

Results of Archaeological Works at
Proposed Development
Llangefni Primary School,
Llangefni, Anglesey

NGR SH 44734 76010 (Centre Point)

Project Number CR168-2018



C.R Archaeology

Compiled by C. Rees

On Behalf of Cyngor Sir Ynys Môn

Copyright C.R Archaeology

**Results of Archaeological Works:
Llangefni Primary School, Llangefni, Anglesey**

Planning Application Number:	Pre-planning
National Grid Reference:	NGR SH 44734 76010 (Centre Point)
Client:	Cyngor Sir Ynys Môn
Report Authors:	C. Rees
Report Number:	CR168-2018
Date:	03-07-2018

Contents

1.0 Introduction

2.0 Project Aims

3.0 Scheme of Works – Methodology

3.1 Desk Based Research

3.2 Walk Over Survey

3.2.1 Equipment

3.3 Geophysical Survey

3.3.1 Equipment

3.4 Timetable for Proposed Works

3.5 Staffing

3.6 Monitoring

3.7 Health and Safety

3.8 The Report

3.8.1 Copyright

4.0 Topographic and Geological Background

4.1 Topography

4.2 Geology

5.0 Historical Background

5.1 Prehistoric

5.2 Roman

5.3 Early Medieval

5.4 Medieval

5.5 Post-Medieval

5.6 Multi Period

5.7 Records of Unknown Date

5.8 Cartographic Sources

6.1 Results of Walkover Survey

6.2 Results of Geophysical Survey

6.3 Results of Examination of the Impact on the Setting of Known Heritage Assets

6.3.1 World Heritage Site Status

6.3.2 Scheduled Ancient Monuments

6.3.3 Listed Buildings

6.3.4 Conservation Area

6.3.5 Known Sites of Archaeological Interest

7.0 Discussion of Archaeological Potential

8.0 Conclusion

9.0 Bibliography

Illustrations

Figure 1. Site Location Map

Appendices

Appendix A. Specification for Archaeological Works

Appendix B. Proposed Development Plans

Copyright C.R Archaeology

1.0 Introduction

1.0.1 C.R Archaeology were instructed by Cyngor Sir Ynys Môn to conduct an Archaeological Desk Based Assessment, Walkover Survey and Geophysical Survey at the proposed site of a new primary school in Llangefni (figure 1). As the works are at a pre-planning stage detailed drawings of the buildings/services were not yet available. Available drawings are included as Appendix B.

1.0.2 This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme. It is intended that the results of the works in this document will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required. The specification for this document was agreed with GAPS and is included as Appendix A.

1.0.3 The site is located on the north-western outskirts of Llangefni town. The proposed development area comprises two relatively large rectangular fields. It is bounded by hedgerows and is currently in use as grazing. The B5109 Llangefni – Bodffordd road runs along the north-eastern site boundary and there is housing to the north-east and south-east. There is undeveloped farmland to the south-west and north-west.

1.0.4 There are isolated find spots of Prehistoric date located within the vicinity and the site. Although located over 2000m from the proposed development site the recent discovery of an Early Medieval cemetery and burnt mound at Coleg Menai further demonstrates the potential for significant discoveries in the area.

1.0.5 Many of the features encountered during the geophysical survey appear to relate to Medieval and Post Medieval utilisation of the site for agricultural purposes. These include probable ridge and furrow; likely to be of Medieval or Post Medieval date, and several field boundaries recorded on early mapping of the site. Several features are deemed to be worthy of further investigation.

2.0 Project Aims & Objectives

2.0.1 This phase of works for the development site aimed to undertake a desk-based assessment, walkover survey and geophysical (gradiometer) survey. It aimed to examine the potential archaeological resource surviving on the site and to provide information which will be utilised to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

2.0.2 The first aim of this scheme of works was to undertake desk based historical research exploring the history/archaeology of the site. This information includes a map progression and archival research in order to compile a coherent narrative history of the site and its environs.

2.0.3 The second aim of this archaeological investigation was to undertake a walkover and geophysical survey of the site in order to identify and locate buried features.

2.0.4 It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

2.0.5 The objectives of this programme of works were:

- To locate and describe, by means of desktop analysis, a walkover survey, geophysical prospecting, archaeological features which may be present within the development area
- To make full and effective use of existing information to establish the archaeological significance of the site
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

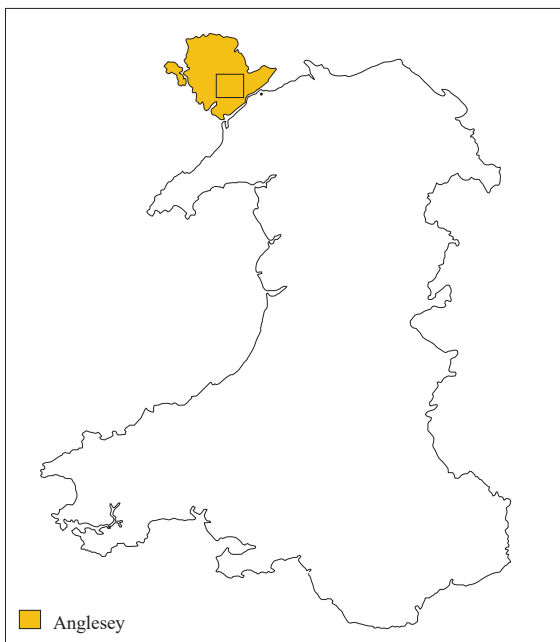


Figure 1. Site Location Map

(Source: OS Open Data Mapping. Contains Ordnance Survey data © Crown copyright and database right [2018])

2.0.6 The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University and Anglesey Archives and relevant publications were consulted to compile a record of known archaeological sites in the vicinity. Aerial photographs will also be examined.

2.0.7 It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

3.0 Scheme of Works - Methodology

3.0.1 The archaeological works were conducted in three sections and each is detailed separately below.

3.1 Desk Based Research

3.1.1 A complete and coherent history of the site was compiled utilising material sourced from Anglesey Archives and the Bangor University Archives. This allowed as comprehensive a history as possible to be compiled. A full map progression of the area was undertaken. Where appropriate the archive information is supplemented with information from local libraries and specialist interest websites & journals.

3.1.2 In order to identify the character of archaeological remains in the vicinity of the site, a search of the Gwynedd HER was conducted examining an area within a 500m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). A more general search was conducted at a 1000m radius but as this search area will include the town of Llangefni (which contains a number of historic buildings which are not of direct relevance to this study) the information will not be discussed in great detail. Where relevant sites from further afield will also be referenced and discussed.

3.1.3 The RCAHMW database and aerial photographs of the site were examined. The information collected will be discussed within the main report text.

3.1.4 The works were carried out accordance with the CIfA Standards and Guidance for historic environment desk-based assessment (CIfA (Revised 2014)).

3.1.5 This material forms the historical background for an archaeological report which includes the results of the walkover and geophysical surveys.

3.2 Walk Over Survey

3.2.1 A site visit was conducted, and a photographic record compiled which details any above ground features and shows the general topography of the site. Further photographs were taken to illustrate the setting of the site.

3.2.1 Equipment

3.2.1.1 Photographs were undertaken using a 20 mega-pixel A58 digital camera with a variety of standard and other lenses. Images were captured in RAW format for later processing into high resolution JPG and TIF files.

3.3 Geophysical Survey

3.3.1 Prior to the commencement of works a brief written record of the site was compiled. This includes a note on any features/elements which may have an impact on the survey results - for example weather, geological features, fencing & overhead cables.

3.3.2 The survey was carried out in accordance with English Heritage's guidance "*Geophysical Survey in Archaeological Field Evaluation*" (2008) and the CIfA "*Standard and Guidance for Archaeological Geophysical Survey*" (2011 Revised 2014).

3.3.3 A survey grid was established over the site, orientated to provide a best possible fit to the area to be surveyed and to minimise the effects of the slight slope of the ground level on the site. Grids were walked using a zig-zag method, for maximum speed.

3.2.1 Equipment

3.2.1.1 The survey was undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer setup. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar with a 1m separation. The grid location was surveyed using a Leica TCR 1100+ Total Station.

3.2.1.2 The survey settings for the gradiometer were as follows:

Sensitivity: 0.1nT

Sample Interval: 0.25m

Traverse Width: 1m

Traverse Method: Zig-Zag

Grid Square Size: 20x20m where possible, downsized to 20x10m where necessary

3.2.1.3 Archaeosurveyor was used to download and manipulate the geophysical data. Minimal processing was applied to all images to ensure no false results are created by excessive image manipulation. Data was downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

3.4 Timetable for Proposed Works

3.4.1 The walkover/geophysical survey was undertaken 18th – 22nd June 2018. Time has been allotted for archive research, report compilation and site archiving.

3.5 Staffing

3.5.1 The project was managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology)). The geophysical survey was conducted by Matthew Jones (C.R Archaeology) & Thomas Wellicome (Archaeological Landscape Investigations Ltd, (BSc, MA, ACIfA).

3.5.2 All staff have a skill set equivalent to the CIfA ACIfA/MCIfA level. All projects are carried out in accordance with CIfA *Standard and Guidance* documents.

3.6 Monitoring

3.6.1 The project was subject to monitoring by Gwynedd Archaeological Planning Services.

3.7 Health and Safety

3.7.1 A risk assessment was conducted prior to the commencement of works and site staff were familiarised with its contents. A first aid kit was located in the site vehicle.

3.7.2 All staff were issued with appropriate Personal Protective Equipment (PPE) for the site work

- Hi-visibility vests (EN471)
- Mobile Telephone (to be kept in site vehicle)
- Suitable Walking Boots & Waterproofs
- Sunscreen & sun hats

3.7.3 All staff have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363).

3.7.4 C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

3.8 The Report

3.8.1 This report clearly and accurately incorporates information gained from the programme of archaeological works. It presents the documentary evidence gathered in such a way as to create a clear and coherent record. This includes illustrations of any cartographic/pictorial sources. The report contains a site plan showing the locations of any photographs taken.

3.8.2 The desk-based assessment considered the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site - including the dates of any buildings on the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

3.8.3 In accordance with English Heritage guidelines the geophysical survey results element includes:

- a survey location plan demonstrating relationships to other mapped features (minimum scale 1:2500);
- an image of minimally processed survey data (minimum scale 1:1000);
- where appropriate a trace (or X-Y) plot of raw magnetic data
- a greyscale plot, or dot density plot (minimum scale 1:1000);
- one or more interpretative plans/diagrams (minimum scale 1:1000).

3.8.4 It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

3.8.5 A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

3.8.1 Copyright

3.8.1.1 C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

4.0 Topographical and Geological Background

4.1 Topography

4.1.1 The eastern site boundary is located along the Llangefni – Bodffordd Road and is bounded by hedgerows. It is located on the outskirts of the town of Llangefni. The site is currently in use as grazing within an enclosed field boundary system.

4.2 Geology

4.2.1 The bedrock geology at the site is recorded as “*Gwna Group - Schist. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. Later altered by low-grade metamorphism. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. These rocks were sedimentary in origin, possibly chaotic flows of debris in a deep-marine environment but have subsequently undergone metamorphism*” (www.bgs.ac.uk).

4.2.2 The superficial geology is recorded as “*Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (U). These sedimentary deposits are glacial in origin. They are detrital, created by the action of ice and meltwater; they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary*” (www.bgs.ac.uk).

5.0 Historical Background

5.0.1 Searches of the Gwynedd Historic Environment Record were conducted at 500m and 1000m radii of the site (central point). The 500m search returned 2 results, 1 of Prehistoric date and one of Post Medieval date. When the search was expanded to 1000m the search results increased to 25 – 2 of Prehistoric date, 2 of Medieval date, 7 of Post Medieval date, 10 of Modern date, 3 of unknown date and 1 multiperiod site.

5.1 Prehistoric

5.1.1 A single entry of Prehistoric date was recorded within 500m of the proposed development area (PRN 2139). When the search area was extended to 1000m a further findspot was recorded (PRN 2682).

5.1.2 PRN 2139 records the discovery of three stone axes found whilst digging a trench for a drain in 1960.

(I) - A small chipped and polished flint axe, 4.1 inches long 1.6 inches wide at the blade, tapering to 0.5 inches at the butt and 0.9 inches thick.

(II) - A chipped unpolished Graig Llwyd axe, 7.6 inches long, 3 inches wide at the blade tapering to 1 inch wide at the butt and 1.3 inches thick.

(III) - A chipped and unpolished Graig Llwyd axe, 10.2 inches long, 3.8 inches wide at the blade tapering to 1.8 inches wide at the butt and 1.8 inches thick.

5.1.3 PRN 2682 is the findspot of a spindle whorl of uncertain date. It was 1 1/2 inch diameter and 3/8 inch thick with a 'squarecut' edge. It was perforated at the centre by a circular straight cut hole. Mr Williams found the spindle whorl in 1964/5 in a field called Cae Ffynnon, lying on the surface. It is recorded that there was no trace remaining of the well from which the field takes its name by 1970.

5.1.4 A third findspot entry should presumably also be assigned a Prehistoric date but is currently recorded as unknown. PRN 62192 is recorded as “Mr Williams at Bryn Goleu reported finding fragments of stone axes in the southern part of his field”.

5.2 Roman

5.2.1 There were no sites of Roman/Romano-British date within the 1000m search area.

5.3 Early Medieval

5.3.1 There were no sites of Early Medieval date within the 1000m search area.

5.3.2 There are however four cross-slabs of the C7th to C9th re-set in the western buttresses of Llangeinwen Church (PRN 7011 – see below) indicating activity of the period in the vicinity and possibly an early foundation date for the church.

5.3.3 Although located over 2000m from the proposed development site, the discovery of an Early Medieval cemetery at Coleg Menai serves to highlight the importance of the potential archaeological resource in the area.

5.4 Medieval

5.4.1 There were no sites of Medieval date within the 500m search area. When the area is extended to 1000m it returned 2 entries.

5.4.2 PRN 36162 is recorded as the remains of Pandy Llangefni, a (fulling) mill site.

5.4.3 PRN 7011 records Llangeinwen Parish Church, Bodffordd. The church is described as *“Llangeinwen parish church is dedicated to St. Ceinwen and is located in the diocese of Bangor. A church of C12th continuous nave with later chancel, and a large modern north chapel, a south porch and west tower.*

5.4.4 *The rectilinear churchyard is bounded by a stone-wall, with an entrance on the east side.*

5.4.5 *The present nave is dated to the C12th by a round-headed blocked door in the north wall. The chancel has no dateable features, but was probably added in the C15th. The north chapel was added to the chancel and the west tower built in the first half of the C19th. The windows and doors are all of this date.*

5.4.6 *The church was restored in 1928 by H. Hughes when the upper parts of the walls were rebuilt; the gallery was taken down in 1931.*

5.4.7 *The church houses a C13th font and three memorials dating from 1591 to 1728. There are four cross-slabs of the C7th to C9th re-set in the western buttresses of the church”.*

5.5 Post-Medieval

5.5.1 A single entry of Post-Medieval date was recorded within 500m of the proposed development area (PRN 7784). When the search area was extended to 1000m a further 6 were recorded. Four of the records are for Listed Buildings

5.5.2 PRN 7784, Capel Cildwrn. Grade II* Listed Building (Cadw ID 5749).

“Built in 1781, heightened and internally remodelled in 1846-9. Formerly the principal Baptist chapel on Anglesey, from 1781 to 1826 the minister was the renowned preacher, Christmas Evans. The chapel was redundant for some years after the Baptists transferred to Peniel chapel in the town centre; renovated and re-opened for services in the 1980s.

5.5.3 *Lateral entry, 2-storey chapel with shorter 2-storey chapel house at left (S) end. Built of local rubble masonry, mostly rendered elevations; slate roof with gable stack to S. The principal elevation faces E; openings with rendered, eared architraves. The chapel has 12-pane, hornless sash windows; 3 windows lighting the gallery, 2 windows below (to either side of the pulpit) and ground floor doorways to either end. The chapel house has 4-pane sash windows, a single window range with blocked doorway to right (N) end. The right (N) gable wall of the chapel, being exposed rubble, shows the line of the original roof pitch and a blocked attic opening over a 12-pane sash window. The rear of the chapel has two 16-pane sash windows to the gallery and a modern, 16-pane fixed light to the left (N) of the ground floor; right (S) end with modern porch, modern single storey wing to rear of*

chapel house. There is now a slate plaque on the S wall of the chapel house, which reads: CYNGOR BWRDEISTREF / YNYS MON / TY CILDWRN, CARTREF / CHRISTMAS EVANS / 1766 - 1838 / ESGOB BEDDWYR MON / 1791 - 1826. To the front of the chapel is a small yard which leads on to the rectangular churchyard with rubble walls and gate piers. The yard contains a polished granite obelisk to J R Davies, a former minister, and some slate monuments, including one to Catherine Evans, wife of Christmas Evans, d.1823.

5.5.4 The entrances (set to either side of the pulpit) lead into small, timber boarded vestibule enclosures each with gallery stairs; boarded doors open onto each staircase and to the main chapel beyond. The chapel interior is almost square in plan with well-preserved fittings. Three ranks of box pews to the ground floor; central rank wider with central divider. Gallery, splayed across the corners, with raking pews and panelled front; the gallery is set on non-structural, broadly chamfered, slightly tapering timber piers. In the centre of the gallery front, directly opposite the pulpit, is a clock (by H Roberts of Llangefni), the mechanism now housed within one of the piers (formerly in casing inset in the rear wall). The high pulpit is raised by 6 steps, stairs with turned newel post, stick balusters and clasping rail; rising to a door at the right (S) side. The pulpit has a panelled front with curved, fluted angles, and is set on shaped marble piers; the seat has an unusually high panelled back (which formerly contained a plaque to the memory of Christmas Evans' ministry, this was removed and reset on the front of Peniel chapel in the town centre).

5.5.5 Listed II* as an unusually well-preserved example of a C18 chapel and chapel house, retaining much of the character of its early origins, notwithstanding some C19 modifications. Capel Ebeneser is a rare and important survival of its type, few of which remain on Anglesey. The chapel is of particular historic interest due to its association with the life of Christmas Evans, renowned preacher and minister” (www.cadwpublicapi.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id=5749).

5.5.6 The remaining 3 Listed Buildings are situated within 1000m of the centre of the proposed development area. They are as follows:

5.5.7 PRN 66768. Former National School and Schoolhouse. Grade II Listed Building (Cadw ID 20550).

“National school and schoolhouse built in 1851-2 to replace the earlier school of 1818, which by then had fallen into a state of disrepair and was in a dangerous state, the school being held in the town hall. In January 1850 Reverend Henry Owen was appointed to the incumbency at Llangefni and by September had forwarded a memorial to the Committee of the Council of Education requesting aid to build a new school. In the same month it was announced that plans were being made to build a British School on land donated by Sir Richard Williams-Bulkeley. Faced with requests from both schools, the secretary of the Committee, R.R.W Lingen, ruled that local circumstances did not warrant the establishment of two schools and urged both parties to come to some agreement to build a single school to serve the town. Throughout the following year there were a series of heated debates and meetings held, with R.R.W. Lingen putting forward suggestions for compromises to be made by either party to allow plans for a single school to be considered. Finally, in December 1851, he agreed to award grants to both parties and the National School was opened on 29th September 1852 (the British School opened in the June of that year); designed by Henry Kennedy, Architect of Bangor and built at a cost of £800, the Treasury Grant awarded £229. Both schools were to suffer a shortage of funds but requests for further grants were rejected by Lingen; Reverend Owen was able to claim a grant of £70 from the National Society. The schoolmasters house is now a private dwelling, the school itself used to accommodate workshops.

5.5.8 Mid C19 National school building with attached 2-storey schoolhouse. The school and schoolhouse were built as one range, the principal (SW) elevation of the schoolhouse facing the street.

5.5.9 *The school was accommodated in a staggered wing of 2-units; one unit (the infants classroom) was formed by a cross wing at the right (SE) end of the schoolhouse, the second (girls and boys classrooms) by a wing set at right angles to the rear. Entry to the girls and infants classrooms was through a lobby between schoolhouse and infants classroom, entry to the boys classroom through a gabled porch at the NE end of the rear wing. The range is faced with local rubble set roughly to courses and freestone dressings; steeply pitched slate roofs with stone copings and ashlar stacks (the schoolhouse with brick gable stack corbelled out at left (NW) end, and axial stack. The school has horned sash windows throughout (some of which are now boarded over); the infants classroom has large gable windows with ventilations slits above (SW gable with corbelled chimney); right return (SE elevation) has 2 x 4-pane sashes. The girls and boys classrooms each have tripartite windows of 8-pane sashes, the girls classroom, to the left (SW) with the window set in an advanced gabled wing; corbelled chimney above. The NE porch has a steeply pitched gabled roof, entry through boarded double doors set under a segmental-headed fanlight. The schoolhouse is a 2-storey, 4-window range with doorway offset to the left (NW) end; 1st floor windows are 2-pane, side hung casements.*

5.5.10 *Listed as a well-preserved mid C19 school and schoolhouse range, designed in a strong vernacular idiom, and which retains the practical character of its design, as well as many exterior features. The range is also of interest as a lesser known work by Henry Kennedy” (www.cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id=20550).*

5.5.11 PRN 33938. Rhyd y Spardyn Blas. Grade II Listed Building (Cadw ID 87617).

“Small farmhouse and attached cowhouse range probably dating to the C17. Altered during the C19 with the conversion of the cowhouse into part of the dwelling. The architect Brian Lingard, prominent in north Wales during the post-war period, moved to the house c.1950. With the help of a post-war Improvement Grant he altered the house in line with architectural ideas of the time but retained the external appearance of the original structure. The open plan interior and kitchen, dining and bathrooms to the cowhouse are the work of Lingard as are the dormer to the rear roof-slope and the buttress against the rear wall.

5.5.12 *House and attached former agricultural range. Whitewashed rubble stone with slate roof with close eaves and small pane sash windows with projecting cills. 4 bays, single story with gabled attic dormers and gable end stacks, door to right hand bay with slate porch and C20 door. Large buttress to left hand gable and similar buttress centrally to rear with modern window to the left and small pane sash to the right. Modern dormer and two rooflights in the rear roofslope. Attached long single storey range set back to right side (the former cowhouse) with grouted slate roof, continued over catslide extension to rear; 2 plate glass sashes offset to left in inserted openings with brick surrounds, small window to right. Two modern gable windows, and two modern windows to the rear.*

5.5.13 *Offset entrance with open ground floor; the internal arrangement and detail are the result of Brian Lingard's work here c.1950. C20 fireplace and stair, and inserted opening to cowhouse range to right. Three roughly squared floor joists with some evidence of former partitions visible. First floor retains partitions, wide floor boards and later fireplace to gable. 3 Pegged roof trusses visible within the roof space along with upper sections of former tongue-and-groove partitioning.*

5.5.14 *Included, for its special architectural interest as a well preserved small farmhouse of the C17 displaying characteristic vernacular features typical of Anglesey buildings of this type and period. The original internal layout has been lost but the present arrangement is of interest as a mid-twentieth century scheme by the architect Brian Lingard” (www.cadwpublic-api.azurewebsites.net/reports/listedbuilding/ Full Report?lang =en&id=87617).*

5.5.15 PRN 66784. Ty Moel. Grade II Listed Building (Cadw ID 21072).

“Early C19 farmhouse with later C19 alterations. A 2-storey farmhouse with single-storey service wing to rear. Rendered elevations throughout, modern slate roof has rendered gable stacks with capping, wider, square stack to gable of service wing. Principal elevation faces SE, a 2-window range with central doorway; ground floor with small-paned sashes, 1st floor with 4-pane sashes in gabled dormers. The rear entrance is a half-glazed door to the service wing, with small-paned sash window to right; the rear elevation of the house also has similarly detailed windows. Included as a good example of an early C19 farmhouse retaining much of its original vernacular character, including the retention of many small-paned sash windows” (www.cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id=21072).

5.5.16 The remaining sites of Post Medieval are PRN 56049 - Weir, Llyn Bach, SW of St Cyngar's Chrch, PRN 56050 Rectory, St Cyngar's Church and PRN 56051 Railway Cutting, NE of Llyn Pwmp.

5.5.1 Modern

5.5.1.1 There are 10 records of modern date within 1000m of the proposed development area (PRN's 56040 – 56048 & 56051 – 56052). All are identified from historic mapping and are related to the railway in the area.

5.6 Multi Period

5.6.1 There is a single multi-period site within the study area – PRN 17133 Rhostrehwfa Character Area, Llangristiolus. The area is described as “*small area of ribbon settlement with associated long rectangular fields shown on tithe map and still extant*”.

5.7 Records of Unknown Date

5.7.1 There are 3 records of unknown date within the study area: PRN 62152 – the farm Track, Cae'r-bwl, PRN 32077 Ffynnon Cyngar and PRN 62192 which is discussed in the Prehistoric section.

5.8 Cartographic Sources (See Section 6.2 for Figures)

5.8.1 No early estate maps could be sourced which showed the proposed development area. The earliest source examined was the 1840 Tithe of the area. This document shows that the proposed development area is occupied by 3 fields: 82a (part of) - Rhos Trehwfa, 71 Bodellis Quarry (both owned by Thomas Ellis and tenanted by William Edwards), and 84 – Ty Hen (owned by Owen Bulkeley, tenanted by Ellen Owen).

5.8.2 The field name – Ty Hen for plot 84 is of interest. It is most likely that the “old house” for which the plot is named would have been located along the road to the east of the plot and may have been destroyed by the current road. Traces of a quarry in plot 71 may survive below ground.

5.8.3 The 1888 First Edition Ordnance Survey map shows that between 1840 and 1888 the plots have been further subdivided. The north-western portion of field 82a (which lies outside the proposed development area) has been partitioned off and a farm named Pen y Parc built within the area. The remaining area of field 82a has been roughly divided in half, as has field 84. Field 71 has been divided into 3 smaller fields. The historic Ordnance Survey editions up until 1949 show no further changes to the field and the removal of the internal field boundaries post dates 1949, as does the erection of houses along the B4422.

6.0 Results of Archaeological Works

6.1 Results of Walkover Survey

6.1.1 The site consists of two roughly rectangular fields with access off the B5109 to the north. Both fields slope gently towards the south-west and both have recently been cut for silage. Deep rutting at the bottom of slopes show that the area can become waterlogged.

6.1.2 Both fields are bounded on three sides by hedgerows, with the exception of to the east where it is backed onto by houses. The first field (closest to the B5109) has breeze block walling dividing the houses from the field, whilst the second field has been left open.

6.1.3 The bottom half of the first field has a power line crossing it and there are some low undulations to the east of the field near the houses.

6.1.4 The second field has power lines running along its northern edge and some very disturbed ground in its western area of the field. It was originally thought that this disturbance may relate to the house and quarry recorded in the tithe. However, a service check has shown below ground water pipes run through this area which would likely account for the disturbance.

6.2 Results of Geophysical Survey - By Thomas Wellicome BSc MA ACIfA

6.2.1 Site Location and Ground Conditions

6.2.1.1 Site Description and Topography

6.2.1.1.1 The survey area comprised two fields lying to the south of the B5109 on the eastern outskirts of Llangefni, Anglesey (centred on NGR SH 4472 7602]. The topography of the survey area slopes gently from the north-east to the south-west. The site's current land use at the time of survey comprised pasture for livestock grazing. Several power lines cross the site on north-south and east-west alignments in the eastern half of the two fields.

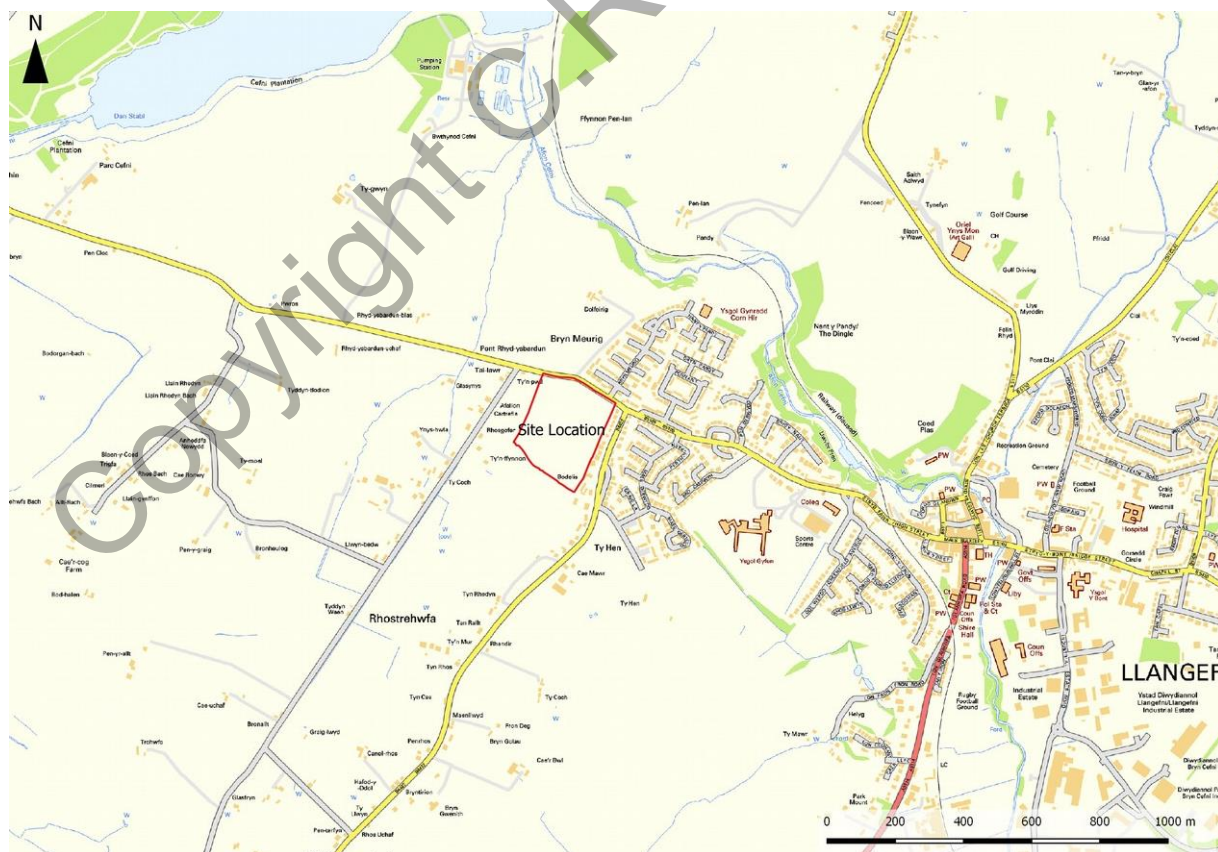


Fig. 1 – Site Location on Open OS mapping. Contains Ordnance Survey data
© Crown copyright and database copyright 2018

6.2.1.2 Geology

6.2.1.2.1 The local bedrock is mainly formed from the Gwna Group (Schist). This is metamorphic bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally these were sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide and were later altered by low-grade metamorphism.

6.2.1.2.2 The northern field (Field 1) lies on a geological boundary and may contain some Church Bay Tuffs and Skerries Grits (undifferentiated). This is a sedimentary and igneous bedrock formed approximately 485 to 635 million years ago in the Cambrian and Ediacaran Periods.

6.2.1.2.3 Superficial deposits consist of Devensian/ Diamicton Till formed during the Quaternary Period. The local bedrock and superficial deposits recorded in this area are generally conducive to gradiometer survey techniques, although localised variations may occur, which could effect survey reliability.

6.2.2 Methodology

6.2.2.1 The survey was carried out in accordance with Historic England's guidance '*Geophysical Survey in Archaeological Field Evaluation*' (2008), which establishes best practice for archaeological geophysical surveys in England. The work has been carried out to the standards set out in the Chartered Institute for Archaeologists (2014) *Standard and Guidance for Archaeological Geophysical Survey*.

6.2.2.2 A survey grid was established over the site location, orientated to provide a best possible fit to the area to be surveyed. The orientation of the grids was approximately NW to SE; which while not ideal for surveying accuracy¹ was perceived to be the best layout of grids to fit the site footprint. The survey area was limited in some places by wire fences surrounding the site and the presence of high voltage overhead electric cables. The grid was set out using a Leica TCR 1105+ total station.

6.2.2.3 To minimise the effects of the slope of the ground level on the site on the dual gradiometer, and allow as great an area to be as easily surveyed as possible, all grids were walked in an SE – NW orientation. Grids were walked using a zig-zag method, for maximum speed.

6.2.2.1 Equipment and Set-up

6.2.2.1.1 The survey was undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer set-up. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar, with 1m separation.

6.2.2.1.2 The survey settings for the gradiometer were as follows:

- Sensitivity: 0.1nT
- Sample Interval: 0.25m
- Traverse Width: 1m
- Traverse Method: Zigzag
- Grid Square Size: 20 x 20m

6.2.2.2 Software and Survey Processing

6.2.2.2.1 Archaeosurveyor was used to download and manipulate the geophysical data. Data was downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

¹ . Surveying is best carried out with the magnetometer grid orientated to allow walking in an N – S orientation, to reduce problems with gradiometer alignment.

6.2.2.2.2 Minimal data processing was undertaken on the survey results in accordance with best practise (Heritage England 2014, 41 – 44). The following image processing filters were applied to the data produced during the survey:

- A single **de-stripping** filter was run over the results to remove slight striping created from running a dual gradiometer setup.
- The image was **clipped** to a value of either $\pm 0.3\text{nT}$ in the case of Field 1; or $\pm 0.2\text{nT}$ in the case of Field 2, to enhance low magnitude anomalies, while reducing the effect of services crossing the site.

6.2.2.2.3 A processed greyscale plot (both geo-referenced and standalone] and an abstract 'interpretational' plot form the main 'display' of the geophysical survey results within this document. The plot was overlain on mapping data using the QGIS 'Geographic Information Systems' software (GIS) package.

6.2.2.2.4 Historical mapping, derived from historic assessment of the site undertaken by C. R. Archaeology, was examined as part of the process of interpretation of anomalies encountered during the survey.

6.2.2.3 Survey Conditions and Limitations

6.2.2.3.1 Weather conditions during the survey were generally windy and variable with hot conditions offset by temperature fluctuations. Soil conditions for the survey were very dry, with the ground particularly hard and cracked for the time of year.

6.2.2.3.2 Running through the western side of Field 1 and into Field 2 were overhead power lines. Power lines cause problems for magnetic surveys as the alternating current flow (under differing loads] causes fluctuations in the magnetic field around them. While surveying near power lines can compromise the magnetometer results, in this case there appears to have been little overall effect on the survey.

6.2.2.3.3 Topsoils within the survey area appeared to be of reasonable depth, with no underlying geology immediately obvious.

6.2.3 Basic Map Regression

6.2.3.1 The earliest map examined was the tithe map of c. 1840. The map portrays a similar field layout today, albeit that the north-western field (Field 1), is split roughly along the centre of its length, with the northwestern half forming part of a larger field with a field to the north-east (82a). The remainder of the field, (84), is named 'Ty Hen', which translates into English as 'Old House'. Field 72 is recorded as being named 'Bodellis and Quarry'.

6.2.3.2 The 1st Edition OS map portrays a similar overall layout, although the larger fields have been sub-divided along their centre points in a north-east to south-westerly orientation. A boundary had by that point been established at the modern north-eastern edge of the field on what was field 82a on the tithe.

6.2.3.3 Later historic editions of the OS show no change in field layout.



Fig. 2 – Extract from tithe portraying approximate site boundary overlay²

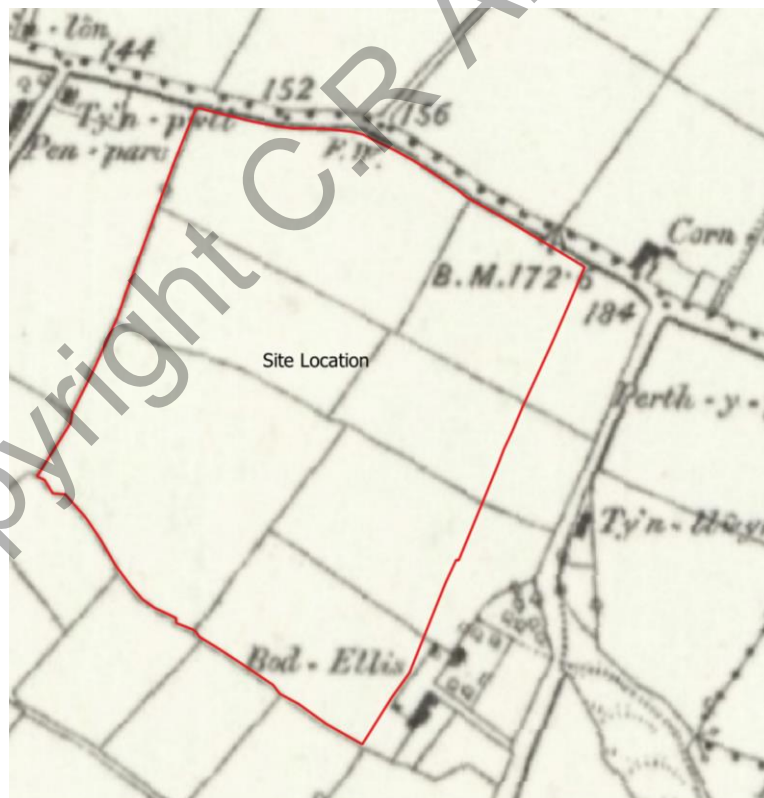


Fig. 3 – Extract from OS 1st Edition with approximate site boundary overlay

² The image used appears to be slightly incorrectly scaled in the original image

6.2.4 Results

6.2.4.1 The results of the survey are detailed below, with the numbered features in the various figures referring to the feature numbers in the text. Where specific features are referred to in the text body itself, they are enclosed in square brackets in the form '[1]'; referring to feature 1, for example. Each field has two associated figures, with the first being the processed image of the survey results, and the second figure being an interpretational plot. An overview diagram, depicting the survey grids overlaid on mapping can be seen at the end of this section (Fig. 10).

6.2.4.2 The surveyed site comprised two fields on an approximate north-west to south-east alignment, one lying to the north of the other. To simplify the description of the site, the northern field in this case is referred to as 'Field 1' and the southern field 'Field 2' (See fig. 5).

6.2.4.3 [1] Positive NE – SW orientated linear which appears to 'dog-leg' to the NE before continuing on its original course. Most of the line of this feature almost directly corresponds with a similarly orientated field boundary on the 1st Edition OS map. The reason for the change of direction is unclear, although a vague continuation of the boundary on a normal alignment can be seen just to the west, and it could be this is an amalgamation of two different boundaries. Potentially, however, this could be due to the field boundary needing to avoid an obstacle, and it is worthy of note that the tithe does mention an 'old house', although this is more likely to have been located along what is now the B4422.

6.2.4.4 [2] Positive NW – SE linear response not corresponding to any known field boundaries, although it shares the same orientation as the plough marks/ ridge and furrow to the north [5], and may represent a ditch associated with the field edge [10].

6.2.4.5 [3] Positive linear response appearing to mirror feature [2]. It may represent another drainage ditch.

6.2.4.6 [4] Curving positive response, most likely representing a ditch, which does not appear to correspond with any features recorded on early mapping. May form part of an earlier field system with [9].

6.2.4.7 [5] Regularly spaced NW – SE orientated positive/ negative linear responses that probably represent ridge and furrow or plough marks.

6.2.4.8 [6] A faint positive/ negative NW – SE orientated linear feature. The area surrounding this feature is magnetically less 'noisy' than most of the rest of this field. The absence of noise may be the result of colluvial deposition, or may be due to compaction caused by vehicle movement between the two entrances which lie to the SW and NW of this area.

6.2.4.9 [7] Two N – S orientated di-polar responses associated with modern services, these appear to be water and sewerage mains according to a survey of the site, probably made of cast iron.

6.2.4.10 [8] Area of increased di-polar magnetic response. This area at least in part is probably distortion from the adjacent water/ sewage mains [7], although it is notable two further responses are located immediately to the NW of this response ([12]).

6.2.4.11 [9] NW – SE orientated positive linear response most likely representing a ditch. This feature possible forms part of an earlier field system with a similar orientated feature present in Field 2 [18].

6.2.4.12 [10] Negative NW – SE orientated linear response approximately corresponding with a field boundary visible on the 1st Edition OS map. Most likely a field bank. There is a strong di polar

magnetic response in the approximate centre of this feature, which aligns with the weak positive negative anomalies comprising feature [6].

6.2.4.13 [11] Linear E – W orientated positive response extending from anomaly [8] past two further anomalies ([12]). It appears to finish close to a ridge and furrow line and may simply be an extension of this which is either better preserved or has a higher level of magnetism.

6.2.4.14 [12 & 13] Two positive/ negative responses lying close to the field edge. These may be large pits, or, given their location may be related to plough heads, where a ploughing team turns at the end of their run. There are slight replication of these anomalies at the end of some of the other ridge and furrow at the western end of the site, although the magnetic disruption from the water main effects all of these areas, and any ‘features’ at this end of the site should be treated with some caution.

6.2.4.15 General

There is generally high level of magnetic background noise across this field, apart from the area around [6], which makes it difficult to identify smaller pits or post holes with any certainty. This may relate to geological conditions, possibly directly resulting from the change noted in the Chapter 1 between schist and grits.

6.2.4.16 There is a general spread of di-polar magnetic (most likely ferrous) readings from the field, typical of a background level of metal items in the field. Most likely these are related to farming activity in the field.

6.2.4.17 [14] Part of a NW – SE positive linear response which likely continues into one of two possible linear responses located to the SW ([14]). These appear to align differently to the ridge and furrow and later field boundaries in this field, and may represent an earlier field layout or an unidentified feature. Unfortunately, the proximity of these features to the field boundary makes their interpretation difficult.

6.2.4.18 [15] Regularly spaced positive/ negative NW – SE orientated linear responses that probably represent ridge and furrow or plough marks.

6.2.4.19 [16] Probable continuation of response [14], two NW – SE parallel positive linear responses. Again, these lie too close to the field boundary to come to firm conclusions on their origin.

6.2.4.20 [17] Two N – S orientated di-polar responses associated with modern services, these appear to be water and sewerage mains according to a survey of the site, probably made of cast iron. These are continuations of the services in Field 1.

6.2.4.21 [18] Strong positive NE – SW curving linear response, most likely a ditch. This feature differs in orientation from the ridge and furrow and later field systems, and may well represent a feature or field system of earlier date.

6.2.4.22 [19] Short section of curving positive linear response (c. 10m), possibly associated anomalies 18 or 20.

6.2.4.23 [20] Linear positive response orientated NW – SE. Although this feature lies on the same alignment as the ridge and furrow it has a stronger magnetic response and its proximity to the edge of the field could suggest this is a boundary ditch.

6.2.4.24 [21] Area of strong di-polar responses, probably resulting from metallic objects. It is possible given its proximity, that this anomaly relates to the water/ sewerage mains [17].

6.2.4.25 [22] Continuation of the field boundary depicted on the early mapping of the site. As with the NW – SE orientated Feature 10 in Field 1, a strong di-polar response is also located along its length.

6.2.4.26 General

Field 2 exhibits many of the same characteristics of Field 1. Overall the very strong magnetic response from the water main has reduced the effectiveness of the survey within this field somewhat. There is increased magnetic noise within the curve of boundary ditch [18], while the 'noise is less prevalent to the NW of this feature.

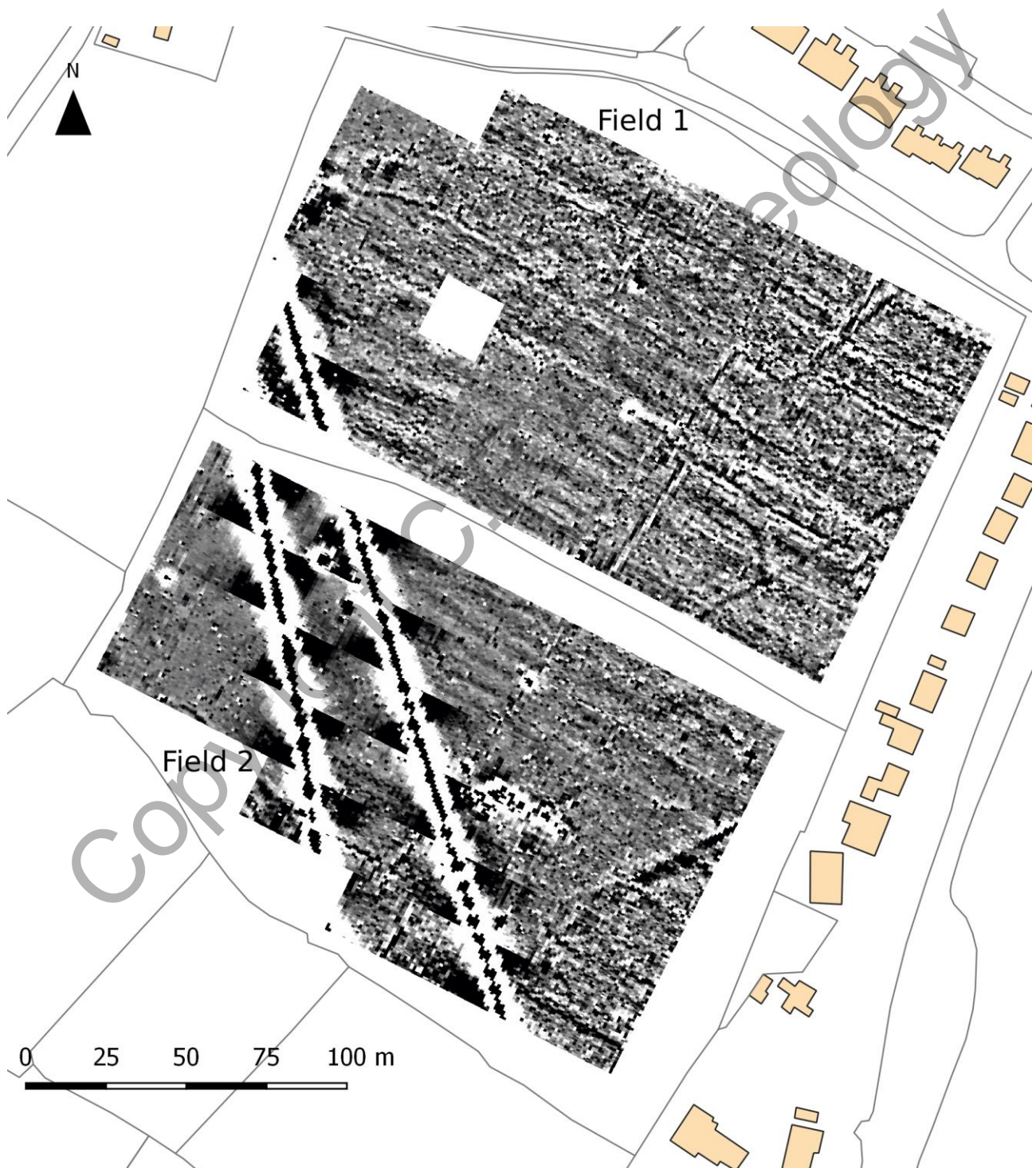


Fig. 4 – Survey results overlain on mapping (White square unsurveyed area - support (wooden) for electricity cables)

Field 1

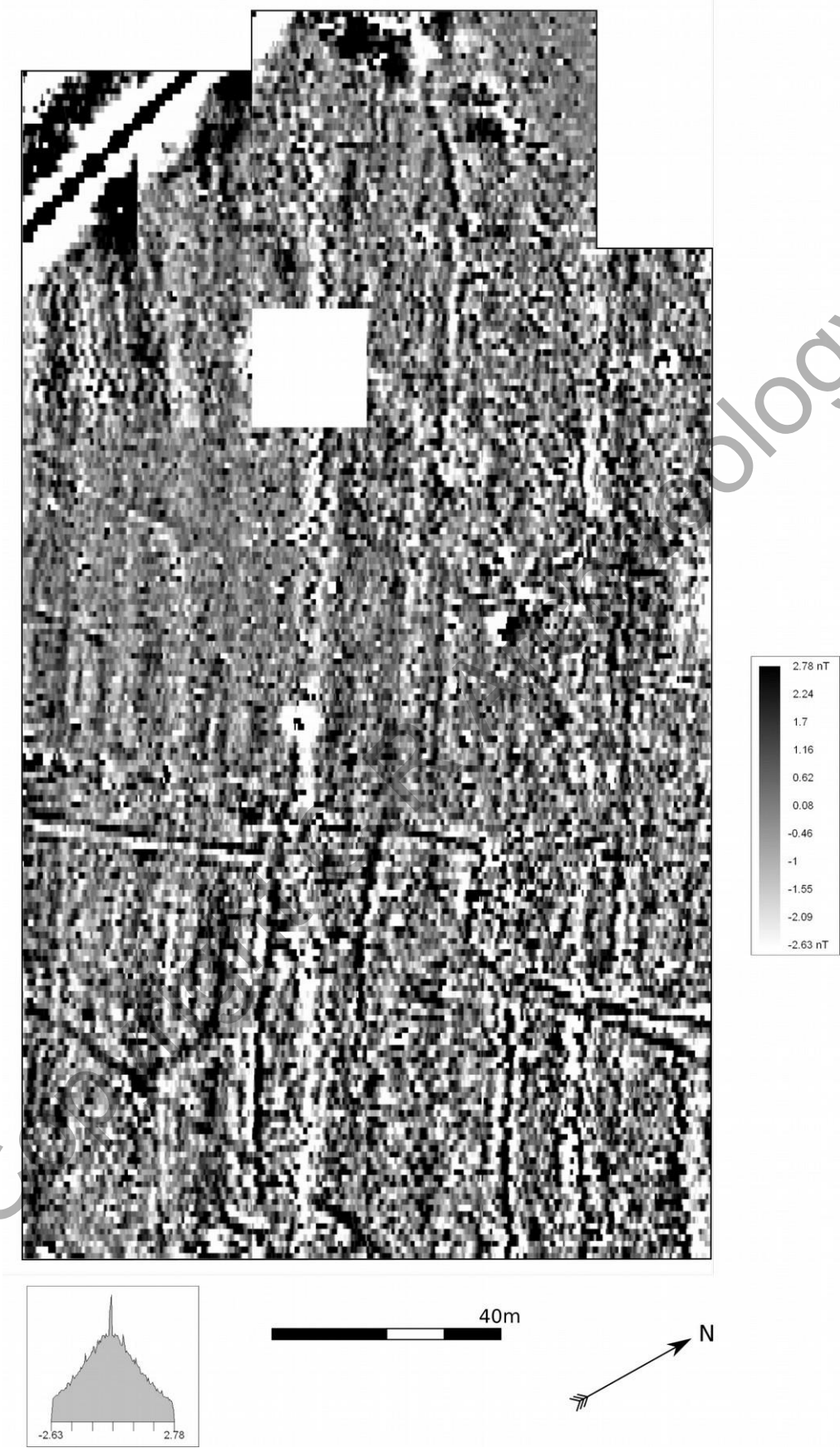


Fig. 5 – Processed survey results from Field 1

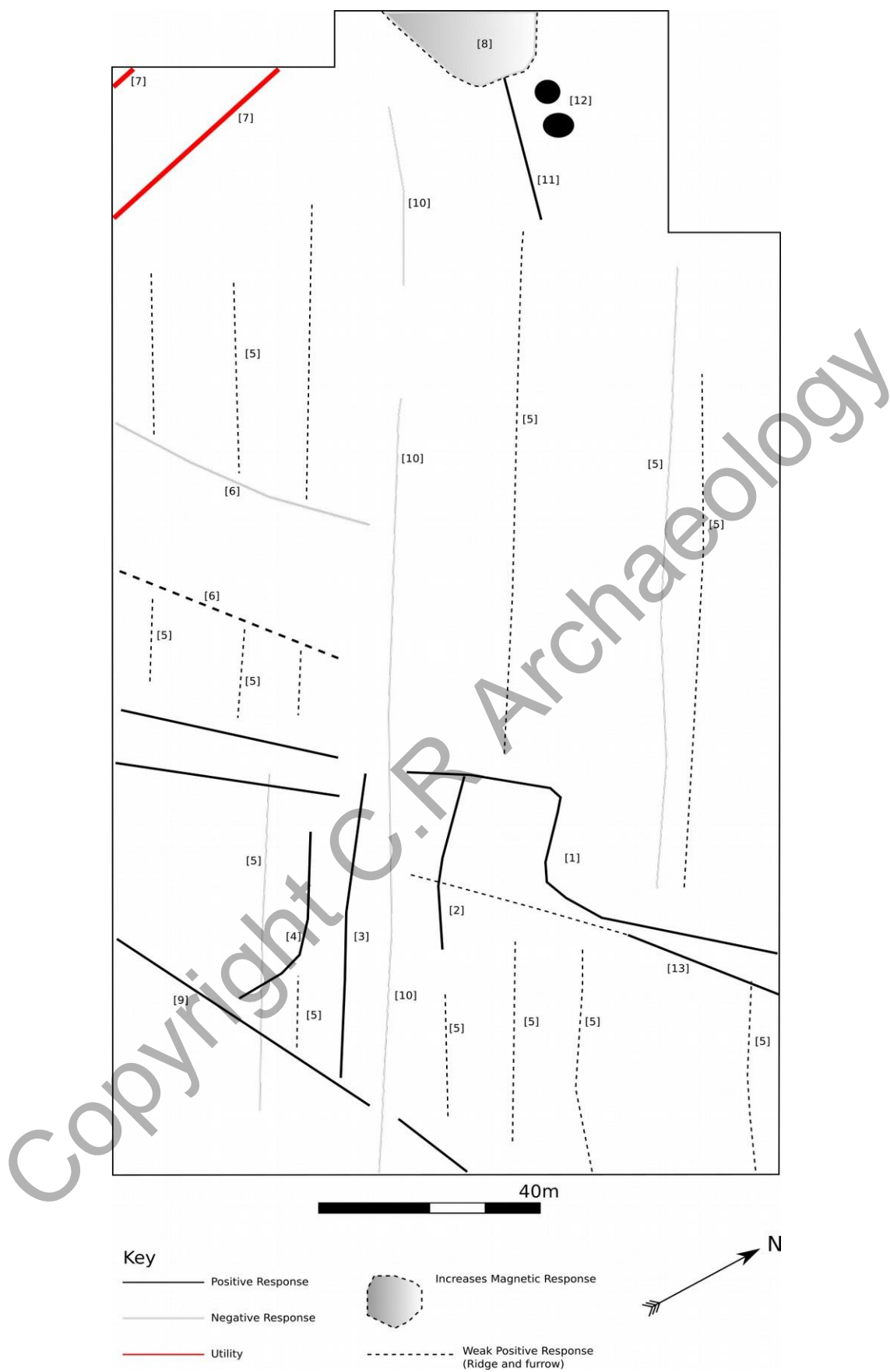


Fig. 6 – Interpretation of survey results from Field 1

Field 2

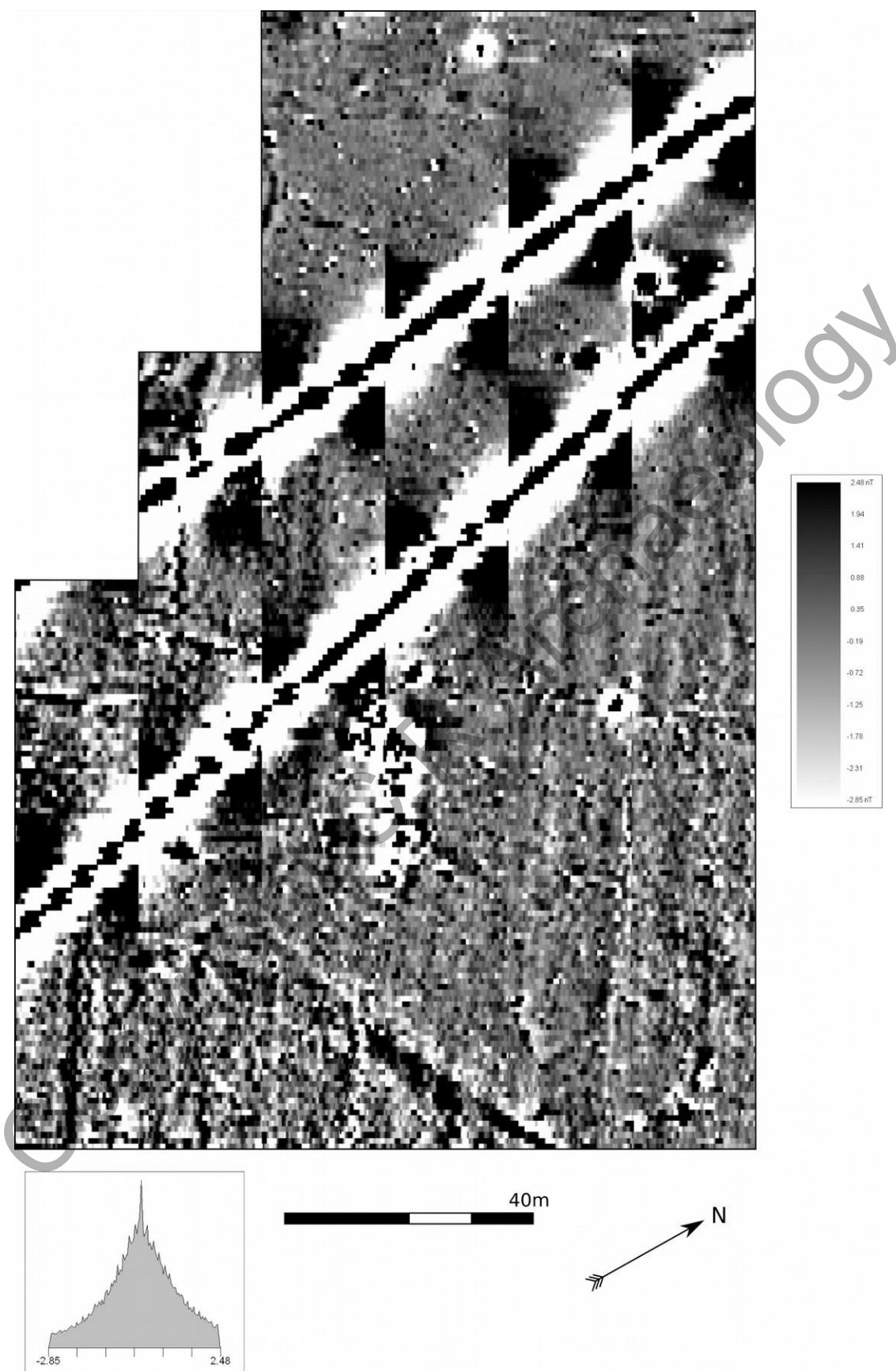


Fig. 7 – Processed survey results from field

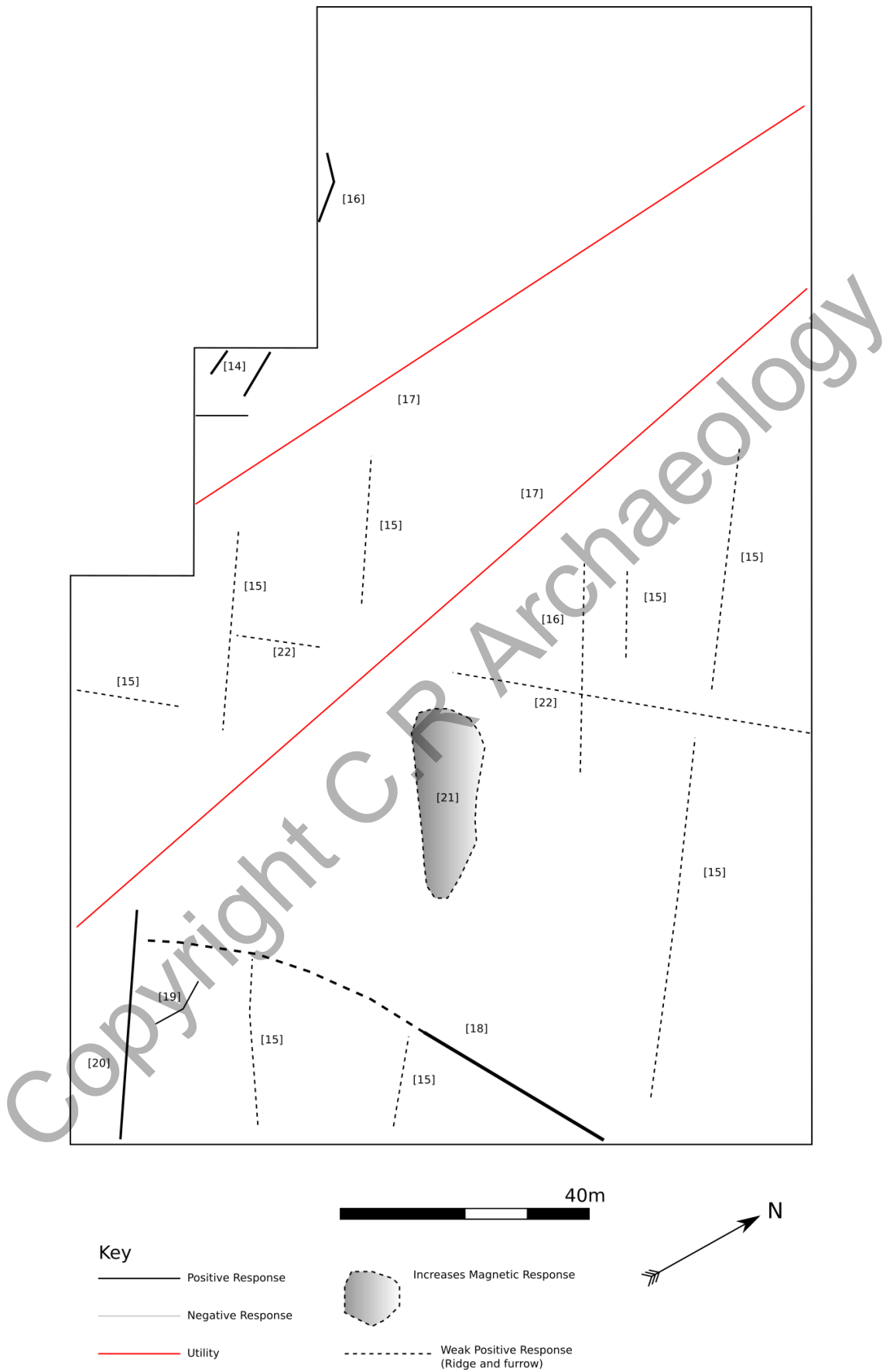


Fig. 8 – Interpretation of survey results from Field 2

6.2.5 Assessment of Survey Quality

6.2.5.1 Generally the survey results appear to give a reasonable approximation of the below ground archaeology, although general background noise from the geological conditions and disturbance from water and sewerage services obscure some of the detail, with only larger features being easily identifiable, this is particularly the case in Field 2, where the water mains magnetic response obscures a large swathe through the field.

6.2.6 Conclusions

6.2.5.1 Many of the features encountered during the survey appear to relate to medieval and post-medieval utilisation of the site for agricultural purposes. These include probable ridge and furrow; likely to be of medieval or post medieval date, and several field boundaries recorded on early mapping of the site. Several features seem to be worthy of further investigation. These include the areas around anomalies 11, 12 and 8; and the general area between features 1 and 9 in Field 1. In Field 2 anomalies 14 and 16; and particularly the area around 18 and 19 would also be worthy of further investigation, as they appear to form part of an earlier field system or enclosure.

6.2.7 Bibliography

CIFA, 2014 Standard and Guidance for Geophysical Survey Chartered Institute for Archaeologists
Historic England, 2008 Geophysical Survey in Archaeological Field Evaluation

6.2.8 Closure

This report has been prepared by the author with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

6.3 Results of Examination of the Impact on the Setting of Known Heritage Assets

6.3.1 There are a number of different landscape and site-specific designations of heritage assets which are of direct relevance to the proposed development site. The following section has been subdivided to detail the different statutory heritage designations, protections and considerations which are applicable for consideration when evaluating the possible impacts of the development of the site under consideration.

6.3.1 World Heritage Site Status

6.3.1.1 There are no sites with World Heritage Status within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. There are no World Heritage Sites located in the vicinity of the proposed development site and therefore there will be no indirect impact on the setting of this class of heritage asset.

6.3.2 Scheduled Ancient Monuments

6.3.2.1 There are no Scheduled Ancient Monuments within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. In order to examine the potential indirect, visual impact of the scheme on known assets in the vicinity, a list of monuments was compiled using a combination of the analysis of the results of desk-based research and a site visit.

6.3.2.2 This work confirmed that there are no Scheduled Ancient Monuments (SAM) within a 1000m radius of the site. The closest SAM is approximately 2350m (to the south) at its closest point to the site. AN047, Tre-Garnedd Moated Site, is described as “*A square enclosure defined by an internal bank and ditch, which survive only on the NW and SW sides. At the W corner the bank remains standing to a height of some 3 m above the bottom of the ditch, which is 5.5 m wide, and just over 1 m above the level of the interior. At the W end of the SW side the ditch/moat has been filled in, and a track runs through to the farm buildings. The interior, about 100 m square, has been much levelled*”

and built over, and only the S corner appears to have escaped relatively unscathed. Two large cattle sheds and a modern bungalow occupy much of the N part of the site. A section of the NE bank is visible where a ditch has been dug alongside the track which runs along the SE side of the site. The monument is of national importance for its potential to enhance our knowledge of Medieval settlement and defence. It retains significant archaeological potential, with a strong probability of the presence of associated archaeological features and deposits.

The structures themselves may be expected to contain archaeological information concerning chronology and building techniques. The scheduled area comprises the remains described and areas around them within which related evidence may be expected to survive” (www.cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=en&id=2523).

6.3.2.3 The proposed development will however have no impact on the setting of Tre-Garnedd, partly due to the distance between the two. The topography and layout of the town is such that the site is not overlooked by Tre-Garnedd, and nor does it overlook it.

6.3.3 Listed Buildings

6.3.3.1 There are no Listed Buildings within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. In order to examine the potential indirect, visual impact of the scheme on known assets of this type in the vicinity, a list of monuments was compiled using a combination of the analysis of the results of desk-based research and a site visit.

6.3.3.2 As detailed in section 5.5 there is a single Listed Building within a 500m search radius of the proposed development area (PRN 7784, Capel Cildwrn, Grade II* Listed Building (Cadw ID 5749). There are 3 further Listed Buildings located between 500m and 1000m from the centre of the site (PRN 66784, Ty Moel, Grade II Listed Building (Cadw ID 21072). PRN 33938, Rhyd y Spardyn Blas, Grade II Listed Building (Cadw ID 87617). PRN 66768, Former National School and Schoolhouse, Grade II Listed Building (Cadw ID 20550).

6.3.3.3 Despite being located closest to the site Capel Cildwrn is situated within the urban area of the town and there is no intervisibility between the site and the proposed development. The former school is also obscured by its location within the town itself.

6.3.3.4 The two remaining outlying buildings are located within more isolated rural settings and these settings will be unaffected by the proposed development.

6.3.4 Conservation Area

6.3.4.1 The site is located outside the Llangefni Town Conservation Area.

6.3.5 Known Sites of Archaeological Interest

6.3.5.1 There are no known sites of archaeological interest within the site limits. This confirms that the proposed works will have no direct physical impact on known examples of this class of heritage asset.

6.3.5.2 The geophysical survey detailed above did not identify any remains considered to be of high significance, concluding that *“many of the features encountered during the survey appear to relate to medieval and post-medieval utilisation of the site for agricultural purposes. These include probable ridge and furrow; likely to be of medieval or post medieval date, and several field boundaries recorded on early mapping of the site. Several features seem to be worthy of further investigation. These include the areas around anomalies 11, 12 and 8; and the general area between features 1 and 9 in Field 1. In Field 2 anomalies 14 and 16; and particularly the area around 18 and 19 would also be worthy of further investigation, as they appear to form part of an earlier field system or enclosure”*.

6.3.5.3 This must be qualified by the recognition that a number of factors including interference from modern dumped material, overhead cables and buried services will have impacted on the quality of the results. It must be noted that there remains the possibility that there are archaeological features surviving on the site which do not appear on the survey results.

7.0 Discussion of Archaeological Potential

7.0.1 The following section discusses the potential for archaeological remains from different time periods. It considers the results of the archaeological and historical background research and integrates this with the results of the walkover and geophysical survey. The potential for archaeological remains is discussed chronologically.

7.1 Potential for Prehistoric Remains

7.1.1 There are 3 records of Prehistoric activity recorded within the Gwynedd Historic Environment Record search area examined (at 1000m). All records are for isolated find spots rather than sites. This may however be influenced by the relative lack of archaeological investigation in the area and is not in itself necessarily an indication that the area is of low potential for Prehistoric remains. The siting of burnt mounds in association with rivers, streams springs and wet areas is common and an examination of the historic mapping shows springs in the vicinity of the site and it was noted during the walkover that certain areas of the field may become water logged during certain times of the year. The location of the proposed development area would therefore possibly place it within an area of favourable conditions for encountering a monument of this type.

7.1.2 There is no evidence in the form of earthworks, crop marks or features identified through geophysical survey that the development area has been used for Prehistoric exploitation or settlement, but this cannot be dismissed with complete certainty. The lack of development or signs of deep ploughing within the development plot would indicate that were there to be buried remains on the site then the preservation of these remains is likely to be good. Geophysical survey is not necessarily effective in identifying smaller dug features such as pits and postholes which are common prehistoric features.

7.1.3 *Based on the available evidence the potential for remains from the Prehistoric period within the development area is considered to be moderate and the significance of such remains is considered to be moderate-high. This is in part due to the lack of archaeological investigation and the scarcity of Prehistoric sites in the immediate area.*

7.2 Potential for Roman Remains

7.2.1 There were no Roman remains recorded within the HER search area. There is no evidence in the form of earthworks, crop marks or features identified through geophysical survey that the development area has been used for Roman/Romano-British exploitation or settlement, but this cannot be dismissed with complete certainty. The lack of development or signs of deep ploughing on this plateau would indicate that were there to be buried remains on the site then the preservation of these remains is likely to be good.

7.2.2 *Based on the available evidence the potential for remains from this period within this area is considered to be low. The significance of remains from this period is considered to be moderate-high as the interaction between the local indigenous population and Roman incomers is little understood in the area.*

7.3 Potential for Early Medieval/Medieval Remains

7.3.1 There is a strong Early Medieval/Medieval presence in the Llangefni area. There are several entries are related to the rebuilt St. Cyngar's Church within the town itself, including the Early Medieval PRN 2673 - a roughly squared slab with band of incised zigzag pattern above a Latin

inscription in Roman capitals. There are four cross-slabs of the C7th to C9th re-set in the western buttresses of Llangainwen Church (PRN 7011 – see below) indicating activity of the period in the vicinity and possibly an early foundation date for the church. The present nave is dated to the C12th by a round-headed blocked door in the north wall. The chancel has no dateable features but was probably added in the C15th. The church is situated within 1000m of the centre of the site

7.3.2 In addition to these sites there has also been recent work carried at the nearby Coleg Menai site by Archaeology Wales and Brython Archaeology which has not yet been published. Work undertaken by Archaeology Wales uncovered approximately 30 graves believed to be Christian and of Early Medieval date, whilst Brython Archaeology excavated a further 54 Christian graves and the majority of provisional radiocarbon dating has yielded mid-7th century dates.

7.3.3 It must be noted that graves would not necessarily be picked up using gradiometer survey, so the lack of this evidence during the survey does not exclude the possibility that some may be discovered on the site.

7.3.4 *Based on the available evidence the potential for remains from the Early Medieval/Medieval period within the development area is considered to be moderate-high and the significance of such remains is considered to be moderate-high.*

7.4 Potential for Post-Medieval/Modern Remains

7.4.1 There are numerous Post-Medieval/Modern sites in the vicinity of the proposed development area which reflect its close proximity to the town of Llangefni.

7.4.2 The geophysical survey revealed a number of agricultural features believed to be of Post Medieval date on the site.

7.4.3 *The potential for remains from this period is considered to be high and the significance of such remains are considered to be low.*

7.5 Overall Potential for Archaeological Remains

7.5.1 Overall the archaeological potential of the development area is considered to be moderate-high and should remains be encountered then the significance of these sites may be considered to be moderate-high depending on the period of origin.

7.5.2 The location and topography are considered to be favourable to Prehistoric and Early Medieval activity and there are known remains (field boundaries) of a likely Post-Medieval date surviving at the site.

8.0 Conclusion

8.0.1 Research has uncovered relatively little archaeological information about the site itself.

8.0.2 The siting of the plot in an area of known springs would make it a possible candidate to have attracted burnt mound activity.

8.0.3 The desk-based assessment element examined the historic context and archaeological potential of the proposed development area. It has determined that the development will not have a negative impact on the setting of any Heritage Assets in the vicinity. The objectives of this evaluation phase of works were to locate and describe, by means of desktop analysis, a walkover survey, geophysical prospecting and subsequent evaluation trenching, archaeological features which may be present within the development area.

8.0.4 Overall the majority of the features located during the geophysical survey are typical of fields utilised for agricultural purposes, with land division boundary ditches and plough furrows forming the likely origin of the majority of anomalies detected. These boundaries feature on early mapping of the site including some which clearly post-date 1840.

8.0.3 It is therefore recommended that further works are considered to determine the archaeological potential of the site and a programme of evaluation trenching has been proposed.

9.0 Bibliography

English Heritage. 2006. *Management of Research Projects in the Historic Environment (MORPHE)*

English Heritage. 2008. *Geophysical Survey in Archaeological Field Evaluation*

Lewis, Samuel. 1833. *A Topographical Dictionary of Wales*

The Chartered Institute for Archaeologists. 1985 (Revised 2010 & 2014). *Code of Conduct*

The Chartered Institute for Archaeologists. 1990 (Revised 2008 & 2014). *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*

The Chartered Institute for Archaeologists. 1994 (Revised 2009 & 2014). *Standard and Guidance for Archaeological Desk-Based Assessment*

The Chartered Institute for Archaeologists. 2008, Revised 2014. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*

The Chartered Institute for Archaeologists. 2011, Revised 2014. *Standard and Guidance for Archaeological Geophysical Survey*

Websites – all sites were visited 06/07/2018

www.bgs.ac.uk/geologyofbritain/home.html

www.cadw.gov.wales/historicenvironment/recordsv1/cof-cymru/?lang=en

www.data.gov.uk/data/map-preview

www.ordnancesurvey.co.uk

Appendix A. Specification for Archaeological Works

Copyright C.R Archaeology

Specification for Archaeological Works at

Proposed Development

**Llangefni Primary School,
Llangefni, Anglesey**

NGR SH 44734 76010 (Centre Point)

Project Number CR168-2018



C.R Archaeology

Compiled by C. Rees

On Behalf of Cyngor Sir Ynys Môn

Copyright C.R Archaeology

**Specification for Archaeological Works:
Llangefni Primary School, Llangefni, Anglesey**

Planning Application Number:	Pre-planning
National Grid Reference:	NGR SH 44734 76010 (Centre Point)
Client:	Cyngor Sir Ynys Môn
Report Authors:	C. Rees
Report Number:	CR168-2018
Date:	11-06-2018

Contents

1.0 Introduction

2.0 Project Aims

3.0 Brief Historical Background

3.1 Topography

3.2 Geology

4.0 Scheme of Works – Methodology

4.1 Desk Based Research

4.2 Walk Over Survey

4.2.1 Equipment

4.3 Geophysical Survey

4.3.1 Equipment

4.4 Timetable for Proposed Works

4.5 Staffing

4.6 Monitoring

4.7 Health and Safety

4.8 The Report

4.8.1 Copyright

5.0 Bibliography

Illustrations

Figure 1. Site Location Map

1.0 Introduction

C.R Archaeology have been instructed by Cyngor Sir Ynys Môn to conduct an Archaeological Desk Based Assessment, Walkover Survey and Geophysical Survey at the proposed site of a new primary school in Llangefni (figure 1). As the works are at a pre-planning stage detailed drawings of the buildings/services were not yet available.

This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme. It is intended that the results of the works outlined in this document will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required.

The site is located on the north-western outskirts of Llangefni town. The proposed development area comprises two relatively large rectangular fields. It is bounded by hedgerows and is currently in use as grazing. The B5109 Llangefni – Bodffordd road runs along the north-eastern site boundary and there is housing to the north-east and south-east. There is undeveloped farmland to the south-west and north-west.

There are isolated find spots of Prehistoric date located within the vicinity and the site. Although located over 2000m from the proposed development site the recent discovery of an Early Medieval cemetery and burnt mound at Coleg Menai further demonstrates the potential for significant discoveries in the area.

This Desk Based Assessment will examine the historic context and archaeological potential of the proposed development area and will determine the possible impact of the development on the setting of any archaeological/historic assets in the vicinity.

The first objective of this evaluation phase of works is to locate and describe, by means of desktop analysis, a walkover survey and geophysical prospecting archaeological features which may be present within the development area. The second objective is to inform the nature and scope of further mitigation works at the proposed development site.

2.0 Project Aims & Objectives

This phase of works for the development site aims to undertake a desk-based assessment, walkover survey and geophysical (gradiometer) survey. It aims to examine the potential archaeological resource surviving on the site and to provide information which will be utilised to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

The first aim of this scheme of works is to undertake desk based historical research exploring the history/archaeology of the site. This information will include a map progression and archival research in order to compile a coherent narrative history of the site and its environs.

The second aim of this archaeological investigation is to undertake a walkover and geophysical survey of the site in order to identify and locate buried features.

It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

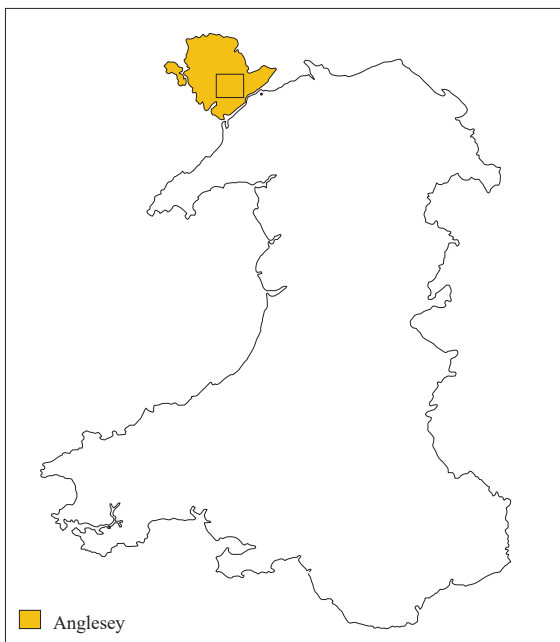


Figure 1. Site Location Map

(Source: OS Open Data Mapping. Contains Ordnance Survey data © Crown copyright and database right [2018])

The objectives of this programme of works are:

- To locate and describe, by means of desktop analysis, a walkover survey, geophysical prospecting, all archaeological features which may be present within the development area
- To make full and effective use of existing information to establish the archaeological significance of the site
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University and Anglesey Archives and relevant publications will be consulted to compile a record of known archaeological sites in the vicinity. Aerial photographs will also be examined.

It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

3.0 Brief Historical Background

The following section is, through necessity, very brief and is intended to merely place the site in context. A more detailed history of the site will form a key element in the proposed works.

At the closest point the site limits are within 800m of Llangeinwen parish church. The church is dedicated to St. Ceinwen and is located in the diocese of Bangor. The current church has a C12th continuous nave with later chancel, and a large modern north chapel, a south porch and west tower. There are isolated find spots of Prehistoric date located within the vicinity.

Although located over 2000m from the proposed development site, the discovery of an Early Medieval cemetery and burnt mound at Coleg Menai serves to highlight the importance of the potential archaeological resource in the area.

3.1 Topography

The eastern site boundary is located along the Llangefni – Bodffordd Road and is bounded by hedgerows. It is located on the outskirts of the town of Llangefni. The site is currently in use as grazing within an enclosed field boundary system.

3.2 Geology

The bedrock geology at the site is recorded as “*Gwna Group - Schist. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. Later altered by low-grade metamorphism. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. These rocks were sedimentary in origin, possibly chaotic flows of debris in a deep-marine environment, but have subsequently undergone metamorphism*” (www.bgs.ac.uk).

The superficial geology is recorded as “*Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (U). These sedimentary deposits are glacial in origin. They are detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary*” (www.bgs.ac.uk).

4.0 Scheme of Works - Methodology

It is proposed that the archaeological works be conducted in three sections and each is detailed separately below.

4.1 Desk Based Research

A complete and coherent history of the site will be compiled utilising material sourced from Anglesey Archives and the Bangor University Archives. This will allow as comprehensive a history as possible to be compiled. A full map progression of the area will be undertaken. Where appropriate the archive information will be supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER will be conducted examining an area within a 500m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). A more general search will be conducted at a 1000m radius but as this search area will include the town of Llangefni (which contains a number of historic buildings which are not of direct relevance to this study) the information will not be discussed in great detail. Where relevant sites from further afield will also be referenced and discussed.

The RCAHMW database and aerial photographs of the site will be examined. The information collected will be discussed within the main report text.

The works will be carried out accordance with the CIfA Standards and Guidance for historic environment desk-based assessment (CIfA (Revised 2014)).

This material will form the historical background for an archaeological report which will include the results of the walkover survey.

4.2 Walk Over Survey

A site visit will be conducted and a photographic record will be compiled which will detail any above ground features and show the general topography of the site. Further photographs will be taken to illustrate the setting of the site. The location of any features will be noted on a site plan.

4.2.1 Equipment

Photographs will be undertaken using a 14.2 mega-pixel Sony A350 or a 20 mega-pixel A58 digital camera with a variety of standard and other lenses. Images will be captured in RAW format for later processing into high resolution JPG and TIF files.

4.3 Geophysical Survey

Prior to the commencement of works a brief written record of the site will be compiled. This will include a note on any features/elements which may have an impact on the survey results - for example weather, geological features, fencing & overhead cables.

The survey will be carried out in accordance with English Heritage's guidance "*Geophysical Survey in Archaeological Field Evaluation*" (2008) and the CIfA "*Standard and Guidance for Archaeological Geophysical Survey*" (2011 Revised 2014).

A survey grid will be established over the site, orientated to provide a best possible fit to the area to be surveyed and to minimise the effects of the slight slope of the ground level on the site. Grids will be walked using a zig-zag method, for maximum speed.

4.2.1 Equipment

The survey will be undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer setup. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar with a 1m separation. The grid location will be surveyed using a Leica TCR 1100+ Total Station.

The proposed survey settings for the gradiometer will be as follows:

Sensitivity: 0.1nT

Sample Interval: 0.25m

Traverse Width: 1m

Traverse Method: Zig-Zag

Grid Square Size: 20x20m where possible, downsized to 20x10m where necessary

It must however be noted that these settings may have to be adjusted dependant on ground conditions but all changes will be recorded.

Archaeosurveyor will be used to download and manipulate the geophysical data. Minimal processing will be applied to all images to ensure no false results are created by excessive image manipulation. Data will be downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

4.4 Timetable for Proposed Works

It is envisaged that the walkover survey, archival research and heritage site visits will be undertaken as soon as possible. The walkover/geophysical survey is scheduled to begin 16th June 2018. Time has been allotted for archive research, report compilation and site archiving.

4.5 Staffing

The project will be managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology)). The geophysical survey will be conducted by Matthew Jones (C.R Archaeology) & Thomas Wellicome (Archaeological Landscape Investigations Ltd, (BA, Msc, ACIfA).

All staff will have a skill set equivalent to the CIfA ACIfA/MCIFA level. C.Vs for all staff employed on the project can be provided on request. All projects are carried out in accordance with CIfA *Standard and Guidance* documents.

4.6 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the commencement of works.

4.7 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Hi-visibility vests (EN471)
- Mobile Telephone (to be kept in site vehicle)
- Suitable Walking Boots & Waterproofs

Any further PPE required will be provided by C.R Archaeology

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363). C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

4.8 The Report

The report will clearly and accurately incorporate information gained from the programme of archaeological works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. This will include illustrations of any cartographic/pictorial sources. The report will contain a site plan showing the locations of any photographs taken.

The desk-based assessment will consider the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site - including the dates of any buildings on the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

In accordance with English Heritage guidelines the geophysical survey results element will include:

- a survey location plan demonstrating relationships to other mapped features (minimum scale 1:2500);
- an image of minimally processed survey data (minimum scale 1:1000);
- where appropriate a trace (or X-Y) plot of raw magnetic data
- a greyscale plot, or dot density plot (minimum scale 1:1000);
- one or more interpretative plans/diagrams (minimum scale 1:1000).

It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

4.8.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

5.0 Bibliography

English Heritage. 2006. *Management Of Research Projects in the Historic Environment (MORPHE)*

English Heritage. 2008. *Geophysical Survey in Archaeological Field Evaluation*

Lewis, Samuel. 1833. *A Topographical Dictionary of Wales*

The Chartered Institute for Archaeologists. 1985 (Revised 2010 & 2014). *Code of Conduct*

The Chartered Institute for Archaeologists. 1990 (Revised 2008 & 2014). *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*

The Chartered Institute for Archaeologists. 1994 (Revised 2009 & 2014). *Standard and Guidance for Archaeological Desk-Based Assessment*

The Chartered Institute for Archaeologists. 2008, Revised 2014. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*

The Chartered Institute for Archaeologists. 2011, Revised 2014. *Standard and Guidance for Archaeological Geophysical Survey*

Websites – all sites were visited 11/06/2018

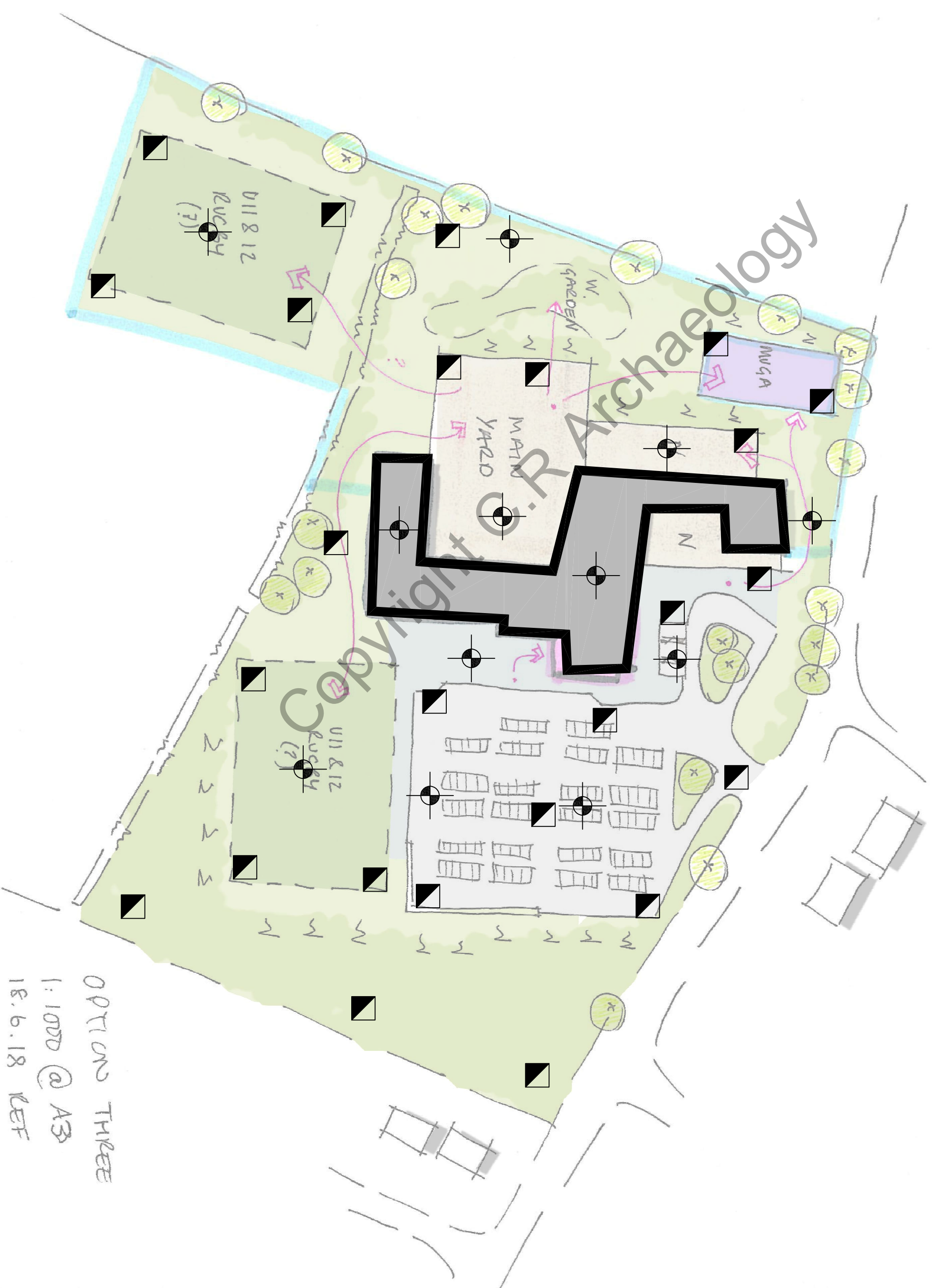
www.bgs.ac.uk/geologyofbritain/home.html

www.data.gov.uk/data/map-preview

www.ordnancesurvey.co.uk

Appendix B. Proposed Development Plans

Copyright C.R Archaeology



Window Sample - 12 No.

Trial Pits - 25 No.

OPTION THREE
1:1000 @ A3
18.6.18 REF