

CPAT Report No. 1918




Twmbarlwm 2022

Archaeological Investigation



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Cover image: Early stage of the excavation of Trench 2



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CONTENTS

SUMMARY	ii
CRYNODEB.....	ii
1 INTRODUCTION.....	1
2 HISTORICAL BACKGROUND	3
3 ARCHAEOLOGICAL INVESTIGATION	5
<i>TRENCH 1</i>	5
<i>TRENCH 2</i>	6
<i>TRENCH 3</i>	7
<i>TRENCH 4</i>	10
<i>TRENCH 5 AND AUGER TRANSECT</i>	10
4 CONCLUSIONS.....	12
5 SOURCES	14
6 GLOSSARY	17
7 ARCHIVE DEPOSITION STATEMENT	18
DOCUMENTARY ARCHIVE	19
APPENDIX 1: CPAT WSI 2095-2.....	20
APPENDIX 2: PLANS AND DRAWINGS	26

Summary

During August 2022 a further series of archaeological investigations were carried out at Twmbarlwm, Risca, Caerphilly County Borough (NGR ST2422092615) under the overall direction of the Clwyd-Powys Archaeological Trust, following earlier work in 2019 and 2021. The excavation and other fieldwork, including the logistics was carried out with the assistance of Cymdeithas Twmbarlwm Society volunteers.

The impetus for these investigations was a large fire in 2018 which impacted the vegetation cover and underlying topsoil. Subsequently, Cymdeithas Twmbarlwm Society, in association with Cadw, drew up a programme for the work which was intended to inform proposals for the restoration and revegetation of the site, and to improve its understanding and interpretation. The investigation in 2022 comprised five trenches and an auger transect, to further investigate the defensive enclosure, a possible prehistoric funerary cairn and the probably medieval motte and ditch.

The lack of a ditch in the south-west part of the enclosure indicates that the hillfort was never completed, though whether the earthworks in this part of the site are Iron Age in date or relate to an early Neolithic causewayed enclosure underlying it, as suggested by the intermittent nature of the defences in this area, is still open to question.

The cairn to the west of the motte ditch was investigated and interpreted as a funerary cairn, probably dating from the late Neolithic or early Bronze Age.

The form of both the bank and ditch of the motte at the eastern extent of the enclosure suggest that it was a medieval motte. The lower sections, including the ditch (which may have been 6m deep) were cut from the bedrock, with the mound raised by approximately 2m above this level.

Crynodeb

Yn ystod mis Awst 2022, cynhaliwyd cyfres o ymchwiliadau archaeolegol yn Nhwmbarlwm, Rhisga, Bwrdeistref Sirol Caerffili (NGR ST2422092615) dan gyfarwyddyd cyffredinol Ymddiriedolaeth Archaeolegol Clwyd-Powys, yn dilyn gwaith cynharach yn 2019 a 2021. Gwnaed y gwaith cloddio a gwaith maes arall, gan gynnwys y logisteg, gyda chymorth gwirfoddolwyr Cymdeithas Twmbarlwm Society.

Yr hyn a ysgogwyd yr ymchwiliadau hyn oedd tân mawr yn 2018 a losgodd y llystyfiant ar y wyneb a'r uwchbridd o dan y llystyfiant. Wedi hynny, lluniodd Cymdeithas Twmbarlwm Society, mewn cysylltiad â Cadw, raglen waith â'r bwriad o ddarparu sail ar gyfer cynigion ar gyfer adfer ac ailddyfu llystyfiant ar y safle, ac i wella'r ddealltwriaeth a'r dehongliad ohono. Roedd yr ymchwiliad yn 2022 yn cynnwys pum rhych a thrawslun darogan, er mwyn ymchwilio ymhellach i'r lloc amddiffynnol, carnedd angladdol gynhanesyddol bosibl a mwnt a ffos a oedd, mae'n debyg, yn dyddio o'r cyfnod canoloesol.

Mae diffyg ffos yn y rhan dde-orllewinol o'r lloc yn awgrymu nad oedd y fryngaer erioed wedi'i chwblhau, er bod yna dal amheuaeth a yw'r gwrthgloddiau yn y rhan hon o'r safle yn dyddio o'r Oes Haearn neu'n gysylltiedig â lloc Neolithig cynharach â sarn oddi tano, fel y mae natur ysbeidiol yr amddiffynfeydd yn yr ardal hon yn ei awgrymu.

Ymchwiliwyd i'r garnedd i'r gorllewin o ffos y mwnt a'r dehongliad oedd mai carnedd angladdol oedd hon, mae'n debyg yn dyddio o ddiwedd y cyfnod Neolithig neu ddechrau'r Oes Efydd.

Mae ffurf clawdd a ffos y mwnt yn rhan ddwyreiniol bellaf y lloc yn awgrymu mai mwnt canoloesol oedd hwn. Roedd yr adrannau isaf, gan gynnwys y ffos (a oedd o bosibl yn 6m o ddyfnder) wedi'u torri o'r creigwely, gyda'r mwnt wedi'i godi rhyw 2m uwchben y lefel hon.

1 Introduction

- 1.1. In August 2022 the Clwyd-Powys Archaeological Trust (CPAT) carried out a further programme of volunteer-based archaeological investigation on behalf of Cymdeithas Twmbarlwm Society at Twmbarlwm, Risca (NGR ST2422092615). These investigations were intended to investigate and elucidate the nature of the monument, following on from previous work in 2019 and 2021.



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Fig. 1 Location of Twmbarlwm

- 1.2. The impetus for the archaeological investigative work at Twmbarlwm was a large fire on the monument in 2018. This resulted in the loss of surface vegetation and degradation of the topsoil, and in the process exposed a number of previously unseen features. It was readily appreciated that there was a need for archaeological investigations to be carried out to determine the degree of impact on the monument from the fire. Accordingly, Cymdeithas Twmbarlwm Society, in association with Cadw, drew up a programme of works to achieve this objective, and also to examine the site in order to inform proposals for restoration and revegetation, as well as to improve understanding and interpretation.
- 1.3. Twmbarlwm is a prominent hill 419m above sea level (Fig. 1). The scheduled monument (MM044) occupies a dominant position at the southern end and high point of the Mynydd

-
- Maen ridge. The monument comprises a univallate enclosure (a single circuit of ramparts) occupying approximately 4.14 ha, and a substantial mound, some 20m across and 8m high. The enclosure has conventionally been understood to be an Iron Age hillfort, with the mound interpreted as a medieval motte.
- 1.4. The initial work comprised the creation of a 3D UAV photogrammetric data model produced by SkyWest Surveys in 2018. This was then utilised and suitably adjusted to produce a conventional hachure plan of the earthworks and associated features which was 'ground-truthed' in the following year using conventional survey techniques. The final output was an annotated, interpretive plan of the monument showing all the earthworks and features present and incorporating those that became apparent after the fire.
 - 1.5. Geophysical survey formed another part of the investigations; this was carried out by Archaeological Survey West (ASW) Limited, and was undertaken in accordance with the Chartered Institute for Archaeologists' (CIfA) *Standard and Guidance for Geophysical Survey*. The resulting report (Matthews 2021) concluded that although features of potential archaeological interest had been identified across the site, the effects of the fire had significantly reduced the clarity of the data, especially on the south facing side of the enclosure, where the burning seemed to be more severe. It was suggested that some of the potential archaeological features might merit further investigation by means of excavation.
 - 1.6. Palaeoenvironmental sampling (Grant 2020) also formed part of the investigations. It had been proposed that this would be focussed on the pond in the centre of the site, but the deposit there was very shallow and contained anthropogenic indicators throughout. Two other samples were taken in the surrounding area and of these the most significant was taken where a small, spring-fed mire was identified on a shelf downslope to the east of the monument at NGR ST 24597 192669. This revealed a sufficiently deep deposit to have the potential to provide evidence of the vegetational history of the area in general over a significant time period. Recommendations were made that further work could be carried out on this core, and more particularly that radiocarbon dating would allow its chronology to be understood in comparison to the monument. This awaits further funding.
 - 1.7. It had been intended that excavations would be carried out in support of the preceding works but this was delayed by a combination of bad weather and the intervention of the Covid-19 pandemic. Accordingly, it was not until the second half of 2021 that this element of the work could be carried out. A number of possible targets were identified, including sections of the enclosure bank and ditch; a possible cairn within the enclosure near the motte; and one of a series of sub-circular stone features thought to potentially identify the sites of structures within the enclosure. The method adopted was to use the technique commonly known as *evaluation*, where the level of intervention (trenching) is minimised while still satisfying the overall aims of the work, to ensure the survival of as much of the deposits *in-situ* as possible.
 - 1.8. Excavation in 2021 showed that the earthworks of the enclosure, at least in part, appeared to be discontinuous and therefore possibly incomplete. Radiocarbon dates recovered from ditch fills provided dates in the late Iron Age and Neolithic; the former presumably denoting the already suspected use of the site as a hillfort and the latter possibly anomalous, though potentially hinting at the possibility of an early phase as a causewayed enclosure.

2 Historical Background

- 2.1. The following is reproduced from a document by Will Davies (Cadw Inspector of Ancient Monuments), on behalf of Cymdeithas Twmbarlwm Society. This was reproduced in the report for the previous archaeological investigation of Twmbarlwm (Hankinson, 2022), and is of equal relevance to the investigation carried out in August 2022.

Early references and antiquarians

- 2.2. Whether you consider them to be Prehistoric, medieval or almost anything in between, the earthworks on Twmbarlwm are unknown to history until the post-medieval period when the hill began to appear in property deeds and the first cartographers and antiquarians explored the historic county of Monmouthshire.
- 2.3. By the end of the medieval period Twmbarlwm lay within the Norman Lordship of Newport, initially created from the lowland, coastal portion of the Welsh kingdom of Gwynllwg between the Usk and the Rhymney. The uplands of the Ebbw, Rhymney and Sirhowy to the north remained in Welsh hands until they were annexed by the de Clare family in the 1260s and became part of Newport. By this point Twmbarlwm would have stood somewhere on the boundary between Newport to the south, Welsh-held upland Gwynllwg to the north and the Lordship of Caerleon to the east, which fluctuated between Welsh and Norman control until the 13th century. In spite of its border location and prominence in the landscape Twmbarlwm does not seem to be mentioned in any medieval inquisitions or lordship accounts of land holdings and their boundaries although its presence in later deeds suggest that further careful study of early sources might locate some indirect references. It is this backdrop of shifting territories and power that should be borne in mind when considering some of the more recent interpretations of the monument explored below.
- 2.4. The remoteness of Twmbarlwm and much of the rest of the Ebbw and Sirhowy Valleys from the main 18th and 19th century tourist routes dictated that whilst it is clearly visible for many miles around there antiquarian references are sparse as few actually visited it. As such, many of the most likely sources of information omit it entirely, notably Sir Joseph Bradney who died in 1933 leaving his monumental History of Monmouthshire incomplete at its final volume covering the Lordship of Newport and the former Welsh Gwynllwg.
- 2.5. Although some of the folkloric references to bees and wasps, the nearby Pool of Avarice and treasure hunters digging the mound being frightened by thunder relayed by Hando (1944), Roderick (1983, 1986), Palmer (1998), Barber (1983, 1987) and others may well have much earlier origins, the first documentary reference to Twmbarlwm, albeit of the hill only, comes from Henry VIII's topographer and antiquarian John Leland. Leland visited the area between 1538-43, noting in passing during his account of the southern reaches of the Ebbw that '*there is a very Highe Hille caulled Tumberlum*' (Itinerary Vol. III, 32), implying that he had only viewed it from a distance.
- 2.6. A few years later '*Tumberlow Hill*' appears as a molehill like lump on William Saxton's Map of 1577, followed by John Speed in around 1610. This corruption of presumably unfamiliar Welsh was followed numerous times and occasionally varied by subsequent cartographers, including '*Pentwynbarhen Hill*' (Robert Morden 1695) and '*Tumberton Hill*' (Thomas Badeslade and William Henry Toms, 1742). Of these, John Cary (1787) appears to be the first to indicate the enclosure – or at least the higher summit at the end of the ridge rather than simply a schematic conical hill, and was closely followed on subsequent county maps. For those with a specific

interest in this the early mapping of Monmouthshire is explored in detail with many examples by Michael (1985).

- 2.7. The first published description of the monument itself is in Archdeacon Coxe's Historical Tour in Monmouthshire. Few county antiquarians in Wales and the Marches provide so much useful information as this account, with Coxe's detailed descriptions being greatly enhanced by the engravings of Colt-Hoare and in this case by the remarkably accurate measured surveys of T.E. Morrice. This shows the mound, the small cairn on the lip of its ditch, the pond and three of the breaches or gaps on the western and south-western arc of the enclosure defences. Coxe assumed the mound to be the burial place of a fallen Silurian chieftan (1801, 75) and like other early writers i.e. Bradney, identified many of the motte and baileys in the county as 'British encampments'.
- 2.8. I know of no other 19th century descriptions of the monument but the Tithe map for Risca of 1843 depicts '*Mynydd Twyn Barlwyrn*' in plot 191, when it was owned by John Jones Esq. and occupied by one Mary George along with extensive tracts of pasture around the southern sides of the hill. Here it is drawn in more schematic detail with the enclosure as an unbroken raised area but with the motte still distinguished at its eastern end. It is notable that the Tithe lists the summit as enclosed pasture distinct from the common land along the ridge to the north-east; field boundaries are drawn downslope from the enclosure, one apparently extending from the northern defences. The first edition Ordnance Survey drawn in the 1870s is similar to Morrice's plan with the exception that the southern gap in the defences is depicted a little further to the east and that the boundaries shown on the Tithe are reproduced.

The 20th century to the present.

- 2.9. The first archaeological descriptions of the site appeared in the early 20th century when the first great gazetteers of castles and hillforts were being compiled and by the middle of the century the great mound was broadly accepted as a medieval motte rather than a barrow (e.g. Savory, 1950, Hogg & King 1963, Forde-Johnson 1976). The origin of the adjoining enclosure remained the subject of debate, most authorities favouring either an Iron Age hillfort, a very large castle bailey, or a bailey formed from the adapted defences of an earlier hillfort. Beyond such basic identification more recent writers and researchers have explored in detail a range of different scenarios for the likely date of establishment and function of both mound and enclosure, which are based upon a combination of the physical form and layout of the earthworks, and their broader landscape and political context.
- 2.10. The monumental Royal Commission inventory on early Glamorgan castles favours an early post-Conquest date for the mound. It places Twmbarlwm into a group of undocumented mottes on the fringes of the uplands to the north of Cardiff with no clear manorial context. The RCAHMW speculate that it may have formed part of a short lived chain of early castles protecting the caput of Glamorgan Lordship prior to a regional Welsh resurgence in the 12th century (RCAHMW 1991, 21, 59). Geoff Mein comments on a John Sorrell aerial photograph, noting the irregular mounds of up-cast from the enclosure ditch to form the unfinished rampart, suggesting a 'hasty' and unfinished refortification of an Iron Age site to form a castle bailey (1997). Both Forde-Johnson (1976) and Hannah Wiggins in a Cadw-funded assessment of prehistoric enclosures in Monmouthshire (2006) interpret the enclosure as an unfinished hillfort, Wiggins noting its apparently featureless interior. Neil Phillips (2006) undertook the first modern topographic survey as part of his PhD research on early castles in the region, suggesting that the mound itself was largely formed from the end of the natural spur and had primarily been created through the excavation of the great rock-cut ditch, and also accepted an Iron Age date for the enclosure. He concluded that the motte formed the base of an early

'watch tower', citing the lack of obvious contemporary settlement, its highly visible position and drawing comparison with a range of other hilltop mottes in the area. He does not attempt to place the site into its political or lordship context but does acknowledge an argument for a later date by Knight and others (see below).

- 2.11. Stuart Prior's somewhat speculative Monmouthshire case study in his book on warfare and Norman castles expands upon the watch-tower hypothesis (2006). This cites Roman military theory and again draws superficial parallels with a range of other sites in the region, stating with some confidence that it was built 'between 1135 to 1165', ostensibly to protect the lowland Newport lordship from Welsh incursions, but without any supporting evidence. An alternative but again speculative scenario is that Twmbarlwm was associated with the de Clare's annexation of the uplands of Gwynllwg into the Lordship of Newport in the 1260s (Whittle, 1992). This theory was followed by Howell (2016), and Knight (2019), who interpret the enclosure as the remains of an unfinished castle bailey, again drawing attention to the irregular up-cast mounds of spoil for its incomplete rampart and the sharp profile of the ditches as evidence. Knight also notes similarities in location at the edge of its lordship to Gilbert II de Clare's huge and equally lofty masonry castle at Morlais near Merthyr Tydfil, albeit on an entirely different scale to Twmbarlwm. John Wiles also provides a description with measurements, noting the apparently remote location for a medieval castle, raising the possibility that it functioned as a hunting seat within Newport lordship (2008).
- 2.12. Finally, I include a quote from W.H. Greene, a 19th century journalist, antiquarian and prolific sketch artist who recorded many now-vanished historical features in Newport and Monmouthshire. Whilst not directly referring to Twmbarlwm it is still very relevant to this project. Writing about the northern, Tranch end of Mynydd Maen he remarked that '*...if the present drought continues, it is possible that the mountain top may again take fire, and flare for weeks, as it did in the summer of 1868*'. Damaging as it may have been, the hill recovered from this episode of burning and probably many other unrecorded ones. Moreover, the fires have presented us with an opportunity to better understand Twmbarlwm by exposing and enabling us to document previously unknown hut-like features within the enclosure.

3 Archaeological Investigation

- 3.1. The excavations were conducted according to the Chartered Institute for Archaeologists' (CIfA) *Standard and Guidance for an Archaeological Excavation* (2014). The results are presented below, with A3 sheets at the end showing plans and sections. These are referred to as e.g. (Dwg. 2). Appendix 2 (Dwg. 1) shows a plan of the enclosure with the 2022 trenches marked in red.

Trench 1

- 3.2. Trench 1 (Dwg. 2, Appendix 2) was positioned to investigate a mass of stones which had been interpreted variously as a prehistoric cairn or a medieval bridge abutment relating to the adjacent motte. It was located towards the easternmost extent of the enclosure and was adjacent to the motte ditch. The trench was L-shaped in plan and measured 5m north-south by 11m east-west. Excavation of this feature was fairly minimal in order to define the form of the structure and identify any of the structural elements.
- 3.3. Removal of a shallow topsoil or turf deposit at the base of the cairn (101) 0.07-0.1m in thickness revealed a series of ridges and furrows [102] of uncertain date. These ridges and furrows abutted a moderately compacted greyish soil deposit containing angular, flattish sandstone pieces (104) interpreted as material washed or tumbled down from the main cairn

structure (105) (Dwg. 2). Structure (105) comprised a circular mass of stones measuring 9m in diameter and 0.5m in height (Fig. 2). There was some evidence of stones laid end to end to form a kerb around its outer extent although this was indistinct in places and partially obscured by the washed down material (104).



Fig. 2 Photogrammetric image of Trench 1 (north is at base of image) Photo CPAT 5023_063

Trench 2

- 3.4. Trench 2 (Dwg. 3, Appendix 2) was located approximately half way along the south side of the enclosure, where a sub-circular feature has been identified within the line of the bank, similar to that investigated during the previous excavation (Hankinson 2021, p. 8-10). The excavation of a trench here had two aims, to assess the impact of burning in an area where the 2018 fire was thought to have reached its highest temperature; and to determine whether the nature of the feature corroborated the suggestion from the previous excavation that these features derived from localised dumping of stone from the excavation of the ditch, rather than settlement, as a hut or building foundation for example. The trench measured 7.5m north-south and 4.5m east-west.
- 3.5. Removal of the turf or topsoil deposit (201) 0.05m-0.1m in thickness more fully revealed the partially exposed stone deposit (202) underlying it (Fig. 3). This comprised a fairly loose deposit of flattish stone pieces of varying sizes, none of which were larger than one or two people could have carried. The deposition of the stones appeared to be fairly random and disordered, there was no evidence of any deliberate laying of the stones to form a structure. There was a fine sandy matrix within deposit (202) but this comprised only about 20% of the total deposit. Excavation of a sondage (small test pit) 1.5m in width along the eastern side of the trench revealed that deposit (202) extended to a thickness of 1m and was laid directly onto the subsoil (203), comprising a firm orange silt.
- 3.6. At the northern extent of the trench deposit (202) was partially covered by a firm reddish brown sandy silt (204). This was interpreted as either windblown material or hill wash (colluvium) that had built up against the rampart following its construction.



Fig. 3 East facing section of Trench 2 Photo CPAT 5023_015

Trench 3

- 3.7. Trench 3 (Dwg. 4 and Fig. 5, Appendix 2) was positioned across the line of the bank and ditch in an area where it was considered less likely to have been disturbed by the believed modification of the posited Neolithic enclosure to form an Iron Age hillfort. This seemed to be the best place to assess the veracity of the early enclosure. The precise location, which formed part of the southern facing section of the rampart, was chosen to evaluate a bank and ditch terminus both of which were visible as earthworks. The trench measured 10m north-south by 3m east-west.
- 3.8. The upper deposition comprised a turf layer (301) 0.1m thick, overlying a reddish loam (302) 0.18m thick. Underlying this was a soft orange sandy silt (303) 0.18m, probably a washed down accumulation from the bank construction (304). The bank was constructed from a compacted rubble, comprising fairly small stone pieces within a sandy matrix measuring >2.3m in width and 0.4m in height (Fig. 4). The bank was built upon the undisturbed subsoil (305) >0.18m thick.
- 3.9. Excavations at the southern extent of Trench 3 revealed that there was no continuation of the defensive ditch within the excavated area. The soil deposition in this area was approximately 0.3-0.38m in thickness overlying weathered bedrock (306).



Fig. 4 East facing section through rubble bank construction Trench 3 Photo CPAT 5023_021



Fig. 5 Compound photogrammetric image of Trench 3 (north is top) Photo CPAT 5023_064

Trench 4

- 3.10. Trench 4 (Dwg. 5, Appendix 2) was located to investigate the section of the ditch forming part of the southern defensive circuit directly adjacent to the section of rampart investigated in Trench 2. The trench measured approximately 6m by 1m.
- 3.11. Removal of the topsoil (401), which was noted to have been blackened due to fire damage revealed a moderately compacted mid-greyish brown silt (402) containing small sandstone pieces extending across the entire trench to a thickness of 0.38m. Underlying deposit (402) was a brownish orange sandy silt and sandstone deposition (403) extending 5.8m by >0.4m thick, filling a ditch [405] with stepped rock cut sides, cut from the natural sandstone bedrock (404) (Fig. 6). The base of the ditch was not attained in the course of this investigation.



Fig. 6 West facing section of Trench 4 Photo CPAT 5023_037

Trench 5 and auger transect

- 3.12. The auger transect (Dwg. 7, Appendix 2) was oriented broadly east-west in order to investigate deposits within the western section of the motte ditch and to investigate the composition of the motte itself (Fig. 8). Six cores were taken.
- 3.13. Cores 1 and 2 were located within the motte ditch. Core 1 reached 0.2m below ground level and Sample 2 0.6m, before solid material within the ditch fill prevented any further penetration. Cores 3 and 4 investigated the slope of the motte and revealed a similar pattern of deposition comprising a silty rubble stone deposit 0.88m-0.9m thick over the cut bedrock slope forming the eastern side of the ditch. Core 5 recorded a localised thickening in the topsoil to 0.2m, overlying alternating layers of silt and rubble. Underlying this was a crushed fine layer of silt, overlying the orange subsoil which was encountered at 0.82m below ground level. Core 6 comprised a broad continuation of the artificial motte construction deposition observed in Core 5, but this was much thicker and comprised a mottled orange redeposited subsoil 1.49m in thickness. A very thin horizon comprising a gley (waterlogged clay) containing charcoal flecking was revealed underlying the motte construction, presumably representing

the ground level prior to its construction. Subsoil was attained at a depth of 1.83m and bedrock at 1.95m, suggesting perhaps that the subsoil behind the break of slope at the crest of the motte had been cut back to form a ridge or bank.

- 3.14. Trench 5 (Dwg. 6, Appendix 2) was excavated in order to investigate the motte ditch (Fig. 7). It was originally intended that this was carried out via an auger transect, but this method proved largely impractical due to the ground conditions, both the motte construction and the ditch contained large sandstones that prevented the auger being driven into the ground. Trench 5 measured 4m by 1m.
- 3.15. Removal of the topsoil (501) 0.1m thick revealed a compacted stone rubble deposit (502) 0.65m in thickness containing large quantities of pottery including sherds from stoneware vessels and bottle glass dating from the late 19th-early 20th century. Underlying deposit (502) on the west side of the trench was a lens of black silty sand (503) 0.09m thick containing bottle glass of 19th century date. Underlying deposit (503) was a deposit containing large flat sandstone pieces within a sandy silt matrix, >0.67m in thickness. On the western extent of the excavated area the cut for the motte ditch was revealed [506], comprising a steeply sloping face cut into the bedrock >1.5m in depth.



Fig. 7 North facing section of Trench 5 Photo CPAT 5023_040



Fig. 8 Auger transect in progress Photo CPAT 5023_054

4 Conclusions

- 4.1. The results of the investigation in Trench 1 concluded that the stone structure was a funerary cairn, most probably a round cairn. These are most commonly associated with the Early Bronze Age (c. 2500-1500 BC), with some examples also dating from the late Neolithic period (c. 3000-2500 BC) that immediately preceded it. There are also known examples from the Roman and early medieval periods (AD 43-650) but these are very unusual and can reasonably be discounted. A linear series of four round cairns (SM307841-44), varying in diameter from eight to ten metres are located approximately 0.8km to the east of Twmbarlwm at Myndd Henllys.
- 4.2. The structure was formed from quarried stone slabs retained by a kerb. No evidence for a ditch around the cairn was discernible, although this may have been hidden beneath the tumbled or washed down deposition surrounding it. The upper structure of the cairn was typically covered by a soil mound but this may have been weathered away, or damaged by the later disturbance as indicated by a central depression within the structure visible on the surface but not excavated as part of the current investigation. The soil mound may have also provided a convenient nearby source of material when the adjacent motte was constructed. The barrow was located very close to the edge of the rock cut motte ditch and may have been slightly truncated by it.
- 4.3. Investigations in Trench 2 showed clearly that there was no structure to the sub-circular stone spread and that it was simply a massed accumulation of stone, presumably quarried from the adjacent section of ditch. The results of Trench 2 agree very closely with those from the previous archaeological investigation (Hankinson, 2022, p. 17). It is of interest that this section of the rampart and several others within the defensive circuit were thrown up in this manner. This is highlighted in the report upon the previous investigation;

'The lack of an ordered structure in the corresponding part of the enclosure bank could also be taken to support the hypothesis that the enclosure was unfinished, depending on whether

it was originally intended to be defensive in nature, while the presence of a counterscarp bank could imply that there were two distinct phases to this section of the enclosure earthworks' (Hankinson, 2022, p. 17).

- 4.4. The lack of structure to the rampart observed in Trench 2 could alternatively be taken to imply that the construction of the rampart was completed hastily, meaning that there was not time to layer or knit the materials together to create a stronger more durable structure. It may however reflect the availability of material to construct the rampart, the lack of readily available soils suitable for construction such as clay perhaps dictating that the only recourse for the builders was to utilise the stone instead.
- 4.5. Trench 3 revealed a low soil bank which was barely visible as an earthwork, having been partially obscured by wash from the slope above it. In contrast to the rampart structure in Trench 2 it appeared to have been much better made using small stone pieces in a silty matrix. The bank's lack of height was partially due to the location of the trench at an apparent terminus in the construction but it seems unlikely that it was ever very much higher than this, especially given the lack of tumbled or spread material to either side of it, especially on the slope below it to the south. There was no ditch at all at the southern end of the trench, but a small counterscarp perhaps 0.5m in height was visible. This section of the defensive ditch was clearly never excavated, although the significance of this is open to interpretation as outlined below.
- 4.6. During the previous excavation organic material recovered from an earlier fill of the defensive ditch on the north-east side of the enclosure was carbon dated and returned a date range of 3105 to 2916 BC (at 87.5% probability (Beta 613899)) for the backfilling of that feature. This raised the possibility that the site was formerly occupied by a causewayed enclosure of early Neolithic date (4000-3300BC) (Hankinson, 2022, p.17).
- 4.7. The evidence for a causewayed enclosure at Twmbarlwm is however quite scant. Such an enclosure must have followed the same circuit as the later Iron Age defences as there was no obvious trace of it recorded during the geophysical survey within the interior of the Iron Age enclosure (Matthews, 2021). There are parallel examples of this sort of superposition however including sites at Maiden Castle in Dorset and Hembury in Devon (Oswald, 2001, p. 139-140), where Iron Age defences were constructed direct on top of the Neolithic ones. An alternative interpretation is that the defensive bank in Trench 3 was Iron Age in date and a continuation of the defences elsewhere, and that the corresponding section of the defensive ditch was simply never fully excavated. It is noted however that the construction of the bank in Trench 3 is dissimilar to that of the bank or rampart in Trench 2 which is assumed to be Iron Age.
- 4.8. Trench 4 was an addition to the scheduled works, in order to identify further evidence for a possible Neolithic ditch underlying the extant hill fort ditch as previously revealed on the northern side of the enclosure (Hankinson, 2022) and to recover suitable corroborative organic material suitable for carbon dating. No trace of an earlier ditch was discernible within this trench however, and no organic material was retrieved. It should be noted that the base of the ditch was not fully revealed with this trench as it extended below the safe 1.2m working depth limit, so the results should be considered inconclusive rather than evidence that no such earlier ditch was present in this location. The ditch fill material largely comprised sandstone pieces, which are presumed to have tumbled down from the rampart.
- 4.9. Investigation of the motte and motte ditch initially comprised an auger transect. This was unsuccessful in investigating the ditch which subsequent excavation revealed had been backfilled in two distinct phases. It was not possible to date the earlier ditch fill as no cultural

or organic material was present, but it comprised a sandstone rubble deposit of uncertain origin, not dissimilar to the fill of the ditch in Trench 4. It is possible that this originated as a slump of material from the motte construction but this seems somewhat unlikely as the material was extremely homogenous and seemed far too unstable to have formed a structure. No similar material was encountered during the auger transect on the motte itself, so this lower fill seems to have been a deliberate dump of material. The upper fill contained several datable artefacts, notably bottle glass and sherds of stoneware vessels of late 19th or early 20th century date. These artefacts may have been brought up to the monument by visitors and then incorporated into the dump of material, rather than imported from elsewhere. The motte ditch was steep sided and probably had a vee profile. A projection of the profile based on the results of the auger transect and the excavation suggests that the ditch was approximately 6m in depth measured from the top of the ground surface to the west, indicating that it was a formidably defended site. It was noted that the cut of the medieval ditch in Trench 5 was smoothly worked in contrast to the stepped uneven cut of the prehistoric ditch in Trench 4, indicating perhaps a disparity in the quality of tools or availability of skilled labour in order to carry out the work. It is possible that deposition relating to the construction or occupation of the motte is to be found in the lower ditch fills, but the excavation of a trench deep enough to attain these deposits was outside the scope of these investigations.

- 4.10. The upper structure of the motte was formed from approximately 1.8m of redeposited subsoil, whereas the structure of the side of the motte comprised a stony silt deposition 0.9m thick. The juxtaposition of these two deposits was unclear. No evidence for the occupation of the motte site was forthcoming, although it is likely that any cultural evidence relating to the feature was located well below the levels attained during the excavation of the ditch in Trench 5. The discovery of a thin layer of organic material underlying the upper motte construction, presumably either a relict soil horizon or a working surface, raised the possibility that the feature could be dated via Carbon 14 analysis, but obtaining a usable sample of this material via augering was deemed to be impractical.
- 4.11. It was noted throughout this investigation that there was very little evidence of damage relating to the fire in 2018. The main issue noted was that largely organic soil deposits had been burnt away, and had lost cohesiveness resulting in them being blown away by wind erosion thereby causing the underlying features to be exposed. This was particularly apparent in Trench 1 and in Trench 2. It is not considered that any further investigative work is necessary in respect of the fire damage.

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1843 Tithe Map for Risca parish in the County of Monmouthshire

1886 Ordnance Survey 6" Map Sheet 28 NW

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3D UAV Photogrammetric Model

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or direct link to Sketchfab site

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CTS introduction to 2021 reports

<http://www.twmbarlwm.co.uk/twmbarlwm-dig-2021-summary/>

Full report of 2021 investigation

http://www.twmbarlwm.co.uk/wp-content/uploads/2022/07/220323_CPAT_Report_No_1820_final_draft_te_all_lo.pdf

Non-technical version of the 2021 report

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6 Glossary

Auger- a narrow cylindrical metal instrument used for drilling down into the ground to determine ground composition or stratigraphy without the need for excavation.

Carbon 14- is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon, which builds up during the life of a plant or animal then gradually decays thereafter.

Causewayed enclosure- an earthwork type dating from the early Neolithic (4000-3300BC), and characterised by one of more rings of ditches and soil banks crossed by multiple causeways.

Counterscarp- the outer slope of a defensive ditch, enhanced by the construction of a soil bank to effectively make the ditch deeper and impede attackers.

Earthwork- a general term for artificially created archaeological features visible above ground.

Hill fort- defensive earthworks generally constructed during the Iron Age (700BC-43AD). Generally constructed on hills and in upland areas.

Motte- a partially or completely artificial soil mound, with a wooden or stone tower built upon it. Most examples were constructed following the Norman invasion (1066AD), with some examples known from the end of the 13th century. Usually partially or wholly constructed using upcast from a defensive ditch encircling the motte, and often constructed with one or more baileys.

Rampart- an embankment forming part of the defensive boundary of a hillfort, settlement or other fortified site. It is usually broad-topped and made of excavated earth or stone.

Round cairn- prehistoric funerary monuments generally dating from the Bronze Age (c.2000-700 BC). They were constructed as stone mounds covering single or multiple burials. Typically found in upland areas.

Scarp- inner slope of a defensive ditch, often further enhanced by the construction of a rampart and wall at the summit. May be a cut slope rather than a built up deposit.

Subsoil- naturally derived soil deposition









7 Archive deposition Statement

- 7.1. The project archive has been prepared according to the CPAT Archive Policy and in line with the CIfA *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives guidance* (2020b).

Archive Summary

Archives Officer	Sophie Watson
HER Enquiry No	N/A
HER Event PRN	N/A
OASIS Reference No	N/A
Digital Archive Repository	RCAHMW / ADS (delete as applicable)
Documentary Archive Repository	N/A
Finds Archive Repository	N/A
Accession Numbers	N/A

Digital Archive

Sub folder	Contents	Retained by CPAT	Selected for Archive
 Finds data	N/A	0	0
 GIS data	N/A	0	0
 Metadata	2416_Metadata.docx 2416_RCAHMW_Archives_Deposit_Agreement.docx	1 1	1 1
 Photography		0	0
 Film_5023	5023-0001.jpg	64	64
 Report	1918_CPAT_Report_Twmbarlwm 2022.docx 1918_CPAT_Report_Twmbarlwm 2022.pdf	1	1
 Site data	N/A	1	1
 Survey data	N/A	0	0

Documentary Archive

	Hard copy	Digital	Retained by CPAT	Selected for Archive
Context register				
Drawings register				
Finds register				
Levels register				
Photo register				
Context sheets				
Finds/samples record				
Skeleton record forms				
Staffing record form				
Trench record forms	5			5
Watching brief forms				
A1 plans				
A2 plans	2			2
A3 plans				
A4 plans				
Other				

Appendix 1: CPAT WSI 2095-2

1 Introduction

- 1.1. The Clwyd-Powys Archaeological Trust (CPAT) has been invited by Cymdeithas Twmbarlwm Society to undertake a further programme of volunteer-based archaeological investigation at Twmbarlwm, Risca (NGR ST2422092615). The concept of carrying out some investigative work at Twmbarlwm was born in 2018, when a large fire resulted in the loss of surface vegetation and degradation of the topsoil, and in the process exposed a number of previously unseen features. It was readily appreciated that there was a need for archaeological investigations to be carried out to determine the degree of impact on the monument from the fire and accordingly Cymdeithas Twmbarlwm Society, in association with Cadw, drew up a programme of works to achieve this object. These were also intended to examine the site in order to inform proposals for restoration and revegetation, as well as to improve understanding and interpretation.
- 1.2. Twmbarlwm is a prominent hill and the scheduled monument (MM044) occupies a dominant position at the southern end and high point of the Mynydd Maen ridge. The monument comprises a univallate enclosure occupying approximately 4.14 ha, and a substantial mound, some 20m across and 8m high. The enclosure has conventionally been understood to be an Iron Age hillfort, with the mound interpreted as a medieval motte. The programme suggested in this Written Scheme of Investigation (WSI) is designed to complement the programme of investigations that were undertaken in the period up to 2021, and which are described below.
- 1.3. The initial work comprised the creation of a 3D UAV photogrammetric data model and was produced by SkyWest Surveys in 2018. This was then utilised and suitably adjusted to produce a conventional hachure plan of the earthworks and associated features which was 'ground-truthed' in the following year using conventional survey techniques. The final output was an annotated, interpretive plan of the monument showing all the earthworks and features present and incorporating those that became apparent after the fire.
- 1.4. Geophysical survey formed another part of the investigations; this was carried out by Archaeological Survey West (ASW) Limited, and was undertaken in accordance with the Chartered Institute for Archaeologists' (CIfA) *Standard and Guidance for Geophysical Survey*. The resulting report (Matthews 2021) concluded that although features of potential archaeological interest had been identified across the site, the effects of the fire had significantly reduced the clarity of the data, especially on the south facing side of the enclosure, where the burning seemed to be more severe. It was suggested that some of the potential archaeological features might merit further investigation by means of excavation.
- 1.5. Palaeoenvironmental sampling (Grant 2020) also formed part of the investigations. It had been proposed that this would be focussed on the pond in the centre of the site, but the deposit there was very shallow and contained anthropogenic indicators throughout. Two other samples were taken in the surrounding area and of these the most significant was taken where a small, spring-fed mire was identified on a shelf downslope to the east of the monument at NGR ST 24597 192669. This revealed a sufficiently deep deposit to have the potential to provide evidence of the vegetational history of the area in general over a significant time period. It was suggested that further work could be carried out on this core, and more particularly that radiocarbon dating would allow its chronology to be understood in comparison to the monument.
- 1.6. It had been intended that excavations would be carried out in support of the preceding works but this was delayed by a combination of bad weather and the intervention of the Covid-19

pandemic. Accordingly, it was not until the second half of 2021 that this element of the work could be carried out. A number of possible targets were identified, including sections of the enclosure bank and ditch; a possible cairn within the enclosure near the motte; and one of a series of sub-circular stone features thought to potentially identify the sites of structures within the enclosure. The method adopted was to use the technique commonly known as *evaluation*, where the level of intervention (trenching) is minimised while still satisfying the overall aims of the work, to ensure the survival of as much of the deposits *in-situ* as possible.

- 1.7. The excavation of Trench 1 showed that the earthworks of the enclosure, at least in part, appeared to be discontinuous and therefore possibly incomplete. Radiocarbon dates from the ditch fills identified in Trench 3 provided dates in the late Iron Age and Neolithic; the former presumably denoting the already suspected use of the site as a hillfort and the latter possibly anomalous though potentially hinting at the possibility of an early phase as a causewayed enclosure.
- 1.8. This WSI sets out the scope of archaeological works proposed for later in 2022, which will be almost exclusively community-based work with local volunteers under the supervision of CPAT staff. These investigations are intended to further investigate and elucidate the nature of the monument and the impact on it resulting from the fire in 2018.

2 Aims and Objectives

- 2.1. The primary aim of the work in this season is to inform Cadw of the nature of the monument and the degree to which it has been impacted by the fire in 2018. The previous work has gone some way to understanding this impact but there are areas of the monument, particularly to the south, where information is lacking.
- 2.2. The objectives of the investigation are:
 - to reveal by means of field excavation the nature, condition, significance and, where possible, the chronology of the cultural heritage within the areas described below;
 - to prepare a report outlining the results of the excavations;
 - to prepare a final publication of the results in an appropriate regional or national journal, depending on the nature and significance of any archaeology.
- 2.3. Assessment of the results of the previous work has identified the following priorities for additional excavation:
 - Another section across the enclosure earthworks is needed to provide comparative evidence regarding the potential for the enclosure to belong to two separate phases
 - The excavation of a further sub-circular feature to compare with the one excavated in 2021
 - Excavation of a section across the presumed cairn to determine its origin and dating, if that is possible.
 - Targeted augering and excavation of the perimeter of the motte with a view to revealing information regarding its structure and to provide an opportunity for its dating.
 - Assessment of the impact of the fire at each of the above to form a broader picture.
- 2.4. The investigation is also intended to involve, as much as possible, volunteers from the surrounding local communities. Cymdeithas Twmbarlwm Society will be the primary source of these volunteers, through their own membership and local networks and contacts. Some opportunities may also be offered for CPAT volunteers to join the fieldwork as appropriate.

3 Methodology

Dating

- 3.1. In addition to any material revealed by the proposed excavations which could be suitable for radiocarbon dating, it is proposed that dates be obtained for the palaeoenvironmental deposit that was identified in 2020. This should allow the vegetational history of the area to be compared to the monument now that dates for the latter have been obtained.
- 3.2. If suitable deposits are revealed by work on the cairn and the motte (see below), then it is proposed that samples be taken which can be subjected to either Optically Stimulated Luminescence (OSL) or radiocarbon dating. This will hopefully resolve current uncertainties over the origin of these parts of the monument.

Excavations

- 3.3. The excavations will be conducted according to the Chartered Institute for Archaeologists' (CIfA) *Standard and Guidance for an Archaeological Excavation* (2014).
- 3.4. All of the proposals listed below will be subject to final approval on their placement from Will Davies, Cadw's Regional Inspector of Ancient Monuments, the locations given on the following plan (Fig. 6) are indicative. All have the potential to reveal material that can be dated and therefore be used to further understand the nature and phasing of the monument.

Enclosure

- 3.5. Excavation is proposed at two localities, both on the south side of the monument. The first of these (see Fig. 2) is to the east of Trench 1 from 2021 and will comprise a 3m-wide trench across the line of the bank and ditch in an area where there is less likely to have been disturbance from the believed modification of the posited Neolithic enclosure to form a hillfort. This seems to be the best place to assess the veracity of the early enclosure.
- 3.6. The second location is about half way along the south side of the enclosure, where another sub-circular feature has been identified on the line of the bank, similar to that investigated in Trench 2 in 2021. The excavation of a trench here would have two aims: to assess the impact of burning in an area where the fire is thought to have reached its highest temperature; and to determine whether the nature of the feature corroborates the suggestion from the previous excavation that these features may owe their appearance to the robbing of a dump of stone produced by the excavation of the ditch, rather than identify evidence of settlement.

Cairn

- 3.7. The nature of this feature is currently uncertain and of all the various parts of the monument as a whole, this is probably the one which is most susceptible to visitor erosion and disturbance. A trench across the earthwork will provide a better understanding of these aspects and also of the impact of the fire. It should also be used to assess how the earthwork relates to the adjacent cultivation ridges.

Motte

- 3.8. Work here will commence with a programme of augering to assess the accessible deposits and explore the possibility that there might be a buried ground surface beneath the earthwork. There is no need to auger the uppermost parts of the motte as all that is required is to find significant evidence beneath the motte itself which could subsequently be reached by the excavation of a trench into its perimeter. If this evidence is found then it can be investigated

by the trench, which can target material suitable for dating, either radiocarbon if charcoal is revealed, or by taking samples for OSL dating.

- 3.9. All trenches will be entirely excavated by hand. The excavation of archaeological features or deposits will be undertaken by hand using the conventional techniques for archaeological excavation.
- 3.10. Where features of archaeological interest are identified they will be systematically investigated by hand with sufficient work being undertaken to determine their date, character and function, using the conventional techniques for archaeological excavation and in accordance with CIfA *Standard and Guidance*.
- All features will be located as accurately as possible on an overall plan of the development at an appropriate scale, showing boundaries depicted on Ordnance Survey mapping. Trenches will be located by survey grade GPS. Photogrammetry will be used to accurately and rapidly plan stone spreads/structures and other features.
 - Contexts will be recorded on individual record forms, using a continuous numbering system, and be drawn and photographed as appropriate.
 - Stratigraphic units will be assigned a record number and entered along with a description on an individual record form or trench recording sheet as appropriate.
 - Plans will be drawn using suitably located and scaled photogrammetry, or on permatrace at a scale of 1:10, 1:20 or 1:50, as appropriate.
 - All photography will be taken using a digital SLR camera with a minimum resolution of 12 megapixels, including a metric scale in each view, with views logged in a photographic register.
 - If human burials are discovered the Ministry of Justice will be informed. The remains will initially be left in situ, and if removal is required, a MoJ licence will be applied for.
 - In the event of finding any artefacts covered by the provisions of the Treasure Act 1996, the appropriate procedures under this legislation will be followed.

Artefacts

- 3.11. All artefacts and environmental samples will be treated in a manner appropriate to their composition and a sampling strategy will be developed as appropriate:
- All stratified finds will be collected by context, or where appropriate, individually recorded in three dimensions. Unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest.
 - All finds and samples will be collected, processed, sorted, quantified, recorded, labelled, packed, stored, marked, assessed, analysed and conserved in a manner appropriate to their composition and in line with appropriate guidance.
 - Arrangements will be made to assess and study any artefacts, assemblages and environmental samples.
 - Any artefacts recovered during the recording process will be deposited with the nearest regional or county Museum, subject to the permission of the owner. The artefacts will be deposited along with a copy of the site report including a detailed list of all artefacts recovered.

Site archive

- 3.12. The overall archive will conform to guidelines described in *Management of Research Projects in the Historic Environment* (MoRPHE), Historic England 2015, the CIfA (2014) *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* and *The National Standard and Guidance to Best Practice for Collecting and Depositing*

Archaeological Archives in Wales (NPAAW, 2017) and *Guidance for the Submission of Data to the Welsh Historic Environment Records* (HERs) V1 (July 2018).

- 3.13. The paper and digital archive will be deposited with the National Monuments Record (NMR), RCAHMW, including a copy of the final report. This archive will include all written, drawn, survey and photographic records relating directly to the investigations undertaken. NMR Digital archives will follow the standard required by the RCAHMW (RCAHMW 2015). A copy of the digital archive only will also be lodged with the Historic Environment Record, Glamorgan-Gwent Archaeological Trust.

Report

- 3.14. Following the on-site work an illustrated report will be prepared containing conventional sections to include:
- Non-technical summary
 - Introduction
 - Site location
 - Archaeological Background
 - Excavation
 - Conclusions
 - References
 - Appropriate appendices on archives and finds
- 3.15. The report summary will be provided in English and Welsh, in accordance with the Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) V1 (July 2018).

4 Resources and programming

- 4.1. The assessment will be undertaken by a team of skilled archaeologists under the overall supervision of Tim Malim, a senior member of CPAT's staff who is also a Member of the Chartered Institute for Archaeologists (MCIfA). Fieldwork will be directed by senior members of CPAT's Field Services team, with up to three members of staff present at any one time dependant on availability. Detailed CVs of all staff members are available on request.
- 4.2. In addition to the CPAT team, Cadw historic environment branch staff have agreed to be involved.
- 4.3. A period of three consecutive weeks has been allocated to the completion of the excavations. It is proposed that an opportunity will also be made available for volunteers to participate in the work over one weekend, while the excavations are ongoing; the reason being that some members of the Cymdeithas Twmbarlwm Society are not available during normal working hours. This public archaeology element is something that CPAT has considerable experience of developing and delivering as CPAT is an educational charity whose sole object is the 'education of the public in archaeology', and has provided numerous outreach and engagement projects on behalf of Cadw and other funders in the past. It is envisaged that Cymdeithas Twmbarlwm Society will provide an initial contact point for the recruitment of volunteers.
- 4.4. CPAT is also a CifA Registered Organisation and as such agrees to abide by their *Code of Conduct* (2014) and the *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (2014).
- 4.5. All report preparation will be completed by or with the assistance of the same field archaeologist(s) who conducted the fieldwork.

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- 4.6. The Society is advised that should significant archaeological remains or artefacts be revealed, additional services may be required for which a contingency should be allowed. The need for such contingencies, and their scope and potential cost, would be subject to discussions between CPAT, Cymdeithas Twmbarlwm Society and Cadw once the fieldwork has been completed. Grants for scientific dating will be requested by CPAT from the Monmouthshire Antiquarian Association.
 - 4.7. Requirements relating to Health and Safety regulations will be adhered to by CPAT and its staff.
 - 4.8. CPAT is covered by appropriate Public and Employer's Liability insurance, as well as Professional Indemnity insurance. Details are available on request.

5 Sources

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R Hankinson

27 June 2022

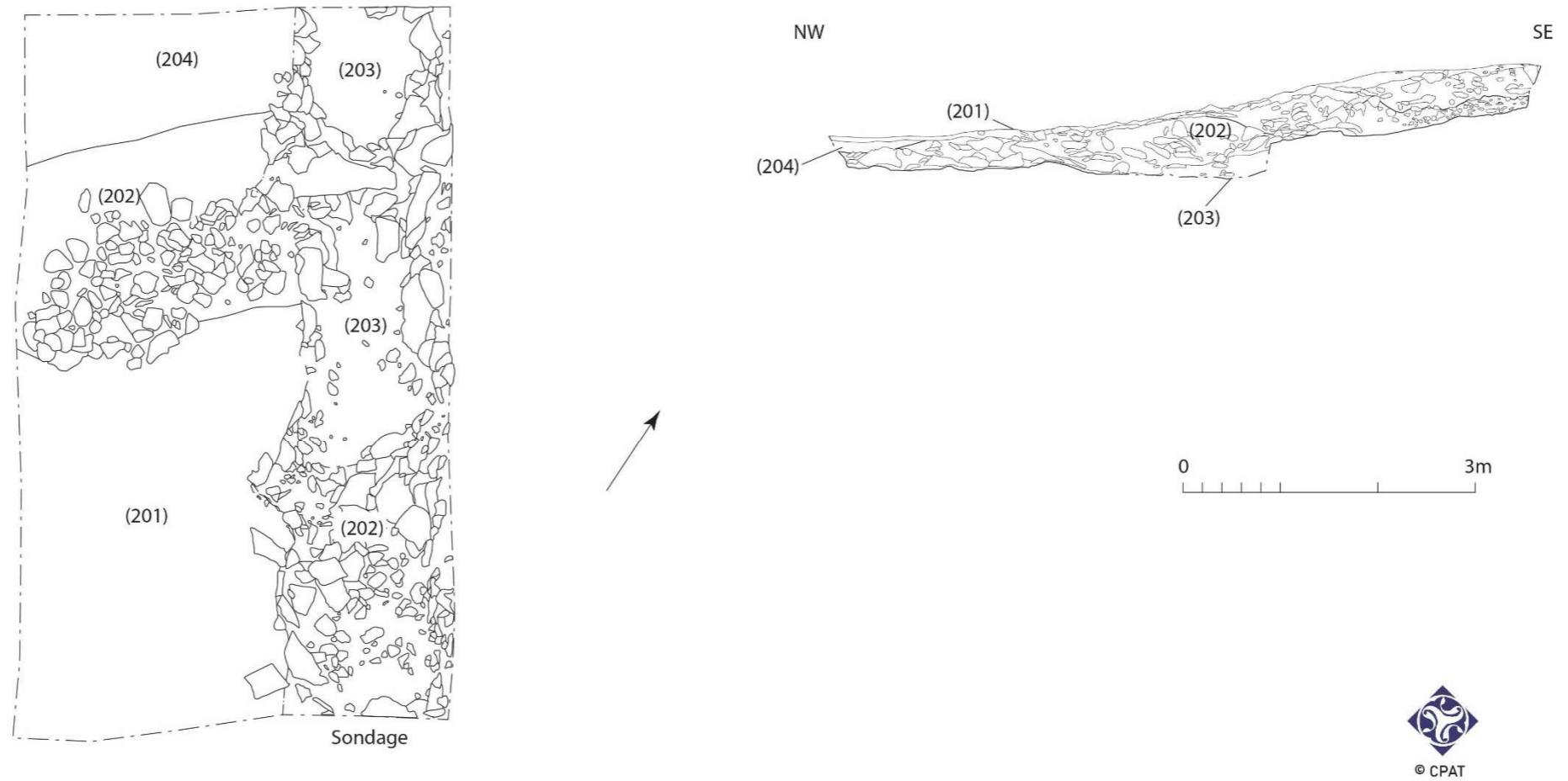
Appendix 2: Plans and drawings



Dwg. 1 Trench location plan



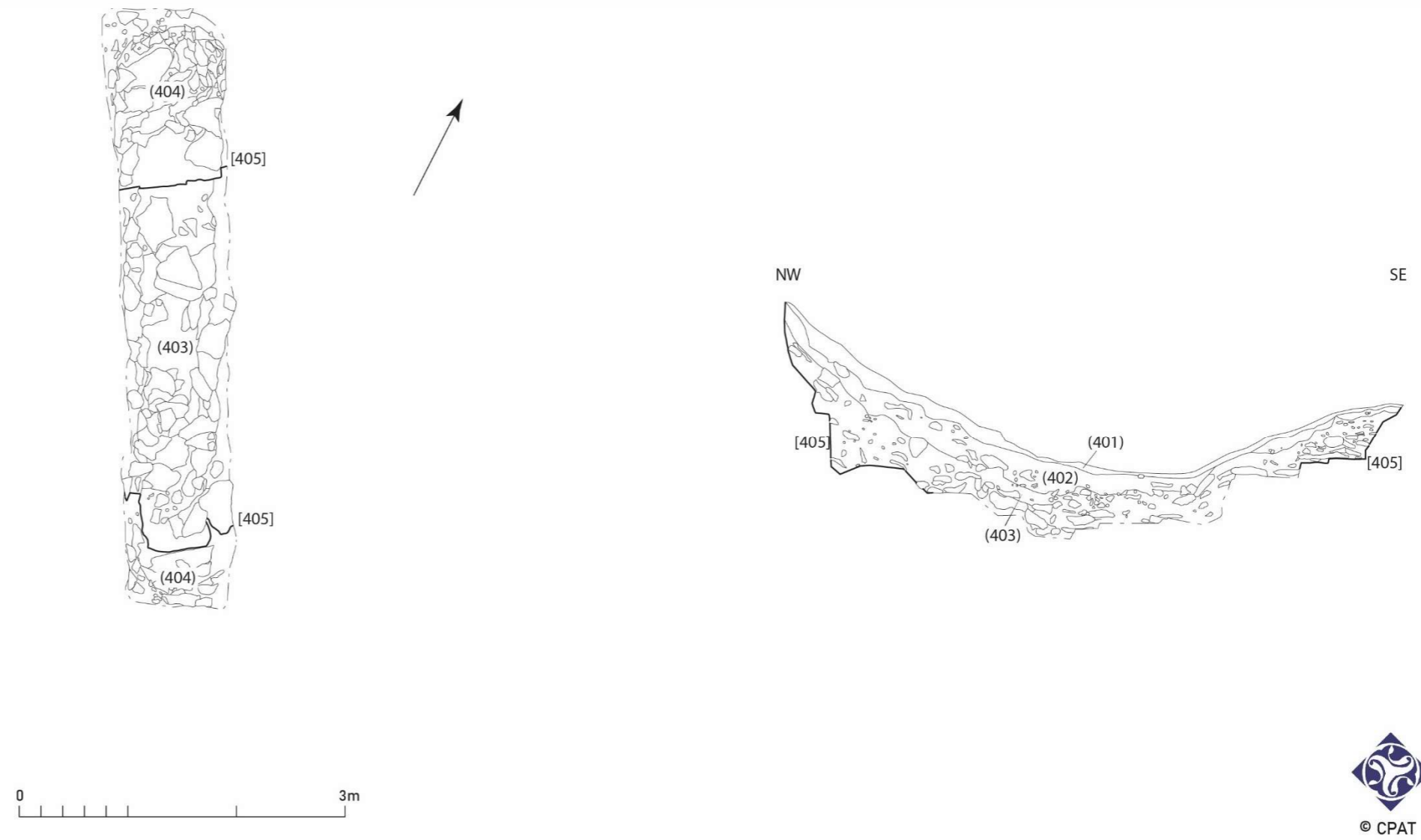
Dwg. 2 Plan of Trench 1



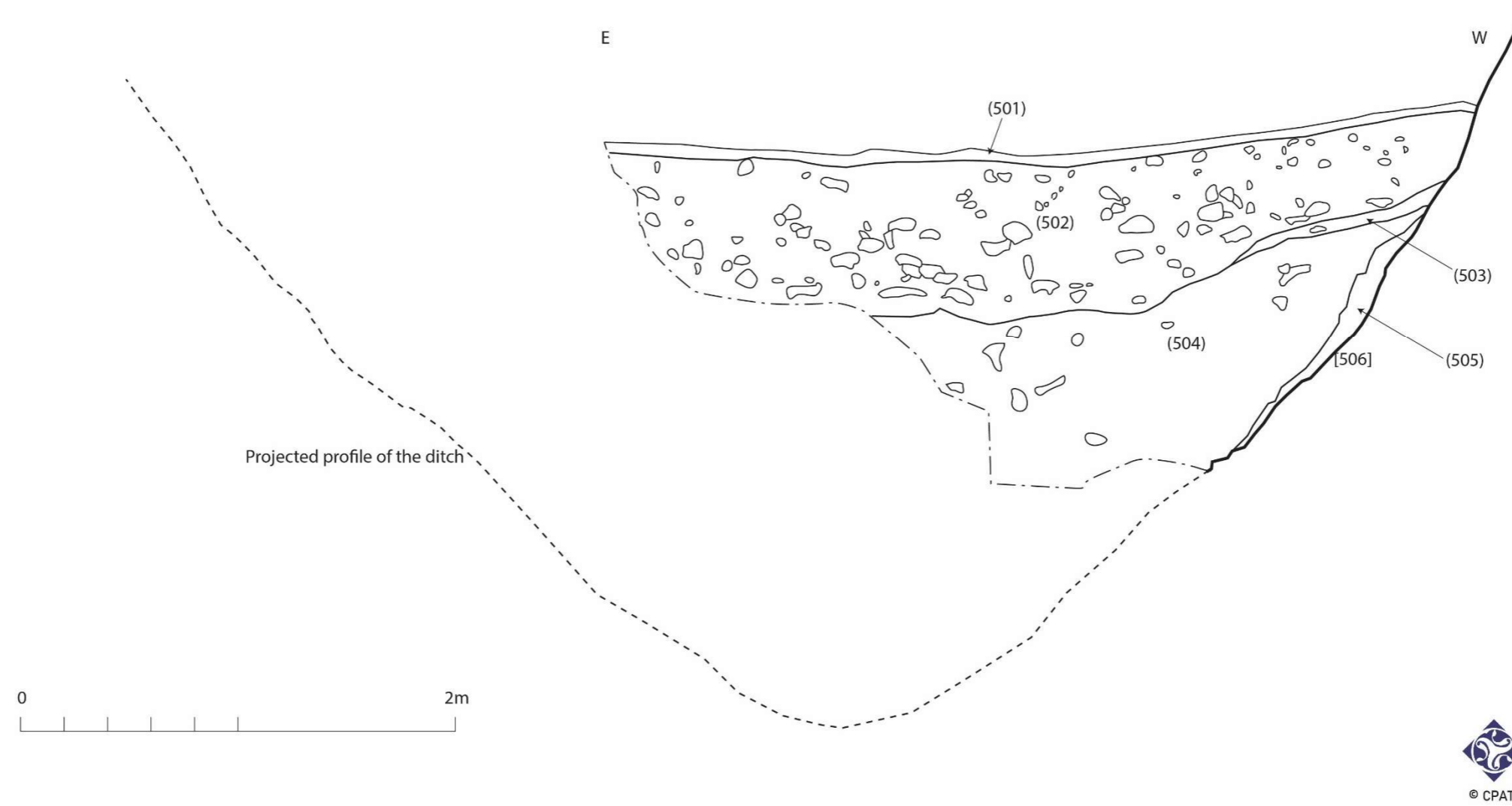
Dwg. 3 Plan and south-west facing section of Trench 2



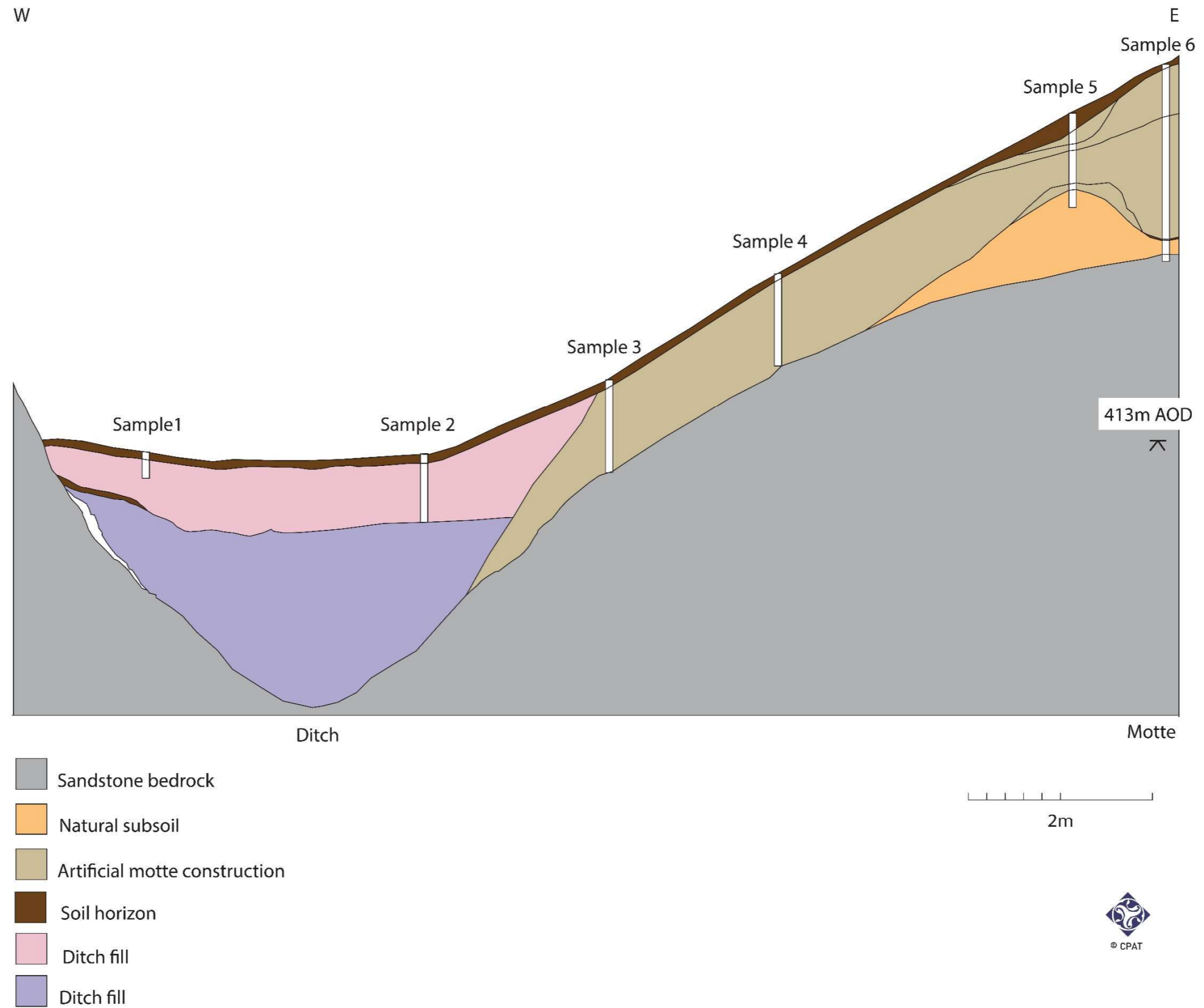
Dwg. 4 South-eastern facing section and plan of Trench 3



Dwg. 5 Plan and north-western facing section of Trench 4



Dwg. 6 North facing section of Trench 5



Dwg. 7 Schematic section showing a projection of the motte ditch and motte formation derived from the auger transect