

Limekiln Car Park, Ham Hill Country Park Somerset

An Archaeological Evaluation



Andrew Chaplin and Marcus Brittain

Limekiln Car Park, Ham Hill, Somerset.

An Archaeological Evaluation

Andrew Chaplin and Marcus Brittain

With illustrations and photography by Charlotte Walton and Dave Webb

Scheduled Ancient Monument 1003678
NGR ST 480 163

Museum accession number TTNCM 93/2021
HER number 445293
CAU report number 1498

Edited by: **Marcus Brittain** (Senior Project Officer)

Approved for issue by: **Matthew Brudenell** (Project Manager)

January 2022

© Cambridge Archaeological Unit
Department of Archaeology
University of Cambridge
34 A&B Storey's Way, Cambridge, CB3 0DT



CONTENTS

<i>Project Summary</i>	1
Acknowledgements	1
INTRODUCTION	2
<i>Methodology</i>	2
<i>Historical and Archaeological Background</i>	3
RESULTS	4
<i>Trench Results</i>	4
<i>Cultural and Economic Material</i>	6
Post-Medieval Pottery	6
Ceramic Building Material	6
Glass	6
Metalwork - Iron	7
Metalwork - Zinc	9
Worked Stone	9
Animal Bone	10
DISCUSSION	10
BIBLIOGRAPHY	11
FIGURES	13
OASIS	23
APPENDIX. CONTEXT SUMMARIES	25

LIST OF FIGURES AND TABLES

- Figure 1. Site Location
Figure 2. Trench plan overlaid onto 1880s OS map; Limekiln
Figure 3. Detail plan of Trenches 2, 3 and 4
Figure 4. Trench 1 photographs
Figure 5. Trench 2 features, looking west
Figure 6. Trench2, iron file and zinc sheet template *in situ* with F.1
Figure 7. Section of F.1 and Trench 2
Figure 8. Tile with Colthurst Symons maker's stamp
Figure 9. Zinc and Iron artefacts
Figure 10. Cut stone artefacts
- Table 1. Summary of roofing tile from Trenches 2-4
Table 2. Summary of manual files
Table 3. Summary of nails
Table 4. Summary of zinc sheet templates

Summary

Between 15th and 18th November 2021, an archaeological trench evaluation was conducted by the Cambridge Archaeological Unit (CAU) at Ham Hill, Norton-sub-Hamdon, Somerset; a prehistoric hillfort and a Scheduled Ancient Monument (SAM 1003678). Four trenches were opened in two areas south of the Limekiln car park, centred ST 480 163. The hilltop was known to have been subject to quarrying since the Roman period with operations considerably expanded during the later nineteenth century. Quarrying activity was revealed throughout the trenches with Trench 1 containing only quarry waste filling a quarried void, with further evidence of quarrying recorded in Trenches 2-4. The foundation of a stone wall was encountered in Trench 2, which corresponds with a structure shown on the 1886 Ordnance Survey map. This was part of a complex of buildings belonging to quarry workings, which were no longer present in the map's 1906 edition. Iron files and zinc sheet templates were recovered from deposits associated with the building and its demolition, as well as window glass and ceramic roof tiles. A maker's stamp on one tile fragment may be securely dated to after 1867. Probably a masonry workshop, the 'floor' within the interior of the building showed no evidence for having previously been subject to quarrying, though it may have been truncated. Nevertheless, no pre-nineteenth century features were identified.

Acknowledgements

The fieldwork was enabled by the support of Katy Menday and Rachael Waites of the South Somerset District Council, Martin Cooke of Heritage and Leisure, Paul McNeill and the Rangers of Ham Hill Country Park, and Heather Paris of Clarkson & Woods. The machine excavator was expertly operated by Steve Coombes of Harvey Stone.

Scheduled Monument Consent was granted by Historic England with support and oversight by Sasha Chapman (Historic England) and Steve Membery (South West Heritage Trust). SSSI Assent was awarded by Natural England (Ref. 2907210913CW). Matt Brudenell was the Project Manager (CAU) with Marcus Brittain acting as Project Director (CAU). Survey was conducted by Jane Matthews, and the report graphics produced by Charlotte Walton with studio photography by Dave Webb.

INTRODUCTION

An archaeological evaluation comprising four trenches totalling 137.7m² was carried out by the Cambridge Archaeological Unit (CAU) between the 15th and 18th of November 2021 at Ham Hill, a Scheduled Ancient Monument (SAM 1003678) and one of Britain's largest prehistoric hillforts (Figure 1). The work was commissioned by the South Somerset District Council in relation to proposals to construct a new visitor's centre for the Ham Hill Country Park.

Trenches were opened in two areas c. 75m apart: Trench 1 in the north and Trenches 2-4 in the south. The footprint of the proposed buildings approximately amounts to 220 sqm with additional provision for surrounding decking and services. Both areas are situated on land centred on NGR ST 480163. This lies south from Limekiln car park, and although both areas are grass covered today, they were formally an extension of the car park surfaced with hard standing.

Where unaffected by quarrying, the hill's geology consists of Liassic Ham stone (shelly limestone) overlain by compacted Yeovil Sand with a capping, up to 0.9m thick, of bioturbated sandy soils (including palaeosols and colluvium), sandy subsoil and a thin grassed topsoil. The ground surface is moderately flat and lies at an elevation of c. 122m OD but is bordered on each side by deep former quarries interspersed with grass-covered mounds of quarry waste material. The site takes its name from remains of a limekiln set against the face of one of the former quarry pits on the east side of the car park.

The aim of the trench evaluation was to determine the potential of the proposed development areas for any archaeological horizons that have either survived quarry operations or that may relate to these.

Methodology

Investigations were carried out in accordance with a Method Statement (Patten and Brittain 2021) and Written Scheme of Investigation (WSI; Brittain 2021) which conform to the requirements of Historic England's (HE) standards document *Management of Research Projects in the Historic Environment* (2015), and the Chartered Institute for Archaeologists' (CIfA) documents *Codes of Conduct* (2019) and *Standards and Guidance for Archaeological Evaluation* (2020).

Trenches were opened with a nine-tonne tracked 360-degree machine excavator using a 1.8m wide toothless ditching bucket under the direct supervision of an experienced archaeologist. Removed overburden was placed in separate heaps to either side of each trench and, along with every machined level, was subject to regular sweeps with a metal detector. Trenches were located using an advanced Global Positioning System (GPS), which also obtained heights against Ordnance Datum (OD).

Potential archaeological features were sample excavated with all archaeological finds retained. A written record of archaeological features and soil sequences was created under the CAU recording system that assigns unique context numbers to stratigraphic events (denoted [001]-[029]) and six feature numbers (using the prefix 'F.') to group sequences of interrelated contexts (fills, cuts, walls etc), such as within ditches, foundation trenches, and pits etc. All sections were drawn at a scale of 1:10 or 1:20 as appropriate, and a high-resolution digital

photographic record was assembled (RAW and JPEG files). Artefacts were recorded against context and depth of recovery and retained for study. Cut stone was recorded during the fieldwork with a small selection retained for further analysis. Artefact catalogue entries are denoted by <xx>.

Historical and Archaeological Background

An overview of the historical and archaeological background of the PQA is outlined in detail in the Archaeological Management Plan (Wessex Archaeology 2011) and with updated information in the WSI (Brittain 2021) that includes data from the 2011-13 investigations conducted by the Cambridge Archaeological Unit in partnership with Cardiff University (Brittain *et al.* 2013; 2014; 2015). In short, there is considerable evidence for significant and complex occupation of the hilltop from the early Neolithic through to the Roman era that is of both regional and national interest. However, no archaeological investigations have been conducted within or directly near to the project area.

Topographic survey illustrates the considerable extent of quarry related features across the west side of the hilltop (RCHME 1997), and map regression supports the view that major quarrying took place around the perimeter of the evaluation area prior to 1900 but not thereafter (Jefferson Consulting 2012; Figures 4-7). Any degree to which these areas may have been subject to quarrying is otherwise poorly documented.

Artefacts encountered during quarrying of the hill's stone have been collected in vast quantities and today form an impressive archive within the Somerset Heritage Centre, Taunton (Adkins & Adkins 1992; Gray 1902, 1904; Woodward 1997). They include evidence of the hill's important prehistoric and Roman chapters and testify to the density of human activities that once occupied the hilltop. References to findings across the southwest sector of the hill, mostly during the nineteenth century, rarely provide information that could accurately determine locations of discoveries.

It is estimated that cumulative quarrying activities have removed some 33 hectares (37.5%) of the hillfort's interior (SHER 41470). Systematic quarrying for the hill's stone during the Roman period is demonstrated by its use for coffins and in buildings across the region, though precise locations for Roman quarrying on the Hill are unknown. Stone extraction was evidently the major industry across the hill during the Medieval period, the stone being widely used in secular and religious building projects (Durman 2006). The quarries, each about 6.2m², were leased to financiers or individual tenants through the manors of Stoke and Norton-sub-Hamdon and worked to exhaustion (Gittos and Gittos 2012). The earliest documentary references to quarrying relate to Stoke-sub-Hamdon parish, and by the early 17th century the Norton-sub-Hamdon side of the hill was probably the principal focus. The 1886 Ordnance Survey maps show a clustering of at least ten sizeable buildings in the vicinity of Trenches 2-4 arranged around a courtyard facing west onto a north-south trackway, with a crane towards the centre (Figure 2). These are all absent from the 1900 and later editions. No features are illustrated as present around the Trench 1 area on any of the Ordnance Survey map editions.

Remains of the Limekiln (SHER 16259) do not register on any of the Ordnance Survey maps, prompting suggestions that it was constructed after 1903 (RCHME 1997, 41). However, some versions of the 1886 edition mark the location of a kiln slightly further to the north. The drawhole recess of the kiln is set against a quarry face, though only one half of its bay arch survives (Figure 2). Dressed and moulded Ham and Portland stone are used in its structure,

along with an internal pot lining of hand-made brick visible at the kiln head. A low linear bank bisects the quarry 'crater' within which the kiln is situated.

Though not documented within the Historic Environment Record, local sources state that the project area (possibly closer to Trenches 2-4) was used as a rifle firing range during the Second World War with targets located against a bank of quarry waste. One account by a local resident recalled 'going up to Ham Hill near the old lime kiln where the Americans had a firing range' and collecting spent cartridge cases and digging old bullets from the bank (Bradley 2015, 77).

RESULTS

Trench Results

Consistent across all trenches were uppermost layers of silty sand [002] over hard standing [003] relating to the overall area's previous use as an extension of Limekiln car park. All underlying a thin turf line [001], these layers ranged in thickness from to 0.3m in Trench 1 to a maximum of 0.5m in Trenches 2-4 (Figure 3).

Trench 1 contained only quarry waste (Figure 4), comprising loose rubble mixed with mid orange sandy silt [004]. This continued beyond the base of a machine-excavated sondage, 2.0m deep.

Trenches 2-4 were interconnecting and demonstrate the following sequence from earliest to latest:

- (1) Deposits and structural remains relating to nineteenth century quarry works,
- (2) Layers of demolition debris, and
- (3) The modern car park layers (see above).

Removal of the former car park hardstanding came to a dark grey silt [5] that was thinly spread in patches over each trench and produced ceramic tile, window glass and fragments of cut stone, all indicative of demolition debris. Underlying this, compact silty rubble [6], [15] and [16] also contained occasional small sawn stone offcuts. Up to 0.2m thick, this rubble spread over Trenches 3 and 4 and, in Trench 2, towards the west side of a stone wall, F.1, that was encountered at a depth of 0.8m from the ground surface (Figures 4-6).

Feature 1. Foundation to an unbonded drystone wall [9], 0.84m wide in a 0.5m deep cut [10] with vertical edges and flat base, filled with a compact deposit [8] of mid-orangey yellow silty sand washed with white (lime?) laminations. Oriented north-south, the surviving wall consisted of four courses of stone blocks, some clearly having been sawn to shape, though not specifically for use in the wall.

Over wall F.1 and to its east side were multiple layers of rubble ([17] [19] [20]) of varying compaction, colour, and consistency, and included cut stones in a range of sizes. These deposits effect to a levelling over the interior of a former building, probably in preparation for the car park surfacing, and marking the base of this was a soft layer of dark grey humic silt [18], 0.26m thick with occasional stone, that overlay the remains of the F.1 stone wall, thinning out towards the east end of Trench 2. As seen in deposit [5] west of the building, deposit [18] contained ceramic tile and window glass, as well as fragments of bottle glass. A possible slate whetstone, eight iron files (Figures 6 and 9) and a short iron bar were also recovered from [18], mostly abutting or overlying the east edge of wall F.1, and fifty-two fragments of zinc sheet template came from the overall spread of [18]. These items would have been employed across the work

of stone masonry, in splitting, shaping, and moulding of the stone, as well as to sharpen the teeth of saws. Though it is likely that deposit [18] also represents demolition debris, it is evident that material from the floor of the building's interior may also be mixed with this.

The rubble/demolition deposits came down to a level of firm sand [23], 1.0m from the ground surface, that was mottled orangey-red and mid yellow brown, with inclusions of charcoal flecks and occasional patches of dark grey silt. Though there was no evidence for a surviving floor within the interior of the building, [23] may represent the under surface to a floor level (stone pathing?), marked by combinations of industrial residues. Three shallow features cut into [23]: a sub-rectangular stone-lined pit (F.2) aligned with F.1 wall, a square or rectangular scoop (F.3), and a thin linear depression (F.4) that may have held a stone on edge or a timber post.

Feature 2. Sub-rectangular pit aligned north-south and abutting, perhaps slightly cutting, the F.1 foundation trench. The pit [26] was 1.2m long and 0.6m wide with straight vertical edges and flat base at a depth of 0.22m. Its inner edge was lined with a discontinuous arrangement of small rectangular cut stones, some having evidently been dislodged from position, all within a fill of mid-orangey brown sandy silt [24] capped with loose rubble. Recorded as the pit's basal fill, [25] is described as compact orange sand that is probably an overcut of *c.* 0.1m into 'deposit' [23].

Feature 3. Square or rectangular scoop or hollow [12] with rounded corners and concave sides to a flat base, continuing beyond the south edge of the trench; 0.75m wide and 3cm deep, filled with light greyish brown silt and stone rubble [11] from which an iron file was recovered.

Feature 4. Linear cut [14], 4cm deep, 0.37m long and 0.1m wide with rounded ends, oriented north-south. Filled with moderately firm mid grey clayey silt [13].

Firm and largely absent of stones, [23] is likely to also represent unquarried geology. The intention to cut into this by machine at the east end of the trench was halted when a large ceramic drain, F.6, was encountered with an orientation heading towards buildings still today used in the northeast. A second drain, F.5, oriented to the northwest, was encountered in a slot excavated on the west side of the wall. The nature of the deposits within the slot and across the trenches to the west of the wall displayed a different character to [23]. Cut by drain F.5, these are illustrated in Figure 7 and comprised a compacted mass of stone rubble and sandy silt [21], up to 0.25m thick and containing cut stones. The deposit overlay firm silty sand [22] and at the interface between these deposits were two zinc sheet templates; two iron files came directly from within [21]. Both [21] and [22] were also recorded in a slot manually excavated in Trench 4 (see Figure 3). A sondage excavated by machine in the south end of Trench 4 indicated that [22] occurred as successive bands of compacted rubble and silty sand beyond its depth of 2.0m from the ground surface. Though of a different nature to the deposits identified in Trench 1, small fragments of cut stone collected from the rubble bands at a depth of 1.75m testify that here additional quarried voids had been backfilled with waste material.

Features 5 and 6. Ceramic service pipes of nineteenth/early twentieth century date. Both *c.* 0.45m diameter.

There can be little doubt that in Trench 2 are the remains of a workshop relating to a nineteenth century stone mason's yard, as depicted in the 1886 OS map in Figure 2. Drain F.5 may lead from a building shown to lie immediately north of Trench 4, to the west of which a blank area is shown on the map and was traversed by Trench 3. There, a rise in the ground surface of *c.* 0.5m was a platformed heap of medium and large cut stones and rubble [7], including examples of moulded stone and stone offcuts scored with template guidelines (Figure 8). Fragments of zinc sheet templates, a shard of window glass, and three butchered animal bones were collected from voids between the larger stones.

Cultural and Economic Material (Marcus Brittain)

Post-Medieval Pottery

Just two refitting fragments of a small earthenware cup (7.5g) were found within Trench 2 context [019], its fabric sealed with a clear glaze on all surfaces. A late nineteenth century or early twentieth century date is likely.

Ceramic Building Material

All from Trenches 2-4, came a total of 44 fragments (2528.5g) of red clay roofing tile with large pan, rim, and roll, manufactured by hand in a wood mould (Table 1).

Context	No. fragments	Weight (g)
005	34	1882
007	1	97
018	7	518.7
021	1	4.8
024	1	26
<i>Total</i>	<i>44</i>	<i>2528.5g</i>

Table 1. Summary of roofing tile from Trenches 2-4

One pan fragment from context [005] depicts part of a maker's stamp showing a circular band with '& Symons & Co' around what appears to be a bust (Figure 8). This was undoubtedly manufactured in Bridgewater by Colthurst & Symons & Co that, having been established in the 1850s as a merchants and shipowners, was by the 1880s one of the main producers of brick and tile in the southwest. The bust within the company's stamp was the head of Napoleon III, in the guise of a Roman emperor, bearded and laurel-wreathed, which represents an enlargement of the company's stamp to commemorate the winning of a gold medal, which bore a similar portrait, at the Paris Exhibition in 1867 (Batt and Meirion-Jones 1985, 22-23). The tiles are either a single or double Roman style; the latter is more likely, having been invented by William Symons, one of the company's founders, and these would have measured c. 16.5 inches by 13.5 inches.

Glass

Window glass and utilitarian (bottle) glass amounted to 52 shards (485.2g), all from Trenches 2-4. This is entirely of late nineteenth or early twentieth century date.

Window glass

Plain rolled or small fluted ornamental sheet glass was popular in the last decade of the nineteenth century and into the first decades of the twentieth century and is still manufactured today. The 1.2mm wide raised lines that characterise the glass patterning were impressed into one side of the glass surface by rollers during the manufacturing process. A total of 29 shards (113.2g) were collected from Trenches 2-4 and came in three size classes with a thickness of

2.7mm, 3.6mm and 3.8-3.9mm. Bubbles visible within the impressed glass surface add to a ‘frosted’ effect but are a consequence of the rolling process.

Clear window glass was also present in Trench 2. Amounting to 20 shards (119.3g), this presented a slight green tint and was recorded against two thickness ranges: 0.8-1.3mm and 1.6-1.9mm.

Bottle glass

Only two shards of bottle glass were recovered, both from Trench 2 context [018]. This included the base of a thick-walled (7.2mm) bottle with a diameter of 8cm (245g) in a very dark brown, almost black colour. The base displayed a turn-mould character with slightly indented profile and deeply indented push-up with mamelon (a small circular protrusion) resulting from a vent used in the process of manufacture to facilitate the exit of hot gasses around the expanding bottle. This is often visible on large bottles, such as champagne bottles, of the later nineteenth or earlier twentieth centuries. The other item was a body shard (7.7g) of a clear glass bottle (3-5mm thick) with a slight greenish tint.

Iron Metalwork

From Trenches 2 and 3, iron metalwork consisted of tools and structural nails, all of nineteenth or early twentieth century date.

Files

Eleven manual files of two primary forms were recovered: triangular and rounded (Table 2, Figure 9). The nine triangular (or three square) files have three sides over the belly, each at 60 degrees and 1.2cm wide, with tipped point. Complete files would have been 14.5-15.5 cm long with a tang of c. 4.5cm above a slack shouldered heel. The files each had grooves of a smooth grade in a single or double cut pattern. Such files are used in V-section working and were probably used to sharpen the teeth of stone saws.

Two items were hand-round files (rounded on one side and flat on the other), with medium grade single ‘bastard’ cut. Both were only partial and of different widths. These would have been employed for a variety of purposes, such as during the sizing of an object or smoothing of a surface and may have been employed either on stone or wood materials.

Catalogue no.	Context	File type	File length (cm)	Tang length (cm)	Weight (g)
3	011	Triangular	6.5	4.5	48.5
4a	018	Triangular	13.5	4	63.6
4b	018	Triangular	11.5	4.5	57.3
4c	018	Triangular	15.5	1.8	85.06
4d	018	Triangular	14.5	Missing	86.4
4e	018	Triangular	14.5	3	86.4
4f	018	Triangular	14	4	76.8
4g	018	Convex	9.7	4.5	116.5
4h	018	Convex	5.5	2.1	124.2
6a	022	Triangular	15 (width 2.6)	4	84.5
6b	022	Triangular	12 (width 3.4)	4.5	72

Table 2. Summary of manual files

Nails

All nails were machine cut, with shank tapering on two sides and rectangular in cross-section with the grain running lengthways and in line to the shank (Table 3). Most were heavily corroded, but a middle to late nineteenth century date of manufacture is most likely. A flathead screw in context [018] (39.2mm long, 11.9g) indicates a later nineteenth to early twentieth century date.

Context	Length (mm)	Thickness (mm)	Weight (g)	Description
005	44.1	5.2 x 5.6	5.7	Die-domed head. Heavily corroded.
005	34.8	2.7 x 3.5	1.5	Brad type with flat billed head
007	75.5	4.7 x 6.5	9.1	Die-domed head overhanging the short edge of the shank; broken tip
018	30.0	6.0 x 5.6	3.8	Squared tip but missing head.
021	35.0	5.0 x 8.0	7.9	Die-domed head overhanging the short edge of the shank; covered with sand concretion.

Table 3. Summary of nails

Miscellaneous

Context [018] Trench 2. Iron bar (280 x 16.5mm, 365g) with circular cross-section and slight bend across the shaft. One beaten end is flattened and smooth with a slight overhanging lip along one edge; the other end is slightly tapered along one side. Probably used as a driver/wedge lever in the process of extracting or splitting stone blocks.

Context [021] Trench 2. Two strands of iron wire (10.1g) twisted to a length of 12.5cm.

Context [022] <6> Trench 2. Short (12.5cm) length of iron bar with circular cross-section (18.2mm diameter) and with both ends flattened perpendicular with the shaft; weight 216g.

Context	Quantity	Weight (g)	Description
005	2	0.16	Small fragments
007	10	39.3	Mostly offcuts with five long thin strips and two larger pieces shaped on one edge to a strong curve
008	1	2.28	Small fragments
018	52	676	Amongst many small fragments are five large rectangular sheets. These are likely to have been cut from larger sheets for general use and storage. Shallow, straight incised guidelines for cutting pathways have been scored over several of the sheets, and their spacing is probably measured by inches. The largest sheets were 14 x 5 inches and 11 x 6 inches; the third largest is 9 x 3 inches. A 9.5mm wide rounded recess, 4mm deep, was cut into the edge of one of the sheets, near to one of its corners, and may have been a fixing slot connected to its storage and transport.
019	3	19.3	Refitting pieces to a medium sized sheet cut to a decorative template
021	1	12.09	A single offcut strip, 16x x180mm, with a slight curving arc on one edge
022	14	173	Pieces cut to various shapes with additional guidelines set out by inches.

Table 4. Summary of zinc sheet templates.

Zinc Metalwork

A total of 83 pieces or fragments of sheet zinc (c. 0.1mm thick) were recovered from Trenches 2 and 4 (Table 4, Figure 9). The production of sheet zinc was established in Belgium during the early nineteenth century, first as a roofing material and then by the 1820s its application was considerably diversified (Downs 1976). Ham Hill stone masons cut templates out of zinc sheets for setting out complex shapes and mouldings. The zinc was soft enough to be easily scored with a blade or metal point and then cut with shears. Most of the items in the assemblage are small strips or pieces that have been cut away from larger sheets and discarded during fashioning of a template. Some however bear more intricate or technical outlines of products that probably include finished stone pieces, such as window surrounds and other commissions.

Worked Stone

A tumbled heap of cut Ham Stone [007] was encountered in the north end of Trench 3, comprising a mix of small to medium sized offcuts as well as large, shaped pieces, and small examples of moulded items, though none of greatly intricate design (Figure 10). Small pieces of cut stone were otherwise encountered in most contexts below the modern car park surface and continued to appear in compacted rubble layers observed within a machine cut sondage in Trench 4 at a depth of c. 1.75m. Whereas these were all within direct proximity to the area of the workshops, no examples of cut stone were encountered in Trench 1.

Two sharpening whetstones of slate and sandstone came from Trench 2, one in a partial state and the other complete but unused, and each contribute to the repertoire of the stone mason's toolkit.

Whetstones

Two pieces of a single sharpening whetstone (15.5g) were recovered from Trench 2 context [021]. This entailed two surviving flat polished surfaces connected by a rounded corner, made from fine grained, probably 'old red' sandstone. This small fragment is likely to have come from a bar-shaped design, use of which may be found throughout antiquity. Though the context of its finding is suggestive of 19th century use in connection with a stone mason's workshop, it is equally possible that this is in fact of Roman or Medieval origin and redeposited within the quarry waste.

Another possible whetstone came from context [018] in Trench 2. This was a piece of dark grey slate sawn at the ends and through the narrow sides to a rectangle, 96.9 x 25.6 x 16.9mm, weight 119.3g. It appears to be unused and may well have been manufactured, or reduced to size, on site.

Cut Stones

A sample of cut stone was selected for closer examination and a selection of this is shown in Figure 8. It is notable that some of the carved shapes, including rounded examples, are represented amongst the zinc templates. Near all stones within the selection displayed criss-cross saw lines along the cut edges. Shallow linear guidelines were visible over a number of items, scored in multiple directions with geometric precision. A highlight within the sample set is half a step-moulded finial base with smooth finished surfaces, which had been sawn

lengthways through its centre across two corners; with squared and arced steps on two faces of the base, it is possible that this was intended as a practicing stone produced by an apprentice.

Animal Bone (with identifications by Vida Radjkovača)

Just three animal bones (27g) were found, and all came from voids within the cut stone and rubble heap [7] within the north end of Trench 3. Only partial, they all have signs of butchery and represent a long bone of a large mammal, axially cut or sawn along the shaft; a rib from a large mammal with a clean horizontal cut at one end, damage at the other; and a long bone (tibia) of a sheep or goat, cleanly cut at one end.

DISCUSSION

All archaeology in the project area related in some capacity to quarrying activities. All archaeological horizons within Trench 1 have evidently been lost to quarrying, with only a loose infill of waste quarry rubble present. Trenches 2-4 mostly revealed features and deposits connected to masonry workshops in which quarried stone was cut and moulded to shape. Earlier quarrying may also have occurred in these trenches, although the nature of the deposits differed greatly against those seen in Trench 1. In Trenches 2-4 loose rubble was encountered only as a series of deposits, no more than 30cm thick, identified beneath demolition layers and spread over Trenches 3 and 4 and up to the wall of a structure in Trench 2. Concealed by these layers, the heavily compacted bands of sandy silt and rubble were not obviously quarry waste but, containing occasional fragments of cut stone, are still related at least to masonry works and presumably fill quarried voids that have removed any pre-quarry archaeological horizons. The sub-floor surface [23] of the interior of a structure bordered by wall F.1 appears to have been relatively unaffected by quarrying, though may still have been subject to truncation. All features cutting this were related to the structure, a masonry workshop.

Stone has been quarried at Ham Hill since at least its Roman occupation and became a major industry during the Medieval period (Durman 2006). The foci of these operations were along the Norton-sub-Hamdon (west) side of the hill. Here, and within the hill's north 'spur', a major drive of quarrying was galvanised in the nineteenth century, particularly with the introduction of steam powered cranes. Recent archaeological investigations of the hill's north spur have demonstrated the near exhaustive extent to which the stone was quarried, removing almost all pre-quarry archaeological horizons (Brittain and Chaplin 2022). The possible location of temporary nineteenth century workshops could only be inferred by very limited evidence, including zinc sheet templates. The only quarry-related features in other assessments, also at the north 'spur', were stone platforms on which cranes would have been positioned (Ellison and Pearson 1975, 98).

Various commentaries contemporary with the quarry workings provided the reader with some hint of their character: *'Their engines pant, their cranes swing to and fro against the sky, and all the week, from morn to night, the place is busy as a swarm of bees'* (Raymond 1898, 455). Charles Trask, owner of one of the quarries, the Ham Hill and Doultling Stone Co., explained the pull of the quarries to successive generations of masons, many serving a seven year apprenticeship through guilds, though by his time of writing, in 1898, *'the young of the present generation are so impatient of all rules and regulations, that it is not at all likely that the desire*

to excel, and the pride in the work ... will ever exist again', and apprenticeships had largely given way to learning on the job (Trask 1898, 221-2).

The buildings depicted in the area of Trenches 2-4 in the OS map for 1886 are not present in the subsequent 1906 edition. Decommission of the buildings sometime between these dates is also reflected by the material culture within the demolition debris. Establishment of the buildings and the duration of their use is less certain, though there is little from the archive that would indicate anything before the mid-nineteenth century. The only truly datable element from the material evidence is a roof tile with a maker's stamp, Colthurst & Symons & Co, dating to no earlier than 1867, and no tile forms other than the Roman style, from which the stamp derived, were identified.

A foundation to only one structure aligned north-south was encountered, in the east half of Trench 2. Of the structure's interior, considered to be a sub-floor surface mottled by industrial activities, deposit [23] extended beyond the east limit of the trench. Any return walls must also lie beyond the trench limits, which would give the structure a sizeable width of at least 8.0m. Two structures on the 1886 OS map lie immediately north and southwest of Trench 4, with others and a crane further still to the north. The specific function of these in relation to masonry operations is not indicated.

BIBLIOGRAPHY

- Adkins, L. and Adkins, R. 1992. *Ham Hill, Somerset. Project Synopsis*. Unpublished document.
- Batt, M. and Meirion-Jones, G. I. 1985. The Distribution of Somerset Roof-Tiles in Brittany: A Provisional Assessment. *Vernacular Architecture* 16(1): 20-24.
- Brittain, M. 2021. *Written Scheme of Investigation for Evaluation Trenching at Ham Hill, Stoke-Sub-Hamdon, Somerset*. Cambridge Archaeological Unit.
- Brittain, M., Evans, C. and Sharples, N. 2013. Excavations at Ham Hill, Stoke-Sub-Hamdon. *Proceedings of the Somerset Archaeology & Natural History Society* 156: 160-163.
- Brittain, M., Sharples, N. and Evans, C. 2014a. Excavations at Ham Hill, Stoke Sub Hamdon, 2013. *Proceedings of the Somerset Archaeology & Natural History Society* 158: 131-134.
- Brittain, M., Sharples, N. and Evans, C. 2014b. *Excavations at Ham Hill, Somerset 2013*. Cambridge Archaeological Unit Report No.1247.
- Brittain, M., Sharples, N. and Evans, C. 2015. *Excavations at Ham Hill, Somerset 2011-2013. Post-Excavation Assessment*. Cambridge Archaeological Unit Report No. 1318 (2 vols)
- Bradley, C. 2015. *Under the Shadow of the Hill: Montacute 1939-1945*. Wellington: Ryelands.
- Downs, A. C. 1976. Zinc for Paint and Architectural Use in the 19th Century. *Bulletin of the Association for Preservation Technology* 8(4): 80-99.

- Ellison, A. and Pearson, T. 1975. Ham Hill 1975: A Watching Brief. *Proceedings of the Somersetshire Archaeological & Natural History Society* 121: 97-100.
- Durman, R. 2006. *Ham Hill: Portrait of a Building Stone*. Reading: Spire Books.
- Gray, H, St George, 1902. The “Walter Collection” in Taunton Castle Museum. *Proceedings of the Somersetshire Archaeological & Natural History Society* 48: 24-78.
- Gray, H, St George, 1904. The Norris Collection in Taunton Castle Museum. *Proceedings of the Somersetshire Archaeological & Natural History Society* 51: 136-159.
- Jefferson Consulting 2012. *Hamdon Hill, Somerset. The Extent of Quarrying Remains from the Late Nineteenth Century. Map Regression of the Western limits of Hamdon Hill to Identify Areas of Quarrying Activity Since 1887*. Unpublished Report.
- Patten, R. and Brittain, M. 2021. *Risk Assessment and Method Statement for Evaluation Trenching at Ham Hill, Stoke-Sub-Hamdon, Somerset*. Cambridge Archaeological Unit.
- Raymond, W. 1898. The Idler Uut of Doors. *The Idler*, May: 440-446.
- RCHME 1997. *Ham Hill, Somerset. A New Survey by the Royal Commission on the Historical Monuments of England*. Unpublished report.
- Trask, C. 1898. *Norton-sub-Hamdon, In the County of Somerset. Notes on the Parish and the Manor and on Ham Hill*. Taunton: Barnicott & Pearce, Athenaeum Press.
- Woodward, A. 1997. *The Ham Hill Project Design*. Unpublished document submitted to English Heritage by Somerset County Council Museums Service.
- Wessex Archaeology 2011. *Ham Hill Country Park, Somerset. Archaeological Management Plan*. Wessex Archaeology Report Ref. 76370.01.

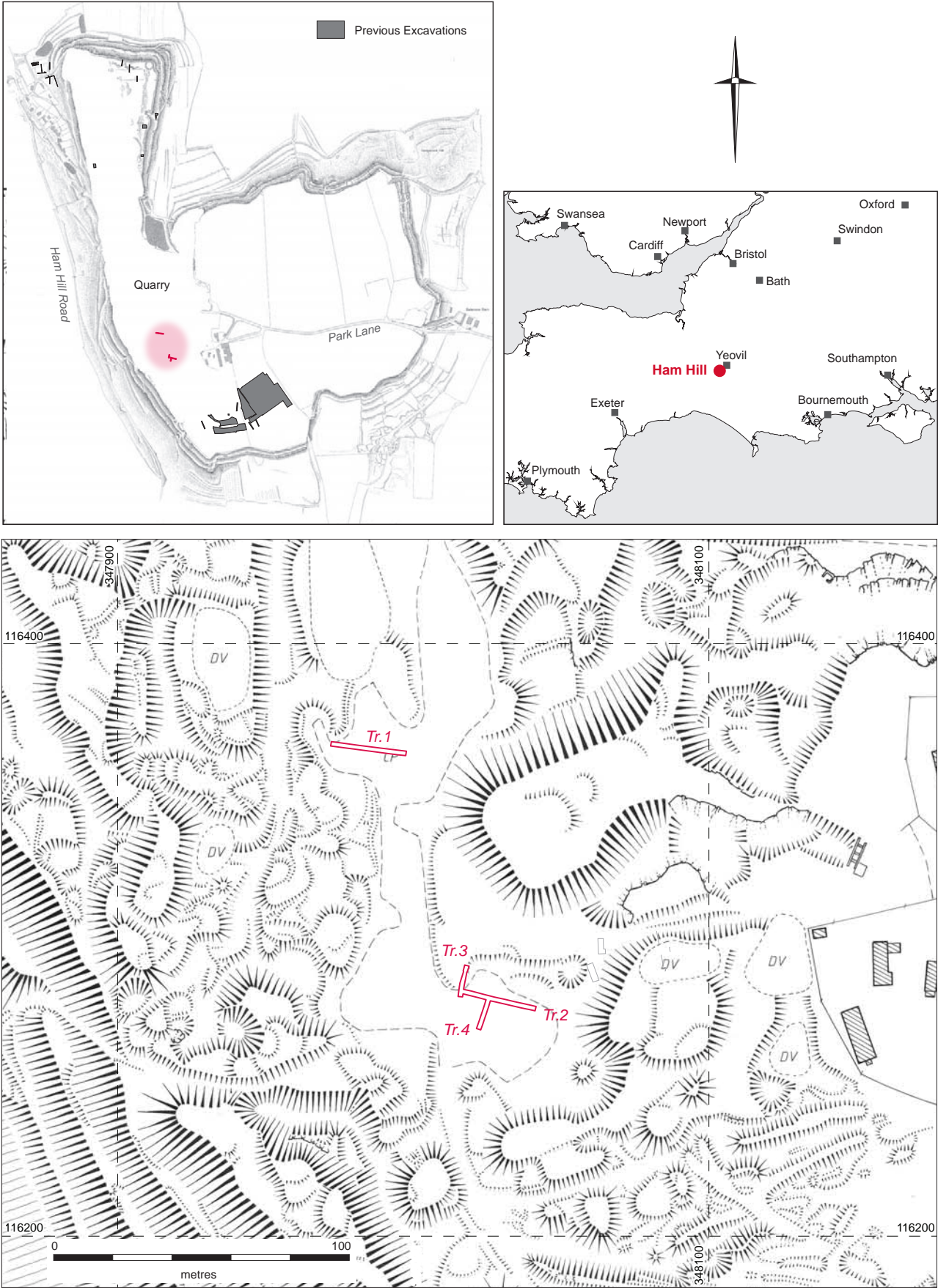


Figure 1: Site Location

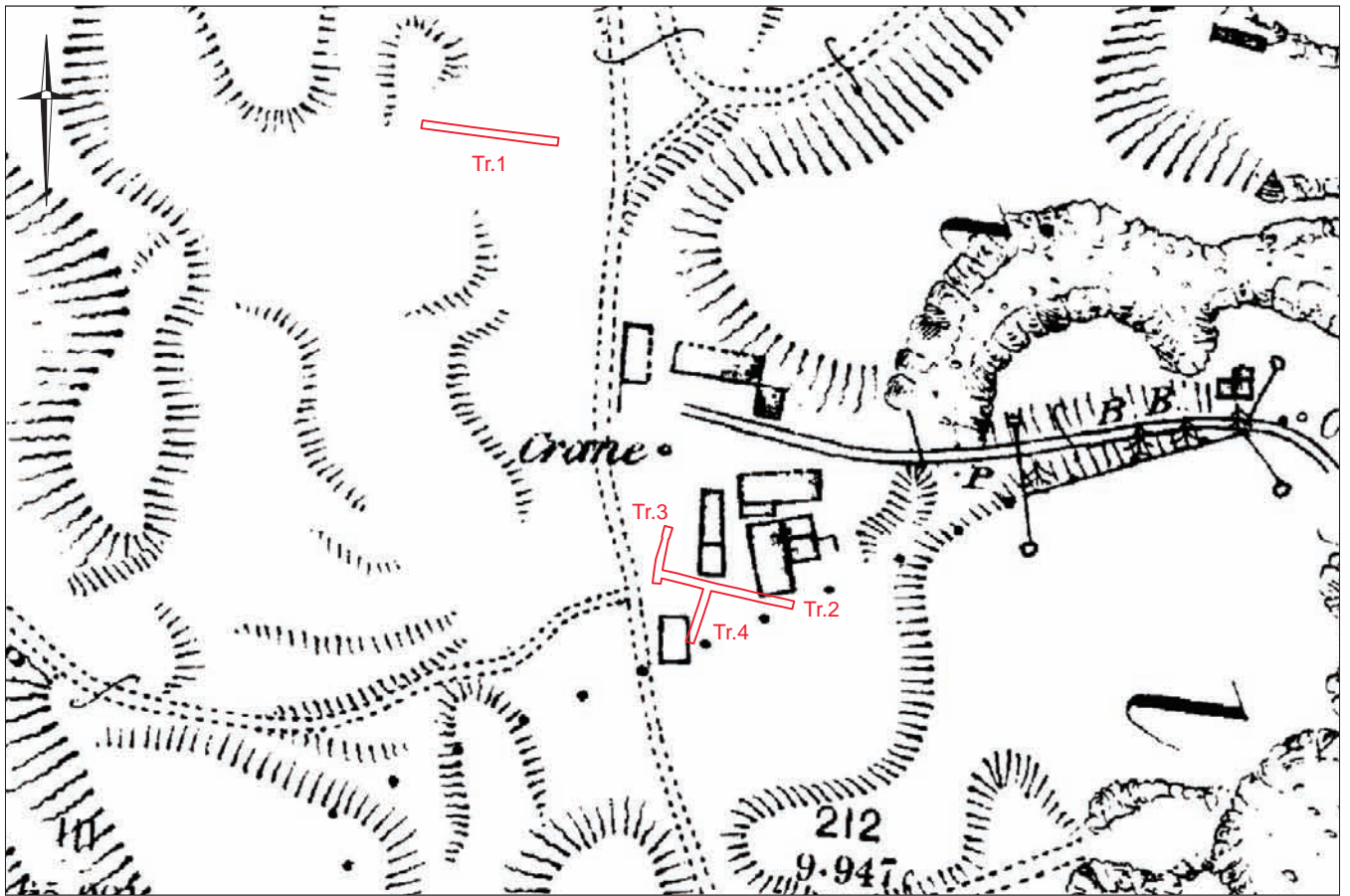


Figure 2: Top: Trench plan overlaid onto 1880s OS map. Bottom: Limekiln

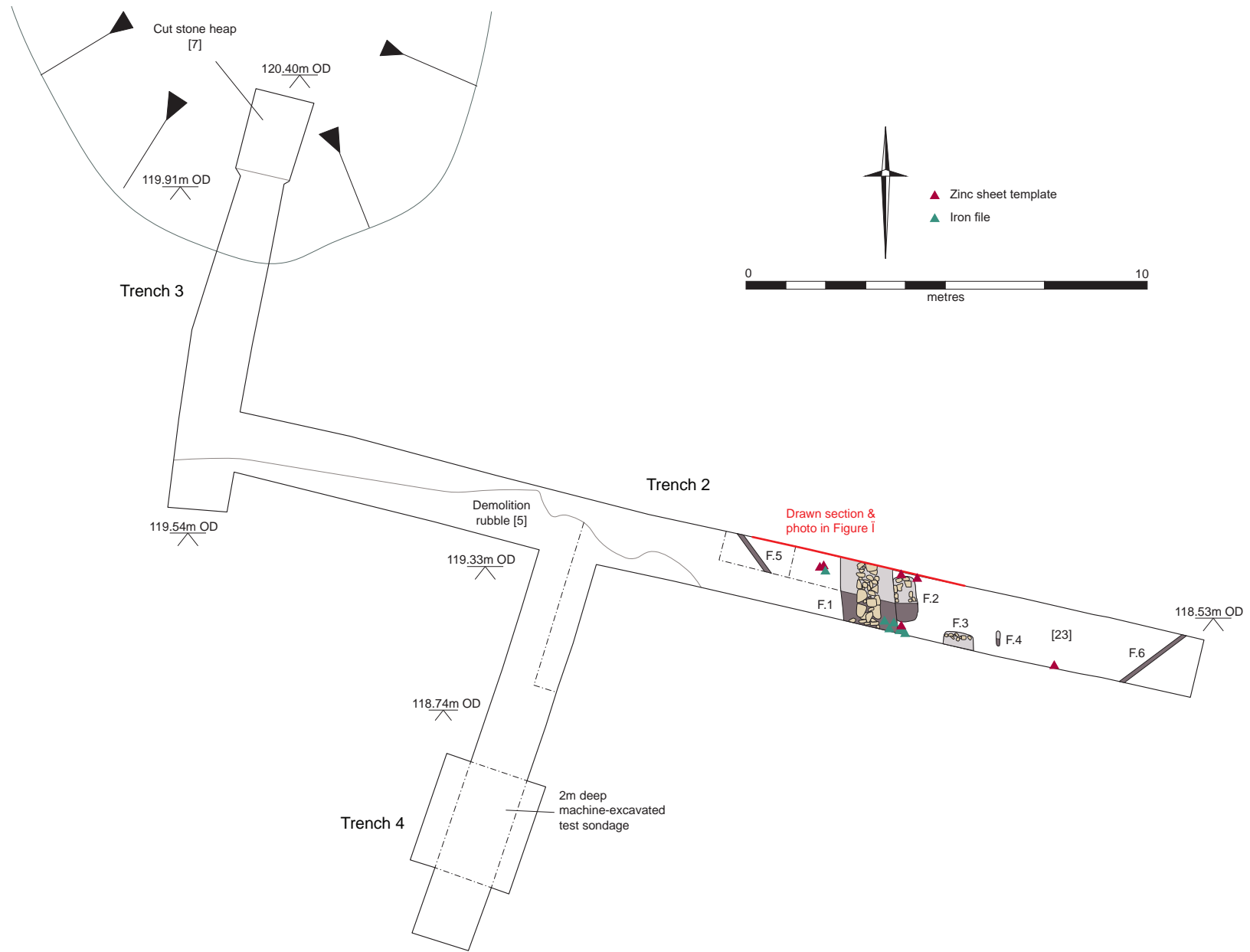
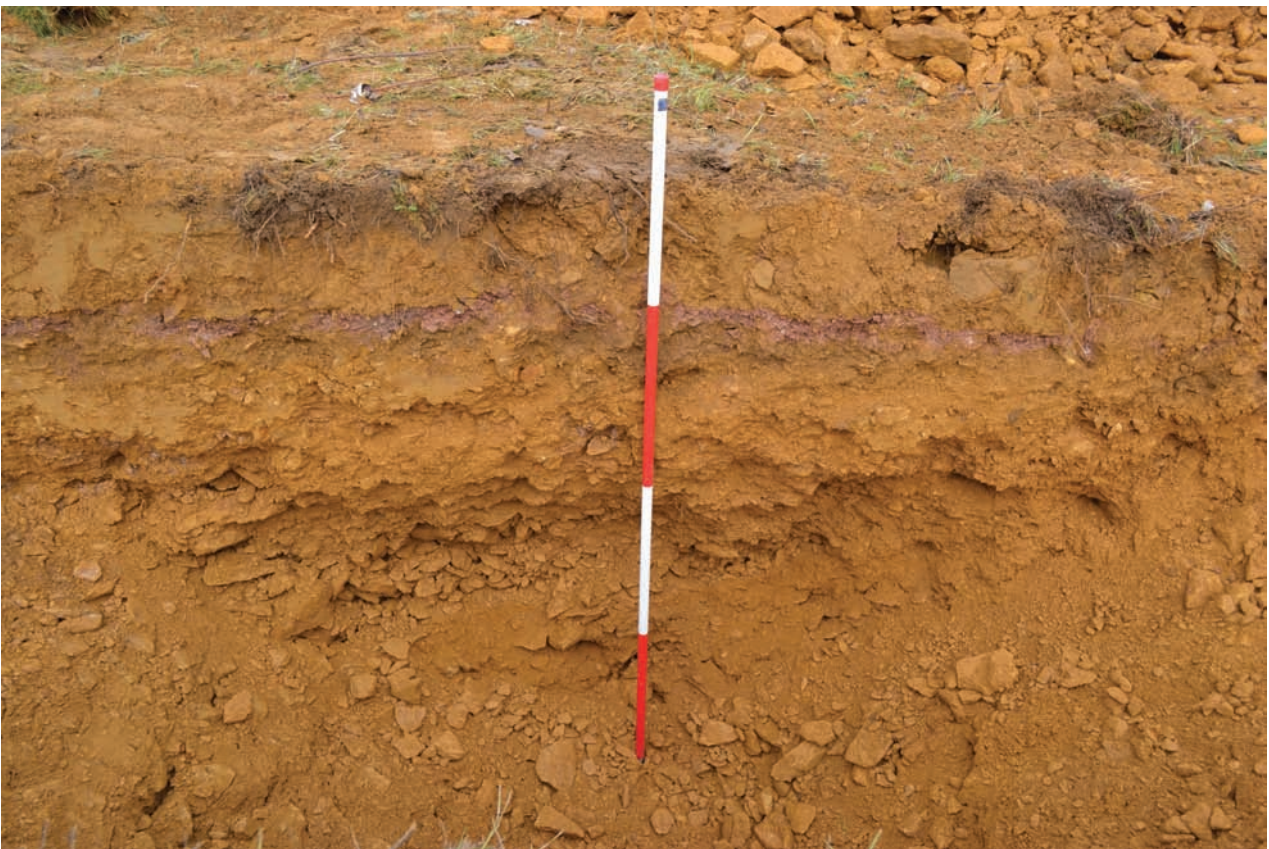


Figure 3: Detail plan of Trenches 2,3 and 4



a) Trench 1, looking east



b) Trench 1, profile

Figure 4: Trench 1 photographs



Figure 5. Trench 2 features, looking west



a) Trench 2, Iron files in situ with F.1



b) F.1 and zinc sheet templates in situ

Figure 6: Trench 2, iron file and zinc sheet template *in situ* with F.1

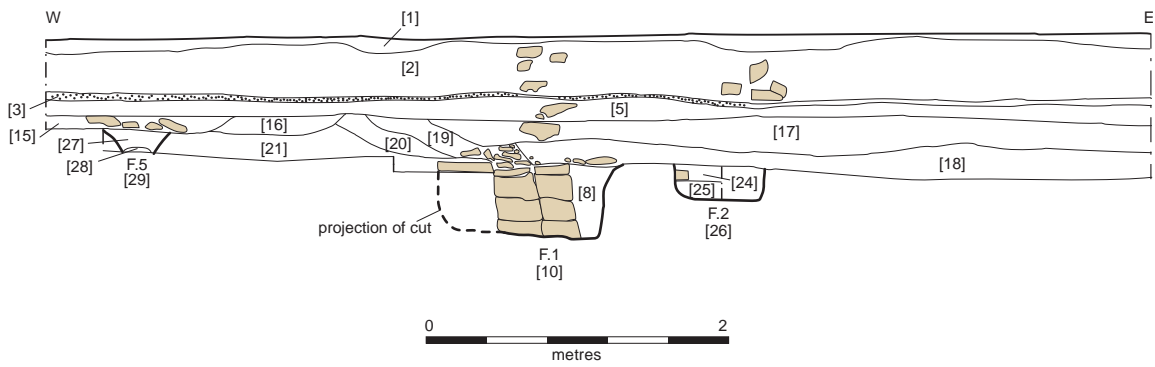


Figure 7: Section of F.1 and Trench 2

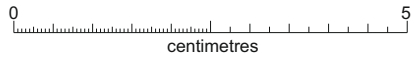
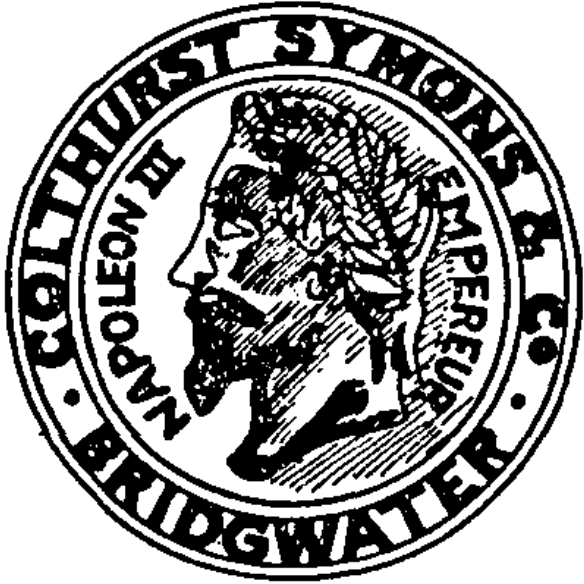
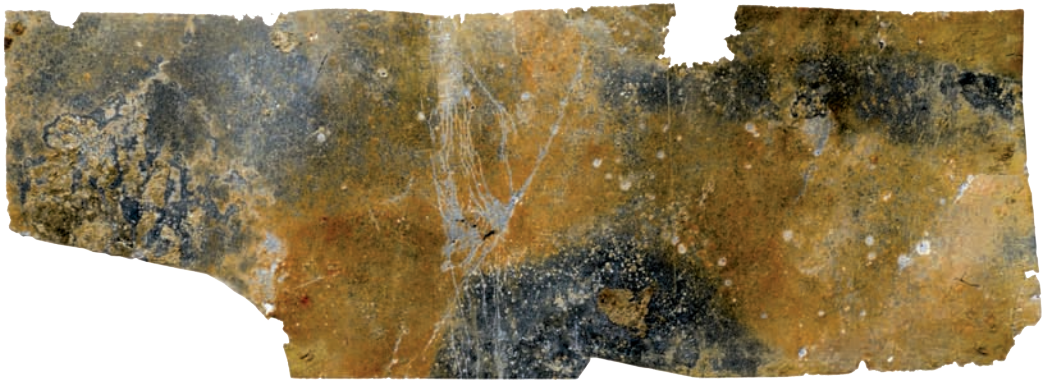


Figure 8: Tile with Colthurst Symons makers' stamp



a) Iron files



b) Zinc sheet templates

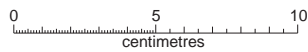


Figure 9: Zinc and Iron Artefacts

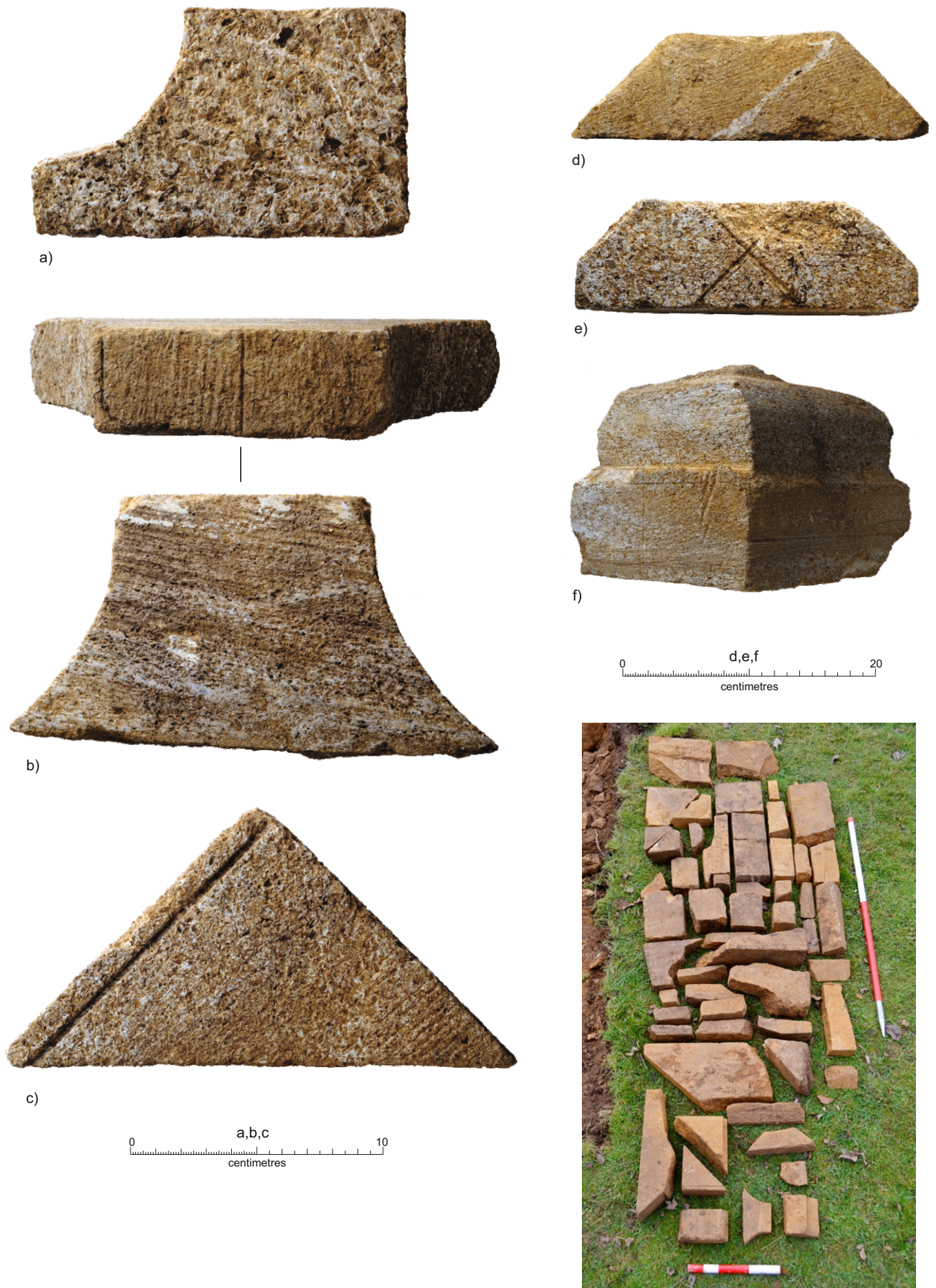


Figure 10: Cut stone artefacts

Summary for cambridg3-504047

OASIS ID (UID)	cambridg3-504047
Project Name	Limekiln Car Park, Ham Hill, Somerset. An Archaeological Evaluation!
Activity type	Evaluation
Project Identifier(s)	Ham Hill
Planning Id	
Reason For Investigation	Planning: Pre application
Organisation Responsible for work	Cambridge Archaeological Unit
Project Dates	15-Nov-2021 - 18-Nov-2021
Location	Ham Hill NGR : ST 48050 16350 LL : 50.9442356578589, -2.7408179055735 12 Fig : 348050,116350
Administrative Areas	Country : England County : Somerset District : South Somerset Parish : Norton sub Hamdon
Project Methodology	<p>with a nine-tonne tracked 360-degree machine excavator using a 1.8m wide toothless ditching bucket under the direct supervision of an experienced archaeologist. Removed overburden was placed in separate heaps to either side of each trench and, along with every machined level, was subject to regular sweeps with a metal detector. Trenches were located using an advanced Global Positioning System (GPS), which also obtained heights against Ordnance Datum (OD).</p> <p>Potential archaeological features were sample excavated with all archaeological finds retained. A written record of archaeological features and soil sequences was created under the CAU recording system. All sections were drawn at a scale of 1:10 or 1:20 as appropriate, and a high-resolution digital photographic record was assembled (RAW and JPEG files). Artefacts were recorded against context and depth of recovery and retained for study. Cut stone was recorded during the fieldwork with a small selection retained for further analysis.</p>
Project Results	<p>Quarrying activity was revealed throughout the trenches with Trench 1 containing only quarry waste filling a quarried void, with further evidence of quarrying recorded in Trenches 2-4. The foundations of a stone wall was encountered in Trench 2, which corresponds with a structure shown on the 1886 Ordnance Survey map. This was part of a complex of buildings belonging to quarry workings, which were no longer present in the map's 1906 edition. Iron files and zinc sheet templates were recovered from deposits associated with the building and its demolition, as well as window glass and ceramic roof tiles. A maker's stamp on one tile fragment may be securely dated to after 1867. Probably a masonry workshop, the 'floor' within the interior of the building showed no evidence for having previously been subject to quarrying, though it may have been truncated. Nevertheless, no pre-nineteenth century features were identified.</p>

Keywords	<p>Limestone Quarry - POST MEDIEVAL - FISH Thesaurus of Monument Types</p> <p>Ceramic - POST MEDIEVAL - FISH Archaeological Objects Thesaurus</p> <p>Window Glass - POST MEDIEVAL - FISH Archaeological Objects Thesaurus</p> <p>Butchered Animal Remains - POST MEDIEVAL - FISH Archaeological Objects Thesaurus</p> <p>File - POST MEDIEVAL - FISH Archaeological Objects Thesaurus</p> <p>Template - POST MEDIEVAL - FISH Archaeological Objects Thesaurus</p>
HER	Somerset HER - unRev - STANDARD
HER Identifiers	HER Event No - 445293
Archives	Physical Archive, Digital Archive - to be deposited with Somerset Museum Service

APPENDIX. CONTEXT SUMMARIES

Context Number	Context Type	Feature Number	Trench Number	Context Description	Thickness (m)	Find
001	Layer		1-4	Turfline	0.04-0.12	
002	Layer		1-4	Light to mid orangey brown fine sand	0.18-0.37	
003	Layer		1-4	Very thin, dark grey-purple sand and grit	0.01-0.07	
004	Layer		1	Loose mix of rubble and mid orange sandy silt	>1.5	
005	Layer		2-4	Dull grey-brown compacted sand and gravel layer	0.07-0.1	CBM Nails (2) Window glass (0.5g) Zinc sheet templates (2)
006	Layer		2-4	Fairly compact rubble mixed with mid orange sandy silt. Includes cut stones.	0.1-0.2	
007	Layer		3	Heap of large to small cut and moulded stones mixed with mid orange sandy silt and with occasional voids between stones.	0.5	Animal bone (3) CBM Nail Window glass (32.7g) Zinc sheet templates (10)
008	Fill	1	2	Compact mid-orangey yellow silty sand washed with white (lime?) laminations		Zinc sheet template
009	Wall	1	2	Unbonded drystone wall, 0.84m wide, oriented north-south with four courses of stone blocks, some clearly having been sawn to shape.		
010	Cut	1	2	Foundation trench of vertical edges and flat base, 0.5m deep, oriented north-south		
011	Fill	3	2	Friable mid born silty sand with frequent large rubble inclusions		Iron file
012	Cut	3	2	Square or rectangular scoop or hollow with rounded corners and concave sides to a flat base, continuing beyond the south edge of the trench; 0.75m wide and 3cm deep		
013	Fill	4	2	Moderately firm mid grey clayey silt		Window glass (63g)
014	Cut	4	2	Linear cut, 4cm deep, 0.37m long and 0.1m wide with rounded ends, oriented north-south.		
015	Layer		2	Friable orange yellow rubble and silty sand	0.12	
016	Layer		2	Compact light yellowish grey-brown silt with frequent small stones	0.14	
017	Layer		2	Compact mottled reddish orange and grey silty sand with frequent small to large stones	0.1-0.18	
018	Layer		2	Soft dark grey humic silt	0.26	Bottle glass (252.7g) CBM Iron bar

Context Number	Context Type	Feature Number	Trench Number	Context Description	Thickness (m)	Findings
						Iron files (8) Whetstone Window glass (156.3g) Zinc sheet templates (52)
019	Layer		2	Compact mottled dark grey-brown silty sand with frequent small to large stones	0.16	Pottery Zinc sheet templates (3)
020	Layer		2	Compact light orangey brown silty sand and rubble of mixed sizes	0.08	
021	Layer		2	Compact stone rubble and sandy silt with cut stones	0.25	CBM Iron wire (2) Nail Whetstone Zinc sheet template
022	Layer		2	Compact light yellowish orange sand and rubble	0.1	Iron files (2) Zinc sheet templates (14)
023	Layer		2	Firm sand mottled orangey-red and mid yellow brown, with inclusions of charcoal flecks and occasional patches of dark grey silt. Possible under-floor surface.	n/a	
024	Fill	2	2	Loose rubble mixed with mottled orange and grey sandy silt		CBM
025	Fill	2	2	Compact orange sand. Probably natural geology		
026	Cut	2	2	Sub-rectangular pit aligned north-south, 1.2m long and 0.6m wide with straight vertical edges and flat base, 0.22m deep		
027	Fill	5	2	Moderately firm orange sandy silt with rubble		
028	Pipe	5	2	Ceramic drain, 0.45m diameter		
029	Cut	5	2	Cut of drain ditch, 0.45m wide		