

Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

Wrexham Sheltered Housing – Llys y Mynydd, Rhosllanerchrugog

Ellis Williams Architects

Coal Mining Risk Assessment

Prepared by:

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WREXHAM SHELTERED HOUSING – LLYS Y MYNYDD, RHOSLLANERCHRUGOG**TABLE OF CONTENTS**

1.0	INTRODUCTION	3
1.1	Background	3
1.2	Scope of the Coal Mining Risk Assessment.....	3
1.3	Site Location and Description	3
1.4	Development Proposals.....	4
2.0	DESK STUDY.....	5
2.1	Sources of Information	5
2.2	Site History	5
2.3	Published Geology	6
2.4	Coal Mining Report	6
2.5	Historical Borehole Records.....	8
3.0	ASSESSMENT OF SITE-SPECIFIC RISK FACTORS.....	10
3.1	Potential Coal Mining Legacy.....	10
3.2	Identified Risks.....	10
3.3	Mitigation Strategy	12
4.0	CONCLUSION AND RECOMMENDATIONS.....	13
4.1	Summary of Risks.....	13
4.2	Recommendations.....	13

APPENDICES

Appendix A	Existing and Proposed Site Layout Plans
Appendix B	Site History (Ordnance Survey maps)
Appendix C	CON29M Coal Mining Report
Appendix D	BGS Historical Borehole Logs

1.0 INTRODUCTION

1.1 Background

- 1.1.1 A planning application has been made to Wrexham Council regarding the proposed refurbishment and redevelopment of Llys y Mynydd, Hall Street, Rhosllanerchrugog, Wrexham. The Coal Authority have requested that a Coal Mining Risk Assessment would need to be undertaken to support the planning application.
- 1.1.2 Caulmert Limited have been commissioned by Ellis Williams Architects to prepare a Coal Mining Risk Assessment Report of the proposed development site, in order to provide The Coal Authority and the local authority with information on coal mining, including an assessment of its impact on land stability at the application site.

1.2 Scope of the Coal Mining Risk Assessment

- 1.2.1 The purpose of this Coal Mining Risk Assessment Report is to:
- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site at this stage of the planning process. For the purposes of this report the term Coal Mining also includes the mining of other stratified minerals including ironstone, fireclay and limestone.
 - Use that information to identify and assess the risks (if any) to the proposed development from a Coal Mining legacy, including the cumulative impact of such issues.
 - Set out any appropriate mitigation measures to address the Coal Mining legacy affecting the site, including any necessary precautionary &/or remedial works, and to demonstrate to what extent Coal Mining issues have influenced or will influence the proposed development.
 - Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable or potentially unstable land.

1.3 Site Location and Description

- 1.3.1 The site is located off the junction of Campbell Street and Hall Street in Rhosllanerchrugog, approximately 4 miles to the south west of Wrexham town centre. The site is roughly triangular in shape, measuring approximately 100m at its widest point, with a site area of 3975m². The site can be accessed off Mountain Street to the north, Campbell Street to the east and Hall Street to the west. The site and surrounding area are relatively level, at an approximate elevation of 175mAOD.
- 1.3.2 The site is occupied by a two-storey block of flats, built in 1978, with soft landscaped areas surrounding. A limited number of car parking spaces is provided in the southern area of the

site. The surrounding area is predominantly residential to the north, east and south. The Sun Inn Public House lies to the north west and Coppi Industrial Estate lies further to the west.

- 1.3.3 The existing site plan is shown in more detail on Michael Dyson Associates Ltd drawing No. 001-(LLYS Y MYNYDD)-7990 and presented in Appendix 1, an extract is provided below.

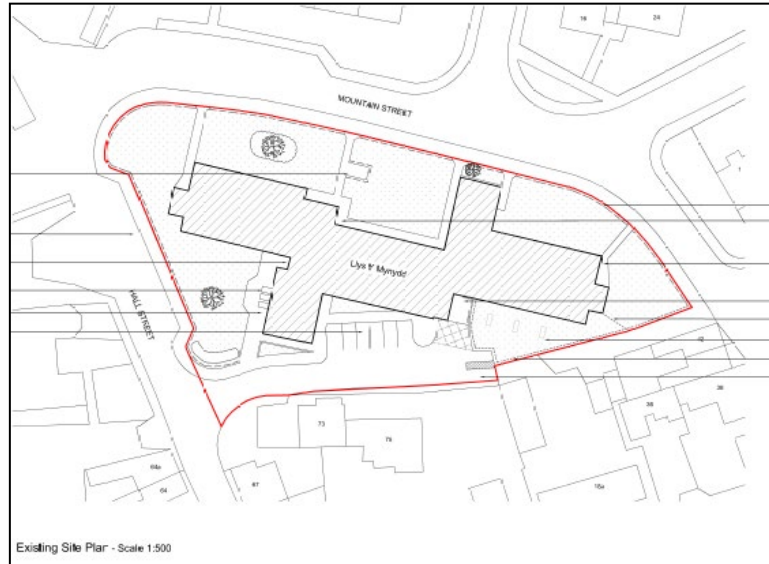


Figure 1: Extract of the existing site plan

1.4 Development Proposals

- 1.4.1 The proposed development will comprise the re-modelling and refurbishment of existing building layout, provision of additional car parking spaces and re-development of external areas.
- 1.4.2 The proposed development is shown in more detail on Michael Dyson Associates Ltd drawing No. 051-(LLYS Y MYNYDD)-7990 and presented in Appendix 1, an extract is provided below.

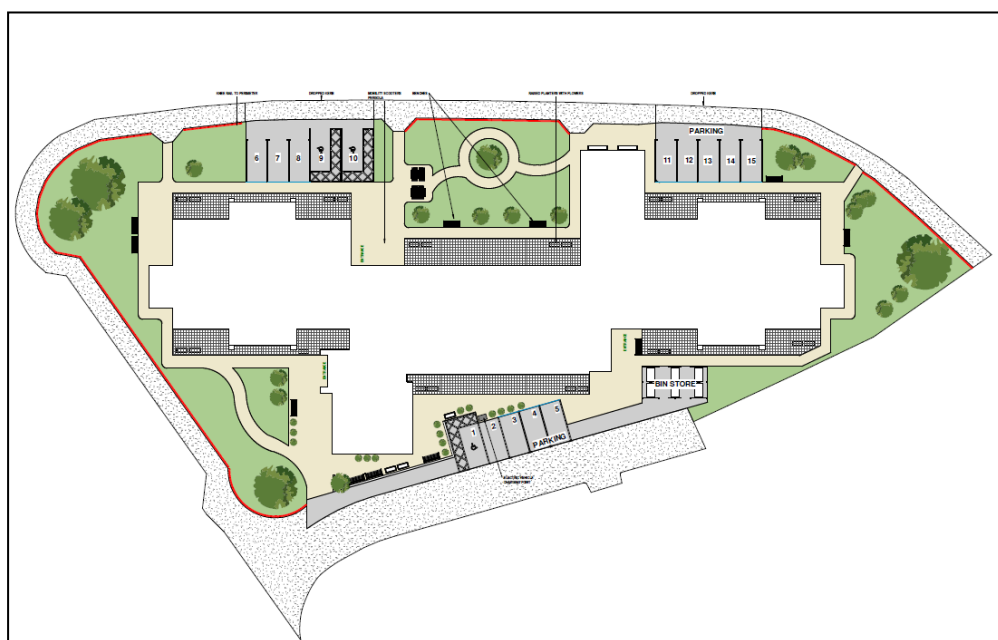


Figure 2: Extract of the proposed site plan

2.0 DESK STUDY

2.1 Sources of Information

2.1.1 The information sources used in the preparation of this report include:

- Existing and proposed site layout plans, presented in Appendix 1;
- Site History from Ordnance Survey maps dated 1872-2020, presented in Appendix 2;
- Geological information including the 1:50,000 scale British Geological Survey Sheet 121, Wrexham;
- CON29M Coal Mining Report, presented in Appendix 3; and
- BGS Historical Borehole Logs SJ24NE46, presented in Appendix 4.

2.2 Site History

2.2.1 The history of the site has been traced using historical Ordnance Survey plans, presented in Appendix 2.

2.2.2 The 1872 map shows several residential dwellings across the site and the surrounding area in the village of Rhosllanerchrugog. Surrounding the village are agricultural fields. A mineral railway line crosses the west of the village in a north to south orientation, approximately 100m to the west of the site. An 'old' coal shaft is shown 150m to the north east of the site. Brick Works with a coal shaft is shown 200m to the west of the site, another coal shaft is shown 300m to the west. Between 400m and 1000m to the north of the site, eleven old coal or coal and iron shafts are shown. Within this area of numerous coal shafts, an 'old' brick works, quarry and limekilns are shown, along with a tile and pipe works 1000m to the north of the site. A number of old shafts are shown 1km south west of the site surrounding the Pant Brick Works.

2.2.3 By 1879, the shafts 150m to the north east and 400-1000m to the north of the site are no longer identified. No other significant changes are shown.

2.2.4 The 1900 map shows additional residential dwellings had been constructed on site. The brick works to the west of the site had been extended. Llwyn Einion Clay pit and brick works had been constructed 750m to the north of the site in the area of the previously identified old coal shafts, as well as the Talwrn Pumping Station nearby. No other significant changes are shown.

2.2.5 No significant changes had occurred in the area until 1963. By this time three refuse tips had been created to the 600m to the north of the site in the area of previously identified numerous old coal shafts.

2.2.6 By 1981 all the residential dwellings within the current site boundary had been demolished, and 'Llys y Mynydd' flats had been constructed and has remained to the same layout since.

The brickworks to the west of the site had been demolished, replaced in the 1980s by Coppi Industrial Estate. The railway line to the west of the site had become dismantled.

2.3 Published Geology

- 2.3.1 The British Geological Survey online geological maps (1:50,000) indicate that the superficial deposits underlying the majority of the site is Devensian Till. Till usually comprises variable lithology, usually sandy, silty, clay with cobbles.
- 2.3.2 The geological map indicates that the bedrock underlying the site is mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation of the Carboniferous period.
- 2.3.3 The 1:50,000 scale geological map of the area (Sheet 121, Wrexham) indicate that several coal seams outcrop on or adjacent to the site. The map shows the beds in the area dipping towards the east at a shallow angle, therefore will underlie the site at a shallow depth. The Upper Red seam outcrops approximately 50m to the east of the site, with a north-east to south-west trend. The Lower Red seam is conjectured to outcrop centrally across the site, with a north-east to south-west trend. The Fireclay Group seam outcrops in the north western corner of the site, with a north to south-west trend. The Nant seam is conjectured to outcrop 150m west of the site, with a north-west to south-east trend. The Ruabon Yard seam is conjectured to outcrop 300m west of the site, with a general north to south trend.

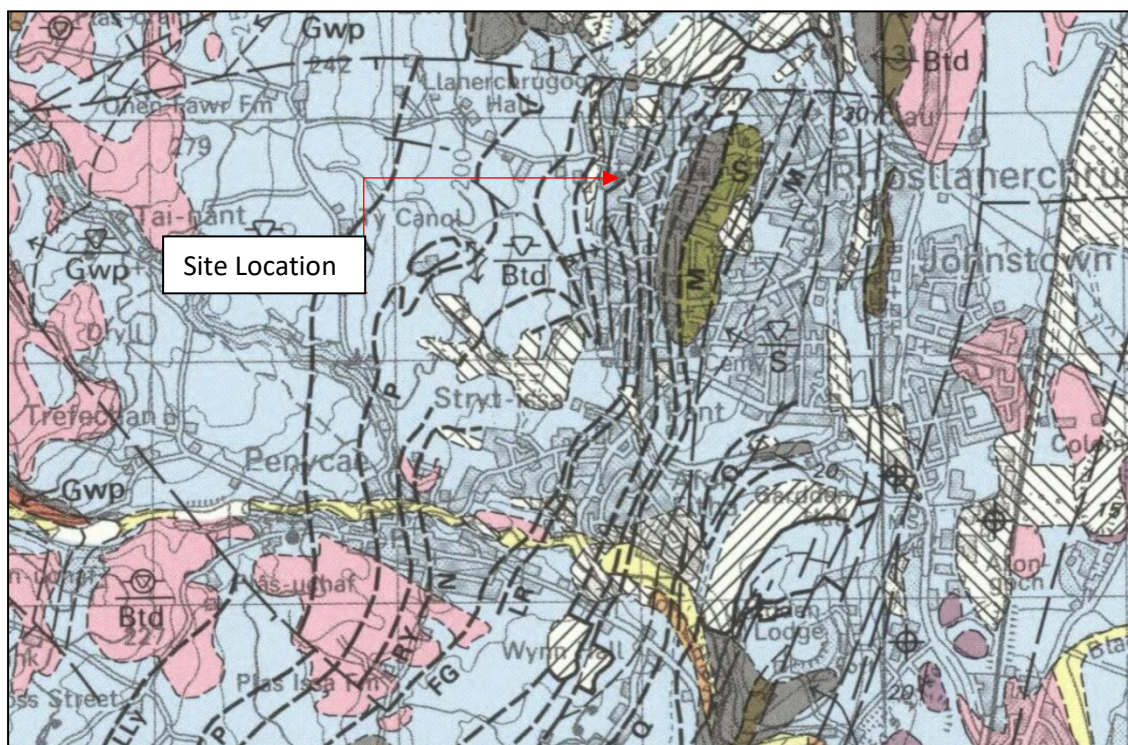


Figure 3: Extract of Sheet 121 Wrexham

2.4 Coal Mining Report

- 2.4.1 A CON29M report has been obtained from the Coal Authority, a copy of which is included in Appendix 3. The report states the following:

- The site is in an area that could be affected by underground mining in three seams of coal at shallow to 80m depth, last worked in 1866.
- The site is not in an area that could be affected by present underground mining.
- The site is not in an area likely to be affected from any planned future underground coal mining. However, reserves of coal exist in the local area which could be worked at some time in the future.
- No notices have been given stating that the land is at risk of subsidence.
- There are three mine entries within or within 20 meters of the site:
 - None of the entries are recorded within the site boundary;
 - Mine entry 329346-062 (east of the site) – No treatment details, was conveyed to Wrexham R.D.C in 1970;
 - Mine entry 328346-343 (north west of the site) – This entry has been filled to an unknown specification; and
 - Mine entry 328346-346 (south west of the site) – No treatment details

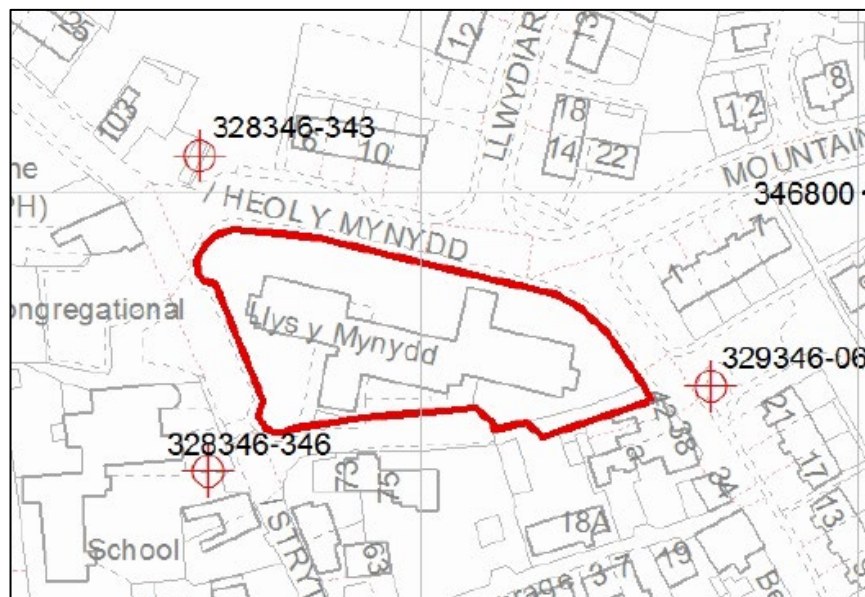


Figure 4: Extract from the CON29M report indicating location of mine entries

- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
- The site is not within a boundary of an opencast site from which coal has been removed by opencast methods in the past, present or future.
- The Coal Authority has no record of a mine gas emission requiring action.

- 2.4.2 The three seams of coal are likely to be the Lower Red, Fireclay Group and Nant. All are known to have been mined in the area.
- 2.4.3 Based on the above information gathered from geological data and the CON29M report from the Coal Authority, it is considered that there is a high risk of ground subsidence associated with past shallow mine workings underneath the site.
- 2.4.4 Wherever workings underlie the site at shallow depths and are uncollapsed, or are only partially collapsed, there may be an associated risk of ground subsidence occurring and affecting the site surface.
- 2.4.5 The level of this potential ground subsidence risk will depend on whether there is sufficient rock cover or superficial strata above the mine workings to prevent any associated uncollapsed voids migrating all the way up to and affecting the site's surface.

2.5 Historical Borehole Records

2.5.1 Four historical borehole records held by BGS have been reviewed as part of this study, the boreholes were positioned on the site, and although it cannot be confirmed, it is extremely likely that they were carried out to facilitate the design of the current building. The records are presented in Appendix 4 and summarised below.

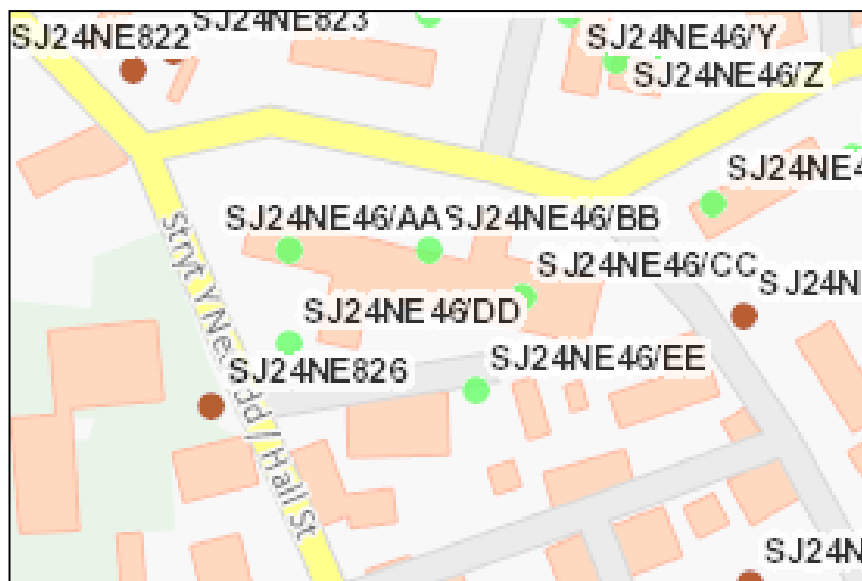


Figure 5: Extract from the BGS online viewer showing positions of historical boreholes

- 2.5.2 **SJ24NE46/AA** (North western area of the site) – The borehole encountered 0.9m of topsoil overlying boulder clay to 23.5m below ground level. This was underlain by siltstone bedrock to a maximum recorded depth of 27m.
- 2.5.3 **SJ24NE46/BB** (Northern area of the site) – The borehole recorded 1.1m of topsoil, overlying boulder clay to 5.9m depth, this was then underlain by a sequence of interbedded mudstone, shale, fireclay, siltstone and coal to a depth of 27.0m

- 2.5.4 **SJ24NE46/CC** (North eastern area of the site) – Made ground was encountered to 0.4m depth, this was overlying topsoil to 1.05m depth, overlying boulder clay to 3.8m. This was then underlain by a sequence of interbedded mudstone, shale, fireclay, siltstone and coal to a maximum recorded depth of 27.0m.
- 2.5.5 **SJ24NE46/DD** (South eastern area of the site) - The borehole encountered 0.3m made ground, overlying topsoil to 0.9m depth, overlying boulder clay to 23.8m below ground level. This was underlain by siltstone bedrock to a maximum recorded depth of 27m.
- 2.5.6 Groundwater was not recorded in any of the four boreholes.
- 2.5.7 Indications of backfilled workings were not encountered in any of the four boreholes drilled to 27m depth across the site.
- 2.5.8 A summary of the ground conditions can be found in the table below:

BH Reference	Made Ground (m bgl)	Topsoil (m bgl)	Superficial Deposits (m bgl)	Rock (m bgl)	Coal (m bgl)
SJ24NE46/AA	-	0.0-0.9	0.9-23.5	23.5-27.0	-
SJ24NE46/BB	-	0.0-1.1	1.1-5.9	5.9-6.6	6.6-6.8 (0.2m)
				6.8-15.2	15.2-15.9 (0.7m)
				15.9-16.8	16.8-17.55 (0.75m)
				17.55-20.05	20.05-20.38 (0.33m)
				20.38-21.15	21.15-21.60 (0.45m)
SJ24NE46/CC	0.0-0.4	0.4-1.05	1.05-3.80	21.60-27.0	
				3.80-7.20	7.20-7.95 (0.75m)
				7.95-20.10	20.10-20.80 (0.70m)
				20.80-21.10	21.10-21.62 (0.52m)
				21.62-23.80	23.80-24.68 (0.88m)
SJ24NE46/DD	0.0-0.3	0.3-0.9	0.9-23.8	24.68-27.00	
				23.8-27.0	

- 2.5.9 Shallow Coal seams are recorded in two of the four boreholes drilled on site (BB & CC) in the eastern half of the site. No voids/backfilled/collapsed workings were recorded.
- 2.5.10 The two BHs (AA & DD) in the west recorded superficial deposits to over 20m, suggesting a fault or buried valley intersecting the site.
- 2.5.11 It is likely that these exploratory holes were undertaken as part of the original development. This could potentially mean that drill and grout operations were also undertaken during its original construction, however no records of coal mine treatment has been obtained at present.

3.0 ASSESSMENT OF SITE-SPECIFIC RISK FACTORS

3.1 Potential Coal Mining Legacy

3.1.1 The table below summarises the potential risks associated with the Coal Mining legacy for the site as identified from the Sources of Information above. The assessed risks are laid out within the table and specific items are further described below:

Coal Mining Issue	Yes	No	Risk Assessment
Underground Coal Mining (recorded at shallow depths)		No	See comments below
Underground coal mining (probable at shallow depths)	Yes		High risk (see comments below)
Mine entries (shafts and adits)	Yes		Low to moderate risk (see comments below)
Coal Mining geology (fissures)	Yes		Moderate risk (see comments below).
Record of past mine gas emissions		No	See comments below
Recorded coal mining surface hazard		No	See comments below
Surface mining (opencast workings)	Yes		Low to moderate risk (see comments below)

3.2 Identified Risks

- 3.2.1 **Underground Coal Mining (recorded at shallow depth)** – whilst it is unknown at present if the Coal Authority hold plans of past mine workings at shallow depth (i.e. within 30m of the surface) beneath the site, the historical borehole records show up to five seams of coal underlying the north and north eastern area of the site up to 27m depth, which have been worked locally. These are discussed further in the following section.
- 3.2.2 **Unrecorded Coal Mining (probable at shallow depth)** – From internet searches numerous collieries and shafts were present in the Rhosllanerchrugog area which were related to shallow workings, possibly dating back further than the Middle Ages.
- 3.2.3 The Lower Red seam is conjectured to outcrop centrally across the site, with a north-east to south-west trend. From the historical borehole logs, this seam was encountered at 7.20mBGL and is recorded as 0.75m thick underlying the site in the south-east corner (SJ24NE46/CC). It is therefore possible that this could have been worked from the surface/bell pits in addition to traditional pillar and stall working from the local mine network.
- 3.2.4 The Coal Authority states that the site could be affected by underground mining from three seams of coal at shallow depth to 80m depth, last worked in 1866 and a number of mine shafts are also recorded within the immediate vicinity of the site; it is likely that these were sunk to work the Fireclay Group, Nant and Ruabon Yard coal seams. The shafts are not shown on the earliest historical map dated 1872 as these were last worked in 1866, before record plans of

underground workings became statutory in 1872, therefore further records are unlikely to exist.

- 3.2.5 The Fireclay seam outcrops in the north western corner of the site, with a north to south-west trend. From the historical borehole logs, this seam is approximately 0.3-0.4m thick underlying the site (SJ24NE46/BB and SJ24NE46/CC), encountered at depths ranging between 15m and 20mBGL.
- 3.2.6 The Nant seam is conjectured to outcrop 150m to the west of the site, with a north-west to south-east trend. From the historical borehole logs, this seam is approximately 0.52-0.75m thick underlying the site at depths ranging between 17m and 21mBGL.
- 3.2.7 The Ruabon Yard seam is conjectured to outcrop 300m west of the site, with a generally north to south trend. From the historical borehole logs, this seam is approximately 0.33-0.88m thick underlying the site.
- 3.2.8 There is sufficient rock cover above any potential underground workings (i.e. greater than 10x the seam thickness based on a maximum seam thickness of 0.88m) within these seams to limit any potential settlement to negligible. However, further information regarding the Lower Red seam and whether it was worked from the surface should be obtained.
- 3.2.9 **Mine Entries (shafts and adits)** – there are three mine entries within 20m of the site. The Coal Authority state that one was filled to an unknown specification (328346-343) and they hold ‘no treatment details’ for the other two (328346-062 and 328346-346).
- 3.2.10 These mine entries are located off site, therefore the zone of influence from any ground movement associated with the entries do not reach on to the site.
- 3.2.11 **Coal Mining geology (fissures)** – whilst the Coal Authority have no record of instability directly relating to fissures for this site, it should be noted that the site is located on Pennine Lower Coal Measures (predominantly mudstones). There are no significant recorded faulting within the vicinity of the site. When faulted or jointed sandstone (often encountered in the Pennine Lower Coal Measures) is undermined at shallow depth there is often a tendency for the resulting subsidence to open up the joints to form open fissures within the sandstone. Were that to happen then some of those fissures may extend to outcrop.
- 3.2.12 Although not recorded on BGS records, the historical borehole logs in the western half of the site shows boulder clay to approximately 24mBGL (SJ24NE46/AA and SJ24NE46/DD). This could potentially be a fault feature given the geology encountered in the eastern half of the site.
- 3.2.13 **Record of past mine gas emissions** – the Coal Authority hold no record of mine gas issues at the site and the existing building has been present on the site since the 1960s. The presence Devensian Till beneath the site will limit the extent of fissures and joints which mine gas could potentially migrate along.

- 3.2.14 **Recorded coal mining surface hazard** – the Coal Authority hold no records relating to surface hazards at the site.
- 3.2.15 **Surface mining (opencast workings)** – the Coal Authority records indicate that the site is not within the boundary of a former opencast site or within the site of a future opencast site which the Authority is determining.
- 3.2.16 The Lower Red Coal Seam outcrops on site and given the superficial cover of 3.8-5.9m could potentially have been worked from the surface beneath the site.

3.3 Mitigation Strategy

- 3.3.1 The foregoing section on Assessment of Site Specific Coal Mining Risks has identified some potential risks arising from the Coal Mining legacy principally from potential shallow workings.
- 3.3.2 Information should be obtained from the Coal Authority regarding the mine shafts located within 20 m of the site boundary, and what treatment methods, if any, have been undertaken to cap the shaft.
- 3.3.3 Further investigation of the existing boreholes will also be undertaken to determine if these were undertaken to investigate coal mining risk at the site prior to construction of the original building, and if so, if any treatment works were undertaken.

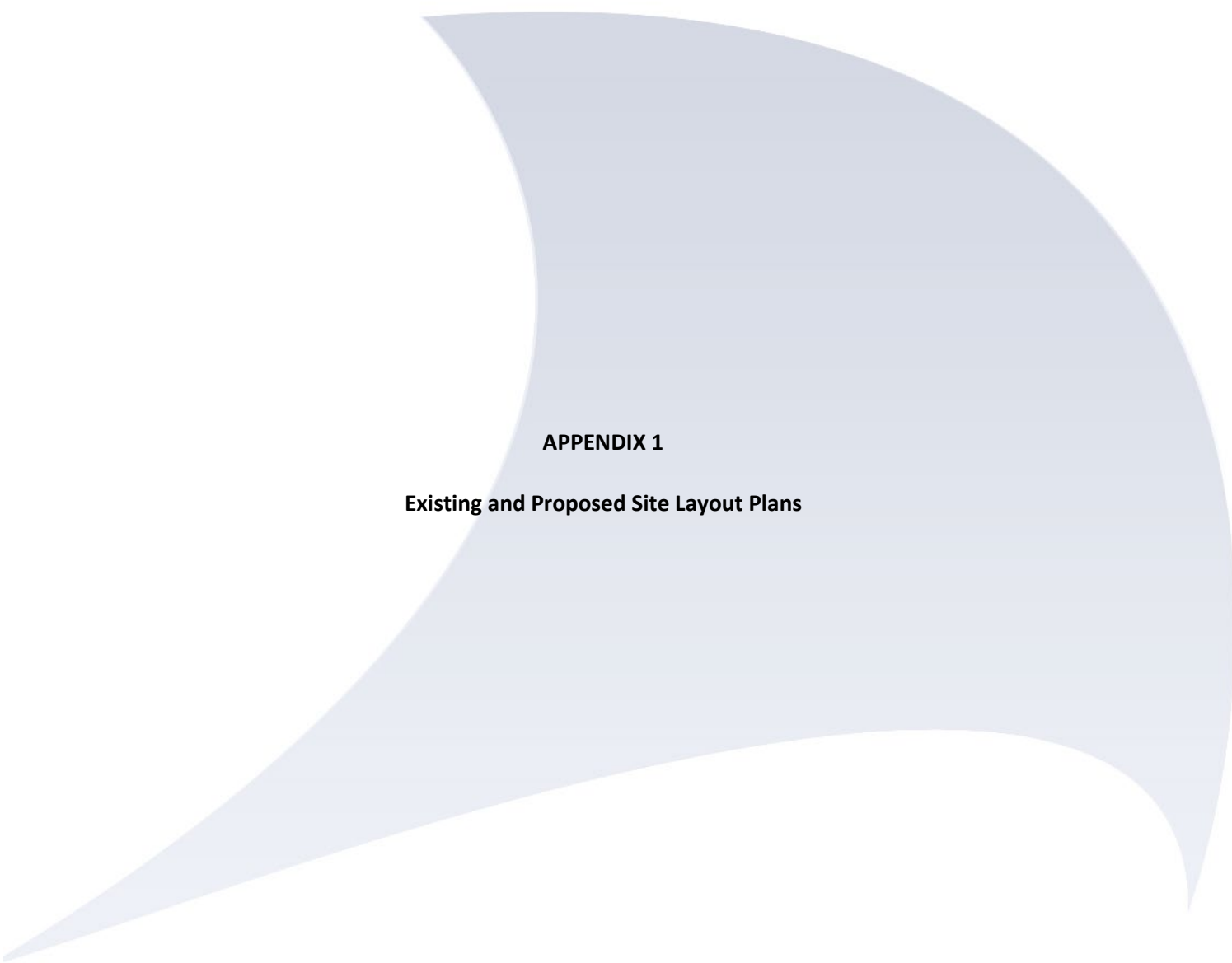
4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Summary of Risks

- 4.1.1 The site is located within a former mining area where past workings for coal are known to be widespread.
- 4.1.2 There are no recorded shallow workings below the site, however there are reserves of coal which are likely to have been worked in the past.
- 4.1.3 The Lower Red Coal Seam outcrops in the centre of the site and could have potentially been worked from the surface. This requires confirmation from further investigation of records.
- 4.1.4 The Fireclay Group, Nant and Ruabon Yard seams are conjectured to underlie the site, outcropping at the north-western end of the site and progressively further west. It is calculated that there is sufficient rock cover above any potential workings, i.e. greater than 10x the seam thickness to mitigate the risk from these seams.
- 4.1.5 There are three recorded mine entries within 20m of the site, however these are all outside the zone of influence from any ground movement associated with the shafts.

4.2 Recommendations

- 4.2.1 An intrusive window sampling investigation is initially proposed to investigate the near surface superficial deposits and allow foundation design of the proposed extensions to be completed.
- 4.2.2 It is recommended that further research is carried out with the Coal Authority and / or Local Authority records, with regards to any drill and grouting operations undertaken at the site during the construction of the original building. The presence of four historical boreholes would suggest that this has been done. However, should no information become available, further deeper investigation should be undertaken with the potential for drill and grout operations being required locally if no evidence of treatment can be obtained



APPENDIX 1

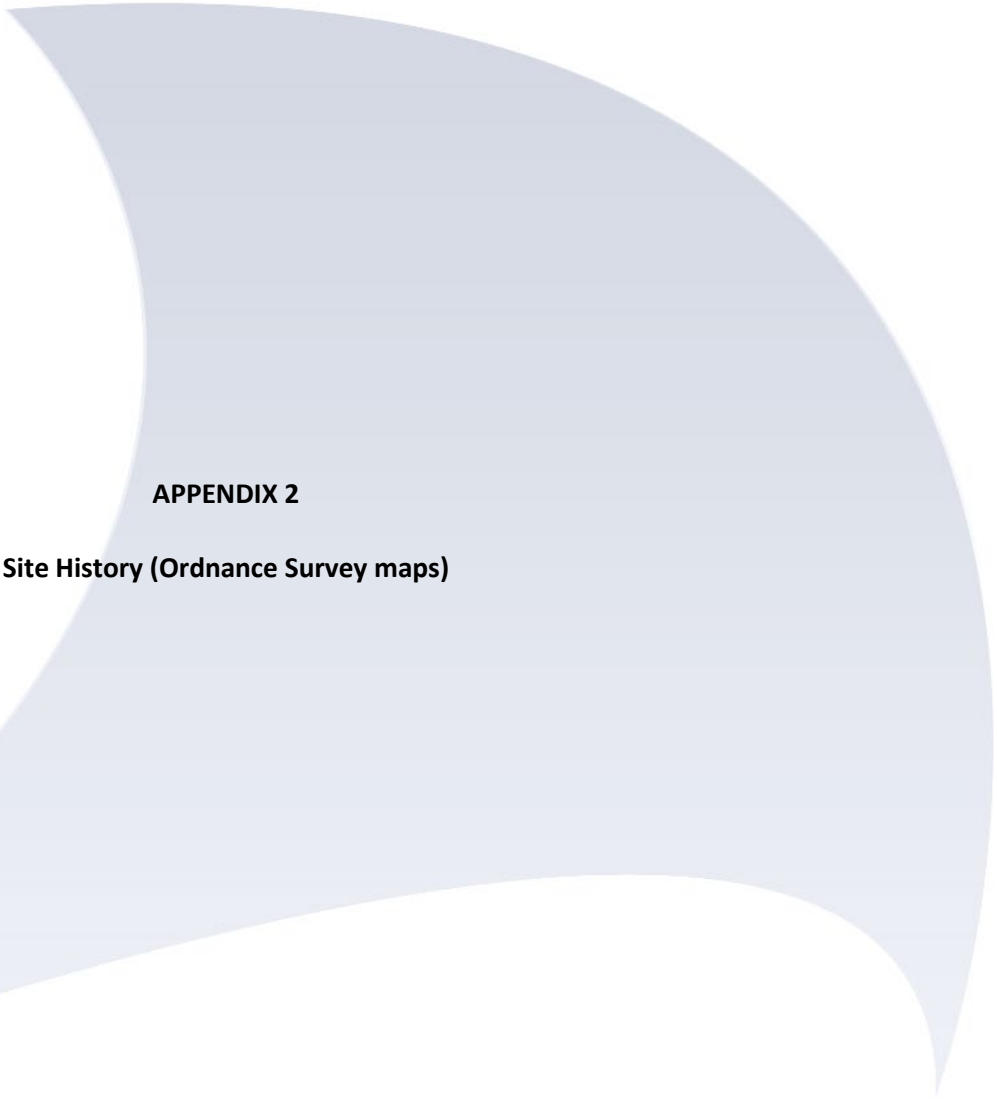
Existing and Proposed Site Layout Plans

Llys y Mynydd
Existing Site Plan



- Key**
- 01 - Main Building
 - 02 - Deliveries and Drop off
 - 03 - Communal Space
 - 04 - Gardens



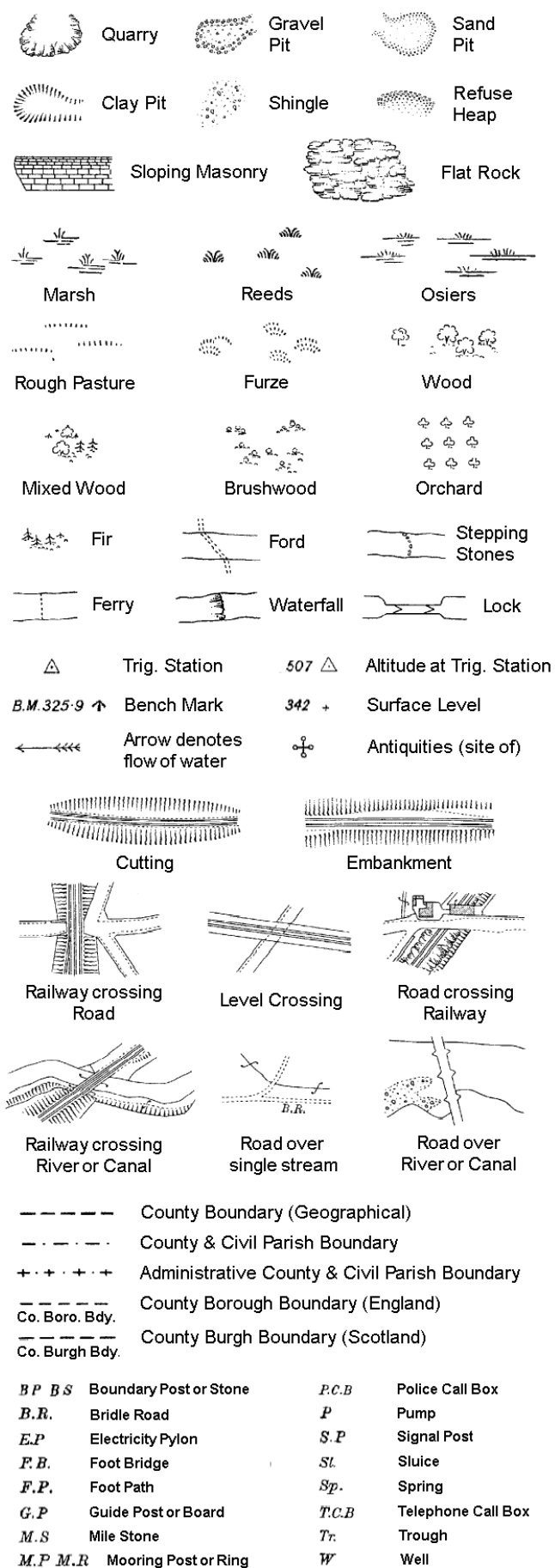


APPENDIX 2

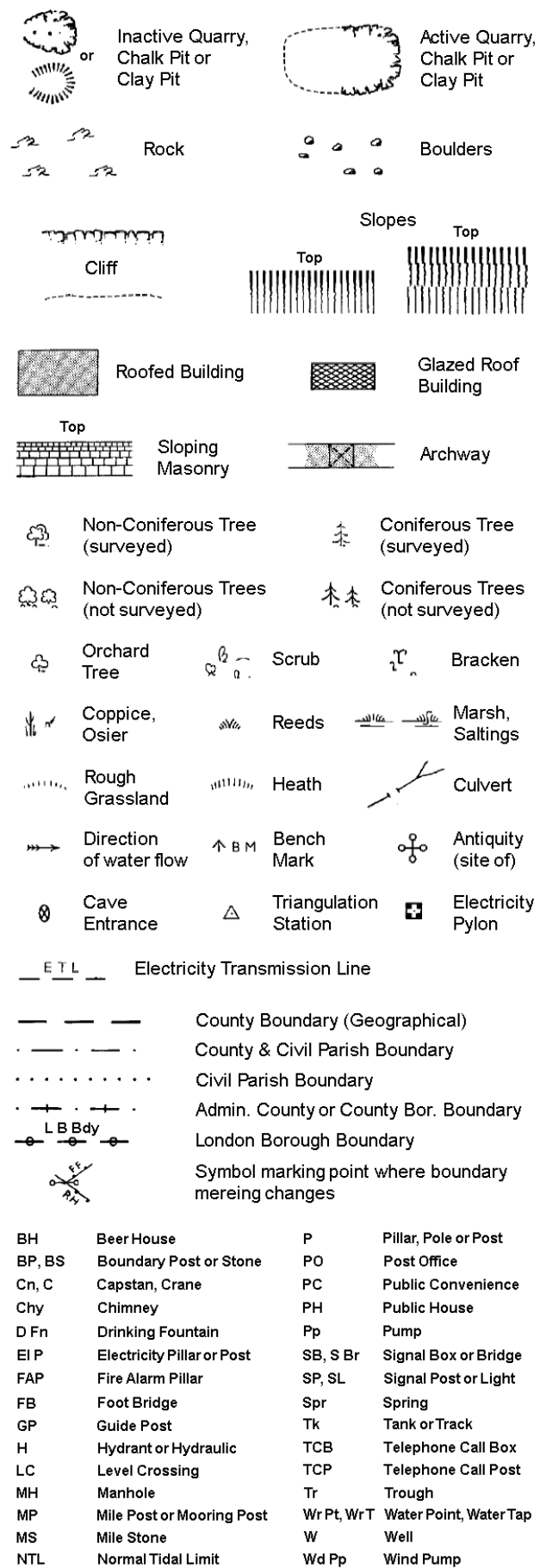
Site History (Ordnance Survey maps)

Historical Mapping Legends

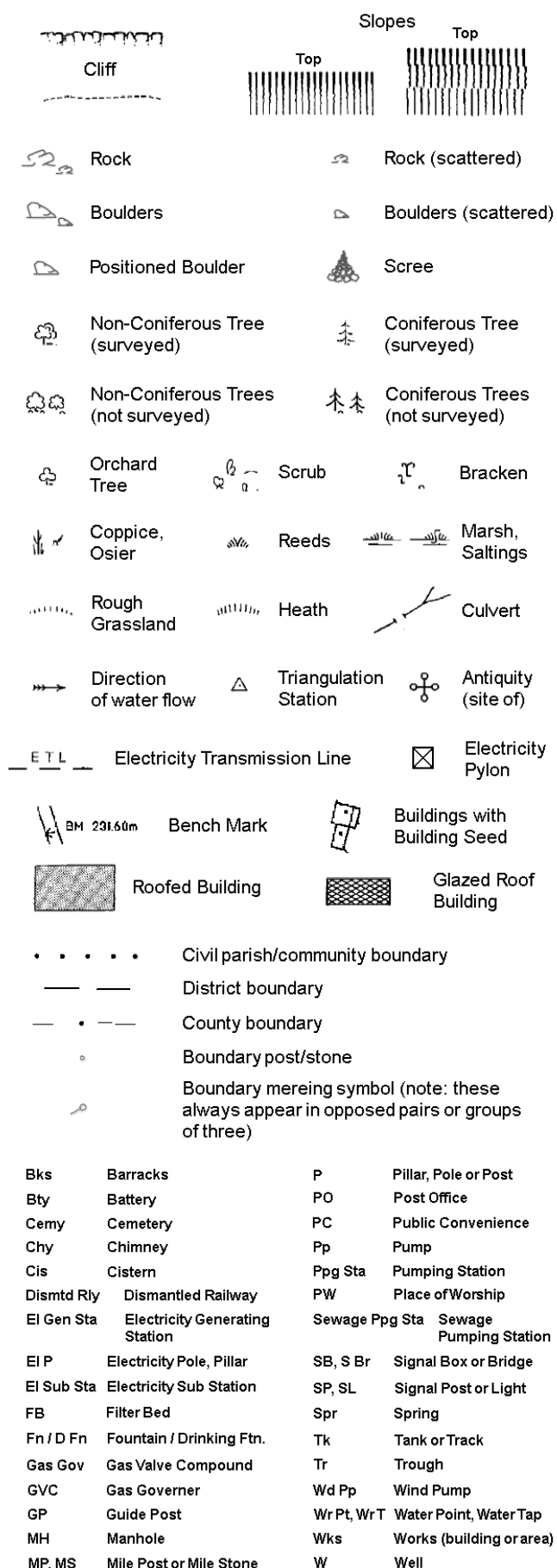
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information



Large-Scale National Grid Data 1:2,500 and 1:1,250



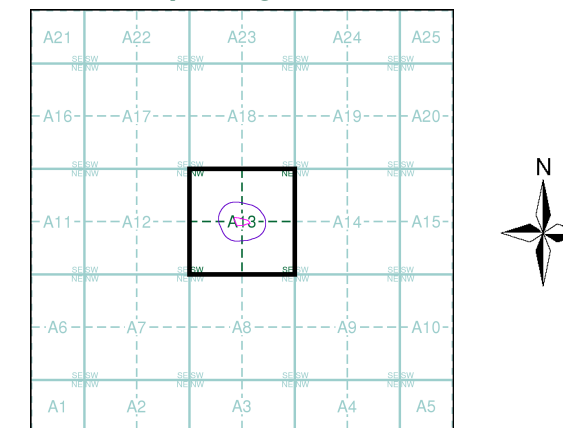
Envirocheck®

● LANDMARK INFORMATION GROUP®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Denbighshire	1:2,500	1874	2
Denbighshire	1:2,500	1900	3
Denbighshire	1:2,500	1912	4
Ordnance Survey Plan	1:2,500	1963	5
Additional SIMs	1:2,500	1963 - 1981	6
Ordnance Survey Plan	1:2,500	1974	7
Additional SIMs	1:2,500	1988 - 1992	8
Ordnance Survey Plan	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1993	10
Large-Scale National Grid Data	1:2,500	1994	11
Large-Scale National Grid Data	1:2,500	1996	12

Historical Map - Segment A13



Order Details

Order Number: 267327850_1_1
Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

1 Central Buildings, Hall Street, Rhosllanerchrugog,
WREXHAM, LL14 2LD

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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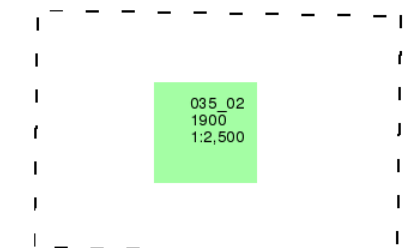
Denbighshire

Published 1900

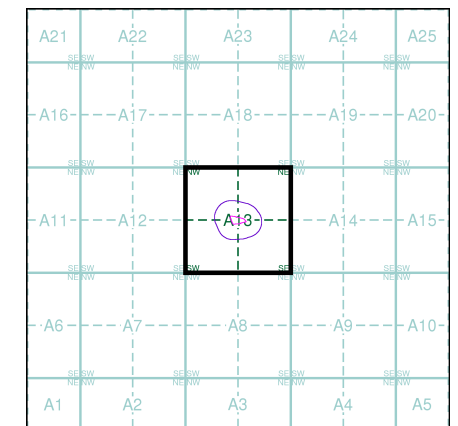
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

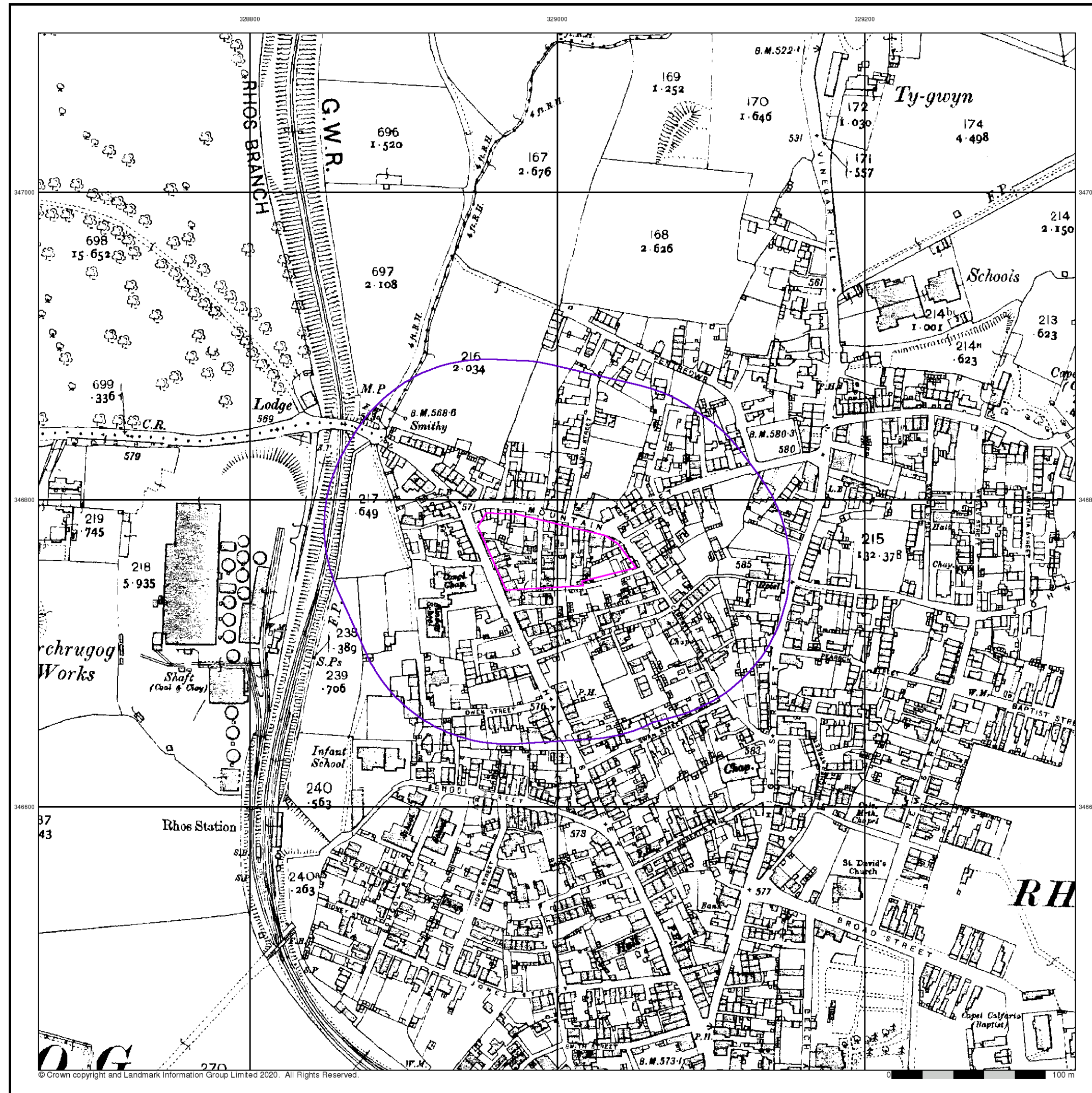


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Search Buffer (m): 100

Site Details

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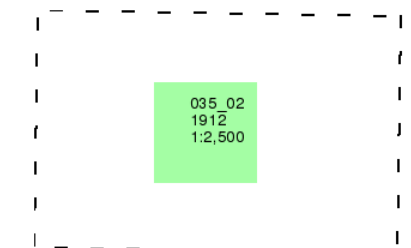
Denbighshire

Published 1912

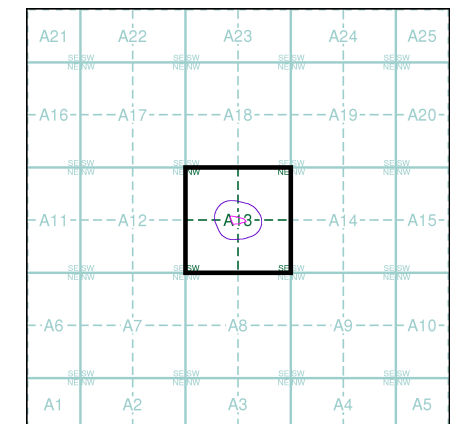
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

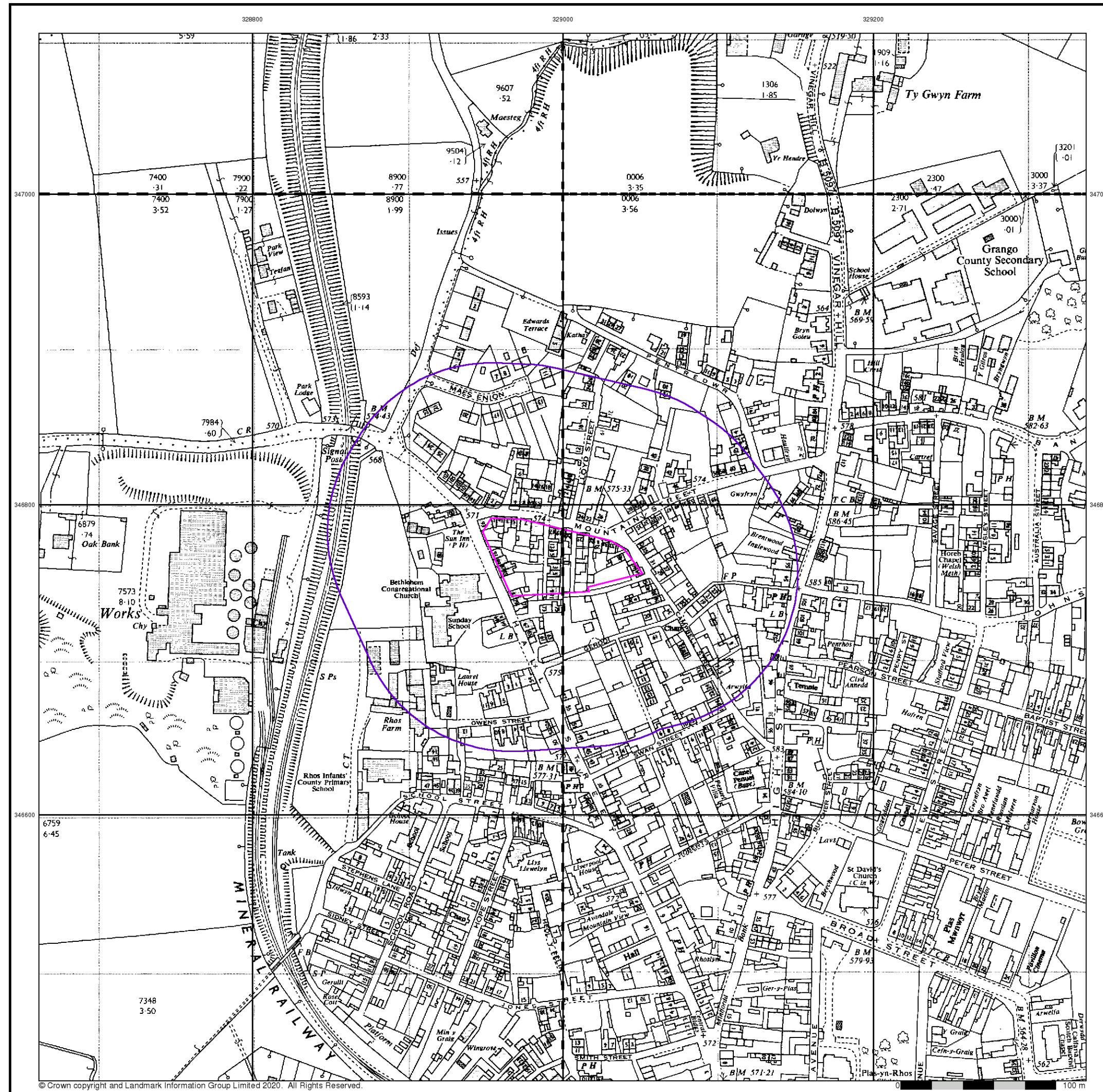
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Customer Ref: 4315
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Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1963

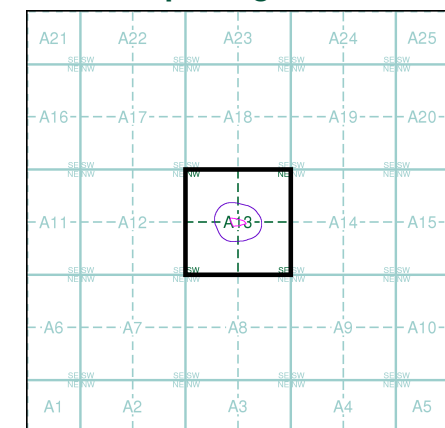
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ2847	SJ2947
1963	1963
12,500	12,500
SJ2846	SJ2946
1963	1963
12,500	12,500

Historical Map - Segment A13



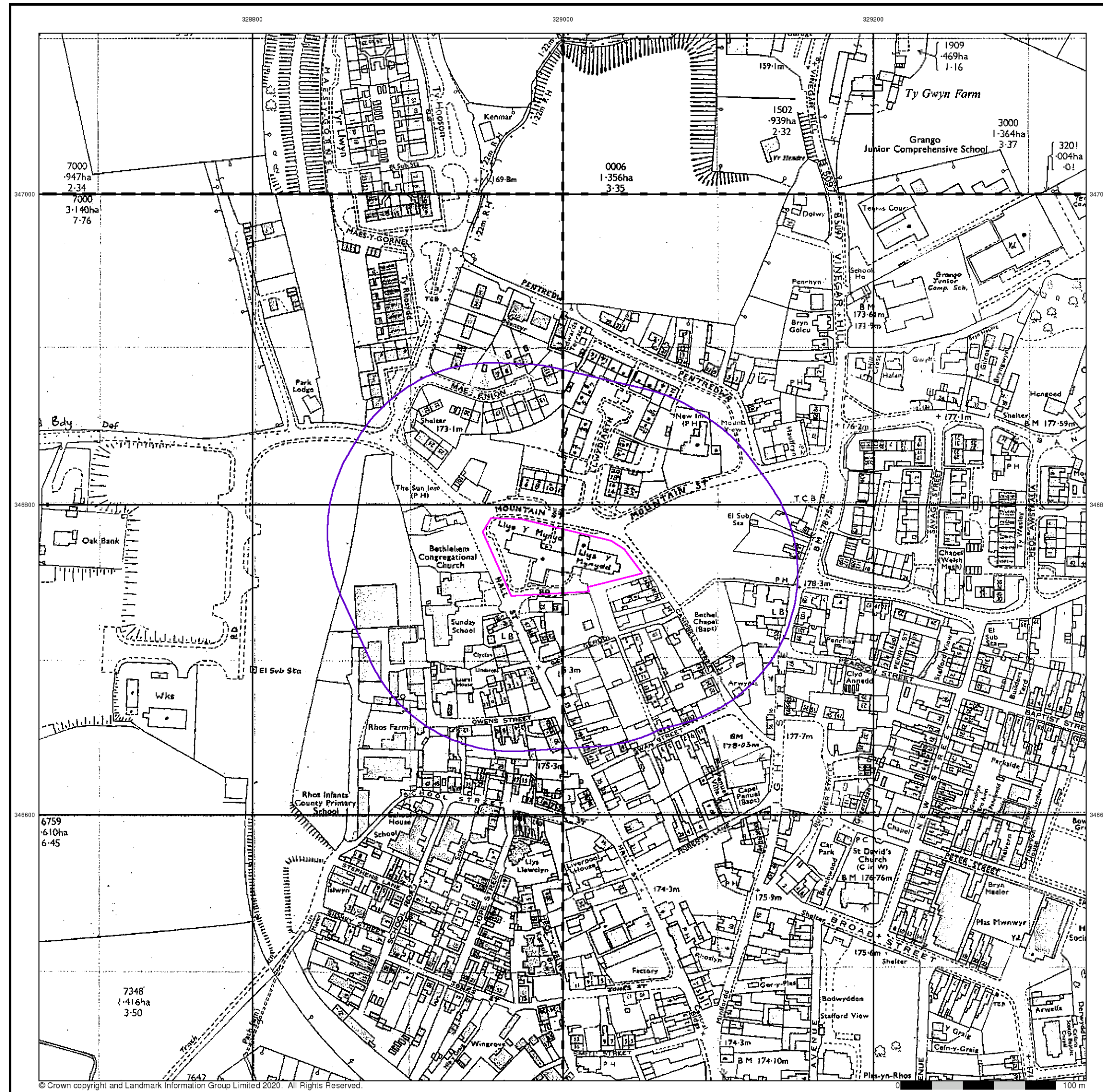
Order Details

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National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

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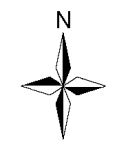
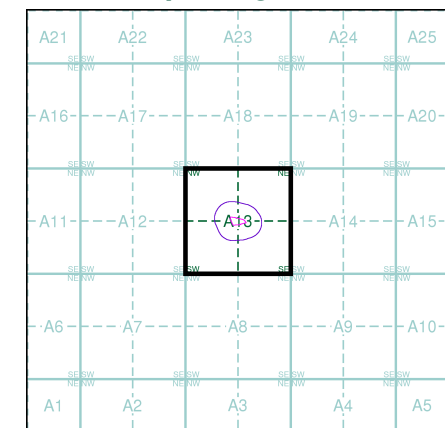
Additional SIMs
Published 1963 - 1981
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ2847 1963 12,500	SJ2947 1963 12,500
SJ2846 1981 12,500	SJ2946 1981 12,500

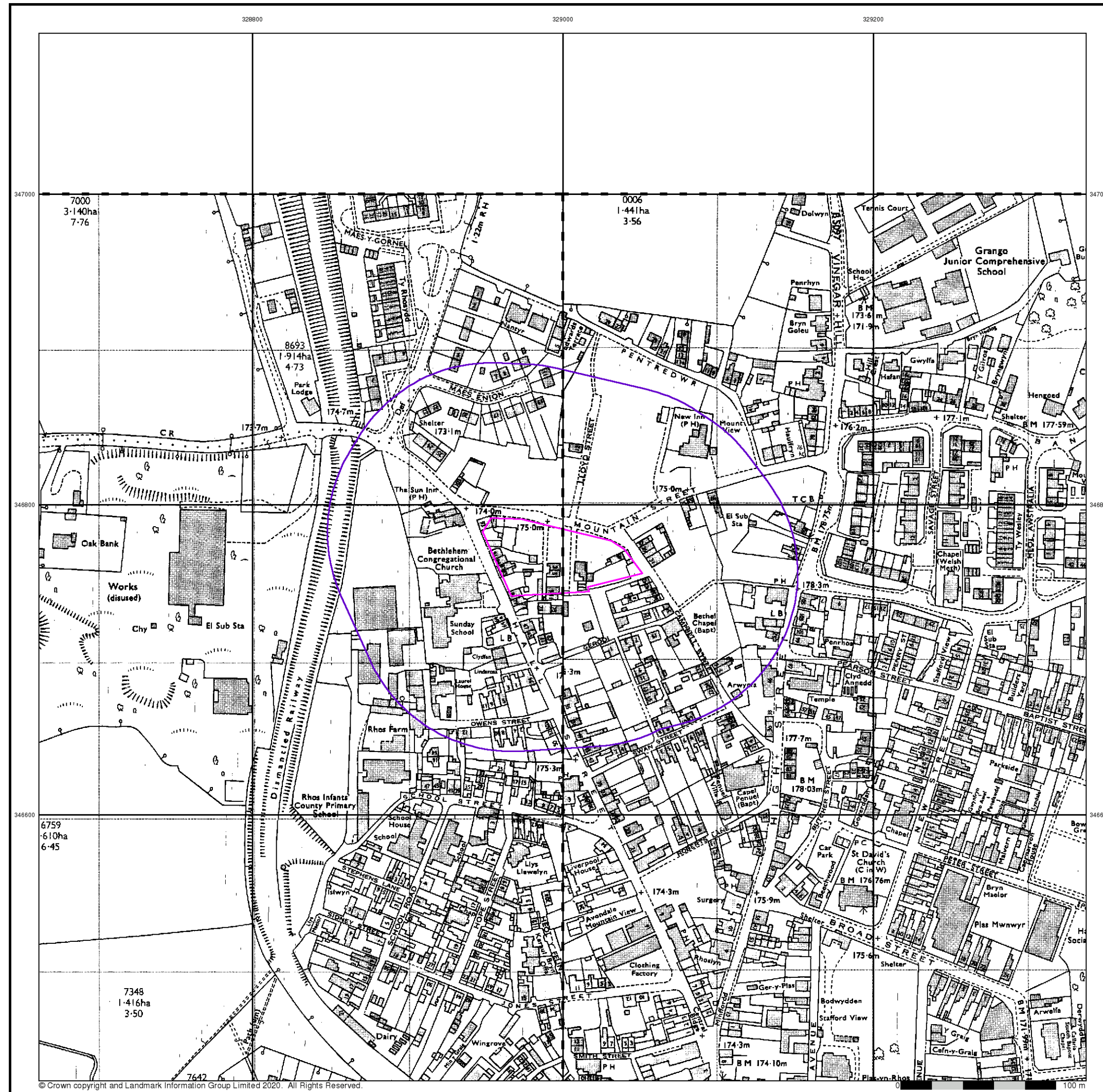
Historical Map - Segment A13



Order Details
Order Number: 267327850_1_1
Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
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Search Buffer (m): 100

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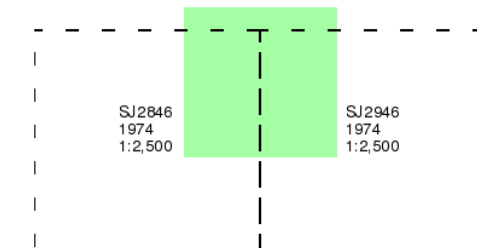
Ordnance Survey Plan

Published 1974

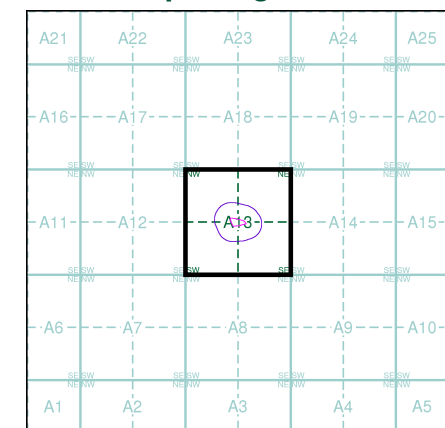
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

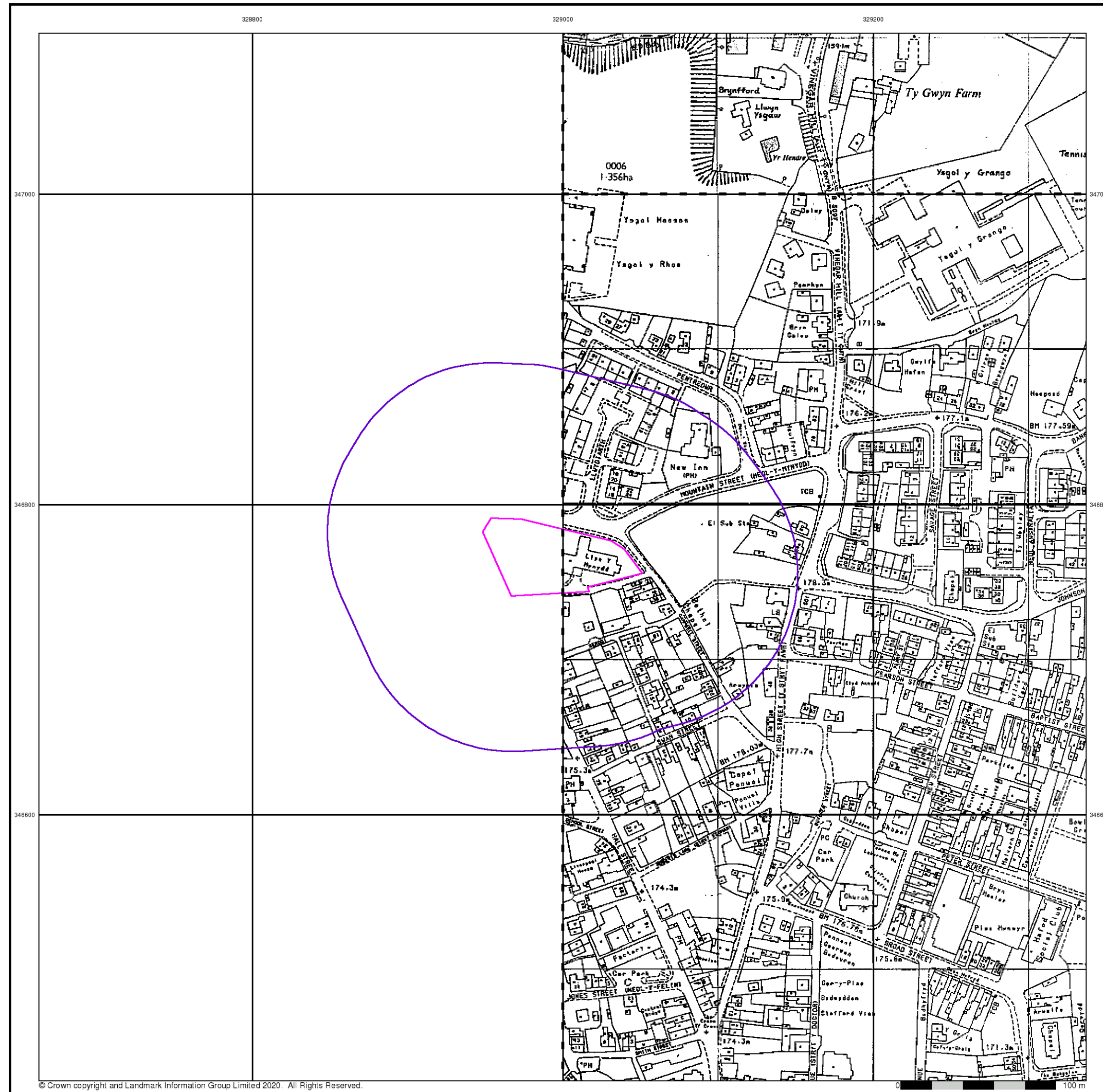
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Additional SIMs

Published 1988 - 1992

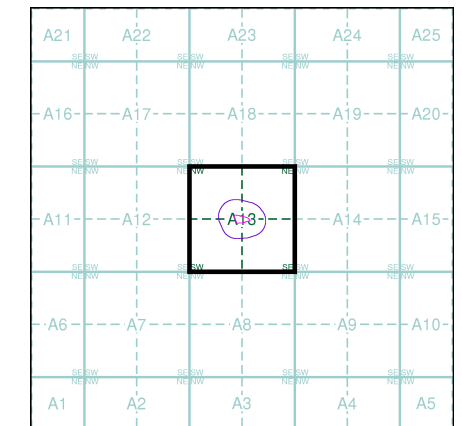
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ2947
1988
1:2,500
SJ2946
1992
1:2,500

Historical Map - Segment A13



Order Details

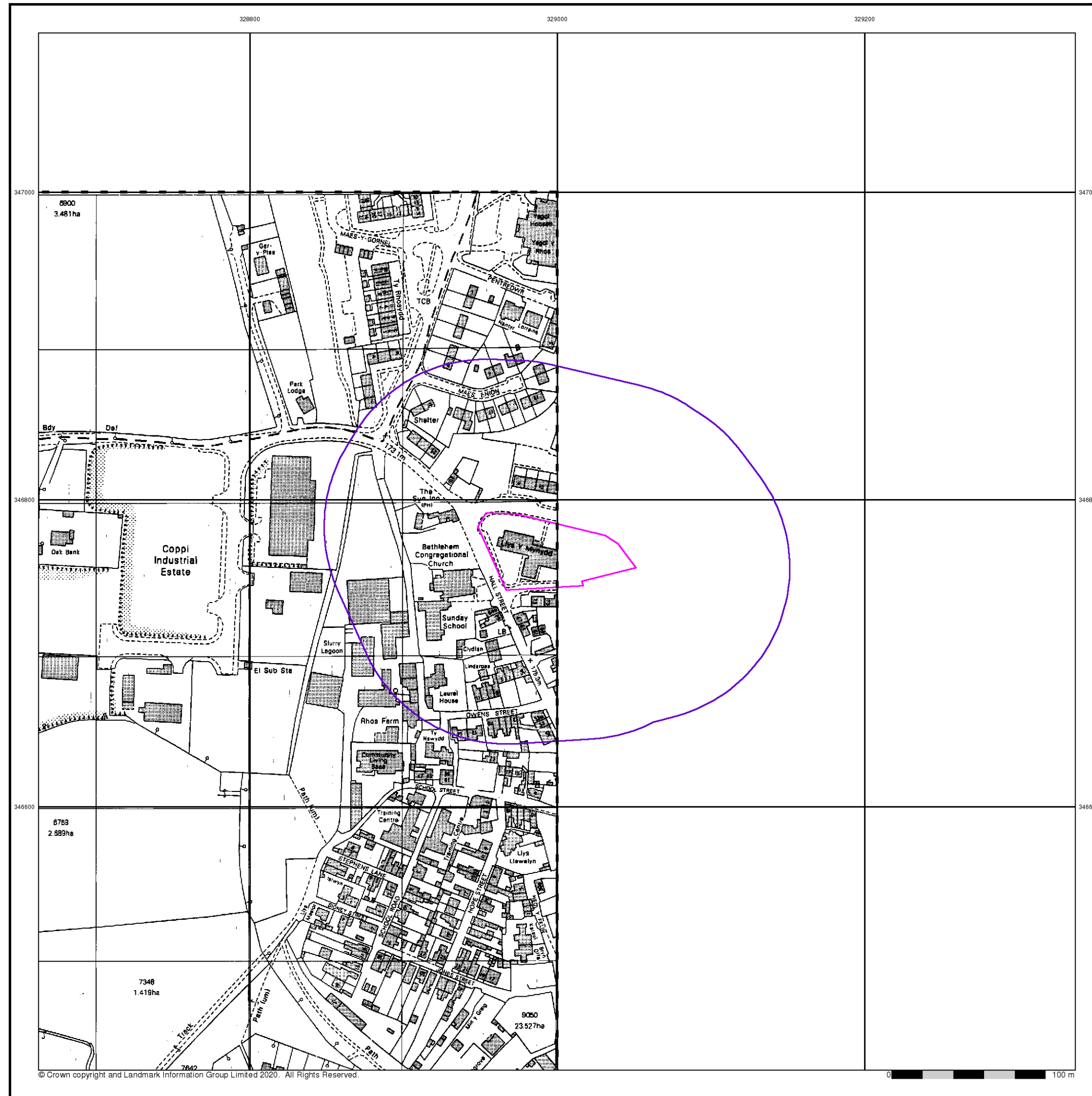
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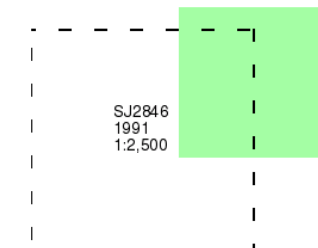
Ordnance Survey Plan

Published 1991

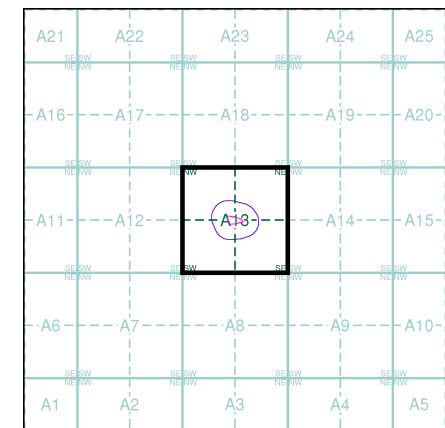
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

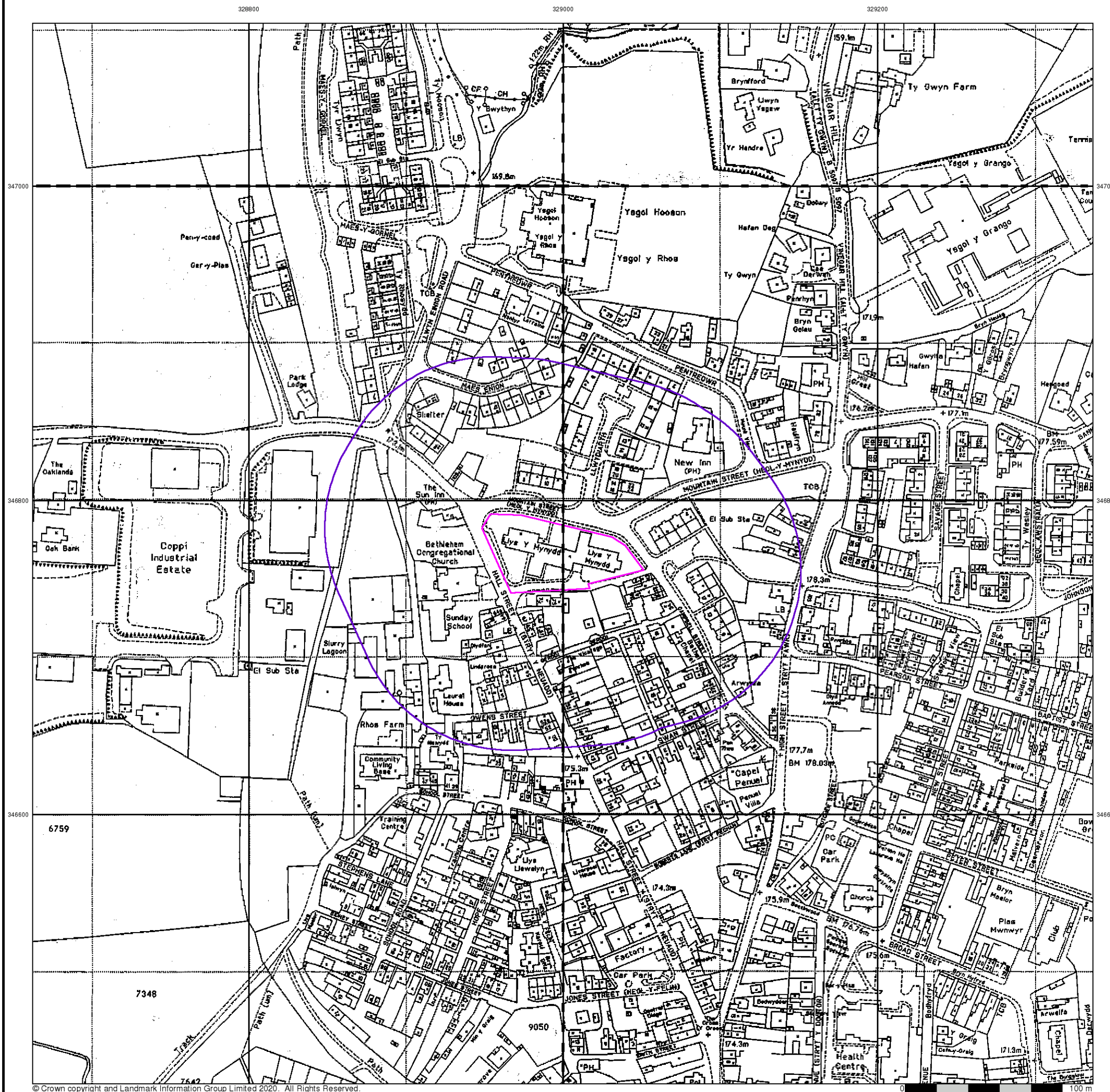


Order Details

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Search Buffer (m): 100

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Large-Scale National Grid Data

Published 1993

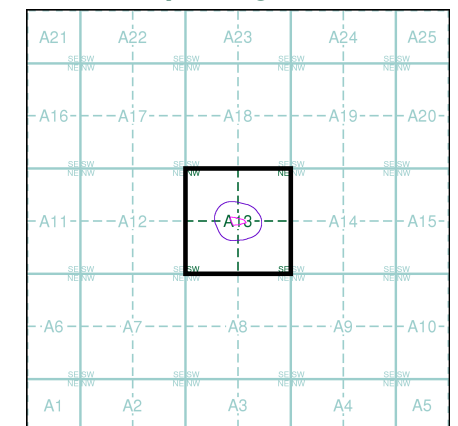
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ2847	SJ2947
1993	1993
12,500	12,500
SJ2846	SJ2946
1993	1993
12,500	12,500

Historical Map - Segment A13



Order Details

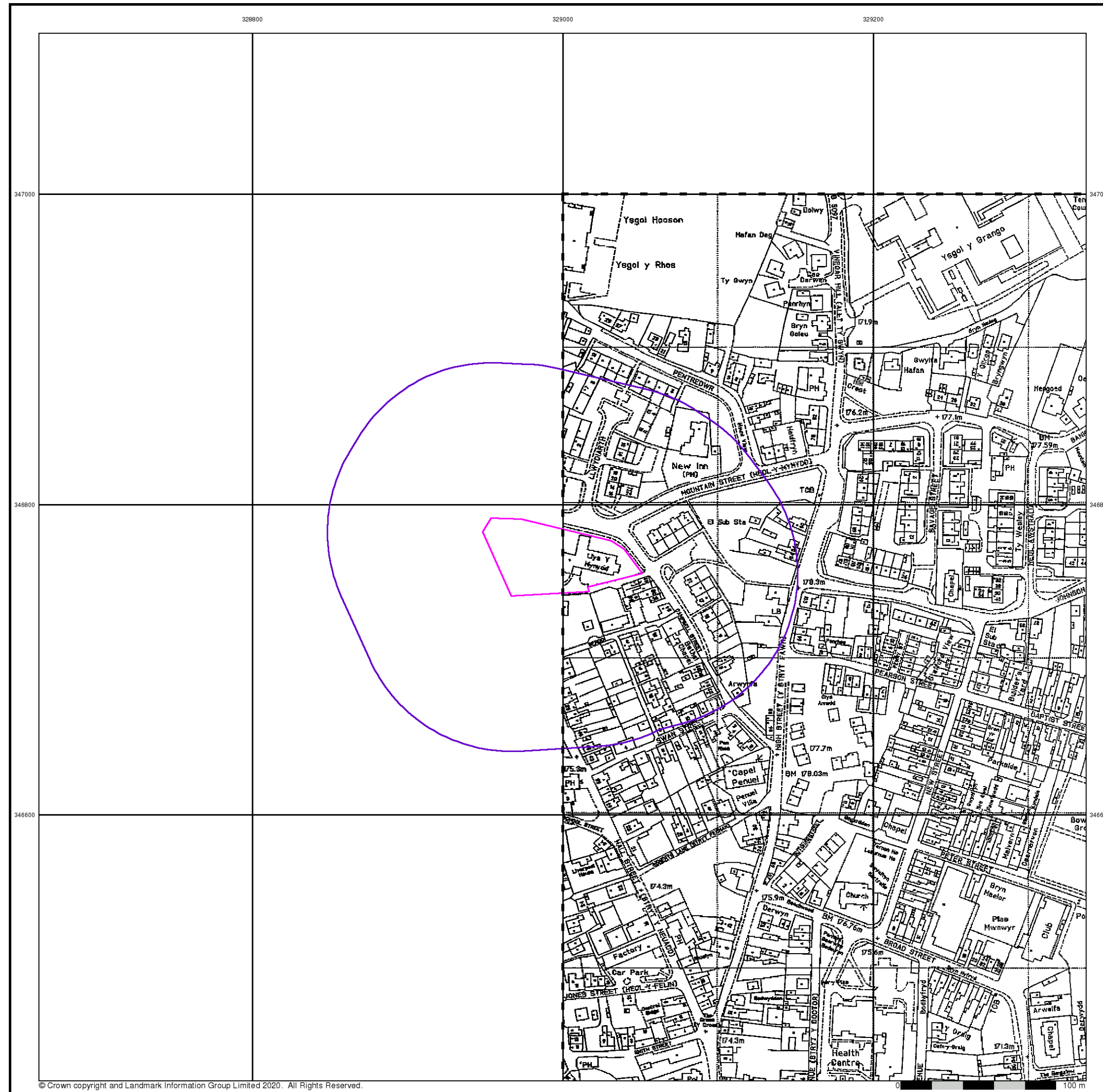
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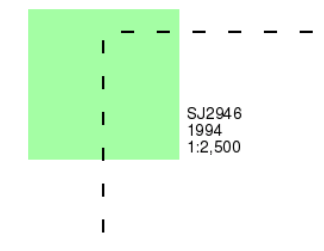
Large-Scale National Grid Data

Published 1994

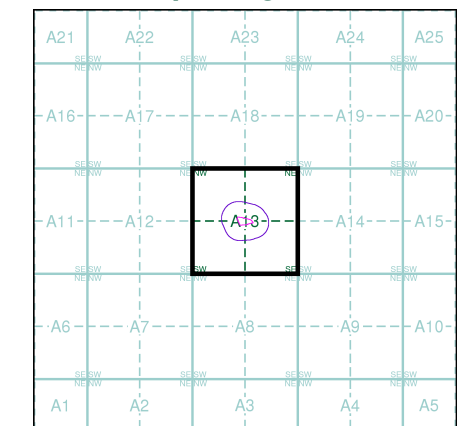
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

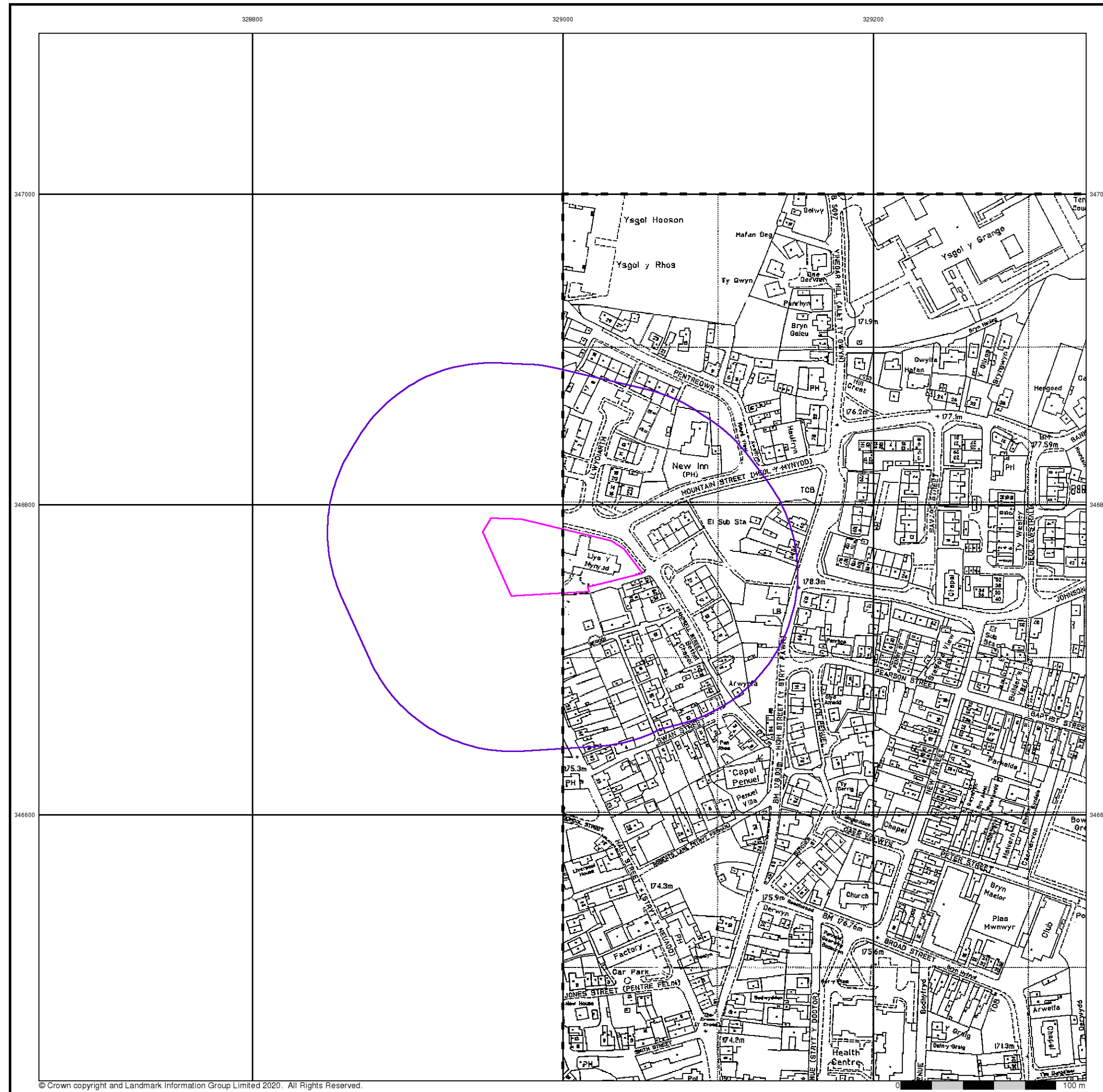
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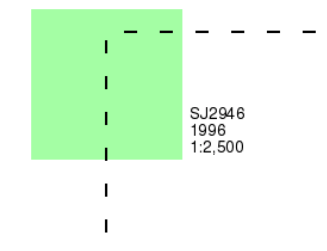
Large-Scale National Grid Data

Published 1996

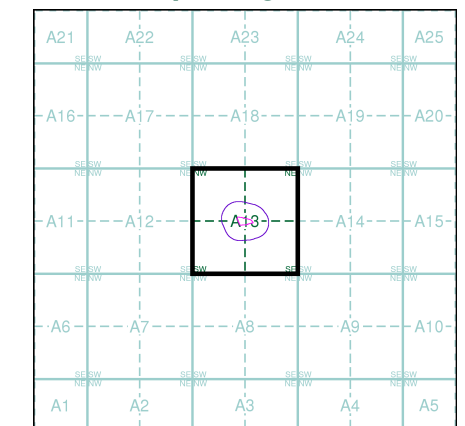
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	•285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

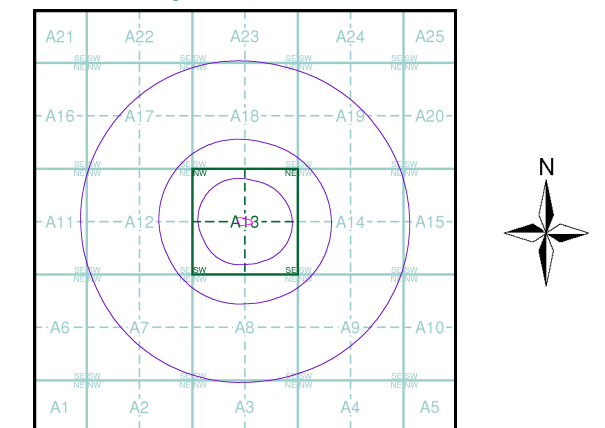
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Denbighshire	1:10,560	1879	2
Denbighshire	1:10,560	1900	3
Denbighshire	1:10,560	1914 - 1915	4
Denbighshire	1:10,560	1938	5
Denbighshire	1:10,560	1938 - 1954	6
Denbighshire	1:10,560	1954	7
Ordnance Survey Plan	1:10,000	1963 - 1964	8
Ordnance Survey Plan	1:10,000	1976 - 1979	9
Ordnance Survey Plan	1:10,000	1993	10
10K Raster Mapping	1:10,000	2000	11
Street View	Variable		12

Historical Map - Slice A



Order Details

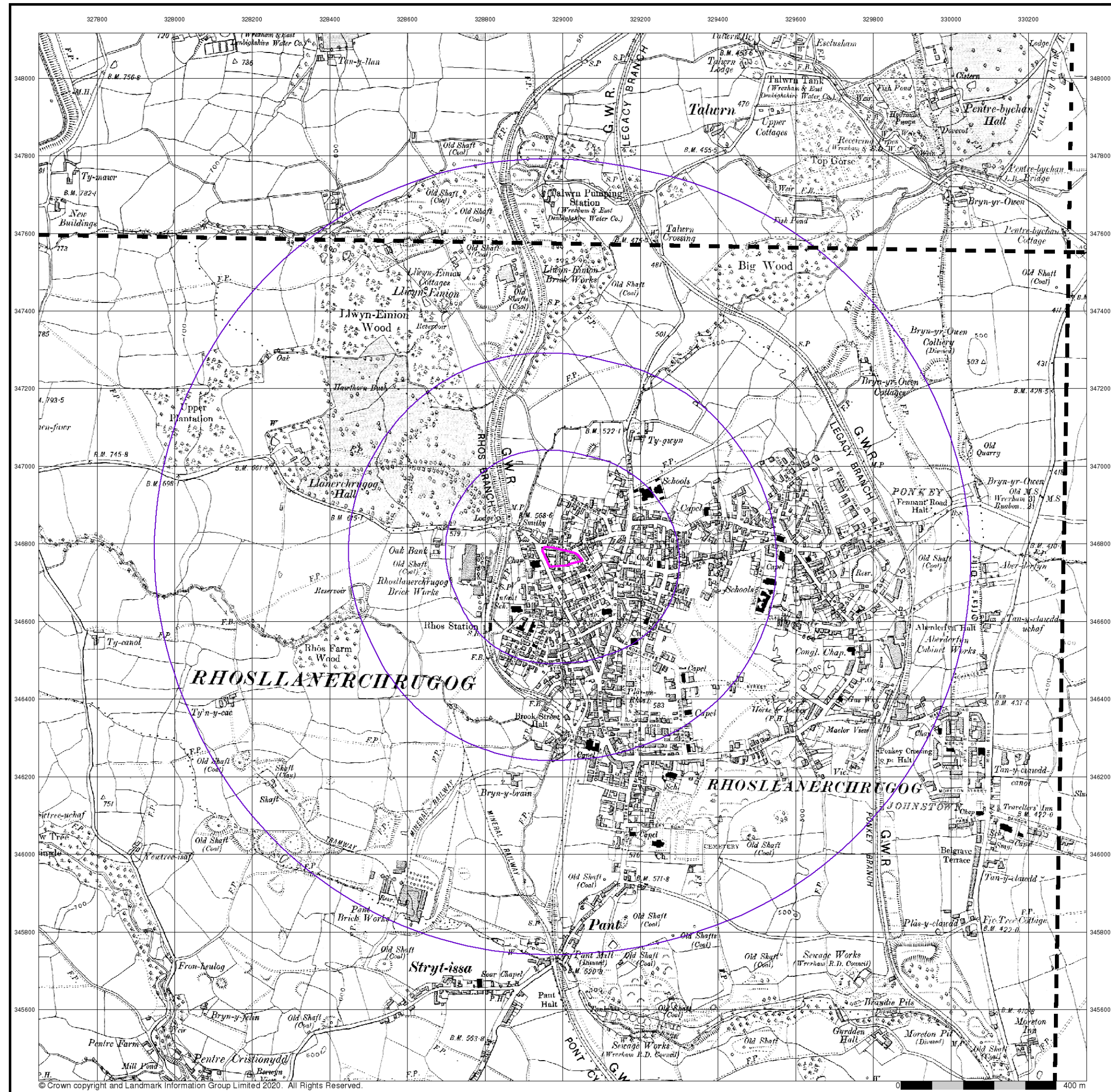
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Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

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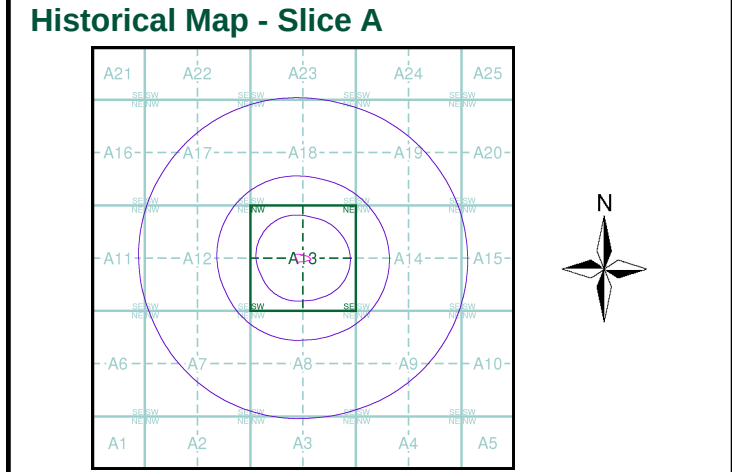
Denbighshire

Published 1914 - 1915

Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

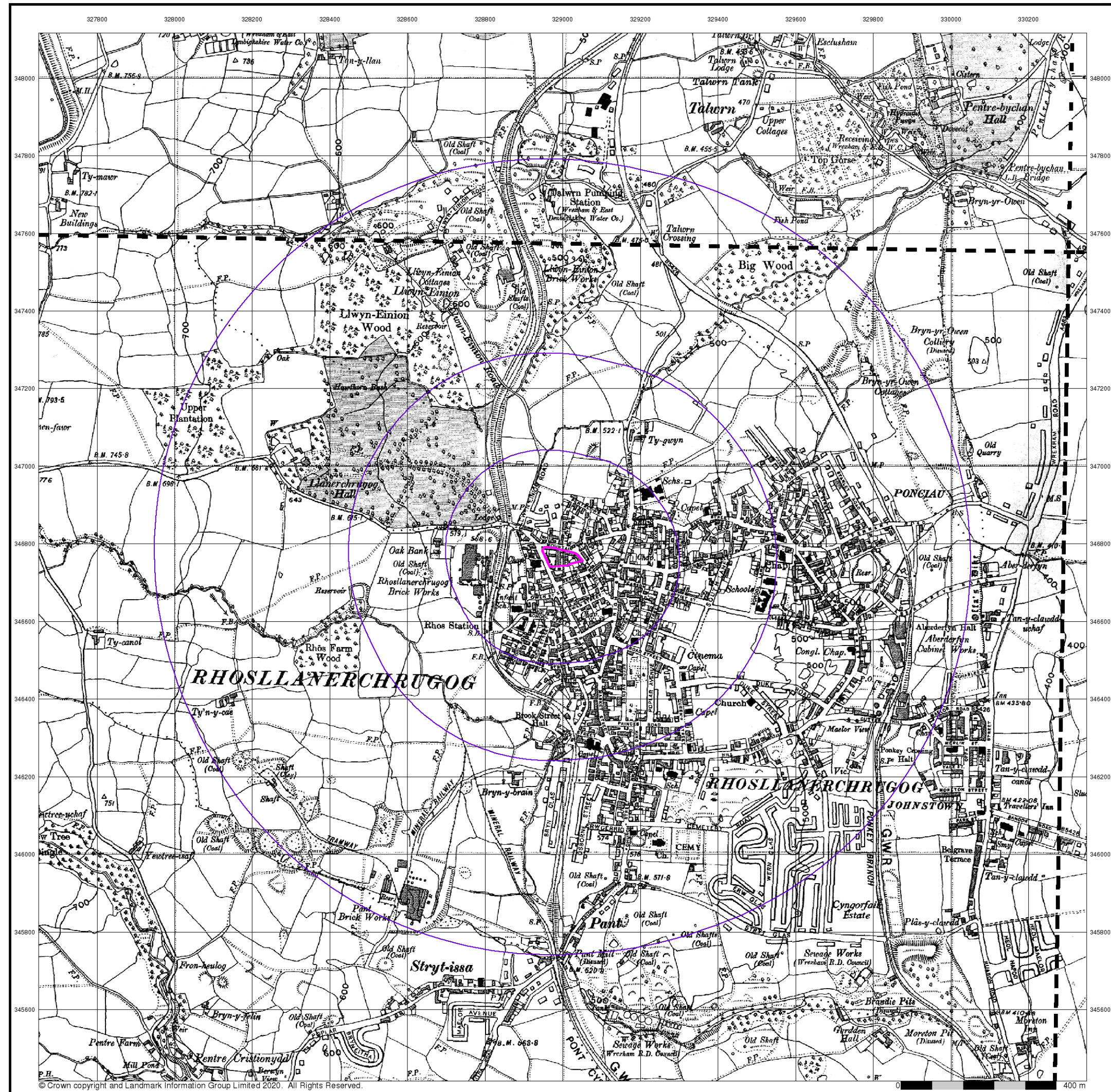
Map Name(s) and Date(s)			
028SW	1914	028SE	1915
	1:10,560		1:10,560
035NW	1914	035NE	1914
	1:10,560		1:10,560



Order Details	
Order Number:	267327850_1_1
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Slice:	A
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Denbighshire

Published 1938

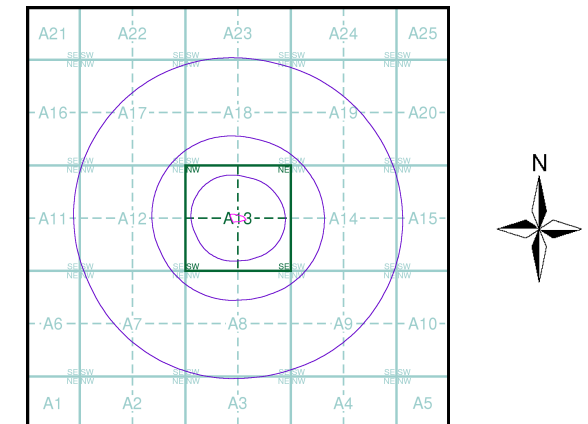
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

028SW 1938 1:10,560	028SE 1938 1:10,560
035NW 1938 1:10,560	035NE 1938 1:10,560

Historical Map - Slice A

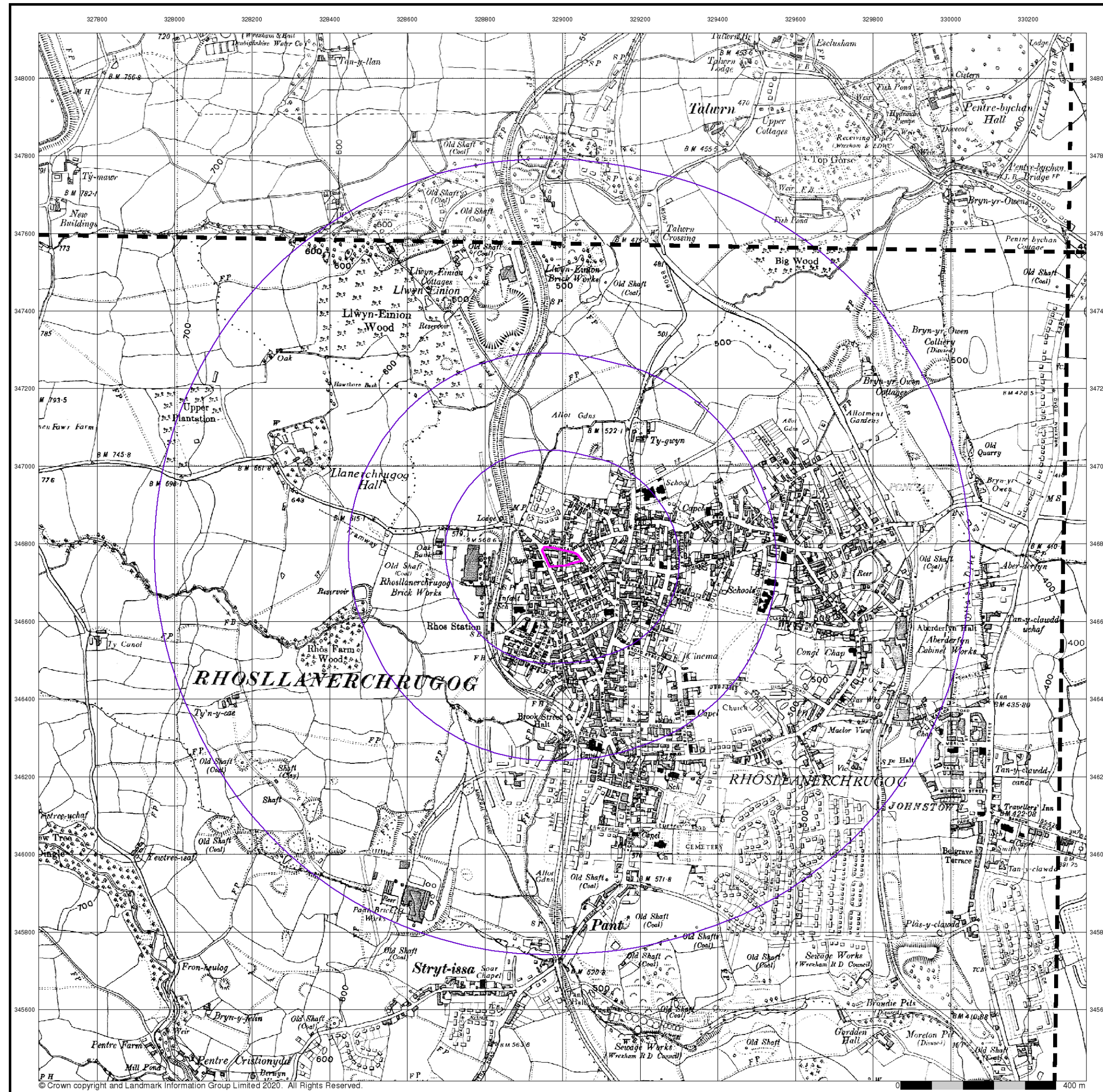


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Denbighshire

Published 1938 - 1954

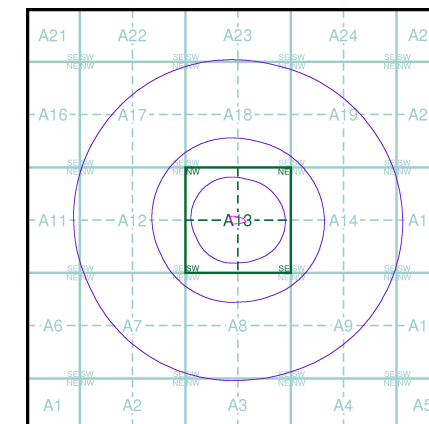
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

028SW 1954 1:10,560	028SE 1938 1:10,560
035NW 1953 1:10,560	035NE 1954 1:10,560

Historical Map - Slice A



Order Details

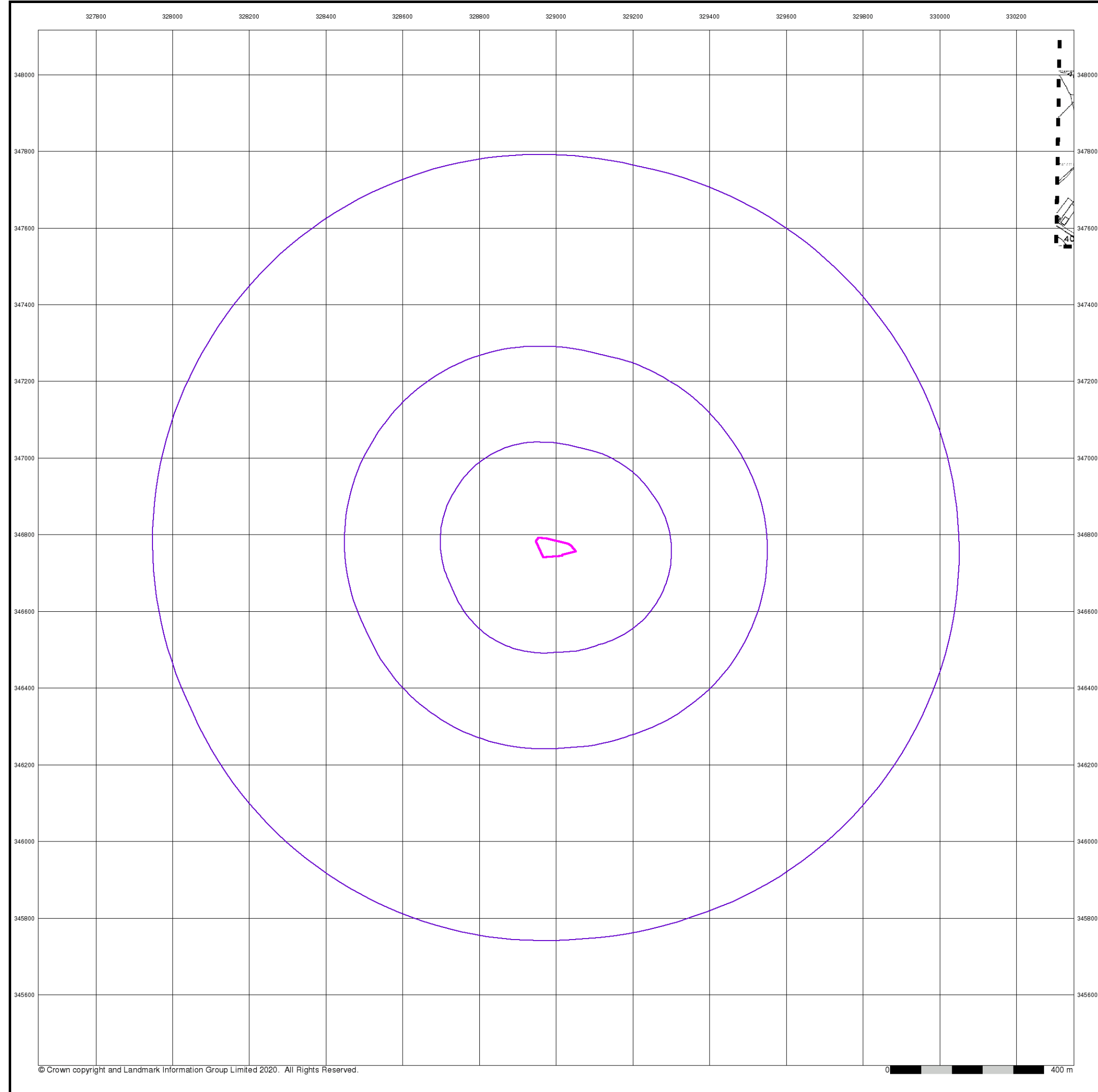
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Site Details

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Denbighshire

Published 1954

Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

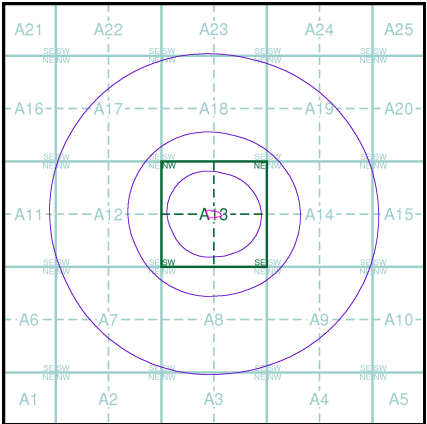


028SE

1954

1:10,560

Historical Map - Slice A



Order Details

Order Number:	267327850_1_1
Customer Ref:	4315
National Grid Reference:	329000, 346770
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

1 Central Buildings, Hall Street, Rhosllanerchrugog,
WREXHAM, LL14 2LD

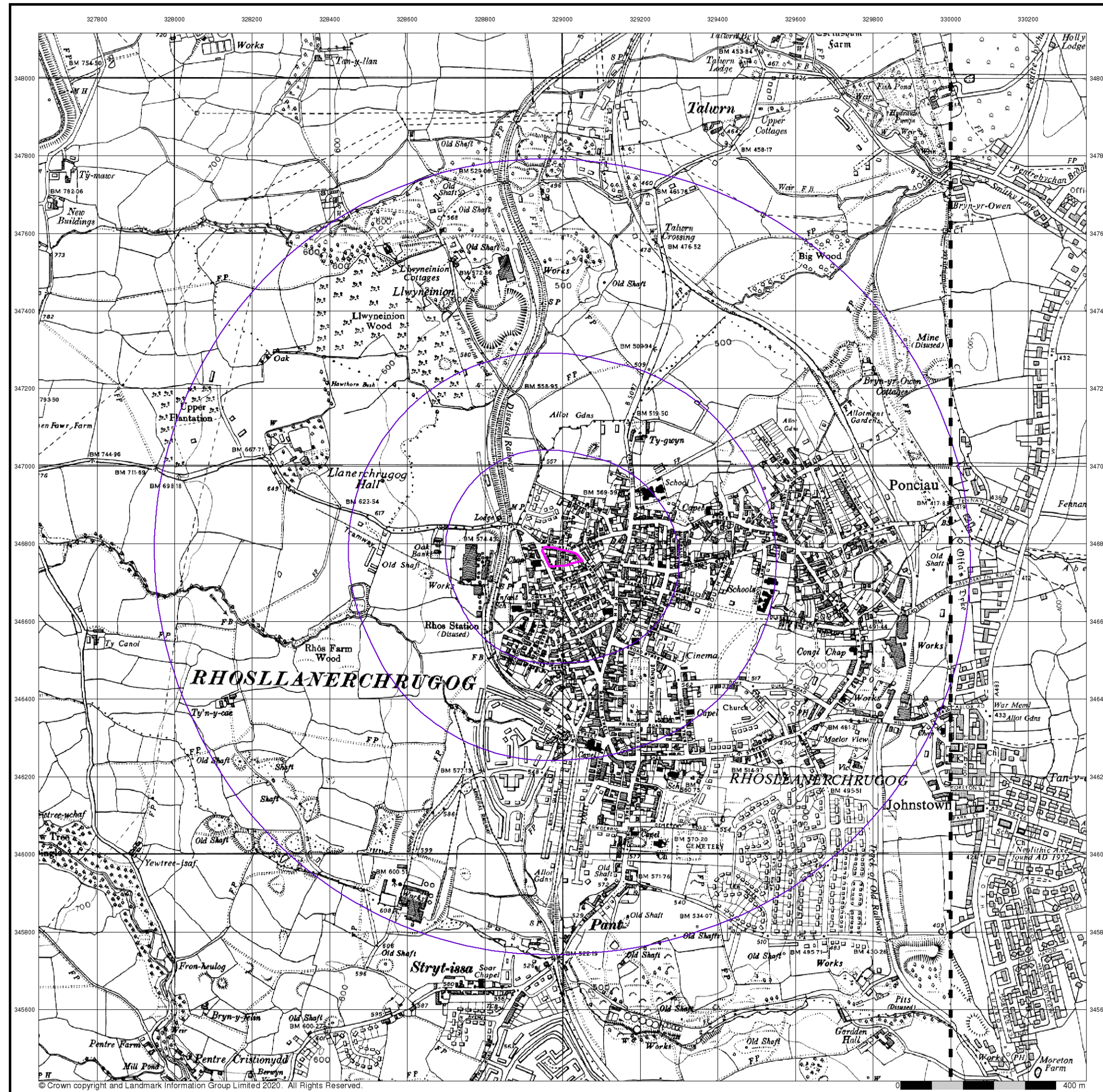
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Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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A Landmark Information Group Service v50.0 16-Nov-2020 Page 7 of 12



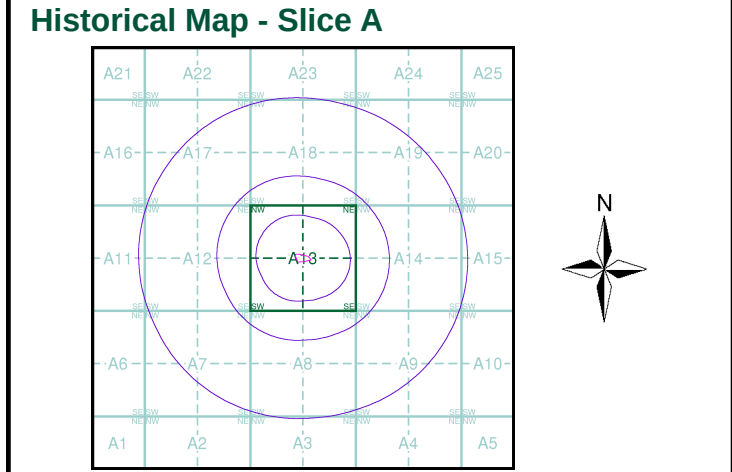
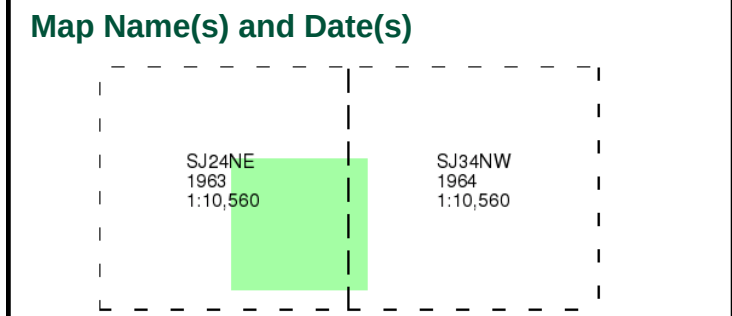
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Ordnance Survey Plan

Published 1963 - 1964

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

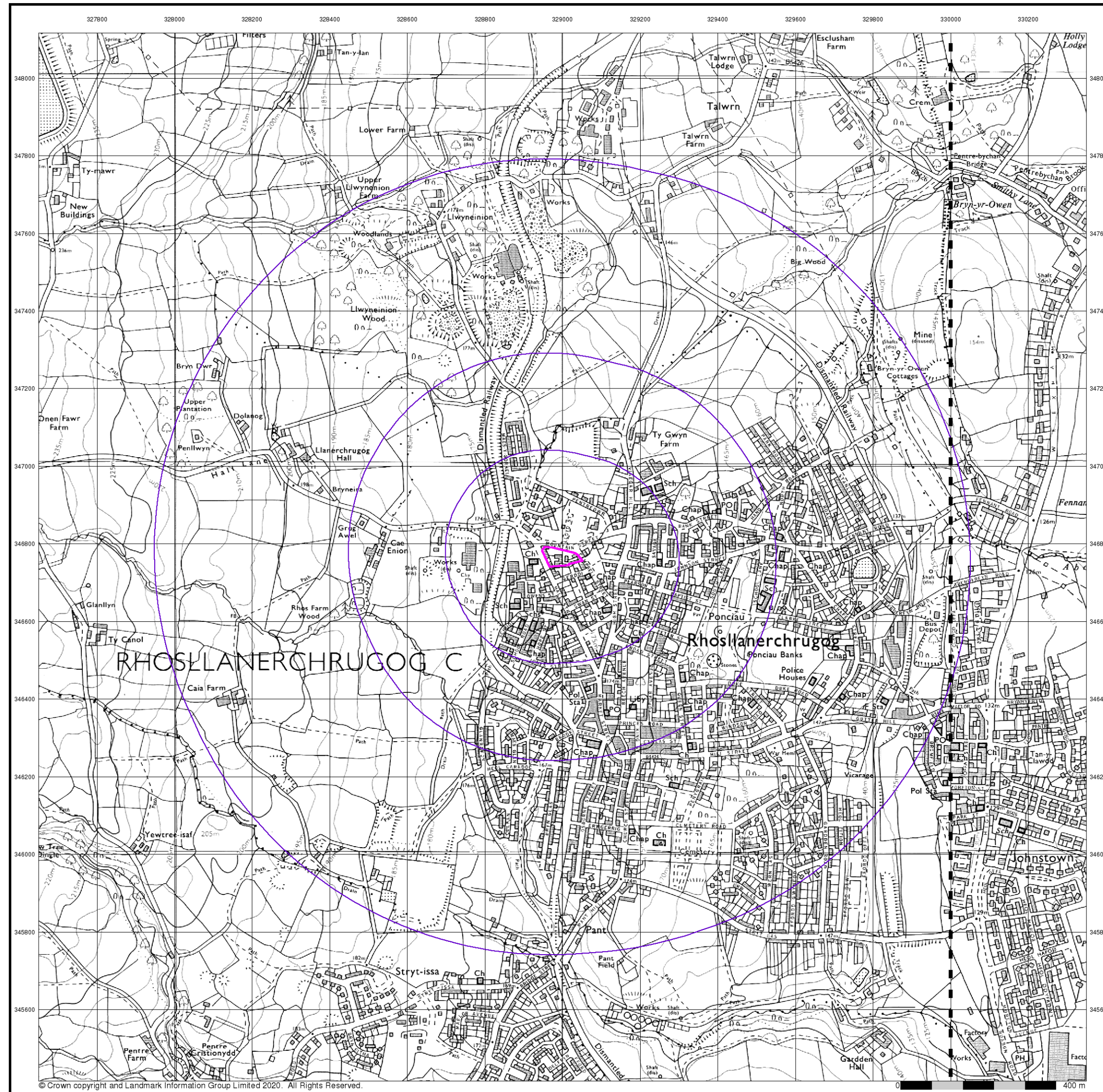


Order Details

Order Number:	267327850_1_1
Customer Ref:	4315
National Grid Reference:	329000, 346770
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

1 Central Buildings, Hall Street, Rhosllanerchrugog, WREXHAM, LL14 2LD



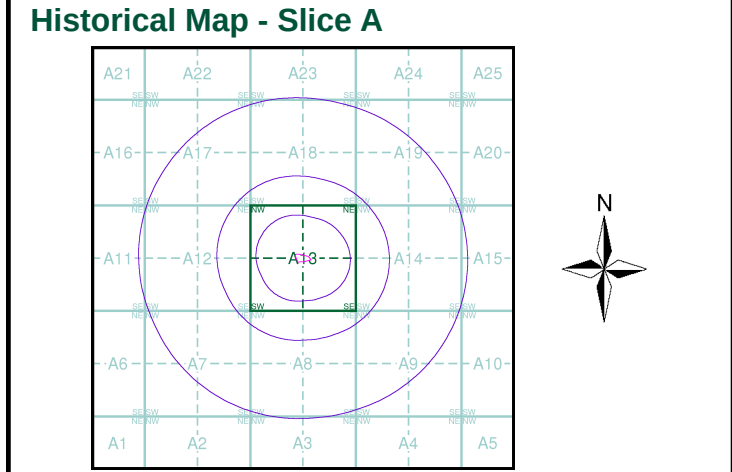
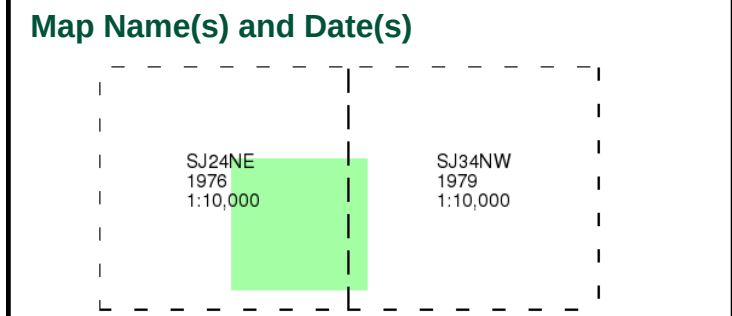
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Ordnance Survey Plan

Published 1976 - 1979

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

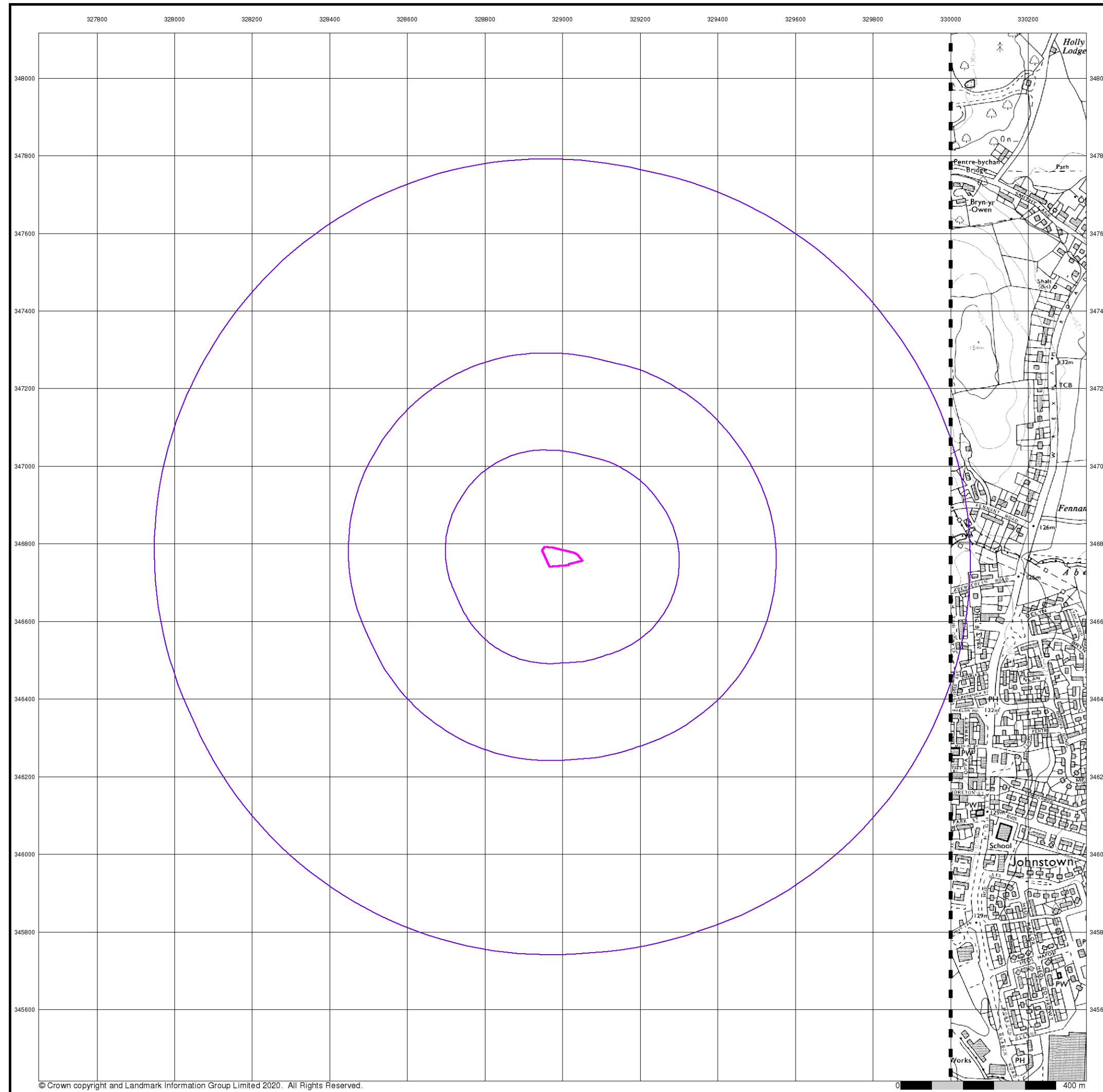


Order Details

Order Number:	267327850_1_1
Customer Ref:	4315
National Grid Reference:	329000, 346770
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

1 Central Buildings, Hall Street, Rhoŷllanerchrugog, WREXHAM, LL14 2LD



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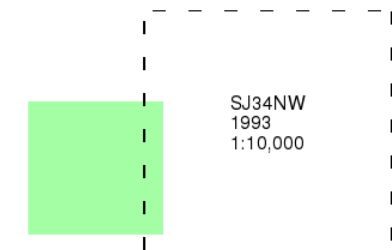
Ordnance Survey Plan

Published 1993

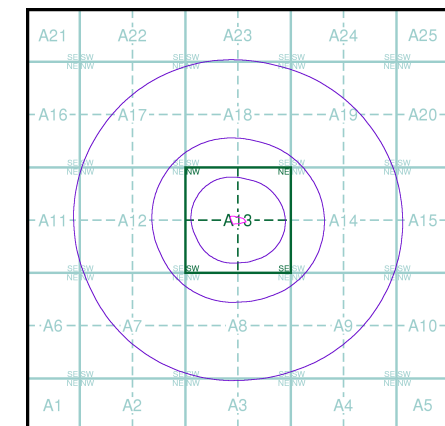
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

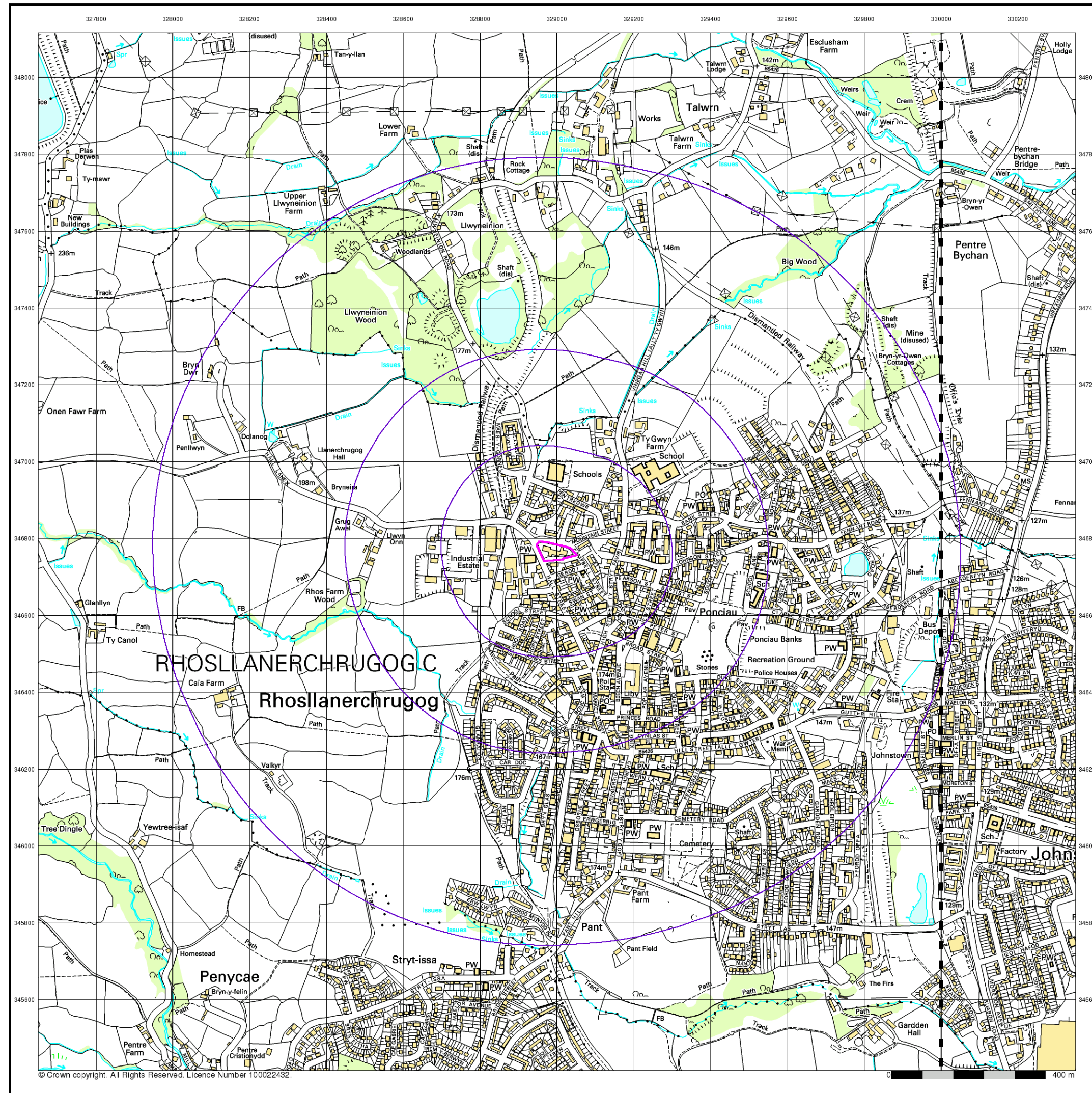


Order Details

Order Number: 267327850_1_1
Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

1 Central Buildings, Hall Street, Rhosllanerchrugog,
WREXHAM, LL14 2LD



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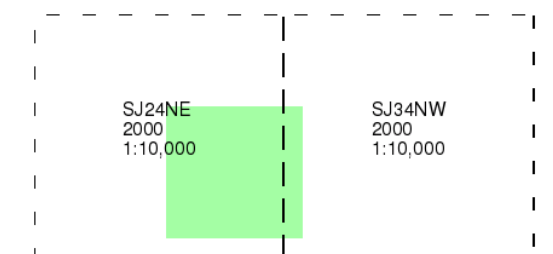
10k Raster Mapping

Published 2000

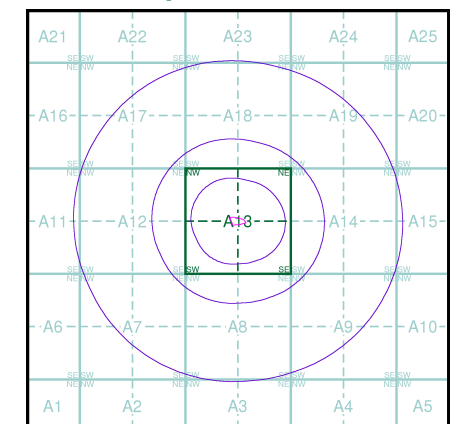
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

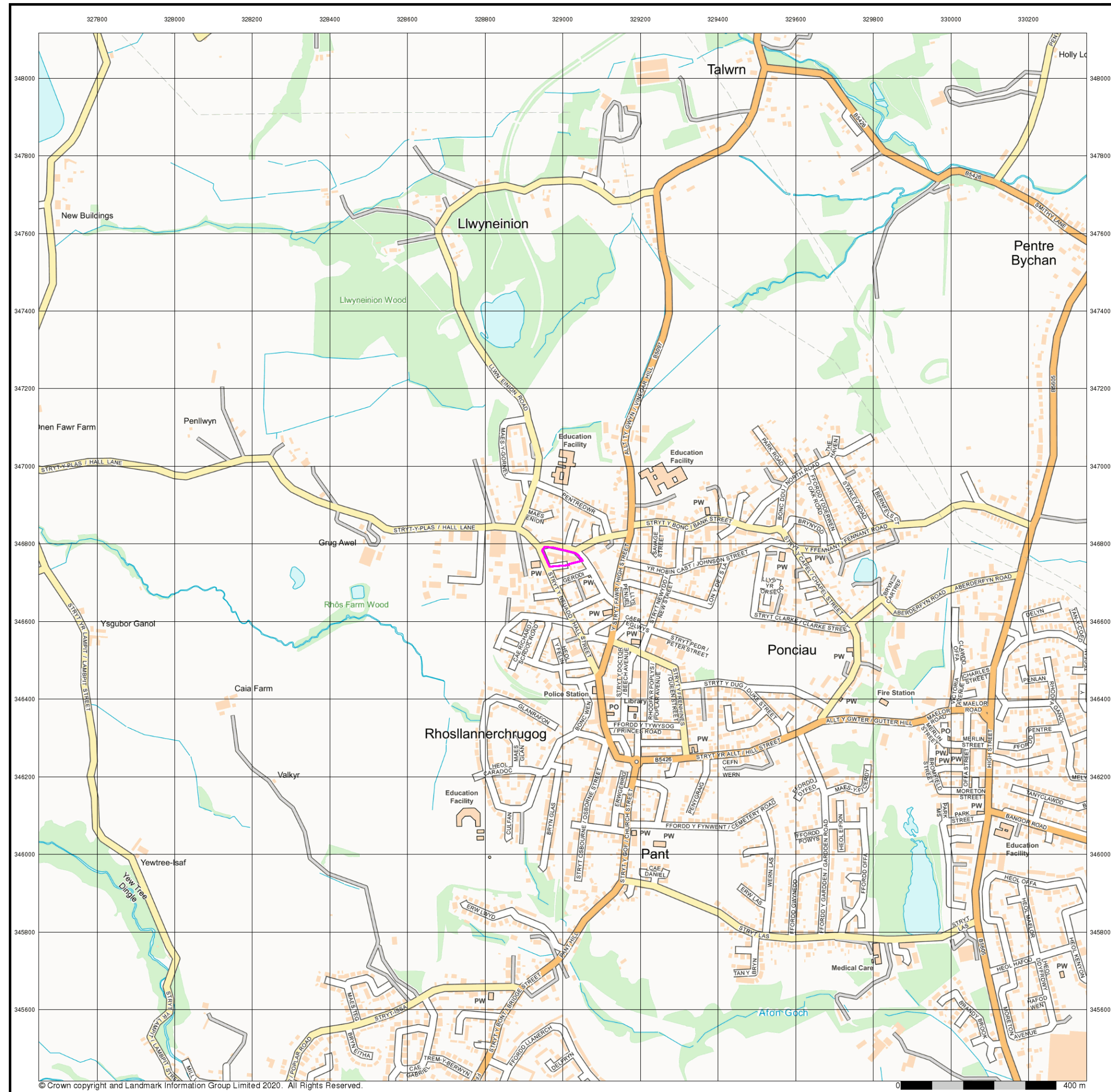
Order Number: 267327850_1_1
Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

1 Central Buildings, Hall Street, Rhosllanerchrugog,
WREXHAM, LL14 2LD

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Street View

Published 2020

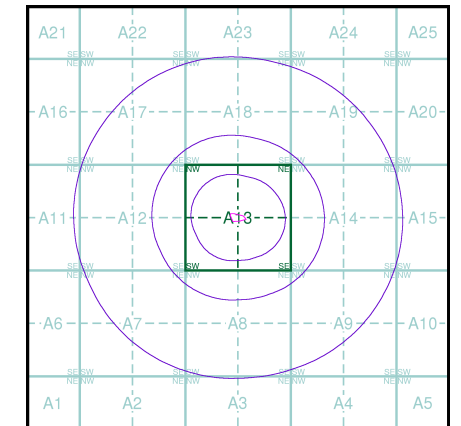
Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

Map Name(s) and Date(s)



Street View Map - Slice A



Order Details

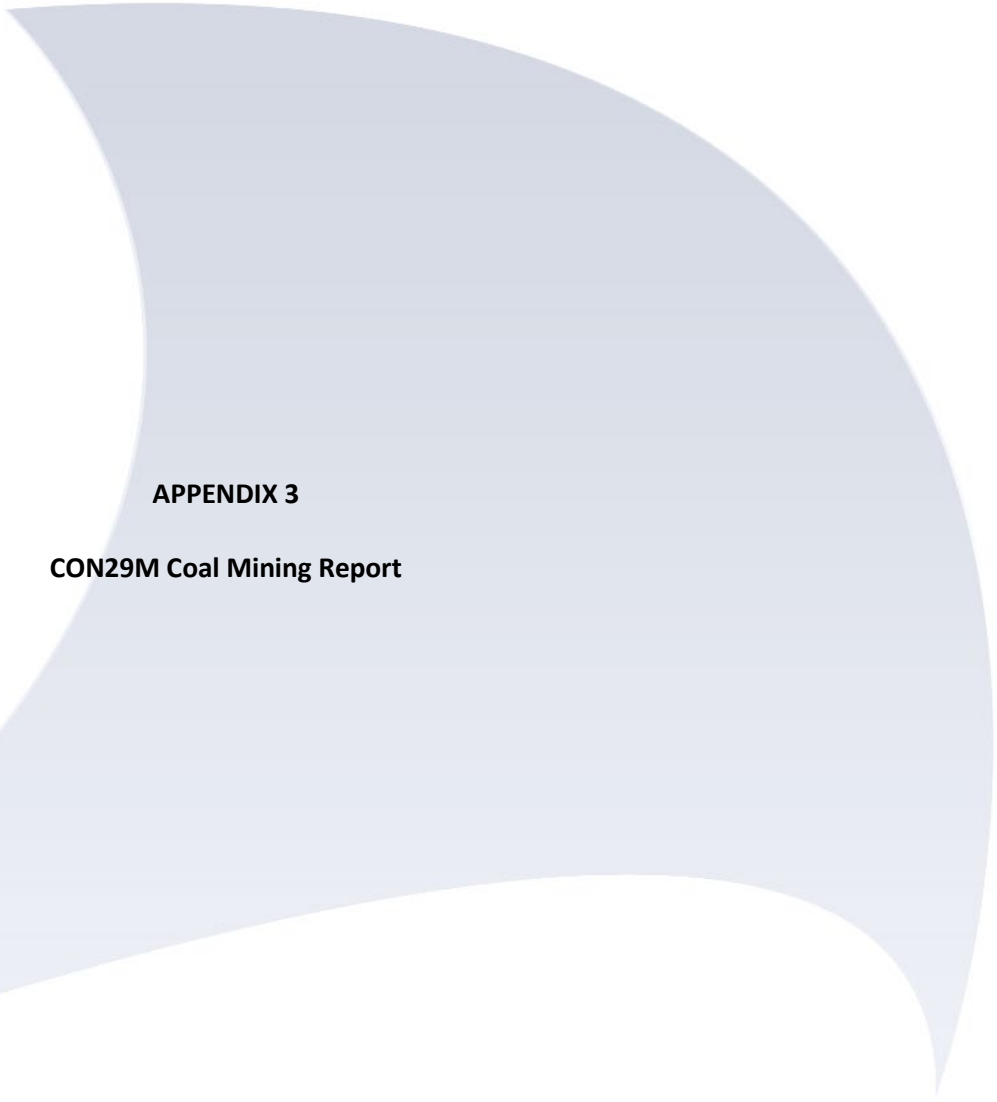
Order Number: 267327850_1_1
Customer Ref: 4315
National Grid Reference: 329000, 346770
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

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APPENDIX 3

CON29M Coal Mining Report



The Coal
Authority

CON29M

coal mining report

LLYS Y MYNYDD, RHOSLLANERCHRUGOG, WREXHAM, LL14 2LD, WREXHAM



Known or potential coal mining risks

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



Further action

These additional reports can give further detail on the risks identified:

- Mine entry interpretive report
- Mine entry plan and data sheets

For more information please see our [Further action reports](#) on page 10



Professional opinion

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

Your reference: [266501522_1](#)
Our reference: [51002328512001](#)
Date: **10 November 2020**

Client name:
NLIS Hub

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



The Law
Society

Enquiry boundary

Key

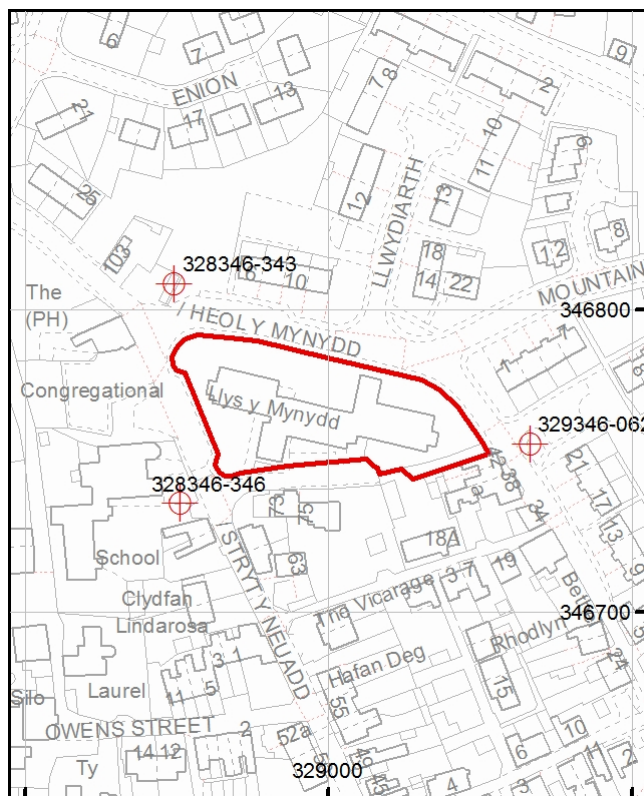
Approximate position of enquiry boundary shown



Disused mineshaft



We can confirm that the location is
on the coalfield



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



Accessibility

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

Professional opinion



Mine entries

The enquiry boundary shows the approximate location of the disused mine entry/entries referred to in this report. Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage caused by disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.coal.gov.uk. Please note this Act is not valid where coal was worked or extracted by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wishes to examine the source plans from which the information has been taken, these are available to view, at our Coal Authority head office in Mansfield. To book an appointment please call **01623 637 225**. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission must be sought from the owner. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency, 24 hour call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). To report an emergency you can call **01623 646 333**.



Future development

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

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

Detailed findings

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

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

1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 3 seams of coal at shallow to 80m depth, and last worked in 1866.

2 Present underground coal mining

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

3 Future underground coal mining

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

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

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

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

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

4 Mine entries

Within, or within 20 metres of, the boundary of the property there are 3 mine entries, the approximate positions of which are shown on the enquiry boundary plot. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Our records disclose the following information:

329346-062. No treatment details.

Mine entry 329346-062 was conveyed to Wrexham R.D.C in 1970.

328346-343. This entry has been filled to an unknown specification.

328346-346. No treatment details.

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

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

For an additional fee, the Coal Authority can provide a Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry/entries referred to in this report. It gives an opinion on the likelihood of mining subsidence damage caused from ground movement as a consequence of the mine entry/entries. It also gives details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie for development sites and new build).

For further advice on how to order this additional information please visit www.groundstability.com.

5 Coal mining geology

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

6 Past opencast coal mining

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

7 Present opencast coal mining

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

8 Future opencast coal mining

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

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

9 Coal mining subsidence

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

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

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

10 Mine gas

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

11 Hazards related to coal mining

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

12 Withdrawal of support

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

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

13 Working facilities order

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

14 Payments to owners of former copyhold land

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

Statutory cover



Coal mining subsidence

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

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

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

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



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

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

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

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

coal seams - bed of coal of varying thickness

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

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

mine entries - collective name for shafts and adits

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

shaft - vertical entry into a mine

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

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

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

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

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



Further action reports

Mine entry interpretive report - assesses the risk of ground movement from mine entries in, or within 20 metres of, the property boundary. To order this report, use the same boundary as the CON29M report, then draw the building on the additional map screen.

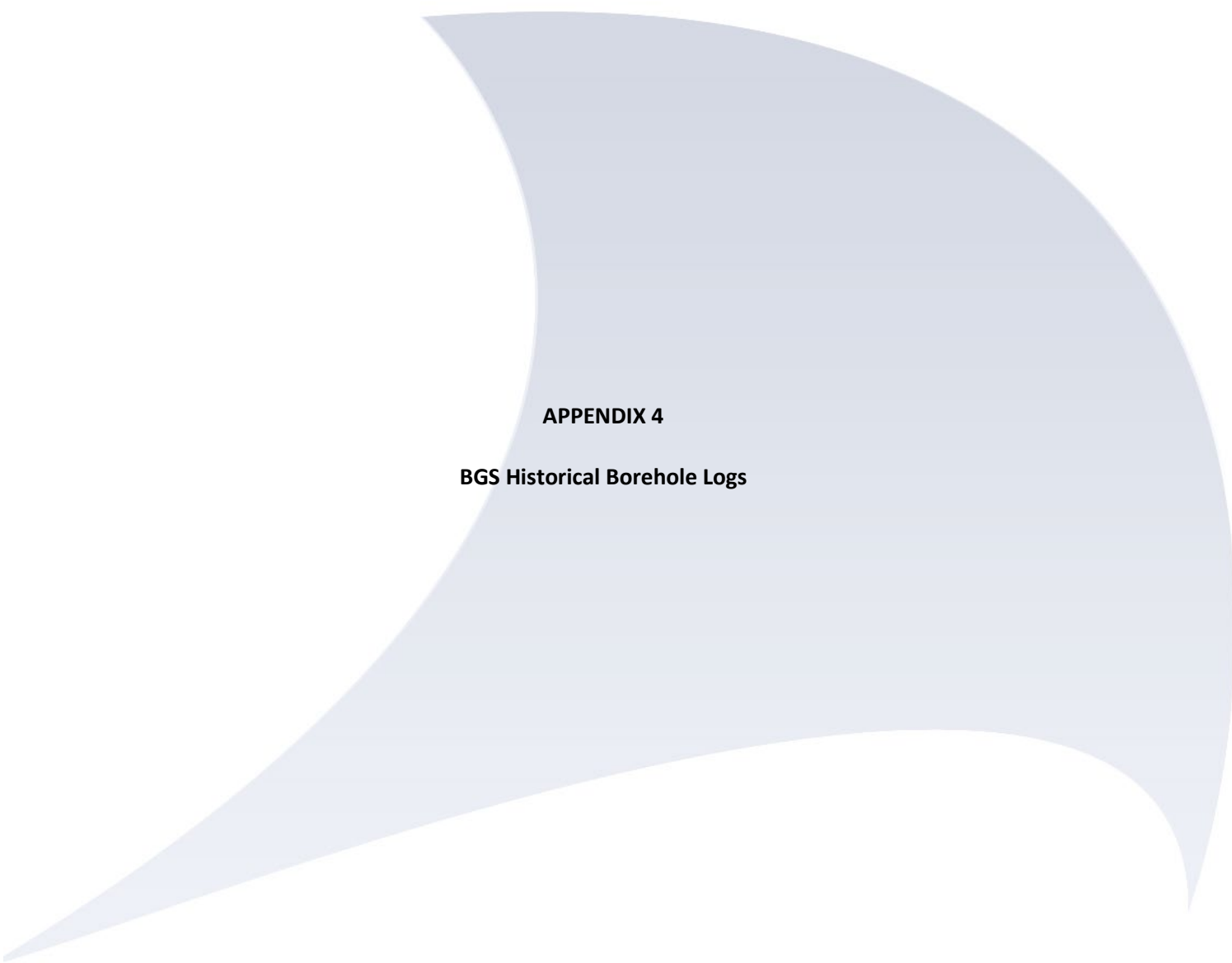
For more information and to order this report please visit:

<https://www2.groundstability.com/interpretive-report>

Mine entry plan and data sheets - give additional information on mine entries recorded on a piece of land. To order this report use the same boundary as the CON29M report and a member of our team will contact you to confirm the mine entries to include in this bespoke report.

For more information and to order this report please visit:

<https://www2.groundstability.com/plan-and-data-sheets>



APPENDIX 4

BGS Historical Borehole Logs

BOROUGH OF WREXHAM MAELORMOUNTAIN STREET SITE, RHOS.Borehole Details - Area "B"SJ 24 NE / 46 aa
bbBorehole NumberFromToDescriptionMetres

B.1

0

.90

Soil

0.90

.90

23.50

Boulder Clay

22.60

23.50

27.00

Siltstone

3.50

Bore Dry

Bore Complete

aa
2897 4677

B.2

0

1.10

Soil

1.10

1.10

5.90

Boulder Clay

4.80

5.90

6.10

Mudstone

0.20

6.10

6.60

Shale

0.50

6.60

6.80

Fireclay

0.20

6.80

8.90

Mudstone

2.10

8.90

12.70

Siltstone

3.80

12.70

15.20

Mudstone

2.50

15.20

15.60

Coal

0.40

15.60

15.90

Fireclay

0.30

15.90

16.80

Mudstone

0.90

16.80

17.55

Coal

0.75

17.55

20.05

Mudstone

2.50

20.05

20.38

Coal

0.33

20.38

21.15

Mudstone

0.77

21.15

21.60

Coal

0.45

21.60

27.00

Mudstone

5.40

Bore Dry

Bore Complete

bb
2900 4677

9.3

1.20

2.50

0.77

BOROUGH OF WREXHAM MAELORMOUNTAIN STREET SITE, RHOS.Borehole Details - Area "B"SJ 24NE/46 cc
dd

<u>Borehole Number</u>	<u>From</u>	<u>To</u>	<u>Description</u>	
	<u>Metres</u>			
B.3	0	.40	Made Up Ground	0.40
	.40	1.05	Soil	0.65
	1.05	3.80	Boulder Clay	2.75
	3.80	7.20	Mudstone	3.40
	7.20	7.95	Coal	0.75
	7.95	9.10	Mudstone	1.15
	9.10	12.20	Siltstone	3.10
	12.20	15.30	Mudstone	3.10
	15.30	20.10	Siltstone	4.80
	20.10	20.38	Coal	0.28
	20.38	20.80	Fireclay	0.42
	20.80	21.10	Mudstone	0.30
	21.10	21.62	Coal	0.52
	21.62	23.80	Mudstone	2.18
	23.80	24.68	Coal	0.88
	24.68	27.00	Mudstone	2.32
			Bore Dry	
			Bore Complete	

29024676

0.72

B.4

0	.30	Made Up Ground	0.30
.30	.90	Soil	0.60
.90	23.80	Boulder Clay	22.90
23.80	27.00	Siltstone	3.20
		Bore Dry	
		Bore Complete	

28974675



Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Tel: 01248 672666

Fax: 01248 672601

Email: contact@caulmert.com

Web: www.caulmert.com