



**DALCOUR
MACLAREN**

Archaeological Desk-Based Assessment for Caer Glaw Quarry, Gwalchmai

Client: Caer Glaw Quarry Ltd.

Project: Caer Glaw Quarry, Gwalchmai, Holyhead

Date: July 2021



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Crynodeb Gweithredol

Mae Dalcour Maclaren wedi cael ei gomisiynu gan Chwarel Caer Glaw Cyf I baratoi aseniad desg archeolegol I gefnogi cais cynllunio ar gyfer ymestyn yr chwarel oddi ar y A5 Ffordd Caergybi, Gwalchmai, Ynys Môn. Mae'r gwybodaeth a gyflwynir yn yr aseniad desg hwn yn darparu'r wybodaeth berthnasol ar gyfer llywio barn ar botensial, ac arwyddocâd, unrhyw olion archeolegol yn yr ardal arfaethedig hwn.

Mae'r tirwedd o gwmpas yr chwarel o gefndir archeolegol cynhanesyddol I ganoloesol cyfoethog, ond mae cysondebau o fewn topograffi a lleoliadau gweddillion archeolegol sylweddol.

Nid oes unrhyw asedau treftadaeth dynodedig /heb eu dynodedig wedi'u cofondi ar y safle ac ar y cyfan, mae'r potensial o ddarganfod gweddillion archeolegol yn isel. Mae'r potensial o ddarganfod gweddillion archeolegol o arwyddocâd lleol, rhanbarthol neu genedlaethol yn isel iawn.

Pe bai bod gweddillion archeolegol wedi bod yn bresennol, mae'n debygol bod amlygiad, hindreulio a defnydd tir wedi achosi erydiad sylweddol, a phe bai unrhyw nodweddion wedi goroesi, byddai rhain wedi ei cofnodi mewn data mapio.

Mae prosesau dylunio a lliniaru tirwedd wedi ystyried y golygfeydd at ac oddiwrth yr chwarael. Mae'r cynigion wedi'u sefydlu I leddfu effaith hirdymor y chwarel. Felly, ystyrir na fyddai angen asesiad neu lliniaru archeolegol pellach.

Executive Summary

Dalcour Maclaren has been commissioned by Caer Glaw Quarry Ltd. to prepare an archaeological desk-based assessment to support a planning application for the extension of quarry works off Holyhead Road, Gwalchmai, Anglesey.

The information presented within this DBA provides sufficient relevant information to provide and inform an opinion on the potential for, and significance of, any archaeological remains within the proposed area.

The surrounding landscape has a rich prehistoric to medieval archaeological background, however there are constancies within the topography and locations of significant archaeological remains.

There are no designated or non-designated heritage assets recorded within the Site and, overall, it is concluded that the potential for archaeological remains is low. The potential for archaeological remains of local, regional or national significance is very low.

Should archaeological remains have been present, it is likely that exposure, weathering and land use has caused significant erosion, and should any robust features have remained, these would have been recorded within aerial or mapping data.

Landscape design and mitigation have taken into account the long views to and from the quarry. The proposals have been established to soften the long-term impact of the quarry. Therefore, it is considered that further archaeological assessment or mitigation would not be required.

1 Introduction

- 1.1.1 Dalcour Maclaren has been commissioned by Caer Glaw Quarry Ltd. to prepare an archaeological desk-based assessment (DBA) in support of a forthcoming planning application for the extension of quarrying off Holyhead Road (A5), Gwalchmai, Holyhead, Anglesey. The extension is centred on National Grid Reference (NGR) SH 38547 77393 (Plan 1.1).
- 1.1.2 This DBA provides an assessment of identified and potential archaeological and heritage assets within the Site and the wider study area, to enable relevant parties to reach an informed decision as to the potential impacts on heritage/archaeological assets as a result of the proposals.

1.2 Site Location and Topography

- 1.2.1 Gwalchmai is located on the Island of Anglesey, c.14.5km southeast of Holyhead along the A55 / Holyhead Road. The Site is located on land directly north of the current quarry limits, which lies off the northern side of Holyhead Road (A5).
- 1.2.2 The proposed Site is currently undeveloped and used as rough pasture, bounded on the north, east and west by further open pasture, the southern boundary directly abuts the existing quarry limits.

1.3 Methodology and Sources Consulted

- 1.3.1 The assessment was undertaken following the Standards and Guidance of the Chartered Institute for Archaeologists (CIfA 2014) and in accordance with terminology expressed within the Planning Policy Wales.
- 1.3.2 To achieve the aims of this assessment, a range of sources were consulted as a baseline:
- The National Historic Assets of Wales (Cadw);
 - Gwynedd Archaeological Trust Historic Environment Record (GHER);
 - Historic Wales;
 - Archwilio;
 - Aerial photos as available on GoogleEarth;
 - Opensource LiDAR;
 - Other online Sources.

1.4 Aims and Objectives

1.4.1 The Chartered Institute for Archaeologists defines an historic environment desk-based assessment as:

a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.

1.4.2 The purpose or purposes of a DBA has been further defined as:

1. An assessment of the potential for heritage assets to survive within the area of study;
2. An assessment of the significance of the known or predicted heritage assets considering their archaeological, historic, architectural and artistic interests;
3. Strategies for further evaluation whether or not intrusive, where the nature, extent or significance of the resource is not sufficiently well defined;
4. An assessment of the impact of proposed development or other land use changes on the significance of the heritage assets and their settings;
5. Strategies to conserve the significance of heritage assets, and their setting;
6. Design strategies to ensure new development makes a positive contribution to the character and local distinctiveness of the historic environment and local place-shaping, and;
7. Proposals for further archaeological investigation within a programme of research, whether undertaken in response to a threat or not.

1.4.3 The general aims of the assessment were to:

- Establish the nature and extent of the heritage assets;
- Assess the significance of the heritage assets within the Site and affected by the proposed development;
- Assess the impact of the application on the heritage assets.

1.5 Methodology for Assessing Heritage Significance and Magnitude of Impact

- 1.5.1 There is no specific national guidance on the methodology for the preparation of impact assessment for heritage assets other than the Design Manual for Roads and Bridges, Volume II, Section 3, Part 2 (Highways Agency 2007). Despite being developed for highways and transport schemes, its methodology has been adopted as being an appropriate approach for identifying receptors (heritage assets), impacts (positive and negative), magnitude of impacts (the scale of the impact upon the heritage asset) and the significance of the impact (the degree to which the importance of the asset is affected). A similar approach is presented by the International Council on Monuments and Sites (ICOMOS) in their guidance Heritage Impact Assessments for Cultural World Heritage Properties (2011).
- 1.5.2 The methodology for the assessment impacts is presented within Appendix 3.

1.6 Limitations and Exclusions

- 1.6.1 Many resources, specifically the Anglesey Archives, which under normal circumstances would be fully accessed, is currently operating restrictions for access arrangements and quantity of documents, due to the ongoing Covid-19 pandemic. Further information held at these resources is not readily available online, therefore other online resources have been consulted to gather additional required information.
- 1.6.2 The assessment relies on the accuracy of the data provided by the sources described above.
- 1.6.3 There is always some degree of uncertainty in relation to these sources which include:
- The GHER entries can be limited because they are not based on a systematic search of the region but rather the records are reliant upon chance finds, opportunities for research and public contribution.
 - Documentary sources may be biased, inaccurate or difficult to interpret.
 - The presence of buried archaeology is not always obvious during walk over surveys.
 - Grid coordinates for heritage assets may be rounded to such an extent that the actual location of the asset can be difficult to locate.
 - The radial boundaries used in this report have been established to maintain the focus and manageability of the data but still be large enough to rigorously consider context and character. It is important to note that any set boundaries

on the report should be considered as permeable. Areas do not develop in isolation, and thought must always be given to significant relationships with places and events outside the area selected or defined

- 1.6.4 Notwithstanding these limitations we are of the opinion that the information presented within this DBA provides sufficient relevant information to provide and inform an opinion on the potential for, and significance of, any archaeological remains within the proposed area.

2 Planning Policy

- 2.1.1 The historic environment is defined as ‘All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed’ (Planning Policy Wales: Technical Advice Note 24, 2017, para: 1.7).
- 2.1.2 Historic assets are defined 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. Nationally important historic assets will normally be designated’ (Planning Policy Wales: Technical Advice Note 24, 2017, para: 1.7).
- 2.1.3 The Planning Policy Wales (PPW) further defines historic assets as ‘listed buildings, conservation areas, historic assets of special local interest, historic parks and gardens, townscapes, historic landscapes, World Heritage Sites and archaeological remains (including scheduled monuments)’ (2018, para: 6.1.2).

2.2 Designated Heritage Assets

- 2.2.1 Designated heritage assets protected by statutory legislation due to their national significance 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).
- 2.2.2 Listed Buildings and Conservation Areas are protected under the Planning (Listed Building and Conservation Areas) Act (1990). In relation to development proposals, the legislation states that ‘in considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the secretary of state shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses’ (section 66).
- 2.2.3 Non-statutory designated heritage assets, comprising Registered Parks and Gardens and Registered Battlefields, are protected under national and local planning policy only. This is also the case for the remainder of the archaeological resource; entries onto a historic environment record or sites and monument record as well as previously unknown features which may be recorded during the course of data collection in respect to a given development proposal.

2.3 Planning Policy Wales and Technical Advice Note 24: Historic Environment

- 2.3.1 The PPW states that ‘Any decisions made through the planning system must fully consider the impact on the historic environment and on the significance and heritage values of individual historic assets and their contribution to the character of place’ (2018, para: 6.1.9).
- 2.3.2 Technical Advice Note (TAN) 24 of the PPW defines the significance (for heritage policy) of a historic asset as comprising four heritage values: evidential value, historic value, aesthetic value and communal value (2017, para: 1.12). These are further defined within the *Conservation Principles for the Sustainable Management of the Historic Environment in Wales* as:
- ‘the physical remains or surviving fabric of an historic asset (evidential); the contribution of documentary sources, pictorial records and museum collections to forming an understanding of an historic asset (evidential); how historic assets through illustrative or associative values can connect the past with the present (historical); the way in which people draw sensory and intellectual stimulation from an historic asset through its form, external appearance or setting (aesthetic); the social and economic values, and spiritual meanings, that an historic asset has for the people who relate to it (communal)’ (2011, para: 2.3).
- 2.3.3 The Technical Advice Note 24 defines the setting of a historic asset as ‘the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset’ (PPW TAN 24, 2017, para: 1.25).
- 2.3.4 For developments that may impact upon a listed building ‘There should be a general presumption in favour of the preservation or enhancement of a listed building and its setting, which might extend beyond its curtilage. For any development proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving the building, its setting or any features of special architectural or historic interest which it possesses... The demolition of any listed building should be considered as exceptional and require the strongest justification’ (PPW, 2018, para: 6.1.12).
- 2.3.5 ‘When considering development proposals that affect scheduled monuments or other nationally important archaeological remains, there should be a presumption in favour of their physical preservation in situ, i.e. a presumption against proposals which would involve significant alteration or cause damage, or would have a

significant adverse impact causing harm within the setting of the remains. In cases involving less significant archaeological remains, local planning authorities will need to weigh the relative importance of the archaeological remains and their settings against other factors, including the need for the proposed development' (PPW TAN 24, 2017, para: 4.2).

2.4 Joint Local Development Plan (Anglesey & Gwynedd)

- 2.4.1 The Anglesey and Gwynedd Joint Local Development Plan was adopted on 31 July 2017 (Isle of Anglesey County Council & Gwynedd Council 2017).
- 2.4.2 The Councils have a duty in exercising their planning functions to preserve and enhance the significance, character and appearance of the Plan area's cultural and historic environment. It is recognised that the historic environment contributes to the enjoyment of life in the Plan area, provides a unique sense of identity and is a valuable economic asset. The term 'heritage assets' includes not only archaeological sites, historic buildings, settlements along with the wider historic landscape together with locally distinctive, valued and important buildings, areas and features.
- 2.4.3 In regard to the historic environment the Joint Local Development Plan includes **Policy PS20: preserving and where appropriate enhancing heritage assets.**
- 2.4.4 In seeking to support the wider economic and social needs of the Plan area, the Local Planning Authorities will preserve and where appropriate, enhance its unique heritage assets. Proposals that will preserve and where appropriate enhance the following heritage assets, their setting and significant views into and out of the building/area will be granted:
1. Scheduled Ancient Monuments and other areas of archaeological importance (in line with Policy AT 4).
 2. Listed Buildings and their curtilages.
 3. Conservation Areas (in line with Policy AT 1).
Beaumaris Castle and Caernarfon Castle and Town Walls World Heritage Sites (in line with Policy AT 1).
 4. Candidate World Heritage Sites.
 5. Registered Historic Landscapes, Parks and Gardens (in line with Policy AT 1).
 6. Buildings of architectural/ historic/ cultural merit that are not designated or protected (in line with Policy AT 3).

3 Assessment

3.1 Geology

- 3.1.1 The British Geological Survey (2021) maps the bedrock of the Site as Coedana Granite, an igneous bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period. Bounded against Coedana Complex – Hornfels a metamorphic bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period.
- 3.1.2 There are no superficial deposits mapped within the Site (BGS, 2021).

3.2 Heritage Assets

- 3.2.1 The data was obtained from the GHER with a 1km radius search area centred on the Site (Appendix 1 & Plan 2.1). This was considered to provide sufficient background information to allow informed predictions on the potential for, and significance of, archaeological remains.
- 3.2.2 The Site does not lie within a historic character area defined by the Register of Historic Landscapes in Wales.

Designated Heritage Assets

- 3.2.3 There are no Designated heritage assets within the proposed extension areas.
- 3.2.1 A former desk-based assessment (Aeon 2017), undertaken for a proposed extension to the west of the current quarry limits, concluded that:

In addition the archaeological assessment identified that the Y Werthyr Hillfort SAM lies within 920.0m of the site boundary. As such site-specific recommendations have been made to retain the western and northern site limits up to the 70m contour line thus hiding all of the proposed quarry extension works from view of the SAM.
- 3.2.2 Landscape design and mitigation have taken into account the long views to and from the quarry. As part of the proposals the existing western faces which are exposed to views from the west and southwest will be restored by placing material against the existing bench faces and then overtopping soils from above to give vegetation the potential to establish and soften the long-term impact of the quarry.
- 3.2.3 Due to the distance between the Site and designated heritage assets, as well as the design mitigation, it is considered that there will not be any adverse effects on the character or appearance of the identified assets and therefore they are not considered any further as part of this assessment.

Non-Designated Historic Assets

- 3.2.4 Data from the GHER records 17 non-designated historic assets within the search area. There will be no direct impact to these assets by the proposed quarry extension, as such they are not considered further except in relation to their presence and location impacting upon the archaeological potential of the Site, as discussed in chronological order below.

3.3 Overview

Prehistoric (Up to AD 42)

- 3.3.1 There are no assets of prehistoric date recorded within the Site.
- 3.3.2 The most significant remains within the search area are the linear formation of possible Bronze Age burnt mounds which lie to the east of the Site (31791). However, two separate, isolated burnt mounds (31831 & 7612) are recorded to the south and southwest of the Site respectively.
- 3.3.3 Given the locations of the mounds on slopes declining to look over open, flattish ground to the east and south, the natural topography and, in the regard to the linear formation to the east, their proximity to each other, helps to localise the potential for further possible such remains and is unlikely to be replicated on site where ground conditions and topography are completely different.
- 3.3.4 Two hearths (77212 & 77213) are located within the linear area of burnt mounds, and are likely associated with the burnt mounds, however they remain undated.

Roman (AD 43 - AD 510)

- 3.3.5 There are no assets of Roman date recorded within the Site.
- 3.3.6 A Roman copper cake was recorded to the northwest of Site (3501) however this is a find from the 19th century and the exact location cannot be pinpointed.
- 3.3.7 The Rural Settlement of Roman Britain project (Allen et al. 2018) does not record any remains or findspots within close proximity to the Site, with the Site situated between rural farmsteads at Bryngwran to the west and Rhostrehwfa to the east.

Early Medieval and Medieval (AD 510 – AD 1540)

- 3.3.8 There are, as of yet, no recorded historic assets dating to the early medieval or medieval periods within the Site or the wider area.
- 3.3.9 However, Gwalchmai is recorded as an area of nucleated settlement, probably with medieval origins ('Uchaf' & 'bof') significant two focal points and field pattern (17159).

Post-Medieval (AD 1540 to Present)

- 3.3.10 The remainder of the records are dated to the post-medieval period and the landscape in which they were established, such as the road (31154) and field boundaries (31157), is predominantly extant.

Unknown

- 3.3.11 A well, of unknown date, is recorded to the east of the Site, recorded as a small stone lined spring, originally the water supply for Bryn Afon.

3.4 Cartographic and Aerial Imagery

- 3.4.1 Various sources of aerial imagery were consulted to identify any archaeological remains that may be present within the Site and to assess how the Site has developed over time.
- 3.4.2 The earliest mapping found during this assessment was the 1606 Hondius map of Anglesey, on which the parish in which Gwalchmai is situated is recorded as 'Treualghmay' (Trewalchmai). Smaller settlements are not recorded on that map.
- 3.4.3 OS mapping from the 19th and 20th century has recorded the landscape as rocky and rugged until the quarry began extraction in the 1940s. The 1899 OS records 'Caerglaw' (house) to the south of the A5.
- 3.4.4 Google Earth imagery shows that the Site has remained undeveloped, the imagery as available records the Site seasonally with increased and decreased vegetation, largely recording the extent of exposed high-lying bedrock.
- 3.4.5 No features of archaeological potential were noted from any aerial imagery.

3.5 Previous Archaeological Investigations

- 3.5.1 Two previous desk-based assessments have been undertaken within the search area, the first by Gwynedd Archaeological Trust in 2005 (40705) for land west of the Site and the second by Aeon Archaeology in 2017 (45921) for a potential extension of quarrying to the west of the current quarry site.
- 3.5.2 Neither assessment recorded potential archaeological remains within the Site.

3.6 Site Visit

- 3.6.1 A Site walkover was undertaken on June 25th 2021. 100% of the proposed extension area was accessible and visibility was predominantly good, ground conditions were saturated, and some ground visibility was limited due to vegetation.

- 3.6.2 Access to the Site is via the existing Hogan Quarry site, which bounds the southern extent of the proposed extension (Plate 1). The topography and ground conditions of the proposed extension area was typified by high lying rocky outcrops with little soil or vegetation coverage (Plate 2) and low-lying shallow basins, saturated and overgrown with reeds and grasses (Plate 3).
- 3.6.3 There was no built development, above ground heritage assets, earthworks or archaeological features noted during the walkover. No areas of truncation were noted excepting the natural erosion of the high lying bedrock.
- 3.6.4 Given the proximity of prehistoric activity, burnt mounds in particular, to the east of the Site, the extant field boundary walls were inspected for any potentially reused material. No obvious material was noted of significance, the presence of a few larger boulders within the wall (Plate 4) is typical of the resource available.
- 3.6.5 Main assessment points from the walkover survey include:
- Site conditions are variable across the possible extension.
 - The extension area comprises exposed bedrock eroded by a dendritic formation of former water channels, as denoted by shallow 'valleys' overgrown with reeds on Site.
 - The extension area is particularly exposed to erosion and potential preservation of buried soils or archaeological remains is negligible.

4 Synthesis

- 4.1.1 Dalcour Maclaren has been commissioned the Client to prepare a DBA in support of a forthcoming planning application for the extension of quarrying off Holyhead Road (A5), Gwalchmai, Holyhead, Anglesey.
- 4.1.2 The information presented within this DBA provides sufficient relevant information to provide and inform an opinion on the potential for, and significance of, any archaeological remains within the proposed area.

4.2 Designated Heritage Assets

- 4.2.1 There are no designated heritage assets recorded within the Site.
- 4.2.2 The closest designated heritage asset is the Y Werthyr Hillfort SAM. Landscape mitigation has been designed to establish and soften the long-term impact of the quarry.
- 4.2.3 Due to the design of the proposed Site works and distance from the designated heritage asset, it is considered that there will not be any adverse effects on the character or appearance of the identified designated asset.

4.3 Non-Designated Historic Assets

- 4.3.1 There are a number of non-designated heritage assets recorded on the GHER, there will be no direct impact to these assets by the proposed quarry extension.

4.4 Impact & Conclusions

- 4.4.1 Overall, it is concluded that the potential for archaeological remains is low. The potential for archaeological remains of local, regional or national significance is very low.
- 4.4.2 The surrounding landscape has a rich prehistoric to medieval archaeological background, however there are constancies within the topography and locations of significant archaeological remains.
- 4.4.3 Should archaeological remains have been present, it is likely that exposure, weathering and land use has caused significant erosion, and should any robust features have remained, these would have been recorded within aerial or mapping data.

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APPENDICES

Appendix 1
GAT Historic Environment Data

PRN	Name	Summary	Period	Type
17159	Gwalchmai Character Area, Trewalchmai	Area of nucleated settlement now on A5, but probably with medieval origins ('Uchaf & 'bof) significant two focal points and field pattern.	Multiperiod	Landscape
31154	Telford's Holyhead Road		Post-medieval	Road
31155	Cottage, site of, Ty yn y Waen	A cottage called Ty yn y Waen is marked on the estate map of 1725 at this approximate location. It is not shown on the tithe map of 1840, not on the first edition OS map of 1888, and so it must be assumed to have gone by then, and was perhaps removed during the construction of the present field boundaries (argued to be about 1820).	Post-medieval	Cottage
31156	Drain or leat, Brygwrn	The drain, though presumably following a natural water course as it runs along the bottom of a valley, appears to have been straightened and enhanced to allow it both to act as a main drain, and to take water to the mill pond that served Strydan.	Post-medieval	Drain
31157	Field Boundaries	The field boundaries that will be crossed by the proposed access road are thought to date from the first quarter of the 19th century, and were possibly built at the same time as the Holyhead road (The Gwalchmai section was constructed about 1820).	Post-medieval	Field Boundary
31791	Burnt Mound, possible, Bryn Ala	Large spread of burnt stone, not enough removed to find any pits or troughs.	Bronze Age	Burnt Mound
31792	Burnt Mound, possible, Bryn Ala	Grass covered crescentic mound, avoided by pipe trench so not excavated.	Bronze Age	Burnt Mound
31794	Burnt Mound, Bryn Afon	Mound with stream on E side. Evaluation trench revealed corner of a pit but the depth of this was not determined.	Bronze Age	Burnt Mound
31796	Burnt Mound, Bryn Afon	Large mound, not affected by pipeline so not excavated.	Bronze Age	Burnt Mound
31797	Burnt Mound, Bryn Goleu	Three areas of burning with peat mixed with burnt stone and charcoal, proved to be part of a	Bronze Age	Burnt Mound

		single very large mound. Layer of branches and tree trunks underlay burnt mound.		
31831	Burnt Mound, Gwalchmai	Gwalchmai Quarry entrance, off-site, small earthwork site, crescentic shape.	Prehistoric	Burnt Mound
3501	Roman copper cake	A Roman copper cake dug up in 1840 at a farm now called Bodfeillion on the left bank of the River Caradog in Llanbuelan parish.	Roman	Findspot
66112	Milestone W of Gwalchmai	A milestone erected between 1817 and 1832.	Post-medieval	Milestone
7612	Burnt Mound, Caer Glaw	Remains of a burnt mound have been noticed within this field during ploughing. This was visible as a large area of burnt and fire-cracked stones.	Bronze Age	Burnt Mound
77111	Telford Wall, Gwalchmai	A section of walling which contains many depots.	Post-medieval	Wall
77212	Hearth, Gwalchmai	A small area of burning comprising both charcoal and red clay. The area measured c 2m by 1m.	Unknown	Hearth
77213	Hearth, west of, Bryn Afon	A clay hearth with compacted stone.	Unknown	Hearth
77217	Well, west of, Bryn Afon	A small stone lined spring, originally the water supply for Bryn Afon.	Unknown	Well
40705	Anglesey Biogas, Gwalchmai, Anglesey	Archaeological assessment undertaken by Gwynedd Archaeological Trust in advance of the construction of a proposed Biogas plant on an area of land west of Gwalchmai, lying between the farms of Cae'r Glaw and Clegyr Mawr.	2005	DBA
45921	Cae'r Glaw Quarry, Gwalchmai, Anglesey	Aeon Archaeology were commissioned to carry out an archaeological assessment and field visit ahead of proposals to extend the current quarry at Gwalchmai.	2017	DBA

Appendix 2 Plates



Plate 1: Shot of existing quarry to south of proposed extension area, looking south



Plate 2: Shot of southern extent of Site with high-lying bedrock, looking north/northwest



Plate 3: Shot of northern extent of the Site, with low lying shallow basin with reed grasses, looking southwest



Plate 4: Boulder within western field boundary wall, with 1m scale

Appendix 3
DMRB Assessment Methodology

Table 1: Factors for Assessing the Value of Archaeological Assets

Value (sensitivity)	Factors
Very High	World Heritage Sites (including nominated sites). Assets of acknowledged international importance. Assets that can contribute significantly to acknowledged international research objectives.
High	Scheduled Ancient Monuments (including proposed sites). Undesignated assets of schedulable quality and importance. Assets that can contribute significantly to acknowledged national research objectives.
Medium	Designated or undesignated assets that contribute to regional research objectives.
Low	Designated and undesignated assets of local importance. Assets compromised by poor preservation and/or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives.
Negligible	Assets with very little or no surviving archaeological interest.
Unknown	The importance of the resource has not been ascertained.

Table 1.1: Criteria for Establishing Value of Historic Buildings

Value (sensitivity)	Factors
Very High	Structures inscribed as of universal importance as World Heritage Sites. Other buildings of recognised international importance.
High	Scheduled Ancient Monuments with standing remains. Grade I and II* Listed Buildings. Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade. Conservation Areas containing very important buildings. Undesignated structures of clear national importance.
Medium	Grade II Listed Buildings. Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations. Conservation Areas containing buildings that contribute significantly to its historic character. Historic Townscape or built-up areas with historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
Low	'Locally Listed' buildings. Historic (unlisted) buildings of modest quality in their fabric or historical association. Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
Negligible	Buildings of no architectural or historic note; buildings of an intrusive character.
Unknown	Buildings with some hidden (i.e. inaccessible) potential for historic significance.

Table 1.2: Evaluating Historic Landscape Character Units

Value (sensitivity)	Factors
Very High	World Heritage Sites inscribed for their historic landscape qualities. Historic landscapes of international value, whether designated or not. Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	Designated historic landscapes of outstanding interest. Undesignated landscapes of outstanding interest. Undesignated landscapes of high quality and importance, and of demonstrable national value. Well-preserved historic landscapes exhibiting exceptional coherence, time-depth, or other critical factor(s).
Medium	Designated special historic landscapes. Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value. Averagely well-preserved historic landscapes with reasonable coherence, time-depth, or other critical factor(s).
Low	Robust undesignated historic landscapes. Historic landscapes with importance to local interest groups. Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.
Negligible	Landscapes with little or no significant historical interest.

Table 1.3: Factors in the Assessment of Magnitude of Impact – Archaeological Remains

Value (sensitivity)	Factors
Major	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.
Moderate	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.
Minor	Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting.
Negligible	Very minor changes to archaeological materials or setting.
No change	No change.

For impacts on historic buildings, HA208/07 (Highways Agency *et al.*, 2007) gives the following table of factors to be used in the assessment of magnitude of impacts.

Table 1.4: Factors in the Assessment of Magnitude of Impact – Historic Buildings

Value (sensitivity)	Factors
Major	Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to setting.
Moderate	Changes to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified.
Minor	Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed.
Negligible	Slight changes to historic building elements or setting that hardly affect it.
No change	No change to fabric or setting.

Table 1.5: Factors in the Assessment of Magnitude of Impact – Historic Landscape

Value (sensitivity)	Factors
Major	Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
Moderate	Changes to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	Changes to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited changes to historic landscape character.
Negligible	Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
No change	No change to elements, parcels or components; no visual or audible changes; no changes in amenity or community factors.

Table 1.6: Significance of Effects Matrix

Value (sensitivity)	Magnitude of Impact				
	N	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight
Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large


Table 1.7: DMRB Descriptors of Significance of Effect Categories

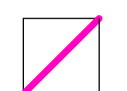
Value (sensitivity)	Factors
Very large	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Large	These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
Moderate	These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Slight	These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

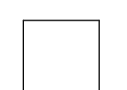
Appendix 4
Landscape Mitigation Design

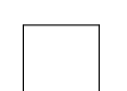


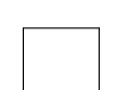
LEGEND

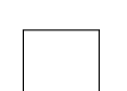
 Existing Quarry Site Boundary including existing approved extension

 Proposed North extension boundary









Proposed North extension excavation area-8.25Ha

Proposed North extension Bund area-4.10Ha

Proposed North extension Total excavation from OGL = 1,366,500 m3

Proposed North extension Overburden (2m depth below OGL) = 134,900 m3

Proposed North extension Rock = 1,231,600 m3 @ 2.7 tnn / m3 = 3,325,320 tnn

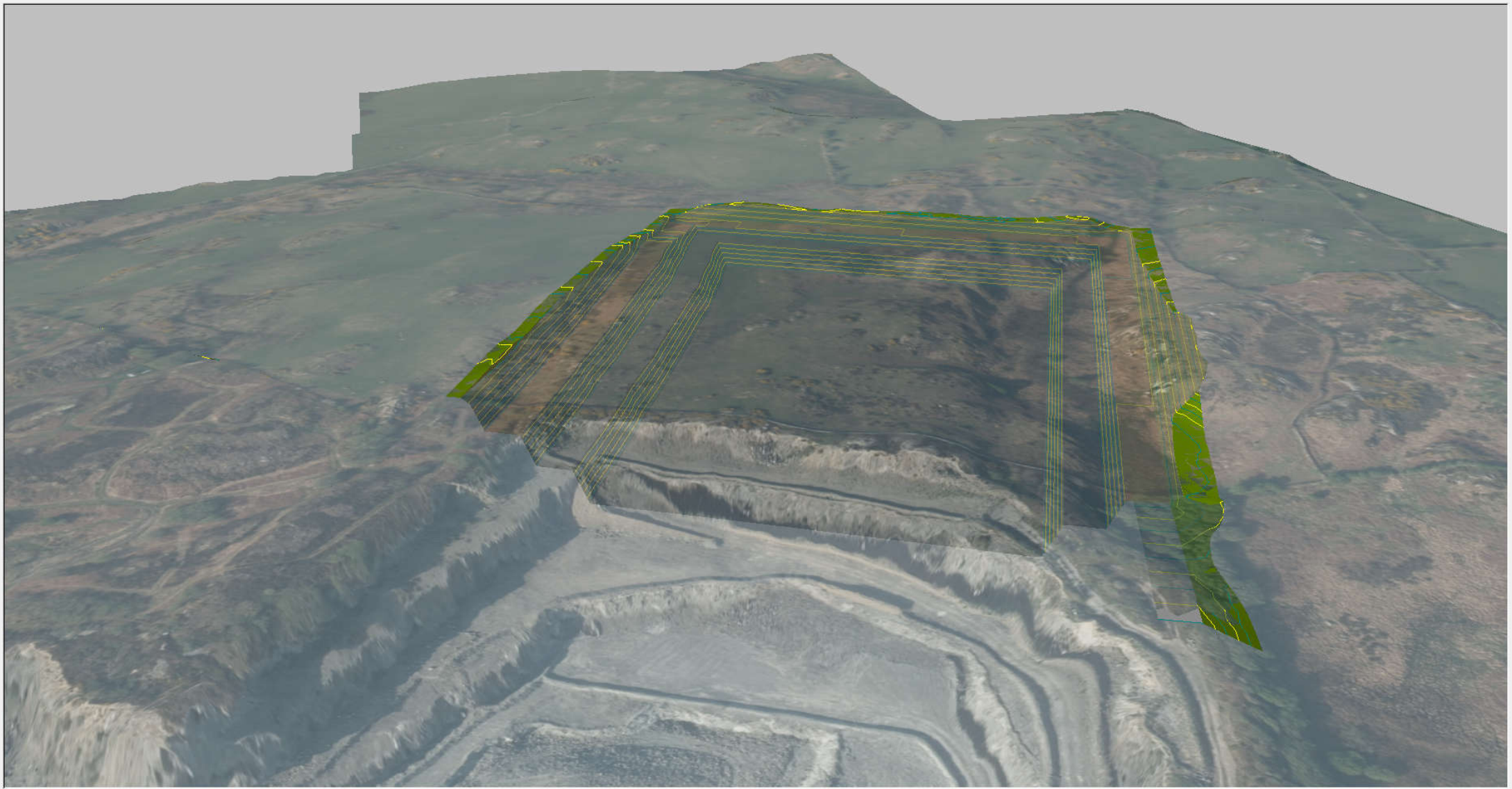
Base aerial photo:- Ordnance Survey flown 16-04-2020

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Project
Caer Glaw Quarry North Extension

Title
Draft Total Excavation VB04A

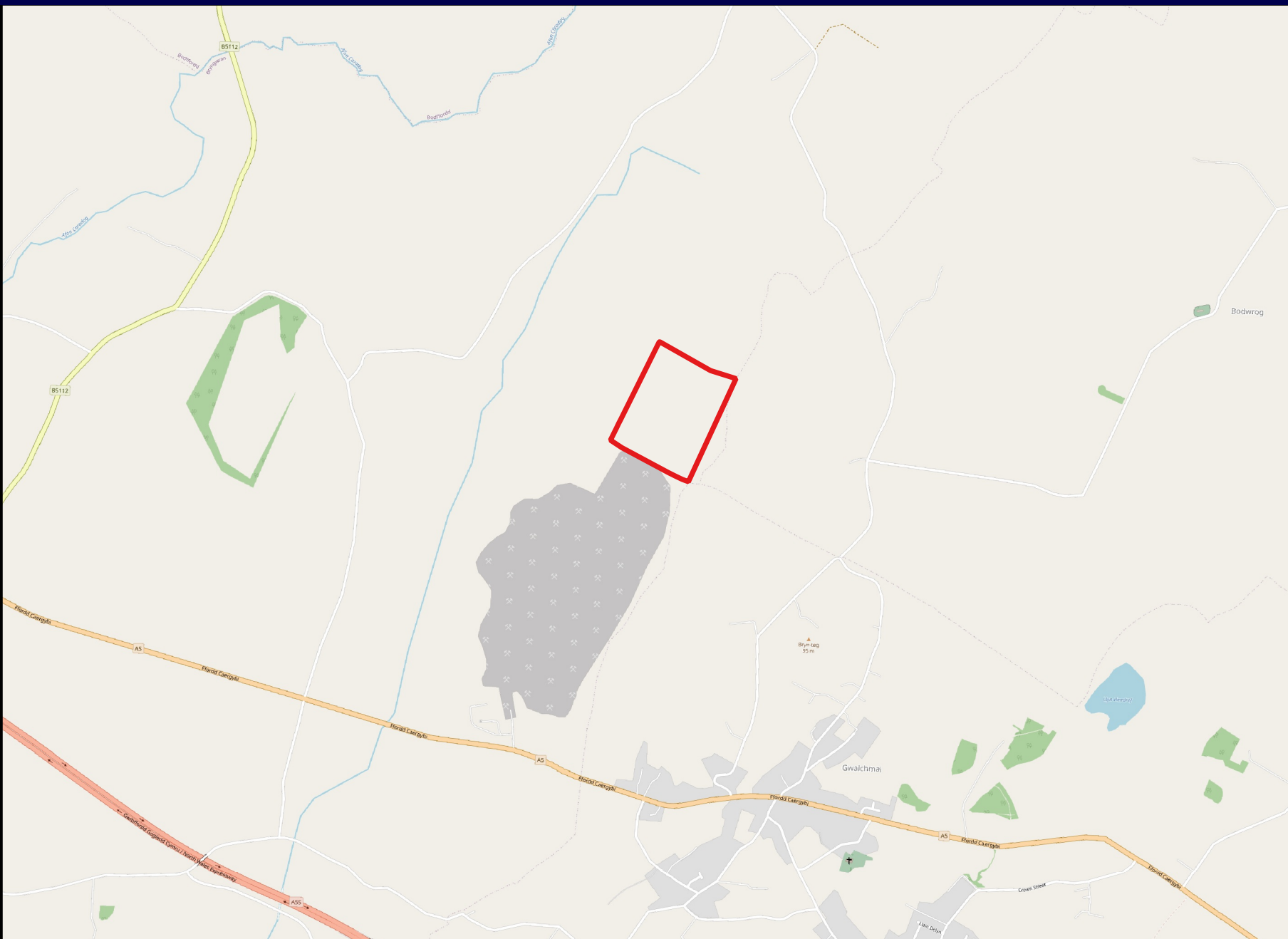
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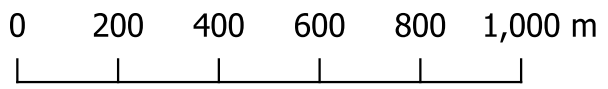
**DALCOUR
MACLAREN**

DRAWINGS



Key:

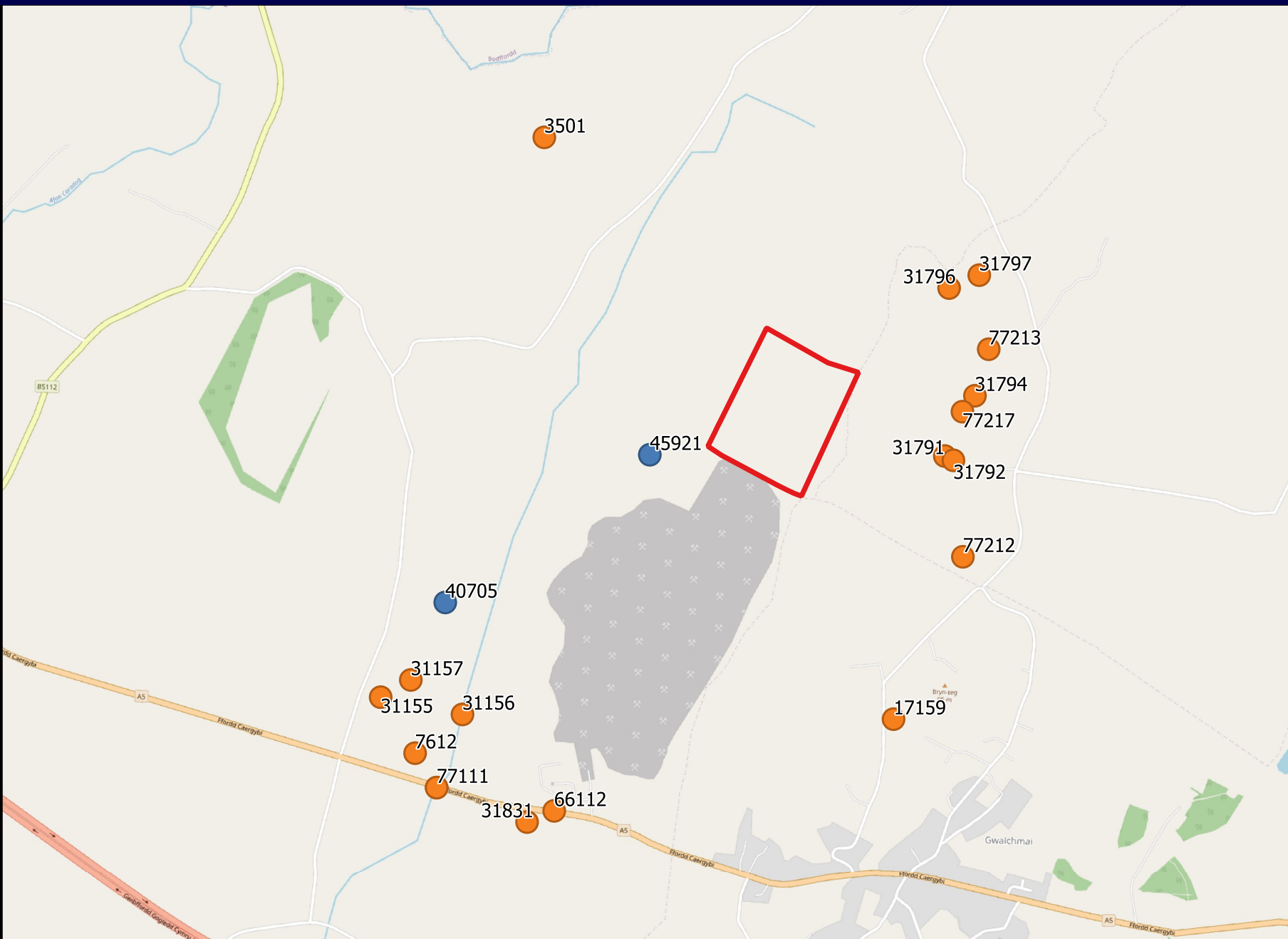
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Created Date: August 2021

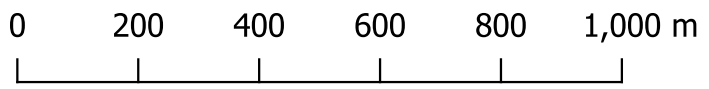
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Key:

-  Proposed Quarry Extension
-  Monument Point
-  Events



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Created Date: August 2021

Scale: 1 : 12,500



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