bands
			7.01	23' – 27'	Clay
			8.23	27' – 27'6"	Gravel
			8.38	27'6" – 31'	Clay
				9.45 m.	
33	1.9.1961	164.24		0' – 4'	Sandy soil
3048 6704		50.06	1.22	4' – 15'	Sand with clay layers
			4.57	15' – 22'	Clay
			6.71	22' – 29'	Clay with sand layers
			8.84	29' – 31'	Boulder clay
				9.45 m.	

SJ36NW45/33

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SJ 36 NW 69 (1"/168)

SUB SOIL SURVEYS LTD
MANCHESTER

3024 6687

BOREHOLE No. 2
Ref:-

EXPLORATORY BORING RECORD

SITE Hawarden Site Ref :- 72/149

Boring Method Shell Ground Level 71.89 O.D.

DATE	DEPTH OF CASING BELOW G.L. (m)	WATER LEVEL MORNING & EVENING	DEPTH OF STRATA BELOW G.L.	STRATA (APPROX. SCALE)	NO. OF SAMP	TYPE OF SAMP	PENETRATION OF SAMPLER OR CORE BARREL (metres) FROM	TO	NO. OF BLOWS	CORE RECOVERY
17.8.72			0.1	Sandy topsoil	1	D	0.2			
				Stiff brown sandy clay with bands of sand and occ. stones	2	U	1.0	1.5	40	
			1.0		3	D	1.5			
				Stiff to very stiff brown silty and sandy clay with bands of running sand and occ. stones	4	X	2.15	2.45	50	
					4B	W	2.0			
			1.9		5	B	2.0	2.5		
				Dense brown fine/medium sand with coal pieces (running into borehole)	6	X	2.65	2.95	79	
					7	B	3.0	3.5		
			2.7		8	X	4.15	4.45	73	
				Dense light brown fine/ medium sand with occ. clayey bands and small coal pieces	9	B	4.5	5.0		
					10	X	5.65	5.95	47	
					11	U	6.2	6.7	35	
17.8.72	5.5	2.5			12	D	6.7			
18.8.72		1.0	5.7		13	U	7.5	8.0	41	
				Very stiff brown sandy clay with occ. bands of clayey sand and stone inclusions	14	D	8.0			
					15	X	9.15	9.45	42	
			6.2		16	U	10.0	10.5	40	
				Very stiff and hard brown sandy clay with stone incls. and occ. coal & shale incls.	17	D	10.5			
					18	U	11.5	12.0	70	NR
					19	D	12.0			
			9.0		20	U	12.0	12.5	60	
				Dense brown sand with bands of sandy stony clay	21	D	12.5			
					22	X	13.0	13.07	50	
					23	X	13.65	13.72	56	
18.8.72	9.5	5.0			24	X	15.15	15.22	50	
19.8.72		1.0	10.0							

Cont.....

Samples shown thus: Disturbed D. Undisturbed U. Standard Pen. Test X. Water W. Bulk B.

WATER OBSERVED AT THE FOLLOWING DEPTHS * - overnight seepage	DEPTH OF CASING WHEN SEALED (N.S. – NOT SEALED)	ESTIMATED SEEPAGE	WATER ADDED AT FOLLOWING DEPTHS TO ASSIST BORING	WATER LEVEL IN CASED / UNCASED BOREHOLE ON COMPLETION: DATE	WATER LEVEL	DEPTH OF CASING
1. 2.0	N.S.	Slow		Borehole	collapsed to	2.0m
2.						
3.						
4.			DIA. OF CASING	m.m. to depth of		metres
5.				m.m. to depth of		metres
6.				m.m. to depth of		metres

REMARKS:
I) Chiselling through boulder – 4 hours
II) No initial penetration for S.P.T. sample 22

SJ36NW69

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Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No: SJ 36 NW/169

Name and Number of Shaft or Borehole: [redacted] No. 1.

For wh[redacted]

National Grid Reference: 3331 6674

Town or Village _____ County _____

Exact site (reference to a fixed point on 1-in or 1:50 000 Map)

1-in or 1:50 000 New Series Map No.: 108

Enter 'C' if Confidential

Purpose for which made _____

Ground level at shaft / bore relative to O.D. _____ m. If not ground level give O.D. of beginning of shaft / bore _____ m.

Made by _____ Date of sinking 1867

Information from Section Book at Bersham Colliery Office Examined by _____

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Sand and Sand 52yd	47.55	47.55
	Coal 1ft at 56yd	0.30	at 51.21
	" 9in at 61yd	0.23	at 55.78
	" 2ft at 81yd	0.61	at 74.07
	" 9in at 93yd	0.23	at 85.04
	" 4ft at 137yd	1.22	at 128.27
	" 4ft at 152yd	1.22	at 138.99
	" 2ft at 166yd	0.61	at 151.79
	" 3ft at 182yd	0.91	at 166.42

SJ36NW169

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Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No: SJ 36 NW/216

Name and Number of Shaft or ~~Borehole~~: Astbury Hall Colliery [NCB registry] a.k.a. No.5 Pit, Queen Mary Colliery [Wild Colliery], No.1 [Alsager Co.]

National Grid Reference: 3135 6697

For whom made

Town or Village _____ County _____

1-in or 1:50 000 New Series Map No.: 108

Enter 'C' if Confidential

Exact site (reference to a fixed point on 1-in or 1:50 000 Map)

Purpose for which made

Ground level at shaft / bore relative to O.D. _____ m. If not ground level give O.D. of beginning of shaft / bore _____ m.

Made by _____ Date of sinking _____

Information from NCB Staff Register [Staff No.10], Wild (1913) and Alsager [Tilley] Geological Museum Examined by _____

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Coal & Measures [Alsager Colliery]		Absent 92.35

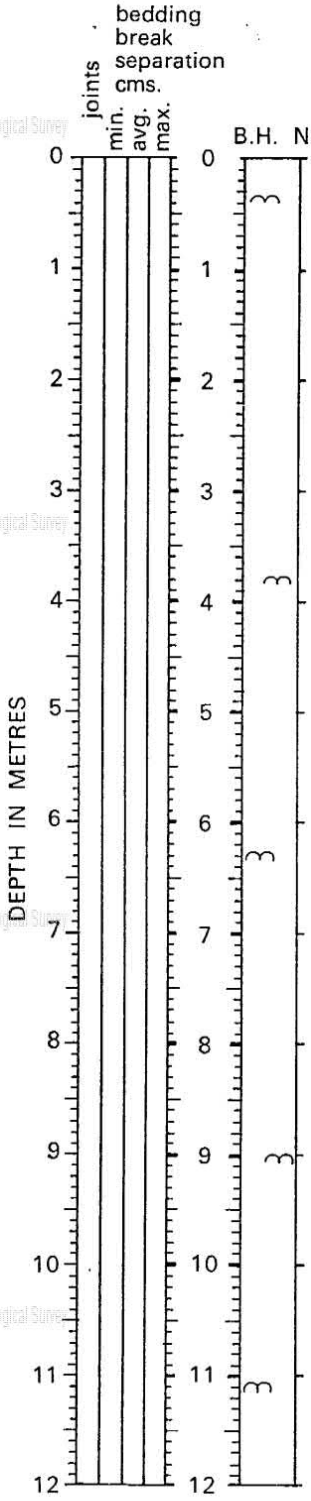
SJ36NW216

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K. WARDELL & PARTNERS - LOG SHEET

B.H. No. 4/6c
Page 1
318267S3 SJ36NW/246

CLIENT: S.R.M.U.K.
JOB: RHOSGOCH ÷ STANLOW PIPELINE
JOB No. 3596/1



Stiff brown clay with small rock fragments.

Soft brown clay, stickey,small rock fragments.

Very soft brown clay, stickey, wet.

Stiff brown clay.

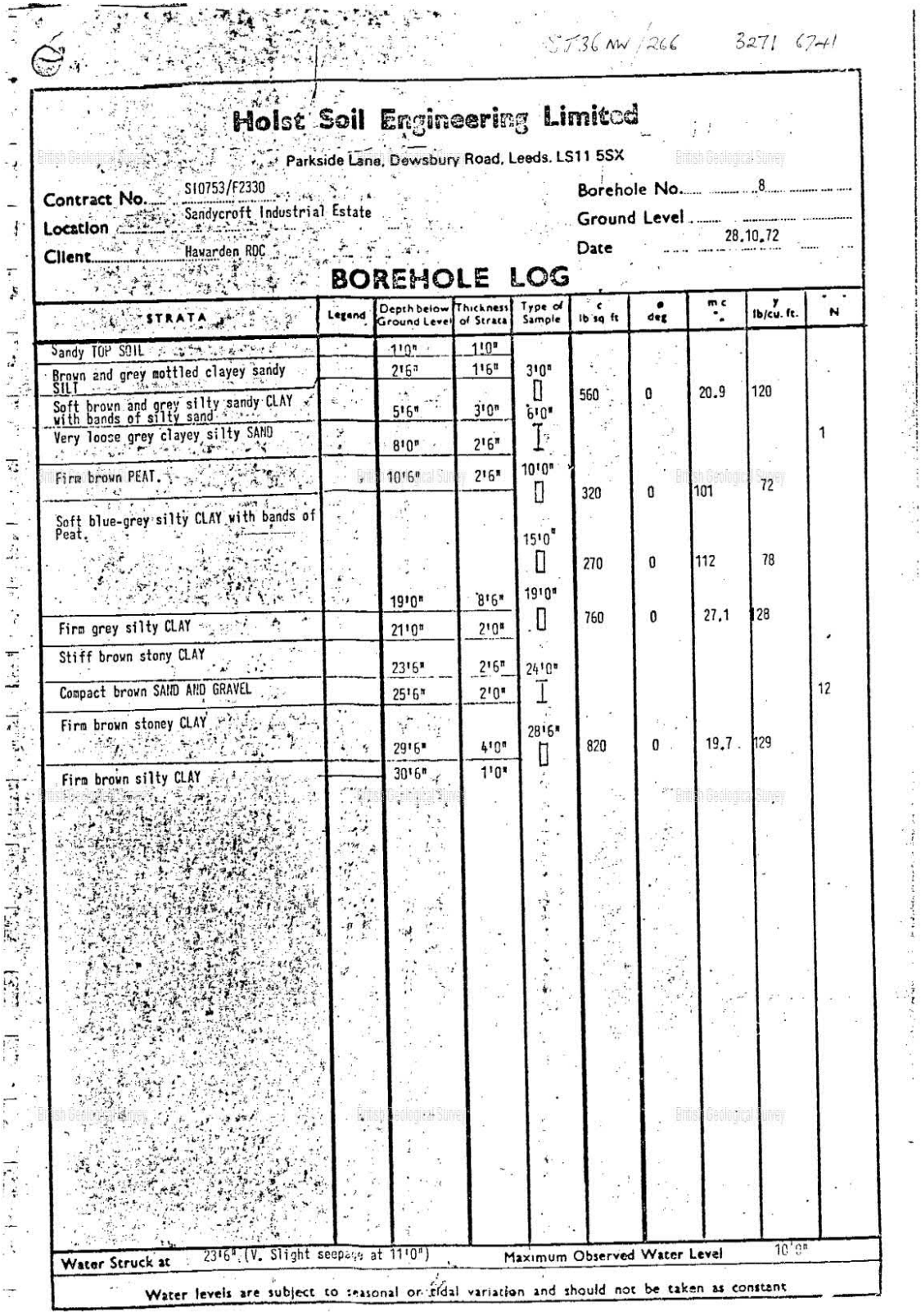
Stiff brown clay. Rock fragments fairly dry.

Very stiff brown clay.

Stiff brown sandy clay.

SJ36NW246

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ST36 NW/266 3271 6741

Holst Soil Engineering Limited

Parkside Lane, Dewsbury Road, Leeds. LS11 5SX

Contract No. S10753/F2330 — Borehole No. 8

Location Sandycroft Industrial Estate — Ground Level

Client Hawarden RDC — Date 28.10.72

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/sq ft	φ deg	m c %	γ lb/cu. ft.	N
Sandy TOP SOIL		1'0"	1'0"						
Brown and grey mottled clayey sandy SILT		2'6"	1'6"	3'0"	560	0	20.9	120	
Soft brown and grey silty sandy CLAY with bands of silty sand		5'6"	3'0"	6'0"					1
Very loose grey clayey silty SAND		8'0"	2'6"						
Firm brown PEAT.		10'6"	2'6"	10'0"	320	0	101	72	
Soft blue-grey silty CLAY with bands of Peat.		19'0"	8'6"	15'0"	270	0	112	78	
				19'0"	760	0	27.1	128	
Firm grey silty CLAY		21'0"	2'0"						
Stiff brown stony CLAY		23'6"	2'6"	24'0"					12
Compact brown SAND AND GRAVEL		25'6"	2'0"						
Firm brown stoney CLAY		29'6"	4'0"	28'6"	820	0	19.7	129	
Firm brown silty CLAY		30'6"	1'0"						

Water Struck at 23'6" (V. Slight seepage at 11'0") — Maximum Observed Water Level 10'0"

Water levels are subject to seasonal or tidal variation and should not be taken as constant

SJ36NW266

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Holst Soil Engineering Limited

Borehole No. **A3**

BOREHOLE LOG

Contract No. F3739
Location. Hawarden Ind. Est.
Client. Holst Wales Ltd.
Method of Boring. Percussion
Diameter of Borehole. 0.15m

SJ36NW 397

Sheet 1 of 1
Chainage.....
Ground Level..... m.A.O.D.
Date. 4.10.77

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TOPSOIL		0.12					
Firm grey silty CLAY		0.40			0.50		
Firm brown sandy SILT		0.75					
Firm light brown mottled clayey SILT		1.95			1.50		
Loose grey SILT		2.60			2.30	3	
Soft grey organic silty CLAY		3.00					
Soft black PEAT		4.25	=		3.00		
Soft grey organic silty CLAY		5.00			4.40		
Firm brown silty stony CLAY		5.60			5.00		
Loose red silty SAND		5.85			6.00		
Soft to firm red/brown silty CLAY with sand pockets		8.50			7.50		
Stiff brown silty CLAY with pebbles					9.00		
					10.50		
					11.50		
					13.00		
					14.50		
					16.00		
					17.50		
					19.00		
		20.50			20.00		

Type of Sample

Is S.P.T. □ Undisturbed
Ic. C.P.T. × Vane
O Jar Δ Water
● Bulk Piezometer

Remarks (Observations of Ground Water etc.)
Water struck at 3.60m, rising to 3.40m after 20mins
Final standing level 1.70m

SJ36NW397

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Holst Soil Engineering Limited

Borehole No. **A4**

BOREHOLE LOG

Contract No. F3739
Location. Hawarden Ind.Est
Client. Holst Wales Ltd.
Method of Boring. Percussion
Diameter of Borehole. 0.15m

SJ 36 NW 398

Sheet. 1 of. 1
Chainage.
Ground Level. m.A.O.D.
Date. 6.10.77

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Silty TOPSOIL		0.12			0.50		
Firm light brown mottled sandy CLAY		1.00			1.50		
Firm brown mottled clayey SAND		2.00			2.50		
Soft grey clayey SILT		2.45			3.50		
Soft black clayey PEAT		3.70			4.50		
Soft grey silty CLAY		4.70			5.00	7	
Loose red/brown silty SAND		5.30			5.50		
Stiff brown silty CLAY with pebbles		6.00					

Type of Sample

Is S.P.T. □ Undisturbed
Ic. C.P.T. × Vane
O Jar △ Water
● Bulk Piezometer

Remarks (Observations of Ground Water etc.)
Water struck at 4.70m rising to 4.50m 20 mins
Final standing level 1.80m

SJ36NW398

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87-1.TIF

WELSH NATIONAL WATER DEVELOPMENT AUTHORITY SJ36/87
DEE AND CLWYD RIVER DIVISION

DETAILED HYDROGEOLOGICAL RECORD SHEET: INDIVIDUAL SITE RECORD

BH/AA

NAME CLAY HILL B, WEST SALTNEY, FLINTS — N.G.R. 317 674, SJ 36 NW

EXACT SITE KNOWN YES/~~NO~~ — LOCATION SKETCH ~~YES~~/NO

HEIGHT A.O.D. 15 METRES — ESTIMATED FROM MAP/~~SURVEY~~

REFERENCE POINT NONE/~~DETAILS~~/~~SKETCH~~

LOG YES/~~NO~~ — LOCATION OF LOG ~~HERE~~/I.G.S.

SUMMARY OF LOG Drift to 26', then CM Rockhead at 6.92 mAOD.

WATER QUALITY INFORMATION ~~YES~~/NO

WATER LEVEL INFORMATION

ABSTRACTION YES/NO/OCCASIONALLY/NOT KNOWN/STAND-BY

LICENCE NO. — LICENSED ABSTRACTION /HOUR /DAY /YEAR

PUMPING TEST ~~YES~~/NO — DATE

LOCATION OF DATA

WATER LEVELS RECORDED NONE/ISOLATED READINGS/MONTHLY/AUTOGRAPHIC

LOCATION OF RECORDS

ACCESS

SJ36NW475

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SJ 37 SE/6
3792 7071

(For Institute use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA. If measurements start below ground surface, state how far.	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metre
	Boulder Clay with Sand and gravel partings				75	—	22.86
Bunter Pebble Beds	Soft Red Sandstone				90	—	27.43
	Hard Red Pebbly Sandstone				155	—	47.24
Lower Mottled Sst Bunter	Hard Red Sandstone.				350	—	106.68

SJ37SE6

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Sheet 1

LOG for BOREHOLE No. 539

Fig. 39

Sheet 1 of 1

Location No. T.4940 MID - WIRRAL ROAD. SJ 37 SE 32

Carried out for M.O.T. (G. Maunsell and Partners) 39897 71163

Date 25th and 26th April. 1967 **Diameter** 8" Casing to 25'-0"

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	No of blows	Key to lab tests
Ground Level (Ft. above N.D.)	+69. 4			0 0				U4	
Brown Silty CLAY TOPSOIL with little fine to med. SAND & some ro...	68. 4		1	1 - 0	1 - 0				
			2						M
			3			3 - 6			
						5 - 0	(8)		
			4			5 - 0			
						6 - 6	(13)		
			5			7 - 6			
						9 - 0	(20)		
Loose to medium dense brown fine to medium SAND with a trace of Silt and occasional clay pieces above 5ft. and a trace of coarse sand and a trace of fine to medium gravel below 20ft.			6			10 - 0			
						11 - 6	(13)		M Com CBR
	b_2		7		24 - 0	12 - 6			
						14 - 0	(12)		
			8			15 - 0			
						16 - 6	(9)		
			9			18 - 0			
						19 - 0	(13)		
			10			20 - 6			
						22 - 0	(15)		
			11					82	M
	44. 4			25 - 0					
Weak to medium hard red brown weakly cemented fine grained SANDSTONE.	C		12		3 - 6	25 - 6	57/6		
					penetrated	26 - 6			
	40. 9		13	28 - 6		27 - 6	80/6		
						28 - 6			
END OF BOREHOLE									
Water in borehole after withdrawing casing. Overnight waterlevel dry.									

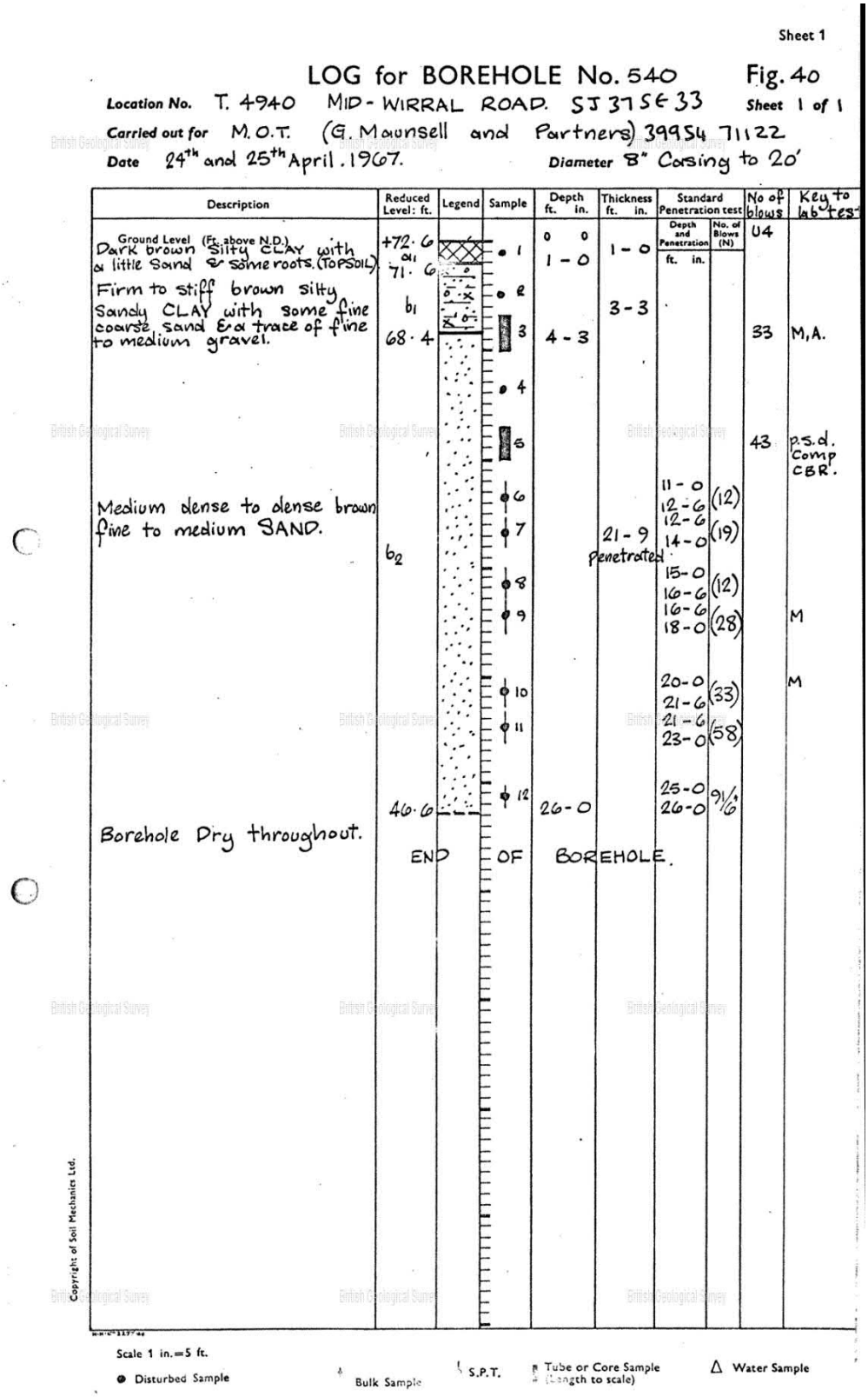
Scale 1 in. = 5 ft.

● Disturbed Sample a Bulk Sample S.P.T. Tube or Core Sample (Length to scale) △ Water Sample

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SJ37SE32

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Sheet 1

LOG for BOREHOLE No. 540 Fig. 40

Location No. T. 4940 MID-WIRRAL ROAD. SJ 37 SE 33 Sheet 1 of 1

Carried out for M.O.T. (G. Maunsell and Partners) 39954 71122

Date 24th and 25th April. 1967. Diameter 8" Casing to 20'

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	No of blows	Key to lab tests
Ground Level (Ft. above N.D.) Dark brown Silty CLAY with a little Sand & some roots. (TOPSOIL)	+72·6		1	0 0	1 - 0			04	
	a1 71·6			1 - 0					
Firm to stiff brown silty Sandy CLAY with some fine coarse sand & a trace of fine to medium gravel.	b1		2		3 - 3				
	68·4		3	4 - 3				33	M, A.
			4						
			5					43	p.s.d. Comp CBR.
Medium dense to dense brown fine to medium SAND.			6			11 - 0			
						12 - 6	(12)		
			7		21 - 9 Penetrated	12 - 6			
	b2					14 - 0	(19)		
			8			15 - 0			
						16 - 6	(12)		
			9			16 - 6			M
						18 - 0	(28)		
			10			20 - 0			M
						21 - 6	(33)		
			11			21 - 6			
						23 - 0	(58)		
			12			25 - 0			
	46·6			26 - 0		26 - 0	9½"		
Borehole Dry throughout.									

END OF BOREHOLE.

Copyright of Soil Mechanics Ltd.

Scale 1 in. = 5 ft.

● Disturbed Sample ▲ Bulk Sample ⌇ S.P.T. ▮ Tube or Core Sample (Length to scale) △ Water Sample

SJ37SE33

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Sheet 1

LOG for BOREHOLE No. 542

Fig. 42

Location No. T. 4940 MID - WIRRAL ROAD SJ 37 SE 34 Sheet 1 of 1

Carried out for M.O.T. (G. Maunsell and Partners) 39954 70969

Date 21st and 22nd April. 1967. Diameter 8" Casing to 19'-0"

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	Key to lab tests
Ground Level (Ft. above N.D.) Brown Silty CLAY with a trace of Sand, TOPSOIL, with roots.	+34.9		1	0 0	1 - 0			
	a1 33.9		2	1 - 0				
Brown, slightly grey, silty sandy CLAY, with a trace of fine gravel at the top.	a3		3		5 - 0			
Brown silty medium SAND with a little fine to coarse gravel.	28.9 a3 2		4	6 - 0	1 - 6			
	27.4		5	7 - 6		7 - 6	(16)	
						9 - 0		
Medium dense, red brown medium SAND with traces of silt, and fine to coarse sandstone gravel. (WEATHERED SANDSTONE)	b2		6		7 - 6	10 - 0	(14)	No tests
			7			11 - 6		
			8			13 - 0	(31)	
	19.9			15 - 0		14 - 6		
Weak to medium hard, red brown weakly cemented fine grained SANDSTONE, banded with mica flakes on bedded planes at base.	c		9			16 - 0	77/9"	
			10		6 - 6	16 - 9		
			11		Penetrated	18 - 6	74/9"	
			12			19 - 3		
	13.4			21 - 6		21 - 0	74/6"	
						21 - 6		
END OF BOREHOLE.								

Water Level Observations.

Date	Time	B.H. Depth	Casing Depth	Depth to water
21 APR	18.00	12 - 0	12 - 0	9 - 0
21 APR	08.00	12 - 0	12 - 0	9 - 0
21 APR	12.30	21 - 6	19 - 0	12 - 0

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Scale 1 in. = 5 ft.

Disturbed Sample | Bulk Sample | S.P.T. | Tube or Core Sample (Length to scale) | Water Sample

SJ37SE34

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NGR 4636 7650 SJ 47NE/2

RECORD OF WELL (SHAFT OR BORE) SJ 47 NE 2

1" N.S. 97
1" O.S.
Grid Ref. 32NW 4.

At Grinsome Farm: INCE MARSHES

Town or Village INCE County CHESHIRE Six-inch quarter sheet 32NW

Exact site Site shown on 6" map (A rough sketch-map or a tracing from a map is very desirable)

~~Domestic supply~~ in parish of

Level of ground surface above sea-level (O.D.) c.25' ft. If well starts below ground surface, state how far ft.

Shaft 60 ft., diameter - ft. Bore - ft. Diameter of bore: at top - ins.; at bottom c ins.

Details of permanent lining tubes (internal diameters preferred)

Water struck at depths of (feet)

Rest-level of water below/above top of well feet. Suction at feet. Yield on hours'/days' test

gallons per (with pump of capacity g.p.h.); depressing water level to feet

below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available) Good supply.

Sunk by for Mr. Date of well

Information from field slip 32NW (T. H. Whitehead).

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	Drift on Bunter Sandstone	60	0	60	0
		(18.29m)			

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON. LONDON, S.W.7.

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)

(*11815) Wt.29051/O.369 10,000 9/39 A.& E.W.Ltd. Gp.686

SJ47NE2

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SJ 47 NE / 15
4579
7650

titute use only

GICAL FICATION	NATURE OF STRATA *If measurements start below ground surface, state how far.*	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metres
	MADE GROUND			3·50			3·50
Fluvioglacial sand & gravel	SANDY CLAY & STONES			6·50			10·00
Triassic sandstones	SANDSTONE (P-T)			90·5			100·5

SJ47NE15

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SJ 47 NE / 16
4606
7642.

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Geological Classification	Nature of Strata *If measurements start below ground surface, state how far.*	Thickness Feet	Thickness Inches	Thickness Metres	Depth Feet	Depth Inches	Depth Metres
	Filh			0·50			0·50
Alluvium	Brown Clay			4·00			4·50
Fluvioglacial sand	Sand			1·50			6·00
Triassic sandstone	Sandstone			11·00			17·00

SJ47NE16

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SJ 47 NE / 21
4660
7603.

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Geological Classification	Nature of Strata *If measurements start below ground surface, state how far.*	Thickness Feet	Thickness Inches	Thickness Metres	Depth Feet	Depth Inches	Depth Metres
	GRAVEL FILL			1.0			1.0
Alluvium	SILTY CLAY			2.0			3.0
Peat	PEAT			2.0			5.0
"Stoneless Clay" Glacial Till or Alluvium.	SOFT GREY CLAY			4.0			9.0
	RED / BROWN SILTY CLAY			9.5			18.5
Triassic sandstone.	SANDSTONE			66.5			85.0

SJ47NE21

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4624
7501 SJ47NE 42

BeWT | STRATA SURVEYS LTD

MACHINE EXCAVATED TRIAL PIT

Location Runcorn Industrial Supply | Job No. 8156/81 | Project Ref 9-00-05-949 | Ground Level (m AOD) | Co-ordinates E N | Trial Pit No. TP7

Field Records Samples Cohesion(kN/m2)	Depth (m)	Type & No.	DESCRIPTION OF STRATA	Reduced Level m AOD	Strata Legend	Depth (Thickness) m
140+	0.40 0.50	B 1	Grass over TOPSOIL with some roots			(0.30) 0.30
			Very stiff dark brown/grey slightly sandy CLAY with a little fine to coarse gravel becoming friable below 1.50m			
	1.40	D 1				(2.20)
140+	2.30					
	2.40	D 2				2.50
			Trial Pit Complete			

Scale 1:50

Trial Pit excavated using a mechanical excavator.

Remarks

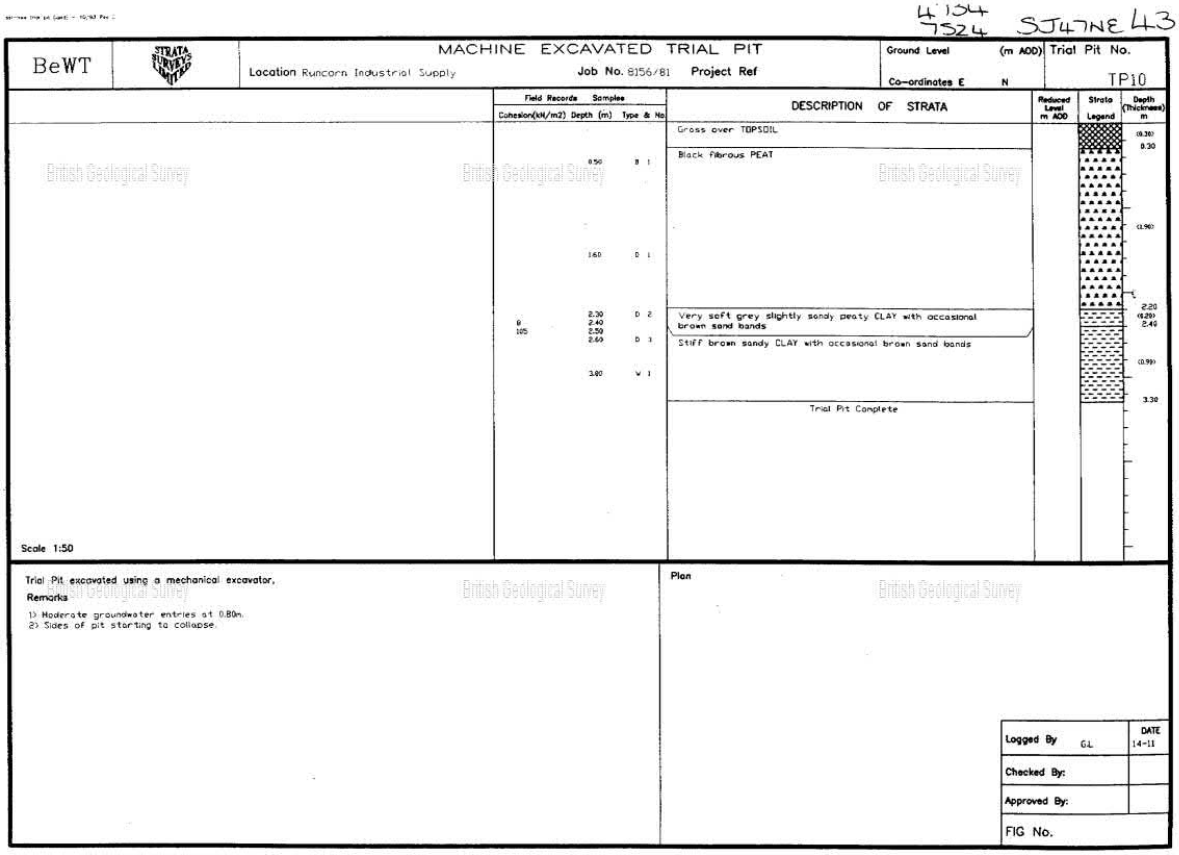
1) No groundwater encountered during excavation
2) Sides of pit stable.

Plan

Logged By G.L.	DATE 18-11
Checked By:	
Approved By:	
FIG No.	

SJ47NE42

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4134 7524 SJ47NE 43

BeWT — STRATA SURVEYS LIMITED

MACHINE EXCAVATED TRIAL PIT

Location Runcorn Industrial Supply — Job No. 8156/81 — Project Ref

Ground Level (m AOD) — Co-ordinates E N — Trial Pit No. TP10

Field Records Samples: Cohesion(kN/m2)	Depth (m)	Type & No	DESCRIPTION OF STRATA	Reduced Level m AOD	Strata Legend	Depth (Thickness) m
			Grass over TOPSOIL			(0.30)
	0.50	B 1	Black Fibrous PEAT			0.30
	1.60	D 1				(1.90)
9	2.30	D 2	Very soft grey slightly sandy peaty CLAY with occasional brown sand bands			2.20
105	2.40					(0.20) 2.40
	2.59					
	2.60	D 3	Stiff brown sandy CLAY with occasional brown sand bands			(0.90)
	3.80	W 1				3.30
			Trial Pit Complete			

Scale 1:50

Trial Pit excavated using a mechanical excavator.

Remarks

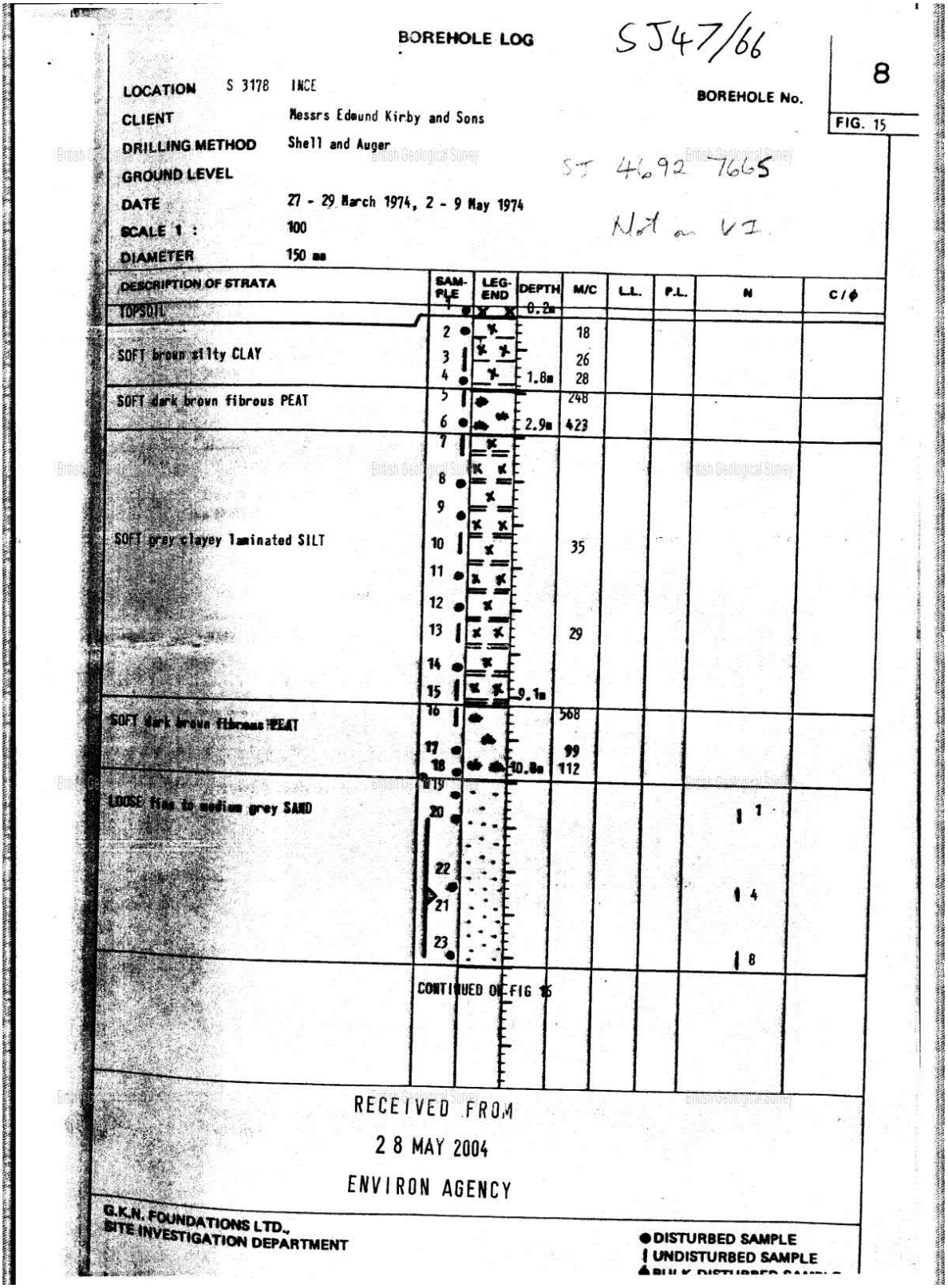
1) Moderate groundwater entries at 0.80m.
2) Sides of pit starting to collapse.

Plan

Logged By GL	DATE 14-11
Checked By:	
Approved By:	
FIG No.	

SJ47NE43

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BOREHOLE LOG

SJ47/66

BOREHOLE No. 8

FIG. 15

LOCATION S 3178 INCE

CLIENT Messrs Edmund Kirby and Sons

DRILLING METHOD Shell and Auger

GROUND LEVEL

DATE 27 - 29 March 1974, 2 - 9 May 1974

SCALE 1 : 100

DIAMETER 150 mm

SJ 4692 7665

Not on VI.

DESCRIPTION OF STRATA	SAMPLE	LEGEND	DEPTH	M/C	L.L.	P.L.	N	C/φ
TOPSOIL	1		0.2m					
SOFT brown silty CLAY	2, 3, 4		1.8m	18, 26, 28				
SOFT dark brown fibrous PEAT	5, 6		2.9m	248, 423				
SOFT grey clayey laminated SILT	7, 8, 9, 10, 11, 12, 13, 14, 15		9.1m	35, 29				
SOFT dark brown fibrous PEAT	16, 17, 18		10.8m	568, 99, 112				
LOOSE fine to medium grey SAND	19, 20, 22, 21, 23						1, 4, 8	
CONTINUED ON FIG 16								

RECEIVED FROM

28 MAY 2004

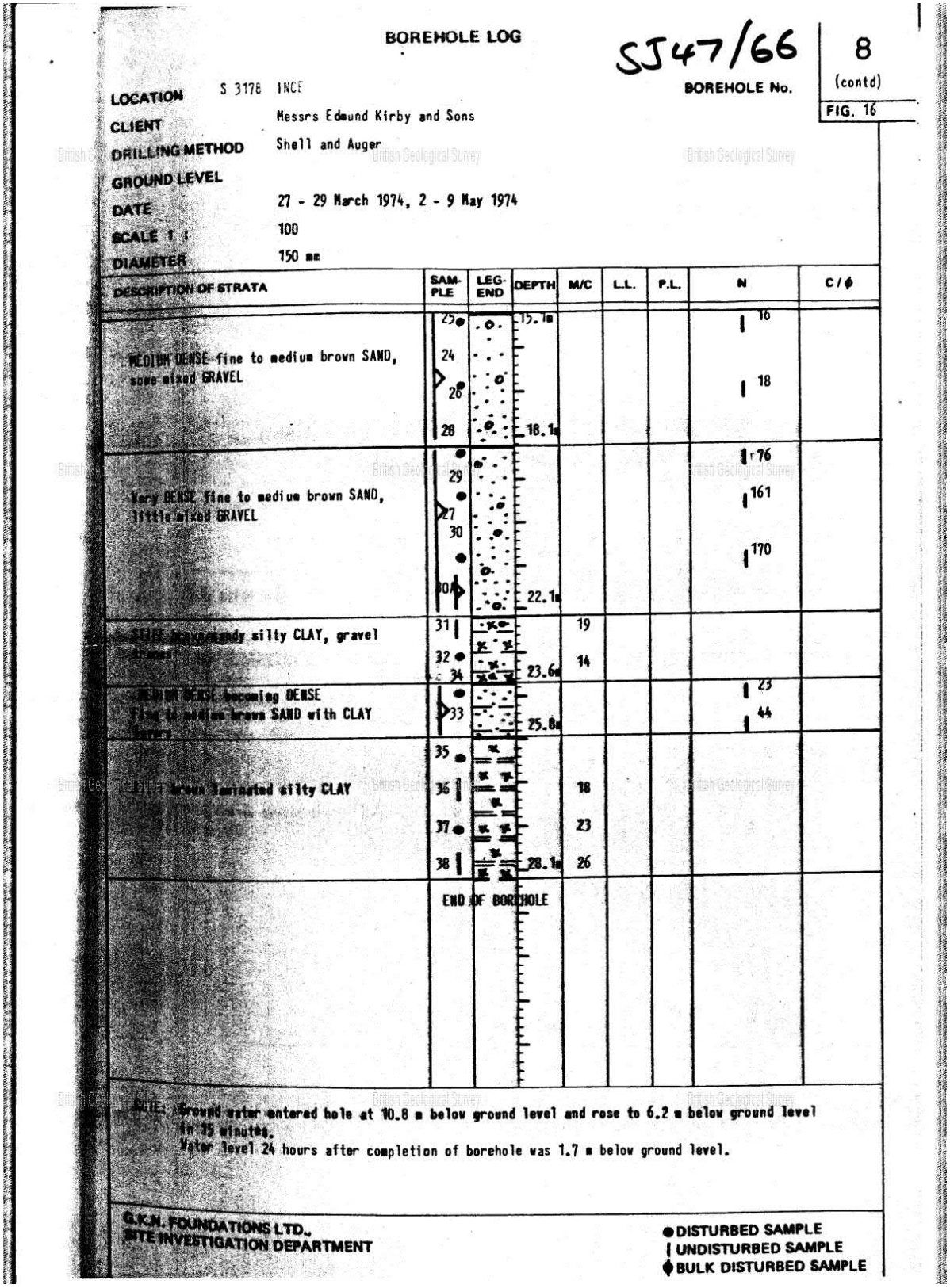
ENVIRON AGENCY

G.K.N. FOUNDATIONS LTD.,
SITE INVESTIGATION DEPARTMENT

● DISTURBED SAMPLE
| UNDISTURBED SAMPLE
▲ BULK DISTURBED SAMPLE

SJ47NE91_1

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BOREHOLE LOG

SJ47/66 BOREHOLE No. 8 (contd) FIG. 16

LOCATION S 3178 INCE
CLIENT Messrs Edmund Kirby and Sons
DRILLING METHOD Shell and Auger
GROUND LEVEL
DATE 27 - 29 March 1974, 2 - 9 May 1974
SCALE 1 : 100
DIAMETER 150 mm

DESCRIPTION OF STRATA	SAMPLE	LEGEND	DEPTH	M/C	L.L.	P.L.	N	C/ϕ
MEDIUM DENSE fine to medium brown SAND, some mixed GRAVEL	25 24 26 28		15.1m 18.1m				16 18	
Very DENSE fine to medium brown SAND, little mixed GRAVEL	29 27 30 30		22.1m				76 161 170	
STIFF brown sandy silty CLAY, gravel	31 32 34		23.6m	19 14				
MEDIUM DENSE becoming DENSE fine to medium brown SAND with CLAY	33		25.8m				23 44	
STIFF brown laminated silty CLAY	35 36 37 38		28.1m	18 23 26				
			END OF BOREHOLE					

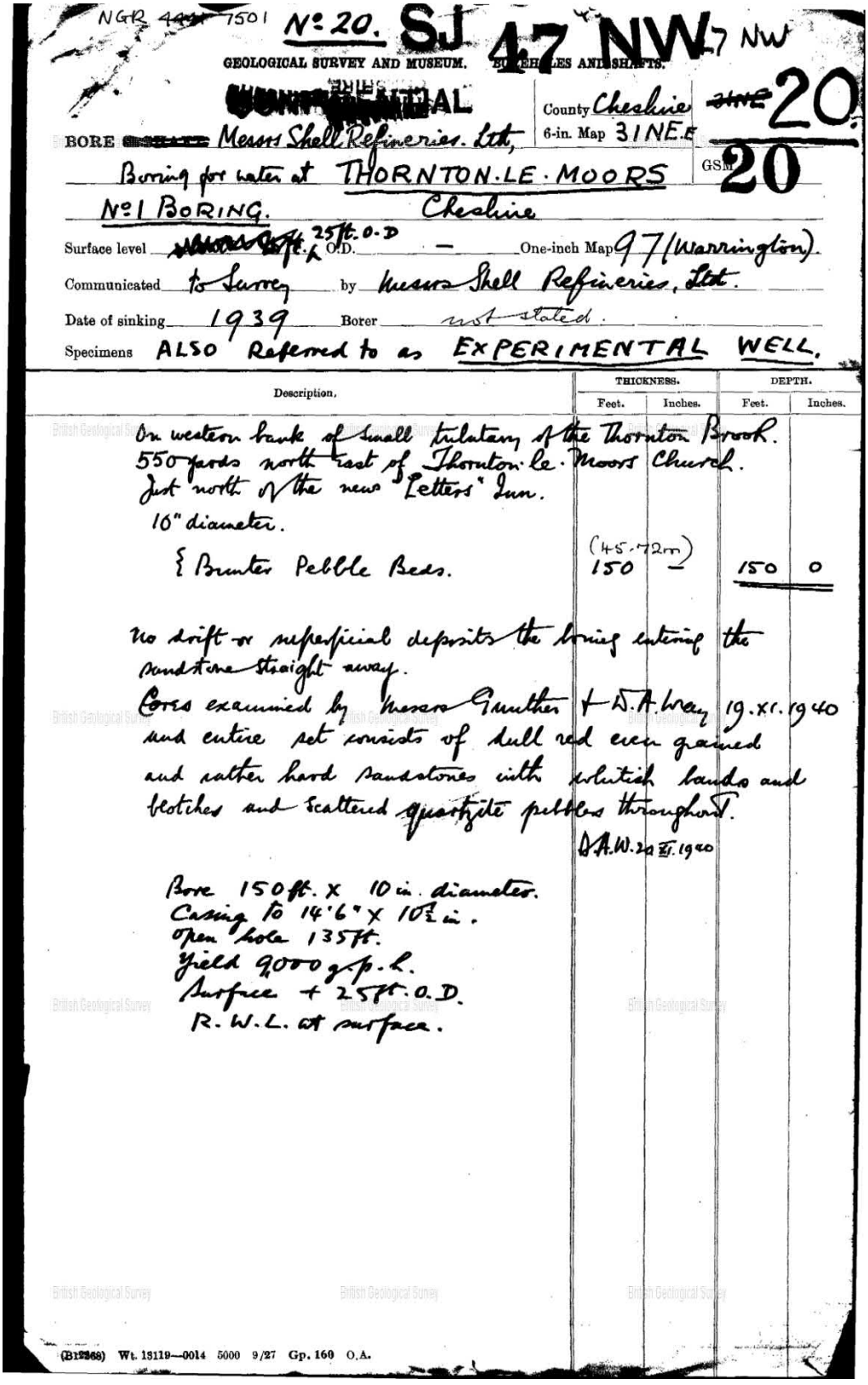
NOTE: Ground water entered hole at 10.8 m below ground level and rose to 6.2 m below ground level in 15 minutes.
Water level 24 hours after completion of borehole was 1.7 m below ground level.

G.K.N. FOUNDATIONS LTD.,
SITE INVESTIGATION DEPARTMENT

● DISTURBED SAMPLE
| UNDISTURBED SAMPLE
◆ BULK DISTURBED SAMPLE

SJ47NE91_2

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NGR 44[illegible]7501 No 20. SJ 47 NW 47 NW

GEOLOGICAL SURVEY AND MUSEUM. [illegible] ANDSHAFTS.

[illegible]AL

BORE [illegible] Messrs Shell Refineries. Ltd, County Cheshire 20.

Boring for water at THORNTON-LE-MOORS 6-in. Map 31NE.E GSM 20

No 1 BORING. Cheshire

Surface level [illegible] 25ft. O.D. — One-inch Map 97 (Warrington).

Communicated to Survey by Messrs Shell Refineries, Ltd.

Date of sinking 1939 Borer not stated.

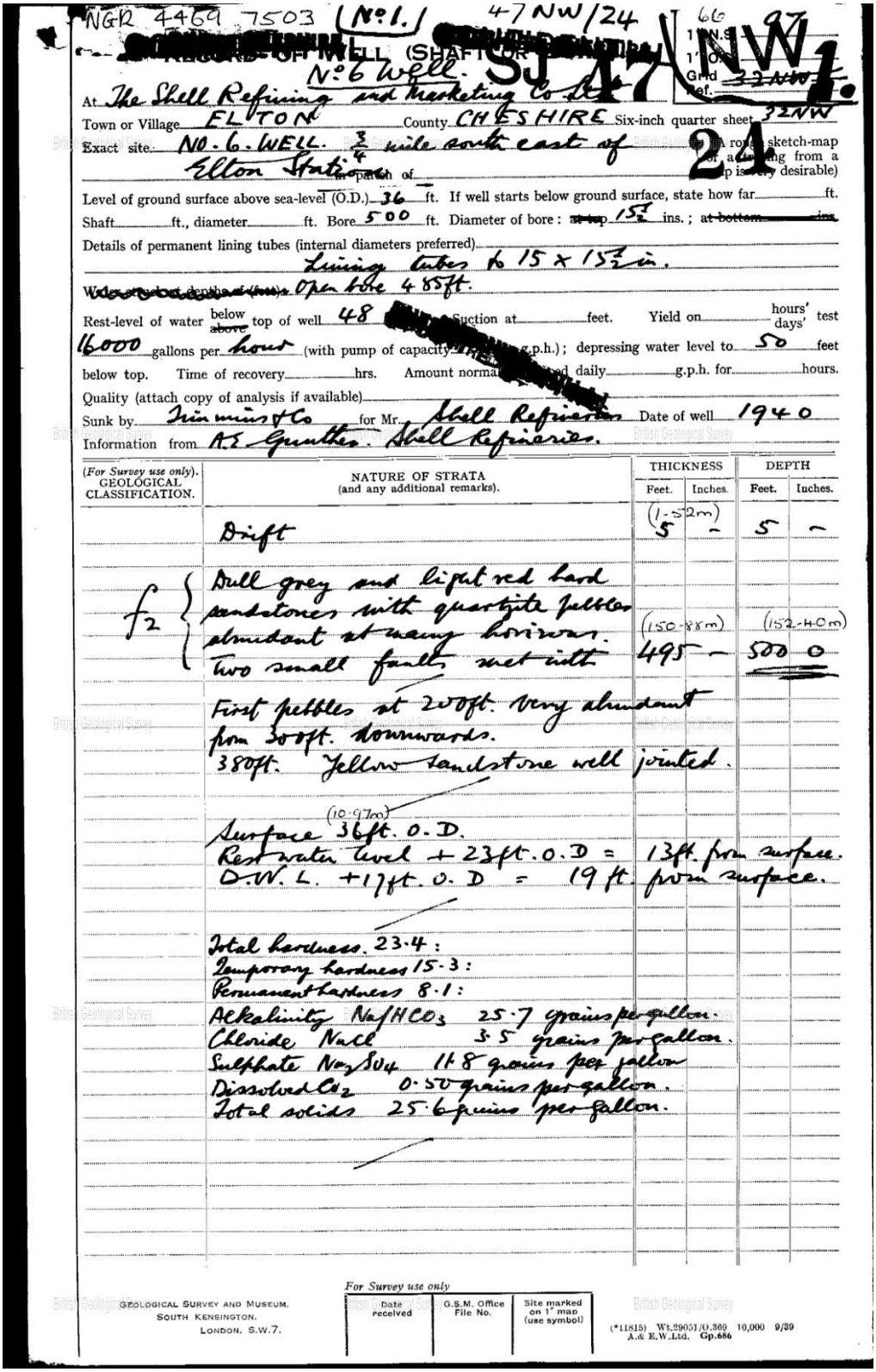
Specimens ALSO Referred to as EXPERIMENTAL WELL.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
On western bank of small tributary of the Thornton Brook. 550 yards north east of Thornton-le-Moors Church. Just north of the new "Letters" Inn. 10" diameter.				
{ Bunter Pebble Beds.	(45.72m) 150	—	150	0
No drift or superficial deposits the boring entering the sandstone straight away.				
Cores examined by Messrs Gunther + D.A. Wray 19.xi.1940 and entire set consists of dull red even grained and rather hard sandstones with violetish bands and blotches and scattered quartzite pebbles throughout. D.A.W. 20 xi. 1940				
Bore 150ft. x 10 in. diameter. Casing to 14'6" x 10½ in. Open hole 135ft. Yield 9000 g.p.h. Surface + 25ft. O.D. R.W.L. at surface.				

(B12368) Wt. 18119—0014 5000 9/27 Gp. 169 O.A.

SJ47NW20

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NGR 4469 7503 (No. 1.) 47NW/24 66 97

RECORD OF WELL (SHAFT OR BORING) SJ 47 NW 1.

No 6 Well.

At The Shell Refining and Marketing Co Ltd

Town or Village ELTON County CHESHIRE Six-inch quarter sheet 32NW

Exact site NO. 6. WELL. ¾ mile south east of Elton Station in parish of

Level of ground surface above sea-level (O.D.) 36 ft. If well starts below ground surface, state how far ft.

Shaft ft., diameter ft. Bore 500 ft. Diameter of bore: ~~at top~~ 15½ ins.; ~~at bottom~~ ins.

Details of permanent lining tubes (internal diameters preferred) Lining tubes to 15 x 15½ in.

~~Wider or widest depth at (feet)~~ Open hole 485ft.

Rest-level of water ~~above~~ below top of well 48 [redacted] Suction at feet. Yield on hours' ~~days'~~ test 16000 gallons per hour (with pump of capacity [redacted] g.p.h.); depressing water level to 50 feet below top. Time of recovery hrs. Amount normally [redacted] daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by Trimmins & Co for Mr. Shell Refineries Date of well 1940

Information from A.E. Gunther. Shell Refineries.

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	Drift	(1.52m) 5	–	5	–
f2	Dull grey and light red hard sandstones with quartzite pebbles abundant at many horizons. Two small faults met with	(150.88m) 495	–	(152.40m) 500	0
	First pebbles at 200ft. Very abundant from 300ft. downwards.				
	380ft. Yellow sandstone well jointed.				
	(10.97m) Surface 36ft. O.D.				
	Rest water level +23ft. O.D = 13ft. from surface.				
	O.W.L. +17ft. O.D = 19 ft. from surface.				
	Total hardness. 23.4:				
	Temporary hardness 15.3:				
	Permanent hardness 8.1:				
	Alkalinity Na/HCO_3 25.7 grains per gallon.				
	Chloride NaCl 3.5 grains per gallon.				
	Sulphate Na_2SO_4 11.8 grains per gallon				
	Dissolved CO_2 0.50 grains per gallon.				
	Total solids 25.6 grains per gallon.				

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

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SJ47NW24

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NGR 4499 7552 47 NW/25 66

1" N.S. 97
1" O.S. —
Grid Ref. 2.

RECORD OF WELL (SHAFT OR BORE)

At The Shell Refining and Marketing Co. Ltd.,
Town or Village ELTON County CHESHIRE Six-inch quarter sheet 32NW
Exact site No 7. Well. half a mile south of Race Church. in parish of (A rough sketch-map or a tracing from a map is very desirable)
Level of ground surface above sea-level (O.D.) 58 ft. If well starts below ground surface, state how far ft.
Shaft ft., diameter ft. Bore 500 ft. Diameter of bore: ~~upper~~ 15 ins.; ~~at bottom~~ ins.
Details of permanent lining tubes (internal diameters preferred) Open bore 484ft.
To 16ft. x 15 in.
Water struck at depths of (feet)
Rest-level of water below above top of well Suction at feet. Yield on hours' days' test
gallons per hour (with pump of capacity g.p.h.); depressing water level feet
below top. Time of recovery hrs. Amount normally pumped daily for hours.
Quality (attach copy of analysis if available)
Sunk by. Date of well 1940
Information A.E. Gunther. Shell Refineries. 1942.

SJ 47 NW 25

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
		(1-52m)			
Drift	Red stony clay	5'	–	5	0
		(150.88m)	–	(152.40m)	
Pebble Beds	Fine to coarse even grained	495	–	500	0
495	dull red sandstone with grey bands and with scattered quartzite pebbles.				
	Yield 23,000 gallons per hour.				
	Surface +58ft. O.D.				
	Rest water level +25ft. O.D =			33 ft.	from surface
	D.W.L. –36ft. O.D =			94 ft.	from surface
	Hardness 16.4				
	Temporary Hardness 9.4				
	Permanent Hardness 7.0				
	Alkalinity $NaHCO_3$ 15.7 grains per gallon.				
	Chloride NaCl 3.0 " " "				
	Sulphate Na_2SO_4 15.1 " " "				
	Dissolved CO_2 1.20 " " "				
	Total solids 20.2 grains per gallon.				

For Survey use only

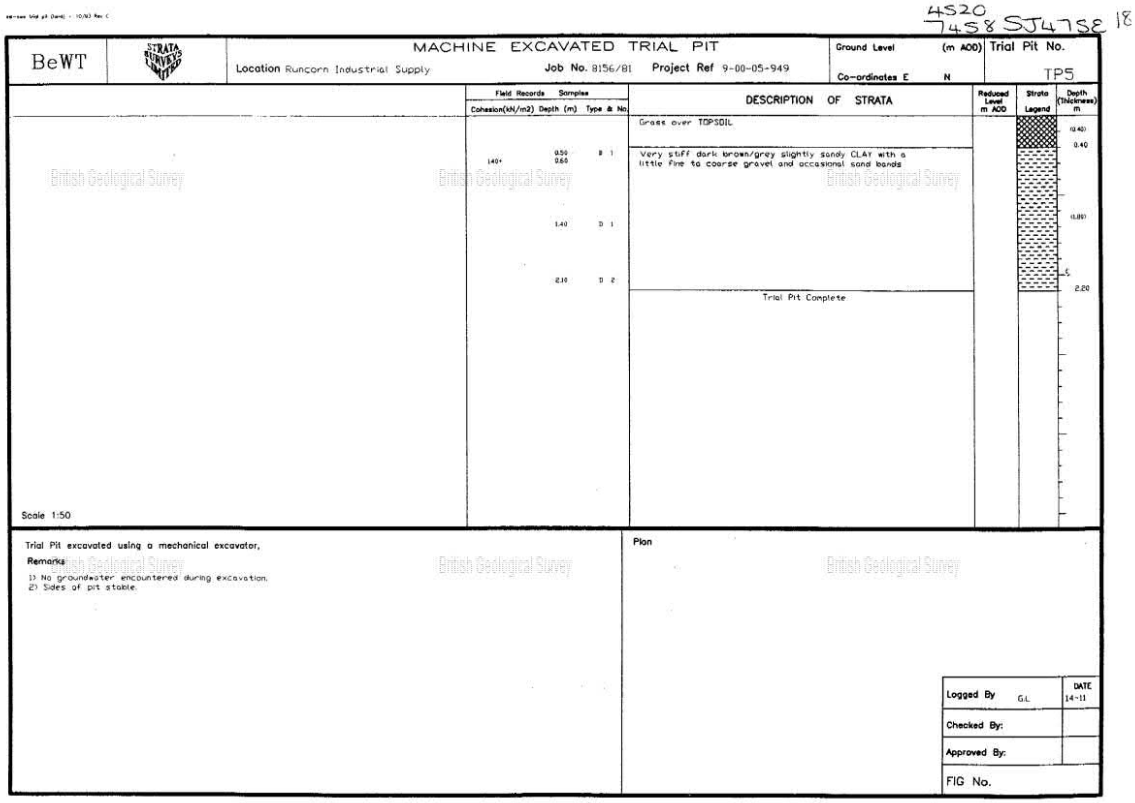
Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)

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4520 7458 SJ47SE 18

BeWT — STRATA SURVEYS LIMITED

MACHINE EXCAVATED TRIAL PIT

Location Runcorn Industrial Supply — Job No. 8156/81 — Project Ref 9-00-05-949 — Ground Level (m AOD) — Co-ordinates E N — Trial Pit No. TP5

Field Records Cohesion(kN/m2)	Depth (m)	Type & No.	DESCRIPTION OF STRATA	Reduced Level m AOD	Strata Legend	Depth (Thickness) m
			Grass over TOPSOIL			(0.40)
140+	0.50 0.60	B 1	Very stiff dark brown/grey slightly sandy CLAY with a little fine to coarse gravel and occasional sand bands			0.40
	1.40	D 1				(1.80)
	2.10	D 2				2.20
			Trial Pit Complete			

Scale 1:50

Trial Pit excavated using a mechanical excavator,

Remarks

1) No groundwater encountered during excavation.
2) Sides of pit stable.

Plan

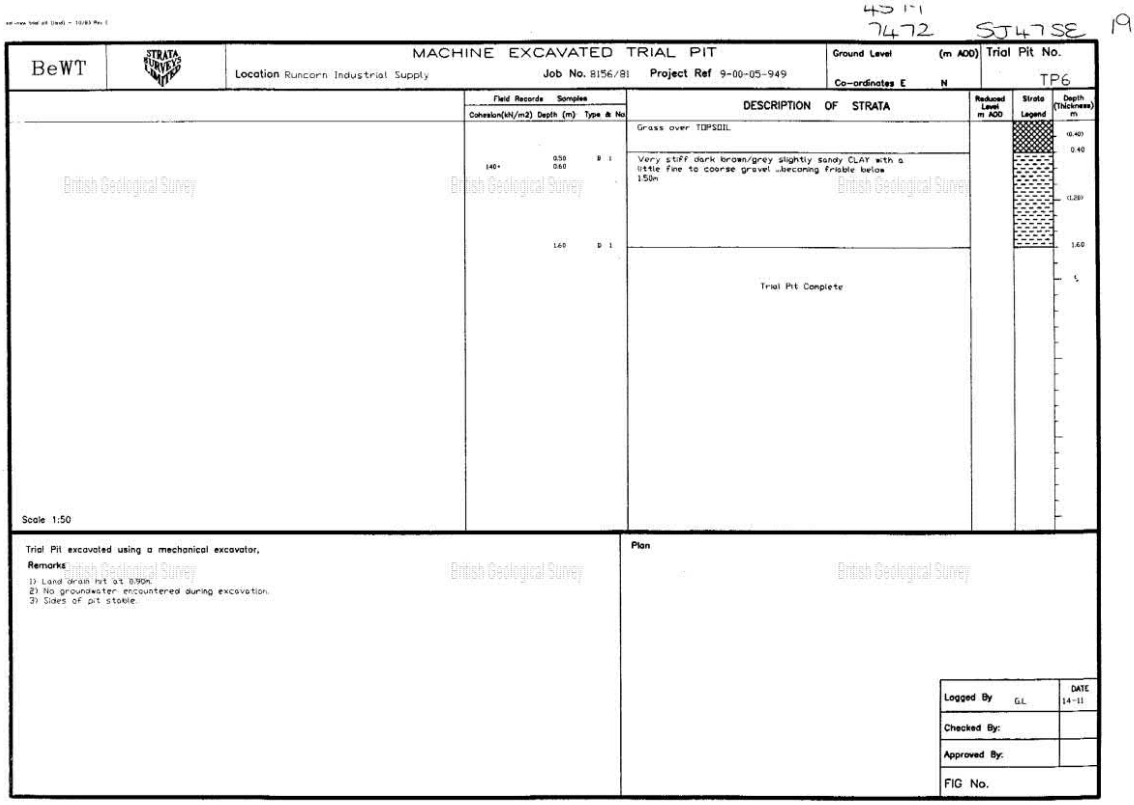
Logged By G.L. — DATE 14-11

Checked By:

Approved By:

FIG No.

SJ47SE18



7472 SJ47SE 19

BeWT — STRATA SURVEYS LIMITED

MACHINE EXCAVATED TRIAL PIT

Location Runcorn Industrial Supply — Job No. 8156/81 — Project Ref 9-00-05-949 — Ground Level (m AOD) — Co-ordinates E N — Trial Pit No. TP6

Field Records Cohesion(kN/m2)	Depth (m)	Type & No.	DESCRIPTION OF STRATA	Reduced Level m AOD	Strata Legend	Depth (Thickness) m
			Grass over TOPSOIL			(0.40)
140+	0.50 0.60	B 1	Very stiff dark brown/grey slightly sandy CLAY with a little fine to coarse gravel becoming friable below 1.50m			0.40
	1.60	B 1				(1.20)
			Trial Pit Complete			1.60

Scale 1:50

Trial Pit excavated using a mechanical excavator,

Remarks

1) Land drain hit at 0.90m.
2) No groundwater encountered during excavation.
3) Sides of pit stable.

Plan

Logged By G.L. — DATE 14-11

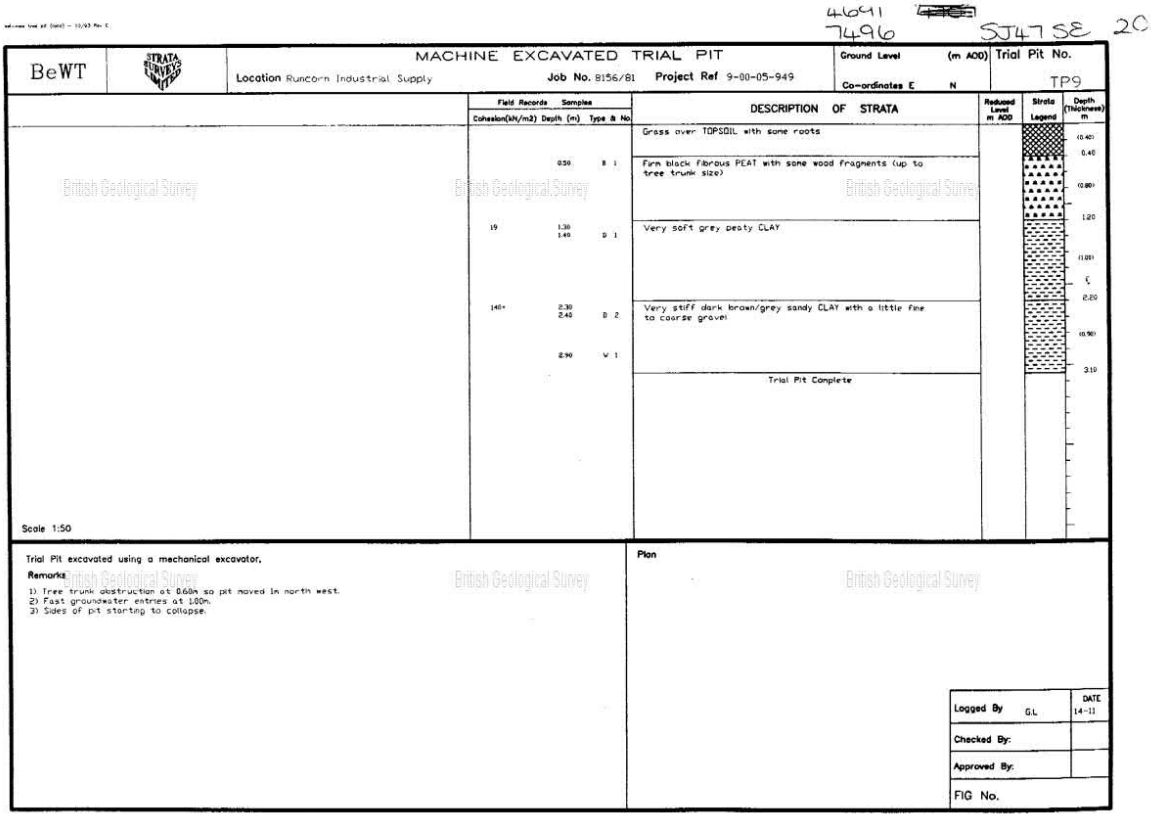
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FIG No.

SJ47SE19

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7496
SJ47SE 20

BeWT — STRATA SURVEYS LTD

MACHINE EXCAVATED TRIAL PIT

Location Runcorn Industrial Supply — Job No. 8156/81 — Project Ref 9-00-05-949

Ground Level (m AOD) — Co-ordinates E N — Trial Pit No. TP9

Field Records: Cohesion(kN/m2)	Depth (m)	Type & No.	DESCRIPTION OF STRATA	Reduced Level m AOD	Strata Legend	Depth (Thickness) m
			Grass over TOPSOIL with some roots			(0.40)
	0.50	B 1	Firm black fibrous PEAT with some wood fragments (up to tree trunk size)			0.40 (0.80)
19	1.30 1.45	D 1	Very soft grey peaty CLAY			1.20 (1.00)
140+	2.30 2.45	D 2	Very stiff dark brown/grey sandy CLAY with a little fine to coarse gravel			2.20 (0.90)
	2.90	W 1				3.10
			Trial Pit Complete			

Scale 1:50

Trial Pit excavated using a mechanical excavator.

Remarks

1) Tree trunk obstruction at 0.60m so pit moved in north west.
2) Fast groundwater entries at 1.80m.
3) Sides of pit starting to collapse.

Plan

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Checked By:		
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FIG No.		

British Geological Survey

SJ47SE20

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ALLIED EXPLORATION & GEOTECHNICS LTD

BOREHOLE RECORD

Status:- FINAL
Date:- 07/03/96

Project: NMCS2 Communications System in Cheshire - MS2 Cantilever Sites - M56
BOREHOLE No: BH-05

Client: The Highways Agency
Location: SJ45173 74007 SJ47SE 52/9 +15B 21

Method & Equipment: Cable Percussion using a Pilcon Wayfarer 1500
Ground Level(m(AOD)): 9.40
Date: 15-12-95
Sheet: 1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instru-ment-Backfill
						(0.60)	(1) Soft brown sandy TOPSOIL with fine gravel.	
				8.80		0.60		
0.60-1.00	B1						Stiff red brown veined grey sandy CLAY with occasional to some gravel. Gravel is fine to medium subangular to subrounded and consists of sandstone and basalt.	
1.10-1.50	B2						between c.0.60 and 1.95m BGL ... occasional partially decomposed rootlets.	
1.50-1.95	SJ3	N20						
2.10-2.60	B4					(3.15)	below c.2.10m BGL ... loss of grey veining.	
2.60-3.05	SJ5	N45					below c.2.60m BGL ... occasionally thinly laminated.	
3.10-3.60	B6							
3.70-4.15	B7 U*	(100)		5.65		3.75		
4.30-4.75	SJ8	159 for 295mm				(1.25)	Highly weathered SANDSTONE. Recovered as very dense red brown slightly gravelly fine to medium SAND. Gravel is fine to medium subangular and consists of sandstone. (Bunter Sandstone)	
4.90-5.40	B9			4.40		5.00		
5.40	SJ10	96 for 137mm*				(0.75)	Red brown occasionally grey medium grained slightly weathered SANDSTONE weak. (Bunter Sandstone)	
5.75	SJ11	50 for 50mm*		3.65		5.75		
							Borehole complete at 5.75m BGL	

Boring Progress and Water Observations					
Date		Depth	Casing	Casing Dia	Water Depth
15/12/95		0.00	0.00		
15/12/95		5.50	5.50	200mm	4.40
16/12/95		5.50	5.50	200mm	4.40
16/12/95		5.75	5.75	200mm	4.00

Chiselling			Water Added	
From	To	Hours	From	To
5.20	5.50	0.50	4.00	5.50
5.50	5.75	0.50	5.50	5.75

GENERAL REMARKS

1) Description derived from driller's daily report.
2) Inspection pit dug prior to drilling (1.0 x 1.0 x 1.2m).

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By: AR

Logged By: A. Latimer

Contract No. 1568

Date Printed:- 08/03/96

Form AEG21/2

SJ47SE21

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ALLIED EXPLORATION & GEOTECHNICS LTD

BOREHOLE RECORD

Status:- **FINAL** Date:- 07/03/96

Project: NMCS2 Communications System in Cheshire - MS2 Cantilever Sites - M56

Client: The Highways Agency

Location: SJ 45654 74258 52/3 +70A

BOREHOLE No: BH-06 22

Method & Equipment: Cable Percussion using a Pilcon Wayfarer 1500

Ground Level(m(AOD)): 9.48

Date: 13-12-95

Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				9.38		(0.10)0.10	(1) TOPSOIL.	
0.80-1.20	B1						MADE GROUND (Medium dense dark brown sandy fine to medium occasionally coarse angular to subangular gravel. Gravel consists of limestone. Some rootlets).	
						(2.20)		
1.50-1.95	CB2	N22					below c.1.50m BGL ... becoming grey clayey gravel.	
				7.18		2.30		
2.30-2.50	B3						Firm to stiff red brown sandy CLAY with occasional gravel. Gravel is fine subangular and consists of sandstone, basalt and quartzite. (Glacial Till) between c.2.30 and 5.00m BGL ... extremely closely fissured.	
2.50-2.95	U4	(55)						
3.00	J5							
3.01-3.40	B6							
3.50-3.95	U7	(65)						
4.00	J8							
4.50-4.95	U9	(75)						
5.00	J10					(5.50)		
5.10-5.50	B11							
5.50-5.95	U12	(35)						
6.00	J13							
6.40-6.80	B14							
7.00-7.45	U15	(120)					below c.7.00m BGL ... becoming very stiff.	
7.50	J16							
				1.68		7.80		
							(As sheet 2 of 2)	

Boring Progress and Water Observations

Date		Depth	Casing	Casing Dia	Water Depth
13/12/95		0.00	0.00		
13/12/95		9.70	9.70	150mm	4.85

Chiselling

From	To	Hours
9.60	9.70	1.00

Water Added

From	To
5.50	9.70

GENERAL REMARKS

1) Description derived from driller's daily report. 2) Inspection pit dug prior to drilling (1.0 x 1.0 x 1.2m). 3) Slight seepage at 5.50m BGL.

All dimensions in metres Scale 1:50 | For Explanation of Symbols and Abbreviations see Key Sheets | Checked By: AR | Logged By: A. Latimer | Contract No. 1568

Date Printed:- 08/03/96

Form AEG21/2

SJ47SE22

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ALLIED EXPLORATION & GEOTECHNICS LTD

BOREHOLE RECORD

Status:- FINAL
Date:- 07/03/96

Project: NMCS2 Communications System in Cheshire - MS2 Cantilever Sites - M56
BOREHOLE No: BH-07 23
Client: The Highways Agency
Location: 51/5 +00B SJ46416 74659
Method & Equipment: Cable Percussion using a Pilcon Wayfarer 1500
Ground Level(m(AOD)): 7.55
Date: 20-12-95
Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instru-ment/ Backfill
				7.15		(0.40) 0.40	(1) MADE GROUND (Topsoil and roadstone fill).	
0.80-1.20	B1					(1.30)	Stiff red brown occasionally veined grey sandy CLAY with occasional gravel. Gravel is fine subangular and consists of sandstone and quartzite. (Glacial Till)	
1.55-2.00	U2	(65)		5.85		1.70		
2.10	J3						Loose orange brown silty fine SAND. (Fluvio-glacial)	
2.55-3.00	SJ4	N10				(2.10)		
3.25	J5							
3.55-4.00	SJ6	N13		3.75		3.80		
4.25	J7						Medium dense orange brown fine to medium SAND. (Fluvio-glacial)	
4.55-5.00	SJ8	N13						
5.40-5.80	B9							
6.05-6.50	SJ10	N15						
7.00	J11						below c.7.00m BGL ... becoming fine to coarse predominantly medium. Occasional shell fragments.	
7.55-8.00	SJ12	N36				(7.70)	below c.7.55m BGL ... becoming dense.	

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date		Depth	Casing	Casing Dia	Water Depth	From	To	Hours	From	To	
20.12.95		0.00	0.00						2.00	6.00	1) Description derived from driller's daily report. 2) Inspection pit dug prior to drilling (1.0 x 1.0 x 1.2m).
20.12.95		6.00	6.00	150mm	4.50						
21.12.95		6.00	6.00	150mm	2.40						
21.12.95		15.00	14.00	150mm	dry						

All dimensions in metres Scale 1:50 | For Explanation of Symbols and Abbreviations see Key Sheets | Checked By: AC | Logged By: A. Latimer | Contract No. 1568

Date Printed:- 08/03/96

Form AEG21/2

SJ47SE23

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RECORD OF WELL (SHAFT OR BORE) SJ47SW3 109

1" O.S. Grid Ref. 31SE 23

At Wervin new estate, 2½ miles N. of Chester

Town or Village WERVIN County CHESHIRE Six-inch quarter sheet 31SE

Exact site 580 yards south of Wervin Hall (new Hall). (A rough sketch-map or a tracing from a map is very desirable)

O.S.R. 429071 in parish of

Level of ground surface above sea-level (O.D.) c. 96 ft. If well starts below ground surface, state how far ft.

Shaft ft., diameter ft. Bore 65 ft. Diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes (internal diameters preferred)

to 51 X 4¾ in.

Water struck at depths of (feet)

Rest-level of water ~~below~~ above top of well 47 feet. Suction at feet. Yield on hours' days' test

750 gallons per hour (with pump of capacity — g.p.h.); depressing water level to 51 feet below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by [redacted] Date of well 28/10/30

Information from [redacted]

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	Subsoil	2	6 0·76	2	6 0·76
	Clay	17	0 6·8	19	6 5·44
	Sand	-	6 0·16	20	0 6·10
Drift	Loamy sand	2	6 0·76	22	6 6·86
65	Soft sandstone (sic).	4	6 1·37	27	0 8·23
	Clay	11	0 3·35	38	0 11·58
	Hard loamy sand	13	0 3·96	51	0 15·54
	Mild sand, water bearing	14	0 4·27	65	0 19·81
	Loamy clay at base	-	-	65	0 19·81

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9.1.42		

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SJ47SW3

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RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

For Survey use only

N. 3544

SJ 47 SW 14

CHESHIRE

47SW/14

N.G.R. 442774 08

EXACT SITE OF WELL

At Stanlow 25 Bore

[redacted] See South Gowy Site Plan.

Town or Village Thornton-le-Moors

County Cheshire Six-inch quarter sheet

For Mr. Shell Refining & Marketing Co. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) Chester

Level of ground surface above sea-level (O.D.) ..... ft. If well-top is not at ground level, state how far ... {above; below; ..... ft.

SHAFT ..... ft.; diameter ..... ft.; Details of headings .....

BORE 500 ft.; diameter of bore: at top 15 ins.; at bottom 15 ins.

Details of permanent lining tubes 17 of 21" & 126'6" of 15"

Water struck at depths of 55, 493 ft. below well-top.

TEST CONDITIONS

Rest-level of water 38'6" ft. above/below well-top. Suction at ..... ft. Yield on 24 hours'/days' test pumping at 20700 galls. per hour with depression to 121'6" ft. below well-top.

Recovery to rest-level in ..... mins./hours Capacity of pump ..... g.p.h. Date of measurements JUL/50

NORMAL CONDITIONS

Description of permanent pumping equipment :

Make and/or type ..... Motive power .....

Capacity ..... gallons per hour. Suction at ..... ft.

Amount pumped ..... galls. per day. Estimated consumption ..... galls. per week.

Well made by Le Grand Sutcliff & Gell, Ltd Date of well JUL/ 50

Information from " " " "

ADDITIONAL NOTES

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map

(*35243) W.t.44731/0464 12,000 3/48 A.& E.W.Ltd. Gp.685

SJ47SW14_1

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(For Survey use only) Geological Classification	Nature of Strata — If measurements start below ground surface, state how far ...	Metres	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches	Metres
	Brown Clay	0.76	2	6	2	6	0.76
	Mild Sandstone	0.46	1	6	4	0	1.22
	Sandstone	5.49	18	0	22	0	6.71
	Sandstone with Boulders	2.43	8	0	30	0	9.14
	Sandstone	24.39	80	0	110	0	33.53
	Sandstone & Marl	71.93	236	0	346	0	105.46
	Sandstone	5.18	17	0	363	0	110.64
	Marl & Sandstone	5.18	17	0	380	0	115.82
	Red Marl	21.34	70	0	450	0	137.16
	Loamy Sand & Marl	6.40	21	0	471	0	143.56
	Red Marl	6.71	22	0	493	0	150.27
	Sandstone	0.46	1	6	494	6	150.72
	Red Marl	1.68	5	6	500	0	152.40

SJ47SW14_2

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RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

For Survey use only N. 2830

CHESHIRE

SJ 47 SW 16

47SW/16

At Shanlow No. [redacted] re South Gawy Site Plan

EXACT SITE OF WELL

Town or Village Thornton-le-Moors

County Cheshire Six-inch quarter sheet 31SE/E

For Mr. Shell Refining & Marketing Co. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) N.G.R. 44497828

Level of ground surface above sea-level (O.D.) ft. If well-top is not at ground level, state how far ... {above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE 410 ft.; diameter of bore: at top 15 ins.; at bottom 15 ins.

Details of permanent lining tubes 36' of 21" & 67' of 15"

Water struck at depths of 10, 96, 115 ft. below well-top.

TEST CONDITIONS

Rest-level of water 13' 6" ft. above/below well-top. Suction at ft. Yield on 24 hours'/~~days'~~ test pumping at 25910 galls. per hour with depression to 105' 6" ft. below well-top.

Recovery to rest-level in mins./hours Capacity of pump g.p.h. Date of measurements JUN/50

NORMAL CONDITIONS

Description of permanent pumping equipment :

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Le Grand Sutcliff & Gell, Ltd. Date of well JUN/50

Information from

ADDITIONAL NOTES

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

Date Received | 1" O.S. Map No. | Site marked on 1" Map | (use symbol) on 6" Map

Wt.44731/0824 12,000 8/48 A.& E.W.Ltd. Gp.685

SJ47SW16_1

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(For Survey use only) Geological Classification	NATURE OF STRATA If measurements start below ground surface, state how far ...	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches	Metres	
	Sandy Top Soil	1	6	1	6	0·46	0·46
	Brown Sand	2	0	3	6	0·61	1·07
	Boulder Clay	2	0	5	6	0·61	1·68
	Brown Clay	7	0	12	6	2·13	3·81
	Brown Sandy Clay & Pebbles	20	6	33	0	6·25	10·06
	Sandstone	32	0	65	0	9·75	19·81
	Sandstone with Bands of Sandy Clay	110	0	175	0	33·53	53·34
	Red Marl	4	0	179	0	1·22	54·56
	Sandstone	50	0	229	0	15·24	69·80
	Sandstone with Bands of Sandy Clay	35	0	264	0	10·67	80·47
	Sandstone & Pebbles with Bands of Sandy Clay	34	0	298	0	10·36	90·83
	Sandstone with Bands of Sandy Clay	24	0	322	0	7·32	98·15
	Sandstone & Pebbles with Bands of Sandy Clay	53	0	375	0	16·15	114·30
	Sandstone with Bands of Sandy Clay	23	0	398	0	7·01	121·31
	Hard Red Marl	12	0	410	0	3·66	124·97

SJ47SW16-2

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Soil Mechanics

Borehole No. 3
Sheet 1 of 1

Equipment & Methods
305mm dia. cable tool boring using a 2Mg Pilcon winch with a 10Mg tripod

Location No. 6959
SJ47SW 78 GOWY VALLEY

Carried out for
N.W.R.C. U

Ground Level 43449 **Coordinates** 72898 **Date** 20 and 21.11.76

Description	Reduced Level	Legend	Depth & Thickness	Samples/Tests: Depth	Sample Type	Sample No.	Test	Field Records
Brown peaty TOPSOIL			(0.2) 0.2					
Very soft, very dark brown amorphous and fibrous PEAT with occasional roots and rootlets and occasional partially decomposed pieces of wood.				1.5	D			262mm dia. Piston sample
				1.6–2.0	P			
				2.0	D			
				2.7	D			262mm dia. Piston sample
				2.7–3.1	P			
			(5.3)	3.1	D			
				3.6	D			262mm dia. Piston sample
				3.6–4.0	P			
				4.0	D			
Grey organic sandy silty CLAY			5.5 (0.2) 5.7	5.5	D			
END OF BOREHOLE								

Water Level Observations During Boring

Date	Time	Depth of Hole m	Depth of Casing m	Depth to Water m	Remarks
1976					
20.11	16.00	4.1	3.3	0.3	Water added
21.11	09.00	4.1	3.3	0.2	during boring

SPT Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N – value).

Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column.

Water: Water level observations during boring are given on last sheet of log.

Sample/Test Key.
D Disturbed Sample
B Bulk Sample
W Water Sample
U Piston (P) Tube (U) or core sample: Length to scale
S Standard Penetration Test
V Vane Test
C Core recovery (%)
r Rock Quality Designation (RQD – %)

Remarks

Logged by RDS
Scale 1:50
Fig. 3

SJ47SW78

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