



**CONVATEC LIMITED**

**CONVATEC GREEN MANUFACTURING HUB, RHYMNEY**

**ARCHAEOLOGICAL DESK BASED ASSESSMENT**

**FEBRUARY 2024**

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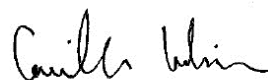
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## APPENDICES

- Appendix 1    Plates
- Appendix 2    Impact Assessment Methodology

DRAWINGS	TITLE
BR10167-024	Site Location Plan
BR10176-025	Designated Historic Assets
BR10167-026	Non-Designated Historic Assets

BR10167-029	Historic Mapping
BR10167-030	Extractive Areas
BR10167-031	1945 Aerial Image

## 1 INTRODUCTION

- 1.1.1 This report sets out the archaeological and historical background of a Site at Rhymney, Caerphilly, South Wales. The Site is centred on NGR: SO 10053 08183 (Drawing BR10167-024). The proposed development would comprise of three wind turbines, expected to be approximately 150m to tip, with an installed capacity of approximately 15MW, along with a solar farm of approximately 5MW installed capacity.
- 1.1.2 This report provides an assessment of the significance of any known or potential historic assets of an archaeological nature within the boundary of the Site. Potential direct impacts as a result of the proposed development to identified and potential historic assets of an archaeological nature are established, and their heritage significance assessed. Appropriate mitigation measures for reducing/offsetting these potential impacts are proposed where relevant.
- 1.1.3 This assessment has been undertaken in accordance with the approved *Convatec Green Manufacturing Hub, Rhymney – Written Scheme of Investigation: Archaeological Desk-Based Assessment* (Bellamy 2024). The assessment has also been undertaken following the Standards and Guidance of the Chartered Institute for Archaeologists (CIfA 2014) and in accordance with terminology expressed within Chapter 6 of Planning Policy Wales (PPW). This assessment does not assess any potential indirect impacts to the setting of historic assets.
- 1.1.4 In order to inform this assessment baseline data was obtained from the following:
- Glamorgan-Gwent Archaeological Trust Historic Environment Record (HER) – consulted 28<sup>th</sup> July 2023
  - Gwent Archives;
  - National Monuments Record of Wales
  - GIS datasets (Cadw 2023):
  - Scheduled Monuments
    - Listed Buildings
    - Registered Parks and Gardens
    - Registered Battlefields
    - Historic Landscapes
- 1.1.5 In addition, a walkover survey of the Site was undertaken on the 10<sup>th</sup> of January 2024.

## **2 LEGISLATION AND PLANNING POLICY**

### **2.1 Legislation**

2.1.1 Designated historic assets protected by statutory legislation comprise Scheduled Monuments, Protected Wrecks, Listed Buildings and Conservation Areas. Nationally significant archaeological sites, monuments and structures are protected under the Ancient Monuments and Archaeological Areas Act (1979), as amended by the Historic Environment (Wales) Act (2016).

### **2.2 National Planning Policy**

2.2.1 Chapter 6 of Planning Policy Wales (PPW) (2024) sets out the Welsh Government's objectives to the protection, management and conservation of the historic environment in Wales and requires that:

- Decisions are based upon an understanding of the significance of historic assets;
- Archaeological remains are conserved, both for their own sake and for their role in education, leisure and economy;
- The character of historic buildings is safeguarded and change managed to ensure their special architectural and historic interest is preserved;
- The character or appearance of conservation areas is preserved or enhanced whilst helping them remain vibrant and prosperous;
- The special interest of sites of the register of historic parks and gardens in Wales are preserved; and
- Areas of registered historic Welsh landscapes are conserved.

2.2.2 These objectives are emphasised within Technical Advice Note 24 'The Historic Environment' (2017) which defines a historic asset as 'an identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape.' (TAN 24 Para 1.7).

2.2.3 Where historic assets are to be affected by a proposed development TAN 24 advises that it is for the applicant to provide the local planning authority with sufficient information to allow the assessment of their proposals in respect of designated assets and their settings.

2.2.4 Statutory designations comprise Scheduled Monuments, Protected Wrecks, Listed Buildings and Conservation Areas. In addition to the national and local planning policy,

presented below, the Ancient Monuments and Archaeological Areas Act (1979) provides protection for Scheduled Monuments.

2.2.5 The Historic Environment (Wales) Act 2016 amends sections of both the Ancient Monuments and Archaeological Areas Act 1979 and the Planning (Listed Buildings and Conservation Areas) Act 1990 in relation to the Historic Environment of Wales. The Act also contains new stand-alone provisions, including the creation of a statutory register of historic parks and gardens and a statutory register of historic place names, and places a statutory duty of Welsh Ministers to compile and maintain Historic Environment Records (HER).

2.2.6 Non-statutory designations such as registered battlefields, are assessed under national and local planning policy only. This is also the case for the remainder of the archaeological resource. These are non-statutory designations and comprise entries onto a Historic Environment or Sites and Monument Record as well as previously unknown features which may be recorded as part of a desk-based assessment or environmental impact assessment.

## 2.3 Local Policy

2.3.1 The *Caerphilly County Borough Local Development Plan up to 2021*, adopted in November 2010, makes reference to the historic environment. Of particular relevance is Policy SP6 'Place Making', the key objectives of which are:

- Maintain the vitality, viability and character of the County Borough's town and village centres and re-establish them as a focus for economic activity and community pride.
- Maintain, enhance and develop a hierarchy of town and village centres which are easily accessible, and which meet the needs of all sections of the population.
- Protect and enhance the overall quality of the historic natural and built environment of the County Borough.

### **3 BASELINE INFORMATION**

#### **3.1 Site Description**

- 3.1.1 The Site lies on the south-east facing hillside adjacent to the west boundary of the Heads of the Valley Industrial Estate, located in the county borough of Caerphilly in South Wales. The Site is centred on NGR SO 10053 08183 and is situated at the northern end of the Rhymney Valley (Drawing BR10167-024). The Site is located approximately 32 km north of Cardiff and 28 km north-west of Newport.
- 3.1.2 The proposed development Site forms an irregularly-shaped parcel comprising roughly 25.5 ha. The Site currently consists of several fields of improved grassland, bound by a mix of scrub, hedgerows and open/featureless boundaries. The Site is broadly bound by the Nant Carno stream, local roads with scattered properties and further improved grassland to the north, the Heads of the Valley Industrial Estate and the A469 to the east, further unimproved grassland and disused tips to the south and an un-named local road, unimproved grassland and disused tips to the west.

#### **3.2 Geology and Topography of Site**

- 3.2.1 The Site is situated within the landscape of Rhymney Valley, an area that varies topographically. The central section of the Site slopes gently upwards from east to west, with the eastern end of the Site lying at around 333m above Ordnance Datum (aOD) and the western end at around 386m aOD. The north-east corner of the Site lies at its lowest point, at around 298m aOD.
- 3.2.2 The geology mapped in the north of the Site is recorded as the South Wales Lower Coal Measures Formation; a grey (productive) coal-bearing mudstones/siltstones, with seatearths and minor sandstones (BGS 2023). This bedrock geology formed in the Langsettian Substage. The bedrock geology is overlain by restored soils, mostly from quarrying and opencast mining, of a loamy texture (BGS 2023).
- 3.2.3 The geology mapped in the south of the Site is recorded as the South Wales Middle Coal Measures Formation; a grey (productive) coal-bearing mudstones/siltstones, with seatearths and minor sandstones (BGS 2023). This bedrock geology formed between the Duckmantian Substage and Bolsovian Substage. Restored soils of a loamy texture, resulting from quarrying and opencast mining, are also present in this area (BGS 2023).

#### **3.3 Non-Designated and Designated Historic Assets**

- 3.3.1 The Glamorgan-Gwent Archaeological Trust Historic Environment Record (HER) was consulted for entries within the search area (taken as an area of approximately 1km



radius from the Site boundary). Besides identifying historic assets that may be directly or indirectly affected by the proposed development, this search boundary is expected to provide sufficient data to represent the archaeological character of the area. Information on designated historic assets was complimented with GIS information downloaded from Cadw (Cadw 2023a; 2023b).

- 3.3.2 All relevant designated historic assets within the 1km search area are shown on Drawing BR10176-025 and specified where relevant within the following text. There are no designated historic assets located within the Site boundary. The closest designated asset to the Site is the Rhymney Upper Furnace, situated approximately 425m north-east of the Site (**GM403**). The Rhymney Upper Furnace (**GM403**) comprises the remains of an industrial blast furnace, which may represent the sole survivor of the first generation of single coke fired blast furnaces in South Wales. The monument is of national importance for its potential to enhance and illustrate knowledge and understanding of the development of the iron industry in Wales.
- 3.3.3 All relevant non-designated historic assets within the 1km search area are shown on Drawings BR10167-026 and specified where relevant within the following text. The majority of these non-designated historic assets are associated with the Rhymney Extractive Area (**HER EA155**; Drawing BR10167-030); an area typified by heavily industrial and extractive activity, with many features relating to the extraction of both ironstone and coal. As recorded during the *South Wales Industrial Ironworks Landscapes* project, only 8.78% of the original archaeological resource survives, with the surviving elements collectively being of moderate to high archaeological potential (Roberts and Graham 2008). Within the bounds of the Site there, eight non-designated historic assets are recorded that are detailed below (**HER 01320m; 03042m; 03046m; 03047m; 03048m; IWT016; IWT020; IWW124**).
- 3.3.4 **Previous Archaeological Investigations**
- 3.3.5 No archaeological investigations have been undertaken within the Site. Likewise, no intrusive archaeological investigations have been undertaken in the area; however, a field study assessing the extent of survival along the Rhymney Tramroad Branch found that small sections of the railroad do survive (**HER E001994**).

### 3.4 General Historical Background

#### *Prehistoric*

- 3.4.1 The early prehistoric period is characterised by cycles of climatic changes with glacial phases alternating with more temperate interglacial phases. These cycles coincided

with phases of occupation and abandonment by hominins. Evidence for occupation of the landscape by subsistence groups is ephemeral, being limited to artefact evidence in the form of isolated find spots or stone tool assemblages, and/ or evidence in the palaeoenvironmental record. No evidence for this early anthropogenic activity is recorded within the search area.

- 3.4.2 The Neolithic period in Britain saw the change from highly mobile hunter-gatherer groups, to settled, farming communities. This period is generally characterised by large ceremonial and funerary monuments in the landscape, with settlement evidence elusive and mainly interpreted from pits, middens, postholes and surface scatters. Evidence for Neolithic activity in proximity to the Site, however, is notably absent. There are no historic assets dating to the Neolithic period within the Site boundary, nor within the search area.
- 3.4.3 The Bronze Age period is characterised by a wetter, cooler climate and the introduction of metal working and new types of pottery and funerary traditions, the most common of which are forms of the round barrow. Evidence for Bronze Age activity in the area is represented by two monuments within the landscape. The remnants of a small doughnut-shaped cairn (**HER 03146m**), is recorded approximately 940m to the north-west of the Site. The stone-rubble cairn measures c.3-4m in diameter and stands about 1m high. In closer proximity to the Site, an undated but likely Bronze Age stone spread, possibly the remnants of a prehistoric cairn, has been recorded approximately 100m to the south (**HER 02424m**).
- 3.4.4 No other known evidence for the prehistoric period exists in the search area; this may suggest that the area that the Site occupies was likely either open land or a forested area during this time, or that the assets dating from this period were lost due to the extensive opencast mining within the Rhymney landscape.

#### *Iron Age and Romano-British*

- 3.4.5 There are no non-designated historic assets dating to the Iron Age or Romano-British periods located within the Site boundary, nor within the 1km study area. The closest significant evidence for Iron Age activity within the surrounding landscape, some 7.5km to the west in the area of Aberdare, is the Gwersyll Hillfort (**NPRN 305673**); a relatively rare Iron Age fort constructed around a series of Bronze Age cairns (**NPRN 301287**). The nearest notable evidence for Roman activity in the area, situated approximately 5.5km to the west at Merthyr Tydfil, is the Penydarren Roman Military Settlement which dates from the 1<sup>st</sup> century AD (**NPRN 19696**).

### *Early Medieval*

- 3.4.6 Documentary evidence covering the early medieval period near the Site is scarce. There are no non-designated or designated historic assets dating to the early medieval period located within the Site boundary, nor within the 1km study area.

### *Medieval*

- 3.4.7 There are no non-designated or designated historic assets dating to the medieval period located within the Site boundary, nor within the 1km study area. The nearest notable evidence for medieval activity in the area, situated approximately 2.5km to the north near Traed y Milwyr, is the purported but likely false site of a late 11<sup>th</sup> century battle between the Welsh and Anglo-Norman armies (**NPRN 404854**).

### *Post Medieval and Industrial Period*

- 3.4.8 The town of Rhymney was founded with the establishment of the Union ironworks in 1801, with the Rhymney Iron Company later being founded as a result of a merger between the Bute and Union Ironworks in 1837. From the mid-19<sup>th</sup> century, steam coal pits were sunk to the south of the town. The ironworks closed in 1891 and by the early 20<sup>th</sup> century the town's collieries employed almost the entire local population.
- 3.4.9 Due to the heavy presence of mining and industrial activity within Rhymney during the post medieval and Industrial period, many of the extant historic assets relate to these endeavours. Early post-medieval activity is limited to cartwheel coins and a musket ball (**HER 07518m**) found approximately 65m south of the Site boundary.

### Post Medieval and Industrial Assets within the Site

- 3.4.10 Within the bounds of the Site there, eight non-designated historic assets are recorded that are detailed below (**HER 01320m; 03042m; 03046m; 03047m; 03048m; IWT016; IWT020; IWW124**).

### *Rhymney Limestone Railway (HER IWT016)*

- 3.4.11 The Rhymney Limestone Railway (**HER IWT016**) traverses the north-eastern portion of the Site, in the area of the proposed access route. In this area, as noted during the *Southeast Wales Industrial Ironworks Landscapes* project (Roberts and Jones 2007), the tramroad is recorded as being followed by a rough tarmac and gravel track that has been heavily resurfaced with building rubble; buried remains may survive in beneath these surfaces. The tramroad likely dates to 1852, when the Rhymney Ironworks abandoned quarrying at Trevil. It is thought to have been converted into a

standard gauge railway in the 1860s. The railway is known to have operated until the end of the 19<sup>th</sup> century, when the quarry neared the limits of its lease (van Laun 2001).

*Bute Tramroad (HER IWT020)*

- 3.4.12 The Bute Tramroad (**HER IWT020**), which traversed the western side of the Rhymney valley across Merthyr Common, was established when the Bute Ironworks took over the quarries at Twynau Gwynion in 1825 (van Laun 2001). The tramroad was in use until the mid-19<sup>th</sup> century, until it was superseded by the aforementioned Rhymney Limestone Railway. As noted during the *Southeast Wales Industrial Ironworks Landscapes* project, none of historic asset survives (Roberts and Jones 2007).

*Leat (HER IWW124)*

- 3.4.13 A leat (**HER IWW124**), which is first depicted on the 1<sup>st</sup> edition Ordnance Survey map (1875) as extending between Bute Town Reservoir and the Rhymney Ironworks, traversed the north-eastern portion of the Site in the area of the proposed access route. The *Southeast Wales Industrial Ironworks Landscapes* project noted that the leat partially survives in areas, but has been destroyed by opencast mining in most areas (Roberts and Jones 2007).

*Old Ironstone Quarry (HER 01320m)*

- 3.4.14 Within the western portion of the Site, an old ironstone quarry (**HER 01320m**) is depicted on 1<sup>st</sup> Edition (1875) Ordnance Survey map and indicated on the Dowlais Iron Company map of 1824. While the *Southeast Wales Industrial Ironworks Landscapes* project (Roberts and Jones 2008) states that the extent of its survival is unknown, cartographic sources and aerial photographs indicates that the asset has been destroyed by opencast mining.

*Coed-cae Du Reservoir (HER 03042m)*

- 3.4.15 Partially extending within the north-western portion of the Site was the Coed-cae Du Reservoir (**03042m**). The reservoir was first depicted on the 1<sup>st</sup> Edition (1875) Ordnance Survey map, but is shown to have been 'disused' by 1951. As noted during the *Southeast Wales Industrial Ironworks Landscapes* project, the reservoir was destroyed by modern opencast mining (Roberts and Jones 2007).

*Workings and Tips on Pen-y-fedw and Bryn Pyllog (HER 03046m)*

- 3.4.16 Near the centre of the Site, the Ordnance Survey map of 1875 depicts a series of workings and tips (**HER 03046m**). This asset, as noted during the *Southeast Wales*

*Industrial Ironworks Landscapes* project, has been entirely destroyed by modern opencast mining (Roberts and Jones 2007).

*Structure (HER 03047m)*

- 3.4.17 Near the southern boundary of the Site, a small rectangular structure is depicted on the 3<sup>rd</sup> Edition Ordnance Survey map (1919) that may represent a building (**HER 03047m**). Nevertheless, as noted during the *Southeast Wales Industrial Ironworks Landscapes* project, the structure has been entirely destroyed by modern opencast mining (Roberts and Jones 2007).

*Ventilation Shaft (HER 03048m)*

- 3.4.18 Near the centre of the Site, the Ordnance Survey map of 1875 depicts a ventilation shaft that may date to the 1940s (**HER 03048m**). While the *Southeast Wales Industrial Ironworks Landscapes* project (Roberts and Jones 2007) states that the extent of its survival is unknown, cartographic sources and aerial photographs indicates that the asset has been destroyed by opencast mining.

Post Medieval and Industrial Mining Assets

- 3.4.19 Due to the high volume of post medieval and Industrial period mining assets within the 1km search area, for the purposes of this assessment, only those assets located within the Site boundary and within a 100m study area are discussed herein.
- 3.4.20 Approximately 90m to the south of the Site are embankment leats (**HER 02413m**). Further to the east, between 50m to 100m south of the Site boundary, lies a concentration of mining assets which include an embanked linear feature (**HER 02287.0m**); a linear quarry scoop (**HER 02490m**); a boulder revetted embankment (**HER 02615.m**); a short length of leat (**HER 02912m**); the recorded location of the Nant Llesg Opencast quarry (**HER 02909m**); and to interconnecting linear hollows at the quarry edge (**HER 02910m**).
- 3.4.21 Between 35m and 90m to the south of the Site lies a second concentration historic mining assets. These include a level which appears on the Rhymney Iron Company map of 1837-1852 (**HER 02949m**); a leat which appears to have supplied water to the Old Dyffryn Colliery (**HER 02926.0m**); a possible leat from a damp area to the edge of the quarry which passes close to a number of in-filled pits and shafts (**HER 02918.0m**); a leat that runs to the edge of the quarry (**HER 02916.0m**); an embanked linear feature, probably the remains of an embanked tramway or barrow run (**HER 02914m**); a grassed-over conical tip on the edge of the quarry (**HER 02915m**); a large sub-circular depression, perhaps representing a pit or collapsed underground working (**HER**

**02917m**); and an additional level which appears on the Rhymney Iron Company Map of 1837-1853 (**HER 02948m**).

3.4.22 A third concentration lies to the east of the second concentration of mining features, and between 30m and 75m to the south of the Site boundary. These include linear grassed-over tips (**HER 02920m**); a linear feature is recorded approximately 40m away that forms two interconnecting linear hollows at the edge of the former quarry (**HER 02910m**); a small pond with a leat (**HER 02922m**); a short length of a possible leat (**HER 02923m**); linear tips which appear on the 1919 Ordnance Survey map (**HER 02925m**); a small D-shaped pond (**HER 02924m**); and a level which appears on the Rhymney Ironworks map of 1837-1853 (**HER 02932m**).

3.4.23 To the east of the Site, mining assets are recorded approximately 30m and 65m from the Site, comprising the Site of an old coal level (**HER 03045m**) and a leat (**HER 02927.0m**). To the east of a narrow section of the Site in the north-east, a reservoir associated with Rhymney Ironworks is recorded (**HER 03044m**) comprising a holding reservoir for the Nant Llesg Pit, along with a brick sluice which appears on the first edition Ordnance Survey map (**HER 02928m**).

#### Post Medieval Ironworks Assets

3.4.24 There are numerous non-designated assets within the 1km search area which pertain to the Rhymney Ironworks. Due to their high volume, only those within a 100m radius of the Site are discussed herein. The below assets are assessed during the *Southeast Wales Industrial Ironworks Landscapes* project (Roberts and Jones 2007; Roberts and Graham 2008).

3.4.25 These include a reservoir for Rhymney Ironworks located approximately 5m to the west of the narrow north-eastern section of the Site (**HER IWW129; 09044m**) and its associated sluice (**HER IWW179**). It also includes a leat (**HER IWW124**) which runs through this narrow section of the Site, between Bute Town Reservoir Bute Town (**HER 08840m**) to the Rhymney Ironworks (**NPRN 34140**).

3.4.26 Tram lines in this area include the Rhymney Limestone Railway which also runs through this narrow northern section of the Site (**HER IWT016**), and the Bute Tramroad which runs approximately 100m to the north of the Rhymney Limestone Railway through the narrow section of the Site (**HER IWT020**).

#### Post Medieval and Industrial Period: Civil, Ecclesiastical and Domestic Assets

3.4.27 There are no post medieval and Industrial period historic assets of a civil character within the Site boundary, however there is one within the study area. This comprises



of the Rhymney Bridge Station House on the Merthyr, Tredegar and Abergavenny Railway approximately 820m to the north-east of the Site (**HER 03153m**). This now serves as a domestic building of the same name.

- 3.4.28 Similarly, there are no post medieval and Industrial period historic assets of a domestic character within the Site boundary, however there are a number of assets within the wider study area. The two nearest assets lie approximately 440m to the north-east of the Site, and include workers cottages no.17 and no.21 Lower Row (**HER 01610m**) and Middle Row Rhymney (**HER 01223m**). This latter asset once formed part of the ironworks built c.1825-1830 and consists of three rows made up of two-storey houses with four rooms and attic. Suzannah House no.1-4 also lies approximately 850m east of the Site (**HER 02391m**); and Tai-Level-Glo Cottages lie approximately 940m east of the Site (**HER 02650m**).
- 3.4.29 There are fifteen designated historic assets of a domestic character within the 1km study area. These include houses that form a terrace which runs parallel with Rhymney River along its eastern bank approximately 770m to the south-east of the Site (**CADW 25186; CADW 25187; CADW 25188; CADW 25189; CADW 25190; AND CADW 25191**). Approximately 495m to the north-east of the Site lie three sets of terraces which are group listed: no.1-14 Collins Row (**CADW 13546**); no.1-13 Middle Row and the attached Windsor Arms Public House (**CADW 13548**); and Nos14-28 Lower Row (**CADW 13547**).
- 3.4.30 There are no post medieval or Industrial period assets of an ecclesiastical character within the Site boundary, however there are three assets within the study area. These are concentrated within the nearby town centre of Rhymney, to the east of the Site. They include the Grade II listed Ebenezer Calvinist Methodist Chapel approximately 495m to the east of the Site (**HER 04339m; CADW 21431**); the Grade II\* listed Penuel Baptist Church approximately 495m to the east of the Site (**HER 04338m; CADW 21430**); and the Grade II\* listed Church of St David approximately 625m to the east of the Site (**HER 02216m; CADW 13578; 25181**).

*Modern (c.1900 onwards)*

- 3.4.31 Approximately 755m to the north-west of the Site lies a series of four allotment gardens which date from the World War II 'Dig for Victory' campaign (**HER 03121m**).
- 3.4.32 One additional modern historic asset lie within the built-up area of Rhymney to the east of the Site. This comprises a Drill Hall situated approximately 735m to the south-east of the Site (**HER 07559m**). The building first appears on the Ordnance Survey map of 1921 and forms an I-shaped plan with no obvious curtilage, being situated between

sections of the Rhymney Mineral Railway. The Drill Hall is believed to have been the home in 1914 of G Company, 1<sup>st</sup> Battalion of the Monmouthshire Regiment, and E Company, the 2<sup>nd</sup> Volunteer Battalion of the South Wales Borderers.

#### *Undated*

- 3.4.33 Six historic assets that are hitherto undated are also recorded within the study area. In proximity to the proposed development Site, approximately 25m to the south, a findspot is recorded where a member of the public found undated coins (**HER 07549m**). To the south-west of this asset and approximately 105m south of the Site, a member of the public found a collection of unmarked coins (**HER 07499m**).
- 3.4.34 Approximately 715m to the north of the Site, a series of undated gullies and earthworks have also been identified (**HER 03151m**). These may, however, relate to the nearby leat-system. The earthworks are linear in form and are orientated roughly north to south. Lastly, approximately 895m north of the Site, an undated road is visible as a linear track across a field (**HER 03151m**).

### 3.5 Historic Mapping

- 3.5.1 In 1842, the Plan of the Parish of Gellygaer in the County of Glamorgan was published (not reproduced here). This tithe map shows the Site as having occupied Plot 767. The owner of this land is listed as the Marquess of Bute, and the occupier as the Rhymney Company. The land is listed as used for pasture and 'rubbish'. Rhymney Reservoir is shown to the north of the Site, with a development called 'New Town' to the north-east. A railroad line is depicted as extending north to south between the reservoir and New Town.
- 3.5.2 The Ordnance Survey map published in 1889 shows the Site as heavily mined by this time (Drawing BR10167-029.01). A reservoir is shown at the north-west corner of the Site, with what appears to a dam at its east end, which extends into the Site. A spring is indicated as lying to the south-east of the reservoir, and an engine house further to the south. A small pond is depicted at the south-west corner of the Site. The Ordnance Survey map shows an air shaft situated towards the centre of the Site, and the Rhymney Limestone Railway tracks running through a narrow section of the Site at its eastern end. Moving towards the north, this narrow section of the Site runs to the immediate east of a reservoir and sluice.
- 3.5.3 The Site remained in much the same state by 1901 (Drawing BR10167-029.02). The Ordnance Survey map shows an 'Old Coal Level' lying at the east end of the Site, and an 'Old Shaft' further to the north. By the publication of the Ordnance Survey map of



1922 (Drawing BR10167-029.03), the Rhymney Limestone Railway was now denoted at the 'Old Railway' and the air shaft near the centre of the Site as the 'Old Airshaft'.

- 3.5.4 The subsequent Ordnance Survey map from 1947 (Drawing BR10167-029.04) shows the reservoir at the north-west corner of the Site still in use, while the subsequent 1951 Ordnance Survey map shows it as being disused (Drawing BR10167-029.05). The Ordnance Survey map dating to 1961 (not reproduced here) and 1971 (Drawing BR10167-029.06) shows much of the site being subject to opencast mining.

### 3.6 Aerial Photographs

- 3.6.1 Aerial images dated to 1945 show the terrain of the Site in high detail (Drawing BR10167-031). The vast extent of opencast mining across the Site is clearly evident. Specifically, opencast mining is shown as entirely destroying the areas in which non-designated historic assets **HER 01320m**, **HER 03046m**, **HER 03047m**, **HER 03048m**, and **HER IWT020**. The reservoir (**HER 03042m**) in the far north-western portion of the Site is still visible on the aerial photograph. The course of the historic Rhymney Limestone Railway (**HER IWT016**) is faintly visible on these images, running through a narrow section of the Site at its north-east extent. The possible line of leat (**HER IWW124**) may also be visible in the north-east.

- 3.6.2 Satellite imagery dating to 2001 shows that previously mined areas had since been filled in, with grass grown over the land by this time. Trackways are shown running through the Site, and the course of the railway is visible crossing into a narrow section of the Site at its north-east extent and curving westwards to the north of the Site boundary. Subsequent aerial images show that Site remaining in largely this same state until 2023.

### 3.7 LiDAR

- 3.7.1 LiDAR data shows the course of the former Rhymney Limestone Railway, which crosses through a narrow section of the Site at its north-east extent. The line of the railway only crosses through the Site for about 31m before it carries on to the north-west of the Site.

### 3.8 Historic Landscape Areas

- 3.8.1 The land within the bounds of the Site is not located within any Historic Landscape Area (HLA). The Merthyr Tydfil landscape (**HLW (MGL) 2**) is located 1.15km to the west of the Site. This landscape is an area characterised by iron making and associated with a settlement that rapidly transformed from a modest village in the 1750s to the largest town in Wales by 1801.

### 3.9 Site Visit

- 3.9.1 A walkover survey of the Site was undertaken on 10<sup>th</sup> January 2024. Identified during the Site visit was the former Rhymney Limestone Railway (**HER IWT016**), which appears as an earthwork, though much of this lies to the north beyond the Site boundary. No other features, such as railway lines or sleepers, were visible relating to this feature. No other features of archaeological or historical interest were noted during the walkover.

## 4 ARCHAEOLOGICAL POTENTIAL

- 4.1.1 The baseline is summarised below to provide an indication of possible archaeological survival within the Site boundary, taking into account the levels of natural geology and the level and nature of later disturbance and truncation as discussed above.

### *Prehistoric*

- 4.1.2 Evidence for prehistoric activity within the study area is limited, and in proximity to the Site, comprises to a low stone spread indicative of a Bronze Age cairn to the south. In consideration of this relative scarcity within the search area, and the extensive truncation caused by the expansive opencast mining undertaken on the site, it is judged that there is **negligible potential** for prehistoric assets on the Site.

### *Iron Age and Romano-British*

- 4.1.3 Evidence for Iron Age activity is entirely absent within the study area. Considering this, and the extensive truncation caused by the expansive opencast mining undertaken on the Site, it is judged that there is **negligible potential** for Iron Age remains on the Site. There is also no evidence for Romano-British activity within the Site nor the search area. Considering this, and the extensive truncation caused by the expansive opencast mining undertaken on the Site, it is judged that there is **negligible potential** for Romano-British assets.

### *Early Medieval*

- 4.1.4 Similarly, evidence for early medieval activity is entirely absent within the study area. Considering this, and the extensive truncation caused by the expansive opencast mining undertaken on the Site, it is judged that there is **negligible potential** for early medieval remains on the Site.

### *Medieval*

- 4.1.5 Evidence for medieval activity is likewise absent within the study area. Considering this, and the extensive truncation caused by the expansive opencast mining undertaken on the Site, it is judged that there is **negligible potential** for medieval assets.

### *Post-Medieval to Industrial Period*

- 4.1.6 Post-medieval and Industrial period activity in the area of the Site, evidenced by the historic environment record and cartographic sources, is notably extensive.
- 4.1.7 The Rhymney Limestone Railway (**HER IWT016**) traverses the north-eastern portion of the Site, in the area of the proposed access route. In this area, as noted during the

*Southeast Wales Industrial Ironworks Landscapes* project, the tramroad is recorded as being followed by a rough tarmac and gravel track that has been heavily resurfaced with building rubble. There is **high potential** that buried remains survive beneath these surfaces. There is potential for tramroad cuttings, revetments and sleepers in association with the railway to be present.

- 4.1.8 The leat (**HER IWW124**) which is depicted on historic cartographic evidence as extending between Bute Town Reservoir and the Rhymney Ironworks traversed the north-eastern portion of the Site, in the area of the proposed access route. The *Southeast Wales Industrial Ironworks Landscapes* project noted that the leat partially survives in areas, but has largely been destroyed by opencast mining. While it is likely that the leat was destroyed by the opencast mining in places on the Site, elements of the leat was observed during the site visit. As such, there is **high potential** for buried remains associated with the asset survive.

- 4.1.9 There is also **low to moderate potential** for unknown archaeological remains dating to the post-medieval to Industrial period. Due to the extent of opencast mining across the majority of the Site, these remains would likely be situated in the north-east – in proximity to the area of the proposed access route. These remains, which would likely take the form of assets relating to mining activity.

#### *Modern*

- 4.1.10 There is also **low to moderate potential** for archaeological remains dating to modern era. These remains, which would likely take the form of assets relating to mining activity.

## 4.2 Potential Research Objectives

- 4.2.1 With regards to the later post-medieval and industrial period in Wales (1750-1899), within the *Research Framework for the Archaeology of Wales* (RFAW 2017), it was noted that investigations of infrastructure that supported communities, like the Bute Town Reservoir, have not enjoyed the same attention as the industrial centres. The priorities of the framework also aligned well with the mining history of the Site and its surrounding. One such priority seeks to highlight *‘the significance and scale of technical change within the major industries of coal, iron, copper, tin, lead and slate, and the major impact of that change within the landscape; their context and significance in terms of similar sites elsewhere in the world; their relationship with the markets they served’*.

- 4.2.2 As the Site lies in close proximity to a historic railway line and previously contained a railway line within its bounds, the framework's priority in relation to transport also pertains. It highlights as a priority *'the significance, form and archaeological survival of transport corridors – turnpikes, government-sponsored roads, canals, railways – their engineering, the industries they served and the settlements they sustained'*.

## 5 IDENTIFICATION AND ASSESSMENT OF IMPACTS

5.1.1 Proposed development within the boundary of the Site has the potential to cause direct impacts. Direct impacts would be caused by ground disturbance to known and potential assets of archaeological nature.

5.1.2 Appendix 2 describes the methodology for assessing the magnitude of impact and the overall significance of impact.

### 5.2 Direct (Construction) Impacts

5.2.1 Ground disturbance would have the potential to disturb potential non-designated historic assets of an archaeological nature within the boundary of the Site. Specifically, these works are related to:

- The installation of a solar farm within the south of the Site;
- The construction of three wind turbines throughout the Site;
- The groundworks associated with the private wire installation; and
- The groundworks associated with the access track.

5.2.2 Due to the paucity of prehistoric to medieval remains in the immediate surrounding landscape, compounded by the significant extent of truncation evident in the area, there is negligible potential for remains of these periods to be present within the bounds of the site.

5.2.3 Three post-medieval to Industrial period non-designated assets are known to survive within the bounds of the Site that have the potential to be affected by construction activity. These include the following:

#### *Rhydney Limestone Railway (HER IWT016)*

5.2.4 The Rhydney Limestone Railway (**HER IWT016**) traverses the north-eastern portion of the Site, in the area of the proposed access route. In this area, as noted during the *Southeast Wales Industrial Ironworks Landscapes* project, the tramroad is recorded as being followed by a rough tarmac and gravel track that has been heavily resurfaced with building rubble. There is high potential that buried remains survive beneath these surfaces. There is potential for tramroad cuttings, revetments and sleepers in association with the railway to be present. These remains are anticipated to be of medium interest. If present, construction of the proposed access track would likely impact upon a small section of the buried remains of the railway, which would result in a minor magnitude of impact that would equate to an impact of **slight adverse significance**.

*Leat of Rhymney Ironworks (IWW124)*

- 5.2.5 The leat (**HER IWW124**) which is depicted on historic cartographic evidence as extending between Bute Town Reservoir and the Rhymney Ironworks traversed the north-eastern portion of the Site, in the area of the proposed access route. . The Southeast Wales Industrial Ironworks Landscapes project noted that the leat partially survives in areas, but has largely been destroyed by opencast mining. While it is likely that the leat was destroyed by the opencast mining in places on the Site, elements of the leat was observed during the site visit. As such, there is high potential for buried remains associated with the asset survive. These remains are anticipated to be of medium interest. If present, construction of the proposed access track would likely impact upon a small section of the buried remains of the leat, which would result in a minor magnitude of impact that would equate to an impact of **slight adverse significance**.

*Unknown Post-Medieval to Industrial and Modern Remains*

- 5.2.6 There is also low to moderate potential for archaeological remains dating to the post-medieval to Industrial period. Due to the extent of opencast mining across the majority of the Site, these remains would likely be situated in the north-east – in proximity to the area of the proposed access route. These remains, which would likely take the form of assets relating to mining activity, would likely be of low interest. Construction activity would likely impact upon any buried remains dating to these periods, if present, which it is anticipated would result in a moderate magnitude of impact which, on an asset of low importance, would equate to an impact of **slight adverse significance**.
- 5.2.7 There is also low to moderate potential for archaeological remains dating to modern era. These remains, which would likely take the form of assets relating to mining activity, would likely be of negligible interest. Construction activity would likely impact upon any buried remains dating to these periods, if present, which it is anticipated would result in a moderate magnitude of impact which, on an asset of negligible importance, would equate to an impact of **neutral or slight adverse significance**.

### 5.3 Summary of Impacts

Table 1: Potential Direct (Construction) Impacts			
Receptor	Interest and Significance of Interest	Magnitude of Impact	Significance of Effect
Rhymney Limestone Railway (IWT016)	Medium	Minor	Slight
Leat of Rhymney Ironworks (IWW124)	Medium	Minor	Slight
Unknown post-medieval to Industrial period remains related to mining activity	Low	Moderate	Slight
Unknown modern remains related to mining activity	Negligible	Moderate	Neutral or slight



## 6 MITIGATION

- 6.1.1 In this instance, archaeological evaluation is not considered necessary at the pre-determination stage; it being reasonably assumed that if evaluation was a prerequisite of all applications potentially affecting archaeological remains then this would be expressly stated within the policy. As it is not, the requirement for field evaluation should be applied proportionally, most likely being required on sites where remains of potential high (national) importance could be located which could preclude development. On the baseline presented here, there is no evidence to indicate the presence of remains of national importance.
- 6.1.2 Therefore, it would be appropriate for any archaeological fieldwork to be delayed as a condition to consent and undertaken as mitigation works in accordance with a Written Scheme of Investigation (WSI) prepared in consultation with GGAT. Given the extent of opencast mining demonstrated to have occurred across the Site, if deemed necessary, it is judged that the most appropriate method of investigation would be an archaeological monitoring of groundworks related to the access route in the areas of the leat (**HER IWW124**) associated with the Bute Town Reservoir and the Rhymney Limestone Railway (**HER IWT016**). This would be reasonable and proportionate on reflection of the information presented within the baseline data which gives no evidence to suggest the presence of remains within the boundary of the Sites which could preclude development. Any such archaeological fieldwork would be conducted in accordance with a Written Scheme of Investigation (WSI) prepared in consultation with GGAT.

## **7 ASSESSMENT AGAINST PLANNING POLICY**

### **7.1 National Policy**

7.1.1 The assessment presented in this report describes the significance of historic assets affected by the proposed development, including any contribution made by their setting (proportionate to the proposed development) and therefore satisfies the requirements of PPW (Welsh Government 2024, paragraph 6.1.26) and TAN 24.

7.1.2 In accordance with Chapter 6 of Planning Policy Wales (Welsh Government 2024) the proposed development conserves (as far as possible) archaeological remains, safeguards the character of historic buildings and effectively manages change so that their special architectural and historic interest is preserved.

### **7.2 Local Policy**

7.2.1 The proposed development supports the relevant key objectives set out in The *Caerphilly County Borough Local Development Plan up to 2021* and, specifically, is in accordance with Policy SP6 'Place Making'.

## **8 CONCLUSIONS**

- 8.1.1 With regards to archaeological remains, the assessment has concluded that there is potential for archaeological remains within the Site. There is negligible potential for remains pre-dating the post-medieval period. In addition to the relative paucity of known remains from these periods within the study area, remains of this period are likely to have been entirely truncated by post-medieval to modern construction mining activity.
- 8.1.2 In contrast, there is potential for remains associated with a leat (HER IWW124) from the Industrial period that was related to the Bute Town Reservoir and the remains of the Rhymney Limestone Railway (HER IWT016) to be present in the north-eastern portion of the site – namely, in the area of the proposed access route. There is also low to moderate potential for unknown remains dating to the post-medieval to Industrial period that are related to mining activity.
- 8.1.3 In consideration of the baseline information provided within this report, it would be appropriate for any archaeological fieldwork to be delayed as a condition to consent and undertaken as mitigation works in accordance with a Written Scheme of Investigation (WSI) prepared in consultation with GGAT. Given the extent of opencast mining demonstrated to have occurred across the Site, if deemed necessary, it is judged that the most appropriate method of investigation would be an archaeological monitoring of groundworks related to the access route in the areas of the leat (HER IWW124) associated with the Bute Town Reservoir and the Rhymney Limestone Railway (HER IWT016). This would be reasonable and proportionate on reflection of the information presented within the baseline data which gives no evidence to suggest the presence of remains within the boundary of the Sites which could preclude development.

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## **APPENDICES**

## **Appendix 1**

### **Site Visit Plates**





**Plate 1:** The east end of the Site, looking towards the north-west



**Plate 2:** The centre of the Site, looking towards the west





**Plate 3:** The centre of the Site, looking towards the south



**Plate 4:** The southern boundary of the Site, looking towards the south





**Plate 5:** The southern boundary of the Site, looking towards the east



**Plate 6:** The north-west corner of the Site, looking north towards Area A





**Plate 7:** The centre-north of the Site, looking towards the north-east



**Plate 8:** The centre-north of the Site, looking towards the south-east





**Plate 9:** The centre-north of the Site, looking towards the south



**Plate 10:** Rhaslas Pond South Dam (Ref. GM624), looking towards the north-east

## **Appendix 2**

### **Impact Assessment Methodology**

In ascribing levels of **importance** to heritage assets, the Design Manual for Roads and Bridges, Volume II, Section 3, Part 2 (Highways Agency 2019) has been used, see Table 1 below.

The **magnitude of impact** is measured from the condition that would prevail in a 'do nothing' scenario and it is assessed without regard to the importance of the receptor (Highways Agency 2007).

Heritage assets are susceptible to numerous forms of development during the construction process and as a consequence of the operational life of the proposed development. These can be either direct (physical) impacts or indirect (non-physical) impacts.

The worst magnitude of impact would be complete physical removal of the heritage asset. In some instances it is possible to discuss percentage loss when establishing the magnitude of impact. However complex receptors will require a much more sophisticated approach (Highways Agency 2007).

In ascribing the magnitude of impact, guidance presented in the Design Manual for Roads and Bridges, Volume II, Section 3, Part 2 (Highways Agency 2007) has been used, see Table 2 below.

The **significance of impact** is devised by cross referencing the importance of the receptor with the magnitude of the impact, see Table 3. The impacts which are in grey are considered significant impacts which would constitute substantial harm.

### Archaeological Potential

The potential for an area to contain archaeological remains is rated as 'uncertain', 'negligible', 'low', 'medium' or 'high' based on an understanding of the archaeological resource as a whole and its national, regional and local context.

### References

- Department for Communities and Local Government. (2014) *Planning Practice Guidance*
- Highways Agency. (2019) *Design Manual for Roads and Bridges, Volume 11, Section 3, Part 2*

**Table 1: Establishing the importance of a heritage asset**

Value (sensitivity)	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

Design Manual for Roads and Bridges, Volume II, Section 1, Part 4 (Highways Agency 2019)



**Table 2: Establishing the magnitude of impact**

Magnitude of impact (change)		Typical description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Design Manual for Roads and Bridges, Volume II, Section 1, Part 4 (Highways Agency 2019)

**Table 3: Establishing the significance of impact**

Value/Importance	Very High	Neutral	Slight	Moderate/large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral/slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight
		No change	Negligible	Minor	Moderate	Major
Magnitude of impact						

Design Manual for Roads and Bridges, Volume II, Section 1, Part 4 (Highways Agency 2019)

In some cases the significance of impact is shown as being one of two alternatives. In these cases a single description should be decided upon with reasoned judgement for that level of significance chosen.

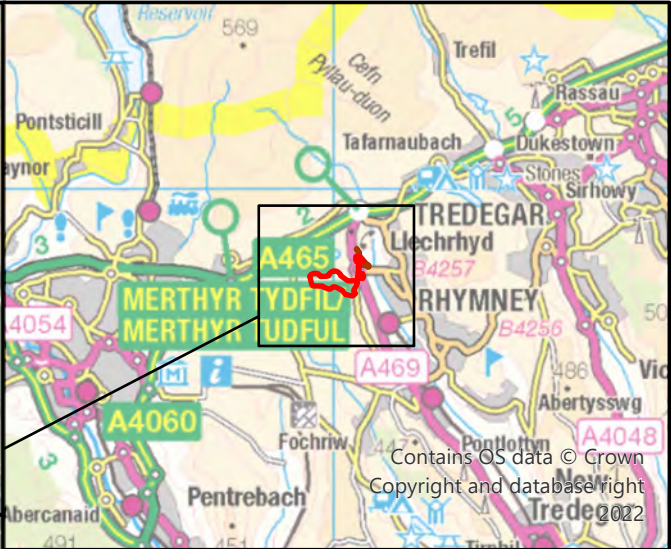
**Table 4: Significance categories**

Significance Category	Typical Description
<b>Very large</b>	Effects at this level are material in the decision-making process.
<b>Large</b>	Effects at this level are likely to be material in the decision-making process.
<b>Moderate</b>	Effects at this level can be considered to be material decision-making factors.
<b>Slight</b>	Effects at this level are not material in the decision-making process.
<b>Neutral</b>	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Design Manual for Roads and Bridges, Volume II, Section 1, Part 4 (Highways Agency 2019)

## **DRAWINGS**





KEY

- Site Boundary
- Off-Site Boudnary

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.  
Site boundary from file BR10167 - Site Layout Jan2024  
RevD.jpg

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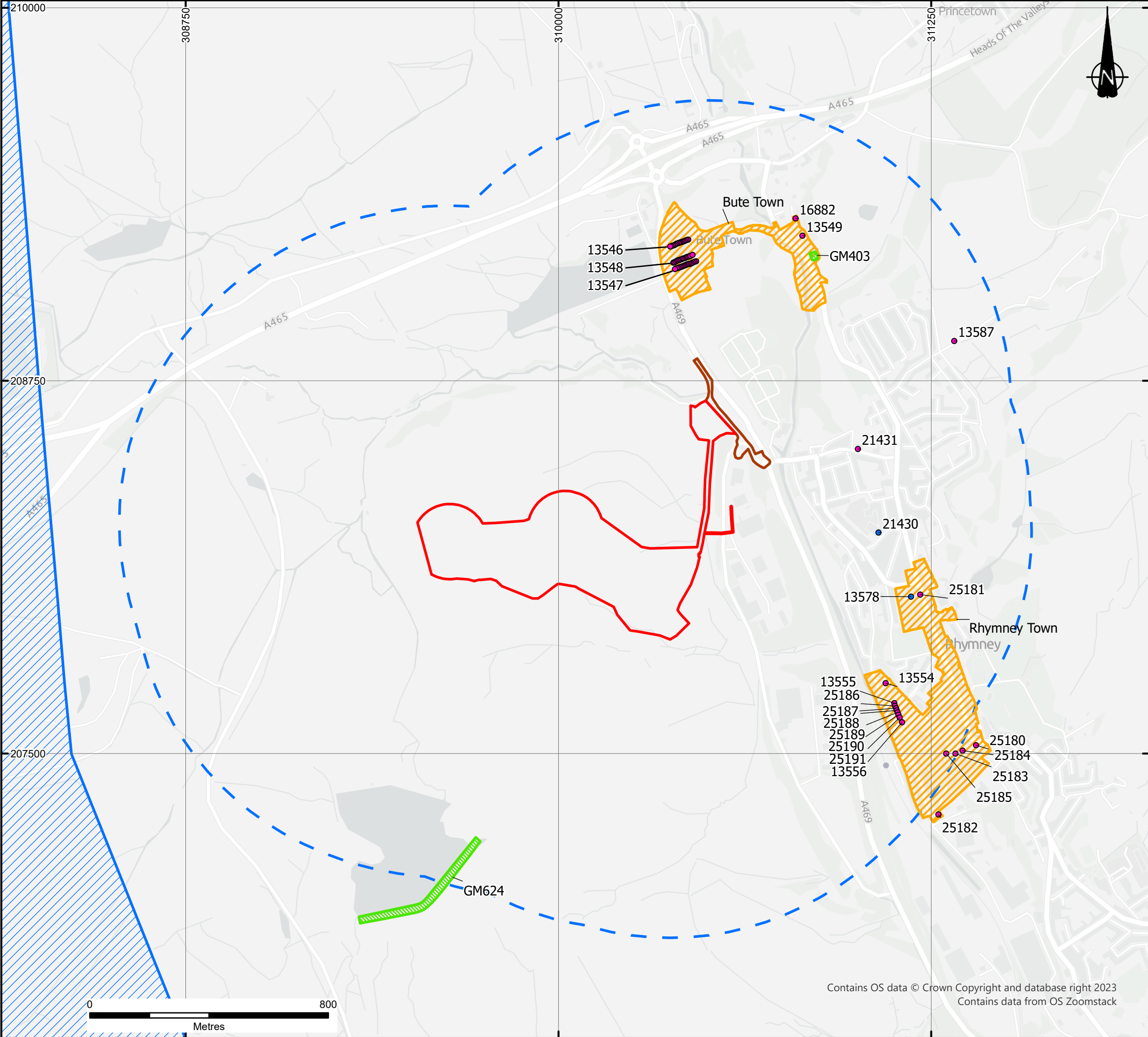
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SITE LOCATION PLAN

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**KEY**

- Site Boundary
- Off-Site Boudnary
- 1km Search Radius
- Conservation Areas
- Scheduled Ancient Monument
- Historic Landscapes

**Listed Buildings**

Grade

- II
- II\*

**Notes:**


Boundaries are indicative.  
Site boundary from file BR10167 - Site Layout Jan2024 RevD.jpg

Listed Building records 13546-13548 include full row of houses.

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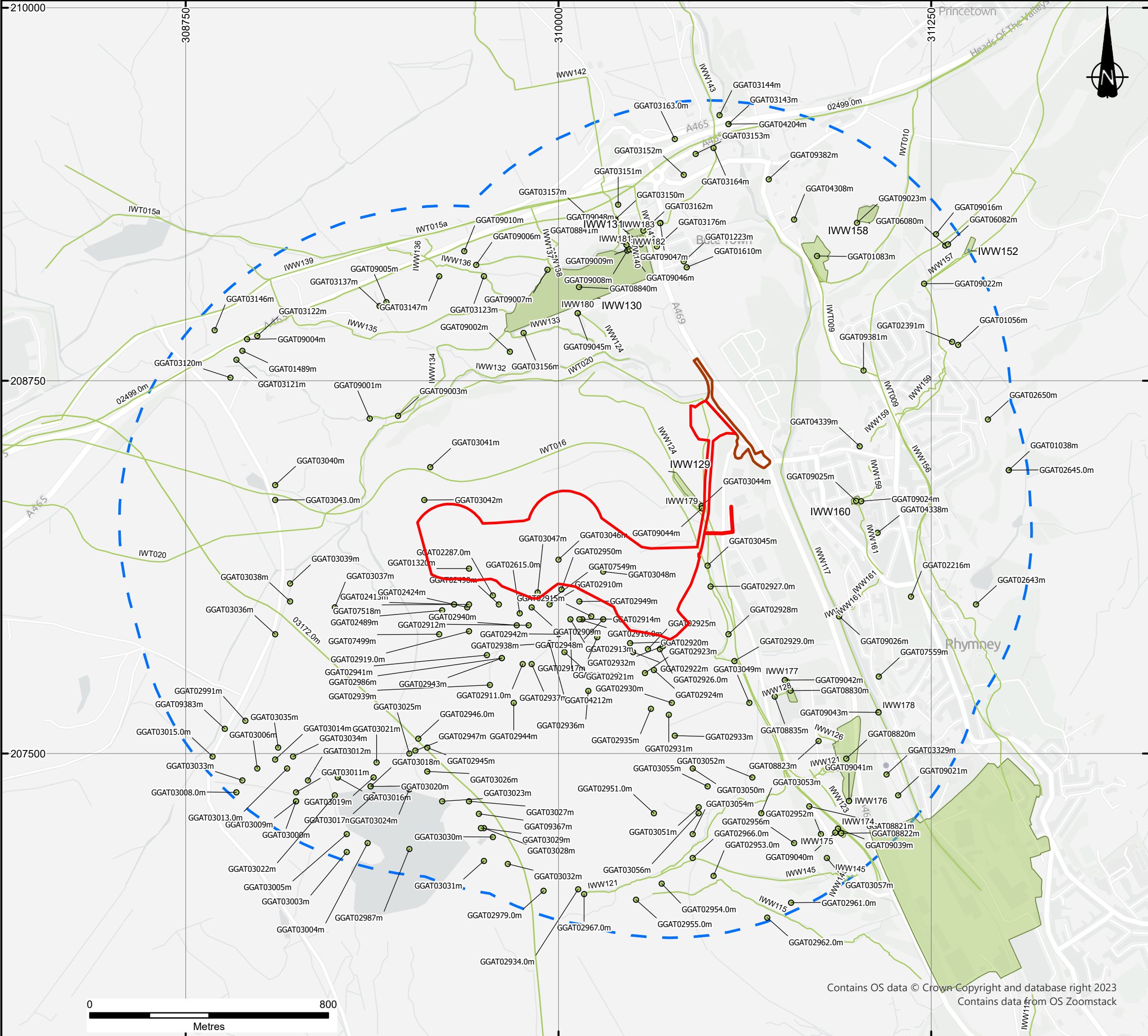
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DESIGNATED HISTORIC ASSETS

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**KEY**

- Site Boundary
- Off-Site Boudnary
- 1km Search Radius
- Non-Designated Historic Assets
- Non-Designated Historic Assets
- Non-Designated Historic Assets


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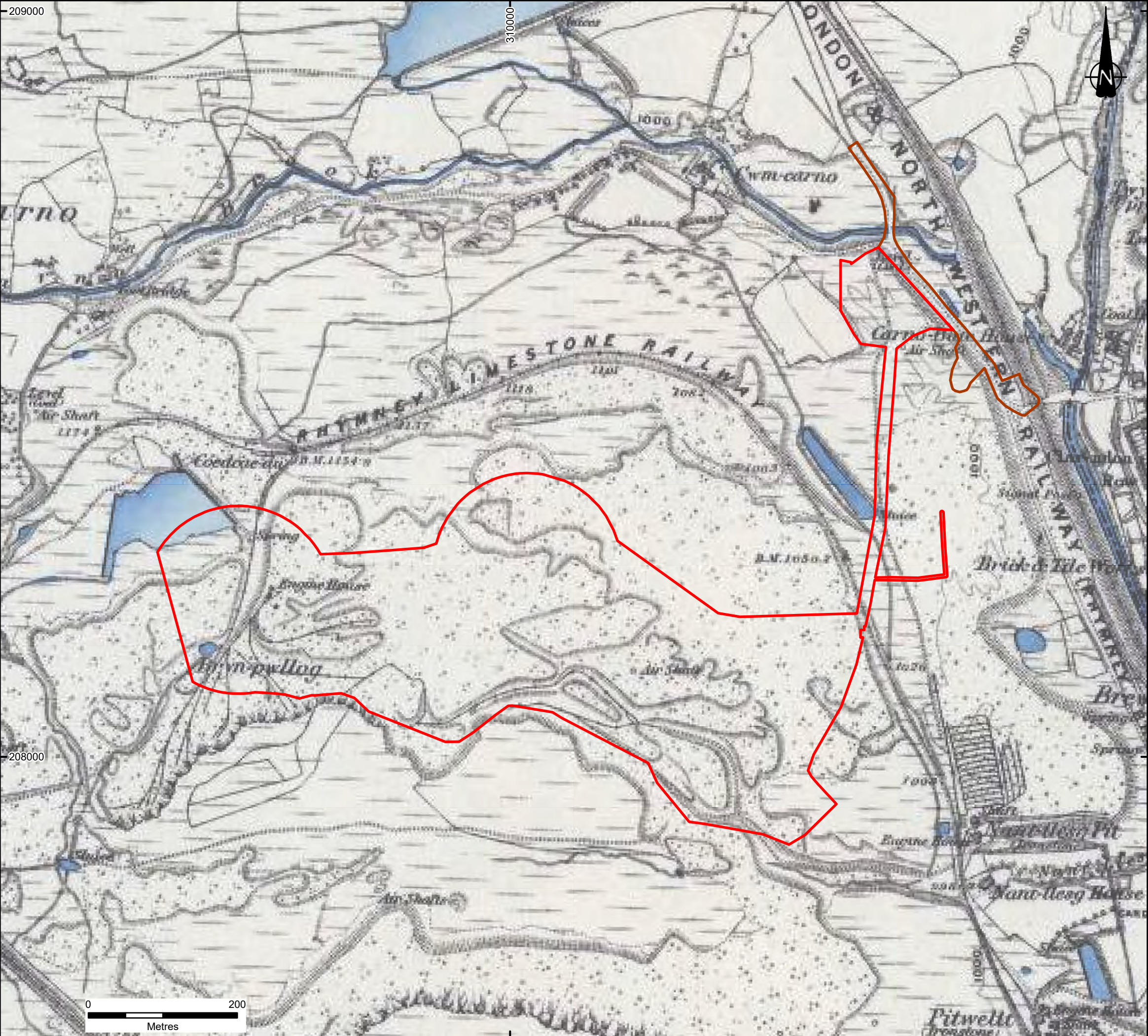
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**KEY**

Site Boundary

Off-Site Boudnary

**Notes:**


Boundaries are indicative.  
Site boundary from file BR10167 - Site Layout Jan2024 RevD.jpg

Historic mapping approximately georeferenced.

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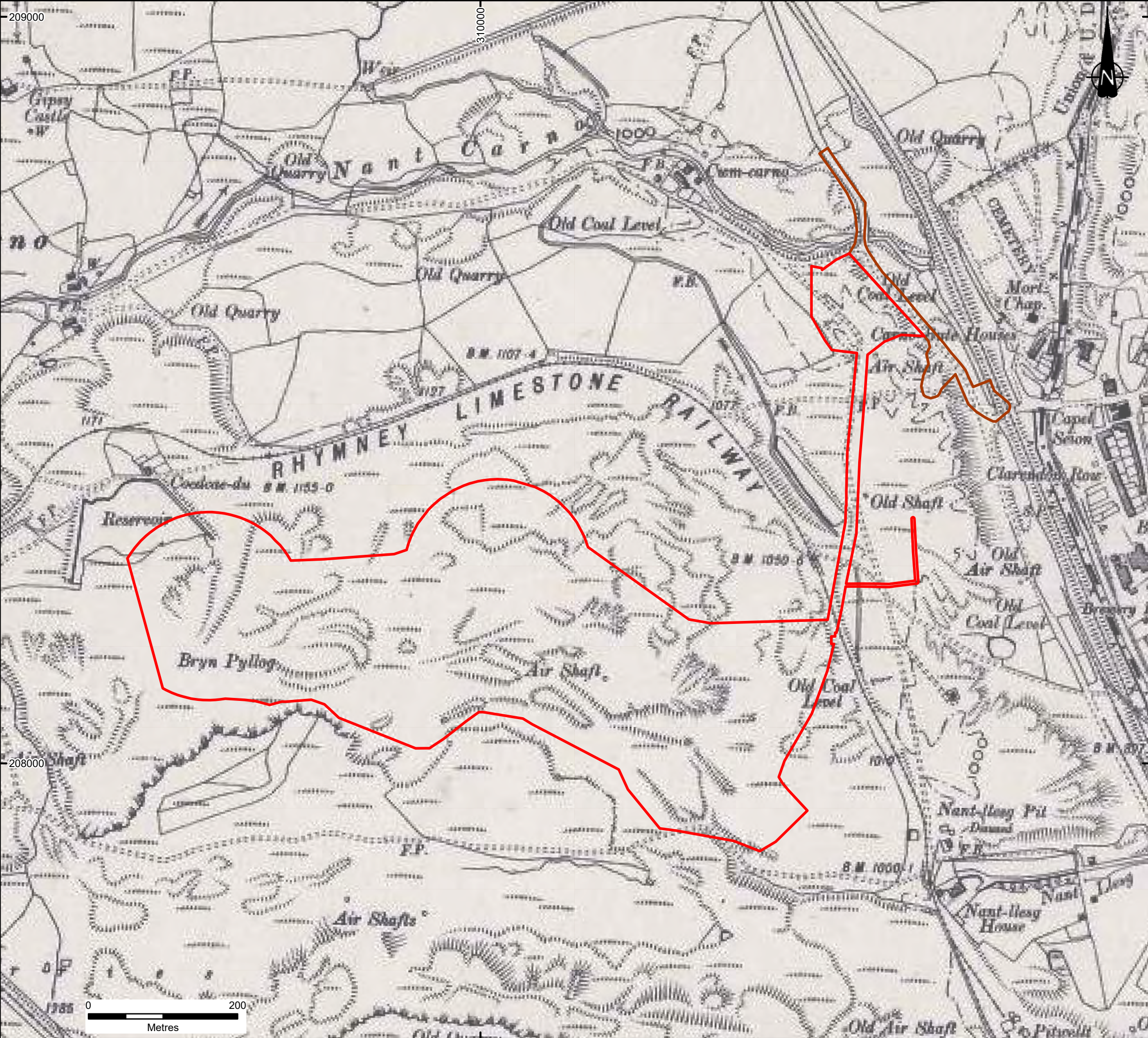
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HISTORIC MAPPING  
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KEY

- Site Boundary
- Off-Site Boudnary

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Site boundary from file BR10167 - Site Layout Jan2024  
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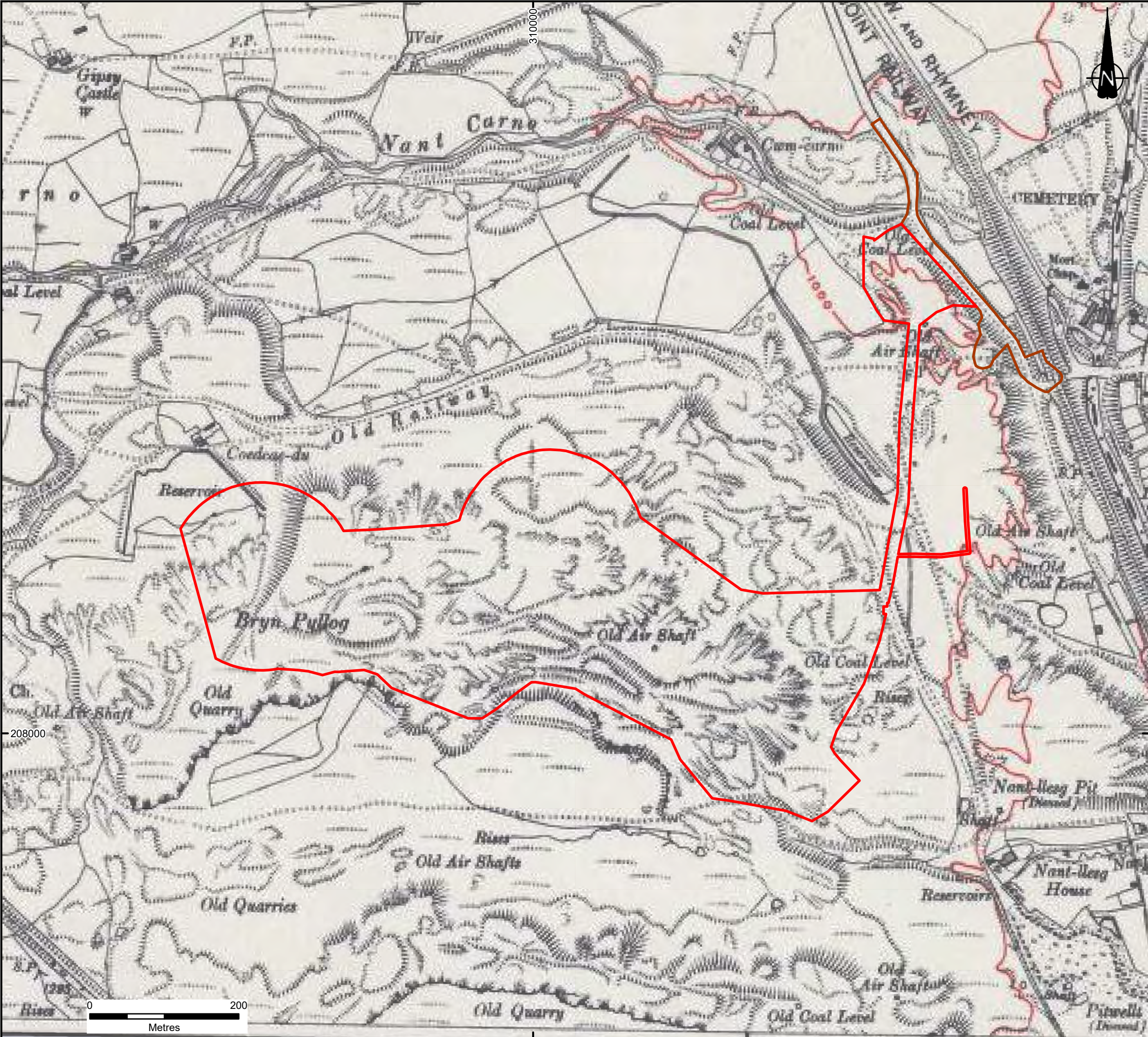
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HISTORIC MAPPING  
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- Site Boundary
- Off-Site Boundary

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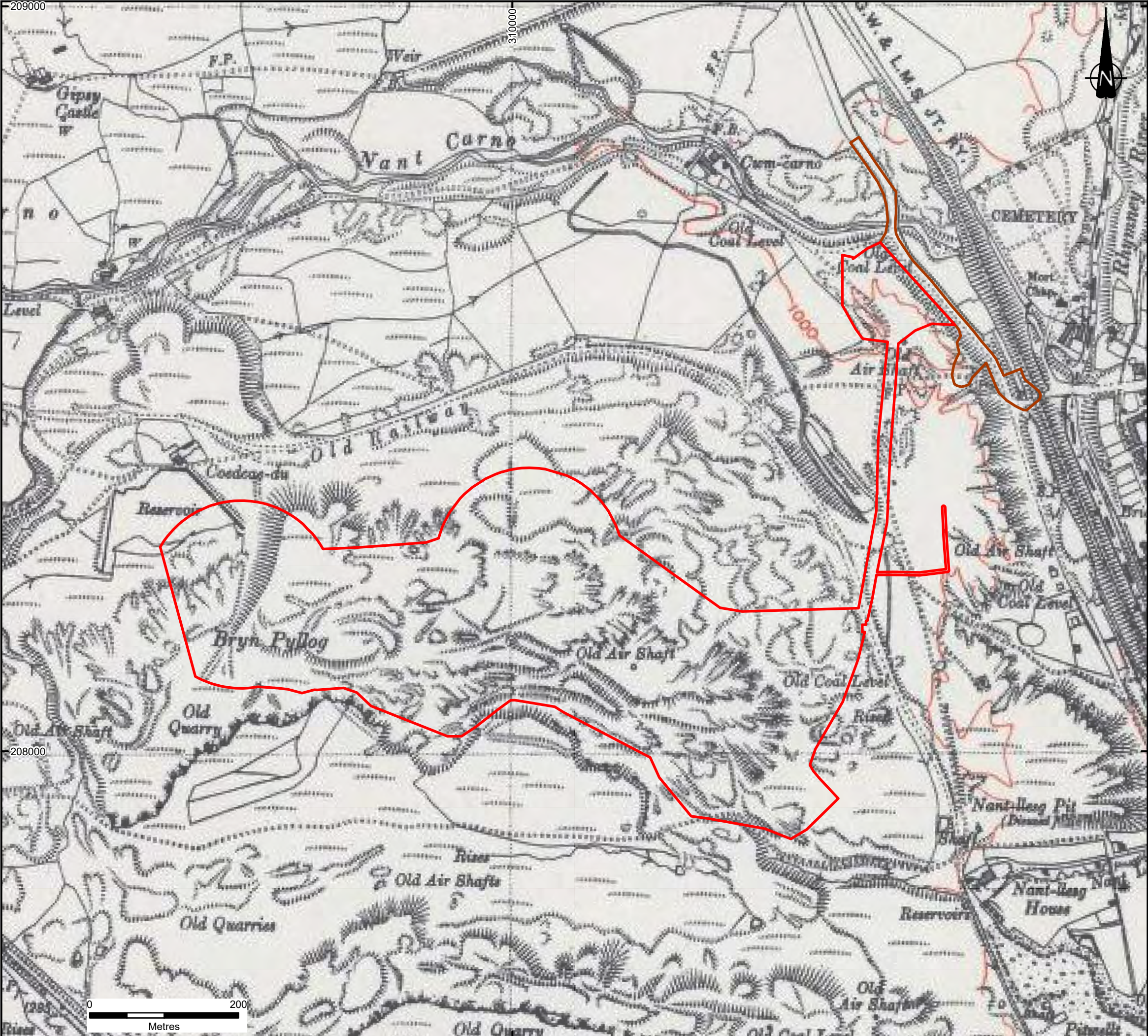
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CONVATEC GREEN MANUFACTURING HUB, RHYMNEY									
DRAWING TITLE									
HISTORIC MAPPING SHEET 3 - OS 1922									
DRG No. BR10167-029					REV A		SUIT. CODE --		
DRG SIZE A3		SCALE 1:5,000			DATE 31/01/2024				
DRAWN BY CP		CHECKED BY CW			APPROVED BY RJ				
									





**KEY**  

Site Boundary

Off-Site Boundary

**Notes:**


Boundaries are indicative.  
Site boundary from file BR10167 - Site Layout Jan2024 RevD.jpg

Historic mapping approximately georeferenced.

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CONVATEC GREEN MANUFACTURING HUB,  
RHYMNEY

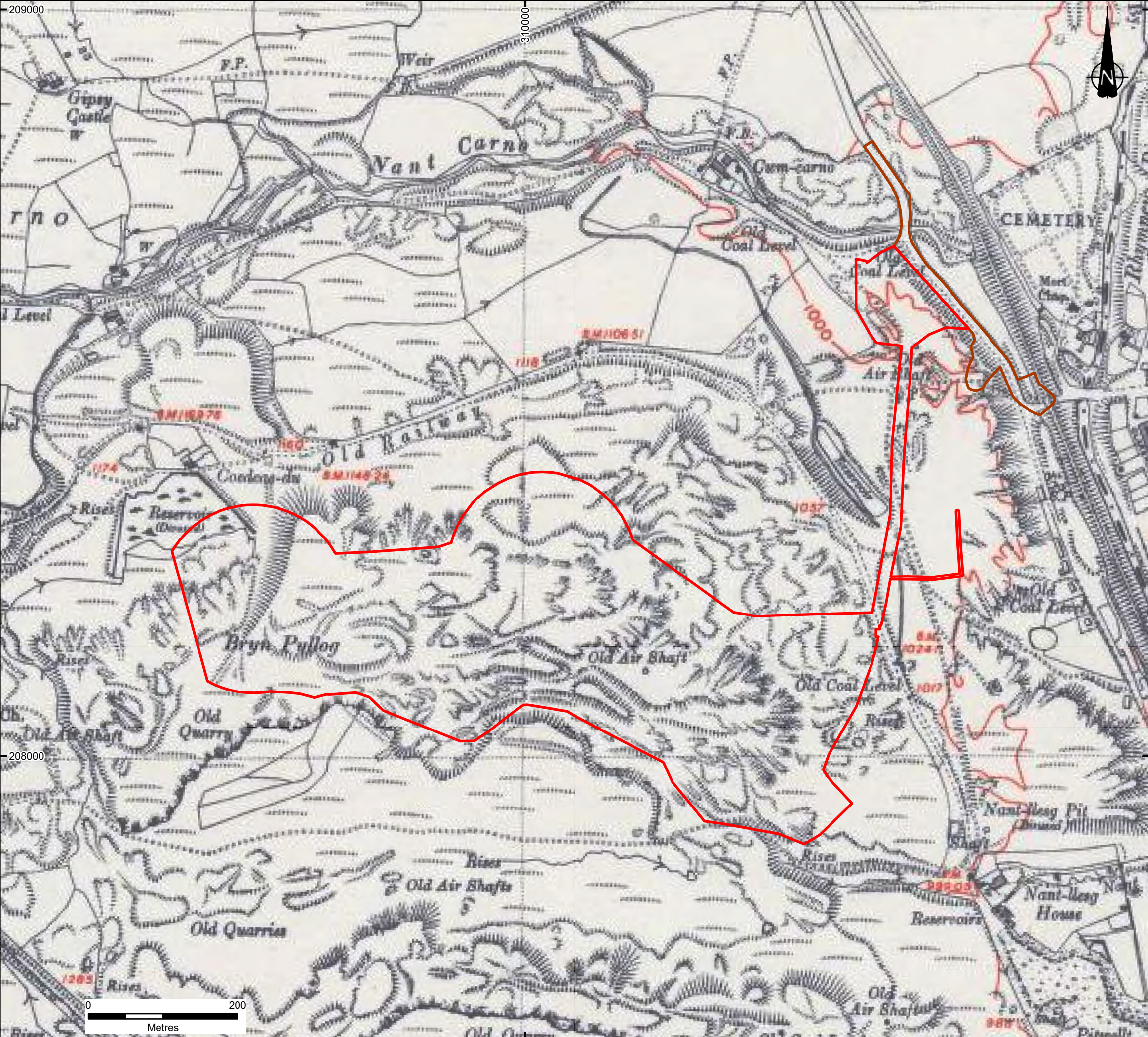
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HISTORIC MAPPING  
SHEET 4 - OS 1947

DRG No.	BR10167-029	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:5,000	DATE	31/01/2024
DRAWN BY	CP	CHECKED BY	CW	APPROVED BY	RJ







**KEY**  

Site Boundary

Off-Site Boundary

**Notes:**


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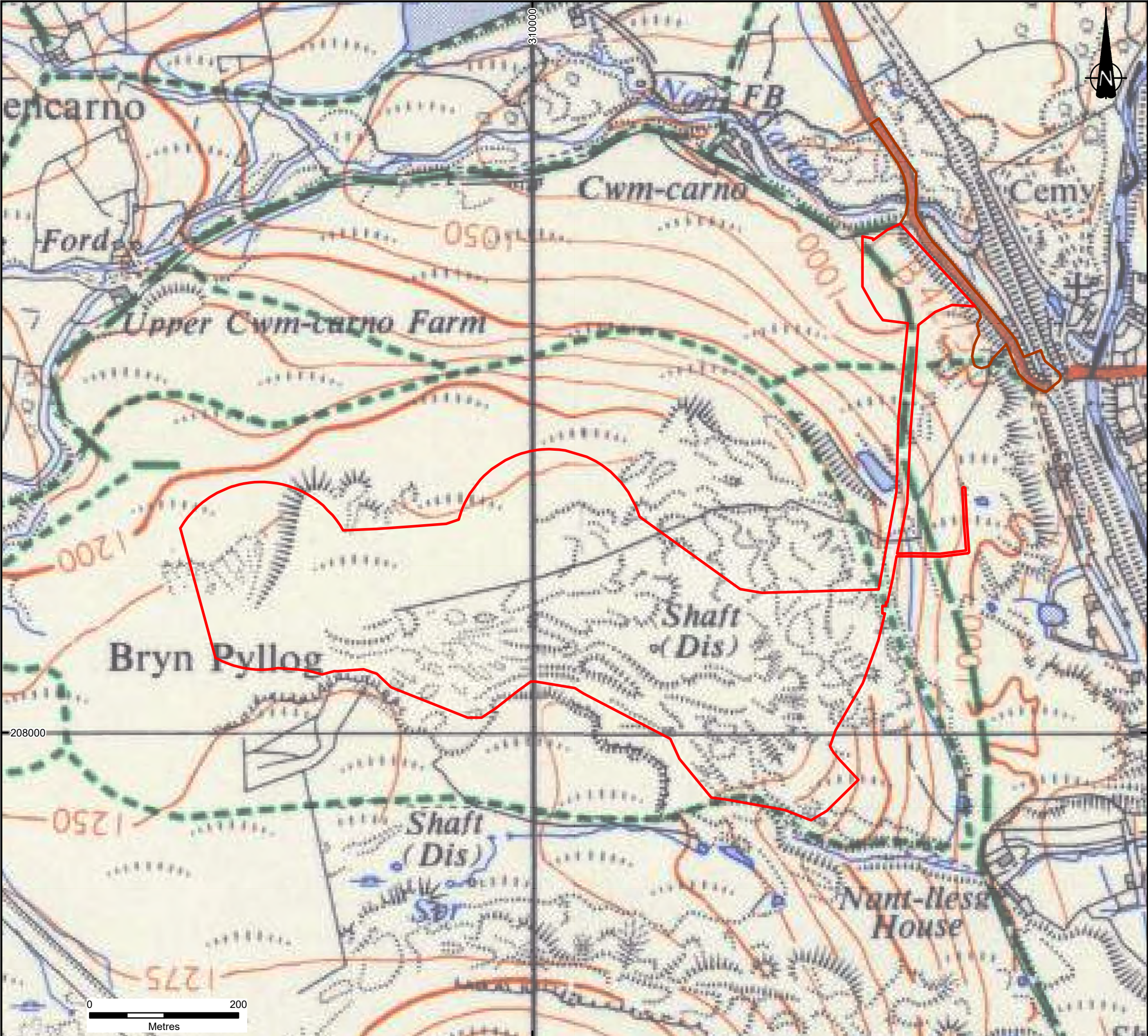
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HISTORIC MAPPING  
SHEET 5 - OS 1951

DRG No.	BR10167-029	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:5,000	DATE	31/01/2024
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**KEY**

Site Boundary

Off-Site Boudnary

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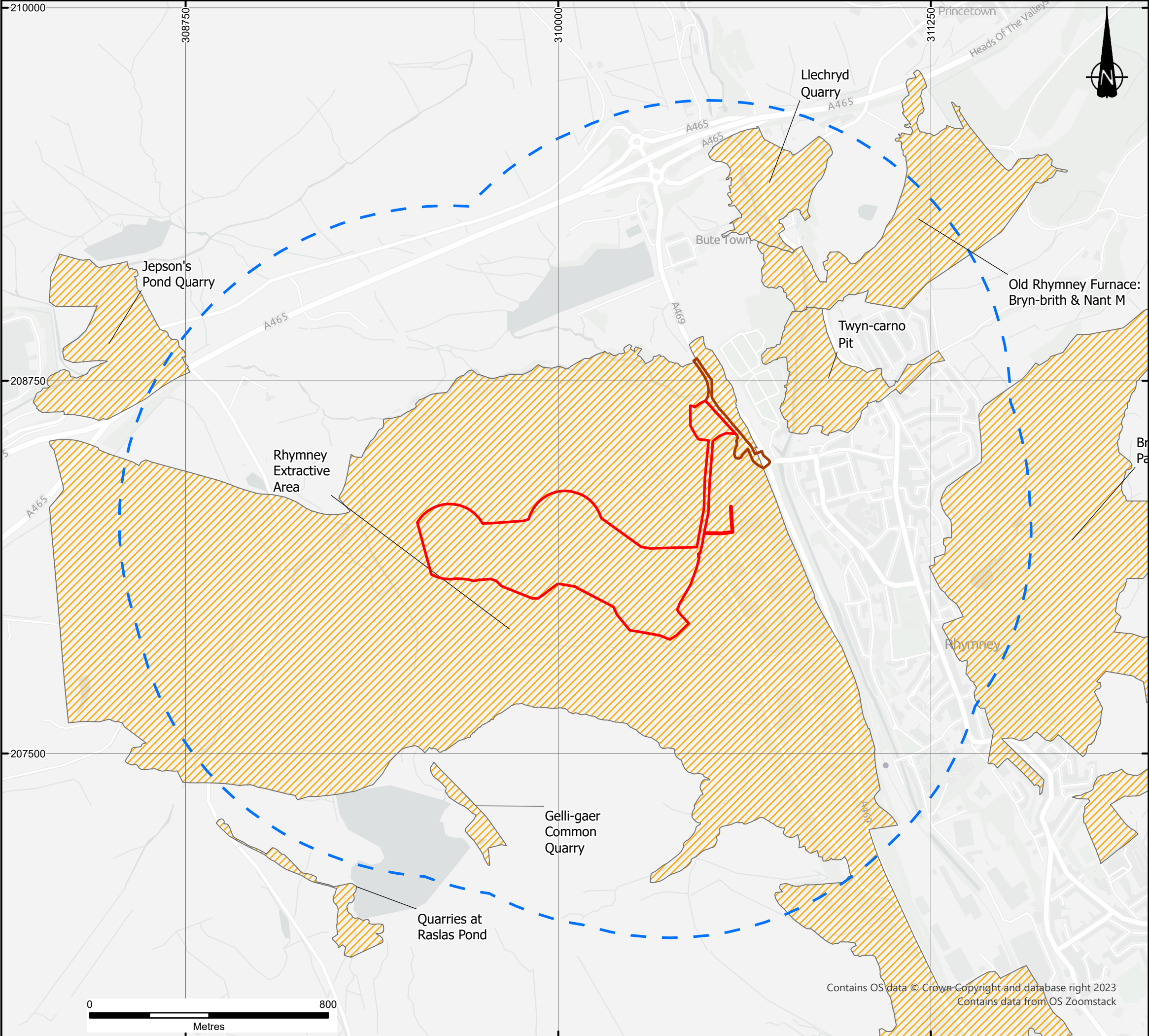
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HISTORIC MAPPING  
SHEET 6 - OS 1971

DRG No.	BR10167-029	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:5,000	DATE	31/01/2024
DRAWN BY	CP	CHECKED BY	CW	APPROVED BY	RJ







**KEY**

- Site Boundary
- Off-Site Boudnary
- 1km Search Radius
- Extractive Areas

**Notes:**


Boundaries are indicative.

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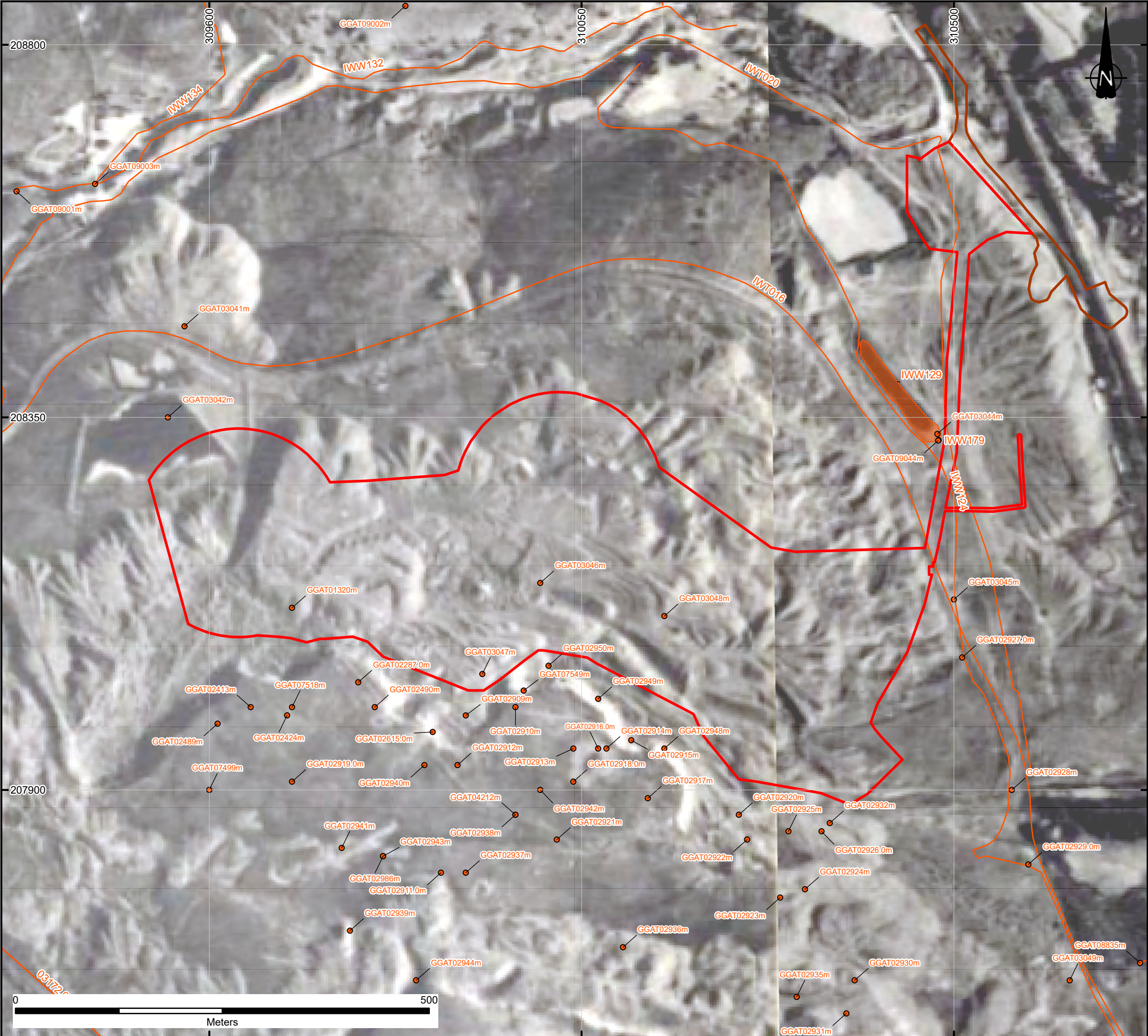
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EXTRACTIVE AREAS

DRG No.	BR10167-030	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:12,500	DATE	01/02/2024
DRAWN BY	CP	CHECKED BY	CW	APPROVED BY	RJ





**KEY**

- Site Boundary
- Off-Site Boudnary
- Non-Designated Historic Assets
- Non-Designated Historic Assets
- Non-Designated Historic Assets

**Notes:**

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PURE ENERGY PROFESSIONALS LIMITED					
PROJECT					
PEP WIND SOLAR DEVELOPMENT					
DRAWING TITLE					
1945 AERIAL IMAGE WITH NON-DESIGNATED HISTORIC ASSETS					
DRG No.		BR10167-031		REV	A
DRG SIZE		A3		SUIT. CODE	---
SCALE		1:4,500		DATE	01/02/2024
DRAWN BY		HP		CHECKED BY	CW
APPROVED BY		RJ			



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