

Archaeology Wales

Land at Penrhosgarnedd, Bangor, Gwynedd

Archaeological Evaluation



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Report No. 1163



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Contents

Summary	1
1. Introduction	2
2. Site Description	3
2.1 Location, Topography and Geology	3
2.2 Historical and Archaeological Background	3
3. Aims and Objectives	4
4. Methodology	4
5. Results	5
5.1 Trench Descriptions	5
5.2 Finds	19
5.3 Environmental Samples	20
5.4 Summary of the Results	20
6. Discussion and Conclusions	20
7. Bibliography	21

Appendix 1: Archaeology Wales – Written Scheme of Investigations

List of Illustrations

Figure 1	Site location plan
Figure 2	Extent of development area
Figure 3	Features of interest identified during geophysical survey and site visit
Figure 4	Trench location Plan
Figure 5	Plan of T52, showing area of raised ground
Figure 6	T52, plan and section
Figure 7	T12, T22, T23, T27 & T29
Figure 8	T34, T36 & T50
Plate 1	T1 looking north
Plate 2	T2 looking north
Plate 3	T3 looking east
Plate 4	T4 looking north
Plate 5	T5 looking east
Plate 6	T6 looking north
Plate 7	T9 looking east
Plate 8	T10 looking north
Plate 9	T12 looking south-west
Plate 10	Cut of small hollow/post-hole (T12) looking north-east
Plate 11	Hollow/post-hole after excavation (T12) looking north-east
Plate 12	T13 looking north-west
Plate 13	T14 looking south-east
Plate 14	T15 looking south-west
Plate 15	T16 looking west
Plate 16	Post-med feature (6) in T16 looking north

Plate 17	T17 looking north
Plate 18	T18 looking north
Plate 19	T19 looking east
Plate 20	T20 looking east
Plate 21	T21 looking north
Plate 22	T22 looking west
Plate 23	Detail of post-pit (7) looking west - T22
Plate 24	General shot of post-pit (7) with fill removed, looking west - T22
Plate 25	T23 looking north
Plate 26	Detail, T23 looking west
Plate 27	T24 looking west
Plate 28	T25 looking west
Plate 29	T27 looking north
Plate 30	T28 looking west
Plate 31	T29 looking east
Plate 32	T30 looking north
Plate 33	T32 looking south
Plate 34	T33 looking west
Plate 35	T34 looking south
Plate 36	Shallow ditch (14) looking east - TR34
Plate 37	T35 looking west
Plate 38	T36 looking north
Plate 39	Shallow ditch (12) looking east - TR36
Plate 40	T37 looking east
Plate 41	T39 looking east
Plate 42	T40 looking south
Plate 43	T41 looking south
Plate 44	T42 looking east
Plate 45	T43 looking west
Plate 46	T44 looking south
Plate 47	T45 looking south
Plate 48	T46 looking east
Plate 49	T47 looking south
Plate 50	T48 looking east
Plate 51	T49 looking east
Plate 52	T50 looking west
Plate 53	T51 looking north
Plate 54	T52 looking west, before excavation of the northern extension area
Plate 55	T52 looking east, showing feature 4 after excavation

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Summary

In September 2013 Archaeology Wales Ltd (AW) carried out a trenched evaluation on land in the Penrhosgarnedd area of Bangor, Gwynedd. The evaluation comprised the excavation of 47 trenches and was undertaken on behalf of Morbaine Ltd on the recommendation of the Gwynedd Archaeological Planning Service (GAPS) and prior to the submission of a planning application for residential housing, access roads and amenity spaces. The site is located in an area of Bangor of known archaeological potential.

The work followed a Desk-based Assessment and a Geophysical Survey, undertaken by Archaeology Wales between March and May 2013, both of which examined the larger development area (Thomas 2013). A small number of features of possible archaeological importance were identified, the most significant of which was a potential burial mound in Field H.

As a result of this work, GAPS recommended the excavation of fifty, 20.0m long, evaluation trenches across the site. Work commenced following the approval by GAPS of a Written Scheme of Investigations for the work, which had been prepared by AW on behalf of Morbaine Ltd. Initially, in early September 2013, a single, T-shaped, trench (later renamed T52) was cut to investigate the possible burial mound. The remaining trenches were cut over a two week period later in the month, although five could not be excavated because of adverse ground conditions. GAPS carried out three site visits to monitor the work. During the third of these they recommended the excavation of two further trenches, resulting in the excavation of 47 trenches in total.

Four archaeologically significant features were identified during the evaluation. Two of these probably formed parts of boundaries used to define field divisions (a ridge in T16, Field G, and shallow 'V-shaped' ditch in T34 & T36 in Field F) and two were cut to support vertical posts. The boundaries appear to be on similar alignments to current field divisions, and as such probably date from the post-medieval or modern periods. Of the two post-pits, one (in T12, Field D) was of unknown date and so is of limited importance. However, the other (in T22 Field G) contained Bronze Age Beaker pottery, making it the most significant feature found. The environmental samples taken from this pit produced considerable quantities of hazelnut shell and several reasonably well-preserved barley grains.

Although the context of the post-pit is unclear, no evidence was found to suggest it formed part of a ritual site. As such, the pottery would be one only a few non-funerary Beaker assemblages from north-west Wales and have the potential to add greatly to our understanding of this period in the region.

1. Introduction

In September 2013 Archaeology Wales Ltd (AW) carried out a trenched evaluation on land in the Penrhosgarnedd area of Bangor, Gwynedd, hereafter 'the site' (Figure 1 & Figure 2). The evaluation comprised the excavation of 47 trenches, the majority of which were 20.0m long. The work was undertaken on behalf of Morbaine Ltd, on the recommendation of the Gwynedd Archaeological Planning Services (GAPS), prior to the submission of a planning application for residential housing, access roads and amenity spaces (NGR 256230 370240).

The site is located in an area Bangor of known archaeological potential. There are 3 Scheduled Ancient Monuments and 57 Listed Buildings within 2km of the site. The site lies within the Historic Landscape Character area of Arfon and close to Vaynol Park, a protected historic park and garden.

The work followed a previous Desk-based Assessment and Site Visit, which was undertaken during March and April 2013, and a Geophysical Survey, which took place during April and May 2013. The report on these investigations was issued by AW in May 2013 (Thomas 2013).

A small number of earthworks were identified during the Site Visit (Figure 3), with at least one burial mound (Field H) and a possible second mound (Field J), likely dating to the Bronze Age, located in the southern half of the site. Further earthworks were also identified at the northern end of the site. These were represented by a linear platform, with small ditches running parallel on either side. The aerial photographs of the site showed that these are connected to the use of the site as a nursery.

The Geophysical Survey was not able to investigate either of the postulated burial mounds. However, features of possible archaeological interest were identified in the same field as the southern-most mound (Field J). Other possible features were located in Field A, Field C, Field F, Field G and Field I, although in none of these cases did they form any part of clearly recognisable archaeological remains.

As a result of the Desk-based Assessment, Site Visit and Geophysical Survey, GAPS recommended the excavation of fifty, 20.0m long, evaluation trenches across the site. The locations of the trenches were agreed with AW beforehand, the aim being to investigate all of the area associated with the proposed planning application. Care was taken to target the potential features identified by the previous phase of investigations.

One such feature, the possible burial mound in Field H, was investigated in early September 2013 by the cutting of a single, T-shaped, trench (later renamed T52) across the area. The remaining trenches were cut over a two week period later in the month, although five could not be excavated because of adverse ground conditions (T7, T8, T11, T26 & T38). One trench (T12) had to be repositioned further to the north. GAPS carried out two site visits to monitor the work. During the second of these they recommended the excavation of two further trenches (T50 & T51), which resulted in the final excavation of 47 trenches (Figure 4) across the site.

Both the evaluation trenching and the subsequent phases of post-excavation analysis and reporting have been undertaken to the requirements set out in a Written Scheme of Investigations (see Appendix 1). This was prepared by AW on behalf of Morbaine Ltd and subsequently approved by GAPS on behalf of Gwynedd County Council.

The work was managed by Mark Houliston (MIfA) and supervised by Rob Blackburn.

2. Site Description

2.1 Location, Topography and Geology

The proposed site is located on land jointly owned by Bangor University and Morbaine Ltd on the southern edge of Bangor, adjacent to Ysbyty Gwynedd Hospital (Figure 1). The larger development area comprises an irregularly shaped plot of land totalling 13.48 hectares. It mainly comprises agricultural land, although an area in the north-west contains the remains of buildings linked to the use of the site by Bangor University. The site is bounded to the north and north-west by a number of residential developments, to the east there are a number of industrial units and to the south the site is bounded by agricultural land.

The site is situated on the slopes of a hill, which runs down to Caernarfon Road, to the east and south of the site. The upper, north-western section of the site is largely flat and is at approximately 80-90m AOD. The site then begins to slope gently down to the east and south-east, toward Caernarfon Road, this begins to drop off into a much steeper slope towards the edge of the site. The land drops off to the north and west of the site towards the coast and the Menai Straits. To the east of the site are a number of ridges, which break up the landscape, although the topography becomes more gentle further to the south and east towards the Snowdon massif, the north-western edge of which is visible from the site, approximately 10km away.

A large part of the site is short grassland, with areas of marshy ground that have a thick covering of reeds. These marshy areas are located along the north-western and northern boundaries. At present around a quarter of the site is covered in dense bramble bushes and in places the steeper slopes are covered in thick gorse bushes and young trees. The large field at the south-western edge of the site is under plough.

The underlying geology is Upper Cambrian in date and comprises felsic tuff to the west and interbedded sandstone and conglomerate to the east (British Geological Survey 2013).

2.2 Historical and Archaeological Background

A brief assessment was carried out as part of the Desk-based Assessment (Thomas 2013). The work highlighted the rich archaeological and historical potential of the area. The primary interest of this part of Bangor is probably prehistoric, a view reinforced by the results of a recent archaeological evaluation undertaken immediately to the south of the site off Penrhos Road (Vannan 2012). The focus of later, historic, developments is central

Bangor, although discoveries associated with the early Christian Church, the Kingdom of Gwynedd and the conquest and subsequent occupation by Edward I, are all possible within outlying parts of the town such as that occupied by the development area.

3. Aims and Objectives

The objective of the evaluation was primarily to identify archaeological remains at the site by the excavation of a series of strategically placed trial trenches (Figure 3). The placement of the trenches was based on the results of the previous Desk-based Assessment and Geophysical Survey and on the need to achieve a uniform coverage across the site.

This report provides details of the results of this work and will be used to inform a mitigation strategy to limit the impact of development upon the archaeological resource.

4. Methodology

A total of 47 evaluation trenches was excavated across the site (Figure 4). One of the trenches was 10m long (T39), one was 27m long (the 'T-shaped' trench T52) and the other 45 were approximately 20m long.

All of the trenches were excavated using a tracked mechanical excavator equipped with a toothless ditching bucket. The trenches were excavated to the uppermost archaeological horizon or to the top of the natural soil horizon, whichever was encountered first.

The methodology followed by the excavation team is set out in detail in the WSI (see Appendix 1).

The first trench was excavated in early September 2013 to investigate the possible burial mound in Field H. It consisted of a single, T-shaped, trench (later renamed T52). The remaining trenches were cut over a two week period later in the month.

GAPS carried out three site visits to monitor the work, one during the excavation of the first trench, one after the excavation of half the remaining trenches, and one at the end of the investigation. The locations of 50 trenches were agreed with GAPS prior to the start of the evaluation (T52 plus 49 others). However, ground conditions prevented the excavation of T7, T8, T11, T26 and T38, while T12 has to be repositioned. During the final visit, GAPS recommended the excavation of two further trenches (T50 & T51), which resulted in the total excavation of 47 trenches.

5. Results

In the following descriptions all the trenches are 2.0m wide unless stated otherwise.

Context numbers are in round brackets if they are deposit or fills, and in square brackets if they are cuts. Contexts relating to T52 are prefixed by an 'A' to avoid the duplication of numbers.

Figures (plans and sections) have only been included if features were present.

Site North (as shown in Figures 6, 7 & 8 and in the following text) approximates to grid northwest (as shown in Figures 1 to 5).

5.1 Trench descriptions

Trench 1 (Figure 4, Plate 1)

Trench 1 was aligned east to west and located in the eastern part of Field C. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.2m thick and consisted of light and mid brownish grey sandy silt, with infrequent stone inclusions (<0.1m in size).

Subsoil (2) was 0.2m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.5m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with very frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 2 (Figure 4, Plate 2)

Trench 2 was aligned north to south and located in the eastern part of Field C. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.2m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions (<0.1m in size).

Subsoil (2) was 0.35m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.5m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively smooth and located 0.55m below the contemporary ground surface.

No archaeological features were identified.

Trench 3 (Figure 4, Plate 3)

Trench 3 was aligned east to west and located in the eastern part of Field C. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.14m in size).

There was no distinct subsoil.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 4 (Figure 4, Plate 4)

Trench 4 was aligned north to south and located in the central part of Field C. It was 20.m long and excavated to a depth of up to 0.46m.

Topsoil (1) was 0.14m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.1m in size). Patches of stone, particularly in the southern and central areas, hint at the close proximity of stony bedrock deposits.

Subsoil (2) was 0.22m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.5m in size).

The natural subsoil (3) consisted of light brownish orange clay sand with frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.36m below the contemporary ground surface.

No archaeological features were identified.

Trench 5 (Figure 4, Plate 5)

Trench 5 was aligned east to west and located in the central part of Field C. It was 20.m long and excavated to a depth of up to 0.56m.

Topsoil (1) was 0.14m thick and consisted of mid brownish grey sandy silt.

Subsoil (2) was 0.26m thick and consisted of dark greyish brown sandy silt, with moderate angular stone inclusions (<0.2m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 6 (Figure 4, Plate 6)

Trench 6 was aligned north to south and located in the central part of Field C. It was 20.m long and excavated to a depth of up to 0.45m.

Topsoil (1) was 0.1m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.1m in size). Stony outcrops were visible at the northern end.

Subsoil (2) was 0.2m thick and consisted of dark greyish brown sandy silt, with moderate angular stone inclusions (<0.1m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.10m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 9 (Figure 4, Plate 7)

Trench 9 was aligned east to west and located in the eastern half of Field D. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt. Stone inclusions (<0.1m in size) were generally infrequent, although this became frequent in places, indicating close proximity to the stony bedrock.

Subsoil (2) was 0.2m thick and consisted of dark greyish brown sandy silt, with moderate angular stone inclusions (<0.11m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.20m). Its upper surface was relatively smooth and located 0.5m below the contemporary ground surface.

No archaeological features were identified.

Trench 10 (Figure 4, Plate 8)

Trench 10 was aligned north to south and located in the eastern half of Field D. It was 20.m long and excavated to a depth of up to 0.7m.

Topsoil (1) was 0.2m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.05m in size). Patches with more frequent stone inclusions were visible at the southern end.

Subsoil (2) was 0.3m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.09m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.19m). Its upper surface was relatively smooth and located 0.5m below the contemporary ground surface.

No archaeological features were identified.

Trench 12 (Figure 4 & 7, Plate 9, 10 & 11)

The original proposal was to cut Trench 12 in the western part of Field D to the south of the square structure located in that area. However, ground conditions prevented this, and it was eventually located further to the north. The trench was aligned southwest to northeast, 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.2m thick and consisted of dark brownish grey sandy silt.

Beneath the topsoil and cutting the subsoil was a small oval feature [4], 0.38m long, 0.25m wide, and 0.15m deep, with rounded sides and a concave base. It was filled (5) with dark brownish grey sandy silt, similar to the topsoil. The feature contained no charcoal and one fragment of post-medieval glass, for which reason it wasn't sampled. It can be tentatively interpreted as the base of a post-pit.

Subsoil (2) was 0.16m thick and consisted of light greyish brown sandy silt, with moderate stone inclusions (<0.05m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.10m). Its upper surface was relatively smooth and located 0.51m below the contemporary ground surface.

Trench 13 (Figure 4, Plate 12)

Trench 13 was aligned northwest to southeast and located in the western half of Field D. It was 20.m long and excavated to a depth of up to 0.45m.

Topsoil (1) was 0.15m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions. This became more frequent at the south-east end.

Subsoil (2) was 0.2m thick and consisted of dark greyish brown sandy silt, with moderate angular stone inclusions.

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.35m below the contemporary ground surface.

No archaeological features were identified.

The square structure located in Field D to the south of T12 represents part of the complex of nursery buildings that previously occupied the site. The remains of a post-medieval/modern brick-built drain associated with the complex was identified between T12 and T13.

Trench 14 (Figure 4, Plate 13)

Trench 14 was aligned northwest to southeast and located in Field E. It was 20.m long and excavated to a depth of up to 0.44m.

Topsoil (1) was 0.12m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions (<0.05m in size).

Subsoil (2) was 0.25m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.15m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively smooth and located 0.37m below the contemporary ground surface.

No archaeological features were identified.

Trench 15 (Figure 4, Plate 14)

Trench 15 was aligned southwest to northeast and located in Field E. It was 20.m long and excavated to a depth of up to 0.45m.

Topsoil (1) was 0.2m thick and consisted of mid brownish grey sandy silt, with moderate large stone inclusions (<0.08m in size).

Subsoil (2) was 0.2m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.05m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.20m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 16 (Figure 4, Plate 15 & 16)

Trench 16 was aligned east to west and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.1m to 0.30 thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions (<0.03m in size). More frequent, gravel-like, deposits with a more sandy and lighter composition were visible in the centre and at the eastern end.

Integrated within topsoil and overlying the subsoil was a raised feature (6) that was approximately 0.5m to 0.4m high and 4.0m wide. It crossed the trench in the centre on a north to south alignment. Beyond the trench it could be seen as a hump in the grass running right across Field G (150m). No finds were recovered from the excavated portion of the feature. However, given its prominence within the field it is assumed to be post-medieval or later in date. It might represent the remnants of an earlier field boundary.

Subsoil (2) was 0.08m to 0.2m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.08m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was undulating and located 0.18m to 0.5m below the contemporary ground surface.

Trench 17 (Figure 4, Plate 17)

Trench 17 was aligned northwest to southeast and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.38m.

Topsoil (1) was 0.1m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.05m in size) and one small sherd of modern pottery.

Subsoil (2) was 0.2m thick and consisted of dark greyish brown sandy silt, with moderate angular stone inclusions (<0.05m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 18 (Figure 4, Plate 18)

Trench 18 was aligned north to south and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.7m.

Topsoil (1) was 0.6m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.02m in size).

There was no distinct subsoil.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.38m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 19 (Figure 4, Plate 19)

Trench 19 was aligned east to west and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.2m to 0.4m.

Topsoil (1) was 0.30m thick and consisted of dark brownish grey sandy silt, with frequent stone inclusions (<0.07m in size). Underlying, stony, bedrock deposits appeared to outcrop in a number of places.

There was no distinct subsoil.

The natural subsoil (3) consisted of dark brownish orange sandy silt with frequent angular stone inclusions (<0.12m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 20 (Figure 4, Plate 20)

Trench 20 was aligned east to west and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.35m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions (<0.04m in size). Underlying, stony, bedrock deposits appeared to outcrop in a number of places.

There was no distinct subsoil.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.16m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 21 (Figure 4, Plate 21)

Trench 21 was aligned north to south and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions (<0.03m in size). Underlying, stony, bedrock deposits appeared to outcrop in a number of places.

Subsoil (2) was 0.2m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.07m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.14m). Its upper surface was relatively smooth and located 0.5m below the contemporary ground surface.

No archaeological features were identified.

Trench 22 (Figure 4 & 7, Plate 22, 23 & 24)

Trench 22 was aligned east to west and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.2m thick and consisted of dark brownish grey sandy silt, with moderate stone inclusions (<0.05m in size).

Under the topsoil and cutting the subsoil was a small feature [7] that was roughly circular in plan (diameter 0.76m), with sides that cut sharply at the surface, were near-vertical at the top, and quickly rounded onto a 'bowl-like' base (0.28m deep). It was backfilled with large stones (11), up to 0.43m in size, set within a dark black/grey fill (8) of sandy silt with rare small stone inclusions. Five small sherds of Bronze Age pottery of the Beaker tradition were also recovered (see report in Section 5.2). The dark nature of the fill may indicate the presence of carbon/ash, although no distinct evidence for this was identified. Samples were kept for possible future analysis (see Section 5.3). No stones were present in the southwest of the feature, strongly suggesting that it was feature was cut as a post-pit, with the post placed in the southwest and the stones added subsequently as packing.

Subsoil (2) was 0.25m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.08m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.13m). Its upper surface was relatively even and located 0.45m below the contemporary ground surface.

Trench 23 (Figure 4 & 7, Plate 25 & 26)

Trench 23 was aligned north to south and located in the northern half of Field G. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.18m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions (<0.05m in size).

Subsoil (2) was 0.22m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.05m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.12m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 24 (Figure 4, Plate 27)

Trench 24 was aligned east to west and located in the northern half of Field G. It was 20.m long and excavated to a depth of up to 0.35m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.06m in size).

No distinct subsoil layer was visible.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.34m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 25 (Figure 4, Plate 28)

Trench 25 was aligned east to west and located in the northern half of Field G. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.5m thick and consisted of dark brownish grey sandy silt, with moderate stone inclusions (<0.05m in size).

No distinct subsoil layer was visible.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.5m below the contemporary ground surface.

No archaeological features were identified.

Trench 27 (Figure 4 & 7, Plate 29)

Trench 27 was aligned north to south and located in the northern half of Field G. It was 19.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.2m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.03m in size).

Sealed by the topsoil and cutting the subsoil was an irregular, linear feature [9] that cut east west across the line of the trench. It was approximately 0.29m wide and 0.11m deep. Within it was a mid-orange brown sand silt deposit (10) interspersed with lenses of black sandy silt and mixed with a moderate amount of small stones (<0.03m). No finds were recovered and the function of the feature was not clear. It may simply represent an irregular 'fault' within the natural ground surface.

Subsoil (2) was 0.2m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.06m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.11m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

Trench 28 (Figure 4, Plate 30)

Trench 28 was aligned east to west and located in the northern half of Field G. It was 20.m long and excavated to a depth of up to 0.4m.

Topsoil (1) was 0.30m to 0.35m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.08m in size).

No distinct subsoil layer was visible.

The natural subsoil (3) consisted of dark brownish orange sandy silt with frequent angular stone inclusions (<0.23m). Its upper surface was irregular and located 0.30m to 0.35m below the contemporary ground surface.

No archaeological features were identified.

Trench 29 (Figure 4 & 7, Plate 31)

Trench 29 was aligned east to west and located in the southern half of Field F. It was 19.5.m long and excavated to a depth of up to 0.4m.

Topsoil (1) was 0.35m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions (<0.07m in size). Underlying, stony, bedrock deposits appeared to outcrop in a number of places.

No distinct subsoil layer was visible.

The natural subsoil (3) consisted of mid yellow brown sandy silt with frequent angular stone inclusions (<0.14m). Its upper surface was relatively smooth and located 0.35m below the contemporary ground surface.

No archaeological features were identified.

Trench 30 (Figure 4, Plate 32)

Trench 30 was aligned north to south and located in the southern half of Field F. It was 20.m long and excavated to a depth of up to 0.55m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions. Underlying, stony, bedrock deposits appeared to outcrop in a number of places.

Subsoil (2) was 0.2m thick and consisted of light greyish brown sandy silt, with moderate angular stone inclusions.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.11m). Its upper surface was relatively smooth and located 0.5m below the contemporary ground surface.

No archaeological features were identified.

Trench 31 (Figure 4)

Trench 31 was aligned north to south and located in the southern half of Field F. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.3m thick and consisted of dark brownish grey sandy silt, with moderate stone inclusions (<0.06).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.08). Its upper surface was even and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 32 (Figure 4, Plate 33)

Trench 32 was aligned north to south and located in the southern half of Field F. It was 20.m long and excavated to a depth of up to 0.4m.

Topsoil (1) was 0.4m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions. Underlying, stony, bedrock deposits appeared to outcrop at the southern end of the trench.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively even and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 33 (Figure 4, Plate 34)

Trench 33 was aligned east to west and located in the southern half of Field F. It was 20.m long and excavated to a depth of up to 0.3m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.06m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.19m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 34 (Figure 4 & 8, Plate 35 & 36)

Trench 34 was aligned north to south and located in the northern half of Field F. It was 20.m long and excavated to a depth of up to 0.3m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.06m in size).

Sealed by the topsoil and cutting the natural subsoil was a linear feature [14], with an irregular 'V-shaped' profile, that cut east west across the line of the trench. It was approximately 1.00m wide and 0.20m deep. Within it was a dark brown sand silt deposit (15) mixed with a moderate amount of small stones (<0.05m). No finds were recovered. The feature was in line with, and presumed to be the same as, feature [12] in trench T36. Together they are assumed to represent the truncated remains of a ditch and/or field boundary (see Figure 4).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.11m). Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

Trench 35 (Figure 4, Plate 37)

Trench 35 was aligned east to west and located in the northern half of Field F. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.4m thick and consisted of light brownish grey sandy silt, with moderate stone inclusions (<0.05m in size). Underlying, stony, bedrock deposits appeared to outcrop in the centre of the trench and at its western end.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.12m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 36 (Figure 4 & 8, Plate 38 & 39)

Trench 36 was aligned north to south and located in the northern half of Field F. It was 20.m long and excavated to a depth of up to 0.45m.

Topsoil (1) was 0.13m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions (<0.1m in size).

Sealed by the topsoil and cutting the subsoil was a linear feature [12], with a 'V-shaped' profile, that cut east west across the line of the trench. It was approximately 0.71m wide and 0.25m deep. Within it was a dark brown sand silt deposit (13) mixed with a frequent amount of small stones (<0.05m). No finds were recovered. The feature was in line with, and presumed to be the same as, feature [10] in trench T34. Together they are assumed to represent the truncated remains of a ditch and/or field boundary (see Fig 4).

Subsoil (2) was 0.24m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.5m in size).

The natural subsoil (3) consisted of light brownish orange sandy silt with frequent angular stone inclusions (<0.18m). Its upper surface was relatively smooth and located 0.37m below the contemporary ground surface.

Trench 37 (Figure 4, Plate 40)

Trench 37 was aligned east to west and located in the northern half of Field F. It was 20.m long and excavated to a depth of up to 0.4m.

Topsoil (1) was 0.4m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.16m). Its upper surface was relatively smooth and located 0.4m below the contemporary ground surface.

No archaeological features were identified.

Trench 39 (Figure 4, Plate 41)

Trench 39 was aligned east to west and located in the east of the area to the east of Field F. It was 10.m long and excavated to a depth of up to 0.3m. It was only partially excavated because of the presence of shrubs.

Topsoil (1) was 0.3m thick and consisted of dark brownish grey sandy silt, with infrequent stone inclusions.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions. Its upper surface was relatively smooth and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 40 (Figure 4, Plate 42)

Trench 40 was aligned north to south and located in Field H. It was 20.m long and excavated to a depth of up to 0.4m.

Topsoil (1) was 0.37m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.05m in size). Underlying, stony, bedrock deposits appeared to outcrop in a number of places, particularly at the northern end.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.14m). Its upper surface was relatively smooth and located 0.37m below the contemporary ground surface.

No archaeological features were identified.

Trench 41 (Figure 4, Plate 43)

Trench 41 was aligned north to south and located in Field H. It was 20.m long and excavated to a depth of up to 0.25m.

Topsoil (1) was 0.2m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions (<0.04m in size). Underlying, stony, bedrock deposits appeared to outcrop at the northern end.

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.12m). Its upper surface was relatively smooth and located 0.2m below the contemporary ground surface.

No archaeological features were identified.

Trench 42 (Figure 4, Plate 44)

Trench 42 was aligned east to west and located in Field H. It was 20.m long and excavated to a depth of up to 0.3m.

Topsoil (1) was 0.27m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.08m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.09m). Its upper surface was relatively smooth and located 0.27m below the contemporary ground surface.

No archaeological features were identified.

Trench 43 (Figure 4, Plate 45)

Trench 43 was aligned east to west and located at the northern end of Field I. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.45m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.08m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.12m). Its upper surface was relatively smooth and located 0.45m below the contemporary ground surface.

No archaeological features were identified.

Trench 44 (Figure 4, Plate 46)

Trench 44 was aligned north to south and located at the northern end of Field I. It was 20.m long and excavated to a depth of up to 0.45m.

Topsoil (1) was 0.30m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.08m in size). Underlying, stony, bedrock deposits outcropped at the southern end of the trench.

Subsoil (2) was 0.10m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.07m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.08m). Its upper surface was relatively level and located 0.40m below the contemporary ground surface.

No archaeological features were identified.

Trench 45 (Figure 4, Plate 47)

Trench 45 was aligned north to south and located in the centre of Field I. It was 20.m long and excavated to a depth of up to 0.35m.

Topsoil (1) was 0.3m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.05m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.19m). Its upper surface was even and located 0.3m below the contemporary ground surface.

No archaeological features were identified.

Trench 46 (Figure 4, Plate 48)

Trench 46 was aligned east to west and located in the centre of Field I. It was 20.m long and excavated to a depth of up to 0.40m.

Topsoil (1) was 0.35m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.07m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.10m). Its upper surface was relatively smooth and located 0.35m below the contemporary ground surface.

No archaeological features were identified.

Trench 47 (Figure 4, Plate 49)

Trench 47 was aligned north to south and located at the southern end of Field I. It was 20.m long and excavated to a depth of up to 0.6m.

Topsoil (1) was 0.30m to 0.60m thick (north to south) and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.05m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.20m). Its upper surface was relatively smooth and located 0.30m to 0.60m below the contemporary ground surface.

No archaeological features were identified.

Trench 48 (Figure 4, Plate 50)

Trench 48 was aligned east to west and located at the southern end of Field I. It was 20.m long and excavated to a depth of up to 0.60m.

Topsoil (1) was 0.60m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.05m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.11m). Its upper surface was relatively even and located 0.60m below the contemporary ground surface.

No archaeological features were identified.

Trench 49 (Figure 4, Plate 51)

Trench 49 was aligned east to west and located at the southern end of Field I. It was 20.m long and excavated to a depth of up to 0.55m.

Topsoil (1) was 0.50m thick and consisted of mid brownish grey sandy silt, with infrequent stone inclusions (<0.07m in size).

A distinct subsoil layer was not identified.

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.13m). Its upper surface was relatively smooth and located 0.50m below the contemporary ground surface.

No archaeological features were identified.

Trench 50 (Figure 4 & 8, Plate 52)

Trench 50 was aligned east to west and located in the southern half of Field G. It was 20.m long and excavated to a depth of up to 0.50m.

Topsoil (1) was 0.20m thick and consisted of mid brownish grey sandy silt, with moderate stone inclusions (<0.10m in size), increasing to frequent in places, and several fragments of modern pottery.

Subsoil (2) was 0.25m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.05m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.13m). Its upper surface was relatively smooth and located 0.45m below the contemporary ground surface.

No archaeological features were identified.

Trench 51 (Figure 4, Plate 53)

Trench 51 was aligned north to south and located in the southern half of Field G. It was excavated as an additional trench at the request of GAPS because of the discovery of the feature in T22. It was 20.m long and excavated to a depth of up to 0.5m.

Topsoil (1) was 0.2m thick and consisted of dark brownish grey sandy silt, with moderate stone inclusions (<0.05m in size). Underlying, stony, bedrock deposits outcropped in a number of places.

Subsoil (2) was 0.25m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.08m in size).

The natural subsoil (3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.15m). Its upper surface was relatively even and located 0.45m below the contemporary ground surface.

Trench 52 (Figure 4, 5 & 6, Plate 54 & 55)

Trench 52 was aligned east to west and located at the northern end of Field H. The main trench was 27.m long and the side extension 4.0m long. The side extension was excavated subsequently to further examine feature A4. Both parts of the trench were excavated to a maximum depth of up to 0.75m.

Topsoil (A2) was 0.35m thick and consisted of mid brownish grey sandy silt, with frequent stone inclusions (<0.05m in size). Underlying, stony, bedrock deposits outcropped in a number of places.

Beneath the topsoil and cutting the subsoil was an irregular gully-like feature (fill A4, cut A5). It varied considerably in depth (0.08m to 0.37m), width (0.12m to 0.55m) and profile, and was 16.0m long, continuing north-east and south-west beyond the limits of the trench.

The gully fill of the feature was similar to the overlying topsoil, namely of mid brownish grey sandy silt, with moderate stone inclusions (<0.05m in size). No finds were recovered. The feature is difficult to interpret, but the most likely interpretation is probably that it was formed by a tree root.

Subsoil (A6 & A7) was 0.37m thick and consisted of mid greyish brown sandy silt, with moderate angular stone inclusions (<0.13m in size). The excavator identified two sub-layers within this deposit, however, some caution should be shown with this interpretation, as similar divisions were not noted elsewhere.

The natural subsoil (A3) consisted of mid brownish orange sandy silt with frequent angular stone inclusions (<0.14m). Its upper surface was relatively smooth and located 0.72m below the contemporary ground surface.

5.2 Finds

With the exception of modern finds, which were later discarded, the only items recovered were the 5 sherds of Beaker pottery recovered from fill (8) of context [7] in trench T22, and the packing stones (11) from the same feature. The pottery was examined by Dr David Mullin:

Prehistoric pottery from Bangor Dr David Mullin

A total of five sherds weighing 19g were recovered from a single context at the site. These represent the fragmentary remains of two vessels of the Beaker tradition.

Condition

The sherds are all fine-walled and well fired. The outer surfaces are worn, but the majority of breaks appear to be fresh.

Fabrics

Two fabrics are present: one with sparse quartz, grog and sand inclusions (a total of three sherds: Fabric A), the other with sparse quartz and rare grog inclusions (a total of two sherds: Fabric B).

Decoration

Four of the sherds carry decoration. The undecorated sherd (Fabric A) is thicker and carries a base angle. The other two sherds in Fabric A have worn surfaces but the larger sherd has three horizontal lines with vertical lines at right angles. The horizontal lines are formed of square-toothed comb impressions, whereas the vertical ones may be incised, but their condition does not make identification straightforward. A possible parallel for this decoration can be found from Llancaiach Farm, Gelligaer, Caerphilly (Savory 1980, 203: Fig 354). The smaller sherd in the fabric has two parallel rows of horizontal comb impressions, with the point of a chevron cutting into the lower row.

The larger sherd in fabric B carries a similar decoration comprising two rows of horizontal comb impressions, with angled comb decoration below this. The smaller sherd appears to have two possible comb impressions.

Discussion

Although the assemblage is small and abraded, it is one of very few non-funerary Beaker assemblages from north-west Wales. Beaker sherds have been recovered from Newborough Warren on Anglesey (see Lynch 1991, 123-4) and pits containing Beaker sherds, worked flint, charcoal and burnt bone were associated with the henge at Llandegai, Bangor (Lynch and Musson 2001, 65-71), although the lack of Beaker at the nearby Parc Bryn Cegin is noteworthy (Kenny 2008). As such the assemblage has potential to add greater understanding of this period in the region.

5.3 Environmental samples

The only samples taken were from fill (8) of context [7] in trench T22. The material was taken because of the importance attached to the Bronze Age sherds recovered from the same fill, but also with a view to testing the soil to see if its dark colour resulted from the presence of large amounts of carbon/ash in the original deposit.

Assessment of the Charred Plant Remains

Wendy J. Carruthers

A trenched evaluation was carried out in the Penrhosgarnedd area of Bangor in September 2013. Forty seven trenches were excavated including one (Trench 22) that contained a small, rounded bowl-shaped pit containing a dark, ashy fill and five small pot sherds of the Beaker tradition. The entire fill of the pit was bagged and sent to the author for environmental analysis.

Methodology

The environmental sample (sample <1>, context (8) from feature [7]) amounted to 84 litres of stony, damp, brown-black sandy/silty soil. Some variation was observed in colour from bag to bag, with some being a lighter colour, presumably because less charcoal was present. However, all of the charcoal was very finely fragmented and extremely reluctant to float, so this was not obvious in the flots during floatation.

Floatation was carried out using a standard Siraf-type tank with a mesh of 1mm retaining the residue in the tank and a sieve of 250 microns mesh to catch the flot. The silty/sandy soil disaggregated readily in the tank, but very little of the finely fragmented charcoal floated. Several barley grains floated, but the flot was generally small, considering the large size of the sample. The flot and residue were washed through with clean water and were slowly dried prior to scanning. Large stones (>10mm) were checked for signs of possible use, the total volume was measured and they were discarded.

An Olympus SZX7 stereoscopic microscope was used to scan the dry flot and a proportion of the residue (500ml = c. 2%). Full sorting and identification were not undertaken at this

stage, but the overall state of preservation, rough quantity and character of the archaeobotanical material were assessed.

Results

No other types of environmental remains (e.g. bone, molluscs) were preserved in the sample, so only charred plant macrofossils and charcoal are discussed in this report. The following charred plant remains were observed during scanning of the flot and 500ml of < 10mm residue. It should be noted that additional items are likely to be recovered during full analysis (particularly small weed seeds and possibly small chaff fragments), and identifications may be refined.

taxa	common name & item	sample <1> context (8)	
		flot	500ml residue
<i>Hordeum vulgare</i> cf. var. <i>nudum</i>	possible naked barley grain	3	
<i>Hordeum vulgare</i> indet.	indeterminate barley grain	6	1
Indeterminate cereal fragment		3	
<i>Corylus avellana</i> L.	hazelnut shell fragments		26
<i>Fallopia convolvulus</i> (L.) A.Love	black bindweed nutlet	1	
Poaceae, <i>Poa</i> -type	small grass seed		1
Identifiable charcoal		0	30 ml

The composition of the 84 litre soil sample was as follows (by volume);

- c. 10% large stones (> 10mm)
- c. 33% small stones and fine charcoal (< 10 mm) - includes at least 6% identifiable sized charcoal
- c. 0.05% flot and rootlets
- c. 57% silt/sand

Although some modern rootlets and occasional uncharred modern seeds (including fat hen, bramble) were present in the flot there were no signs that contamination by modern charred remains had occurred.

As shown above, all of the hazelnut shell and identifiable-sized charcoal fragments were recovered from the 500ml sub-sample of < 10 mm residue. If the remaining 27.5 litres of residue are equally productive, over a thousand fragments of hazelnut shell must be present in the deposit, and over 1.5 litres of medium-sized charcoal fragments. Extracting them, however, would be very time consuming if the residue was fully sorted under the microscope. Therefore, a second floatation is recommended, after the residue has been completely dried. Re-floatation can be fairly quickly carried out using buckets, with the flot being poured off through a 250 micron mesh sieve. This usually brings about the recovery of most of the charred material that failed to float the first time round. The re-floated residues should then be dried again and rapidly scanned to see how effective double-processing has been. The second processing will be carried out during the full

analysis stage of the project. If any further excavations take place in the area double floatation should be used as a routine method of processing, or at least strict checks on recovery should be enforced with residues being checked after the first floatation. This is now common practise on sites in Wales and some other parts of the British Isles, particularly where soils are clayey, mineral-rich or subject to fluctuations in the water table.

Discussion

Although only a single Beaker-tradition sample has been assessed, the presence of considerable quantities of hazelnut shell and several reasonably well-preserved barley grains is of note, particularly for Wales. Some of the barley was characteristic of naked barley (*Hordeum vulgare* var. *nudum*), being very small, indented at the apex, rounded in profile with slight wrinkling on the surface of the grain. However, the wrinkling was not clear enough to confirm the identification. Hopefully further well-preserved grains will be recovered following the second floatation.

The predominance of hazelnut shell with some barley is characteristic of Beaker deposits. It raises the question as to which source of food was the most important; wild gathered foods like nuts from woodland margins, or cultivated cereals such as barley. Since the charred nutshell represents burnt waste and the grain probably represents accidentally burnt food the quantities of charred remains recovered are not comparable. Archaeobotanists have debated this question with regards to early prehistoric samples for many years. A recent review by Stevens and Fuller (2012) has examined radiocarbon dated wild nutshell/fruit seeds and grains from British sites and has concluded that following early cultivation of cereals such as emmer and barley a decline in cereal cultivation can be seen around 2900 - 2800 cal BC, after which hazelnut shell is the principal material recovered from later Neolithic deposits. By the Beaker period, however, around 2300 – 2000 cal BC cereal cultivation once again increases and becomes dominant by the Middle Bronze Age in most areas. The article contained nine sites from Wales only one of which (LBA/EIA Vale of Glamorgan) produced an indeterminate cereal grain that was dated, hazelnut shell being dated in the other eight sites. The only site of roughly the same date was from an EBA palisade posthole at Llandysul, Ceredigion, mid West Wales (Murphy & Evans 2006).

Other comparable sites have been kindly supplied by Astrid Caseldine (Cadw, Lampeter University), to whom the author is very grateful. These sites demonstrate that naked barley was being grown in the area both earlier and later than the site at Pen-y-Ffridd. A Bronze Age burnt mound at the end of the Llyn peninsula (Nant Farm, Porth Neigwl, Caseldine pers. com.) produced some naked barley dated to 1460-1290 cal BC (Beta-263637; 3120±40). Naked barley was common in a Grooved Ware context at Capel Eithin, Gaerwen, Anglesey (Williams 1999). At Stackpole Warren, Dyfed, low concentrations of barley grains (including naked barley), hazelnut shell and weed seeds were present in an EBA roundhouse, though only hazelnut shell was present in two Beaker postholes (Caseldine 1990).

Naked barley appears to often be associated with earlier Bronze Age sites along the British coastline, from the south of England at Rowden, Dorset (Carruthers 1990) and

Bestwall Quarry (Carruthers 2009), to south-west England at Trethellan, Cornwall (Straker 1991). Barley will produce reasonable yields on a wide range of soils, including those affected by salt spray. It can be grown as a free-threshing cereal, naked barley, or as a more robust, larger grained hulled barley – the variety that has continued to be cultivated to the present day. Its presence at Bangor, therefore, fits the pattern of distribution geographically and temporally. It adds important data to the rather sparse record for arable cultivation in early prehistoric Wales.

Recommendations

Full analysis of the sample from pit [7] is strongly recommended since the Beaker tradition is poorly understood in terms of crop processing methods, weed ecology and cultivation methods. Unfortunately barley processing waste rarely survives charring in any quantity, so taking large samples like the 84 litres for sample <1> is important. Full analysis will hopefully reveal a wider range of weed seeds to provide information about soils being cultivated and crop husbandry methods, and may help to confirm the presence of naked barley.

Should further excavations take place in the area it is important that equally large soil samples are taken, or in the case of large single context fills of pits, sequential spits through the deposit that can be amalgamated if no variations with depth are observed. This is particularly important with ritual deposits, since the position of items within the fill could be significant. If processing is carried out on site it is important that residues are retained so that double floatation can take place at a later date.

5.4 Summary of the Results

A total of 47 evaluation trenches were cut across the development area. Of these one was 10m long (T39), one was 27m long (the 'T-shaped' trench T52) and the other 45 were approximately 20m long. Features were identified in seven of the trenches (T12, T16, T22, T27, T34, T36 & T52), namely:

- [4]/(5) – the base of a possible post-pit of unknown date in Field D - T12
- (6) – part of a ridge, possibly a field boundary, the remains of which are still visible in Field G, - T16
- [7]/(8)/[11] – the base of a Bronze Age post-pit in Field G – T22
- [9]/(10) – the remains of a crude gully, possible a 'fault' in the natural ground surface - T17
- [12]/(13) – the remains of a 'V-shaped' ditch of unknown date, possibly a field boundary, in Field F – T34
- [14]/(15) – the remains of a 'V-shaped' ditch of unknown date, possibly a field boundary, in Field F – T36.
- [A5]/(A4) – an irregular gully, possibly formed by a tree root, in Filed F – T52.

Of the seven features identified in these trenches, it is likely that two are not anthropomorphic two are parts of the same ditch. The total number of archaeological features found was therefore probably four. Of these, two appear to have formed parts of

features used to define field boundaries (a ridge and shallow 'V-shaped' ditch) and two formed the bases of post pits. One of the posts is of unknown date and the other is Bronze Age.

After the discard of modern material, the only finds retained were 5 sherds of pottery from the post-pit in T22. Environmental samples were taken from the same feature. Examination of the pottery indicates that the assemblage represents fragments from two Beaker vessels. The environmental samples produced considerable quantities of hazelnut shell and several reasonably well-preserved barley grains.

6. Discussion and Conclusions

The Desk-based Assessment, which was undertaken in advance of the evaluation trenching (and which examined an area that was larger than that of the evaluation), drew attention to the likelihood of prehistoric discoveries, as well as possible historic evidence relating to the early Christian Church, the Kingdom of Gwynedd and the conquest and subsequent occupation by Edward I (Thomas 2013). The evaluation trenching identified four archaeological significant features, one prehistoric, two post-medieval or modern, and one of unknown date.

The development area lies between two plots of land that have been investigated in recent years as components of other planning-led archaeological evaluations: a site in the north at Ffordd Penrhos (Smith 2011) assessed by Cambrian Archaeological Projects on behalf of Watkin Jones Homes, and a larger area in the south off Penrhos Road (Vannan 2012) assessed by Oxford Archaeology North for Redrow Homes. A comparison between the results of these investigations is instructive, since the southern site revealed some prehistoric remains, including Mesolithic and Neolithic features, whereas the northern site contained nothing of archaeological interest. The southern site also produced a few early medieval features, a series of post-medieval boundaries, and a group of circular features that are probably modern rather than prehistoric.

Although some caution should be shown, particularly as the northern site is much smaller than the southern one, and the results here were inhibited by services and possible nursery-related disturbances, the implication is that the archaeology of the development area is more like that found in the north than the south. This conjecture is reinforced when one considers the topography of the three sites, the southern area being flatter than the central (development) and northern areas, with less rocky outcrops. The southern area would have been easier to work, and as a result it was probably more attractive to previous inhabitants. By contrast, the topography of the development area would have made it generally less suitable for settlement for example.

Of the four archaeologically significant features identified during the evaluation, two probably formed parts of boundaries used to define field divisions (a ridge in T16, Field G, and shallow 'V-shaped' ditch in T34 & T36 in Field F) and two the bases of post pits. The boundaries appear to be on similar alignments to current field divisions, and as such

probably date from the post-medieval or modern periods. Of the two post-pits, one (in T12, Field D) is of unknown date, and so of limited importance. However, the other (in T22 Field G) contained Bronze Age Beaker pottery, making it the most significant feature found.

As David Mullin concluded in his pottery report, the assemblage is potentially one of only a few non-funerary Beaker assemblages from north-west Wales, so has the potential to add greatly to our understanding of this period in the region.

The hazelnut shells and well-preserved barley grains produced by the environmental sampling are potentially important, particularly given of dearth of such material from sites in Wales. Some of the barley was characteristic of naked barley, being very small, indented at the apex, rounded in profile with slight wrinkling on the surface of the grain. However, the wrinkling was not clear enough to confirm its identification. An additional, second, floatation is recommended. It is hoped that this, and any future archaeological work undertaken at the site, might produce further, well-preserved, and better identifiable grains.

As part of future mitigation work at the site, it will be important to try and understand more about the context of the post-pit. Pits containing Beaker sherds have been found in association with funerary sites, along with other items that appear to have been ritually deposited, for example at the nearby henge site at Llandegai, Bangor (Lynch and Musson 2001, 65-71). However, the evaluation uncovered no evidence to suggest a relationship with the nearby barrows. It seems more likely that the post pit relates to a non-funerary site and as such it should be regarded as potentially of regional significance. Further analysis of the soil samples will need to form part of any proposed future work.

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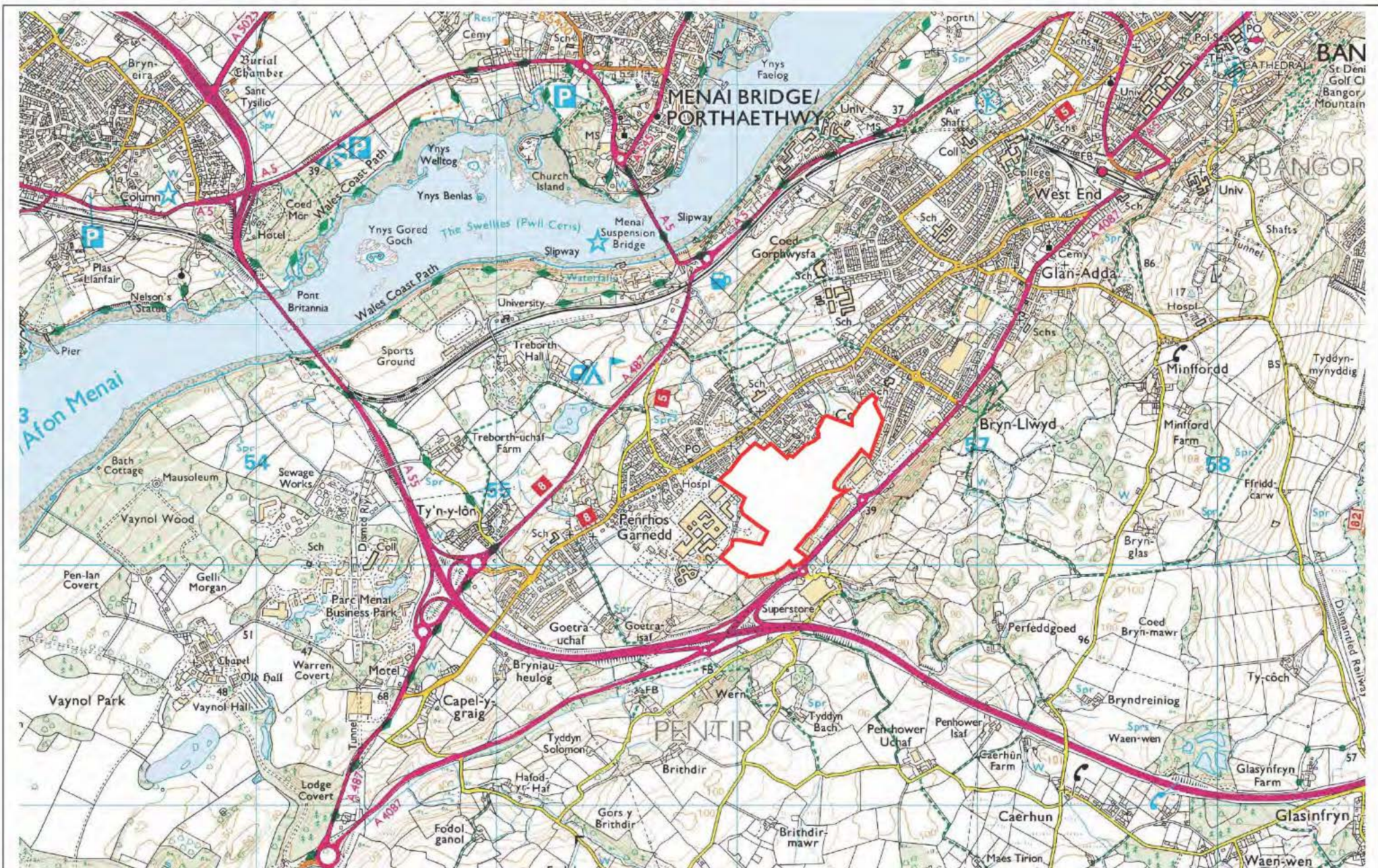


Figure 1: Site Location Plan

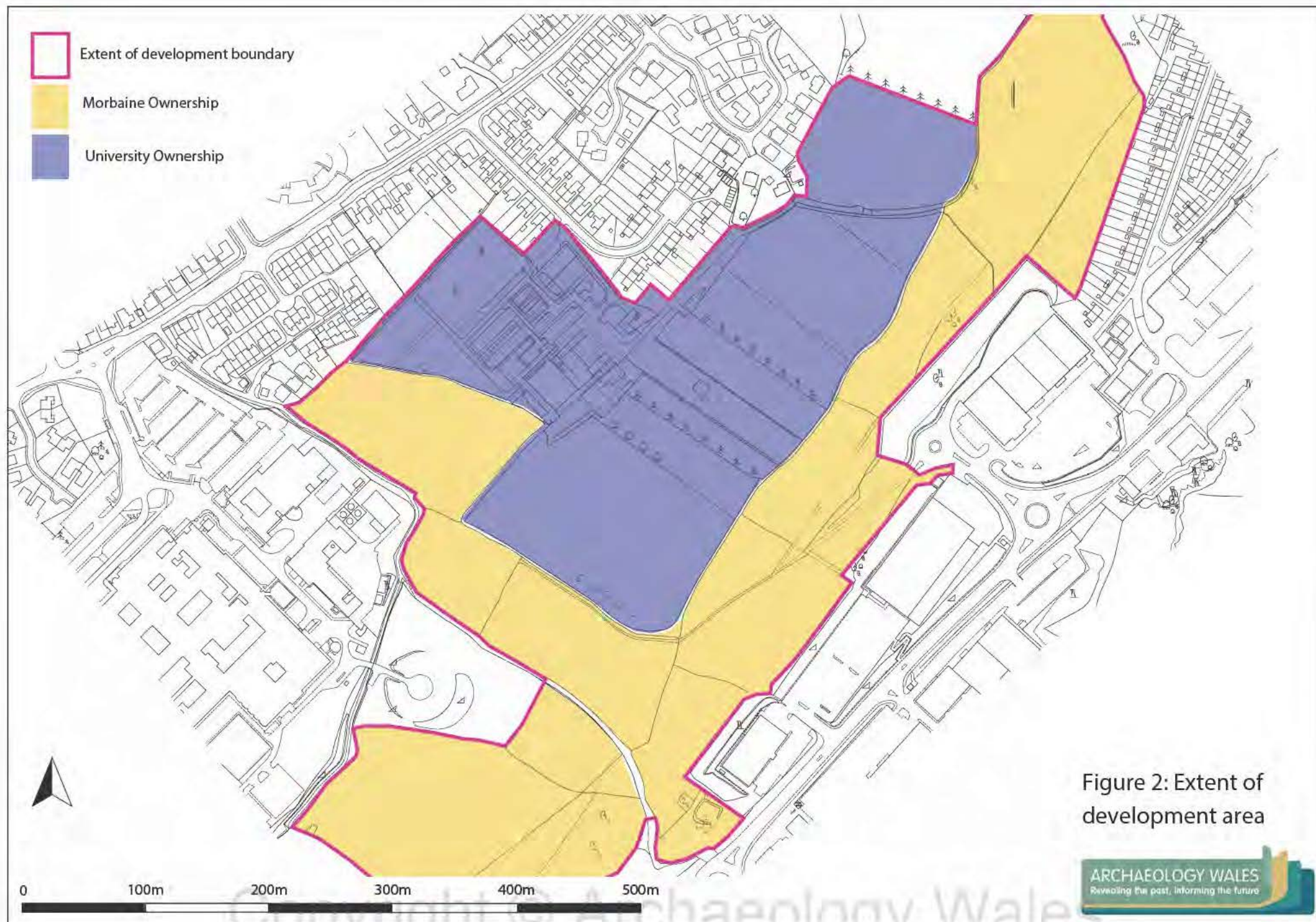
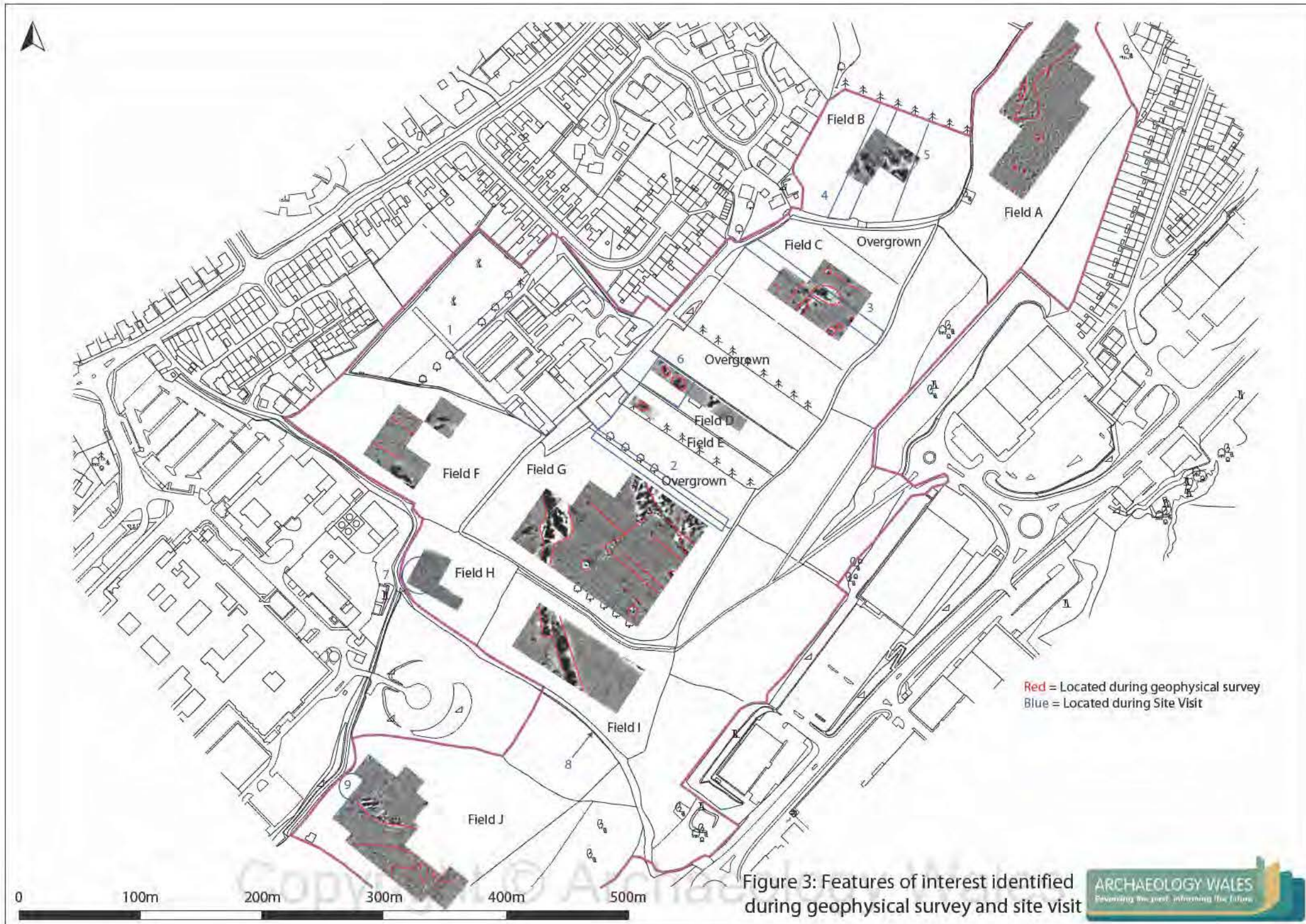


Figure 2: Extent of development area



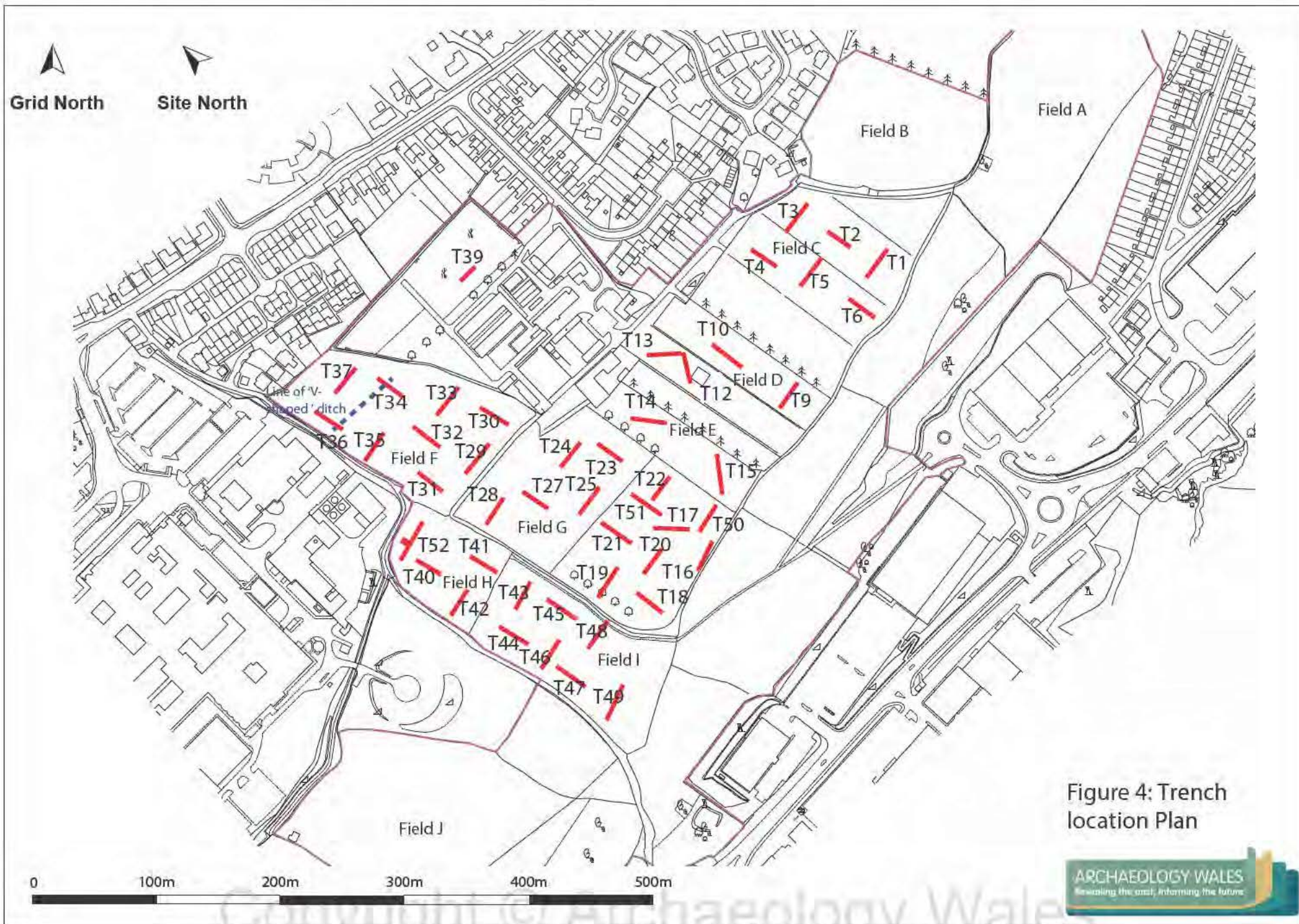


Figure 4: Trench location Plan

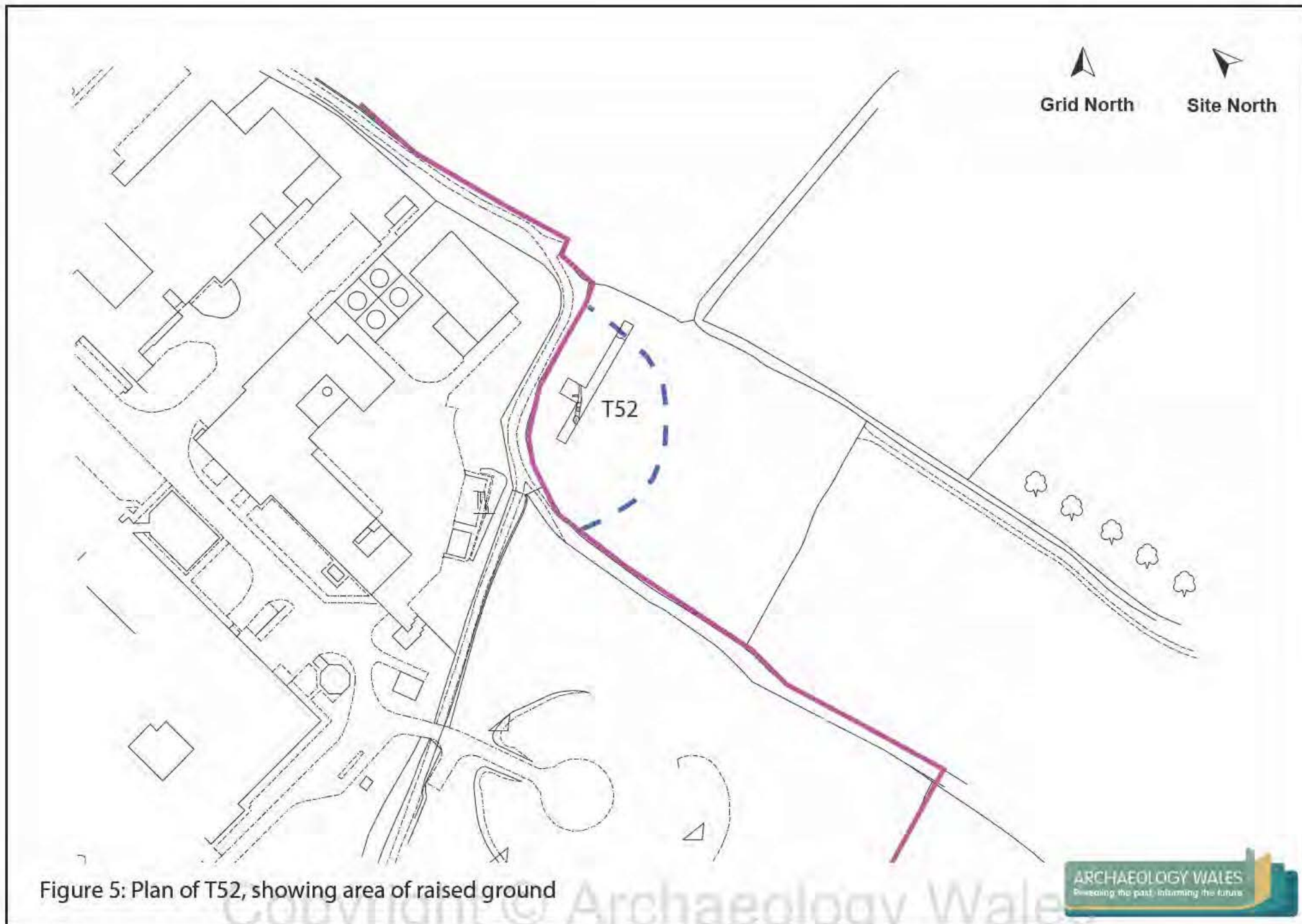
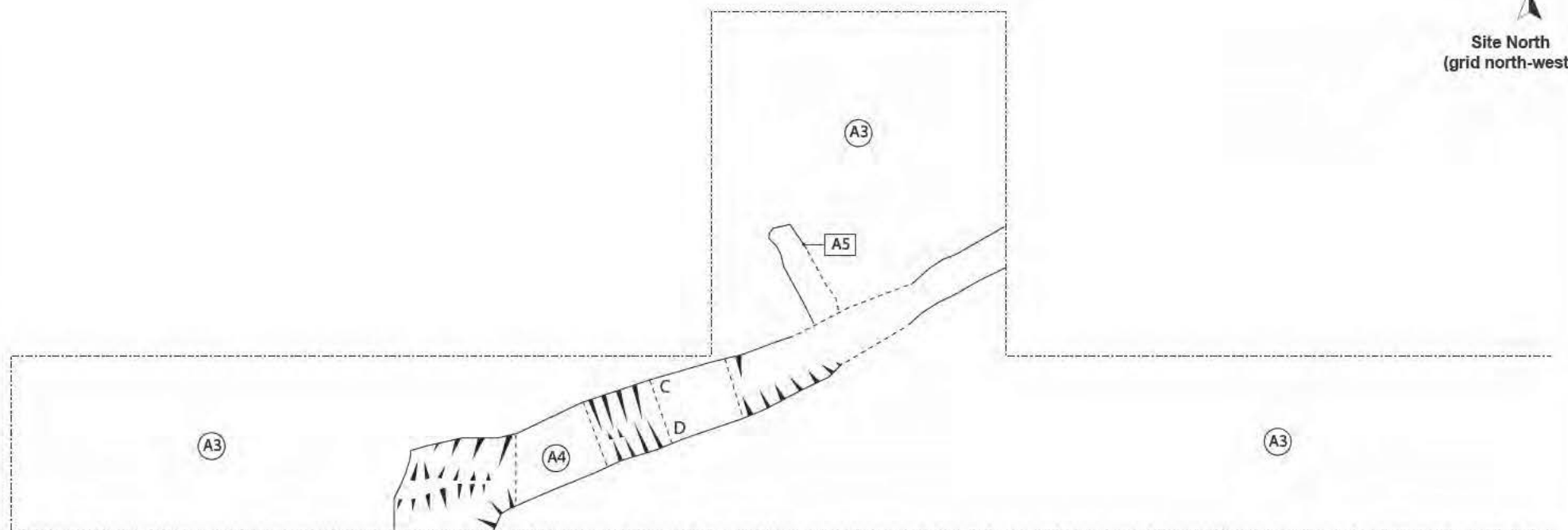


Figure 5: Plan of T52, showing area of raised ground

Site North
(grid north-west)



0 5 10m

Scale 1:50



0 1 2m

Scale 1:20

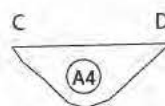
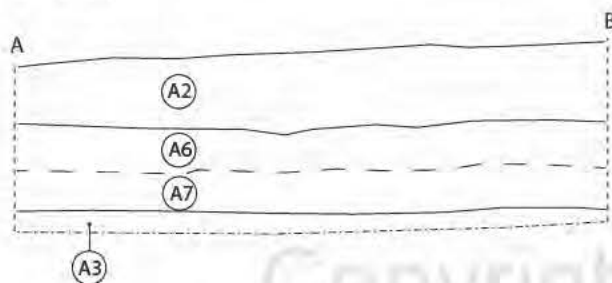
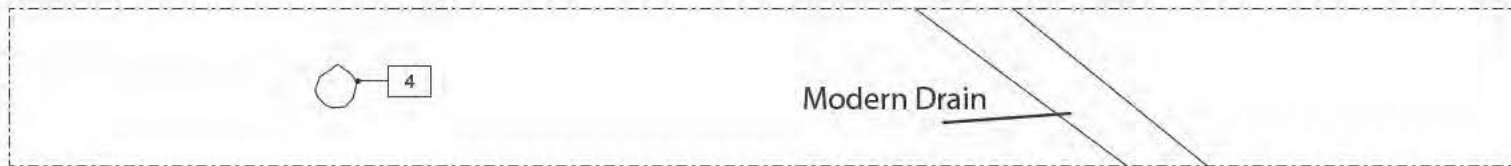


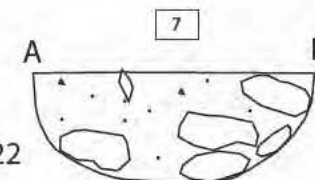
Figure 6: T52, plan and section



T12



T22



Scale 1:20



T23



T27



T29

Site North
(grid north-west)



Figure 7: T12, T22, T23, T27 & T29

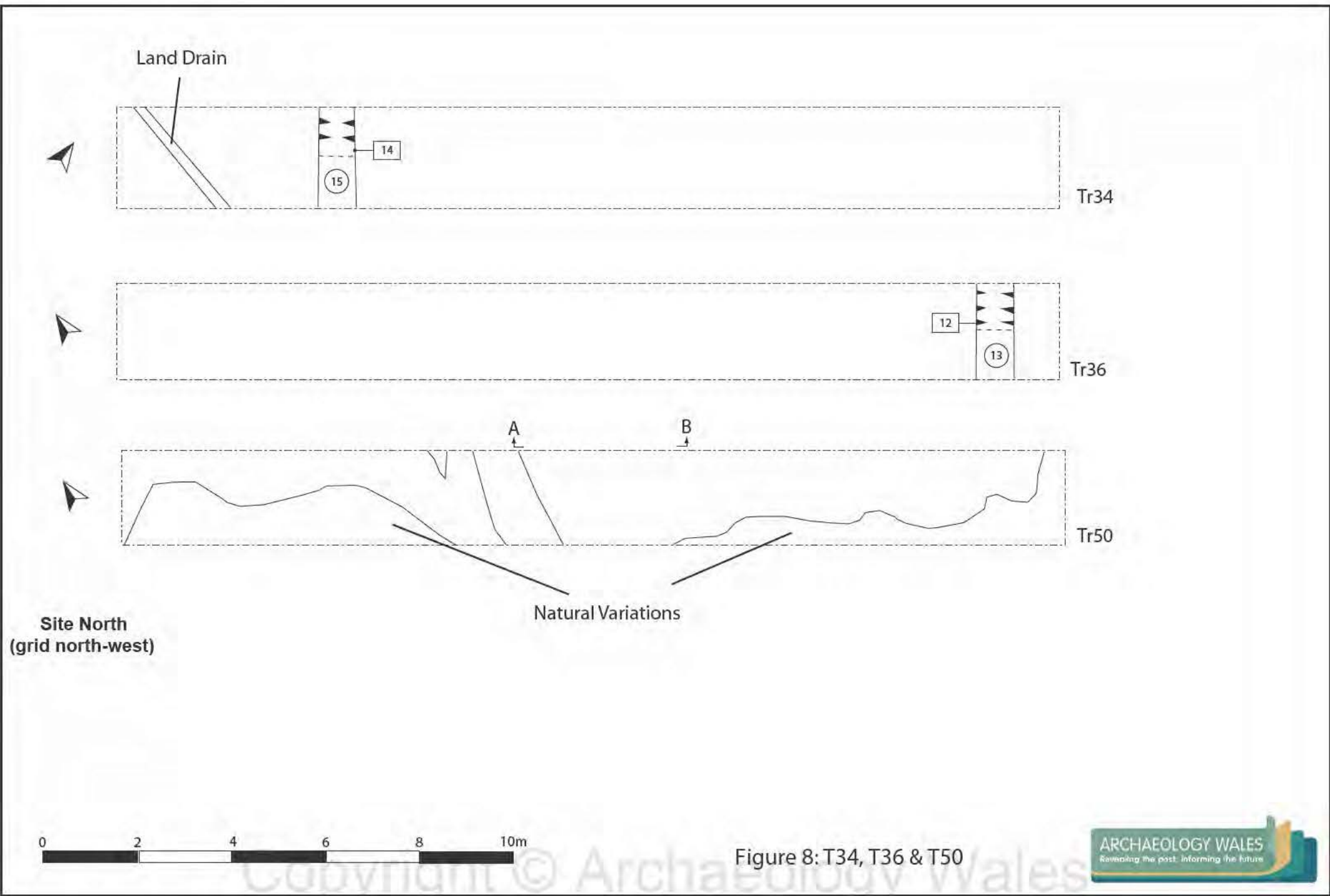


Figure 8: T34, T36 & T50



Plate1: T1 looking east



Plate 2: T2 looking north



Plate3: T3 looking east



Plate 4: T4 looking north



Plate 5: T5 looking east



Plate 6: T6 looking north



Plate 7: T9 looking east



Plate 8: T10 looking north



Plate 9: T12 looking SW



Plate 10: Cut of small hollow/post-hole (T12) looking NE



Plate 11: Hollow/post-hole after excavation (T12) looking NE



Plate 12: T13 looking north-west



Plate 13: T14 looking south-east



Plate 14: T15 looking south-west



Plate 15: T16 looking west



Plate 16: post-med feature (6) in T16 looking north



Plate 17: T17 looking north



Plate 18: T18 looking north



Plate 19: T19 looking east



Plate 20: T20 looking east



Plate 21: T21 looking north



Plate 22: T22 looking west



Plate 23: Detail of post-pit (7) looking west - T22



Plate 24: General shot of post-pit (7) with fill removed, looking west - T22



Plate 25: T23 looking north



Plate 26: Detail, T23 looking west



Plate 27: T24 looking west



Plate 28: T25 looking west



Plate 29: T27 looking north



Plate 30: T28 looking west



Plate 31: T29 looking east



Plate 32: T30 looking north



Plate 33: T32 looking south



Plate 34: T33 looking west



Plate 35: T34 looking south



Plate 36: Shallow ditch (14)
looking east - TR34



Plate 37: T35 looking west



Plate 38: T36 looking north



Plate 39: Shallow ditch (12) looking east - TR36



Plate 40: T37 looking east



Plate 41: T39 looking east



Plate 42: T40 looking south



Plate 43: T41 looking south



Plate 44: T42 looking east



Plate 45: T43 looking west



Plate 46: T44 looking south



Plate 47: T45 looking south



Plate 48: T46 looking east



Plate 49: T47 looking south



Plate 50: T48 looking east



Plate 51: T49 looking east



Plate 52: T50 looking west



Plate 53: T51 looking north



Plate 54: T52 looking west, before excavation of the northern extension area



Plate 55: T52 looking east, showing feature A4 after excavation

Archaeology Wales

APPENDIX I:

Archaeology Wales Written Scheme of Investigations

Archaeology Wales

**Written Scheme of Investigations
for an Archaeological Evaluation at
Pen Y Ffridd, Bangor**

**Prepared for:
Morbaine Limited
The Finlan Centre
Hale Road
Widnes
Cheshire WA8 8PU**

Project No: T1405

12th September 2013

Archaeology Wales Limited
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NON TECHNICAL SUMMARY

This Written Scheme of Investigations details the proposal for the excavation of 49, 20m long, evaluation trenches at Pen Y Ffridd, Bangor. It follows an earlier WSI for the excavation of a single, 20m, trench at the site. It has been prepared by Archaeology Wales Limited for Morbaine Limited, Widnes, Cheshire.

1. Introduction

A development of new residential dwellings, including access roads, amenity space, etc. at Pen Y Ffridd, Bangor, Gwynedd, (Henceforth – the site) has been proposed (Planning Reference: pre-application) by Mr Keith Williams of Morbaine Limited. The development plot, which is jointly owned by Morbaine Limited and The University of Bangor, comprises an irregularly-shaped area of land in the Penrhosgarnedd area of Bangor, National Grid Reference 256230, 370240.

In preparation for the submission of an Outline Planning Application, Archaeology Wales undertook a Desk Based Assessment and Geophysical Survey at the site (AW WSI Ref. No. 2126) during March and April 2013. Subsequently, a single evaluation trench was cut in Field H (AW WSI Ref. No. 2126a) to investigate a postulated burial mound identified during the Site Visit (Feature 7). Both phases of work followed recommendations made by Jenny Emmett of the Gwynedd Archaeological Planning Service (GAPS; Brief number D1583).

Following receipt of a report on the DBA and Geophysical Survey (AW Report Number 1121) GAPS recommended pre-application trenching of the site as a means of better informing a planning decision. A trench location plan was prepared by AW following suggestions made by GAPS. GAPS recognise that it may not be possible to trench the entire site at this time; a second phase of trenching may be required.

This Written Scheme of Investigations has been prepared by Mark Houliston (MIfA), Managing Director, Archaeology Wales Ltd (AW) at the request of Morbaine Limited. It provides information on the methodology that will be employed by AW during the excavation of 49, 20.0m long, evaluation trenches at the site.

All work will conform to 'Standard and Guidance for Archaeological Evaluation' (IfA 2011) and be undertaken by suitably qualified staff to the highest professional standards. Archaeology Wales is a Registered Archaeological Organisation with the Institute for Archaeologists.

2 Site description

The site comprises predominantly agricultural land located to the south, east and southwest of already development parts of the Penrhosgarnedd area of Bangor. The site is bordered by residential areas, areas given over to light industrial units situated along the Caernarfon Road, and by Ysbyty Gwynedd.

The upper part of the application site is set at approximately 80-90m OD, with a generally southerly/ south-easterly aspect, and sloping steeply down to Caernarfon Road.

3 Site specific objectives

This WSI is for work that forms part of a second phase of a staged programme of archaeological investigations, to be undertaken prior to planning consent, in accordance with guidelines set out in Planning Policy Wales 2012 and Welsh Office Circular 60/96.

The work will help to elucidate the presence or absence of associated archaeological material, its character, distribution, extent, condition and relative significance.

The work will include an assessment of the regional context within which the archaeological evidence rests and will aim to highlight any relevant research issues within national and regional research frameworks.

The work will result in a report that will provide information of sufficient detail to allow informed planning decisions to be made which can safeguard the archaeological resource. Preservation in situ will be advocated where at all possible, but where engineering or other factors result in loss of archaeological deposits, preservation by record will be recommended.

4 Method Statement for Evaluation

Preliminary work

The archaeological project manager in charge of the work will satisfy herself that all constraints to ground works have been identified, including the siting of live services, Tree Preservation Orders and public footpaths.

Evaluation

It is proposed that, of the 49 trenches, 24 will be opened in the first instance, each measuring 20.0m by 2.0m. These will be excavated in the locations marked on figure 1. Initially, each will be excavated to the top of the archaeological horizon by machine. All mechanical excavation will be undertaken using a toothless bucket. All areas will be hand cleaned using hoes and/or pointing trowels to prove the presence, or absence, of archaeological features and to determine their significance. In each trench the excavation of the minimum number of archaeological features will be undertaken, to elucidate the character, distribution, extent and importance of the archaeological remains. In each area sufficient excavation will be undertaken to ensure that the natural horizons are reached and proven. If safety reasons preclude manual excavation to natural, hand augering may be used to try to assess the total depth of stratification within each area. The depth of the excavation will conform to current safety requirements. If excavation is required below 1.2m the options of using shoring or stepped trenching will be discussed with GAPS.

After being recorded and monitored by GAPS, the first 24 trenches will be backfilled and the excavation, recording and monitoring process repeated for the remaining 25 trenches.

Recording will be carried out using Archaeology Wales recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts.

Written, drawn and photographic records of an appropriate level of detail will be

maintained throughout the course of the project. Digital photographs will be taken using cameras with resolutions of 5 mega pixels or above.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required, and these will be related to Ordnance Survey datum and published boundaries where appropriate.

Monitoring

GAPS will be contacted prior to the commencement of ground works, and subsequently once the work is underway.

GAPS will be provided with notice of the start date, a projected timetable and a copy of the Health and Safety Risk Assessment 5 working days prior to the commencement of the work.

Any changes to the specification that the contractor may wish to make after approval will be communicated to GAPS for approval on behalf of the Planning Authority.

Representatives of GAPS will be given access to the site so that they may monitor the progress of the field evaluation. GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

Artefacts

Archaeological artefacts recovered during the course of the excavation will be cleaned and labelled using an accession number which will be obtained from the local museum. A single number sequence will be allocated to all finds. The artefacts will be stored appropriately until they are deposited with the museum.

All artefacts recovered during the project will be retained and related to the contexts from which they were derived. All typologically distinct and closely datable finds will be recorded three-dimensionally.

The evaluation will carefully consider any artefactual or economic information and provide an assessment of the viability, for further study, of such information. It will be particularly important to provide an indication of the relative significance of such material for any subsequent decision-making process regarding mitigation strategies.

Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (Phil Parkes of Cardiff Conservation Services).

A catalogue by context of all artefactual material found, quantified by number, weight, or both, and containing sketches of significant artefacts will be compiled.

Pottery will be analysed to the standards outlined in "Guidelines for the Preparation of Pottery Archives" as prepared by the Study Group for Roman Pottery in consultation with the IFA. All other material will be analysed following the advice given in the Institute of Field Archaeologists: Guidelines for Finds Work.

The requirements for the conservation of artefacts will be unpredictable until after the completion of the fieldwork. The archaeological contractor will ensure, however, that at least minimum acceptable standards are achieved (the UK Institute of Conservation's Guidelines for the Treatment of Finds from Archaeological Site should be used as guidance).

Environmental and technological samples

Samples will be taken where necessary when significant deposits are located. These will be retained for processing. The level of post-excavation processing will be dependent on the results of the field evaluation and following discussion with an environmental specialist and GAPS.

Any features containing deposits of environmental or technological significance will be sampled. If required, the project manager should arrange, through a suitably qualified expert the assessment of the environmental potential of the site through examination of suitable deposits. The assessment of potential should consider the guidelines set out in the English Heritage publication 'Guidelines for Environmental Archaeology' March 2002.

The requirements for the conservation of samples will be unpredictable until after the completion of the fieldwork. The archaeological contractor will ensure, however, that at least minimum acceptable standards are achieved (the UK Institute of Conservation's Guidelines for the Treatment of Finds from Archaeological Site should be used as guidance).

Human remains

Human remains will be left in situ, covered and protected when discovered. No further investigation should normally be permitted and GAPS and the local Coroner must be informed immediately. After discussion, it may be appropriate to take bone samples for C14 dating. If removal is essential it can only take place under the appropriate Ministry of Justice and Environmental Health regulations.

5. Method statement for the production of an illustrated report and the deposition of the site archive

Report preparation

The report will contain the following:

- A fully representative description of the information gained from the evaluation, even if there should be negative evidence.
- A concise non-technical summary of the project results.
- At least one plan showing the site's location in respect to the local topography, as well as the position of all excavated areas.
- Suitably selected plans and sections of significant archaeological features. All plans and sections should be related to Ordnance Datum.
- Written descriptions of all features and deposits excavated and their considered interpretation.
- A summary report on the artefactual and ecofactual assemblage and an assessment of its potential for further study, prepared by suitably qualified individuals or specialists.
- A statement of the local and regional context of the archaeological remains identified.
- An impact assessment, with mitigation proposals, of the proposed development on the archaeological resource will be included.

Copies of the report will be sent to the client, GAPS, and for inclusion in the HER. Digital copies will be provided in pdf format if required.

A summary report of the work will be submitted for publication to a national journal (e.g. Archaeology in Wales) no later than one year after the completion of the work.

The site archive

A project archive will be prepared in accordance with the National Monuments Record (Wales) agreed structure and be deposited within an appropriate local museum on completion of site analysis and report production. It will also conform to the guidelines set out in 'Management of Archaeological Projects Two, Appendix 3' (English Heritage 1991).

Arrangements will be made with the local museum before work starts. Wherever the archive is deposited, this information will be relayed to the HER.

Although there may be a period during which client confidentiality will need to be maintained, the report and the archive will be deposited not later than six months after the completion of the work.

Other significant digital data generated by the survey (i.e. AP plots, EDM surveys, CAD drawings, GIS maps, etc.) will be presented as part of the report on a CD/DVD. The format of this presented data will be agreed with the curator in advance of its preparation.

6. Resources and timetable

Standards

All stages of the project will be undertaken by AW staff using current best practice. All work will be undertaken to the standards and guidelines of the IfA.

Staff

The project will be undertaken by suitably qualified AW staff. Overall management of the project will be undertaken by Mark Houlston.

Equipment

The project will use existing Archaeology Wales equipment.

Timetable of archaeological works

A start date has of Monday 16th September has been provisionally put forward.

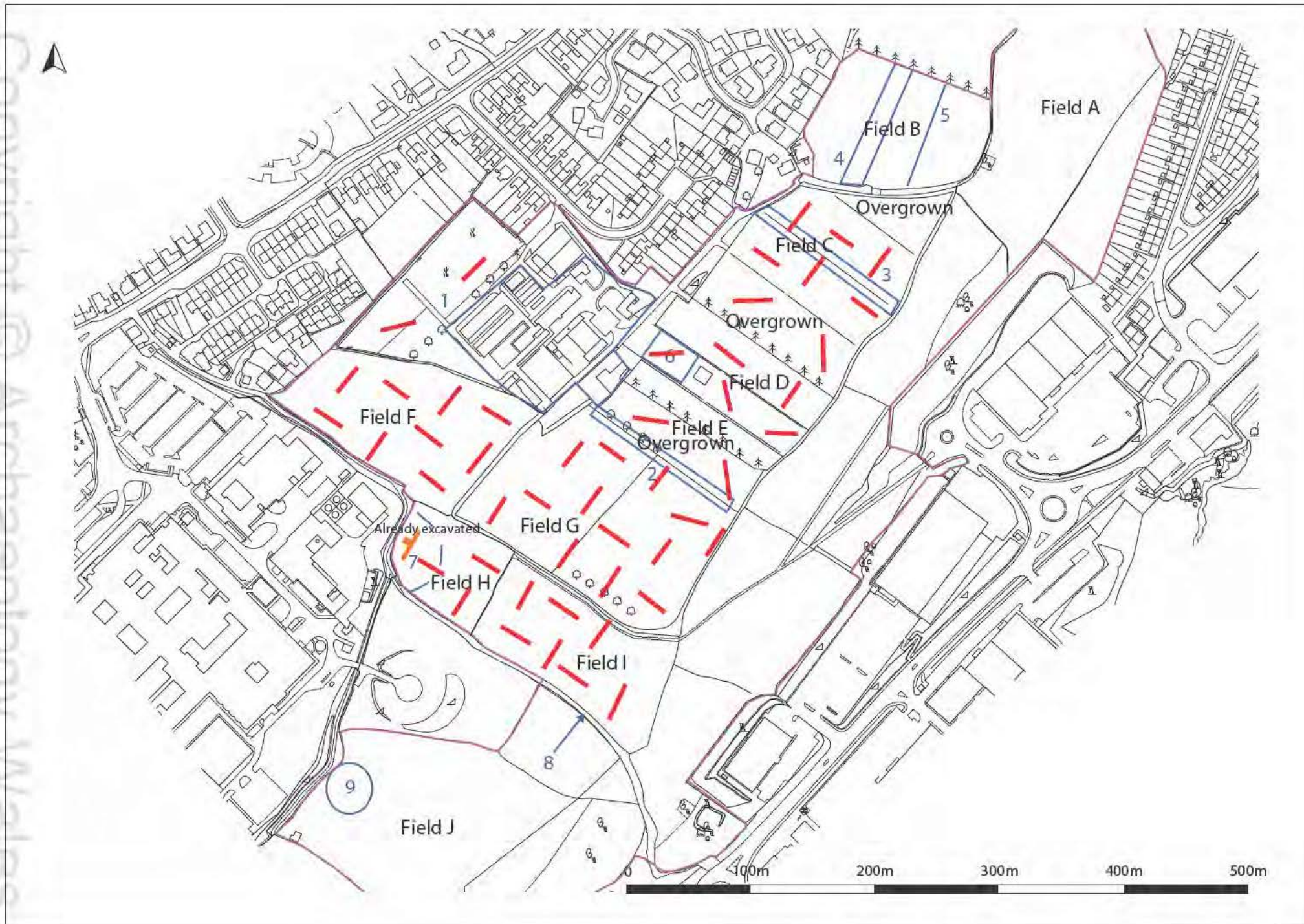
Insurance

Archaeology Wales is an affiliated member of the CBA, and holds Insurance through the CBA insurance service.

Health and safety

All members of staff will adhere to the requirements of the Health & Safety at Work Act, 1974, and the Health and Safety Policy Statement of Archaeology Wales.

AW will produce a detailed Risk Assessment before any work is undertaken.



Archaeology Wales



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