Archaeological Excavation at Hawkcombe Head, Exmoor National Park

Sub-circular clay feature dated to the Late Mesolithic.

Client:
Exmoor National Park Authority

ARS Ltd Report 2011/91
December 2011

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Contents

EXECUTIVE SUMMARY

Targeted excavation along the course of a pending underground electricity main was focused on geophysical anomalies in an area where Mesolithic features have previously been recorded. The excavations comprised three dispersed trenches; Trench 1 was a long linear trench immediately adjacent to Ven Combe and Trenches 2 and 3 were located on slightly higher ground but were much smaller in area.

Trenches 2 and 3 produced no archaeological remains or features of note. However, the main anomaly targeted by Trench 1 was found to be the focus for a high density of chipped flint tools and debitage of Late Mesolithic date. Once the topsoil and subsoil had been removed a thin, weathered and vague darker and more clay-rich patch could be observed. This feature was initially interpreted as an occupation surface. It had been situated on a small area of natural flat shelf on an otherwise moderate to steeply sloping hillside again suggesting careful choice of location. Flotation of an environmental sample from this occupation surface recovered a single fragment of hazelnut shell which has returned a date of 6245 ±35 BP (5311-5073 cal BC at 95.4% probability) placing this feature in the latter 6th millennium cal BC and confirming it as a Mesolithic feature.

A total of 154 flints were recovered from the excavation, the character of which compliments the previous lithic assemblages recorded from Hawkcombe Head. The assemblage is derived from beach pebble flint which is locally available. It includes blade cores of single platform and multiple platform types together with scrapers, an awl, burin, an assortment of retouched blade tools, microliths and microburins. Other than the awl, the rest of the material fits into a Late Mesolithic narrow blade manufacturing tradition and is consistent with the radiocarbon date from the occupation surface.

The occupation surface is interpreted as either a small working area or settlement site. It is situated just 10 metres from previously excavated Mesolithic features which include a hearth that has produced a radiocarbon date of 6390-6210 cal BC, and is therefore around a thousand years earlier than the occupation surface reported here. A posthole immediately adjacent to the Hawkcombe spring head has produced a date of 6760-6500 cal BC. Taken together none of these dates overlap despite them being taken on single entity samples from short-lived species. This indicates that the spring heads, or 'combes', at Hawkcombe Head formed an important foci for Mesolithic activity over a sustained period. This important landscape niche clearly contains a wealth of multi-phase Mesolithic archaeological remains just a few centimetres below the ground surface.

This excavation has further demonstrated the importance of this landscape locale for preserving important archaeological remains relating to Exmoor's earliest inhabitants as well as testifying to the utility of high resolution geophysical survey for prospecting for buried remains in a moorland setting on thin acidic soils, and in particular for ephemeral Mesolithic features.

1. INTRODUCTION

1.1 This report describes the archaeological excavation undertaken during September 2011 by Archaeological Research Services Ltd (ARS Ltd) at Ven Combe, Hawkcombe Head, Exmoor National Park, West Somerset. The work was commissioned by Exmoor National Park Historic Environment Service (ENPHES) on behalf of the Exmoor Moorland Landscape Partnership, and in response to the planned undergrounding of cables by Western Power Distribution.

1.2 The project comprised the excavation of three trenches located along the line of the proposed undergrounding. The trenches were located so as to target anomalies identified through close-spaced geophysical survey.

2. LOCATION, LAND USE AND GEOLOGY

2.1 The Hawkcombe Head site is centred at SS 842 458 (Fig. 1) and lies within the Exmoor National Park *c.*4km west-south-west of the coastal village of Porlock. The site is designated a Site of Special Scientific Interest (SSSI) but has no statutory archaeological protection. The site also lies 1km north of Porlock Stone Circle (NMR number SS 84 SW 10) and a prehistoric cairn (NMR number SS 84 SW 129) (www.pastscape.org.uk).

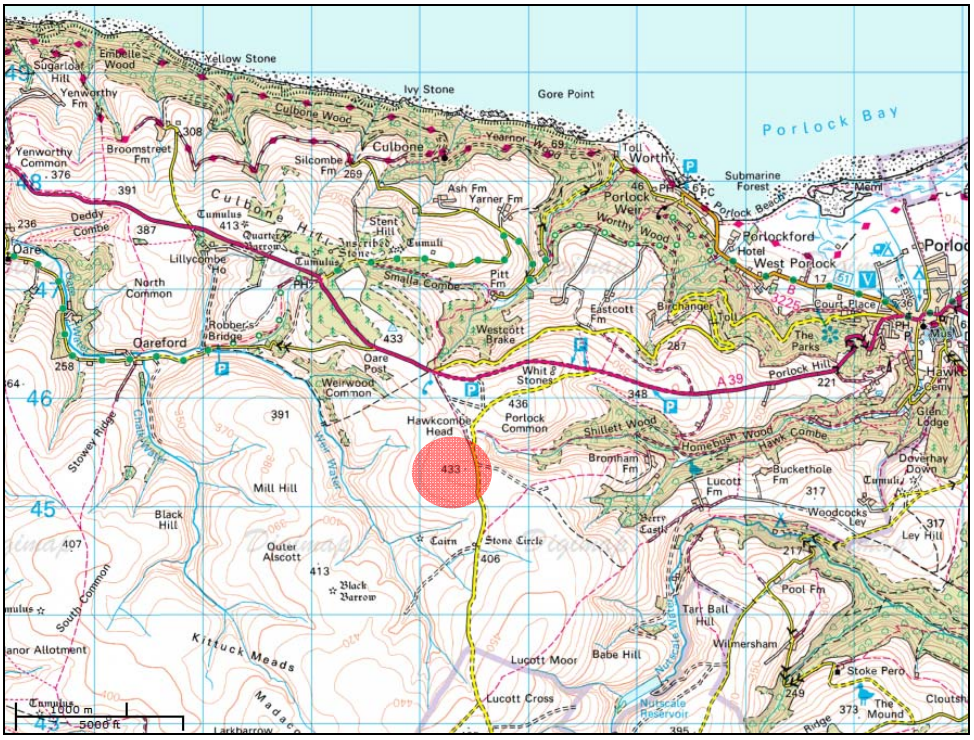

Fig. 1 Location of the Hawkcombe Head site.
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2.2 The site has been used as enclosed pasture land for a number of years. To the east, the site is abutted by a narrow road connecting the A39 with the B3223 (Porlock to Exford). The site lies on the Hangman Sandstone formation, and the superficial geology was represented by a sandy clay subsoil.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 The proposed cable route crosses an area where Mesolithic activity is known from previous geophysical survey in 2001 and 2011, dedicated excavations (2001-5 and ongoing by Dr Paula Gardiner of the University of Bristol) (see Gardiner 2007), as well as flint finds made in the 1940s and subsequently. The Mesolithic activity around Hawkcombe Head comprises several excavated hearths, possible structures and a substantial collection of flint tools and debitage. The archaeological deposits around Ven Combe have been previously found to be shallow and to not exceed 350mm. However, deeper deposits may be encountered close to the spring head.

3.2 The nearby beach at Porlock contains a submerged forest visible only at low tide. Palaeoenvironmental studies show that this forest was cultivated during the Mesolithic period and flint was recovered from the site during the 19th Century (Wymer 1977; Riley and Wilson-North 2001).

4. AIMS OF THE PROJECT

4.1 The principal objectives of the programme were to identify and record any archaeological, and specifically Mesolithic, remains on the site based on the results of the geophysical survey within a 2m wide transect along the line of the proposed undergrounding, and to recover associated artefacts. This was to take the form of an excavation followed by an archaeological watching brief to monitor the remainder of the undergrounding route (the latter carried out separately by Exmoor National Park Authority). The results of the work were to be placed in context of previous work on Mesolithic remains at the site undertaken by the University of Bristol (Paula Gardiner). The process involved:

- Archaeological excavation of features along the line of the undergrounding route at Ven Combe.
- The recovery of Mesolithic flint from the topsoil and subsoil along the line of the undergrounding route.

5. METHODOLOGY

5.1 Geophysical survey, completed in 2011 by Substrata, identified a number of potential archaeological features along the line of the proposed undergrounding. A total area of 177 square metres was excavated by means of three separate trenches, each of which was targeted on a specific geophysical anomaly, or in the case of Trench 1 a group of anomalies. Trench 1 measured 2m x 66.5m and was located immediately adjacent to the spring head at Ven Combe on its west side. Trenches 2 and 3 both measured 4m by

5m and were targeted on geophysical anomalies along the line of the undergrounding to the south-east of Trench 1 (Figure 2).

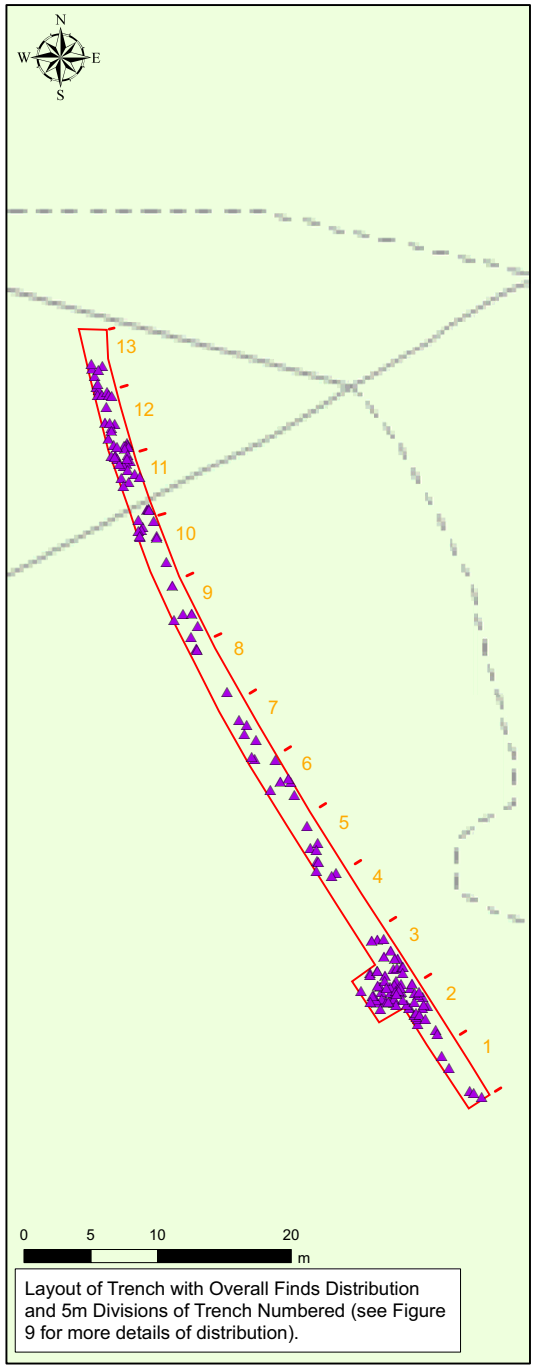
5.2 The topsoil was removed by machine in level shallow spits under constant archaeological supervision. The overburden was carefully monitored with the aim of recovering any artefactual evidence, in particular flints, as well as allowing for no disturbance to the truncated and often ephemeral subsoil and archaeological deposits beneath the shallow peaty topsoil.

5.3 In order to sample the overburden it was carefully removed and deposited immediately next to the edge of Trench 1 and each 5m section was marked off the implementation of a systematic sieving strategy. These spoil heaps were sieved in part by groups of school children who visited the site under the supervision of Exmoor National Park Authority staff.

5.4 The subsoil and archaeological features were cleaned and excavated by hand and were fully recorded by context as per the Institute for Archaeologists' Standard and Guidance for Archaeological Excavation and Archaeological Watching Briefs (IfA 2008a; 2008b). A full and proper record (written, graphic and photographic as appropriate) was made for all work, using pro-forma record sheets and text descriptions appropriate to the work. All features were recorded in plan and section at scales of 1:10, 1:20 or 1:50. All scale drawings were drawn at a scale appropriate to the complexity of the deposit/feature and to allow for accurate depiction and interpretation. All archaeological deposits and features were recorded with an above ordnance datum (aOD) level.

5.5 All artefacts were treated in accordance with UKIC guidelines, *'First Aid for Finds'* (1998). All the flint finds were bagged, given a unique find number and were labelled according to the context from which they were recovered, ready for later cleaning and analysis. All flints were also surveyed in so that their exact findspot was known (Figure 9).

5.6 Where features had the potential to contain palaeoenvironmental or datable remains, as in the case of the occupation surface F004, a sample of half of the entire feature was removed and passed through a flotation tank in an attempt to find out more about the past environment and whether samples for radiocarbon dating could be obtained. Flotation of the fill of feature F004 was undertaken employing graduated brass sieves, with 300μ as the smallest fraction. Assessment of botanical macrofossils and charred samples was undertaken by Archaeological Services, Durham University (see Palaeoenvironmental section below).



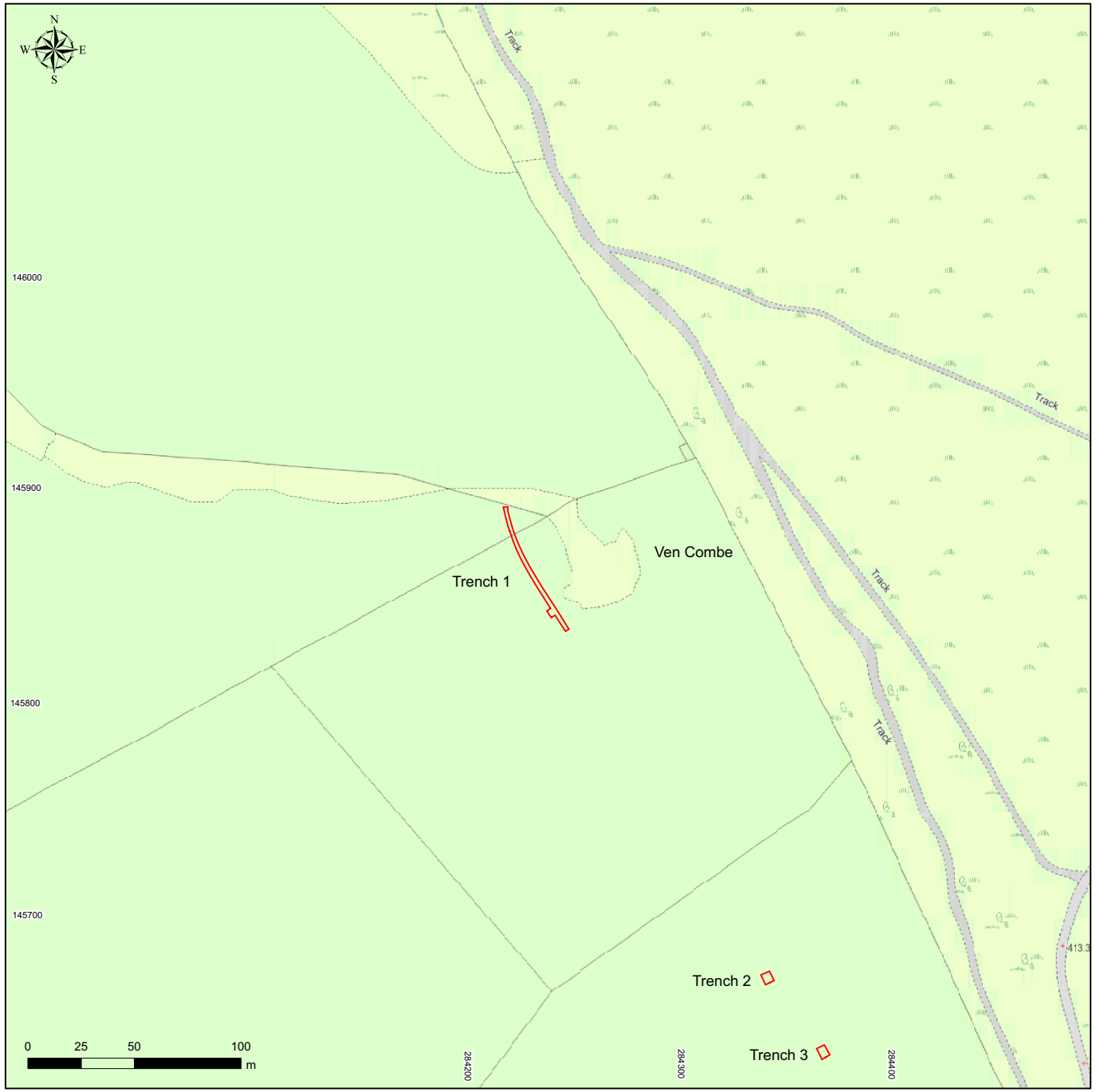


Figure 2. Site Plan

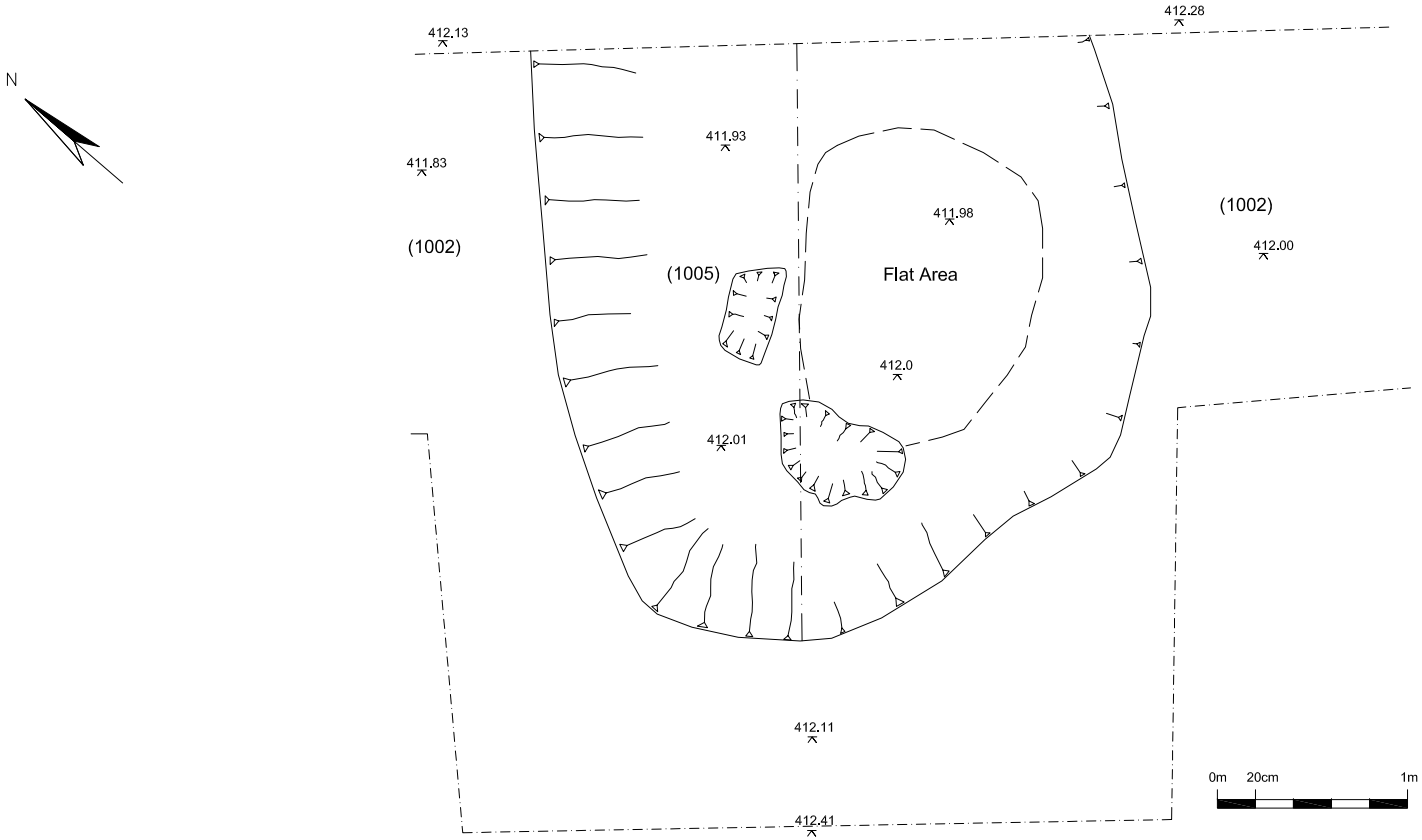
6. RESULTS

Trench 1

6.1 This section describes the features and deposits encountered during the course of investigations in Trench 1. The trench was located immediately adjacent to Ven Combe on its western side and was positioned so as to test anomalies identified by the previous geophysical survey. The stratigraphy across Trench 1 varied with a topsoil overlying a subsoil which in turn overlay the natural brash/weathered bedrock surface and elsewhere in the trench no subsoil was evident so that the peaty topsoil directly overlay the brash.

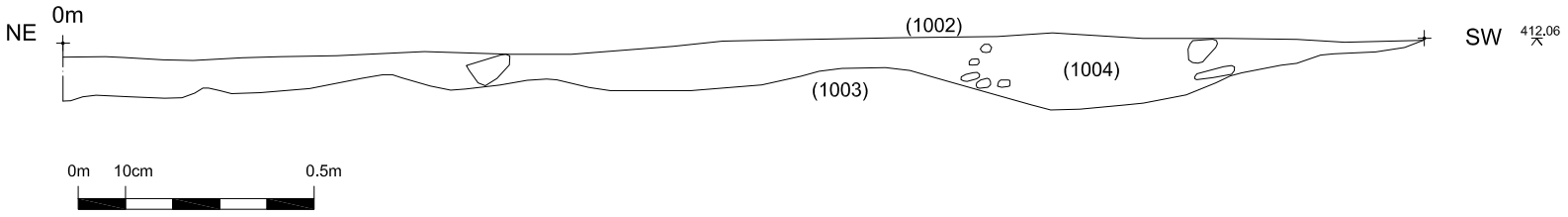
6.2 The topsoil in Trench 1 (1001) consisted of a fine-textured peaty silt, dark grey-black in colour (5Y 2.5/1). Inclusions were minimal although several lithic finds were identified during sieving. The field was apparently ploughed after the Second World War, although it has not been ploughed since. Consequently, the maximum depth of the topsoil was 0.18m. The subsoil in Trench 1 (1002) consisted of a very fine mid brown clayish silt (10YR 3.2), heavily mottled by bioturbation and root action and with iron staining apparent from the sandstone below. The horizon between (1001) and (1002) contained most of the worked flint in Trench 1. This deposit had a maximum depth of 0.05m. The subsoil, where evident, in Trench 1 overlay a layer of 'brash' or degraded bedrock (1003). This brash layer comprised the natural upper surface of the bedrock. The sandstone is very degraded, presumably due to the long wet periods that prevail in the overlying soil throughout the year. The rock has a typically yellow or red hue dependant on iron content, and fragments easily. The red iron-rich rock tends to shatter, while the soft yellow rock crumbles or compresses.

Figure 3 Photograph of the Trench 1 baulk edge with evidence for bioturbation caused by earthworm and root action. The movement of the peaty topsoil down into the subsoil can clearly be seen.



Plan of feature (F004)

Section of feature (F004)
(section 1)



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Date: 19/09/2011
Drawn: KM/SW

Figure 4

Feature (F004)
Post-excavation plan and section

Notes:

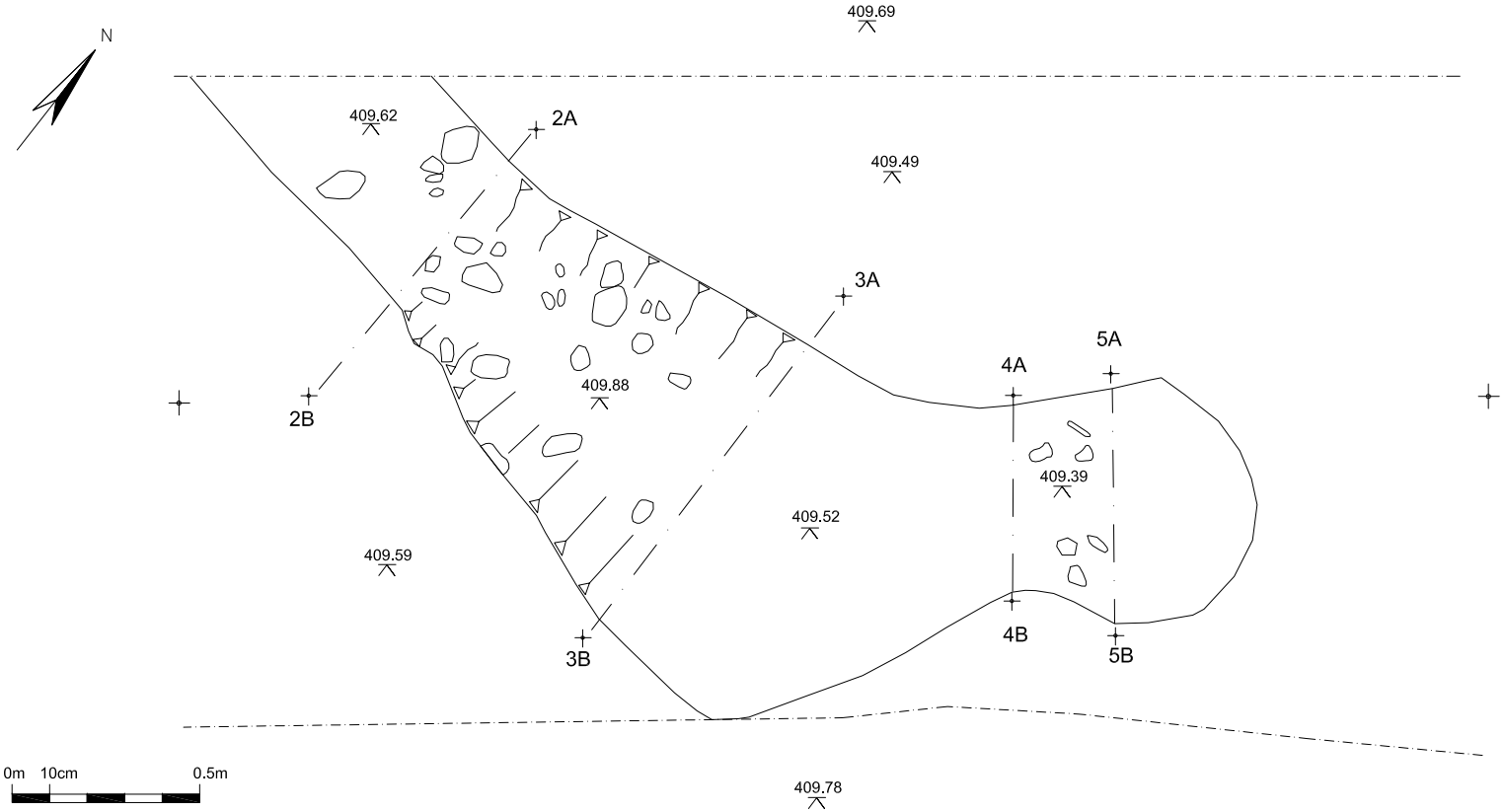
6.3 The main anomaly tested by the excavation revealed a flint artefact cluster in this precise location together with an identifiable sub-circular feature, *c.*3m in diameter, on which a large amount of the flints were located (F004) and which was of noticeably different material to the surrounding subsoil and brash. This feature (F004) comprised a fine-grained clay silt deposit that filled a localised area of flat terrace on an otherwise sloping hillside. This ostensibly 'clay' surface or 'floor' could be distinguished from the surrounding soil and bedrock on account of its different texture and its yellow and, in patches, dark grey coloured soily inclusions. This material is evidently imported to this location and it is considered to be a made deposit. Within the darkened sub-circular area was an area of non-degraded sandstone which is likely to be material deliberately placed in this location as the native rock here is otherwise heavily degraded. The 'occupation surface' was half sectioned and it revealed an uneven brash surface that had evidently been leveled by the pacing of the clay deposit. After recording in section the rest of the feature was excavated and samples taken for palaeoenvironmental assessment. Together with the flint concentration here and the imported sandstone, this suggests an occupation hollow/terrace possibly ultilised for flint knapping and, no doubt, other activities. It is located on the immediate west side of Venn Combe opposite the clay occupation surface and associated flint assemblage found on the east side of the combe *c.*50m away during previous excavations. A hearth and associated flint assemblage was also found 10m or so to the west of the occupation hollow and has been dated to the mid 7th millennium cal. BC (Gardiner 2007).

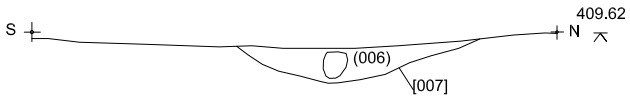
Figure 5 The occupation surface (F004) formed by the slightly more yellow clay area that contains dark grey material across its central area (scale = 2m). Note how it occupies a level area on otherwise sloping ground.

Figure 6 The 'occupation surface (F004) after half-sectioning.

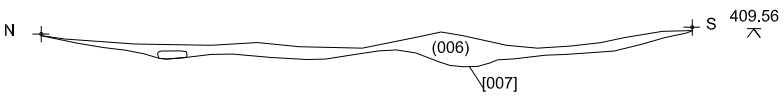
6.4 Below F004 was an interface or 'cut' (1005) consisting of a slight hollow probably resulting from modification of the natural terrace within the sloping ground immediately next to Venn Combe. The base of the hollow is noticeably uneven compared to the bedrock surface elsewhere and around it implying that it had been gouged out before being filled and leveled off with the clay deposit.

6.5 A second feature was identified in Trench 1 consisting of a linear feature (F006) with a stony fill that was observed at the lower northern end of Trench 1. This ran in an east to west direction across the trench and proved to be very shallow with a maximum depth of 0.04m. The fill comprised angular non-degraded sandstone within a dark grey loamy soil matrix. No finds or charred material was recovered from this deposit. As it is oriented downslope towards the combe it could be the truncated remains of a drain or possibly or, less likely, part of an old boundary feature.



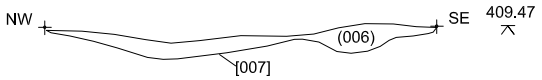


Section of feature (006) (section 2)



Section of feature (006) (section 3)

Section of feature (006) (section 4)



Section of feature (006) (section 5)

0m 0.05cm 0.25m

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Figure 7

Trench 2 Feature 006 plan and sections

Notes:

Figure 8 View of the shallow linear feature running obliquely across Trench 1 (scale = 0.25m).

Context	Description	Max Dimensions (m.)	Colour of fill	Texture of fill	Small Finds	^{14}C Dates bp (uncal.)
Trench 1						
1001	The topsoil which extended over the entire site was a dark grey-black loamy, peaty soil.	Average 0.18m thick.	Dark-Grey Black. 5Y 2.5/1.	Fine textured peaty, loamy soil.	Lithics	
1002	Mineral soil or 'subsoil' that was heavily mottled and with iron staining from the sandstone below.	Average 0.05m thick.	Pale, grey brown. 10YR 3/2.	Very fine grained clayey-silt.	Lithics	
1003	Natural degraded bedrock surface (brash).		Varies from bright yellow, grey, brown to deep red.	Sandstone.		
F004	Deposit fills a flat terrace that has been modified to produce an 'occupation hollow' next to Ven Comb.	3.10m by unknown width (over 3.05m) and 0.04m by 0.14m thick.	Medium brown with black patches of peaty soil included. 5YR 3/2.	Very fine grained silty-clay.	Lithics, hazelnut	6245 ±35
F006	A shallow linear ditch backing east-west across the trench downslope towards the Comb. Possibly the remains of a drain or old boundary.	Unknown length by 0.66m – 1.13m width and maximum thickness 0.04m.	Medium Grey-Brown. 5YR 2.5/2.	Medium grained silt.		
Trench 2						
2001	The topsoil which extended over the entire site was less	Average 0.18m thick.	Dark-Grey Brown. 10YR 2/1.	Medium to coarse sandy-silt.		

	peaty that the topsoil in lower Ven Comb field – soil was drier and less wet.					
2002	Mineral soil or 'subsoil' that contained angular sandstone inclusions.	Variable depth 0.01m - 0.04m thick.	Orange brown. 10YR 3/3.	Medium grained silt.		
2003	An area of angular sandstone in centre of the trench that could be a natural accumulation as it contained no finds or heavily truncated man-made feature.	1.4m N-S by 1.7m E-W and 0.06m maximum thickness.	Wet, Dark-grey brown. 5YR 2.5/1.	Fine grained silt.		
2004	Natural degraded bedrock surface (brash) that was not as weathered or rotten as in Trench 1 due to the area being at the apex of the hill and therefore better drained.		Orange brown. 7.5YR 4/6.	Sandstone.		
Trench 3						
3001	The topsoil which extended over the entire site (same as 2001).	Average 0.13m thick.	Wet, Dark-Grey Brown. 10YR 2/1.	Medium to coarse sandy-silt.		
3002	Thin subsoil identical to that in Trench 2 except more abundant small sandstone pebbles.	Average depth 0.04m	Brown-orange. 10YR 3/3.	Coarse grained sandy-silt.		
3003	Natural brash layer same as 2004.		Orange brown. 7.5YR 4/6.	Sandstone.		

Table 1 Summary context descriptions.

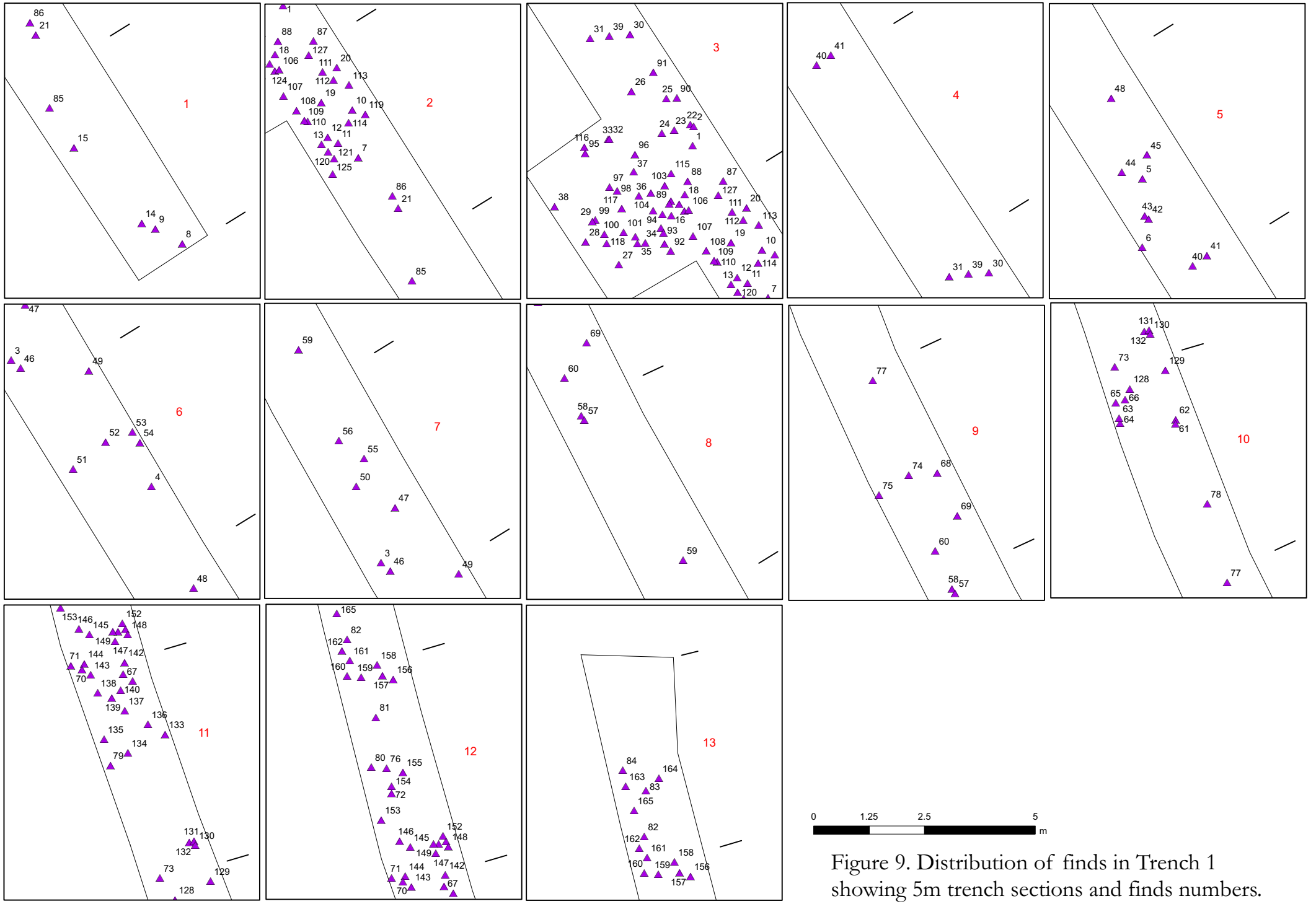


Figure 9. Distribution of finds in Trench 1 showing 5m trench sections and finds numbers.

Trench 2

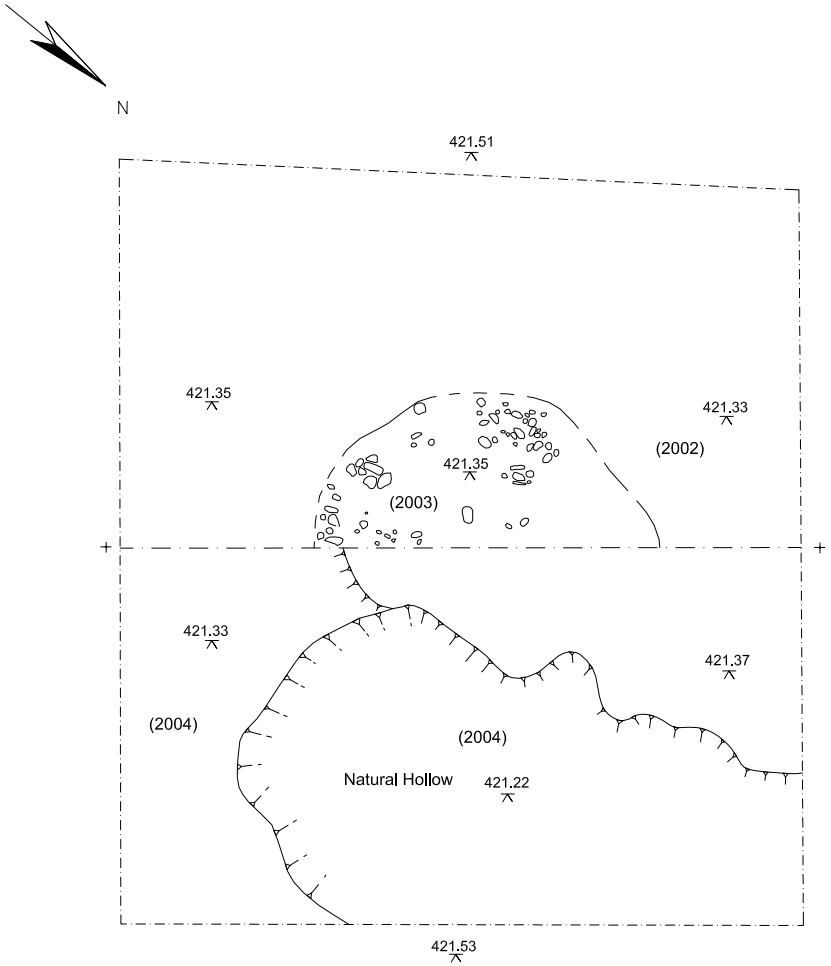
6.6 Trench 2 was located to the south-east of Trench 1, in the adjacent field. This location was upslope of Trench 1, away from the combe on slightly higher ground targeted on another geophysical anomaly.

6.7 The topsoil in Trench 2 (2001) was considerably more humic than the topsoil in Trench 1, but distinctly less peaty and dark grayish brown in colour (10YR 2/1). The soil was also dryer and the bedrock below was less degraded than in Trench 1. The deposit contained abundant sandstone ranging in size from small chips 0.01m in length to larger pieces up to 0.15m in length. The deposit had a maximum depth of 0.18m. The subsoil or 'mineral soil' lens (2002) in Trench 2 was very shallow, with a maximum depth of 0.04m, and was orangey brown in colour (10YR 3/3). It was located directly below the topsoil layer (2001) and contained angular sandstone inclusions.

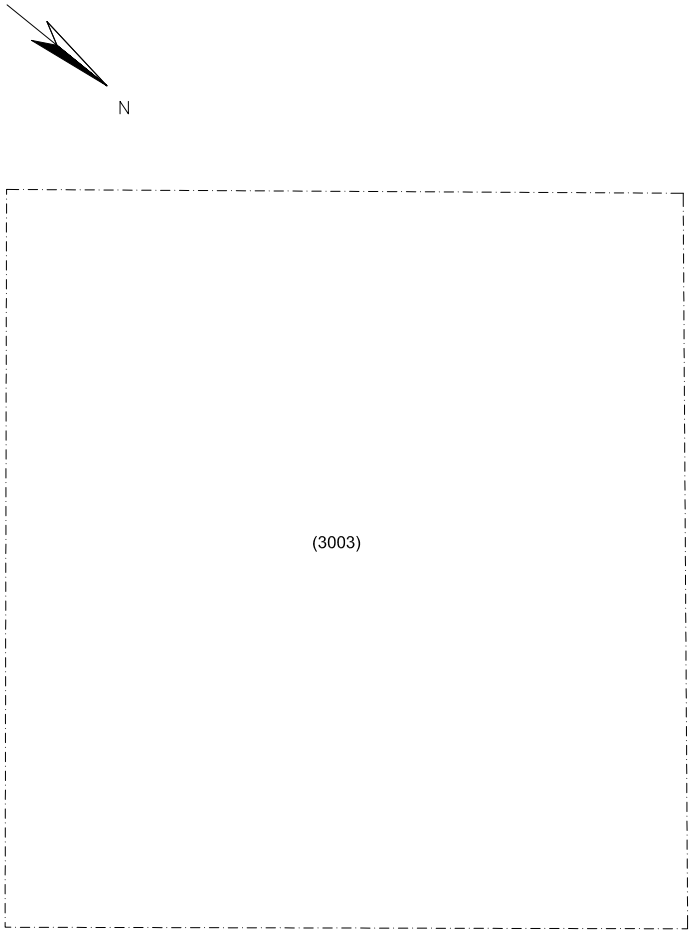
6.8 In the centre of Trench 2 an area of stony material was uncovered (2003) (see Fig. 11). The stony material was situated at the location of an anomaly identified by the geophysical survey and could be differentiated visually from the surrounding subsoil (2002) and brash (2004). It could potentially be a natural accumulation; however it was situated on a flat area suggesting that it could have been a man-made feature that has been heavily truncated leaving only a vague stony area. No discrete archaeological features could be identified in the trench and it is not certain whether the stony patch in the trench is anything other than natural.

6.9 Directly below the subsoil (2002) and stony layer (2003) was a layer of degraded bedrock or 'brash', similar to the material in Trench 1 (2004). The upper surface had degraded to produce a ferruginous stone layer, however it had not degraded to the degree of the brash layer in Trench 1. This is possibly due to the location of the trench on higher ground, meaning less water could accumulate on this localized high point.

Fig 10 Trench 2 during excavation with half of the subsoil removed. The dark staining in the foreground was natural staining and did not include any charred or burnt material.



Post-ex plan of Trench 2



Post-ex plan of Trench 3

0m 20cm 1m

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Figure 11

Post-excavation plans of Trench 2 and 3

Notes:

Trench 3

6.10 Trench 3 was located m south of Trench 2 and had a similar stratigraphy. The topsoil of Trench 3 (3001) was very similar to that in Trench 1: peaty silt, dark grayish brown in colour (10YR 2/1). The maximum depth of the deposit was 0.13m and there were abundant inclusions of small angular sandstone pebbles. The subsoil in Trench 3 (3002) is almost identical to (2002), although there is a higher amount of sandstone inclusions. The maximum depth of the deposit is 0.04m. Directly below (2002) was situated the natural brash layer (3003). This layer is again almost identical to its counterpart in Trench 2 (2004), and is relatively even. It had some natural staining apparent within it but no archaeological features could be identified and no finds were made.

Figure 12 Trench 3 after excavation. Natural staining and an area of more stoney and clay subsoil was observed but it produced no material culture or organic material. The narrow grey linear feature on the left hand side is thought to be an ephemeral scar produced by previous shallow ploughing across this area.

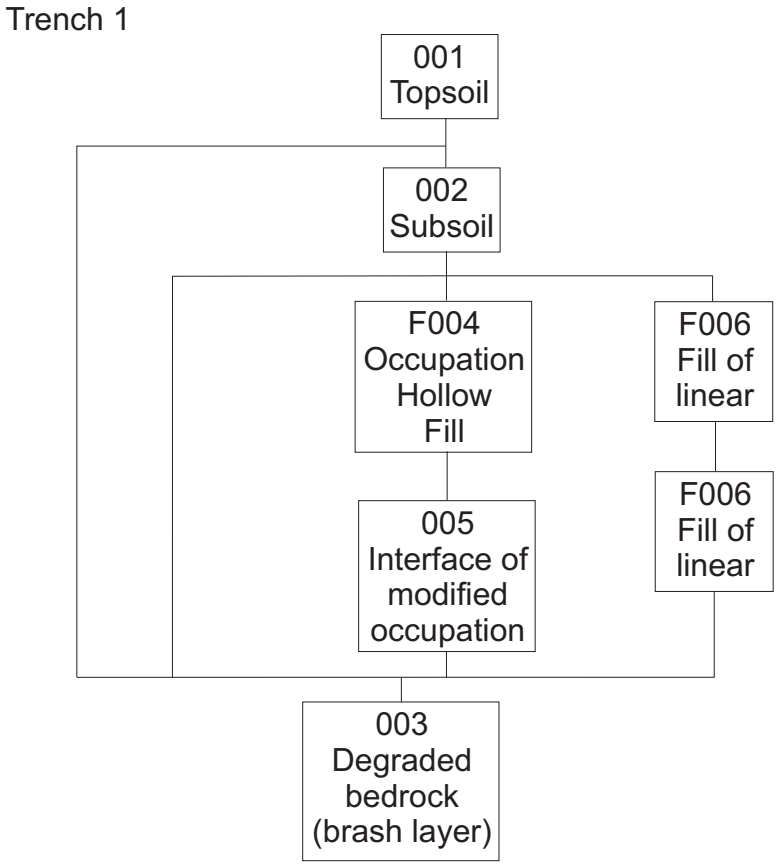


Figure.13 Harris matrix showing the relationship between the different contexts across the site.

7. LITHICS REPORT

By Paula Gardiner

Introduction

7.1 The 2011 excavation was carried out as a result of the Exmoor National Park's policy to bury overhead cables across the moorland. The route of the proposed trench passed through the Ven Combe area on the improved moorland where there was potential for prehistoric archaeological remains.

7.2 A total of 154 chipped lithics were submitted for assessment and analysis (see also catalogue in Appendix 2). The lithics were recovered from contexts 1002, 1003 and 1005 with four pieces recovered through sieve sampling from Areas 2 and 5 in Trench 1. The topsoil was machined off with the remaining contexts being hand-trowelled.

7.3 Context 1002 was located immediately below the peaty topsoil (context 1001) and was uniformly spread throughout the trench. Context 1004 was the compacted fill of an 'occupation surface' or 'clay surface' (F004) which overlapped between Blocks 2 and 3. This context produced 23 pieces of flint, of which eight pieces are classifiable and include an awl (No.105), an obliquely pointed microlith (No.107), a single platform core (No.125), three retouched blades (Nos.110, 113, 127), a serrated blade (No.126) and a utilised blade (No.90). A full catalogue with details of each individual piece is presented in Table 3 at the end of this report. Measurements are given for complete pieces in accordance with lithic recording conventions (Saville 1980). Cores have their two longest measurements recorded. The 16 pieces of quartzite and the one piece of sandstone have been taken out of the percentage calculations as they are found in the local geology (Edwards 2000). One piece of quartzite (No. 102) has the appearance of a worked core, but there is no evidence of worked quartzite blades or flakes in the assemblage. This leaves 154 pieces that make up the flint collection, of which 67 (44%) are retouched or utilised tools, with 87 (56%) pieces of debitage.

7.4 The lithic assemblage is of a size and type that suggests it belongs to the Mesolithic, with 23 (15%) pieces suggesting they belong to a later Mesolithic narrow blade industry as suggested by Jacobi (1979). These pieces include three Microburins (Nos.12, 54, 75) produced as a result of microlith production, a rod microlith (No.132) and a crescent microlith (No.169). There is one piece that is diagnostic of the earlier Mesolithic; a burin made on a broad blade (No.30).

7.5 The 2011 assemblage is comparable in form and raw material to that recovered from earlier excavations at Hawkcombe Head, where fieldwork and excavations have been carried out since 2002 (Gardiner, 2007). Although the 2011 collection is a moderate quantity, a significant proportion of these pieces (44%) are formal tools, or utilised pieces which are chronologically diagnostic of the Mesolithic period.

Chronology

7.6 A late Mesolithic presence on the site is evidenced by the cores, in particular two micro-cores (Nos.62, 86), together with the rod (No.132), the crescent (No.169) and the

three microburins (Nos.12, 54 75). These tools sit well with the radiocarbon date of 5311-5073 cal. BC (SUERC-37347; GU26131) from the occupation floor and the date of 6390-6210 cal BC (Gardiner 2007, 90) from a hearth 10m from the 2011 trench.

7.7 There are two small square/rectangular snapped blades with edge notches (Nos.50, 93) that conform to other pieces recovered from earlier excavations where they were found in sufficient quantity to suggest a tool-type specific to the site overall. The presence of microburins confirms the production of Late Mesolithic microliths on the site, with the rod (No.132) being the diagnostic tool for the terminal Mesolithic. The retouched blades together with the utilised blades and flakes within the assemblage are of a size that generally suggests a Mesolithic industry, with predominance towards the later Mesolithic (Clark, 1934; Jacobi 1979). However, the presence of the burin (No.30) suggests a small broad blade component suggestive of an early Mesolithic presence on the site (Clark 1954).

Figure 14 An Early Mesolithic burin made on a broad blade (scale = 5cm).

Distribution

7.8 The lithic material was scattered throughout the trench and found in all Areas, with heavier concentrations in Areas 2 and 3 at the south end of the trench and Areas 10 – 13 in the north end of the trench. Area 3, around the occupation floor, was extended 2.5m to the west as this had a particularly high concentration of lithics from contexts 1002, 1003 and 1004.

7.9 No evidence of hearths was recovered, although there are three pieces of fire-cracked debitage, but these pieces are not found in any concentration, and are rather scattered between Areas 5, 11 and 12.

Raw Material

7.10 The raw material is entirely composed of pebble flint. Overall, the pebble flint is of good quality that allows the production of small microliths and blades and flakes that can be retouched or utilised. Two pieces of debitage are patinated (Nos. 11, 40) and three pieces of debitage show evidence of fire-crackle (Nos. 40, 80, 142). Fire-cracked flint has been found throughout the site during earlier excavations (Gardiner 2007, 92).

7.11 The raw material probably derives from Porlock Beach, although there is little evidence of flint today on the modern-day beach, with the current pebbles that make up the beach being composed of Sandstone (Edwards 2000; Gardiner 2007, 92). There is a source of pebble flint further down the coast at Croyde Bay, or Baggy Point (Gardiner 2007, 92). There is an absence of Greensand Chert, which was found on earlier excavations in small quantities and derives from the Blackdown Hills 30km away (*ibid*).

7.12 The main colours of the pebble flint can be characterised as 34% medium grey, 19% light grey, 17% brown grey, 13% dark grey, 5% beige, 5% white, 4% beige, 4% honey, 4% light brown. The range of colours does not necessarily suggest a varied source of raw material, as it derives from beach pebble and overall the quality is good, with one piece of coarser grained cherty material found in core No.2. Many of the pieces are speckled, but this does not appear to have detracted from the final tool, blade or flake being produced.

7.13 There are five worked pieces of honey-coloured flint (Nos. 38, 50, 59, 83, 103) with one piece of debitage. It is difficult to say whether this material had specific significance for hunter-gatherers in the area, but several pieces of honey-coloured flint have been recovered from the Larkbarrow 2008 excavations and from earlier excavations at Hawkcombe Head, which have been impressively thinly flaked and edge-trimmed (Wilson-North 2011, 9).

Flaking and Manufacture

7.14 Of the lithic assemblage (171 pieces including debitage) 9% can be ascribed to the primary flaking phase in the core reduction sequence; 51% to the secondary flaking phase and 40% to the tertiary phase. This is a high percentage of tertiary material which is usually taken to suggest settlement-related activities.

7.15 The assemblage displays evidence for the use of both hard and soft hammer working of the flints. Of the retouched blades, two have retouch on the left edges (Nos. 73, 161), two have retouch on the right edge (No.59) or tip (No. 127) and three have retouch on both edges (Nos. 141, 156, 156a) and three are snapped at the base (Nos. 59, 154, 156). Of the serrated blades, four have been snapped (Nos. 4, 27, 31, 42) with Nos. 31 and 42 having oblique snaps. No.126 has serration on the right edge and No. 27 has serration on both edges.

7.16 There are 15 utilised blades/flakes (7%) that do not necessarily have backing on their edges, but show use and would have made good cutting tools. Twenty pieces have the remains of cortex (13%) of which nine are cores.

7.17 The collection is characterised by the production of small blades and flakes using a hammerstone and direct percussion to produce small cores and micro-cores, from which blades and flakes are detached. The detached blades and flakes are either given a serrated edge or backing in the form of retouch. Some utilised blades or flakes may have been sharpened on a hammer stone to produce a deliberate 'utilised' edge, or the 'utilised' edge on the blade or flake is produced as a result of wear. Backing or retouch is produced by indirect percussion using a soft antler or bone hammer. The assemblage is characterised by parallel-sided blade forms, that is, retouched blades (13%) that have been modified on one or both edges, or re-worked into diagnostic microlithic tools such as the awl (No.105), the crescent (No.169) and the rod (No.162), that are common for the later Mesolithic (Pitts and Jacobi 1979).

7.18 The debitage is consistent with the resulting waste flakes that would be found from small core preparation and blade and flake production and the size of the waste is consistent with the type of tools that are made in the Mesolithic period.

7.19 There are three blades which have forms that are similar to blades found in previous excavations (see comment above). No. 50 is a utilised blade that has been snapped at both ends; No.93 is a snapped blade that has been snapped at both ends and No. 101 is a utilised blade which has been snapped at both ends, one of which forms an oblique tip. These tools may have been used as a composite cutting tool and have been found throughout the site in previous excavations (Gardiner 2007).

Figure 15 Selection of retouched and utilised blades (scale = 5cm).

7.20 There is a total of 12 cores (8%); nine are platform cores of which No.120 is multi-platform and No.1 is a rejuvenation flake core. In addition to the cores there are two rejuvenation flakes (Nos. 76, 157). Nine of the cores have cortex. All the cores are of pebble flint, with one being of coarser grained chert material (No.2). There are two micro-cores (Nos. 5, 86) from which small blades would have been removed and which are typical of the later Mesolithic period.

Figure 16 A selection of platform cores for microblade production (scale = 5cm).

7.21 There are five scrapers (Nos. 28, 58, 79,128) (3%) of which Nos. 28, 58 and 79 are end scrapers and No.128 is a large blade with a retouched distal end for use as a scraper. Three scrapers (Nos. 28, 58, 79) are manufactured from blade production with retouch either on distal or proximal ends; No. 83 is made from a flake with cortex remaining on the base and No. 128 is a large blade that has steep retouch at the distal end. All the scrapers are diagnostic of the Mesolithic period. The presence of the three microburins (Nos. 12, 54, 75) together with four microliths (Oblique Microlith (No. 107), the rod (No. 132), the retouched blade with oblique edge (No. 161) and the crescent (No. 169) suggest microliths being produced on site. The 2011 assemblage lacks further late Mesolithic geometric microliths in any quantity, such as elongated scalenes and triangles, which have been found in previous excavations (Gardiner 2007, 92).

Types

7.22 There is a wide range of tool types present in the assemblage and these are summarised in Table 2 below.

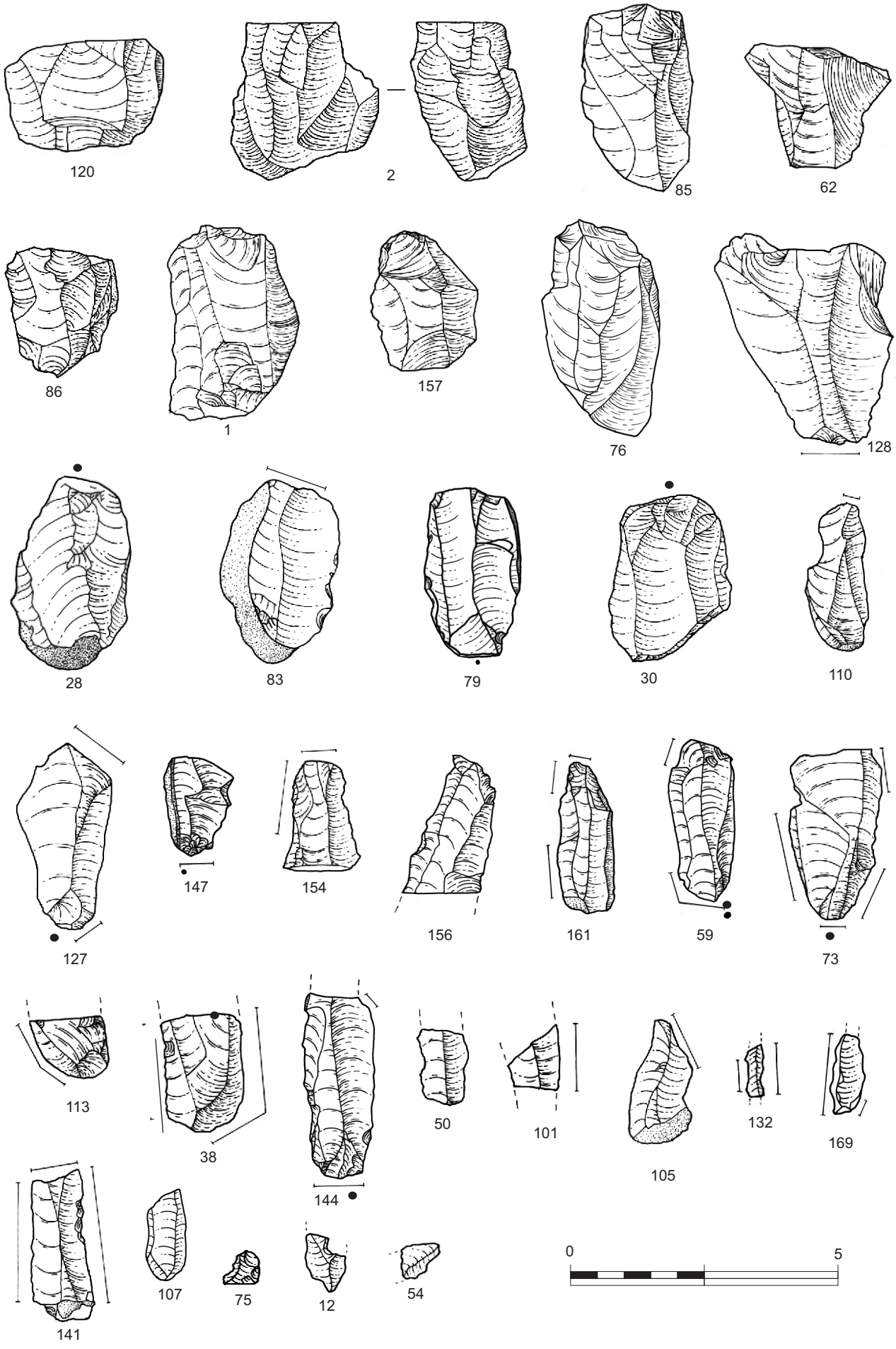
Type	Number
Awl	1
Blades	3
Burin	1
Cores	12
Rejuvenation flakes	2
Microburins	3
Microliths	3
Retouched blades	14
Retouched flakes	2
Scrapers	5
Retouched flake	1

Serrated blades	6
Snapped blade	1
Utilised blades	10
Utilised flakes	5
Flakes (debitage)	85
Total	**154**

Table 2 Summary of lithic types.

7.23 The presence of the diagnostic tools, the scrapers and the retouched and utilised blades and flakes indicate that a wide range of activities were being carried at Hawkcombe Head and which can be taken as an indicator of settlement. The presence of flakes with serrated edges and the snapped blade suggests these tools could have been hafted as composite tools for cutting meat or vegetation. The awl and the scrapers indicate hide-processing, with the microlithic crescent being perhaps used as an arrowhead.

7.24 The number of cores present (8%) suggests that the raw material was brought on to the moorland as whole pebbles from the beach to be knapped on site. The presence of cortex on 20 of the pieces, together with the core rejuvenation flakes, suggests that there was an economical use of the raw material, with some pieces being re-used in a different form and others being reduced to produce the maximum number of blades and flakes. The small number of microliths recovered suggests that they were knapped on site, but taken away for use as hunting tools elsewhere. The presence of the blades and flakes, which may have been used for butchering and skin processing, suggests that these activities were carried out *in situ*.



Cores: Platform (120, 2, 85, 62, 86); Rejuvination Flake Core (1); Rejuvination Flake (157, 76). Scrapers: Retouched flake (128); End (28, 83, 79). Burin (30). Blade Tools: Retouched Blades (127, 147, 154, 156, 161, 59, 73, 113); Blade with Notch (110); Serrated Blade (38); Utilised Blades (144, 50, 101) Awl (105). Microliths: Rod (132); Crescent (169); Retouched Blade Microlith (141); Oblique Microlith (107); Microburins (75, 12, 54).

Figure. 17 Illustrations of selected Mesolithic flints with associated find numbers.

Figure 18 Top row includes four microliths made on narrow blades with three microburins on the bottom left and an awl bottom right (scale = 5cm).

Discussion

7.25 The Hawkcombe Head area between the Ven Combe spring and the Hawkcombe Head springhead has been a focus for hunter-gatherer activity throughout the later Mesolithic period (Gardiner 2007, 94). However, the recovery of a burin from the 2011 excavation, suggests that the use of the site could extend earlier into the Early Mesolithic (Clark, 1934; 1954). Activities that took place in and around the site included the primary flaking of pebble flint, which was probably brought up to the moorland for knapping, using the natural routeways that had been cut by the springs at Hawkcombe Head and Ven Combe. These natural routeways, known as combes, would have given easy access within a wooded landscape between the coast and the higher moorland.

7.26 Within the assemblage, there is variety of classifiable tool types which includes utilised blades and flakes, together with cores and scrapers, which suggest that a variety of activities were carried out on the site. The presence of cortex, not only on many of the cores, but on the finished blades and flakes, suggests that the raw material may not have been in abundance, although the local source at Porlock Beach is only 1.5km away. The lithics were recovered mainly from context 2, which is spread uniformly over an area of 50m. The flint is sharp edged and although there is evidence for a single ploughing event in the 1950s (J. Richards pers. comm.) the lithic material has not been moved any distance.

7.27 The 2011 excavation has produced a range of lithics that are comparable to those found in earlier collections from the Ven Combe and Hawkcombe Head spring areas that fall within a timespan of approximately 6700-5000 cal. BC (see also Gardiner 2007, 90). No temporary structures or post-holes were found during the 2011 excavations,

however a heavily weathered clay surface, similar to a clay floor (context 13-03) found in 2002 (Gardiner 2007, 85) was discovered in Trench 1 immediately adjacent to the Ven Combe spring head and which formed the focus for the majority of lithics found during this excavation. The clay surface (F004) contained 23 pieces of flint, of which 10 pieces were worked tools and 13 pieces were debitage impregnated into it suggesting that this floor was a made feature that had been compacted prior to occupation upon it. The worked tools included two cores (Nos. 86, 125), two utilised blades (Nos. 90, 107), two retouched flakes (No. 126, 127), one retouched blade (tip) (No. 113), one utilised flake (No. 103), one blade (No. 110), one snapped blade (No. 117) and one awl (No. 105). This surface did not have any associated postholes (Gardiner 2007, 88).

7.28 The classifiable tools from the site suggest that the activities carried out at Ven Combe could include hide-processing (scrapers and awl), butchering (retouched and utilised blades and flakes), vegetation processing (square snapped blades) and hunting (crescent). The presence of one crescent that could be used as an arrowhead, suggests that hunting tools were taken elsewhere for use and the one recovered in 2011 may have been dropped either where it was manufactured, or during hunting at a later stage.

7.29 The raw material, the tool types and the chronological markers from the 2011 excavation conform to the patterns and types found in earlier excavations (Gardiner 2007). There is evidence that hunter-gatherers came to the area in the later Mesolithic for a variety of reasons. The landscape location of Hawkcombe Head, at the point where two natural routeways meet at springheads, suggests it was a frequently used *locale* where hunter-gatherers moved from the coastal zone up on to the high moorland. Hawkcombe Head is, therefore, in a pivotal position within the Exmoor landscape, with easy access to a raw material source as well as being a location that could also have acted as a meeting place. This important position also affords access further inland for raw material (Blackdown Hills for Greensand Chert) or further down the coast for beach pebble (Croyde Bay and Baggy Point). It is a location that could be easily found within a wooded or semi-wooded environment following the natural routeways that lead to it (Gardiner, 2007, 94). There is no doubt that the site was a flint knapping site, but it is also one where a variety of activities took place as well. The 2011 excavation, and its lithic collection, adds to the existing database for the Mesolithic on Exmoor, particularly with the burin that suggests an earlier Mesolithic presence at Hawkcombe Head.

8. PALAEOENVIRONMENTAL ANALYSIS

By Archaeological Services, Durham University

Introduction

8.1 This report presents the results of palaeoenvironmental assessment of a flot (sample 1) and bulk sample (sample 2) taken from a possible Mesolithic feature (F004). The objective was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

8.2 Samples were received by Archaeological Services on 22nd November 2011. The assessment and report preparation were conducted between 23rd and 25th November 2011.

8.3 Sample processing was conducted by ARS Ltd and Lorne Elliott. Palaeoenvironmental assessment, selection of radiocarbon dating material and report preparation was carried out by Lorne Elliott.

8.4 The site code is **HAWK11**, for **Hawk**combe Head, Exmoor 20**11**. The flots, charcoal, flint and radiocarbon material have been returned to ARS Ltd. The residue is currently in the Environmental Laboratory at Archaeological Services Durham University awaiting collection or return.

Methods

8.5 The bulk sample was manually floated and sieved through a 300*µ*m mesh. The flots and residue were examined for seeds, fruitstones, nutshells, charcoal, small bones, shell and flint at up to x60 magnification using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al.* (2002).

8.6 Where possible, fragments of charcoal were identified. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Hather (2000) and Schweingruber (1978), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

Results

8.7 Both flots largely comprised modern roots and earthworm egg cases, with tiny and generally indeterminate fragments of charcoal. A few of these fragments were identified as charred heather twigs. A small number of uncharred blinks seeds were recorded in the flot of sample 2, although these are likely to be recent introductions, due to the well-drained nature of the site, and the presence of modern roots. A fragment of

flint was present in the residue of sample 2. The results of the palaeoenvironmental assessment are presented in Table 3.

8.8 The only charred plant macrofossil was a hazel nutshell fragment from the residue of sample 2. Occasional small fragments of charcoal were recorded from this residue, with oak, hazel and cf. heather identified. All of these remains contained varying amounts of orange mineral inclusions, preventing identification in some instances. A list of material available for radiocarbon dating is presented in Table 4.

Discussion

8.9 The poor preservation and sparsity of charred remains from the samples provides little information about Mesolithic activity at the site. The few identifiable remains of charcoal indicate oak, hazel and heather, were locally exploited resources, although the latter may be a result of more recent activity. The presence of a fragment of charred hazel nutshell from sample 2 may reflect the use of this wild gathered food.

Recommendations

8.10 Although both samples comprised material available for radiocarbon dating, there may be insufficient weight of carbon due to the level of mineral inclusions.

Sample	**1**	**2**
Context	**004**	**004**
Feature	**spread**	**spread**
Material available for radiocarbon dating	(□)	(□)
Volume processed (l)	40	4
Volume of flot assessed (ml)	30	200
Residue contents		
Charcoal	-	++
Flint (number of fragments)	-	1
Flot matrix		
Charcoal	+	+
Earthworm egg case	+	++
Roots (modern)	++	+++
Uncharred seeds	-	+
Charred remains (total count)		
(t) *Corylus avellana* (Hazel) nutshell frag.	-	1

[t-tree/shrub. (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant
(□) there may be insufficient weight of carbon available for radiocarbon dating]

Table 3 Data from palaeoenvironmental assessment.

Sample	Context	Context information	Single Entity 1	Weight	Single Entity 2	Weight	Notes
1	004	Mesolithic spread	charred heather	13mg	-	-	Nothing else is available for dating (a few tiny indet. fragments of charcoal too small for dating). The charred heather may be due to more recent burning.
2	004	Mesolithic spread	charred hazel nutshell	42mg	oak charcoal	34mg	Also oak charcoal 74mg* and tiny charcoal fragments of oak, hazel and cf. heather noted. The charred heather may be due to more recent burning.

* Large quantity of mineral inclusions

Table 4 Material available for radiocarbon dating.

9. RADIOCARBON DATING

By Gordon Cook and Clive Waddington

9.1 One sample was submitted for AMS dating to the East Kilbride radiocarbon laboratory. The sample consisted of a small fragment of single entity charred hazelnut, a short-lived specie suitable for dating. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program OxCal4.

Context	Material	Lab No	$\delta^{13}C$ (‰)	Radiocarbon Age (BP)	Calibrated date range (95% confidence)	Calibrated date range (68.2% confidence)
Occupation floor	Single entity hazel nut	SUERC-37347 (GU26131)	-25.1	6245 ±35	5311-5073 cal BC	5302-5211 cal BC

Table 5 Radiocarbon dating result.

9.2 The date from the occupation floor is considered unlikely to be residual or intrusive material as it was found within the introduced clay deposit together with Mesolithic flints. The surface of this feature had a large quantity of Mesolithic flint material immediately on it implying that this lens had not been disturbed to any great extent at this level, save for natural weathering and bioturbation. The date is a late 6th millennium cal BC date spanning 5311-5073 cal BC, but probably dating to 5302-5211 cal BC. This date is around a millennium later than the previous Mesolithic dates recovered from nearby features. It is noteworthy, however, that none of the three radiocarbon dates for Mesolithic activity at Hawkcombe Head are statistically consistent and this means that a genuinely wide chronological span of activity is being evidenced around these spring head sites. The three dates so far available can therefore be taken to indicate multi-phase occupations around the spring heads during the Late Mesolithic.

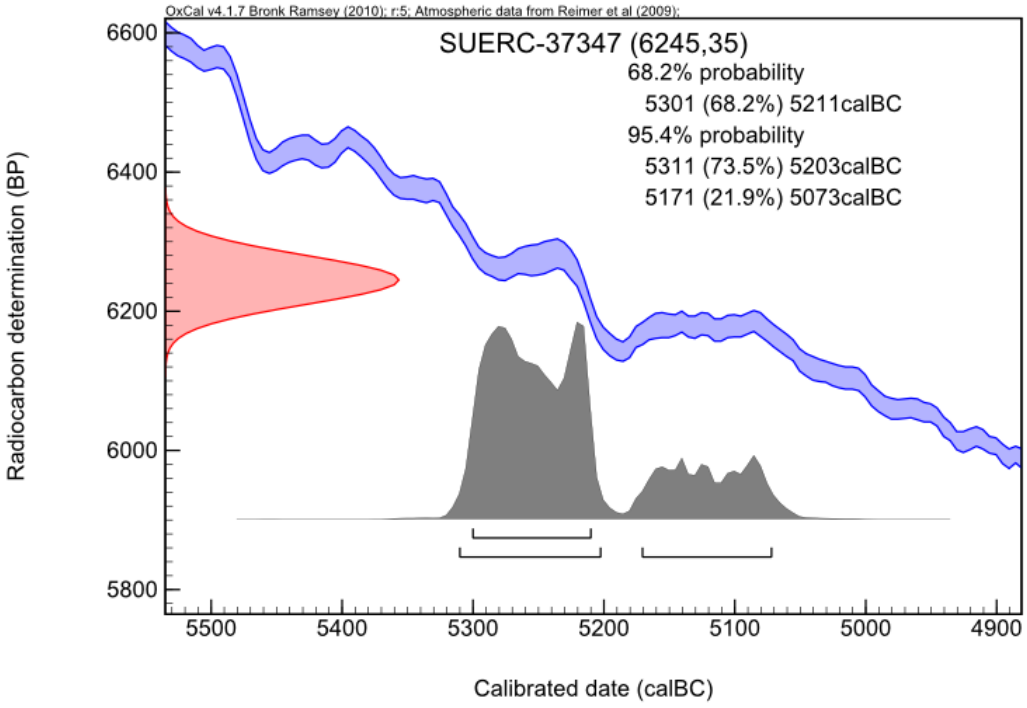


Figure 19. Graph showing calibration of the date from the occupation floor at 95.4% and 68.2% probability.

10. DISCUSSION

10.1 The excavation at Hawkcombe Head has been remarkable on several counts. Firstly, it has demonstrated the ability of close-spaced and carefully filtered geophysical survey for prospecting for Mesolithic features in an upland landscape. The accuracy of the survey is notable as Feature F004 in Trench 1 proved to be precisely where the geophysical survey indicated it to be. Secondly, the excavation not only identified a feature with an associated lithic concentration located immediately on it, but this feature produced a charred hazelnut shell that has been dated to the Late Mesolithic. Thirdly, the lithic assemblage, although modest for the Hawkcombe Head area, includes a very high percentage of worked pieces (*c.*40%), and a wide range of types, which is consistent with domestic activity associated with settlement sites (Schofield 1991). Fourthly, the excavation also recovered a stout burin made on a broad blade and such pieces are widely recognized as being a diagnostic marker of the Early Mesolithic, thereby making it the earliest evidence for human activity on Exmoor.

10.2 Previous work at Hawkcombe Head has produced evidence for a clay occupation floor on the other side of Ven Combe just a few metres away from the occupation surface identified in Trench 1. Although this feature returned a modern radiocarbon date from intrusive material, it contained 84 pieces of lithic debitage and 22 retouched pieces including microliths, micro-cores, awls and a triangle diagnostic of a Late Mesolithic date (Gardiner 2005). The previously excavated floor had associated stake holes and postholes but no such features were observed in this excavation. Interpreting these surfaces is not entirely straightforward. The compact nature of the deposit, however, does give a clear indication of a made feature using imported material. In Trench 1 none of the surrounding matrix had the stiff clay texture that characterized the occupation surface. It was also able to be differentiated by colour. In the case of the feature identified in Trench 1 (F004), this surface had a high density of struck flints and tools situated immediately upon it but with only a handful impressed into it. This suggests that the surface was regularly kept clean so that flints did not become trodden into the clay. Both of these occupation surfaces have a broadly circular shape which is in keeping with them being the laid bases for the interior of a tented super structure. What the purpose of these occupation surfaces was remains open to question. They may have formed the floors to small tents for residential occupation, but the lack of any hearths within them could suggest otherwise. They are also small in area when compared to the residential structures known from Mount Sandel (Woodman 1975), Howick (Waddington 2008) and East Barns (Gooder 2007). It is possible, therefore, that the domestic accommodation is yet to be found at Hawkcombe head and that these small clay occupation surfaces might represent specialist working areas or small temporary encampments.

10.3 The timing of activity at Hawkcombe Head is of interest. The radiocarbon dates now available are all statistically distinct which means that the various features they are dating represent separate phases of Mesolithic activity around these spring heads. Based on the evidence of the few dates available so far it can be concluded that multi-phase Late Mesolithic activity took place on the site.

10.4 Following on from the analysis and interpretations made by Gardiner (2007) for the Hawkcombe Head site, a tentative model of Late Mesolithic settlement is presented in Figure 20 (see below). This model recognises the inter-relationship between the Mesolithic shoreline and the spring head sites which, in combination, provide access to very different ecotonal settings making available different types and quantities of

resources at different times of the year. As Gardiner has pointed out (2011) the mudflats that would have been present in the Mesolithic would have reduced the width of the Bristol Channel making sea travel to the adjacent South Wales coastline more straightforward. Given the similarities in lithic traditions noted by Gardiner for both the Somerset and South Wales material (Gardiner 2011) it is hard to escape the conclusion that groups frequently travelled across the Bristol Channel, no doubt exchanging resources, news and ideas. The model presented in Figure 20 can only be provisional at this stage, but it is hoped that this provides a visual working model of how settlement might have been structured during the 6th – 7th millennia cal BC which further work can test, modify or refute as appropriate.

10.5 In order to more fully understand the nature and duration of Mesolithic occupation in the Ven Combe Hawkcombe Head area a good case can be made for further close-spaced geophysical survey followed up by a combination of large-scale open area excavation around Ven Combe and targeted excavation of further anomalies.

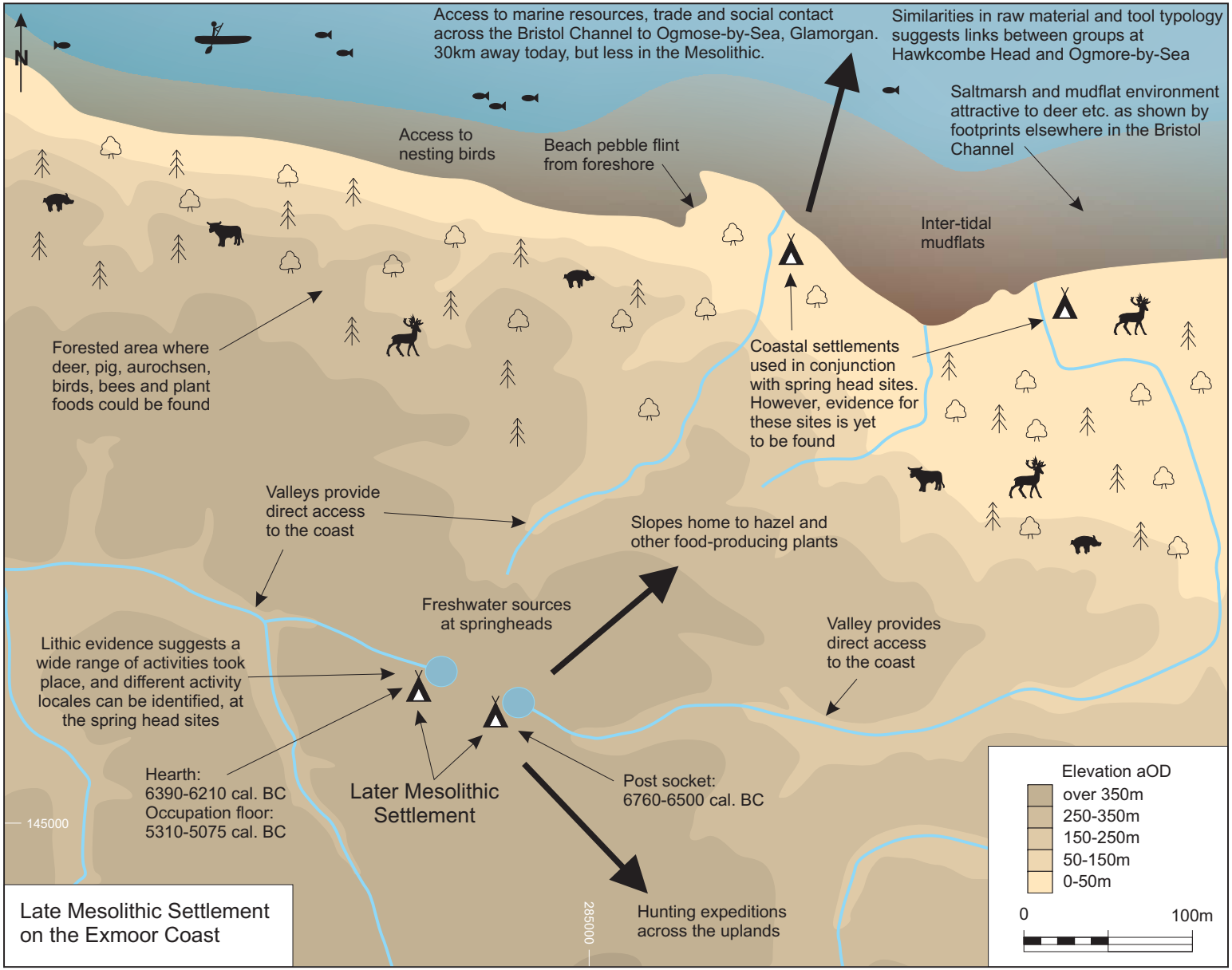


Figure 20. Model of Late Mesolithic settlement on the Exmoor Coast.

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APPENDIX 1 – WRITTEN SCHEME OF INVESTIGATION: ARCHAEOLOGICAL EXCAVATION, MONITORING AND RECORDING AT HAWKCOMBE HEAD, EXMOOR

Submerged forest at Porlock Bech near the site (photograph copyright Chris Chapman).

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1. Introduction

1.1. This scheme of works relates to the planned undergrounding of electricity cables by Western Power Distribution at Hawkcombe Head, Exmoor (Fig. 1).

1.2 This written scheme of investigation details the works to be undertaken following the archaeological evaluation at the site as requested by Exmoor National Park Historic Environment Service (ENPHES).

1.3 The proposed cable route crosses an area where Mesolithic activity is known from previous geophysical survey in 2001 and 2011, dedicated excavations (2001-5 and ongoing by Dr Paula Gardiner of the University of Bristol) (see Gardiner 2007), as well as flint finds made in the 1940s and subsequently. The Mesolithic activity around Hawkcombe Head comprises several excavated hearths, possible structures and a substantial collection of flint tools and debitage. The archaeological deposits around Ven Combe have been previously found to be shallow and to not exceed 350mm. However deeper deposits may be encountered close to the spring head.

1.4 The work has been commissioned by ENPHES on behalf of the Exmoor Moorland Landscape Partnership. This is in response to the planned undergrounding of cables by Western Power Distribution.

2. Aims and Objectives

2.1 The principal objectives of the programme are to fully excavate Mesolithic and other features (previously revealed by geophysical survey), within a 2m wide transect along the line of the proposed undergrounding, and to recover associated artefacts. This will take the form of an excavation (Fig 2) followed by an archaeological watching brief to monitor the remainder of the undergrounding route. This will establish the presence or absence of archaeological remains, their quality, depth and preservation as well as ensure full recording of archaeological features. The process will involve:

- Archaeological excavation of features along the line of the undergrounding route at Ven Combe.
- The recovery of Mesolithic flint and other material from the line of the undergrounding route in the adjoining area.

3. Quality Assurance and Standards

3.1. Archaeological Research Services Ltd is a Registered Organisation with the Institute for Archaeologists (IfA). Registered Organisations are continuously assessed to ensure that the highest standards of work are carried out, in line with the Code of Conduct of the IfA (2000) and any relevant specific guidance.

3.2. All staff employed on the project will be suitably qualified and experienced for their respective project roles and have practical experience of archaeological excavation and recording. All staff will be made aware of the archaeological importance of the area surrounding the site and will be fully briefed on the work required by this specification.

Each member of staff will be fully conversant with the aims and methodologies and will be given a copy of this written scheme of investigation to read. All staff will familiarise themselves with the archaeological background of the site. All members of staff employed by Archaeological Research Services Ltd are fully qualified and experienced archaeologists. This will ensure that appropriate decisions regarding environmental and dating sampling will be made in the field.

3.3 All work will be carried out in accordance with The Health and Safety at Work Act 1974. Specific health and safety policies exist for all workplaces by the respective organisations and all staff employed will be made aware of the policy and any relevant issues. The particular risks involved with this project will be assessed, recorded and relevant mitigation measures put in place as part of the full Written Scheme of Investigation and a risk assessment will be compiled for all work.

4. Archaeological Excavation Methodology

4.1. Geophysical survey completed in 2011 by Ross Dean for AC Archaeology, and supplied by Exmoor National Park Historic Environment Service, has identified a number of potential archaeological features along the line of the proposed undergrounding. An area measuring 2m x 60m will be excavated in order to record the archaeological remains identified at the Ven Combe site.

4.2 The topsoil will be removed by machine in level shallow spits under constant archaeological supervision by a suitably qualified archaeologist. The overburden will be carefully monitored with the aim to recover any artefactual evidence observed, as well as allowing for no disturbance to the truncated and often ephemeral archaeological deposits beneath the ploughzone.

4.3 In order to sample the overburden as it is removed for artefactual remains, a sieving strategy will be employed. The excavation area will be divided into twelve 5m x 2m sections, and a 100 litre, randomly selected, sample of overburden from each of those areas will be sieved through a standard 10mm riddle to maximise finds recovery. If there is the opportunity to involve local volunteer or school groups in this activity then the amount sampled by area may be reassessed.

4.4 Archaeological features and deposits will be cleaned and excavated by hand and will be fully recorded by context as per the Institute for Archaeologists' Standard and Guidance for Archaeological Excavation and Archaeological Watching Briefs (IfA 2008a; 2008b). A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. All features will be recorded in plan and section at scales of 1:10, 1:20 or 1:50. All scale drawing will be drawn at a scale appropriate to the complexity of the deposit/feature and to allow accurate depiction and interpretation. All archaeological deposits and features will be recorded with an above ordnance datum (aOD) level.

4.5 All artefacts will be treated in accordance with UKIC guidelines, *'First Aid for Finds'* (1998). All finds will be bagged and labelled according to the individual deposit from which they were recovered, ready for later cleaning and analysis.

4.6 Where features have the potential to contain palaeoenvironmental or datable remains, a sampling strategy will be adopted in order to extract necessary samples to answer key research questions about the deposits. Where deposits have the potential to contain palaeoenvironmental remains or datable material, the entire fill, or a representative sample will be floated. Flotation of all feature fills with organic content will be undertaken on site employing graduated brass sieves, with 500µ as the smallest fraction. If complex environmental remains are anticipated or encountered then the advice of the English Heritage Regional Science Advisor, Vanessa Straker, will be sought, if necessary on site. Assessment of botanical macrofossils and charred samples will be undertaken by Charlotte O'Brien at Archaeological Services Durham University, as will any further analysis deemed necessary as part of post-excavation.

4.7 In the event of human burials being discovered, they will be left *in-situ,* covered and protected and the coroners' office informed. If removal is essential, work will comply with relevant Ministry of Justice Regulations. All assessment and analysis of human remains will be undertaken by Kate Mapplethorpe of Archaeological Research Services Ltd.

4.8 Appropriate procedures under the relevant legislation will be followed in the event of the discovery of artefacts covered by the provisions of the Treasures Act 1996.

4.9 A full photographic record will be compiled in 35mm black and white print, colour transparency and high resolution digital formats to ensure the preservation of an archive-stable record.

4.10 During and after the excavation, all recovered artefacts and environmental samples will be stored in appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this will include controlled storage, correct packaging, regular monitoring of conditions and immediate selection for conservation of valuable material).

4.11 Where required, all groundworks related to the undergrounding of cables will be monitored by a suitably qualified and experienced archaeologist. The topsoil stripping will be undertaken in shallow spits so as to maximise finds recovery from the topsoil overburden. Where archaeological features and deposits are encountered, these will be excavated rapidly. Features will be excavated in order to characterise and accurately record them, and where they are of significance then a methodology will be applied to the same specification as for the archaeological excavation. If extensive or unusually complex remains are encountered then a discussion will be had with the client and local authority as to how best to proceed.

5. Post Excavation

5.1. Initial post-excavation work will comprise:

- Checking of drawn and written records during and on completion of fieldwork.
- Production of a stratigraphic matrix of the archaeological deposits and features present on the site, if appropriate.
- Cataloguing of photographic archive.
- Cleaning, marking, bagging and labelling of finds according to the individual

deposits from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to an appropriate Conservation Laboratory. Finds will be identified and dated by appropriate specialists and all metal finds will be x-rayed prior to assessment, where required. Conservation assessment reports will be prepared where necessary.

6. Finds Treatment

6.1 All finds processing, conservation work and storage of finds will be carried out in compliance with the IFA guidelines for Finds Work (2001) and those set out by UKIC (1990).

6.2 Bulk finds which are not discarded will be washed and, with the exception of animal bone, marked. Marking and labelling will be indelible and irremovable by abrasion. Bulk finds will be appropriately bagged, boxed and recorded.

6.3 All small finds will be recorded as individual items and appropriately packaged (e.g. lithics in self-sealing plastic bags and ceramic in acid-free tissue paper). Vulnerable objects will be specially packaged and textile, painted glass and coins stored in appropriate specialist systems. This process will be carried out within two days of the small find being excavated. Prehistoric pottery will not be cleaned or be subject to any abrasion or loss of adhering residues.

6.4 During and after the excavation all objects will be stored in appropriate materials and storage conditions to ensure minimal deterioration and loss of information (including controlled storage, correct packaging, and regular monitoring, immediate selection for conservation of vulnerable material). All storage will have appropriate security provision.

6.5 The deposition and disposal of artefacts will be agreed with the legal owner and the appropriate repository museum prior to the work taking place. The site archive and material will be deposited with the Somerset County Museum in Taunton. All finds except treasure trove are the property of the landowner. The deposition and disposal of artefacts will be agreed with the legal owner and recipient museum prior to the work taking place. If the landowner decides to retain artefacts adequate provision will be made for recording them. Details of land ownership will be provided by the developer.

6.6 All retained artefacts and ecofacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

6.7 All finds processing, conservation work and storage of finds will be carried out in compliance with the IFA Guidelines for Finds Work and those set by UKIC. All retained artefacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

7. Finds and environmental analysis

7.1 Finds and environmental sample analysis will be conducted by the following specialists:

- Lithics – Dr. Clive Waddington (Archaeological Research Services Ltd) and Dr. Paula Gardiner.
- Prehistoric Pottery – Dr. Clive Waddington (Archaeological Research Services Ltd).
- Later Prehistoric and Roman pottery – Dr. Jane Timby.
- Human Bone – Kate Mapplethorpe (Archaeological Research Services Ltd).
- Faunal Remains – Louisa Gidney – (Archaeological Services Durham University).
- Metalworking and Industrial residue – Jenny Jones (Archaeological Services Durham University).
- Botanical Macrofossils – Dr. Charlotte O'Brien (Archaeological Services Durham University).
- Radiocarbon Dating – Dr. Peter Marshall (Chronologies and English Heritage).

8. Access

8.1 Archaeological Research Services Ltd will afford access to the planning authority or their representative at all times, for the purposes of monitoring the archaeological evaluation.

8.2 Archaeological Research Services Ltd will maintain regular communication with ENPHES to ensure that the project aims and objectives are met.

9. Site Archive

9.1 The archive will be compiled in an orderly fashion to the standards and format set out in the Guidelines for the Preparation of Excavation Archives for Long Term Storage (UKIC 1990). The archive will be deposited with the Somerset County Museum at Taunton within one year of the completion of fieldwork and once all post-excavation work is completed and the final report produced. The museum accession number for the archive is TTNCM 62/2011.

10. Report

10.1 Eight bound copies and one unbound copy of the final report will be submitted to ENPHES along with digital versions in both word and .pdf format. Each report will be bound, with each page and paragraph numbered and will include as a minimum the following:

- Executive summary.
- OASIS reference number and any other project identification codes.
- A site location plan to at least 1:10,000 scale tied accurately to the OS National Grid.
- A description of the site location and geology.
- A trench plan to a suitable scale and tied into the national grid.
- Context and feature descriptions

- Features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format
- Plans and section drawings of the features drawn at a suitable scale
- Additional plans/map extracts to display noted and recorded archaeological features as appropriate
- Full results of any specialist assessment and analysis undertaken.
- Discussion of the results of fieldwork placing the discoveries within their local, regional and national context where appropriate.
- A full bibliography.

11. OASIS

11.1 ARS Ltd will complete an on-line OASIS form for this project and upload a digital version of the report.

12. Dissemination/Publication

12.1 The results of this fieldwork will be incorporated into a larger study on the Hawkcombe Head landscape and published there in due course as appropriate.

11. References

Gardiner, P. 2007. Mesolithic Activity at Hawkcombe Head, Somerset: An Interi Report on the 2002-3 Excavations. In. Waddington, C. and Pedersen, K. (eds) *Mesolithic Studies in the North Sea Basin and Beyond. Proceedings of a Conference held at Newcastle in 2003*. Oxford, Oxbow.

Institute for Archaeologists. 2000. *Code of Conduct*. Reading, Institute for Archaeologists.

Institute for Archaeologists. 2001. *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*. Reading, Institute for Archaeologists.

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United Kingdom Institute for Conservation. 1990. *Guidelines for the Preparation of Archives for Long-Term Storage*.

Waddington, C. and Pedersen, K. 2007. *Mesolithic Studies in the North Sea Basin and Beyond. Proceedings of a Conference held at Newcastle in 2003*. Oxford, Oxbow.

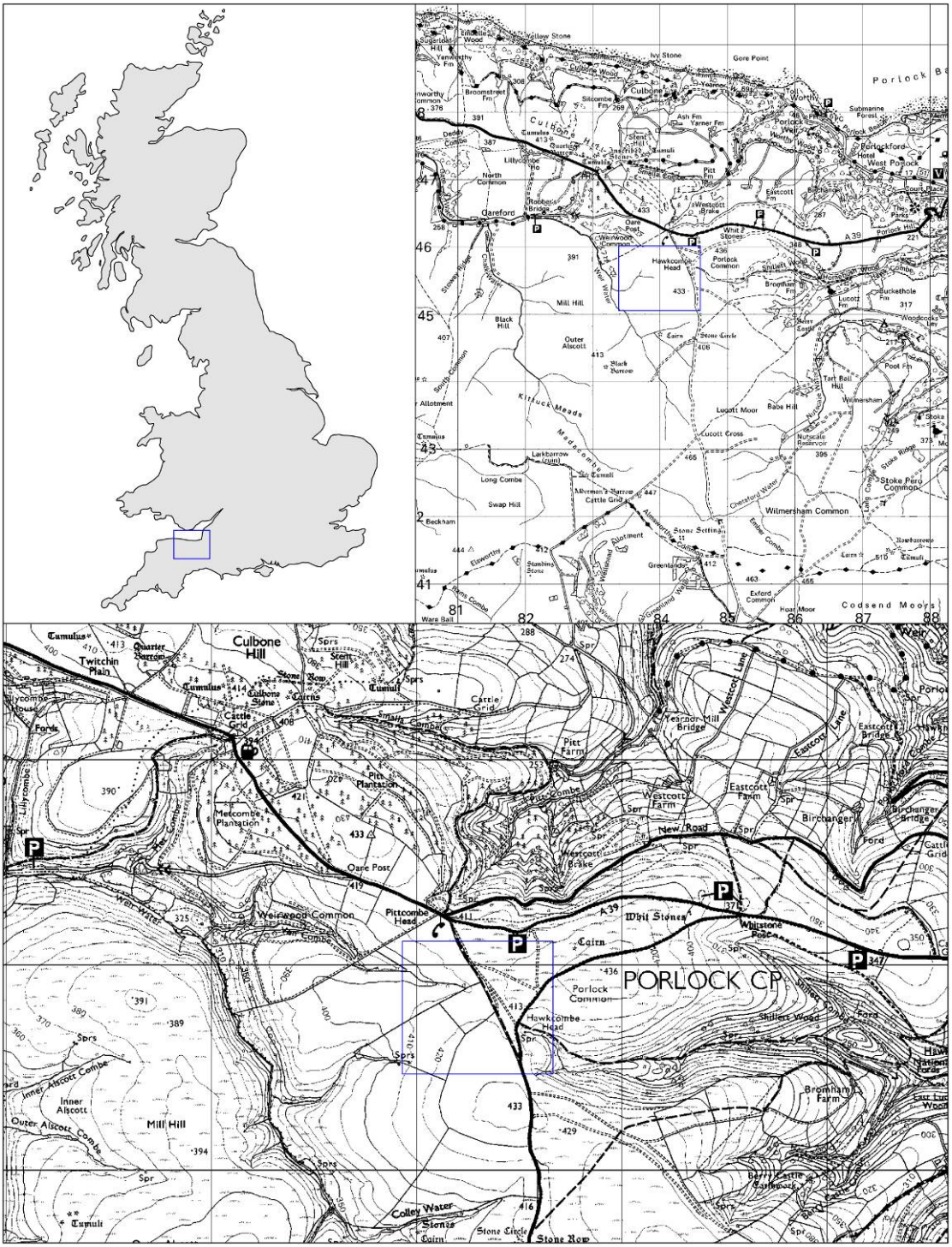

Figure 1 Site location

(Ordnance Survey data copyright OS, reproduced by permission, Licence no. 100045420).

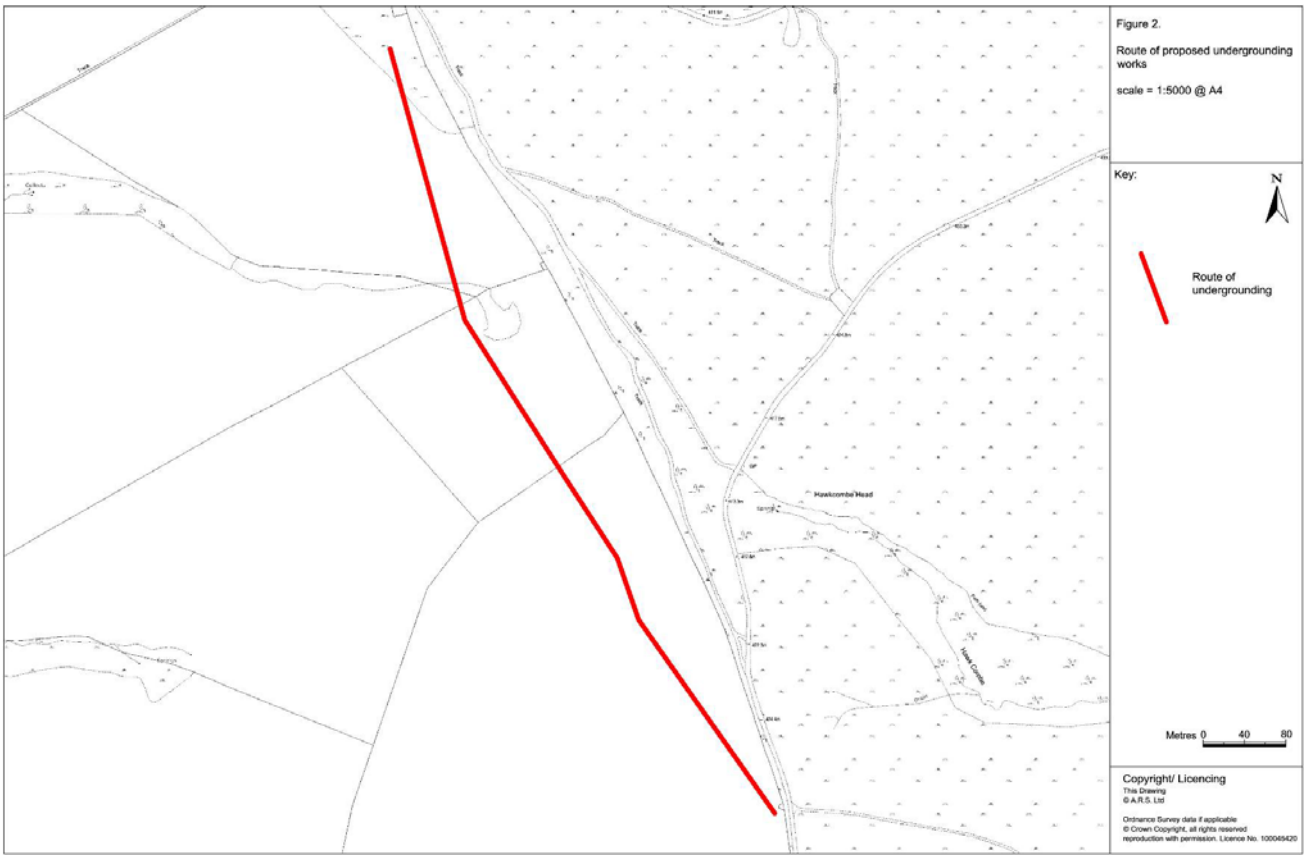

Figure 2. Route of proposed undergrounding works.

APPENDIX 2 – LITHIC CATALOGUE

SF No.	Context	Material	Colour	Provenance	Type: General	Specific	Core RS	Period	L (mm)	W	T	Notes
1	2	flint	med grey	pebble flint	core	flake	sec	meso	34	20	12	flake core made on a core rejuvenation flake
2	2	chert	brown grey	pebble	core	platform	sec	meso	30	25	20	single platform core
4	2	flint	dark grey	pebble flint	serrated blade		sec		31	20	8	serrated blade with snap and cortex on one edge
5	2	flint	med grey	pebble flint	core	platform	sec	meso	25	18	15	micro-core with cortex
7	2	flint	brown grey	pebble flint	flake	debitage	sec		21	19	3	debitage
8	2	flint	light grey	pebble flint	flake	debitage	sec		7	13	2	debitage
10	2	flint	light brown	pebble flint	flake	debitage	sec		8	7	1	debitage
11	2	flint	white	pebble flint	flake	debitage	sec		21	16	4	debitage, patinated
12	2	flint	light brown	pebble flint	microburin		ter	late meso	12	8	3	Microburin for microlith production made by notch and snap
14	2	flint	light grey	pebble flint	retouched blade		ter	meso	11	9	1	Retouched on both edges, cortex on base
15	2	flint	grey brown	pebble flint	retouched blade		ter	late meso	31	13	3	retouch at tip and base with utilisation
16	2	flint	dark grey	pebble flint	flake	debitage	prim		29	20	5	debitage
17	2	flint	mid brown	pebble flint	flake	debitage	prim		18	10	4	debitage
18	2	flint	light brown	pebble flint	flake	debitage	sec		5	4	1	debitage
21	2	flint	med grey	pebble flint	flake	debitage	prim		29	21	9	debitage
25	2	flint	pale brown	pebble flint	flake	debitage	sec		15	4	3	debitage
26	2	flint	brown grey	pebble flint	flake	debitage	sec		20	16	4	debitage
27	2	flint	light grey	pebble flint	serrated blade		ter		24	13	5	serrated snapped blade with serration on 3 edges
28	2	flint	med grey	pebble flint	scraper	end	ter	meso	35	20	7	blade with retouched proximal end for use as scraper
30	2	flint	brown grey		burin		ter	early meso?	30	22	7	retouched broad blade with retouch along oblique edge
31	2	flint	brown grey	pebble flint	serrated blade		ter		30	15	4	serrated snapped blade with oblique snap
34	2	flint	light grey	pebble flint	flake	debitage	sec		19	17	3	debitage with cortex
35	2	flint	med grey	pebble flint	flake	debitage	sec		25	15	7	primary flake

36	2	flint	dark grey	pebble flint	flake	debitage	prim		14	9	5	primary flake
37	2	flint	dark grey	pebble flint	flake	debitage	prim		29	19	6	debitage
38	2	flint	honey	pebble flint	serrated blade		ter	meso	20	14	3	steep blade with retouch at tip and edges; with cortex
39	2	flint	med grey	pebble flint	flake	debitage	sec		32	23	6	debitage
40	2	flint	white	pebble flint	flake	debitage	sec		17	11	4	debitage with cortex and fire-crackled
41	2	flint	brown grey	pebble flint	flake	debitage	sec		18	13	2	primary flake
42	2	flint	brown grey	pebble flint	serrated blade	serrated	ter	meso	18	11	3	serrated blade with oblique snap
43	2	flint	brown grey	pebble flint	flake	debitage	prim		36	25	10	debitage chunk with cortex
44	2	flint	dark grey	pebble flint	flake	debitage	sec		28	20	16	debitage
45	2	flint	med grey	pebble flint	flake	debitage	sec		18	18	3	debitage with cortex
46	2	flint	light grey	pebble flint	flake	debitage	sec		15	5	3	debitage chunk with cortex
47	2	flint	dark grey	pebble flint	flake	debitage	sec		32	28	13	primary flake
48	2	flint	med grey	pebble flint	flake	debitage	prim		30	22	8	small patinated debitage piece
49	2	flint	white	pebble flint	flake	debitage	sec		6	4	1	debitage with cortex
50	2	flint	honey	pebble flint	utilised blade		ter	late meso	13	8	3	utilised blade snapped at proximal and distal ends
51	2	flint	med grey	pebble flint	flake	debitage	sec		22	22	12	debitage
52	2	flint	med grey	pebble flint	core	flake	sec	meso	30	30	15	flake core made on pebble with cortex
53	2	flint	med grey	pebble flint	flake	debitage	sec		27	11	7	debitage
54	2	flint	med grey	pebble flint	microburin		ter	late meso	9	6	1	Microburin for microlith production made by notch and snap
55	2	flint	brown grey	pebble flint	flake	debitage	sec		15	10	3	debitage with cortex
56	2	flint	dark grey	pebble flint	flake	debitage	sec		31	23	13	primary flake
57	2	flint	dark grey	pebble flint	flake	debitage	prim		27	18	8	debitage
58	2	flint	med grey	pebble flint	scraper	end	ter	meso	42	16	8	end scraper made on blade with cortex at base
59	2	flint	honey	pebble flint	retouched blade		ter	late meso	30	10	3	retouch right edge; blade snapped at base
60	2	flint	light grey	pebble flint	flake	debitage	sec		15	10	5	debitage
61	2	flint	light grey	pebble flint	utilised blade		ter	late meso	20	18	3	utilised blade snapped at base
62	2	flint	med grey	pebble flint	core	platform	sec	late meso	23	20	12	single platform core

63	2	flint	dark grey	pebble flint	utilised flake		ter	meso	25	23	4	utilised flake
64	2	flint	light grey	pebble flint	utilised flake		ter	meso	18	10	2	utilised flake with serration on right tip; cortex at base
65	2	flint	med grey	pebble flint	flake	debitage	sec		67	35	18	large debitage flake
66	2	flint	dark grey	pebble flint	flake	debitage	sec		35	28	15	debitage
67	2	flint	light grey	pebble flint	flake	debitage	sec		13	8	2	debitage
68	2	flint	brown grey	pebble flint	retouched blade		ter	meso	22	18	5	retouch at proximal end of broken blade
69	2	flint	brown grey	pebble flint	flake	debitage	sec		14	11	2	debitage
70	2	flint	light grey	pebble flint	utilised blade		ter	meso				utilised blade segment snapped
71	2	flint	brown grey	pebble flint	flake	debitage	sec		11	11	3	debitage
72	2	flint	dark grey	pebble flint	flake	debitage	sec		9	5	3	debitage
73	2	flint	light grey	pebble flint	retouched blade	notched	ter	meso	31	15	3	blade retouched on left edge with notch on right edge at base
74	2	flint	med grey	pebble flint	retouched flake		ter		16	12	4	small circular retouched flake
75	2	flint	light grey	pebble flint	microburin		ter	late meso	7	6	1	Microburin for microlith production made by notch and snap
76	2	flint	med grey	pebble flint	flake	rejuvenation	sec		40	20	13	rejuvenation flake from a blade core
77	2	flint	med grey	pebble flint	blade	snapped	sec	meso	14	10	5	snapped blade; cortex left edge
78	2	flint	light grey	pebble flint	flake	debitage	sec		10	3	1	debitage
79	2	flint	dark grey	pebble flint	scraper	end	ter	meso	30	18	7	end scraper made on blade
80	2	flint	white	pebble flint	flake	debitage	sec		17	13	5	debitage fire-crackled
81	2	flint	light grey	pebble flint	flake	debitage	sec		15	11	2	debitage
82	2	flint	med grey	pebble flint	flake	debitage	sec		17	10	3	debitage
83	2	flint	honey	pebble flint	scraper	end	ter	meso	31	21	10	end scraper on blade with steep retouch; cortex
84	2	flint	med grey	pebble flint	flake	debitage	sec		13	13	4	debitage
85	3	flint	brown grey	pebble flint	core	platform	sec	late meso	32	20	15	single platform core with cortex
86	3	flint	med grey	pebble flint	core	platform	sec	late meso	20	17	7	small micro-core with cortex
87	4	flint	med grey	pebble flint	flake	debitage	sec		18	8	5	debitage
88	4	flint	dark grey	pebble flint	flake	debitage	sec		16	11	2	debitage
89	4	flint	honey	pebble flint	flake	debitage	prim		38	16	7	primary flake

90	4	flint	beige	pebble flint	utilised blade		ter	meso	28	10	5	obliquely snapped blade with utilisation from earlier use on long edge
91	2	flint	brown grey	pebble flint	flake	debitage	prim		34	18	5	debitage
92	3	flint	beige	pebble flint	flake	debitage	sec		8	5	1	debitage
93	3	flint	light grey	pebble flint	snapped blade		ter	late meso	5	7	1	utilised blade snapped at both ends
94	3	flint	med grey	pebble flint	flake	debitage	sec		15	13	4	debitage
95	2	flint	light grey	pebble flint	flake	debitage	sec		15	7	4	debitage
97	2	flint	brown grey	pebble flint	flake	debitage	sec		16	4	3	debitage
98	2	flint	beige	pebble flint	flake	debitage	sec		15	14	4	debitage
99	2	flint	med grey	pebble flint	core	platform	sec	meso	31	30	27	pebble core with cortex
100	2	flint	med grey	pebble flint	flake	debitage	sec		15	10	3	debitage
101	2	flint	med grey	pebble flint	utilised blade		ter	late meso	10	8	2	narrow utilised blade
103	4	flint	honey	pebble flint	flake	debitage	sec			7	1	debitage
104	4	flint	med grey	pebble flint	flake	debitage	prim		26	18	4	debitage
105	4	flint	med grey	pebble flint	awl		ter	meso	21	9	5	blade retouched on oblique distal edge with cortex at proximal end
106	4	flint	brown grey	pebble flint	flake	debitage	sec		14	10	2	debitage
107	4	flint	beige	pebble flint	microlith	oblique point	ter	late meso	18	7	3	obliquely pointed microlith
108	4	flint	brown grey	pebble flint	flake	debitage	prim		21	16	6	debitage
109	4	flint	light brown	pebble flint	flake	debitage	sec		8	9	2	debitage
110	4	flint	light grey	pebble flint	blade		sec	meso	22	10	3	blade with possible notch at left tip
111	4	flint	brown grey	pebble flint	flake	debitage	sec		12	10	3	debitage
112	4	flint	brown grey	pebble flint	flake	debitage	sec		32	14	6	debitage
113	4	flint	brown grey	pebble flint	retouched blade		ter	meso	12	11	4	retouch at proximal end of broken blade
114	4	flint	med grey	pebble flint	flake	debitage	sec		21	15	4	debitage
117	4	flint	light grey	pebble flint	flake	debitage	sec		16	15	5	debitage
119	2	flint	brown grey	pebble flint	flake	debitage	sec		26	16	6	debitage
120	2	flint	med grey	pebble flint	core	multi-platform	ter	meso	28	18	15	multi-platform core
121	2	flint	med grey	pebble flint	core	platform	ter	meso	26	22	15	single platform core made on pebble with cortex
122	4	flint	brown grey	pebble flint	flake	debitage	sec		10	5	1	primary flake
123	4	flint	light grey	pebble flint	flake	debitage	prim		13	9	5	debitage

124	4	flint	med grey	pebble flint	flake	debitage	sec		9	6	2	debitage
125	4	flint	med grey	pebble flint	core	platform	sec	late meso	20	22	14	single platform core with pebble cortex
126	4	flint	med grey	pebble flint	serrated blade		ter	meso	24	9	6	blade with serration on right edge
127	4	flint	beige	pebble flint	retouched blade		ter	meso	34	15	4	triangular flake with cortex at base; retouch at right tip
128	2	flint	dark grey	pebble flint	retouched flake	scraper?	ter	meso	38	25	13	large blade with retouched distal end for use as scraper
129	2	flint	med grey	pebble flint	flake	debitage	sec		12	8	3	debitage
130	2	flint	med grey	pebble flint	flake	debitage	sec		15	11	2	debitage
131	2	flint	light grey	pebble flint	flake	debitage	sec		12	5	4	debitage with cortex
132	2	flint	light grey	pebble flint	microlith	rod	ter	terminal meso	10	3	1.5	tiny rod retouched on both long edges
133	2	flint	med grey	pebble flint	flake	debitage	sec		45	22	10	large piece of debitage with cortex
135	2	flint	med grey	pebble flint	flake	debitage	sec		20	16	4	debitage with cortex
136	2	flint	med grey	pebble flint	utilised flake		ter	meso	21	11	2	utilised flake serrated on right edge
137	2	flint	dark grey	pebble flint	flake	debitage	sec		41	20	8	debitage
138	2	flint	brown grey	pebble flint	flake	debitage	sec		22	14	7	debitage
139	2	flint	med grey	pebble flint	flake	debitage	sec		22	16	10	patinated with cortex
140	2	flint	light grey	pebble flint	flake	debitage	sec		15	12	3	debitage
141	2	flint	beige	pebble flint	retouched blade	microlith?	ter	late meso	25	10	5	retouched blade backing on both edges with oblique edge
142	2	flint	dark grey	pebble flint	flake	debitage	sec		23	16	6	debitage fire-crackled
143	2	flint	med grey	pebble flint	utilised blade		ter	late meso	25	9	1.5	narrow utilised blade
144	2	flint	brown grey	pebble flint	utilised blade		ter	late meso	33	11	4	narrow utilised blade
145	2	flint	dark grey	pebble flint	flake	debitage	sec		12	11	4	debitage
146	2	flint	brown grey	pebble flint	core	platform	sec	meso	35	26	17	pebble core with cortex
147	2	flint	light grey	pebble flint	retouched blade		ter	meso	18	11	2	retouched blade; cortex at base
148	2	flint	dark grey	pebble flint	flake	debitage	sec		11	11	2	debitage
149	2	flint	light grey	pebble flint	utilised blade		ter	meso	24	8	3	utilised narrow blade
150	2	flint	med grey	pebble flint	flake	debitage	prim		24	18	9	debitage with cortex
151	2	flint	brown grey	pebble flint	flake	debitage	sec		12	10	1	debitage
152	2	flint	white grey	pebble flint	flake	debitage	sec		12	6	1.5	debitage
153	2	flint	beige	pebble flint	flake	debitage	sec		18	13	3	debitage with cortex

154	2	flint	med grey	pebble flint	retouched blade	snapped blade	ter	late meso	20	10	3	retouched blade snapped at base
155	2	flint	med grey	pebble flint	flake	debitage	sec		40	32	22	debitage chunk with cortex
156	2	flint	med grey	pebble flint	retouched blade		ter	late meso	22	11	2	retouched blade on both edges with snapped oblique base
157	2	flint	med grey	pebble flint	flake	rejuvenation	sec	meso	25	18	7	core rejuvenation flake
158	2	flint	med grey	pebble flint	flake	debitage	sec		24	20	7	debitage with cortex
159	2	flint	light grey	pebble flint	utilised blade		ter	meso	40	13	5	utilised blade on one long edge with notch at base cortex on right edge
160	2	flint	white	pebble flint	retouched blade	notched	ter		21	13	6	Retouched blade burnt
161	2	flint	light grey	pebble flint	retouched blade	microlith?	ter	late meso	28	10	3	narrow retouched blade with retouch on long edge and oblique tip; cortex at base
162	2	flint	med grey	pebble flint	flake	debitage	prim		22	19	4	primary flake
163	2	flint	light grey	pebble flint	utilised flake		ter		36	18	8	large utilised flake with cortex at left base
164	2	flint	light grey	pebble flint	flake	debitage	prim		14	11	3	primary flake
165	2	flint	med grey	pebble flint	flake	debitage	sec		23	14	3	debitage with cortex
166	block 2	flint	med grey	pebble flint	blade		sec		25	12	2	utilised blade (sieve)
167	block 2	flint	med grey	pebble flint	flake	debitage	sec		20	12	8	debitage (sieve)
168	block 3	flint	white	pebble flint	flake	debitage	sec		11	10	2	debitage (sieve)
169	block 5	flint	dark grey	pebble flint	microlith	crescent	ter	late meso				crescent microlith with retouch on left edge; broken tip
170	block 5	flint	white	pebble flint	utilised blade		ter	meso	31	14	7	utilised blade on right edge (sieve)
171	block 5	flint	light grey	pebble flint	utilised flake		ter	meso	26	16	5	utilised flake with notch at proximal end (sieve)
156a	2	flint	med grey	pebble flint	retouched blade		ter	late meso	13	11	1.5	retouched blade on both edges and at proximal end; snapped at base