Mumbles Hill, Swansea

Community archaeological excavation

August 2017

A report for Mumbles Development Trust
By Sarahjayne Clements BA MA ACIfA and
Richard Roberts BA (Hons)

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The Glamorgan-Gwent Archaeological Trust Ltd
Heathfield House Heathfield Swansea SA1 6EL

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Front cover: Volunteers undertaking archaeological cleaning of the main sections.

Summary

In January 2010 a small sherd of pottery was discovered on a raised outcrop of limestone - Mumbles Hill, which was identified as possibly being part of a Roman period Samian Bowl or an Oxfordshire imitation of that style of bowl. There was no previously known Roman activity at the location. A site visit was carried out in April 2010 which initially identified the site as being a possible midden due to the discovery of a large quantity of shell.

The Glamorgan-Gwent Archaeological Trust were commissioned by Mumbles Development Trust to undertake an archaeological excavation along with the local community at Mumbles Hill, Swansea to investigate the site. The fieldwork took place over ten days between the 20th of March and the 31st March 2017.

The results of the archaeological investigation identified a Roman horizon containing a variety of different shells, Roman pottery and heat-fractured stones (cobbles and fragments of 'hammerstone'); this is considered more likely to be a processing surface or floor relating to the production of seafood, rather than a midden. The work also identified infilled linear cut features beneath the Roman shell layer, possibly indicative of an earlier industrial phase related to mineral or stone extraction, though as yet unproven. Further archaeological excavation is needed to determine the full extent and nature of the shell layer and to investigate the area to west where a depression is visible, and to the east where the ground fall away to a possible lower 'platform', the location of features of potential archaeological significance.

The archaeological work was carried out to the professional standards laid down in the Chartered Institute for Archaeologists' Standard and Guidance for Archaeological Watching Briefs (*2014*).

A copy of the report and archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth and the Regional HER curated by the Glamorgan-Gwent Archaeological Trust, Curatorial Division, Swansea.

Acknowledgements

The project was managed by Richard Lewis BA MCIfA. (Head of Projects) and Martin Tuck MCIfA (Project Manager). The fieldwork was undertaken by Richard Roberts BA Hons (Project Manager), Sarahjayne Clements BA MA ACIFA (Project Archaeologist) and Hannah Bowden BA MSc (Project Archaeologist) along with members of the local community. The report was compiled by Sarahjayne Clements and Richard Roberts. The Results and Conclusions written by Richard Roberts. The illustrations were prepared by Paul Jones PCIfA (Senior Illustrator). Thanks are extended to Naomi Trodden of Mumbles Development Trust.

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Abbreviations

GGAT – Glamorgan Gwent Archaeological Trust

HER – Historic Environment Record (held at GGAT)

NGR – National Grid Reference

NMR – National Monuments Record (held at RCAHMW)

NMW – National Museum of Wales

NPRN – National Primary Record Number (in NMR e.g. 419036)

OS – Ordnance Survey

PRN – Primary Record Number (in HER e.g. 02999w)

RCAHMW – Royal Commission on the Ancient and Historic Monuments of Wales

1. *Introduction*

1.1 Project background

In January 2010 a small sherd of pottery was discovered on Mumbles Hill which was identified as possibly being part of a Samian Bowl or an Oxfordshire imitation. A site visit was carried out in April 2010 which identified the site as being a possible midden due to the presence of a large quantity of shell. The site lies on a raised outcrop of limestone.

The Glamorgan-Gwent Archaeological Trust were commissioned by Mumbles Development Trust to undertake an archaeological excavation along with the local community at Mumbles Hill, Swansea to investigate the site. The fieldwork took place over ten days between the 20th of March and the 31st March 2017.

1.2 Location and topography

The Mumbles Hill 'Midden' site lies roughly 15m to the southwest of the edge of the coastal slope and approximately 70m to the northwest of the wireless station mast and 114m to the southeast of the Trig point. The site's location is given as NGR SS62488751 (see Figure 1).

The limits of the site, i.e. the area of the site cleared of scrub undergrowth, are defined to the north and northeast by the coastal path and cliff, whilst dense scrub undergrowth surrounds the site to the west, south and southeast. It is likely that the site extends beyond the area cleared of scrub. The site as revealed comprises a raised area or plateau, approximately 11m north-south by 12m east-west, with depressions/scoops to the northwest, northeast and southwest, and a scarp with a lower platform extending a further 8.5m or more to the east and southeast. To the southwest of the site the ground slopes away towards an area characterised by emplacements and platforms for military buildings dating to World War II (see Figures 2 and 3).

The superficial geology is Till Devensian – Diamicton and the bedrock geology is Limestone of the Oxwich Head Limestone Formation (BGS 2017).

1.3 General historical and archaeological background

Prehistoric activity is evident in the vicinity of the Mumbles, with Bronze Age timber structures along the Oystermouth foreshore (PRN 06699w, 06700w) and finds including a Neolithic stone axe (00468w), a Middle Bronze Age leaf-shaped Copper sword (NMW record number 4965) and a Middle Bronze Age dirk (NMW record number 41134) which suggest like the Gower peninsula this area was also inhabited during this period (Dunning 2003, 5-6).

There is direct evidence of Roman activity in the area. When the parish Church of All Saints (00472w) was being extended in 1860, workmen discovered the remains of a Roman tessellated pavement or mosaic (PRN 00281w), which has been interpreted as belonging to a high-status site, such as a Roman villa (PRN 00466w, NPRN 419036). The earlier reference to mosaic dates from the 1690's when Issac Hamon noted that the churchyard 'was paved with small bricks like discs…of divers colours as red, white, yellow' (Cowley 1990, 1). These fragments of pavement are on public display within

the church, and have been dated as fourth century (Arnold and Davies 2000, 84). Additionally, Roman coins have been recovered in the vicinity: two discovered in 1882 have been dated to the early third century AD (RCAHMW 1976, 110). The interpretation of the building as a villa remains speculative: it is possible that it was a *Mansio* or residence for visiting officials (Cowley 1990, 1).

By 1100AD the area was under Norman control, after Henry Beaumont, Earl of Warwick, conquered the Welsh commot of Gwyr (Gower). The earliest documentary evidence relating to the Church at Oystermouth is from 1141, when Maurice de Londres received the income of the Church (Dunning 2003, 6). The castle had been built some time before 1215AD as it is recorded that it was burned down by the army of Rhys ap Gruffydd at this date (Gabb 1986).

Cartographic evidence suggests that the settlement of Mumbles only grew in size after the mid-1850s, in part due to an increased holiday trade; by this date at least eighteen lodging houses were in existence. Links to the sea were strong, with the growth of the Oyster and fishing industries. Limestone extraction and lime production was also important with quarries at Norton and Southend. Features associated with the Iron extraction industry are also known in the area. Iron ore was extracted from Mumbles Hill and Limeslade (Dunning 2003, 6).

1.4 Specific archaeological background

The Mumbles Hill Midden (06318w), its location given in the HER as NGR SS62488751, is visible in the sides of a cutting for a footpath with an exposed length of 9.8m, and a depth in section 0.5m, containing shells and heat-cracked stone (HER).

Nearby is Mumbles Hill Fissure (PRN02999w), located at NGR SS625875, some 150m to the north-west of the Mumbles Hill Midden site and reported to have contained human bones (Oldham 1986, 63); the site comprises a wedge-shaped fissure discovered in 1810 during quarrying. The hollow was filled with breccia and mould and contained a large number of human bones, which reportedly appeared to have been the remains of bodies thrown in after battle and showed no evidence of regular burial. No information on the location of the bones is available (HER). Similarly, human bones (PRN00467) were also reportedly found in limestone quarries located 180m to the north-west of the midden site and there is a tradition that there was once a chapel at the location (Evans, 2003-2004). Some 440m to the east of the midden site lies Inner sound cave PRN01426w where remains of a straight-tusked mammoth were recovered in 1838 (Oldham 1986, 40).

Prehistoric flint scatters have been recorded 670m to the south west of the midden site at Thistleboon drive (PRN00896w), and to the west of the site at 840m and 910m distance (PRN00897w and PRN00898w, respectively; see Locock 2000). Possible Roman finds, including pottery (PRN 01928w) were reportedly discovered 870m to the west of the site (HER).

In addition, two extraction sites located 270m and 230m to the south-east of the midden site - a mineral vain (E002146; PRN06523w) and a mine adit (E003297; PRN06665w), emphasize the utilisation of the area for mineral extraction (HER) into the post-medieval period.

More recent remains include several emplacements and defensive remains on Mumbles Hill (PRN02244w) relating to World War II; these features are today the most visible remains on Mumbles Hill (HER).

2. *Methodology*

The two main sections to either side of the previously cut disabled access path were archaeologically cleaned and recorded using a combination of drawn, photographic and written record. Following this, two trenches were excavated to the top of archaeological horizons, one on either side of the previously cut disabled access path: Trench 1 (T1), 3m x 2.25m, located to the west of the disabled access path; and Trench 2 (T2), 3.05m x 2m, located on the east side (see Figure 3). A sample was taken of the upper archaeological horizon, i.e. the shell layers (**002**) and (**011**) within each trench, for environmental analysis. The area sampled within Trench 1 (T1) (see plate 7) measured 1.1m x 1.5m by 0.35m deep, whilst that within Trench 2 (T2) (see plates 8 and 10) measured 1.2m x 1.05m was excavated to a depth of 0.37m; a 100% sample was taken for each of the sample areas, with material bagged and removed for further analysis (see Figures 3-8).
On completion of the excavation, a protective layer of terram membrane was laid over the excavated trenches and the area backfilled with the excavated spoil (Plate 12).

The work took place over two weeks (weekdays only) between the 20th March and the 31st March 2017 in both very wet and dry conditions.
The volunteers undertook the archaeological evaluation using hand tools (spade, shovel, mattocks and trowels) and gained knowledge of recording stratigraphic deposits, archaeological photography, section drawings and finds recording. Volunteer numbers varied throughout the excavation from 5-9 people per day.
A full written, drawn and photographic record was made of all archaeological contexts, in accordance with the GGAT *Manual of Excavation Recording Techniques*. All significant contexts were photographed using a 14MP digital camera. Drawings (plans and sections) were produced at appropriate 1:10 and 1:20 scales, and context descriptions were produced by volunteers under the guidance of GGAT staff.

An archive of archaeological records relating to the fieldwork (including artefacts and ecofacts subject to the agreement of the site owners; excepting those that may be subject to the *Treasure Act* (1996) and/or *Treasure Order* (2002)) and an archive of records relating to the preparation of the reports has been prepared to the specifications in ICON's guidelines and *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (National Panel for Archaeological Archives in Wales 2017).

After an appropriate period has elapsed, copies of the report and archive index will be deposited with the regional Historic Environment Record (HER). A copy of the report and archive index will also be deposited with the National Monuments Record, RCAHMW, Aberystwyth.

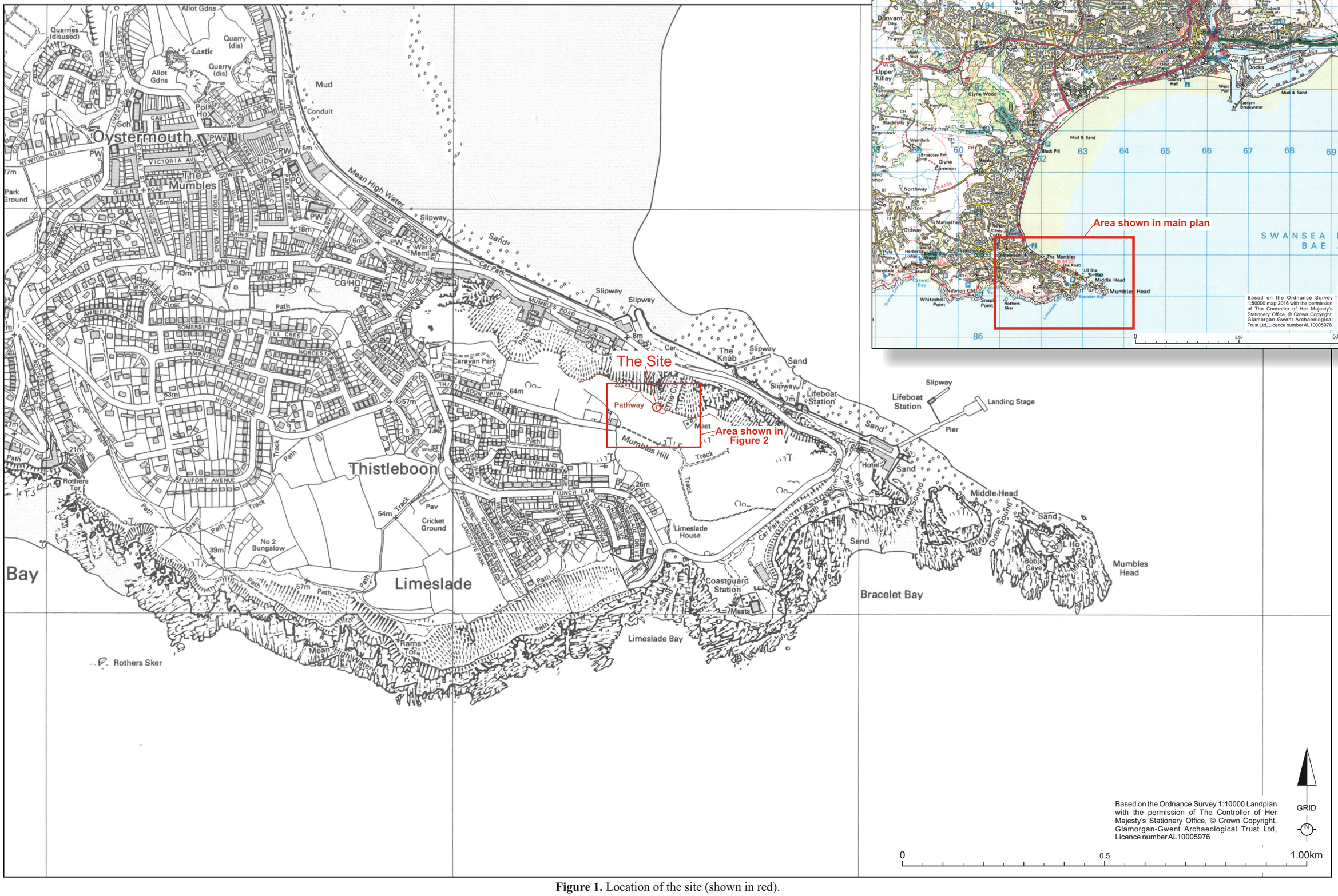


Figure 1. Location of the site (shown in red).

Figure 2. Location of the site (shown in red). For detailed site survey results see Figure 3.

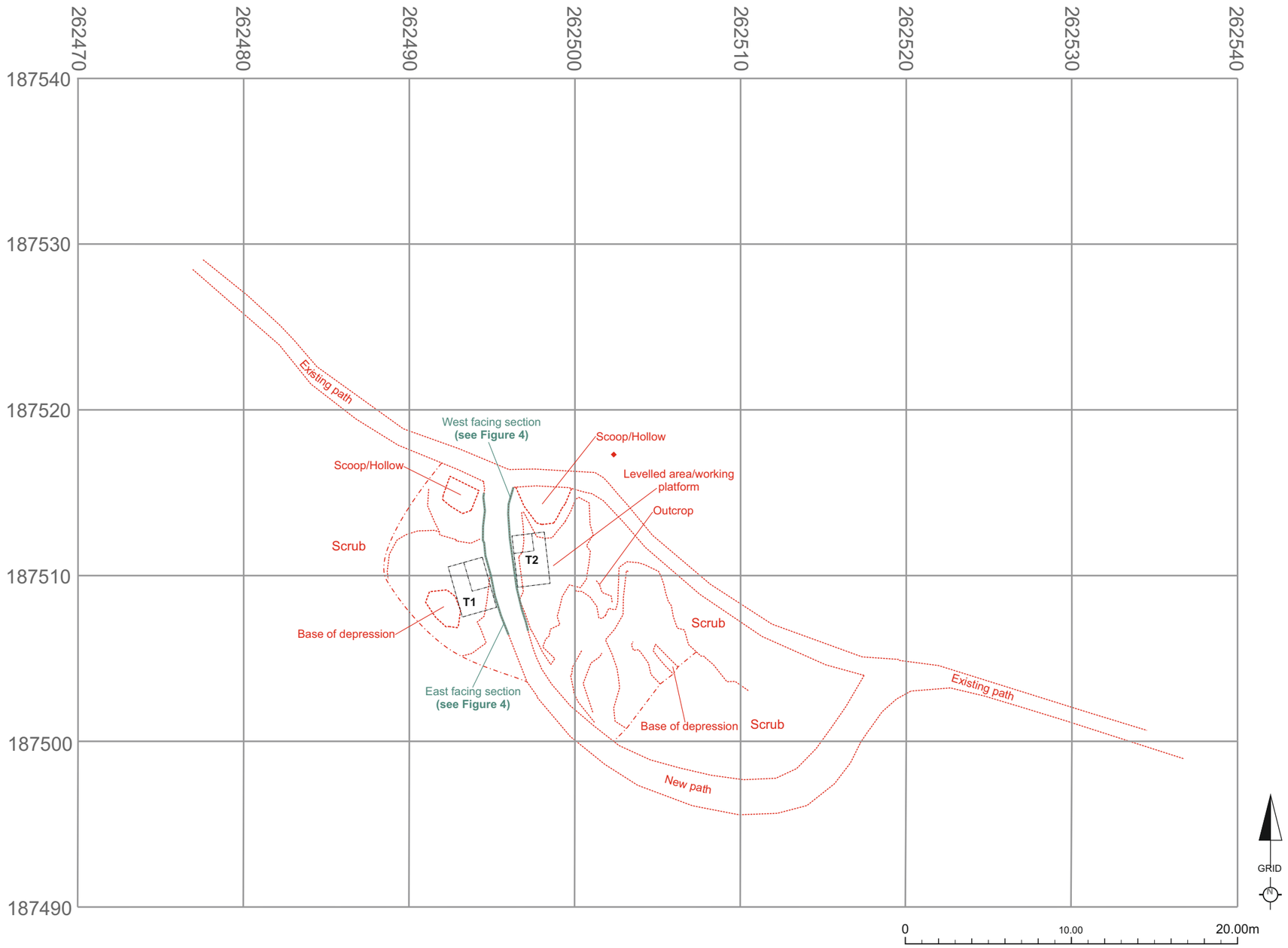
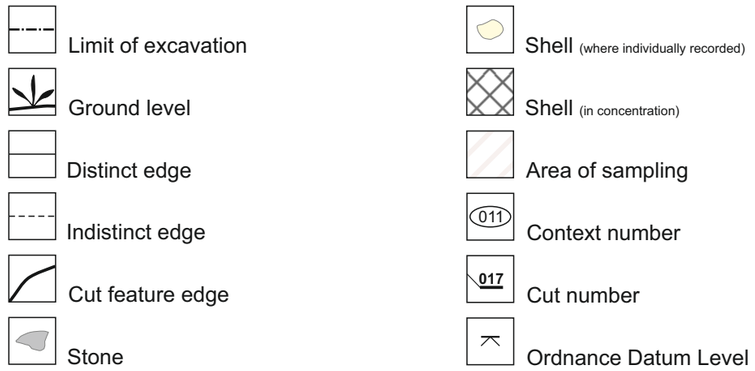


Figure 3. Surveyed site data.



Conventions used in plan and section figures.

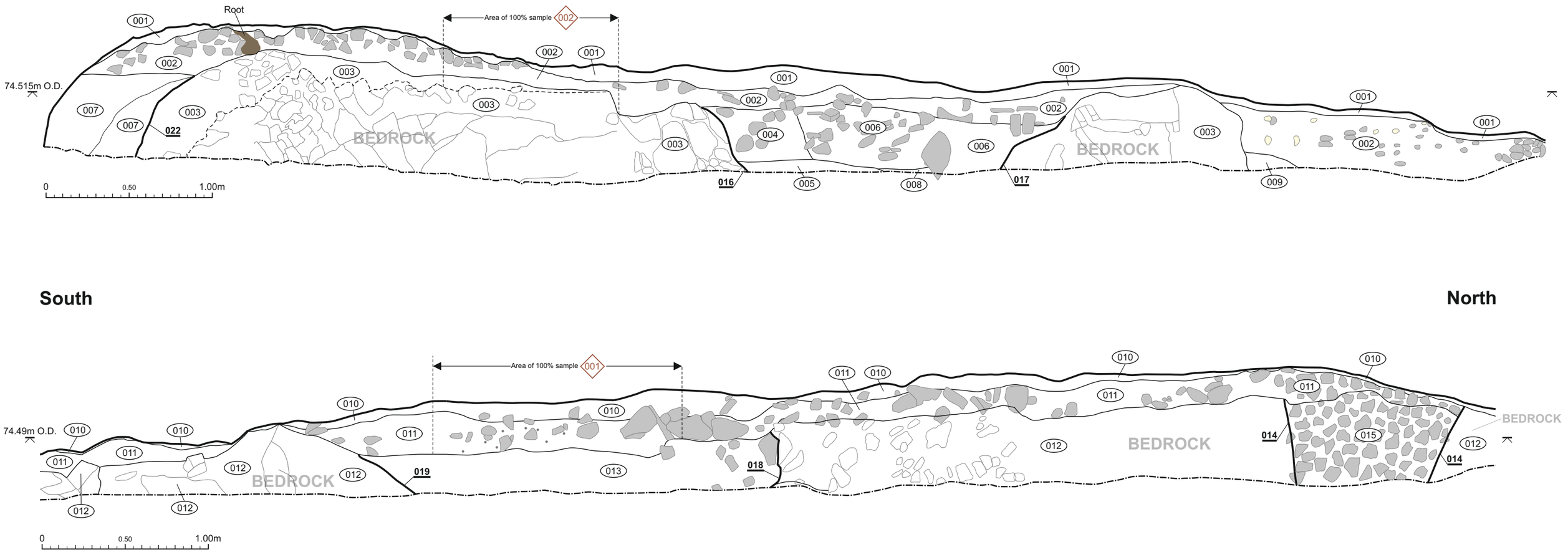


Figure 4. Main sections: west facing section (above), east facing section (below), 100% sample areas shown.

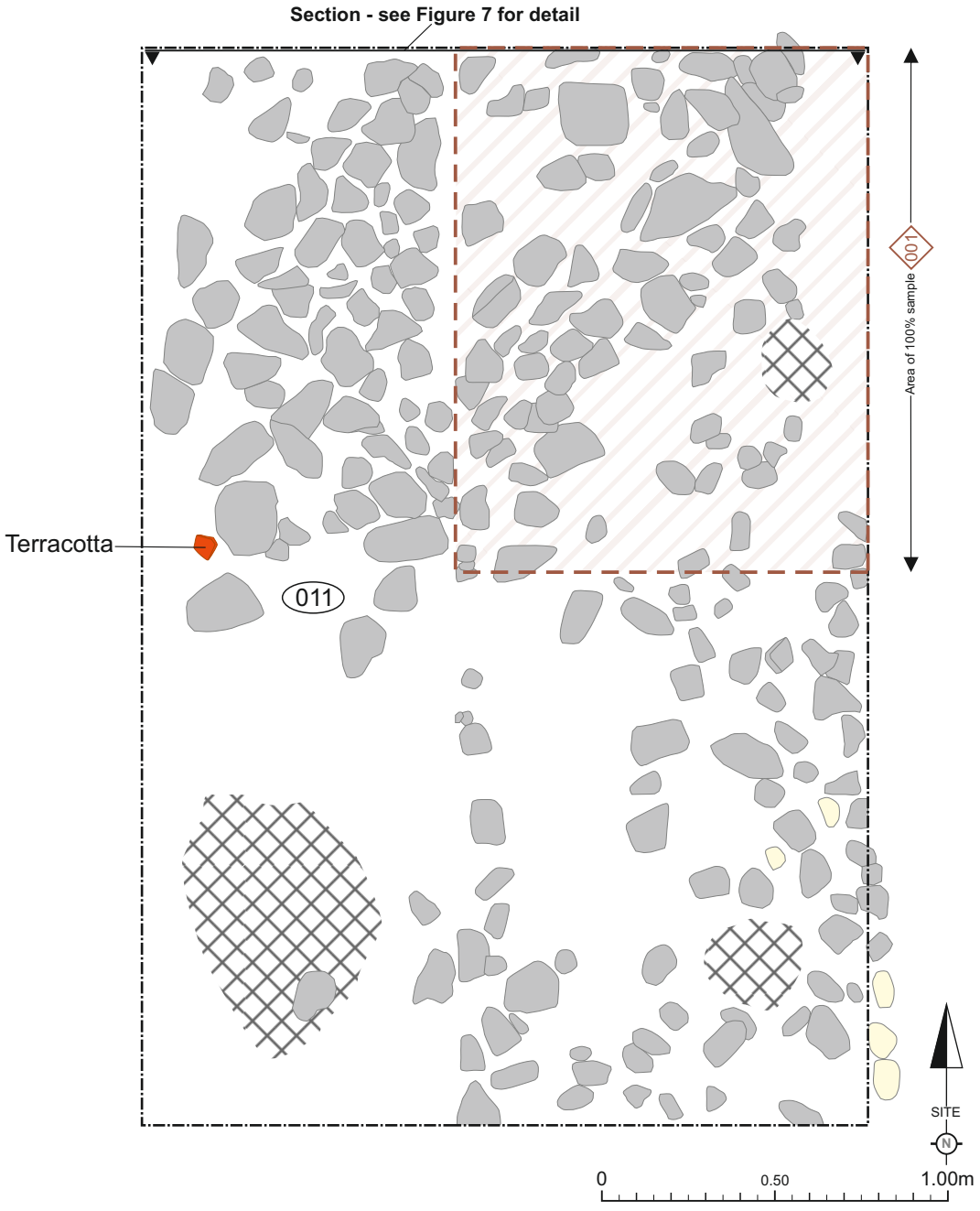


Figure 5. Trench 1 (T1) showing 100% sample area 001.

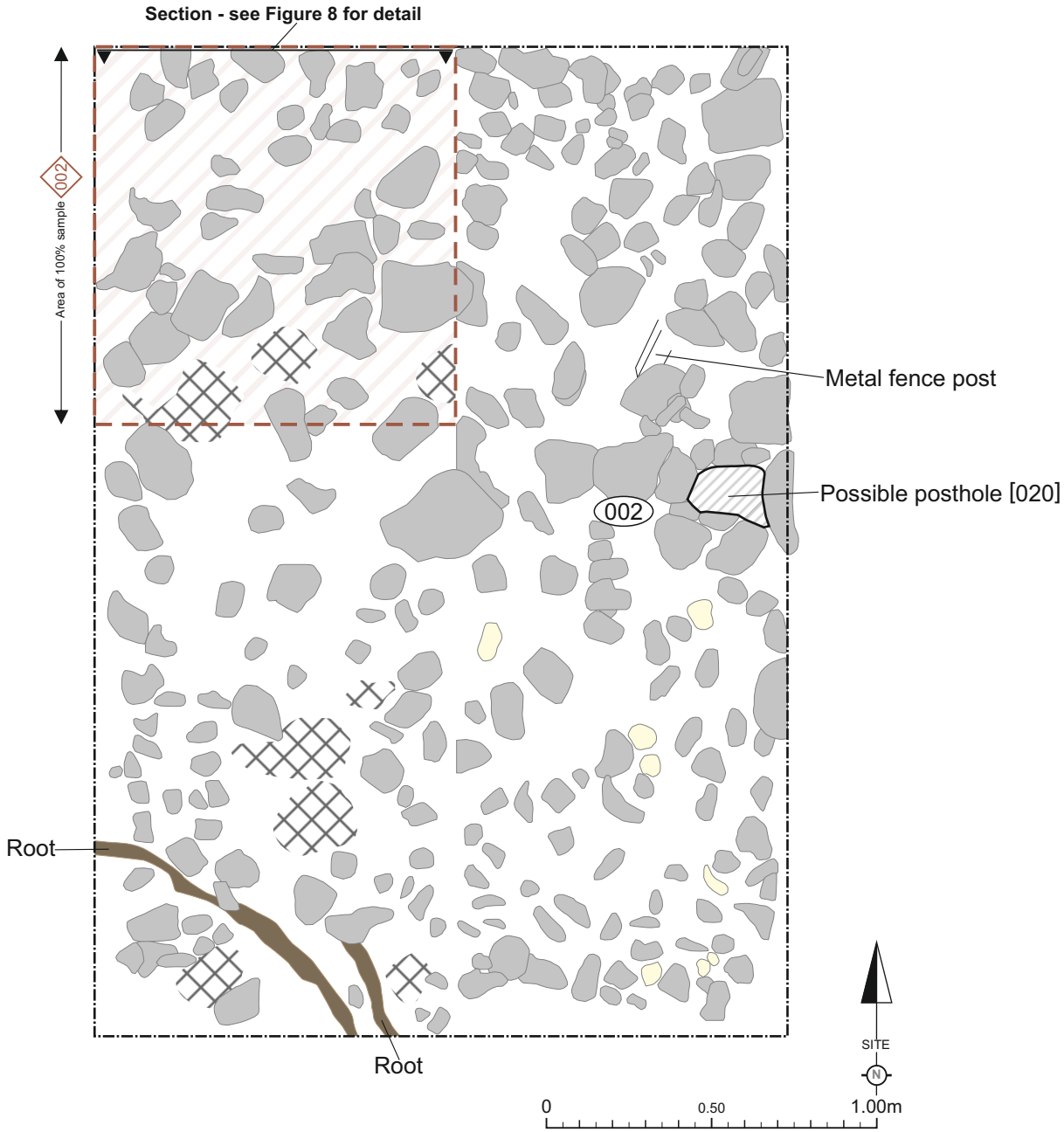


Figure 6. Trench 2 (T2) showing 100% sample area 002.

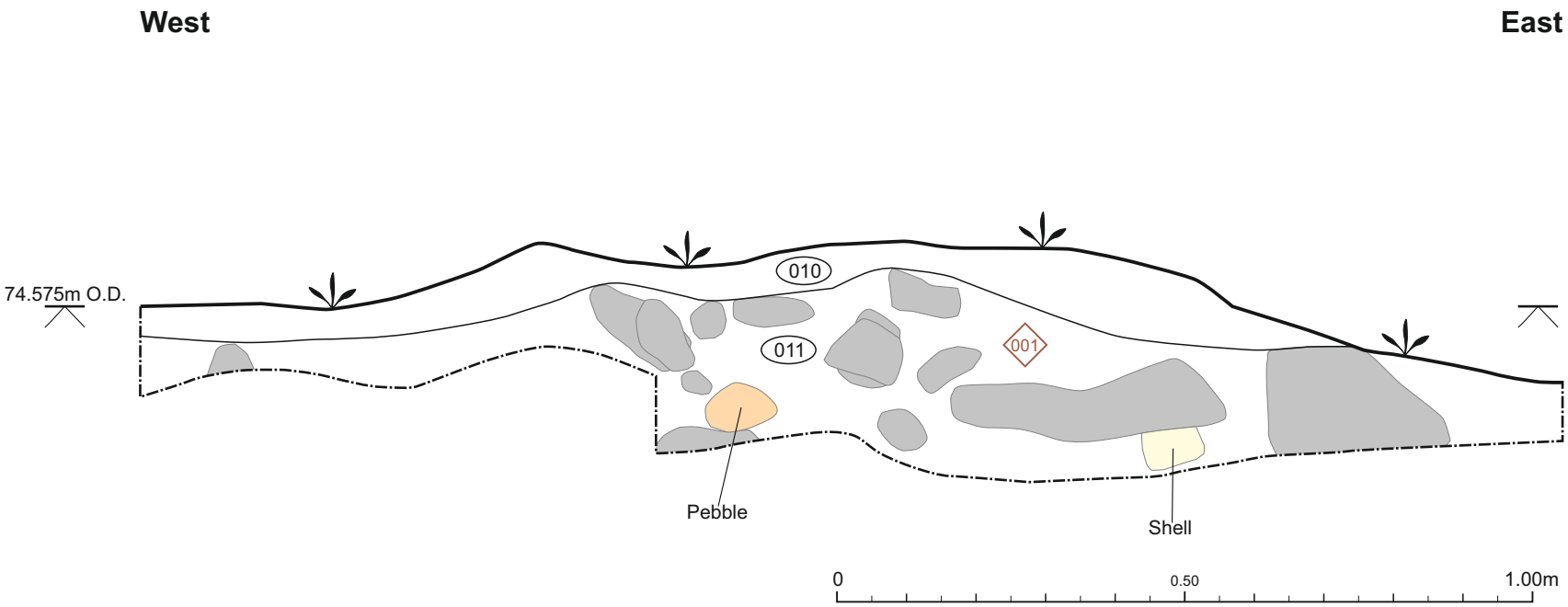


Figure 7. South facing section Trench 1 (T1).

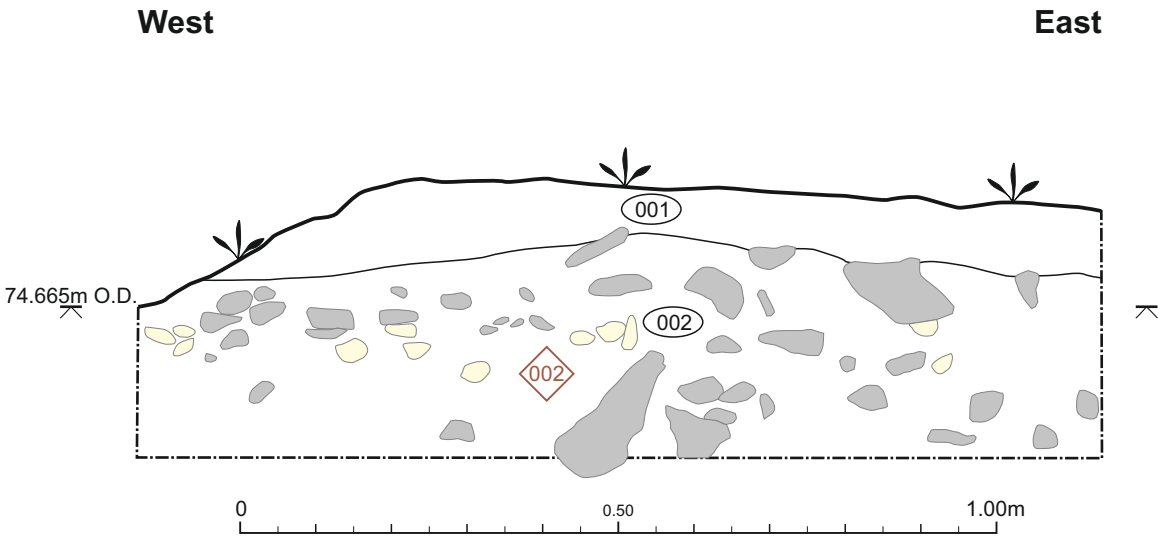


Figure 8. South facing section Trench 2 (T2).

3. *Results*

3.1 The main sections

The archaeologically cleaned east and west facing sections (see Figures 3 and 4 and Plates 3 and 4) along the previously cut north-south aligned disabled access path through the supposed midden site at Mumbles Hill revealed, immediately beneath an average of 0.15m of topsoil (**001** and **010**), a single upper archaeological horizon (given as **002** and **011**), almost extending across the entirety of both sections with a varying thickness of between 0.01m - 0.45m; this horizon comprised mollusc shells (a variety of shell types noted: oyster, cockle, limpet, whelk and winkle), heat-fractured stone ('potboilers' - beach cobbles or pebbles, which included fragments of pebbles which retained evidence of previously being utilised as 'hammerstones'), and pottery sherds of Roman date (e.g. Black Burnish, Grey and Samian wares). The horizon of shell and 'pot boilers' (**002** and **011**) appears to have formed a relatively level working surface or floor, set on a raised area or plateau, delineated by a depression to the northwest and a scarp with a sunken area to the east.

Also revealed within the main sections was evidence of two cut features [**014/022**] and [**016/017/018/019**] cut into the limestone bedrock (**003/012**), which had been in turn cut by the insertion of the disable access route; both cut features, found beneath and 'sealed' by the shell and stone horizon (**002** and **011**) are considered evidence of possible quarrying activity of the Roman or late Pre-historic periods. Neither feature was bottomed.

Cut feature [**014**], 0.65m deep and 0.8m wide at its base splaying to 1.075m wide at its top is visible in the east facing section as a straight very steep-sided cut; it is equivalent to cut feature [**022**] in the west facing section and both are located at the northern end of the main sections and the site. Feature [**022**], 0.5m deep, has lost its northern extent to the excavation of an adjacent quarry scoop (unexcavated), forms the eastern terminus of feature [**014**]. The cut feature [**014**/**022**] is filled with what appears to be a homogenous deposit predominated by angular waste limestone rubble ranging from 5-13cm in size within a mid-brown soil and root matrix (**015**/**007**).

Cut feature [**016**/**017**] in the west facing section, has shallower angle-cut sloping sides, 0.4m deep on its north side and 0.45m deep on its south side. This feature is the equivalent to cut feature [**018**/**019**] in the east-facing section. Cut [**018**] to the north side of the feature, is 0.35m deep (below deposit (**011**)), and appears almost vertical with a slight undercut at its upper extent, whilst cut [**019**] to the south is a very gentle or shallow-angled slope, extending 0.25m below deposit (**011**); the shallow sloping cut or bedrock edge continues to the surface.

Cut feature [**016**/**017**] was found to contain four fills (**004**; **005**; **006**; and **008**). These were two lower partially exposed fills (**005**) and (**008**), which extended part way from the northern edge of the cut [**016**]: fill (**005**), 0.06m revealed depth, was a red/brown clay with occasional sub-angular stones of varying sizes with root intrusions, and underlay upper fills (**004**) and (**006**), and a further lower fill (**008**), 0.05m exposed depth, a dark brown sand with occasional sub-angular stones, underlying upper fill (**006**). The exact relationship between adjacent fills (**005** and **008**) was not fully established, though it appears that (**008**), may overlie the southern edge of (**005**), and therefore be later in the sequence. The upper fill (**004**), 0.35m deep, a mid-brown, silty clay loam with roots and occasional small stones, was contained by cut [**016**] on its north side. Fill (**004**) appears have been subject to a later recut 0.45m to the south,

which was subsequently filled by fill (**006**), and which was contained by cut [**017**] on its south side; fill (**006**), 0.54m deep, was a mid-brown loam with a moderate abundance of angular and sub-angular stones of varying sizes and roots.

Whilst a multiple sequence of fills was noted within cut feature [**016**/**017**], just a single fill (**013**) was recorded for the equivalent cut features [**018**/**019**] within the east-facing section. Fill (**013**), 0.3m deep, a brown, sandy clay with stones up to 250mm in size also contained shell fragments. It should be noted that the interface with the horizon above, deposit (**011**), rises c.0.8m from its northern edge (i.e. cut [**018**]), where there is also a notable preponderance of stone within the fill, may indicate a difference in fill equivalent to (**004**), not clearly identified during the excavation.

3.2 Trenches 1 and 2

The archaeological cleaning of two trenches, Trench 1 (T1, Figure 3) and Trench 2 (T2, Figure 3) to the west and east respectively of the path cut for the disabled access, allowed further examination, recording of the surface and sections across the upper archaeological horizon (**002**/**011**) within a limited area, identifying notable concentrations of shell debris and individual shells, along with the distribution of stone across the area (see plates 3 and 4). Along with shell debris, heat-fractured cobbles, and Roman pottery sherds, the horizon produced the occasional fragment of 'hammerstone' and also small pieces of quartz crystal; a possible indication of mineral ore extraction and processing. The trenches were planned and significant sections drawn (see Figures 5-8).

Within Trench 1 a concentration of stone was noted crossing the northwest angle of the trench near the adjacent depression, *c*.2.45m long (aligned southwest – northeast) by *c*.1.15m wide (i.e. north-west – southeast), with a looser scatter within south east quadrant of the trench (see plate 5). The concentration of stone is certainly a prominent linear feature, whilst not displaying any obvious or well-constructed facing along its edges, may just possibly be structural (perhaps relating to a raised platform or the base/footings of a structure or shelter, or such), although further examination through excavation would need to be undertaken to attempt to confirm this. A particularly large concentration of shell debris (c. 0.75m by 0.56m), part of deposit (**011**), was noted within the southwest quadrant of the trench, in an area of less stone, whilst two smaller concentrations of shells were identified towards the western side of the trench, indicating the possible location of processing activities (see Figure 5). Fragments of Roman pottery was recovered from deposit (**011**), in particular during the sampling of northeast part of Trench 1 (see sample area 001, Figure 5).

Within Trench 2 the stone spread (part of deposit **002**) was more or less uniform across the area, though two parallel slight curvilinear, though discontinuous arrangements of larger stones were noted extending east-west across the northern third of the trench, associated with concentrations of shell debris (part of **002**) (see plate 6) including the possible post setting or posthole [**020**], depth 0.285m and 0.2m wide (min), that was identified at the eastern extent of the trench with tightly spaced packing stones (**021**) set around a void left by the removal of topsoil (**001**) during the excavation of the trench; the packing stones were left *in situ* and extent of the cut within (**002**) for the post setting was not investigated (see plate 9). Remains of a metal fence post or stay of L-shaped section, were noted 0.3m to the northwest of the possible posthole; this is consistent with World War II remains, such a perimeter fencing noted elsewhere adjacent to the coast path (see plate 6). A further concentration(s) of shell debris was

noted towards the southwest corner of the trench around an area disturbed by tree roots (see Figure 6). It should, however, be noted that a considerable amount of shell debris (part of **002**) was also recovered from the northwest corner of the trench (sample area 002), despite not being immediately obvious at the surface cleaning stage. Fragments of Roman pottery was recovered from deposit (**002**), particularly from the sampling of northwest part of Trench 2 (see sample area 002, Figure 6).

4. *The Finds*

The site produced just 42 sherds (229g) of Roman pottery, probably from no more than seven vessels, ranging in date from the 2nd to the 4th century AD. The great majority were fragments of Black burnished ware, the major cooking ware of the later 2nd to the 4th century. Samian is the only fineware, and then represented only by three small fragments of vessels which has been burnt (See Webster P in Appendix III, below).

A small quantity of animal teeth and bone were recovered from (**002**) and (**011**) which could be further evidence of diet/cooking. More excavation is needed to determine the nature of the activity and processes taking place at the site.

A square profile nail was recovered from the topsoil (**001**). These were used from the Roman period onwards however this context is not securely datable. Modern finds were also recovered from this layer as with (**010**), the corresponding layer on the opposite side of the path. Whilst carbon dating was planned, no suitable material was recovered.

A large amount of stone objects or material was recovered from the excavation - overwhelmingly heat fractured cobbles or fragments of cobbles. The cobbles, largely rounded/sub-rounded water-worn coarse sandstone or quartzite are considered to have originated from nearby beach deposits, and have been brought up from the sea shore to the site – the geology of the site itself being limestone. Among the cobbles were a small number of discarded 'hammerstones' and 'hammerstone' fragments, which had also been used as 'potboilers'. The latter, generally hard heavy rounded stones which retain distinctive pock-marked surfaces from use as hammers, are indicative of both quarrying and other processing activities which had occurred either at the site/or in the vicinity. The stone material was examined as bulk finds, and is quantified below:

From the cleaned and excavated area (an area 2.25m x 3m to a depth of 0.35m) of Trench 1 (T1) some 91 cobbles/heat fractured cobble fragments (i.e. 28647g) were retrieved from context (**011**) in total. This included stone material from the sampled area (sample area 2 measuring 1.5m x 1.1m by 0.25m deep) excavated through deposit (**011**), which produced 68 cobbles/cobble fragments (24233g).

Similarly, from the excavated area (an area of 3.05m x 2m by a depth of 0.37m) of Trench 2 (T2) some 84 cobbles/cobble fragments (i.e. 29331g) were retrieved from context (**002**) in total. This included heat fractured cobble stone material from the sampled area (sample area 2 measuring 1.2m x 1.05m x 0.26m deep) excavated through deposit (**002**), which produced 62 cobbles/cobble fragments (24373g).

5. *The Samples*

A number of mollusc shells were recovered from the site (specifically from context **002**) and it is this which initially led to the site being interpreted as a shell midden. Also recovered from the same deposit was a considerable quantity of heat-fractured beach cobbles in association with Roman cooking wares, and eating wares; it is likely this material represents a processing surface area or floor, given its relatively level spread and the mixture of material contained in association, rather than a midden. The activity carried out on site appears to have included the preparation, cooking (using hot-stone technology to heat the cooking water) and consumption of shell fish. The Romano-British diet is known to have included Oysters both cooked and uncooked (Evans, forthcoming: 28 and 30).

Only a small amount of charcoal was recovered from the environmental samples and there was no visible evidence within the area examined for burning. This not necessarily unsurprising as most of the charcoal adhering to the heated cobbles would have been washed off the cobbles during their immersion in water. Major charcoal deposits would only be expected from the hearth itself, or in areas of hearth clearing; these were not revealed by the excavation.

The interpretation of the deposit as a probable processing surface for the preparation of seafood (rather than a midden) is supported by the sparse archaeobotanical evidence. In particular, the scarcity of charcoal was notable. No *in situ* fire pits for steaming open shellfish were found in the excavated trenches, but it is likely that these were located in another part of the site (Carruthers, W. 2017; see Appendix III for full paleo-environmental report).

6. *Conclusion*

The archaeological cleaning and excavation/sampling exercise carried out at the supposed midden site at Mumbles Hill has helped to clarify that we are dealing with a Roman site given the finds of Roman pottery, and also that the site is not a midden or rubbish heap, but perhaps better interpreted, given its extent and nature (i.e. the mix of shell, pottery and heat-fractured stone), as a processing or working surface/floor associated with food preparation and cooking, possibly also consumption, littered with the discarded debris of the activity taking place at the site. The exact limits of the shell and stone deposit (i.e. contexts **002**/**011**) were not fully established by the excavation, but appeared to extend for over 9m north-south, whilst its limits east-west have not been definitely revealed, but extend at least c.6m east-west. What can be stated, however, is that the deposit (**002**/**011**) is extensive, relatively thinly spread with an average thickness of 0.15m - 0.26m (though deepening in places to fill undulations in the underlying bedrock and over the surface of the slumped fills of cut features), also notable is that the surface of the layer (**002**/**011**) would have provided a relatively level surface across the site. It is therefore considered, that the shell and stone horizon (**002**/**011**) is far more indicative of a processing or working surface/floor.

The existence of two linear cut features, [**014/022**] and [**016/017/018/019**], beneath the processing floor surface horizon (**002**/**011**), of Roman or earlier (possibly late prehistoric?) date is of some interest. The fill of cut [**014/022**] would appear to consist largely of back-filled limestone quarry waste, whilst the fills of cut [**016/017/018/019**] also appeared to have included an amount of quarry waste material. The linear cuts revealed in the main sections appear to lead to/or lie between what now appear as depressions or scoops/hollows located at the north and west of the site (see Figures 3, 4 and 5). The cut features, and the hollows/scoops may relate to stone/ore extraction or exploratory trial excavation, but there is a possibility that the major depression, c.8m in diameter at its upper edge, located adjacent to and southwest of Trench 1 might be more significant – similar features have been revealed to be habitation sites (round huts/houses) on investigation elsewhere. The platform/depression to the southeast of and below Trench 2 might also be worthy of investigation. Further excavation would be required to examine the exact nature of, and relationship between these cut and sunken features.

Whilst no definite structural features, apart from the post-setting/fence post, were revealed by the surface clean or during the subsequent sampling of Trenches 1 and 2, linear arrangements of stone might indicate the former location of working platforms, shelters, perhaps in association with other linear features (e.g. wooden or woven wattle fences/windbreaks). It is possible that further excavation might yet reveal hard structural evidence. Further extended excavation is recommended to allow further examination of the already revealed horizon and underlying cut features, and also to

investigate the adjacent sunken areas/depressions to the west and east, that are likely to provide vital information as to the full nature of the site.

7. *Feedback and Legacy*

Besides the archaeological aims of the excavation the project was designed with general learning outcomes (GLO's):

1. Enjoyment, Inspiration and creativity
2. Knowledge and understanding
3. Skills
4. Attitudes and values
5. Action behaviour and progression

To measure how well these had been achieved feedback was collected by asking volunteers to fill in individually numbered questionnaires which took the form of tick boxes where they were asked to grade five statement as:

A. Agree Strongly
B. Agree
C. Neither agree nor disagree
D. Disagree
E. Strongly disagree

These statements were:

1. I had an enjoyable time
2. I understand more about the past
3. I found out how to do some new things
4. I didn't realise there was so much to archaeology
5. I am now more likely to attend events of this type

There was also room for free text which was designed to obtain more detailed feedback. Responses from volunteers:
'Had many new enjoyable experiences. Amazing excavation'
'It was fun to take part in and learn all the new things about excavation'
'Was well set up and very fun taking part to discover more and meet new people'
'Really enjoyable and informative'

The results of the feedback showed the volunteers experienced a high degree of satisfaction. The comments also highlighted that as well as learning new skills people enjoyed the social aspect of the excavation.

The volunteers were fully trained in many different aspects of archaeological work so that they themselves can undertake similar projects individually or in groups after the project has finished.

The volunteers undertook the archaeological excavation using hand tools (spade, shovel, mattocks and trowels) and gained knowledge of recording stratigraphic deposits, archaeological photography, section drawings and finds identification.

The volunteers learned valuable, transferrable, core skills through the project such as working as part of a team which also allowed them to build confidence. They also improved on their mathematical skills by creating scaled drawings and taking measurements.

After the excavation was complete the volunteers continued to learn new skills when they participated in the post-excavation process. They learnt about finds identification and processing as well as environmental processing.

Volunteer numbers varied throughout the excavation from 5-9 people per day. There were a total number of 29 volunteers involved in the excavation and 10 were involved in the post-excavation stage. Many of the volunteers attended for several days over the course of project.

The volunteers were from a diverse range of groups which included pupils from Gower College, The Egypt Centre, Swansea University and members of the local community.

This project has revealed a great enthusiasm from the local community, and that there is a need for more archaeological projects within this area. Several of the volunteers are planning to continue volunteering with the Trust on future projects.

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Appendix I. Context Inventory

Table 1: Context Inventory

Context	Type	Depth below ground (m)	Description	Period
001	D	0 - 0.2m max	Dark brown, silty clay topsoil with small, isolated stones and roots. Overlies (**002**).	Unknown
002	D	0.05m – 0.45m max. Average thickness 0.26m varies	Dark brown, silty clay loam, containing Oyster shells, large beach cobbles (pot-boilers, including fragments of 'hammerstones') and roots. Contained Roman ceramics. Underlies (**001**), identical to (**011**) and overlies (**003**), (**004**), (**006**), and (**009**).	Roman
003	D	0.02 – 0.8 max varies	Bedrock. Underlies (**001**) and (**002**) n.b. Identical to (**012**). Cut by [**016**], [**017**] and [**022**].	Natural
004	D	0.25m – 0.6m	Mid brown, silty clay loam with roots and occasional small stones. Contained by [**016**] and [**017**]. Underlies (**002**) and (**006**), butted by (**006**) and overlies (**005**).	Unknown
005	D	0.6m - 0.66m n.b.	A red/brown clay with occasional sub-angular stones of varying sizes with root intrusions. Contained by [**016**] and [**017**]. Underlies (**004**) and (**006**). n.b.	Unknown
006	D	0.06m - 0.6m max	A mid-brown loam with a moderate abundance of angular and sub-angular stones of varying sizes and roots. Contained by [**016**] and [**017**]. Underlies (**002**). Abuts (**004**). Overlies (**004**), (**005**) and (**008**) n.b.	Unknown
007	D	0.3m – 0.8m	Brown, sandy loam with frequent, angular stone inclusions and roots. Contained by [**022**]. Underlies (**001**). Butted by (**003**). Equivalent to fill (**015**) within cut [**014**] in opposite section. n.b.	Roman or earlier.
008	D	0.5m - 0.55m	Dark brown, sand with occasional sub-angular stones. Underlies (**006**) n.b.	Unknown
009	D	0.3m – 0.4m	Light grey/yellow sand. Underlies (**001**), (**002**) and overlies/abuts (**003**) n.b.	Unknown
010	D	0 – 0.3m	Light brown silty clay loam topsoil with isolated stone inclusions and roots. Overlies (**011**), identical to (**001**).	Unknown
011	D	0.01-0.3m max. Average thickness of 0.15m varies	Dark brown, silty clay loam, containing Oyster shells, large beach cobbles (pot-boilers, including fragments of 'hammerstones') and roots. Contained Roman ceramics. Underlies (**010**), identical to (**002**) and overlies (**012**).	Roman
012	D	0.25-0.65m max	Bedrock. Underlies (**010**), (**011**). Cut by (**014**). Identical to (**003**) n.b.	Natural
013	D	0.25m - 0.55m max	Brown, sandy clay with stones up to 250mm in size and also contained shell n.b. Underlies (**010**), (**011**) and (**012**). Abuts (**012**).	Unknown
014	NF	0.01-0.66m	Cut made in bedrock (**012**) at N end of east facing section. Overlies (**012**) Contains fill (**015**) and	Roman or earlier

			deposit (**011**) n.b. Equivalent to Cut [**022**] in west facing section.	
015	D	0.1-0.66m	Angular limestone rubble ranging from 5-13cm in a mid-brown soil and root matrix. Underlies (**011**) Overlies and contained by [**014**] n.b.	Roman or earlier.
016	NF	0.25m – 0.65m	Cut in [**003**] in the west facing section. Contains fills (**004-006**). Underlies (**005**). Overlies and cuts (**003**) n.b.	Roman or earlier
017	NF	0.1m – 0.55m	Cut in bedrock (**003**) in the west facing section. Contains fills (**004-006**). Underlies (**006**) n.b.	Roman or earlier
018	NF	0.2m – 0.55m.	Cut in bedrock (**012**) in the east facing section. Contains fill (**013**). Underlies (**013**) n .b.	Roman or earlier
019	NF	0-0.45m	Cut in bedrock (**012**) in the east facing section. Contains fill (**013**). Underlies (**013**) n.b.	Roman or earlier
020	NF	Approx 0.1m-0.285m	Cut for post setting, i.e. posthole, in Trench 1. Depth 0.285m. 0.2m wide. Cuts (**002**) Contains (**021**) and filled with (**001**).	Possibly Roman/or Modern
021	D	Approx 0.1m-0.285m	Packing stones for posthole [**020**]) in Trench 1.	Possibly Roman/or Modern
022	D	0.3m – 0.8m	Cut within bedrock (**003**) at N end of west facing section. Contains fill (**007**). Equivalent to cut [**014**] and E terminus of [**014**]. Underlies (**002**) n.b.	Roman or earlier.

n.b. = not bottomed

Appendix II. Finds

Table 2: Finds

Context	Material type	Description	Quantity	Weight (kg)	Period
U/S	Shell	Oyster		2472g	
U/S	Shell	Winkle	1	2g	
U/S	Stone	Fossils	2	46g	
U/S	Shell	Limpets		94g	
U/S	Shell	Cockle	1	2g	
U/S	Glass	Blue, green and white	1	36g	Modern
U/S	Stone	Cobble fragments (heat fractured)	3	1153g	
001	Shell	Whelk	1	4g	
001	Shell	Limpets (whole and fragments)	10	20g	
001	Shell	Oyster (whole and fragments)	51	260g	
001	Stone	Cobbles (heat fractured)	6	3784g	
001	Iron	Square profile nail	1	20g	Unknown
002	Stone	Cobbles/potboilers/fragments of (22/4958g of these were from 100% Sample Area 002).	84	29331g	
002	Stone	Fossil	1	2g	
002	Shell	Limpet (whole and fragments)	4	68g	
002	Shell	Whelk (whole and fragments)	81	590g	
002	Shell	Cockle	1	2g	
002	Shell	Mixed recovered from sample *003		1157g	

002	Bone	Animal (Mammal)	1	1g	
002	Tooth	Animal (Cattle 3rd Molar)	2	16g	
002	Iron	1 corroded wire	2	66g	Unknown
002	Wood		1	<1g	
002	Ceramic	Greyware (South wales reduced ware) fragments of 2 vessels. Wavy line decoration perhaps from a wide mouthed jar. Flanged bowl/dish (2nd Century).	4	32g	Roman
002	Ceramic	Samian ware. Burnt, probably central Gaulish. Possibly 2 vessels, includes a possible cup, Drag 33 and a bowl. 2nd Century.	3	5g	Roman
002	Ceramic	Black Burnished Ware. 6 rims from at least 2 jars. Gillam 1976, no's 12-14 (4th Century) Straight sides dish with possible intersecting arc decoration (3rd – 4th Century).	17	108g	Roman
002	Ceramic	Fragment of pipe stem	1	<1g	Post-medieval
002	Charcoal	From sample *003		<1g	
010	Stone	Cobble fragments (heat fractured)	2	248g	
010	Glass		2	2g	Modern
010	Shell	Oyster	4	10g	
011	Stone	Cobbles/potboilers/fragments of (23/4414g of these were from 100% Sample Area 001).	91	28647g	
011	Ceramic	Fragment of pipe stem	1	1g	Post-medieval
011	Ceramic	Black burnished ware. Possibly 3 vessels. Small jar fragments and 2 bowl sherds (late 3rd – 4th Century)	18	84g	Roman
011	Shell	Limpets (whole and fragments)	15	34g	
011	Shell	Whelks (whole and fragments)	4	28g	
011	Shell	Oyster (whole and fragments)	173	1950g	
011	Shell	Mixed recovered from sample *001		3764g	
011	Charcoal	From sample *001		2g	
011	Tooth	Animal (Cattle 3rd Molar)	2	18g	

Appendix III. Specialist Reports

Environmental Samples

The analysis of two environmental samples from shell layers (002) and (011) for charred plant remains

By Wendy J. Carruthers

Introduction and methods

The archaeological 'midden' site at Mumbles Hill is located on an outcrop of limestone located about 15m to the south-west edge of the coastal slope. Although Roman activity has been found in the area it has not previously been seen on this site, prior to the recovery of a sherd of Samian pottery from the 'midden'. However, Neolithic and MBA finds have been recovered from the site. The 'midden' is c. 9.8 metres long and 0.5m deep and is located beneath a shallow (0.15m) topsoil.

Excavations took place on the 'midden' site at Mumbles Hill, Swansea, in August 2017. Glamorgan-Gwent Archaeological Trust (GGAT) took two soil samples from the uppermost archaeological horizon; a layer containing frequent molluscs and heat fractured stones as well as sherds of Roman pottery. The samples were taken from two trenches dug into the layer as follows;
Trench 1, sample area 1.1m x 1.5m x 0.35m – sample number <001>, context (011)
Trench 2, sample area 1.2m x 1.05m x 0.37m – sample number <003>, context (002)
The two 40 litre samples were processed using standard methods of floatation. A 300 micron mesh was used to catch the flot and a 500 micron mesh was used to retain the residue (Hannah Bowden, pers. com.). The residues were checked for charred remains under a low-power dissecting microscope by Hannah Bowden (Environmental Archaeologist for GGAT). Dried flots from the two samples were sent to the author for analysis.

The author dry-sieved the flots in a stack of sieves (250 microns, 1mm and 3mm) prior to sorting in order to make the process more efficient. Rootlets were carefully teased apart to ensure that no charred items were missed. As well as extracting charred plant remains and charcoal fragments, some of the modern seeds were collected so as to obtain a representative sample of taxa. Some Chenopodiaceae seeds were broken open to make sure that they were not charred, as it can be hard to tell with black seeds. No charred Chenopodiaceae seeds were observed. Stace (2010) and Zohary and Hopf (2000) have been used for nomenclature.

Findings and the possibility of contamination

The flots were large (400ml and 1400ml for <001> and <003> respectively), consisting primarily of uncharred coarse woody roots and abundant fibrous rootlets. These items derive from the modern dense shrubby vegetation that was growing on the site at the time of excavation (GGAT Report number 2017/029). Penetration of the archaeological deposits by roots had caused further contamination in the form of frequent modern uncharred seeds, in particular fat hen (*Chenopodium album*) and bramble (*Rubus* sect *Glandulosus*). Modern material can filter down the soil profile along voids made by roots, or can be carried down by soil invertebrates. The presence of frequent modern

uncharred earthworm cocoons (eggs) and invertebrate fragments, including red ants, provided evidence for this type of contamination. Specific seeds are sometimes collected by invertebrates, including small round fat hen seeds and seeds with tasty arils such as violets (*Viola* sp.). Although abundant, these modern remains are not particularly problematic in themselves as, being uncharred, they can easily be distinguished from charred archaeobotanical material. Greater problems are encountered where overlying archaeological deposits of different phases are penetrated by roots causing mixing, or where the burning of modern vegetation on the surface causes charred remains to trickle down through the soil profile. However, modern charred material can often be distinguished from ancient due to differences in appearance. At this site, fortunately, none of these situations appear to apply, so any charred material in contexts (002) and (011) are likely to be contemporary with the formation of the deposit.

The charred plant remains

Charred plant remains (comprising charcoal fragments and fruits/seeds and plant fragments) were extremely sparse in the samples. Both samples contained occasional very small fragments of charcoal, with both ring porous and diffuse porous taxa being noted. The fragments sorted from the flots by the author were too small to be identified with certainty, although the ring porous taxon was possibly oak (cf. *Quercus* sp.) and the diffuse porous fragment may have been beech (cf. *Fagus sylvatica*). A few fragments were extracted from the residues by Hannah Bowden (2ml and 1ml charcoal from <001> and <003> respectively; GGAT sample sheets) and these should be sent to a charcoal specialist if confirmed identifications are required.

The only charred plant macrofossil recovered was a hulled wheat glume base tentatively identified as emmer (*Triticum* cf. *dicoccum*), as it was incomplete. Since hulled wheats (emmer and spelt) rapidly disappear from archaeobotanical assemblages after the Roman period, with just traces being found on a few medieval sites, the item most likely dates to the Roman or earlier period. In southern England spelt wheat almost completely replaced emmer by the Roman period but in Wales, northern and south-western England emmer continued to be grown alongside spelt for a longer duration (van der Veen 1993; Greig 1991; Carruthers & Hunter forthcoming). Its advantage in these areas is that it is less demanding of nutrients than spelt so can tolerate poorer soils.

Other environmental remains

The only other remains that are likely to be contemporary with the deposit were the abundant fragments of mollusc shell present in the two flots, identified by GGAT as oyster, cockle, limpet, whelk and winkle. A couple of small probably land-based mollusc shells were present, but it is uncertain whether these could have burrowed down through the deposit from the surface. As noted above, modern fruits/seeds present included abundant fat hen (*Chenopodium album*), bramble (*Rubus* sect. *Glandulosus*) and occasional elder (*Sambucus nigra*), violet (*Viola* sp.), hemp agrimony (*Eupatorium cannabinum*) and thistle (*Cirsium/Carduus* Sp.). All of these taxa could have been growing in more open areas amongst the scrubby vegetation. Fragments of beetle and ant were observed, as were frequent modern worm cocoons.

Discussion

The interpretation of the deposit as a probable processing surface for the preparation of seafood (rather than a midden) is supported by the sparse archaeobotanical evidence. In particular, the scarcity of charcoal was notable. No *in situ* fire pits for steaming open shellfish were found in the excavated trenches, but it is likely that these were located in another part of the site.

Although the recovery of a single possible emmer glume base provides little evidence of agricultural or domestic activities on the site, it does fit in with the suggested interpretation and with the Roman date obtained from the ceramic finds. In the author's experience shell middens excavated in south Wales and south-west England have produced much higher concentrations of charred plant remains, for example the early medieval midden at Brownslade Barrow, Pembrokeshire produced frequent charcoal fragments, fragments of charred seaweed, charred hazelnut shell and cereal grains at a concentration of around 6 fragments per litre of soil processed (Carruthers 2011). The single glume base in 80 litres of soil at Mumbles Hill gives a concentration of around 0.01 fragments per litre. Other domestic waste such as bone was also scarce at Mumbles Hill, amounting to a few cattle teeth and bone fragments (GGAT report 2017/029).

Glume bases are the parts of chaff that hold the grain in an ear of wheat. They usually become charred during crop processing, when hulled wheat ears or semi-processed spikelets are parched in an oven or scorched over a fire so as to release the grains. The presence of a single glume base could be due to small amounts of processing being done on site, perhaps during the preparation of food for the workers. Alternatively some charred chaff can become incorporated into prepared food being brought to the site, such as bread or pottage. A further explanation is that chaff was considered to be a valuable commodity in Roman times and was traded for use as fuel in ovens and hearths (van der Veen, 1999). It could have been derived from tinder or fuel from a hearth/fire pit that was used to process the molluscs. The presence of this item demonstrates that there is further potential for the recovery of charred plant remains from the deposit, particularly if an area containing a fire pit, heath or ash spread is excavated in the future. It is strongly recommended that large soil samples are taken in future excavations on the site, as was the case during these excavations.

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Roman Pottery

By Peter Webster

The site produced just 42 sherds (229g) of Roman pottery, probably from no more than seven vessels (see Catalogue of Roman Pottery). Nevertheless, these range in date from the 2nd to the 4th century. Most seem somewhat abraded, although whether through movement in the soil or from adverse soil chemistry is difficult to tell. The great majority are fragments of Black burnished ware, the major cooking ware of the later 2nd to the 4th century. Samian is the only fineware, and then represented only by three small fragments of vessels which has been burnt.

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Catalogue of Roman Pottery

Table 3: Roman Pottery

Context	Fabric	Sherd/s	Vessel	Wt in g	Diam	%	Comment	Date
002	Samian, burnt, probably Central Gaulish	3	2?	5			Includes a possible cup Drag 33 & a bowl	2nd century
	Black burnished ware (BB1)	17		108			Includes:	
					16	17	6 rims from at least 2 jars:	
					16	12	Gillam 1976, nos.12-14	4th century
					22	6	Straight sided dish with possible intersecting arc decoration	3rd-4th century
	Greyware (South Wales Reduced Ware)	4	2	32			Fragments of 2 vessels:	
							Wavy line decoration perhaps from a wide mouthed jar	
							Flanged bowl or more probably a dish as Manning 1993, Fig.116, 67.1	2nd century
011	Black-burnished ware (BB1)	18	?3	84			This mostly consists of small jar fragments but there are also 2 bowl sherds. One of these is broken at the rim but appears to have been both flanged and ridged	Late 3rd-4th century

Iron Assessment

By Johnny Crawford Project Officer BSc MA ACIfA.

Introduction

A single iron nail was recovered from context (**001**) during an excavation of the midden site on Mumbles Hill, Swansea. The nail was examined macroscopically in order to identify particular characteristics that might provide a provenance. As the midden site is believed to be Romano-British in origin, it was speculated that the nail may have dated to the same period.

Archive

The iron assemblage consisted of a single nail, described below.

Table 4: Catalogue of iron finds

Description	Dimensions	Further Work?
Rectangular shanked nail with sub-circular flathead which is slightly corroded. The point tapers to a rounded chisel point but is also somewhat obscured by corrosion. There is a slight curvature to the shank.	79mm long, shank 6mm x 7mm, head 15mm diameter	N

Discussion

The nail recovered from context (**001**) is typical of hand-made nails used from the Roman period onwards (Manning 1976). Although there is a slight curve, the deformity is not typical of a nail extracted using a tool, suggesting that it had not been re-used; the size of the nail suggests that it was intended as structural fixing. The round flathead is of a type widely used but which occurs less frequently in the medieval period.

In terms of assigning a provenance, context is key as the form was in use over a wide time-period. Unfortunately, context (**001**) contained a wide variety of material, including modern artefacts and the context cannot, therefore, be used to securely date the nail.

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Animal Bone

By Hannah Bowden BA MSc

A total of three animal bone remains (35g) were recovered by hand from two Roman deposits (002 and 011) during the excavation of a midden site on Mumbles Hill, Swansea.

Methods

The faunal remains were identified to species or species group with reference to known specimens and publications (Cohen and Serjeantson, 1996; Hillson, 1992; Schmid, 1972). When species could not be identified, bone was categorized to species size, consisting of large mammal (domestic cattle or horse), medium mammal (domestic and wild ruminants and non-ruminates) and small mammal (domestic and wild carnivores, insectivores, lagomorphs and rodents). Bone fragments were counted using the NISP methodology (Lyman, 2008).

The preservation and condition of bone has been observed using a scale of poor to good, detailed in Table 5.

Table 5: Scale of Fragmentation and Condition of bone

Scale	Fragmentation and Condition of bone
Poor	Fragments are small/unidentifiable. Only enamel/burnt fragments have survived. Surface of the bone is extremely pitted/cracked/various layers are notable.
Moderate	Fragmented/signs of modification (burnt/gnawed/butchered) with identifiable features. Surface of the bone is slightly pitted, with faint cracks/fairly intact.
Good	Complete element surviving/near complete element but slightly fragmented. The surface of the bone is in very good condition/smooth surface.

Results

The animal bone recovered from Mumbles Hill (Table 2) consisted of two cattle teeth (3rd molars from lower jaw bones) from deposits 002 and 011 and an unidentifiable large mammal bone fragment from deposit 002. The bone was in moderate condition.

Table 6: Catalogue of Animal Bone recovered from Mumbles Hill, Swansea.

Context	NISP	Weight (g)	Species	Element
002	1	1	Large mammal	Flat bone fragment
002	1	16	Cattle	3rd Molar
011	1	18	Cattle	3rd Molar

Conclusion
The animal bone assemblage is too small for any analysis to be conducted apart from noting the presence of cattle and the potential for the survival of animal bone from Roman deposits within the area.

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Clay Pipes

By Charlotte James-Martin BA ACIfA

Table 7: Catalogue of Clay Pipes

Context	Description	Count
002	One fragment of undiagnostic clay pipe stem with a bore diameter of 1.2mm	1
011	One fragment of undiagnostic clay pipe stem with a bore diameter of 1.5mm	1

Discussion
Two undiagnostic clay pipe stem fragments, the bore diameters suggest 19th – 20th century dates however this method of dating is best used on average bore diameters of large assemblages so is here used as an approximate guide.

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Appendix IV. Plates

Plate 1. Site before excavation. View to the south.

Plate 2. Site before excavation. View to the north.

Plate 3. West facing section near the northern end of the disabled access path, showing concentration of shell and burnt stone (002). View to the east, scale in 0.5m divisions.

Plate 4. East facing section on the west side of the disabled access path showing concentration of shell and burnt stone (011). View to the west, scale in 0.5m divisions.

Plate 5. Trench 1 (T1) showing upper archaeological horizon (011) with linear stone feature, foreground. View to south, scale in 0.5m divisions.

Plate 6. Trench 2 (T2) showing upper archaeological horizon (002). Metal fence post and posthole (020/021) to left. View to the south, scale in 0.5m divisions.

Plate 7. Trench 1 (T1) showing sample area 001 (right). View to the west, scale 0.5m divisions.

Plate 8. Trench 2 (T2) showing sample area 002 (left). View to the east, scale 0.5m divisions.

Plate 9. Possible posthole (020/021) within Trench 2 (T2). Scale 0.5m divisions.

Plate 10. Detail of sampled area 002, Trench 2 (T2). View to the north, scale 0.5m divisions.

Plate 11. Volunteers undertaking archaeological cleaning of the main sections. View to the north.

Plate 12. The site following the backfilling of the trenches. View to the south-west.

Glamorgan-Gwent Archaeological Trust Ltd

QUALITY CONTROL

Report Title: Mumbles Hill, Swansea. Community Archaeological Excavation

Report Date: August 2017

Report Number: 2017/029

Report prepared by: Richard Roberts and Sarahjayne Clements

Position: Project Manager and Archaeologist

Date: 14/08/2017

Illustrations prepared by: Paul Jones

Position: Senior Illustrator

Date: 28/07/2017

Illustrations checked and authorised by: Paul Jones

Position: Senior Illustrator

Date: 28/07/17

Report checked and authorised by: Martin Tuck

Position: Project Manager

Date: 17/08/17

As part of our desire to provide a quality service we would welcome any comments you may wish to make on the content or presentation of this report.

Glamorgan-Gwent Archaeological Trust Ltd.
Heathfield House, Heathfield, Swansea, SA1 6LE
Tel. 01792 655208; Fax. 01792 474469
Registered Charity no. 505609
Web: www.ggat.org.uk
e-mail: projects@ggat.org.uk