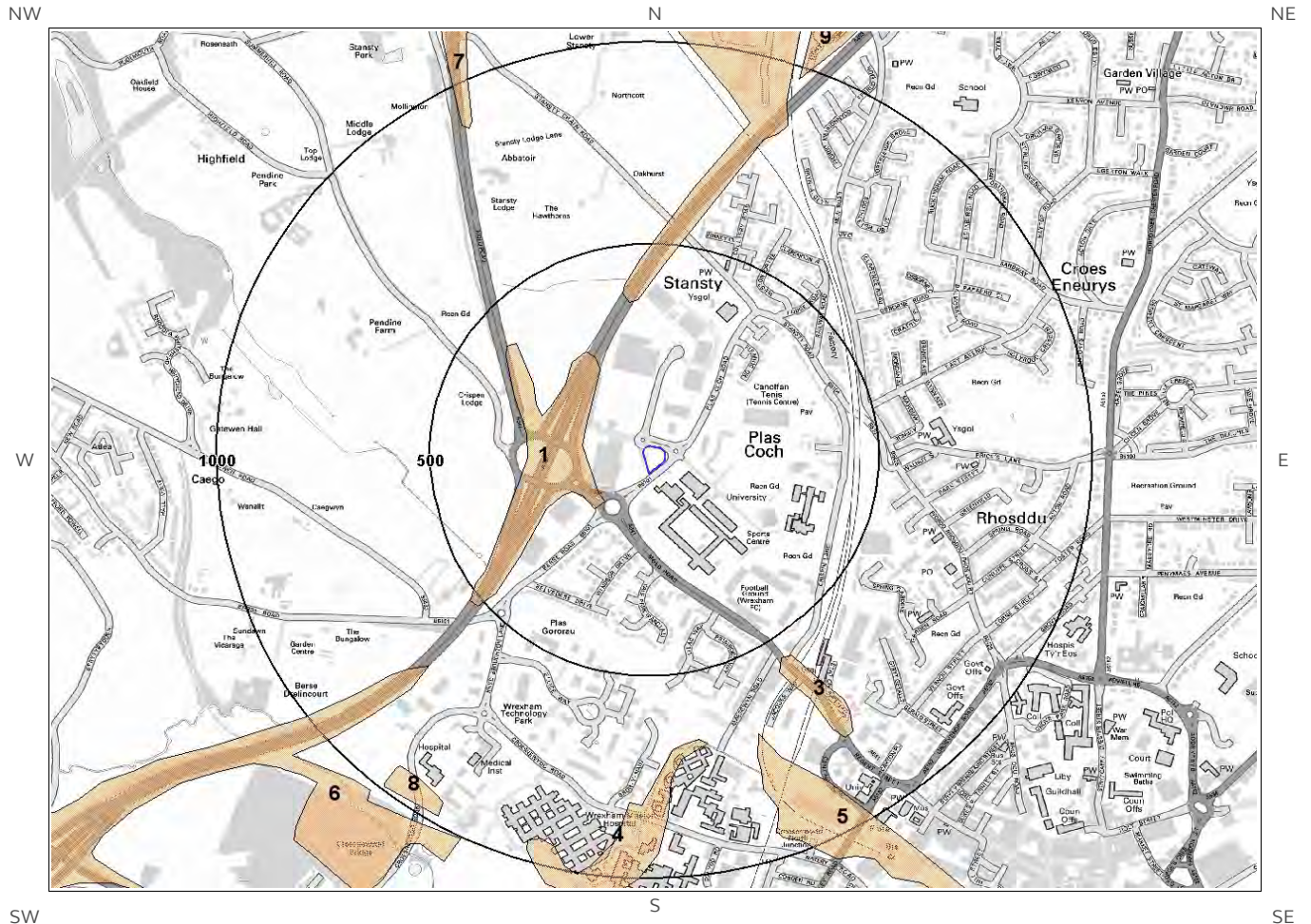
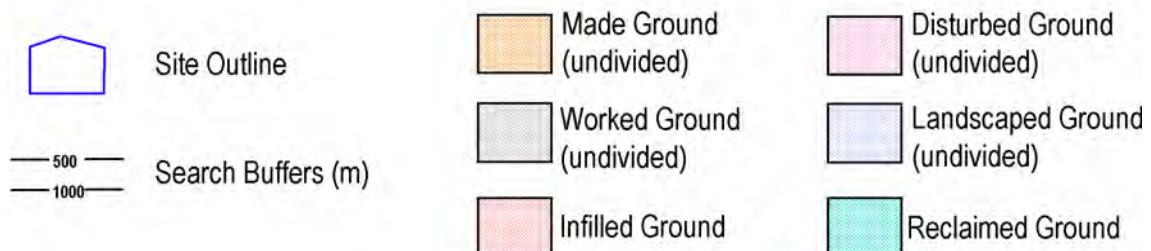


2 Geology 1:50,000 Scale

2.1 Artificial Ground map



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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 121

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

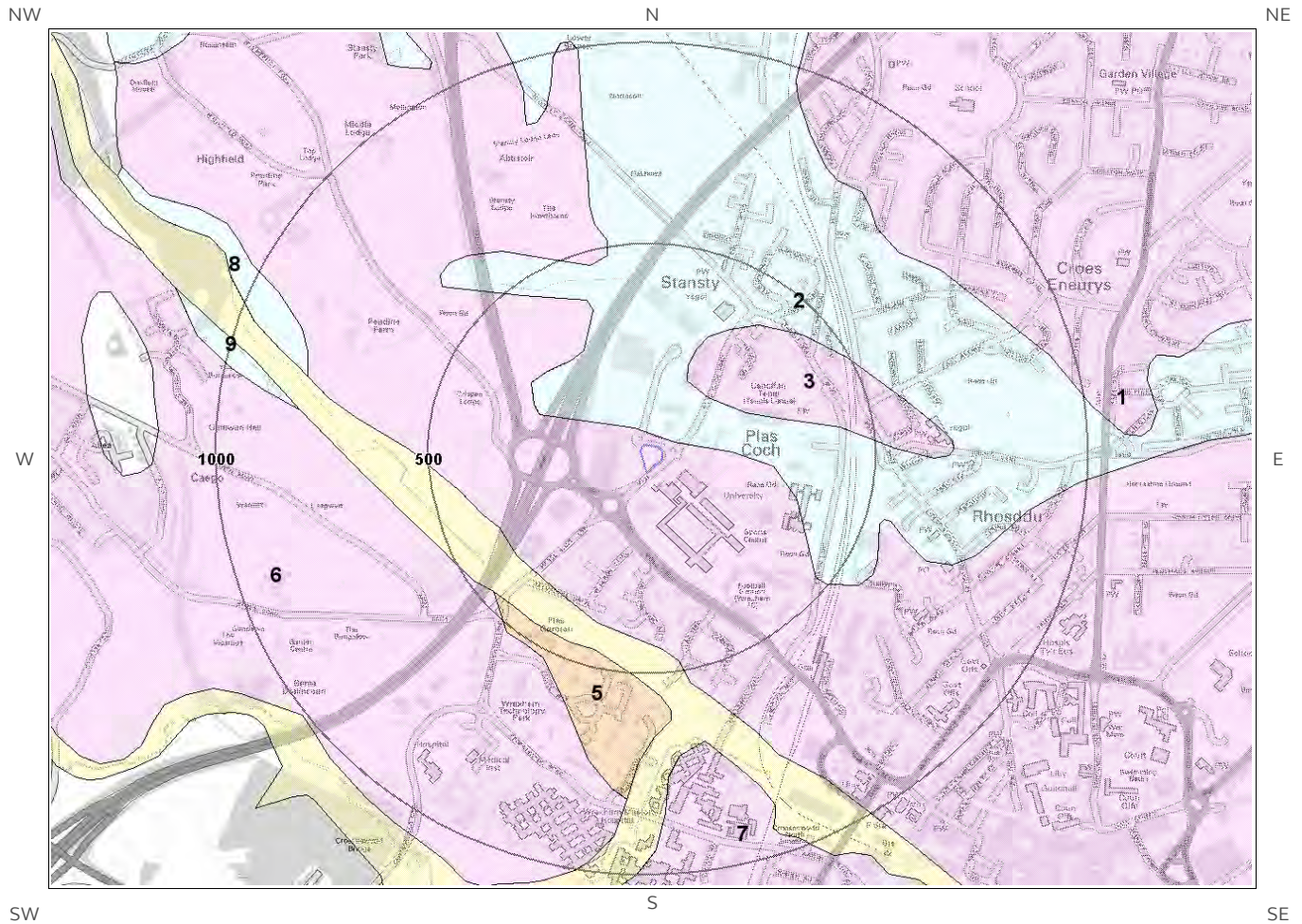
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	124.0	SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	359.0	N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

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

Database searched and no data found.

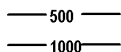
2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	GFSDDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	25.0	N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	170.0	NE	GFSDDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
4	359.0	SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	455.0	SW	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
6	465.0	SW	GFSDDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	High
25.0	N	Mixed	High	Low

2.2.3 Landslip

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

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

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

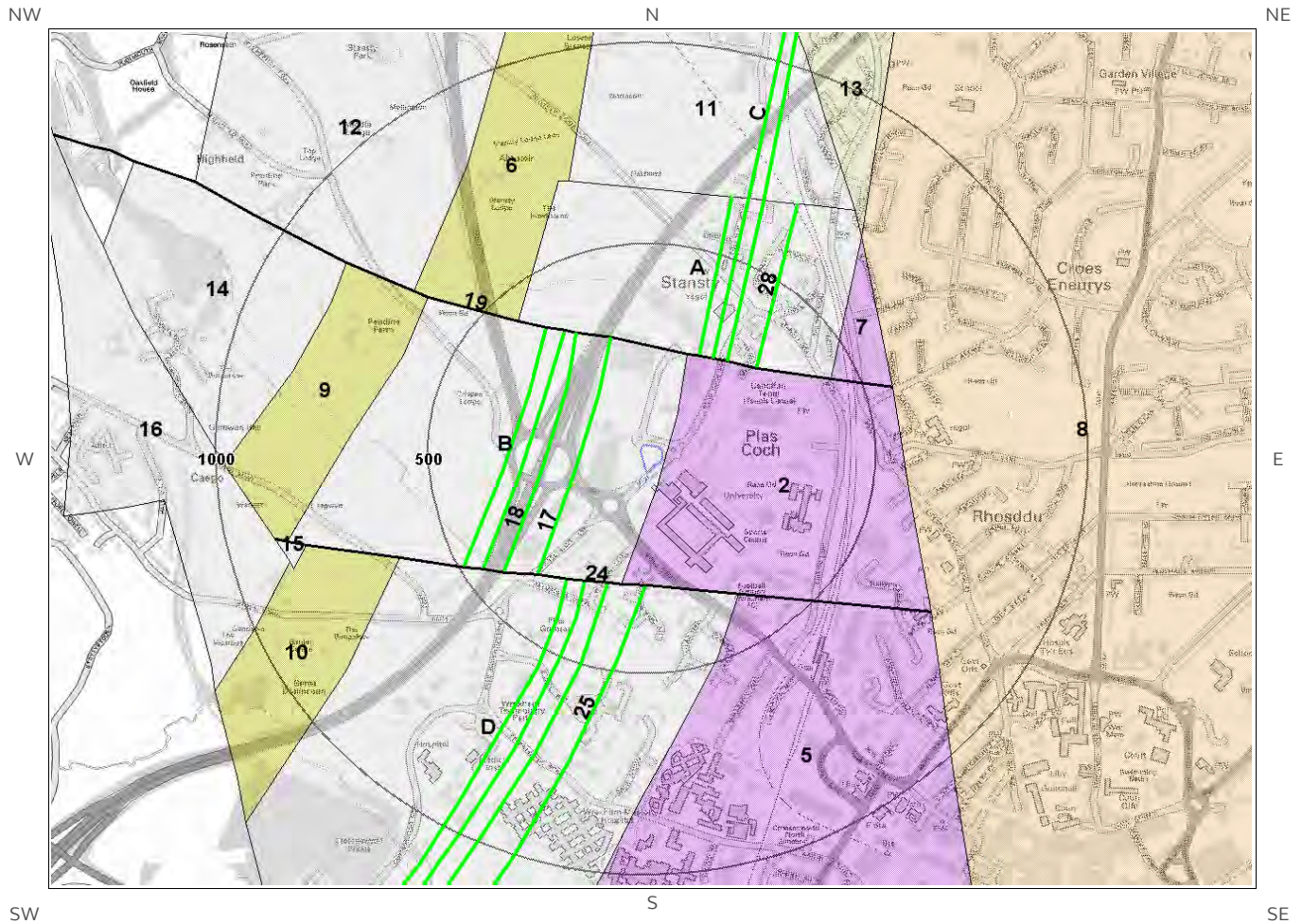
2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

No

Database searched and no data found.

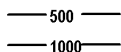
2.3 Bedrock and linear features map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 121

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1B	0.0	On Site	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	6.0	E	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN
3A	241.0	N	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4D	281.0	S	PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	371.0	SE	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN
6	427.0	NW	PLMC-SDST	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - SANDSTONE	WESTPHALIAN
7	436.0	NE	ETM-MDST	ETRURIA FORMATION - MUDSTONE	WESTPHALIAN

2.3.2 Permeability of Bedrock Ground

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

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Low
6.0	E	Fracture	Low	Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary? Yes

ID	Distance	Direction	Category Description	Feature Description
17	133.0	W	ROCK	Coal seam, inferred

ID	Distance	Direction	Category Description	Feature Description
18	209.0	W	ROCK	Coal seam, inferred
19	241.0	N	FAULT	Fault, inferred, displacement unknown
20A	246.0	NE	ROCK	Coal seam, inferred
21B	255.0	W	ROCK	Coal seam, inferred
22C	256.0	NE	ROCK	Coal seam, inferred
23C	267.0	NE	ROCK	Coal seam, inferred
24	281.0	S	FAULT	Fault, inferred, displacement unknown
25	281.0	S	ROCK	Coal seam, inferred
26D	287.0	S	ROCK	Coal seam, inferred
27B	293.0	W	ROCK	Coal seam, inferred
28	302.0	NE	ROCK	Coal seam, inferred
29D	305.0	SW	ROCK	Coal seam, inferred
30D	324.0	SW	ROCK	Coal seam, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

3.1 Radon Affected Areas

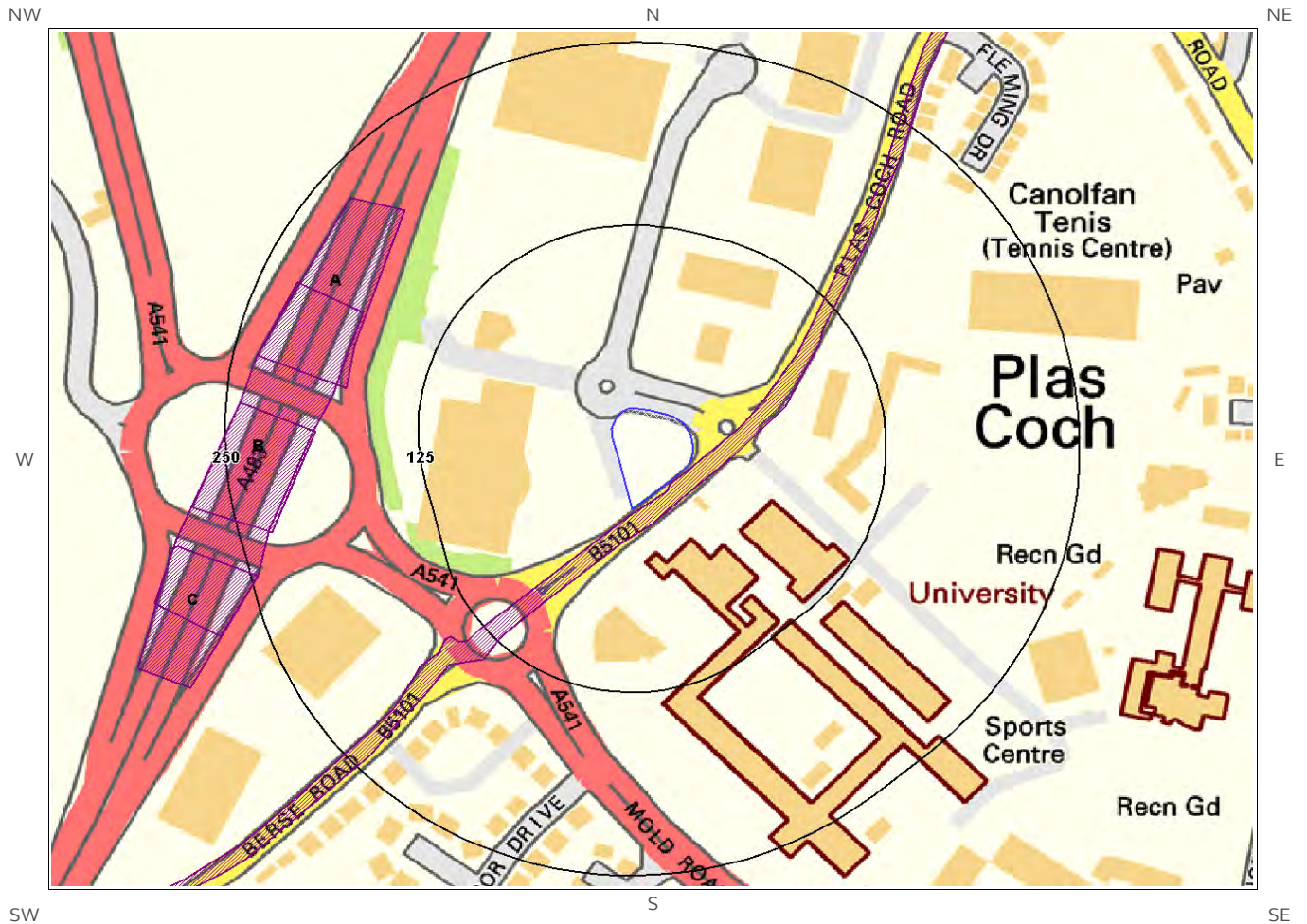
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

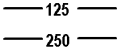
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Full radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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- | | | | |
|---|--------------------|---|----------------------------------|
|  | Site Outline |  | Historic Surface Ground Workings |
|  | Search Buffers (m) |  | Historic Underground Workings |
| | |  | Current Ground Workings |

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1	1.0	SE	331965 350615	Canal	1872
2A	174.0	W	332361 351441	Cuttings	1980
3A	174.0	W	332361 351441	Cuttings	1974
4B	178.0	W	332315 351327	Cuttings	1992
5B	178.0	W	332315 351327	Cuttings	1989
6B	178.0	W	332315 351327	Cuttings	1985
7B	191.0	W	332312 351322	Cuttings	1974
8B	191.0	W	332312 351322	Cuttings	1980
9C	245.0	W	332275 351220	Cuttings	1974
10C	245.0	W	332275 351220	Cuttings	1980

4.2 Historical Underground Working Features derived from Historical Mapping

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

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

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	757.0	N	332862 352219	Colliery	1939
Not shown	793.0	N	332841 352109	Unspecified Shaft	1872

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	805.0	N	332804 352134	Unspecified Shafts	1872
Not shown	849.0	N	332719 352352	Unspecified Disused Mine	1974
Not shown	849.0	N	332719 352352	Unspecified Disused Mine	1964
Not shown	878.0	N	332847 352196	Unspecified Shafts	1872
Not shown	918.0	N	332858 352236	Unspecified Shaft	1872
Not shown	919.0	N	332855 352239	Unspecified Disused Shaft	1992

4.3 Current Ground Workings

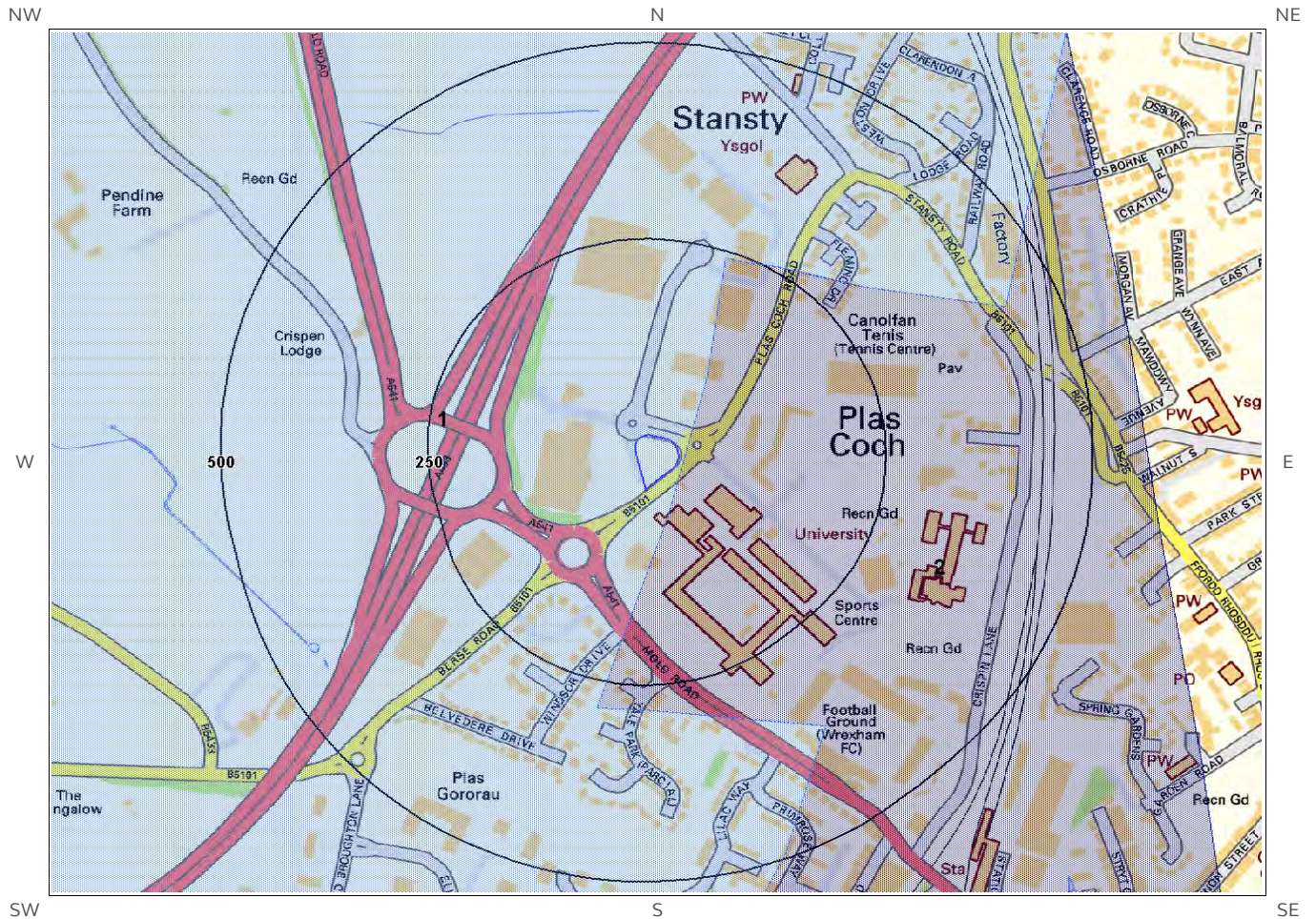
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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

The following Current Ground Workings information is provided by British Geological Survey:

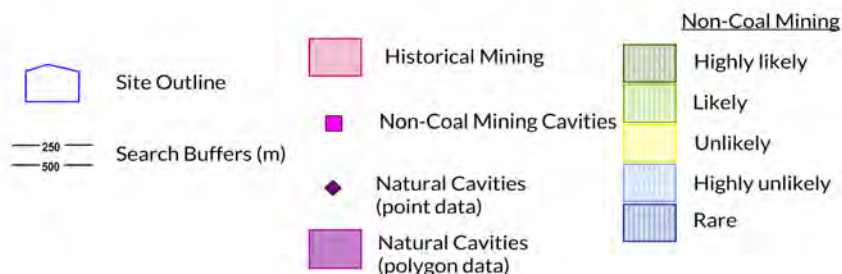
ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	953.0	NE	333031 352197	Sand	Wrexham Colliery Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

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

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

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	757.0	N	332862 352219	Colliery	1939
Not shown	793.0	N	332841 352109	Unspecified Shaft	1872
Not shown	805.0	N	332804 352134	Unspecified Shafts	1872
Not shown	849.0	N	332719 352352	Unspecified Disused Mine	1974
Not shown	849.0	N	332719 352352	Unspecified Disused Mine	1964
Not shown	878.0	N	332847 352196	Unspecified Shafts	1872
Not shown	918.0	N	332858 352236	Unspecified Shaft	1872
Not shown	919.0	N	332855 352239	Unspecified Disused Shaft	1992

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

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

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

Distance (m)	Direction	Details
0.0	On Site	The site lies in or in proximity to the coal mining reporting area as defined by the Coal Authority

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

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

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	6.0	E	Not available	Vein Mineral	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

5.5 Non-Coal Mining Cavities

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

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

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

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

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

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

Database searched and no data found.

5.8 Gypsum Extraction

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

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

Database searched and no data found.

5.9 Tin Mining

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

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

Database searched and no data found.

5.10 Clay Mining

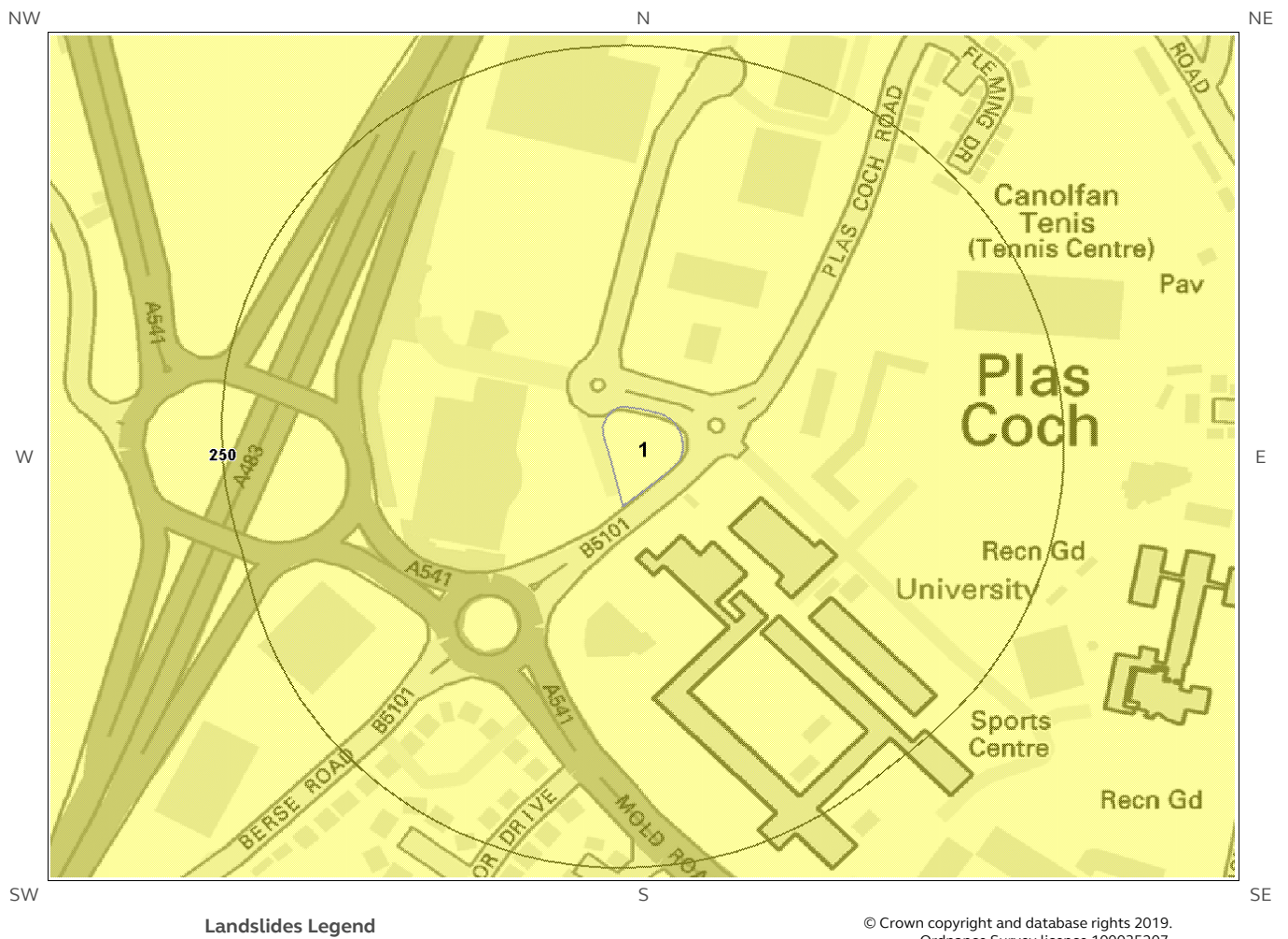
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

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

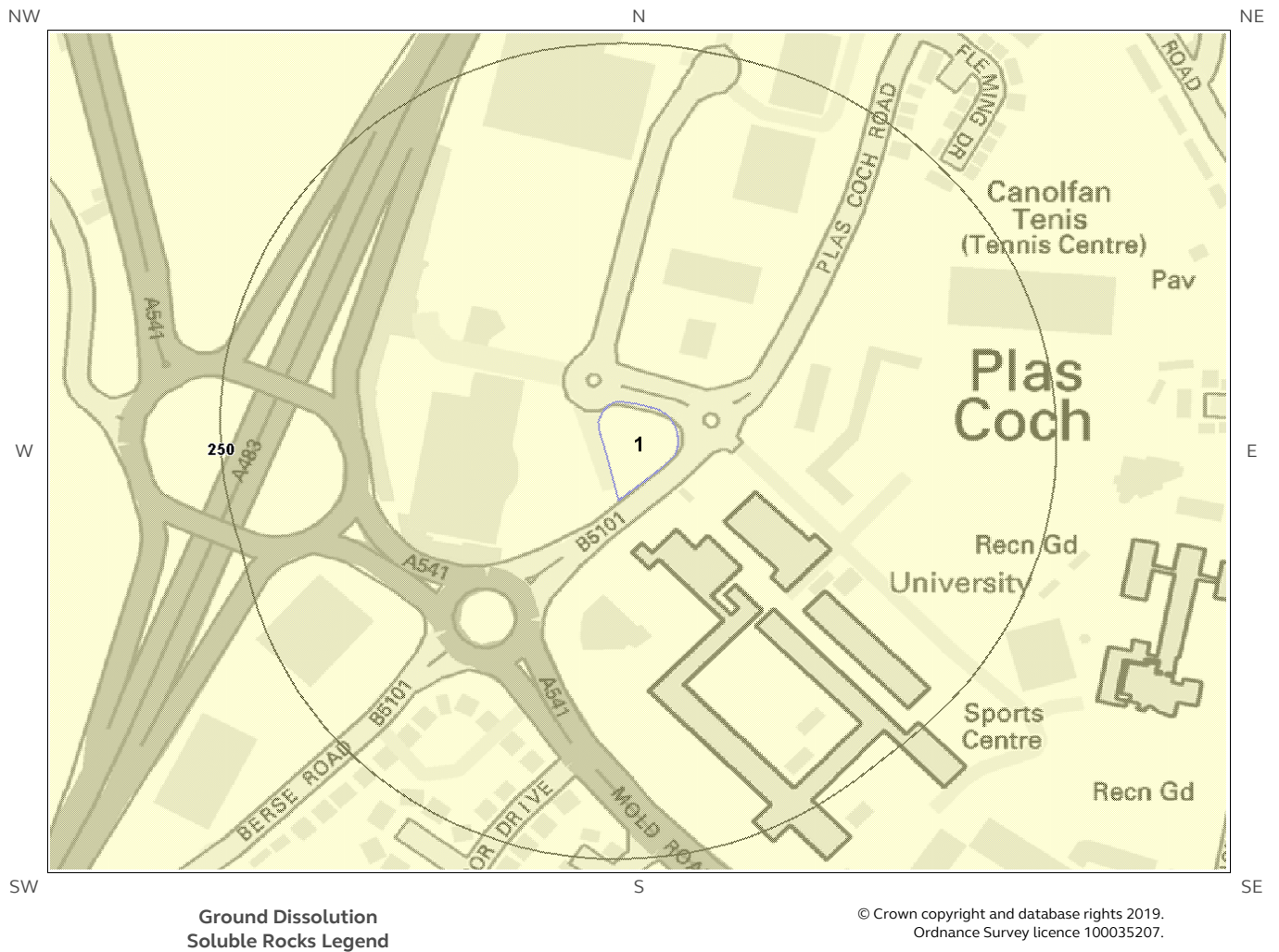
Database searched and no data found.



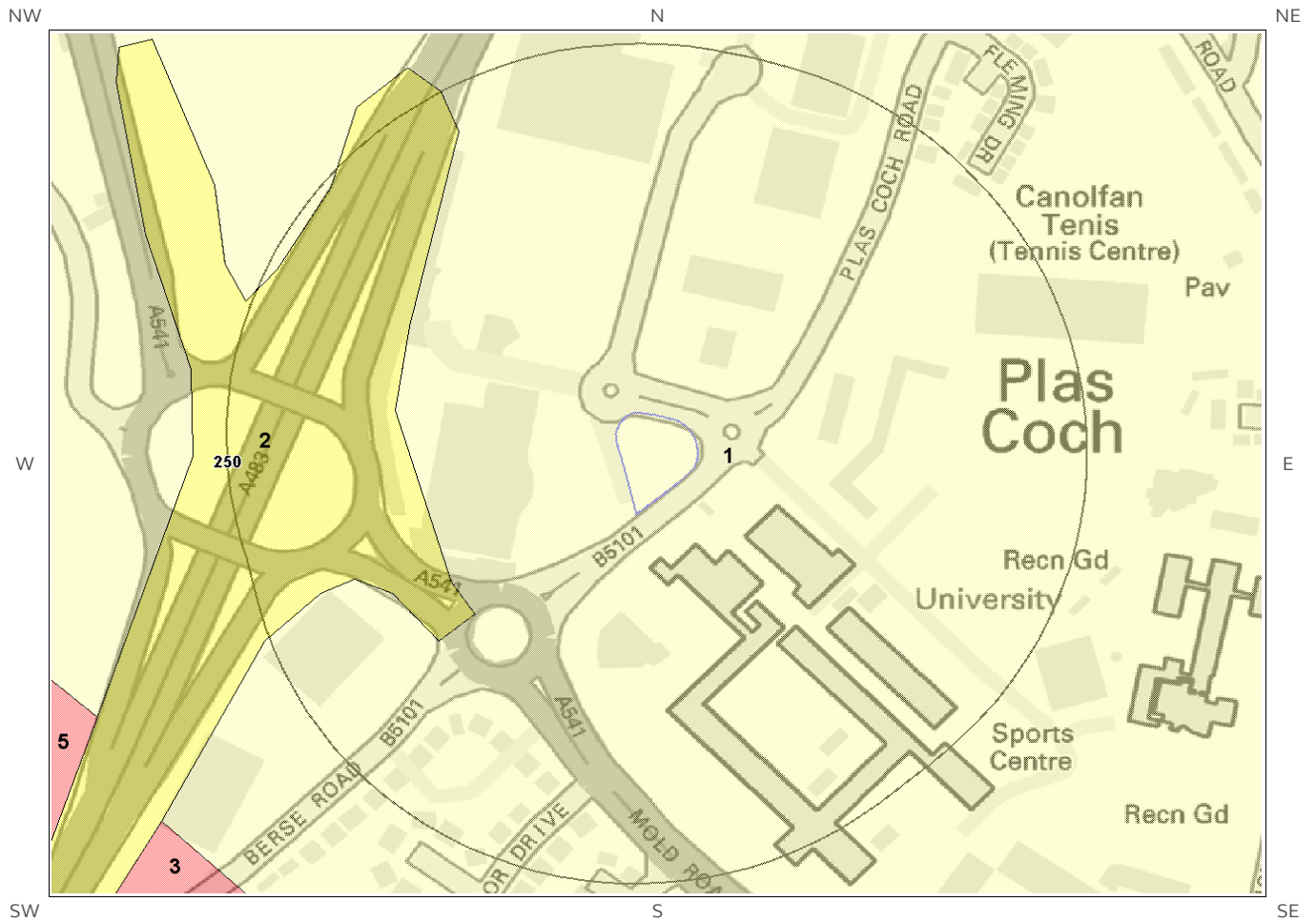
6.2 Landslides map



6.3 Ground Dissolution of Soluble Rocks map



6.4 Compressible Deposits map

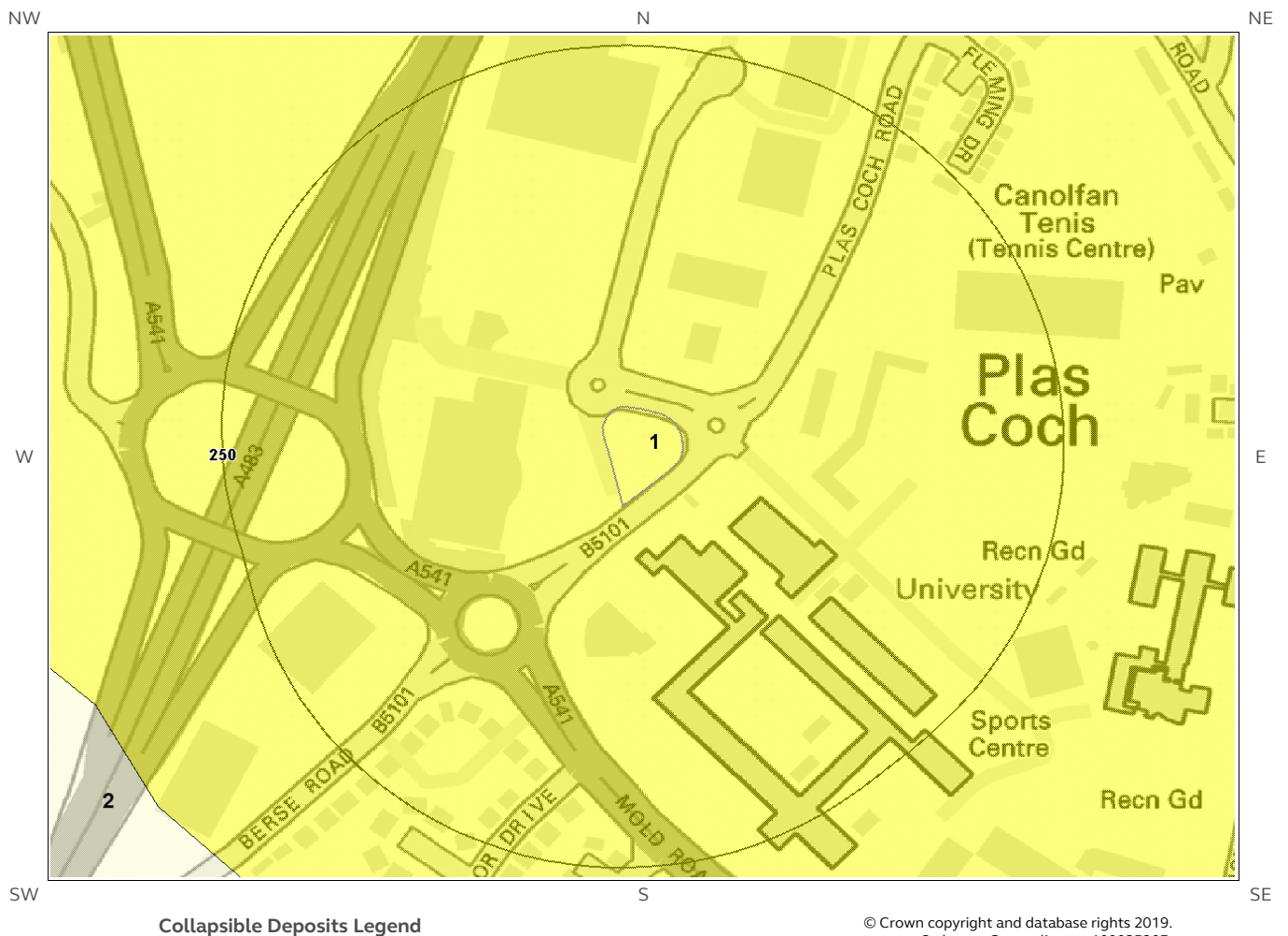


Compressible Deposits Legend

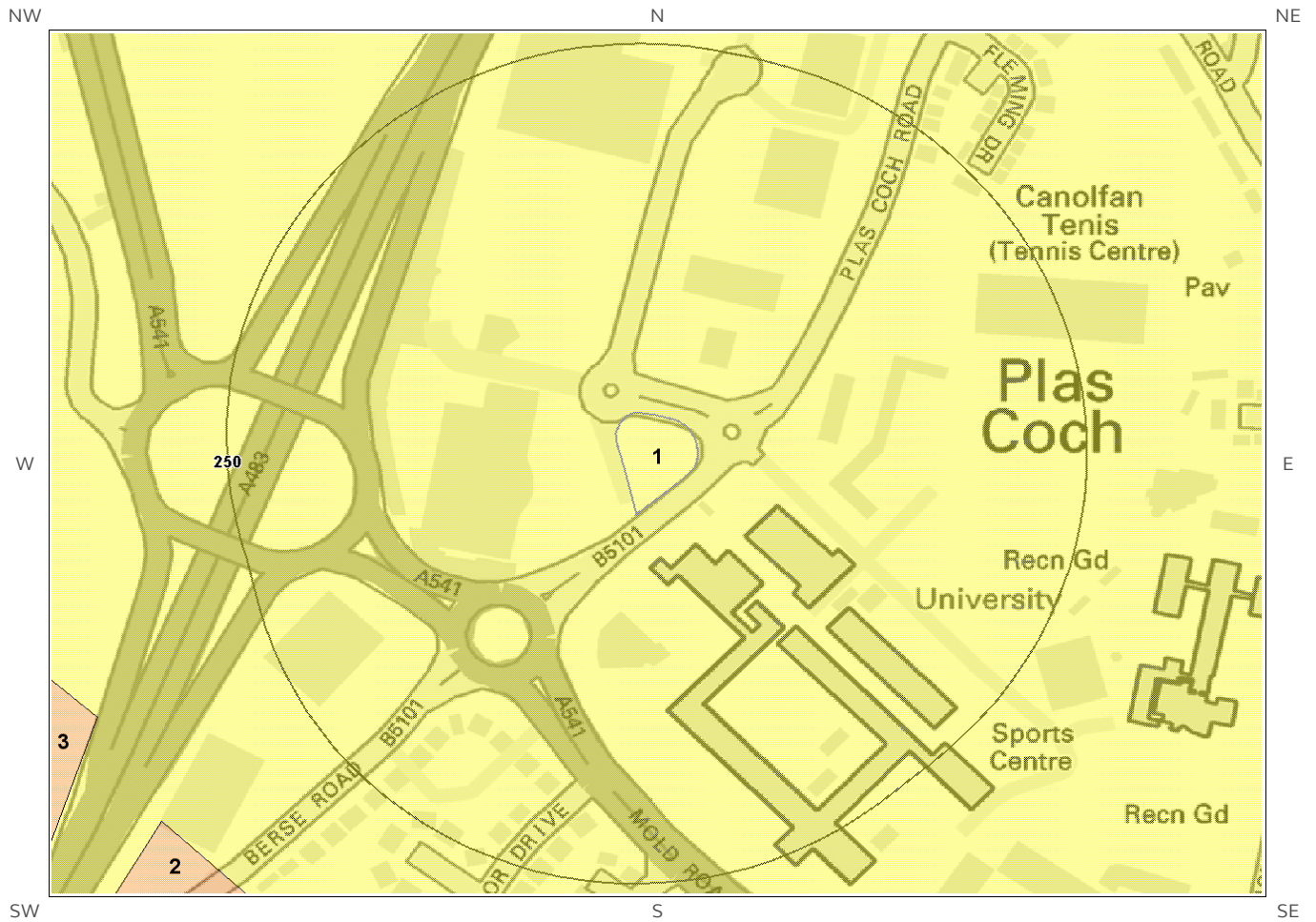
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6.5 Collapsible Deposits map



6.6 Running Sand map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Very Low**

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	25.0	N	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

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

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

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

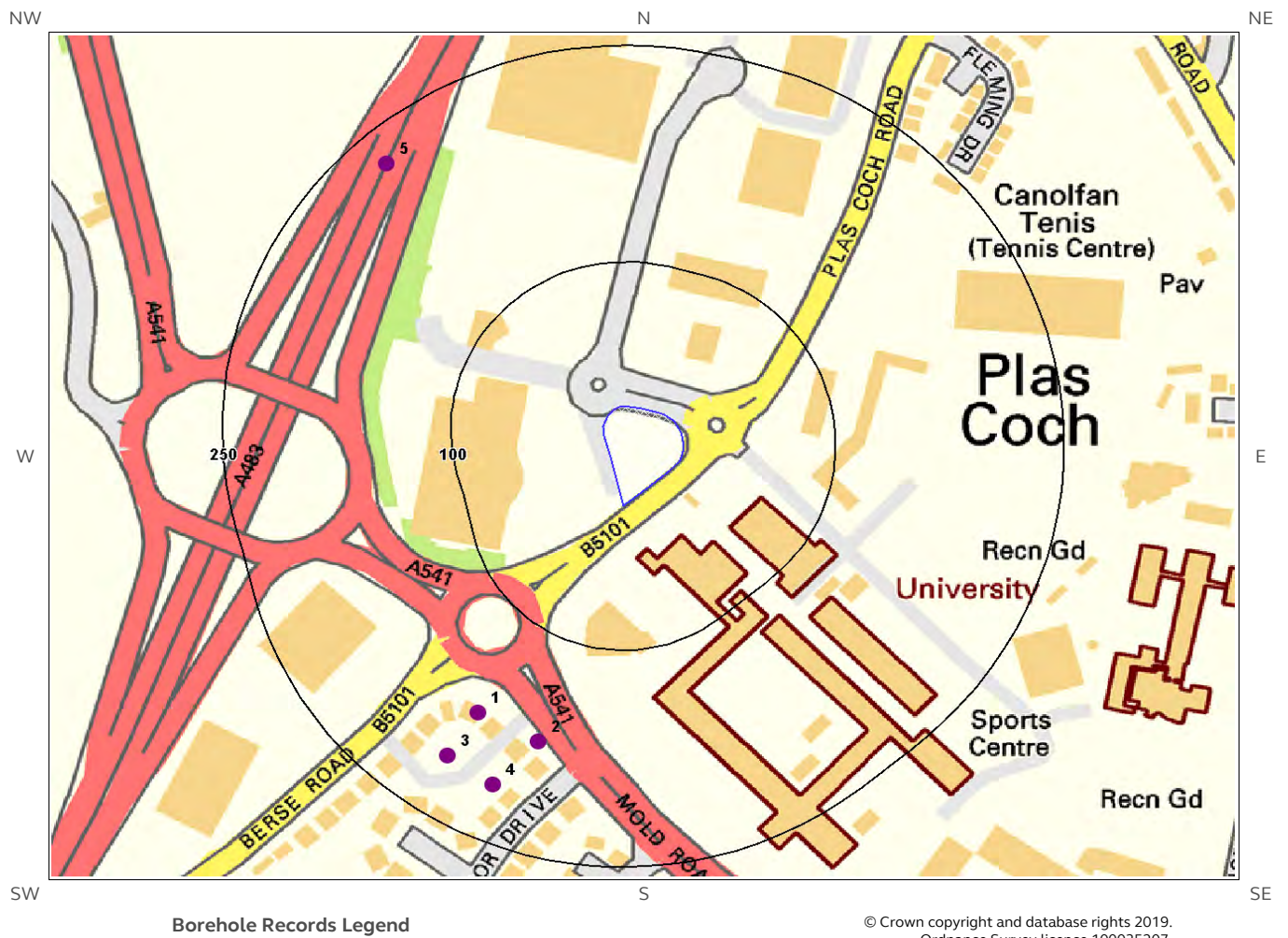
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible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

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records map



7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

5

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	172.0	SW	332460 351150	SJ35SW965	12	PLAS COCH WREXHAM 4
2	173.0	S	332500 351130	SJ35SW963	12	PLAS COCH WREXHAM 2
3	209.0	SW	332440 351120	SJ35SW964	12	PLAS COCH WREXHAM 3
4	212.0	SW	332470 351100	SJ35SW962	12	PLAS COCH WREXHAM 1
5	227.0	NW	332400 351530	SJ35SW781	3	WREXHAM BY-PASS A483 55

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

- #1: scans.bgs.ac.uk/sobi_scans/boreholes/155825
- #2: scans.bgs.ac.uk/sobi_scans/boreholes/155823
- #3: scans.bgs.ac.uk/sobi_scans/boreholes/155824
- #4: scans.bgs.ac.uk/sobi_scans/boreholes/155822
- #5: scans.bgs.ac.uk/sobi_scans/boreholes/155641

8 Estimated Background Soil Chemistry

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

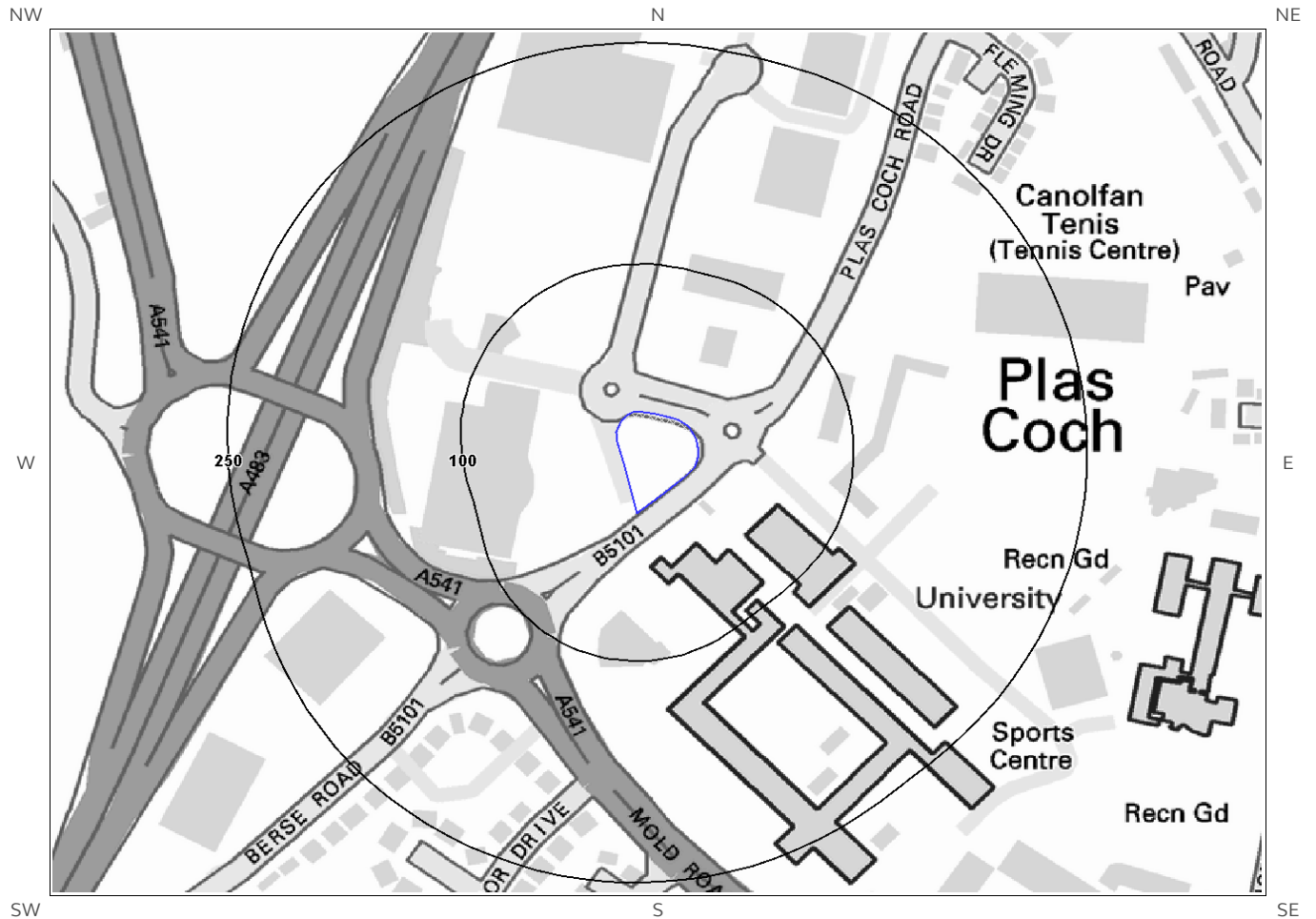
5

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

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
6.0	E	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
25.0	N	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
32.0	NE	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
43.0	W	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	200 - 300 mg/kg

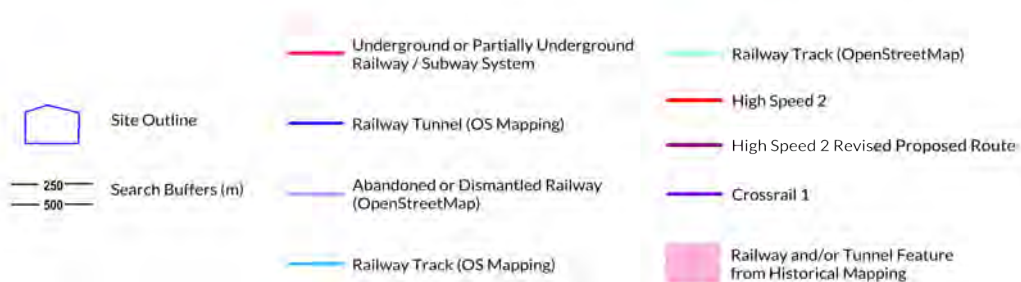
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

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

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

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

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

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Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

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The Coal Authority

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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-feb11-2019>

APPENDIX 2



Pam Brown Associates

2 LANCASTER PARK, NEWBOROUGH ROAD,
BURTON-ON-TRENT/NEEDWOOD, DE13 9PD

Groundsure
Reference:

GS-6089602

Your Reference: 1928-19_

Report Date

11 Jun 2019

Report Delivery Method: Email - pdf

Enviro Insight

Address: LAND OFF PLAS COCH RETAIL PARK, PLAS COCH, WREXHAM, LL11 2BA

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Address: LAND OFF PLAS COCH RETAIL PARK, PLAS COCH, WREXHAM, LL11 2BA
Date: 11 Jun 2019
Reference: GS-6089602
Client: Pam Brown Associates

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 07-May-2017
Grid Reference: 332567,351303
Site Size: 0.2380ha

Report Reference: GS-6089602
Client Reference: 1928-19_

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	15	60
1.2 Additional Information – Historical Tank Database	0	0	3	19
1.3 Additional Information – Historical Energy Features Database	0	2	12	23
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	9
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	9	25
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	2	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	3	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	2
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	1
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	5
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	6	6

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	2	2	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	Identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology				0-500m		
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site				Identified		
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site				Identified		
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	3	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	5
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	Yes	Yes
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	0	0	10	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Environment Agency Zone 2 floodplains within 250m of the study site	None identified					
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	None identified					
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low					
7.4 Flood Defences within 250m of the study site	None identified					
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified					
7.6 Areas used for Flood Storage within 250m of the study site	None identified					
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Potential at Surface					
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	Moderate					

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	1	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	8
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 Maximum risk of natural ground subsidence	Very Low
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Very Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Very Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	Full radon protective measures are necessary.

Section 10: Mining	
10.1 Coal mining areas within 75m of the study site	Identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	Identified
10.3 Brine affected areas within 75m of the study site	None identified

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licences, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

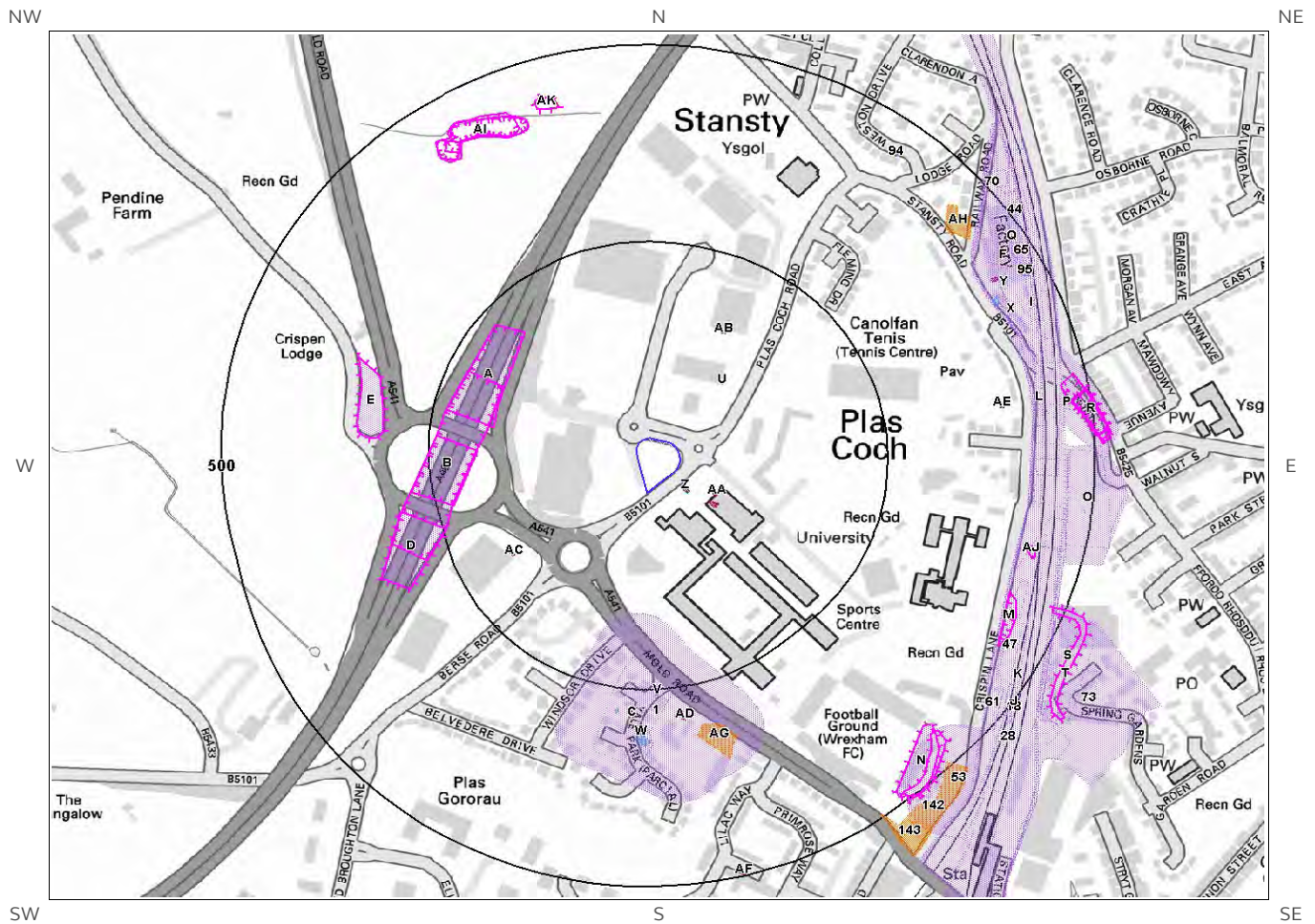
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

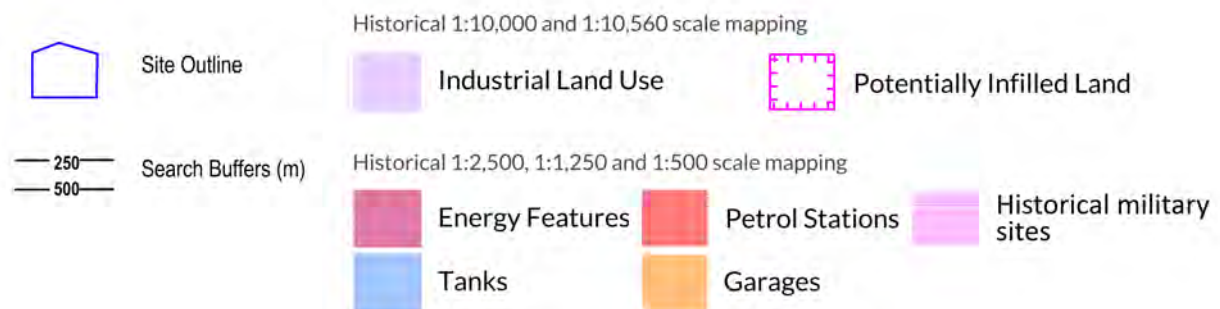
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 75

ID	Distance [m]	Direction	Use	Date
1	153	S	Omnibus Depot	1949
2A	174	W	Cuttings	1980
3A	174	W	Cuttings	1974
4B	178	W	Cuttings	1989
5B	178	W	Cuttings	1992
6B	178	W	Cuttings	1985
7B	191	W	Cuttings	1980
8B	191	W	Cuttings	1974
9C	210	S	Bus Depot	1989
10C	210	S	Bus Depot	1985
11C	210	S	Bus Depot	1992
12C	210	S	Bus Depot	1980
13C	210	S	Bus Depot	1974
14D	245	W	Cuttings	1980
15D	245	W	Cuttings	1974
16E	305	W	Unspecified Pit	1974
17E	305	W	Unspecified Pit	1980
18	419	E	Railway Sidings	1964
19I	419	NE	Railway Sidings	1964
20F	420	NE	Unspecified Factory	1989
21F	420	NE	Unspecified Factory	1985
22F	420	NE	Unspecified Factory	1980
23F	420	NE	Unspecified Factory	1974
24F	420	NE	Unspecified Factory	1992
25G	420	E	Railway Sidings	1974
26G	420	E	Railway Sidings	1980
27K	421	E	Railway Sidings	1938
28	421	E	Railway Sidings	1992
29H	422	E	Railway Sidings	1949
30H	422	E	Railway Sidings	1938
31I	422	E	Railway Sidings	1872
32I	422	E	Railway Sidings	1909
33J	423	E	Railway Sidings	1985
34J	423	E	Railway Sidings	1989

35F	423	NE	Locomotive Works	1909
36F	424	NE	Railway Sidings	1898
37F	424	NE	Locomotive Works	1898
38F	424	NE	Locomotive Works	1949
39F	424	NE	Unspecified Commercial/Industrial	1938
40X	425	NE	Railway Buildings	1964
41K	426	E	Railway Sidings	1898
42AJ	428	E	Unspecified Heap	1872
43M	429	E	Unspecified Heap	1872
44	431	NE	Railway Sidings	1938
45L	432	E	Carriage Shed	1872
46L	433	E	Railway Building	1964
47	437	E	Railway Sidings	1909
48Y	440	NE	Railway Building	1938
49N	440	SE	Unspecified Heap	1964
50M	444	E	Railway Sidings	1909
51J	446	E	Railway Sidings	1872
52Q	448	NE	Railway Buildings	1964
53	452	SE	Drill Shed	1898
54I	453	NE	Goods Shed	1872
55N	453	SE	Unspecified Ground Workings	1974
56N	453	SE	Unspecified Ground Workings	1980
57	457	E	Railway Sidings	1909
58P	466	E	Railway Building	1872
59O	466	E	Unspecified Depot	1974
60O	466	E	Unspecified Depot	1980
61	466	SE	Railway Building	1992
62P	467	E	Cuttings	1872
63O	469	E	Unspecified Depot	1992
64Q	471	NE	Railway Buildings	1938
65	472	NE	Railway Building	1872
66R	476	E	Cuttings	1909
67R	477	E	Cuttings	1938
68R	477	E	Cuttings	1949
69R	477	E	Cuttings	1938
70	478	NE	Railway Buildings	1964
71S	485	E	Unspecified Ground Workings	1909
72S	486	E	Unspecified Works	1964
73	493	SE	Unspecified Depot	1992
74T	495	SE	Unspecified Commercial/Industrial	1980
75T	495	SE	Unspecified Commercial/Industrial	1974

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

22

ID	Distance (m)	Direction	Use	Date
76U	97	NE	Unspecified Tank	1957
77U	97	NE	Unspecified Tank	1968
78U	97	NE	Unspecified Tank	1958
79V	252	S	Unspecified Tank	1958
80V	253	S	Unspecified Tank	1957
81C	276	S	Unspecified Tank	1958
82C	276	S	Unspecified Tank	1957
83W	301	S	Tanks	1992
84W	301	S	Tanks	1970
85W	302	S	Tanks	1989
86W	302	S	Tanks	1982
87W	302	S	Tanks	1978
88W	302	S	Tanks	1988
89W	309	S	Tanks	1989
90W	309	S	Tanks	1970
91X	423	NE	Unspecified Tank	1957
92X	424	NE	Unspecified Tank	1958
93Y	429	NE	Unspecified Tank	1937
94	454	NE	Unspecified Tank	1912
95	470	NE	Unspecified Tank	1912
96O	490	E	Unspecified Tank	1990
97O	490	E	Unspecified Tank	1973

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

37

ID	Distance (m)	Direction	Use	Date
98Z	18	SE	Electricity Substation	1994
99Z	19	SE	Electricity Substation	1994

100AA	54	SE	Electricity Substation	1992
101AA	56	SE	Electricity Substation	1988
102AA	58	SE	Electricity Substation	1968
103AA	58	SE	Electricity Substation	1975
104AA	58	SE	Electricity Substation	1994
105AB	153	NE	Electricity Substation	1994
106AB	153	NE	Electricity Substation	1992
107AB	153	NE	Electricity Substation	1994
108AB	153	NE	Electricity Substation	1994
109AC	177	SW	Electricity Substation	1992
110AC	177	SW	Electricity Substation	1988
111AC	177	SW	Electricity Substation	1988
112AD	286	S	Electricity Substation	1988
113AD	286	S	Electricity Substation	1975
114AD	286	S	Electricity Substation	1968
115AD	287	S	Electricity Substation	1992
116AD	287	S	Electricity Substation	1994
117AD	287	S	Electricity Substation	1994
118AD	287	S	Electricity Substation	1994
119AE	390	E	Electricity Substation	1988
120AE	390	E	Electricity Substation	1994
121AE	390	E	Electricity Substation	1992
122AE	390	E	Electricity Substation	1994
123AE	390	E	Electricity Substation	1994
124AE	391	E	Electricity Substation	1975
125AE	391	E	Electricity Substation	1968
126Y	435	NE	Electricity Substation	1990
127Y	435	NE	Electricity Substation	1985
128Y	435	NE	Electricity Substation	1975
129Y	435	NE	Electricity Substation	1973
130AF	494	S	Electricity Substation	1992
131AF	494	S	Electricity Substation	1989
132AF	494	S	Electricity Substation	1982
133AF	494	S	Electricity Substation	1988
134AF	494	S	Electricity Substation	1978

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:

0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 9

ID	Distance (m)	Direction	Use	Date
135AG	301	S	Garage	1982
136AG	301	S	Garage	1978
137AG	301	S	Garage	1988
138AG	301	S	Garage	1970
139AH	427	NE	Garage	1975
140AH	427	NE	Garage	1973
141AH	431	NE	Garage	1985
142	493	SE	Garage	1982
143	496	SE	Garage	1989

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary: 0

Database searched and no data found.

1.7 Potentially Infilled Land

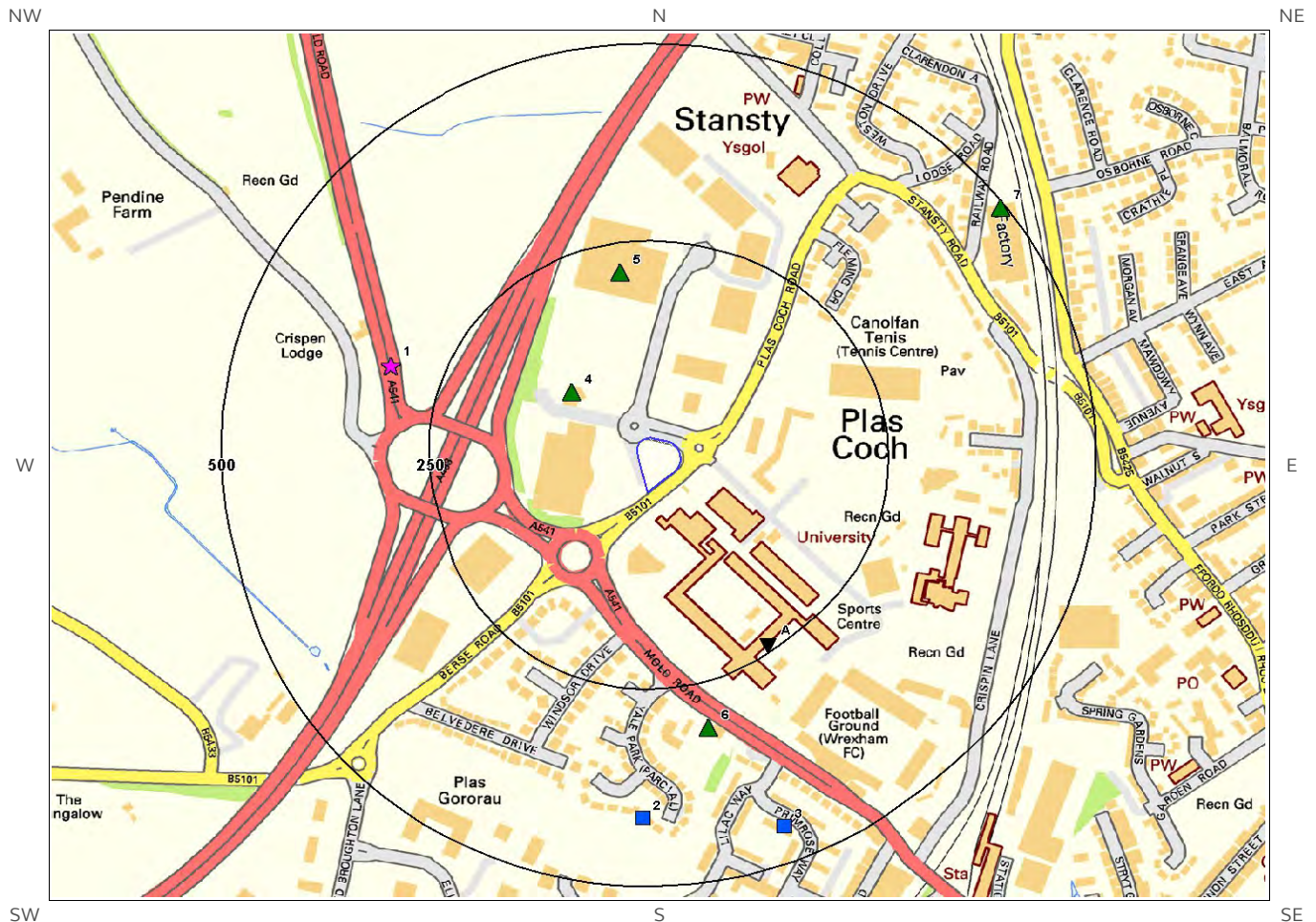
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 34

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
144A	174	W	Cuttings	1980
145A	174	W	Cuttings	1974
146B	178	W	Cuttings	1992
147B	178	W	Cuttings	1985
148B	178	W	Cuttings	1989
149B	191	W	Cuttings	1974
150B	191	W	Cuttings	1980
151D	245	W	Cuttings	1974
152D	245	W	Cuttings	1980

153E	305	W	Unspecified Pit	1974
154E	305	W	Unspecified Pit	1980
155AI	415	N	Pond	1938
156AI	416	N	Pond	1898
157AI	416	N	Pond	1949
158AI	416	N	Pond	1938
159AI	416	N	Pond	1872
160AI	416	NW	Pond	1964
161AI	416	NW	Pond	1974
162AI	416	NW	Pond	1980
163AJ	428	E	Unspecified Heap	1872
164M	429	E	Unspecified Heap	1872
165AK	434	N	Pond	1938
166AK	434	N	Pond	1898
167AK	434	N	Pond	1949
168AK	434	N	Pond	1872
169N	440	SE	Unspecified Heap	1964
170N	453	SE	Unspecified Ground Workings	1980
171N	453	SE	Unspecified Ground Workings	1974
172R	467	E	Cuttings	1872
173R	476	E	Cuttings	1909
174R	477	E	Cuttings	1938
175R	477	E	Cuttings	1949
176R	477	E	Cuttings	1938
177S	485	E	Unspecified Ground Workings	1909

2. Environmental Permits, Incidents and Registers Map



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- | | | |
|---|---|--|
|  Site Outline |  Recorded Pollution Incident |  RAS 3 & 4 Authorisations |
|  Dangerous Substances (List 1) |  Dangerous Substances (List 2) |  Part A(1) Authorised Processes and Historic IPC Authorisations |
|  Water Industry Referrals |  Licenced Discharge Consents |  Part A(2) and Part B Authorised Processes |
|  Red List Discharge Consents |  COMAH / NIHHS Sites |  Sites Determined as Contaminated Land |
| |  Hazardous Substance Consents and Enforcements | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

4

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
4	103	NW	332465 351417	Address: Sainsbury's Petrol Filling Station, Plas Coch Road, Wrexham, LL11 2BW Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
5	211	N	332523 351570	Address: Johnsons Cleaners UK Ltd, Sainsbury Superstore, Plas Coch Road, Stansty, Wrexham, LL11 2BW Process: Dry Cleaning Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
6	310	S	332628 350991	Address: Shell UK Ltd, Mold Road, Wrexham, LL11 2AF Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.
7	493	NE	332981 351652	Address: Remploi Ltd, Furniture Group, Railway Road, Rhosddu, Wrexham, LL11 2DN Process: Timber Manufacture Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified. Date of Enforcement: No Enforcement Notified. Comment: No Enforcement Notified.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

3

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
11A	241	SE	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre, North East Wales Institute, Plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BW8569	Date of Approval: 1/12/2003 Effective from: 1/1/2004 Last date of update: 2015-01-01	Revoked/cancelled
12A	241	SE	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre, North East Wales Institute, Plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	AW1209	Date of Approval: 21/1/1997 Effective from: 21/1/1997 Last date of update: 2015-01-01	Revoked/cancelled

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
13A	241	SE	332700 351100	Glyndwr University, Multidisciplinary Research And Innovation Centre, North East Wales Institute, Plas Coch, Wrexham, Clwyd, LL11 2AW	Glyndwr University	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AW1233	Date of Approval:15/1 /1997 Effective from:21/1/19 97 Last date of update:2015- 01-01	Supersede d By Variation

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

2

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
2	413	S	332550 350880	Address: WREXHAM MOLD ROAD DEPOT, MOLD ROAD DEPOT Effluent Type: UNSPECIFIED Permit Number: CM0026101 Permit Version: 1 Receiving Water: UN-NAMED TRIB. OF GWENFRO Status: CONSENT EXPIRED - TIME LIMIT Issue date: 21/12/1964 Effective Date: 21-Dec-1964 Revocation Date: 06/01/1993
3	454	S	332720 350870	Address: WREXHAM MOLD ROAD DEPOT, MOLD ROAD DEPOT Effluent Type: UNSPECIFIED Permit Number: CM0062401 Permit Version: 1 Receiving Water: UN-NAMED TRIB. OF GWENFRO Status: CONSENT EXPIRED - TIME LIMIT Issue date: 16/06/1970 Effective Date: 16-Jun-1970 Revocation Date: 06/01/1993

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

1

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	315	W	332246.0 351453.0	Incident Date: 18-May-2015 Incident Identification: 1338068.0 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

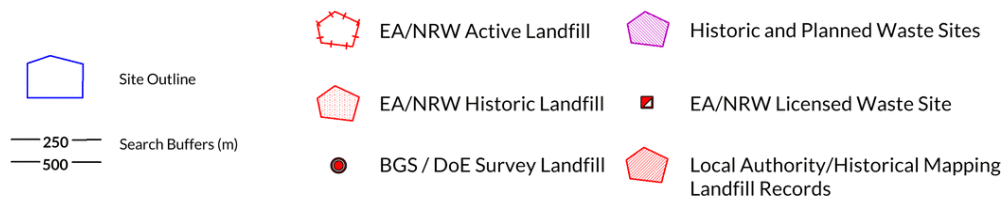
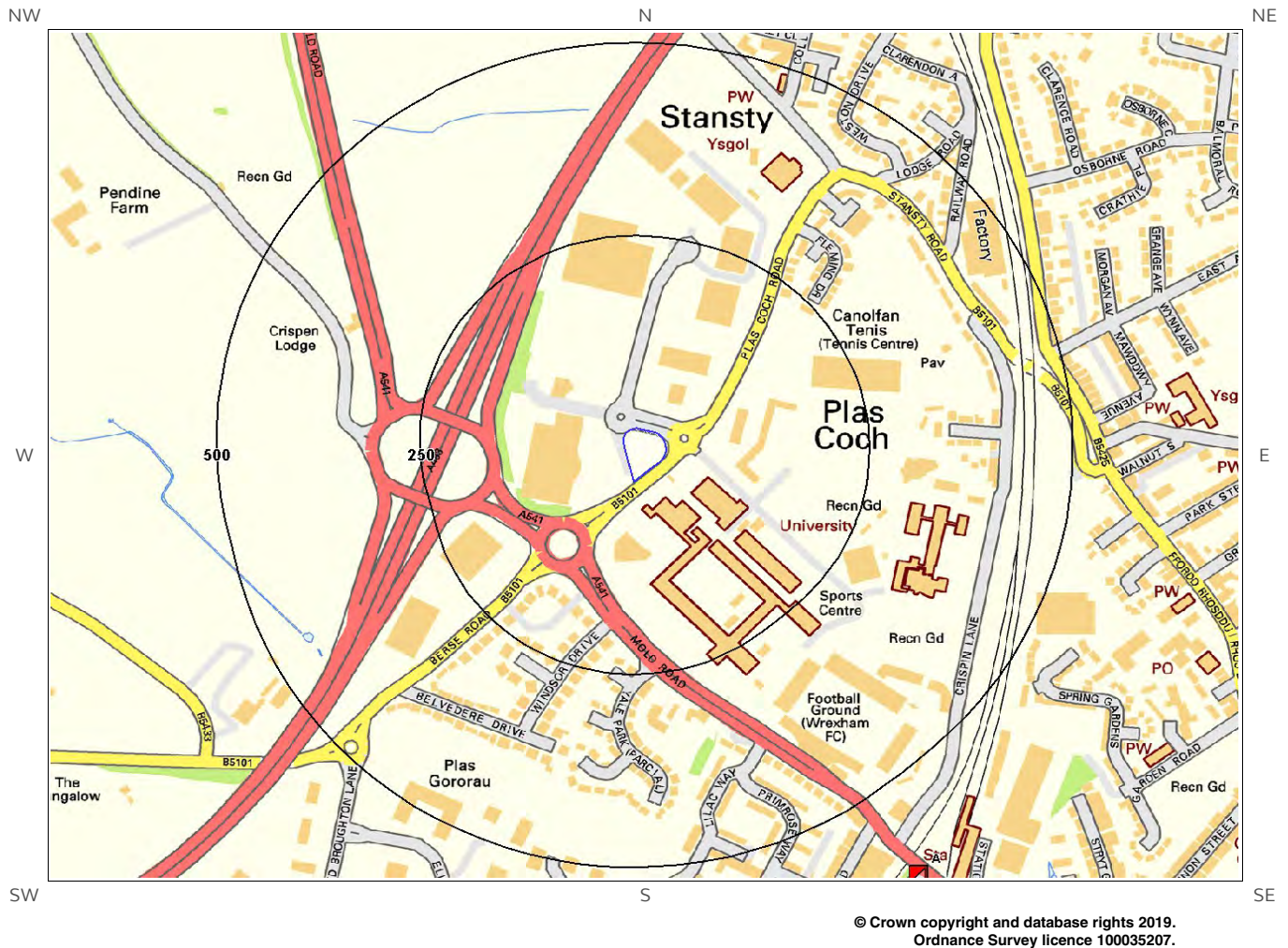
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site

0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

5

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	1025	N		Site Address: Holmes Plant Hire Waste Licence: Yes Site Reference: - Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: D S Holmes Builders Limited First Recorded: 01-Jan-1990 Last Recorded: 18-Feb-1991
Not shown	1072	SW		Site Address: Berse Drelincourt Waste Licence: Yes Site Reference: WMBC L/34 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 29-May-1981 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Mr L G Hockey First Recorded: 01-Jan-1981 Last Recorded: 31-Dec-1985
Not shown	1272	SE		Site Address: Parciau Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Wrexham Borough Council Licence Holder: Wrexham Borough Council First Recorded: 01-Jan-1969 Last Recorded: 31-Dec-1972
Not shown	1358	NW		Site Address: Stansty Gardens Waste Licence: Yes Site Reference: WMBC L/41 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 28-Jul-1983 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Sinclair Developments Limited First Recorded: 31-Jul-1983 Last Recorded: -

ID	Distance (m)	Direction	NGR	Details
Not shown	1364	NW		Site Address: Rosenheath Waste Licence: Yes Site Reference: WMBC L/37 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 08-Aug-1984 Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Mr C Butler First Recorded: 31-Aug-1984 Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

2

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1266	SE	333144 350021	Parciau	Wrexham Council	Polygon
Not shown	1455	SE	333182 349937	Refuse Tip	1971 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

12

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
6A	616	SE	332906	Site Address: Mold Road, Wrexham, Issue Date: 29/09/1992

ID	Distance (m)	Direction	NGR	Details
			350786	Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JAC001 EPR reference: LP3194FV/V002 Operator: Jacques Garage Waste Management licence No: 37037 Annual Tonnage: 5000.0 Effective Date: - Modified: 30/11/2001 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Expired Site Name: Jacques Garage Correspondence Address: -
7A	617	SE	332905 350785	Site Address: Jacques Garage, Wrexham, Wrexham, LL11 2AD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: Jacques Garage Waste Management licence No: 0 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
8A	617	SE	332905 350785	Site Address: Jacques Garage, , , , Wrexham, Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: - Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: Jacques Garage Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: 24/04/2007 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
9A	617	SE	332905 350785	Site Address: Jacques Garage, , , , Wrexham, Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: - Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: Jacques Garage Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: 24/04/2007 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
10A	617	SE	332905 350785	Site Address: Jacques Garage, Wrexham, Clwyd, LL11 2AD Type: Metal Recycling Site (Vehicle Dismantler) Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: - Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: 24/04/2007 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
11A	617	SE	332905 350785	Site Address: Jacques Garage, Clwyd, Wrexham, Wrexham, LL11 2AD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LP3194FV EPR reference: - Operator: Jacques Garage Waste Management licence No: 37037 Annual Tonnage: 5000.0 Issue Date: 29/09/1992 Effective Date: 29/09/1992 Modified: - Surrendered Date: - Expiry Date: 24/04/2007 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
Not shown	1013	N	332843 352336	Site Address: T Milner & Son, Wrexham, Clwyd, LL11 4YL Issue Date: 31/03/1999 Effective Date: 31/03/1999

ID	Distance (m)	Direction	NGR	Details	
				Type: Metal Recycling Site (mixed MRS's) Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: - Waste Management licence No: 37161 Annual Tonnage: 0.0	Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: -
Not shown	1013	N	332843 352336	Site Address: T Milner & Son, Wrexham, Wrexham, LL11 4YL Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: Thomas Milner & Stephen Milner Waste Management licence No: 0 Annual Tonnage: 0.0	Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: -
Not shown	1013	N	332843 352336	Site Address: T Milner & Son, , , Wrexham, Clwyd, LL11 4YL Type: Metal Recycling Site (mixed MRS's) Size: - Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: Thomas Milner & Stephen Milner Waste Management licence No: 37161 Annual Tonnage: 0.0	Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: -
Not shown	1013	N	332843 352336	Site Address: T Milner & Son, Clwyd, Wrexham, Wrexham, LL11 4YL Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: Thomas Milner & Stephen Milner Waste Management licence No: 37161 Annual Tonnage: 0.0	Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: -
Not shown	1013	N	332843 352336	Site Address: T Milner & Son, , , Wrexham, Clwyd, LL11 4YL Type: Metal Recycling Site (mixed MRS's) Size: - Environmental Permitting Regulations (Waste) Licence Number: EP3194FT EPR reference: - Operator: Thomas Milner & Stephen Milner Waste Management licence No: 37161 Annual Tonnage: 0.0	Issue Date: 31/03/1999 Effective Date: 31/03/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: - Correspondence Address: -
Not shown	1015	N	332844 352337	Site Address: Rhosddu Ind Est, Rhosddu, Wrexham, Clwyd, LL11 4YL Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THO002 EPR reference: EP3194FT/A001 Operator: Thomas Milner & Stephen Milner Waste Management licence No: 37161 Annual Tonnage: 4520.0	Issue Date: 31/03/1999 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Revoked Site Name: T Milner & Son Correspondence Address: -



4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

4

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	24	SE	Electricity Sub Station	332601 351299	Clwyd, LL11	Electrical Features	Infrastructure and Facilities
2	49	SE	Chimney	332606 351270	Clwyd, LL11	Chimneys	Industrial Features
3	133	W	Electricity Sub Station	332412 351372	Clwyd, LL11	Electrical Features	Infrastructure and Facilities
4	179	SW	Electricity Sub Station	332395 351216	Clwyd, LL11	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

2

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
5	95	NW	332469 351412	SAINSBURYS	Plas Coch Road, Wrexham, Wrexham, LL11 2BA	No	Open
6	324	S	332642 350981	SHELL	Mold Road, Wrexham, Wrexham, LL11 2AF	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

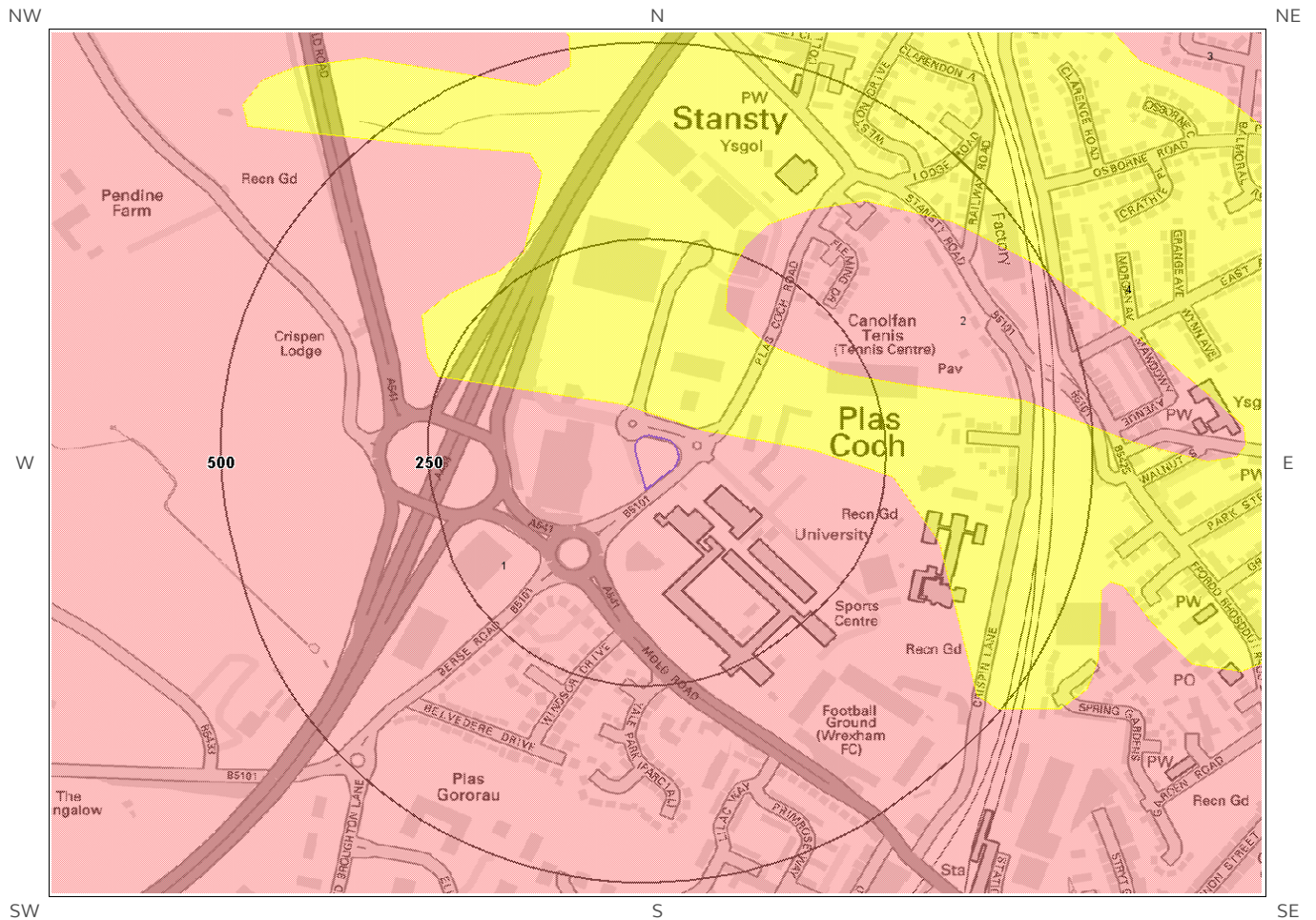
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
PLMC-MDSS	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED)	MUDSTONE, SILTSTONE AND SANDSTONE
ETM-MDST	ETRURIA FORMATION	MUDSTONE

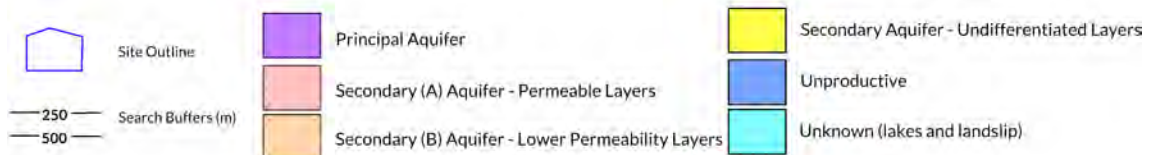
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



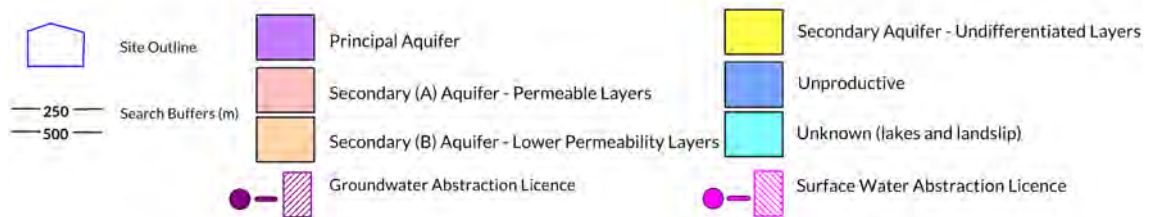
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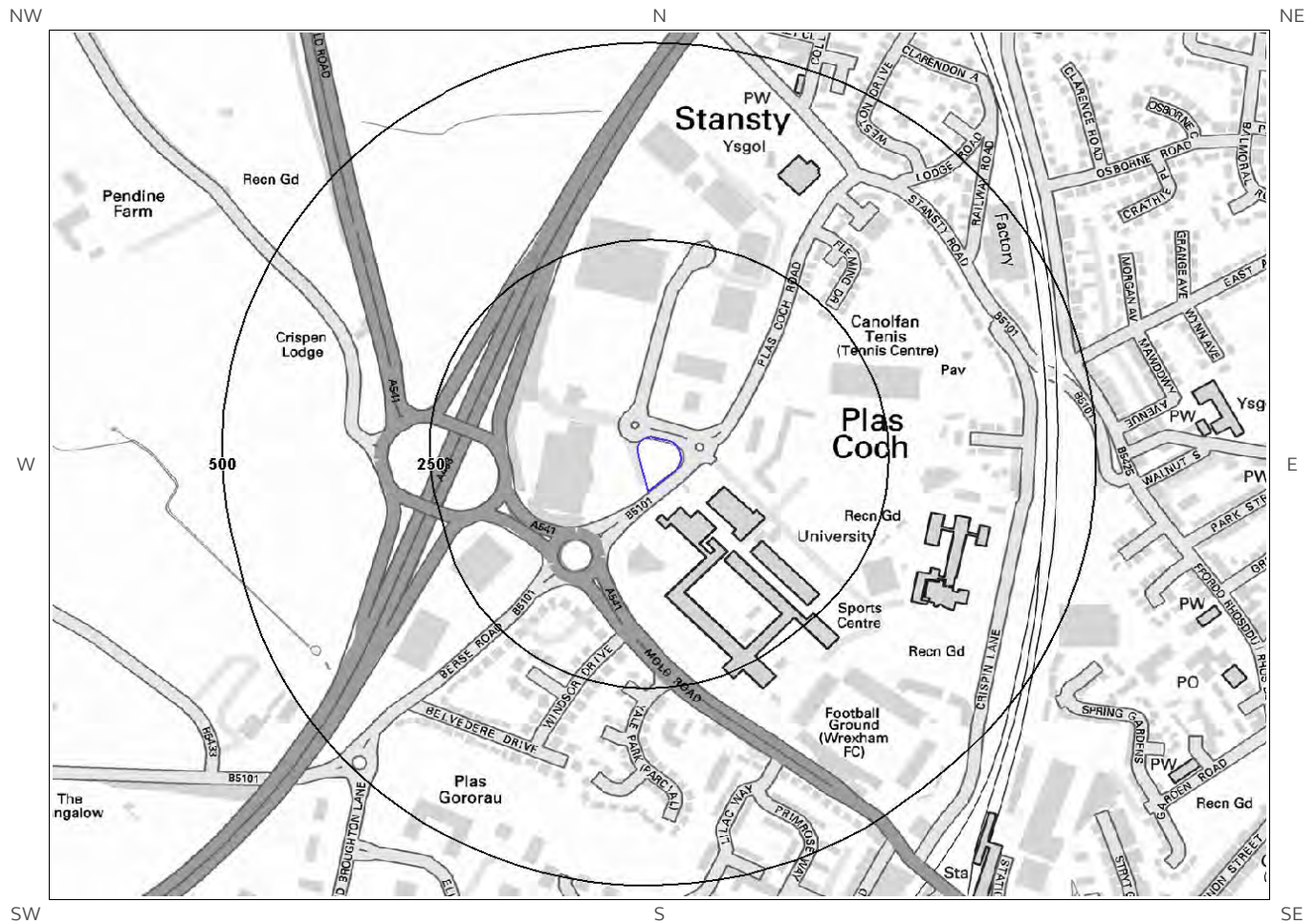
6b. Aquifer Within Bedrock Geology and Abstraction Licences



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