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EXCAVATIONS EAST OF BLACKMOOR, CHARTERHOUSE, MENDIP HILLS, SOMERSET.

by

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WITH AN APPENDIX DETAILING THE GEOPHYSICAL SURVEY

by

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ABSTRACT

A series of small trenches were excavated over a circular geophysical anomaly, east of the Blackmoor valley, Charterhouse, Somerset. The excavations did not detect any feature that corresponded with the geophysical anomaly but did coincidentally reveal a pit, suggested to date to the Mesolithic period. Over 200 unstratified struck lithics were also recovered, many of which date to the same period. The lithics are discussed and the absence of Roman activity in this part of the Charterhouse landscape noted.

INTRODUCTION

Between 30th July and 5th August 2006 excavations were carried out by the author, assisted by students of the University of Worcester, local volunteers and members of Charterhouse Environs Research Team (hereafter CHERT), at the site of a purported geophysical anomaly east of Charterhouse, on the Mendip Hills, Somerset. The geophysical survey (see Appendix) had been carried out by John Matthews, Albert Thompson and Jack Foord of CHERT, in an attempt to trace the course of the Roman road to Charterhouse, which "disappears" from aerial photographs at this location. The results of the survey did not clarify the course of the road but did show an array of geophysical anomalies which appeared archaeological. These included strong linear features, forming a patchwork of small square and rectangular enclosures, and a fainter, circular enclosure. It was this circular enclosure that was the primary target of the excavation, although an investigation of several of the linear features was also planned. It was thought that the enclosure might be prehistoric (Bronze Age/Iron Age) and be significant in piecing together the evidence for pre-Roman lead mining, evidence which remains remarkably elusive.

SITE DESCRIPTION AND LOCATION

The field under investigation lies immediately east of a rectilinear Medieval enclosure, investigated by Professor Malcolm Todd in 1993-4 as part of his excavation programme in the Charterhouse landscape ("Site 1" Todd, 2007). There is no record of any archaeological fieldwork in this field, although an 1977 aerial photograph held by Dr Peter Fowler apparently show "…extensive cropmarks in a field of very short barley (which) indicated the existence of rectilinear timber and ditched structures, arranged irregularly in marked contrast to the provincial

symmetry of the western 'Town Field'" (Mention, Avon Archaeological Newsletter Autumn 1977). Nothing is visible on the ground, although the results of the geophysical survey correspond with the description of the aerial photograph. The field is currently used as pasture.

The field lies on the east side of the Blackmoor valley, centred on ST 507558. It has been assumed that the aerial photograph and geophysical survey provide the only evidence that the Roman occupation of Charterhouse crossed to the east of the valley. Other archaeological evidence exits in this vicinity however. To the south of the field is a round barrow, Grinsell's "Ubley 6", which he describes as "impinged upon by the Roman road between Charterhouse and Old Sarum" (Grinsell, 1971, p.121). Lithics have also been found throughout the Charterhouse landscape, dating from the Mesolithic to the Bronze Age. The high numbers of Mesolithic artefacts should be noted; indeed, Professor Todd's excavations at Site 1 revealed an old land surface containing a Mesolithic assemblage, below and inside the bank of the enclosure (Todd, 2004; 2007).

THE EXCAVATIONS

Three trenches were located over the area of the circular geophysical anomaly (Figure 1). Trench 1 measured 10 m by 5 m; Trench 2 measured 5 m by 2 m; Trench 3 measured 4 m by 1 m. All trenches were manually excavated, with the turves stored for reinstatement. Deposits were excavated as stratigraphic units and each unit given unique *context numbers* based on trench they are located within. Trench 1 contexts were assigned numbers beginning with 1000, Trench 2 began with 2000 and Trench 3 with 3000. Finds from each context were kept separate. Contexts were recorded on *pro-forma* recording sheets, based on those used by *MOLAS*, using standard archaeological terminology. Archaeological features and deposits were drawn in plan and section, at 1:20 and 1:10 scales respectively, and photographed in triplicate.

Health and Safety issues need mentioning here. Owing to the strong possibility of lead, cadmium and arsenic contamination of the soil, strict health and safety measures were put in place. These included the wearing of full-body forensic disposable suits; disposable Grade P3 valved facemasks and gloves (Figure 2). Hand and face washing facilities were provided on site and a portable lead-testing kit was used to monitor excavation conditions. Turves and spoil from the excavation were placed on geotextile sheets and the excavation area was fenced off to prevent livestock accessing the area. The excavation team were also required to remove suits and boots before entering cars at the end of each day and decontaminate prior to entering the dig accommodation at the Wessex Cave Club, Upper Pitts, Priddy, which involved removing site clothes outside and then showering in the changing rooms before being able to enter the hut proper.

RESULTS

Trench 1

The ploughsoil (1000) in this trench proved to be 0.20 m thick and contained prehistoric struck lithics and a few Post-Medieval finds. The ploughsoil lay directly over Carboniferous Limestone bedrock (1001), which was bedded north-east/south-west, with further striations visible in the surface, running north/south.

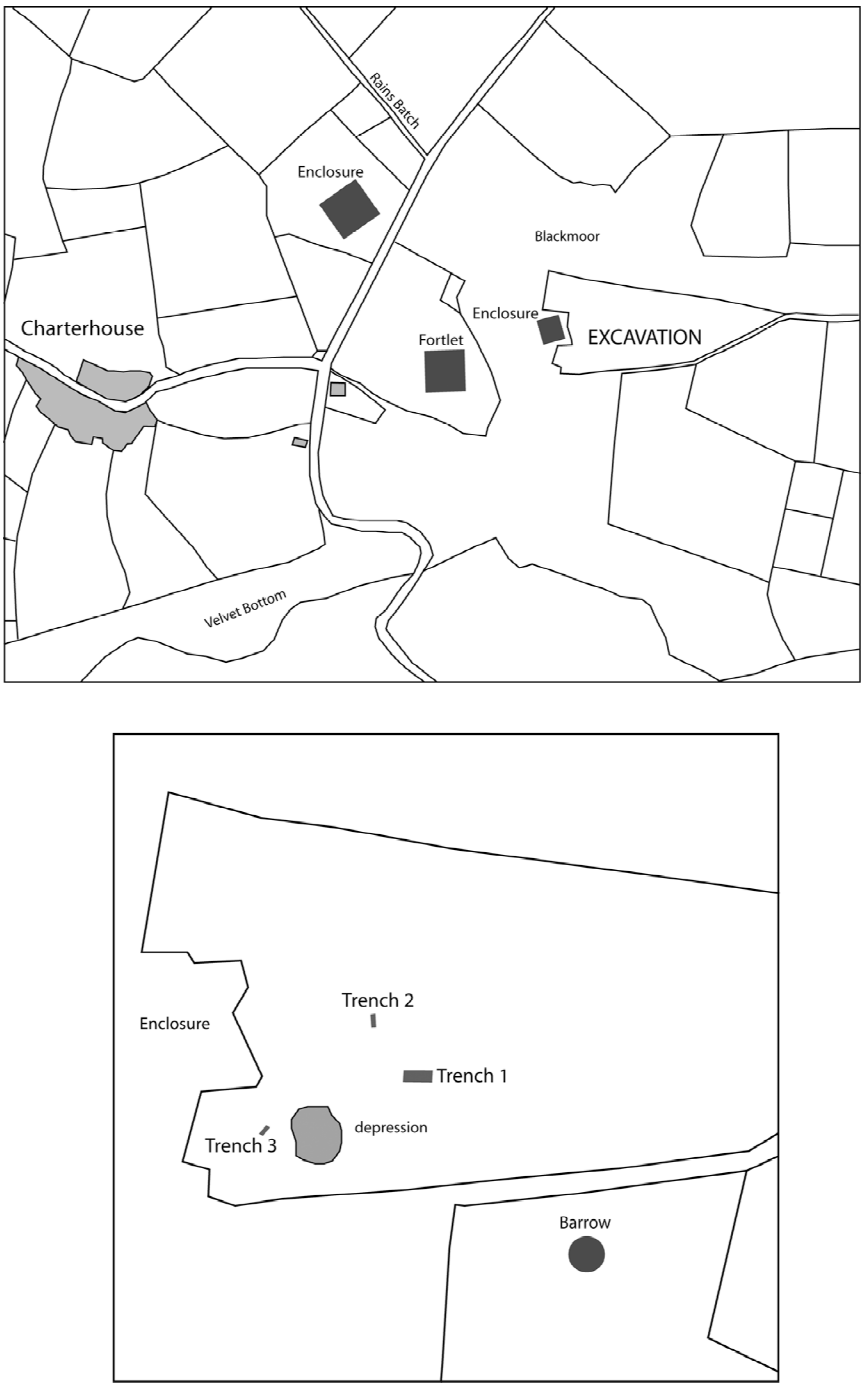

Figure 1. *Site Location and Position of the Excavation Trenches*.

The only archaeological feature in the trench was a circular cut measuring 0.70 m x 0.60 m wide by 0.50 m deep (1018) (Figures 3 and 4). It had a gradual break of slope at the top and base and the base itself was flat. The feature was filled by two deposits. The basal fill (1024), was a stiff, orangey-brown silty-clay, 0.20 m thick, with very occasional charcoal inclusions and contained 3 struck lithics. The upper fill (1007) was a firm, yellowy-brown silty-clay, 0.12 m thick, with very occasional charcoal inclusions and contained 6 struck lithics. The feature was located against, and a small part covered by, the northern edge of the section (Figure 5).

A series of dips and scoops in the bedrock were assigned context numbers, as they initially appeared to be possible archaeological deposits. However, upon excavation they were revealed as natural features. The finds from these contexts were undoubtedly deposited by taphonomic processes.

Figure 2. *Health and Safety precautions in action.*

Trench 2

The ploughsoil (2000) in this trench was also 0.20 m thick but notably different in colour and composition from that in Trench 1. It contained prehistoric struck lithics and a few scraps of modern pottery. No archaeological features were present in this trench, although a series of natural features caused initial confusion before they were resolved as natural. In particular, a prominent east-west linear feature (2010), 0.80m wide and 0.10m deep, appeared archaeological before being identified as geological. As well as scoops and dips in the limestone bedrock, an area of disturbance (2009) was thought to be archaeological before being

identified as probably caused by tree roots. Artefacts associated with these features again appear to be the result of taphonomic processes.

Trench 3

The ploughsoil (3000) was 0.22 m thick and similar in composition to that in Trench 1. It contained struck lithics and some small pieces of galena. Below this, however, was a deposit (3001) not encountered in any of the other trenches. This was a loose, yellowy-brown silty clay; 0.12 m thick. Struck lithics were found on and within its surface. It may be significant that this deposit was the only one during the whole excavation to give a reading for detectable lead contamination. Below this was the limestone bedrock, containing bands of red and grey silty clay.

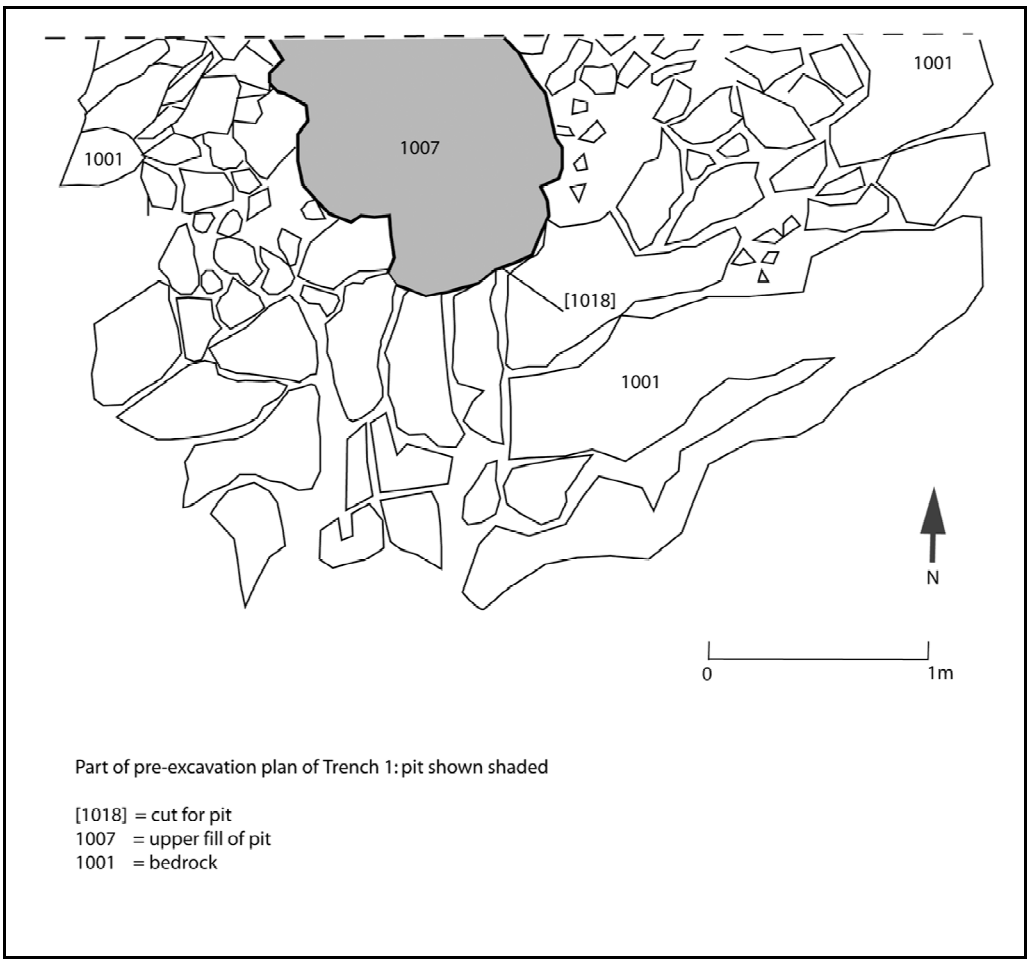

Figure 3. *Plan of Pit.*

THE LITHICS

A full description of the struck lithics is available on the UBSS website at www.ubss.org.uk.

With the exception of pit (1018) in Trench 1, discussed below, the finds from the excavations are unstratified, coming from the ploughsoil, the surface of the bedrock or natural deposits, such as tree root hollows or small natural depressions in the bedrock. For this reason, the unstratified lithics have been grouped and analysed by trench rather than by context.

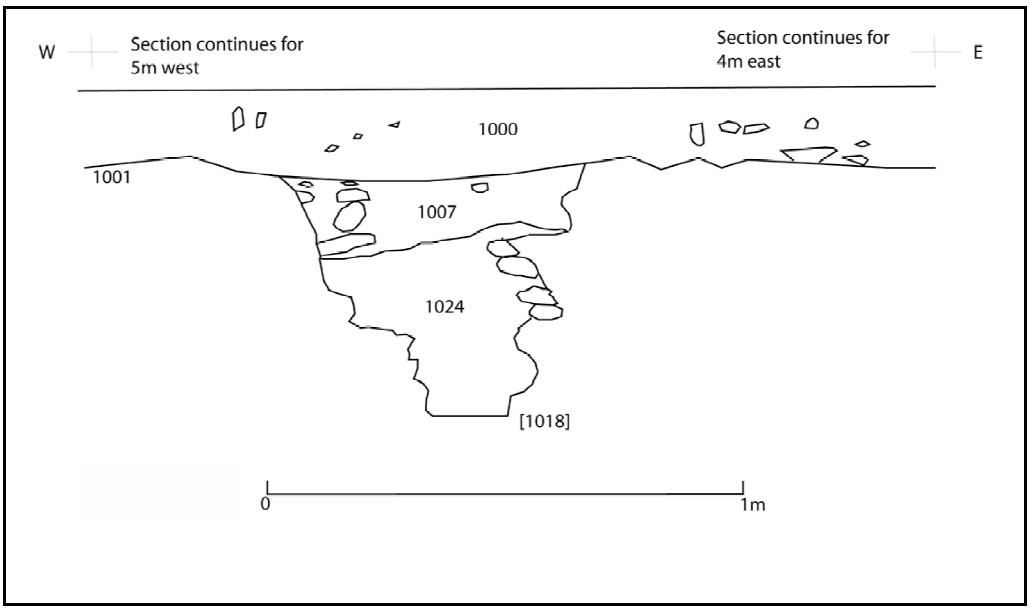

Figure 4. *Section through Pit.*

Trench 1

115 unstratified struck lithics were recovered from Trench 1. The assemblage is dominated by debitage, forming 87% of the total, with retouched pieces forming 13% of the assemblage. Although generally considered of little value, debitage can be diagnostic, particularly in the case of material related to cores, blades and flakes. Combining diagnostic debitage with retouched pieces allows 14% of the lithics from this trench to be tied down to a particular time period. The most commonly identified period is the Later Mesolithic, represented by 7 pieces, including unmodified and retouched bladelets, denticulate flakes/blades and cores and core related pieces showing blade scars. 3 broad blade microdenticulates could belong to the Early Mesolithic period however, and 3 pieces could only be identified more generally as "Mesolithic". The Late Mesolithic/Neolithic, Neolithic and the Late Neolithic/Early Bronze Age are represented by single, retouched items.

31% of the assemblage is fully or partially patinated, though patination does not appear to correspond with date of deposition, as all the periods represented included patinated

and non-patinated lithics. 6% of the struck lithics were burnt and a further 2 fragments of burnt limestone were also recovered. Excluding fully patinated items, chips (for which colour was not noted) and burnt pieces, at least seven groups of raw materials can be identified:

Grey-brown flint	22%
Grey flint	10%
Brown flint	5%
Opaque grey flint	4%
Grey chert	2%
Orange chert	2%
Orange brown flint	1%

Grey-brown flint occurs in the greatest quantity and cortex, when present, varies from thick and rough to smooth, weathered and thin. The presence of several nodule fragments indicates that the source of some of this material may have been surface flint nodules, weathered from the Wessex chalk. Other raw materials may have been gathered as beach pebbles or from gravel sources: there are definite examples of each within this assemblage.

Trench 2

64 unstratified struck lithics were recovered from Trench 2. 62% of the total assemblage was formed of debitage and 38% was retouched: this is an unusually high proportion of retouched items. Combining retouched items with diagnostic debitage allows 48% of the lithics to be assigned a date. Once again, by far the most common period represented was the Later Mesolithic, with 18 pieces including bladelets, blade cores and core fragments, denticulate flakes and scrapers. However, 5 pieces indicate a Late Mesolithic/Early Neolithic date (including a broken axehead or adze) and a 7 pieces a general Neolithic date. The latter includes several large, flake scrapers and a large knife. Only 1 piece (a single angle burin) has been assigned a general Mesolithic date; it is notable that the Early Mesolithic is not *definitely* represented by the assemblage from this trench.

38% of the lithics are fully or partially patinated and the comments made above, about patination as an unreliable indication of age, are applicable here. None of the lithics were burnt. Non-flint/chert lithics are represented by a single cylindrical piece of limestone and 2 pieces of galena. Of the struck lithics, at least five types of raw materials seem to have been exploited:

Grey flint	20%
Grey-brown flint	19%
Brown flint	8%
Opaque grey flint	3%
Greeny-brown chert	3%

Surviving cortex on the grey flint and the brown flint is predominantly smooth and may indicate a beach or gravel source for this material. Most of the grey-brown flint exhibits a

thicker, slightly rougher cortex, which may point to a chalkland origin, as suggested above. It should be noted that a single source of raw material, for example pebbles on a beach; river gravels or nodules on or near the ground surface, can contain great variety in colour and composition and thus some of these seemingly different materials may be found in close association with each other.

Figure 5. *Photograph of Pit.*

Trench 3

59 lithics were recovered from Trench 2. 86% of the assemblage was formed by debitage and a total of 14% was retouched. Combining diagnostic debitage and retouched items allows 24% of the lithics to be assigned a closer date. Once again, the Later Mesolithic period is most strongly represented, with 8 pieces including blades, scrapers, a truncated flake and core related pieces. 2 microdenticulates may be Early Mesolithic, whilst a large end and side scraper is Neolithic. 3 pieces can be assigned only a Later Mesolithic or Early Neolithic date: a core rejuvenation flake, and 2 combined retouched points/notched flakes.

49% of the lithics exhibit full or partial patination and 7% of the total assemblage is burnt. The remaining struck lithics represent at least five types of raw materials:

Grey flint	9%
Grey-brown flint	7%
Brown flint	4%
Yellow grey/brown flint	4%
Opaque orange flint	2%

Cortex on the grey and grey-brown flints is both smooth and thin and rough, suggesting more than one source for these materials. The brown flint retains no cortex but a similar origin to that hypothesised for items from Trench 2 may also hold. The single item of opaque orange flint, a small, rather crude, scraper, is definitely of gravel origin; this may also be true of the items of yellow grey/brown flint. Whilst the colour and composition of patinated items can be difficult to ascertain, it is worth noting several pieces appear to be a cherty flint, adding another possible category to this list of raw materials.

DISCUSSION

The circular geophysical anomaly was not detected in any of the three trenches positioned to intersect it. This suggests that it does not exist but is a "phantom feature". The strong linear anomalies identified on the geophysics and aerial photograph would appear to be natural, geological features in the limestone, as seen by context 2010 in Trench 2 and contexts 3002, 3004 and 3005 in Trench 3.

The only archaeological feature encountered during the excavations was the circular cut (1018) in Trench 1. This would appear to be a pit or large posthole. If a posthole, the post must have been removed rather than left to rot *in-situ,* as no post-pipe was detectable. There was also no surviving post-packing, e.g. chock stones, but if a pit such inclusions would not have been necessary. The fills of this feature may have accumulated naturally or represent deliberate backfilling after excavation. Finds were found in the basal and upper fills, which help in suggesting a possible date. The 3 struck lithics, 2 broken flakes and 1 chip, from the basal fill (1024) are not particularly diagnostic. However, the 6 struck lithics from the upper fill (1007) provide better information. 3 pieces are suggestive of a Later Mesolithic date: a core fragment from a blade/flake core, a small core-trimming flake from a bladelet core and a small bladelet. The 3 remaining pieces, 2 broken flakes (1 burnt) and a chip, are undiagnostic, though a further find from this context is of interest. This is a piece of red stone with one surface slightly polished, probably through use for burnishing.

These finds suggest several possibilities. Firstly, the pit dates to the Later Mesolithic and the lithics represent deliberate or accidental incorporation whilst the pit was open/becoming/being backfilled. Secondly, the pit could post-date the Later Mesolithic and the lithics could be residual, becoming naturally incorporated as the pit became silted. The presence of unstratified Early Mesolithic flint, Later Mesolithic flint and Neolithic/Bronze Age flint in the ploughsoil of this trench could be used to support either interpretation. However, is it simply coincidental that the only diagnostic flints in the pit date to the Later Mesolithic, as well as the only non-flint/chert utilised artefact (the partially polished red stone) found during the excavations? Whilst it is impossible to be certain, a tentative hypothesis is that the pit dates to the Later Mesolithic period. Pit-digging is no longer associated with just the later prehistoric period, as Mesolithic pits are increasingly being identified all over Britain. For example, Early

Mesolithic pits have been found at Stonehenge, Wiltshire and Crathes, south-west of Aberdeen, whilst Later Mesolithic examples are known from Bryn Celli Ddu, Anglesey and Thornborough, Yorkshire (News, British Archaeology, 2007). Such pits are often found grouped or in alignment and it is possible that further pits may exist at Charterhouse, outside of the area of Trench 1. The function of such pits can be more difficult to ascertain however. Some Mesolithic pits appear to have held large timber posts whilst others may represent less obtrusive features, marking significant locales or events.

The yellow-brown silty clay deposit (3001), extending throughout Trench 3, is difficult to interpret confidently, not least because of the limited area uncovered. It may represent a surface, part of a destroyed archaeological feature (e.g. a bank) or a dumped deposit. Flints were found on and close to its surface but whether these are *in-situ* or residual is unknown. This trench was located close to both the Medieval enclosure and an artificial/natural depression and the deposit could relate to either of these. The high lead readings might indicate that it is related to lead processing in some way, but beyond this little can be said.

The analysis of the lithics found in all three trenches show that these assemblages are multi-period, potentially spanning six thousand years. However, the Later Mesolithic is better represented and it is possible, though not proven, that much of the flint debitage and the main phase of activity date to this time. The significant concentrations of Late Mesolithic flints found in the Charterhouse landscape, including those found during Professor Todd's excavations at the adjacent Medieval enclosure, would seem to support this. If the pit also dates to the Later Mesolithic, as has been suggested here, it would suggest an active and potentially long-lived Mesolithic presence in this landscape. This is the first Mesolithic pit to be identified on Mendip and suggests that lithic scatters may *occasionally* correspond with subsurface features, despite previous unsuccessful attempts to find such a relationship (see Lewis and Mullin 2001). Finding such small features in large fields may, however, remain a challenge.

The density of the unstratified lithics differed significantly between each of the three trenches, as Table 1 illustrates.

Trench	Total Area (square metres)	Number of Lithics	Density of Lithics per square metre
1	50	115	2.3
2	10	64	6.4
3	4	59	14.75

Table 1. *Lithic Densities per Square Metre*.

It is difficult to assess the significance of these concentrations. The field has been ploughed in the past and the plough soil itself is thin, with no "B" Horizon to the soil profile, suggesting that the lithics will have been vulnerable to movement by plough action. However, this need not imply that the plough has created concentrations and it may be a true reflection of a greater density of activity in the area of Trench 3. Indeed, Trench 3 was the closest of all the trenches to the site of the Mesolithic flint scatter found by Professor Todd during his excavations at the Medieval enclosure (Todd, 2004; 2007), and it is possible that it may represent a continuation of this assemblage.

The identifiable Later Mesolithic material from the three trenches is dominated by unmodified and retouched bladelets, denticulates, cores, core rejuvenation and core trimming

flakes. Much of the undiagnostic debitage may also relate to this period, as the earlier and later material could be explained as a typical low density, multi-period scatter. If much of the material were Later Mesolithic it would appear to indicate a range of activities including core maintenance and tool use, possibly woodworking and/or plant processing. Only 10 primary flakes were recovered from the three trenches, suggesting that raw materials were imported to the site in a predressed state, a feature noted for many of the Mendip lithic scatters.

CONCLUSION

Excavations east of the Blackmoor valley, Charterhouse revealed only a single archaeological feature, a pit, possibly dating to the Mesolithic period. Over 200 struck lithics were also recovered from the three trenches and many of these are Mesolithic in date, suggesting that the pit and lithics may be contemporary. The circular geophysical anomaly was proved not to exist, highlighting the need for caution when interpreting geophysical data. The artefacts from the excavation add to the considerable number of Mesolithic flints already collected from Charterhouse, suggesting that this was a significant place in the hunter-gatherer landscape.

Perhaps one of the most significant conclusions to be drawn from the excavations is based on negative evidence – the lack of any finds or features dating to the Roman period. The excavations have revealed that the Roman occupation at Charterhouse did not extend into this side of the Blackmoor valley. In the Roman period it is possible that the area of the field was wooded or used for pasture, activities that have not left a material trace.

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Appendix

GEOPHYSICAL SURVEY OF A FIELD EAST OF BLACKMOOR FEBRUARY TO APRIL 2006

The Site

The field is situated within the 255m contours, and contains a slight hillock rising to just over 260m. It is located on carboniferous Black Rock limestone (Brown 1984). The soil degrades from brown earth Mendip Complex to small patches of a peaty Priddy gley to the south east of the field (Findlay 1965).

Four entries in the Somerset Historic Environment Record (HER) relate to the site. PRN 15768, grid reference ST 506559, is a Mesolithic flint scatter found during excavations by Exeter University in 1993 and 1994 (Todd, 1993 & 1994) of the enclosure on the east side of Blackmoor, PRN 23020 (Scheduled Monument: NMR ST 55 NW 34). PRN 23022, at ST 507559, is listed as a Roman settlement in the HER (2006), which refers to the presence of rectilinear features shown in a 1977 aerial photograph. PRN 24092 identifies a flint scatter at ST 508559.

Objectives and Method

The objectives were to seek, through a non-intrusive geophysical survey:

1. The course of the Roman road, reported by the Rev. John Skinner and Sir Richard Colt-Hoare, leading into the settlement at Charterhouse
2. Any features that might be associated with the nearby later medieval enclosure
3. Any indication of the irregular structures mentioned for PRN 23022.

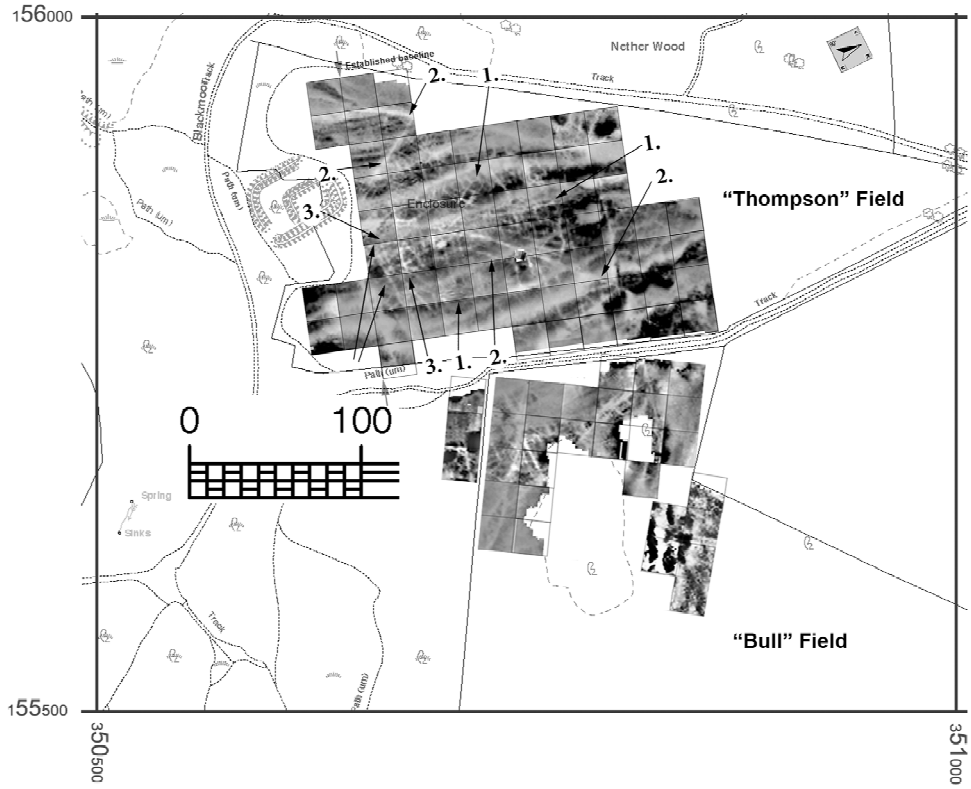

Figure 6. *Map overlaid with the results of all Resistance Meter Surveys conducted in the vicinity*

The English Heritage guidance (David 1995) supported using a resistivity meter for this survey. The survey was undertaken with a TR Systems' twin probe array resistance meter set to 'Rural' and a range of 200 ohms. A zig-zag pattern was used, surveying a pattern of 20 m x 20 m grids. The data for each grid was downloaded as a .dat file, using TR Systems's software, and converted to .txt. Imported into ArcheoSurveyor, a full composite of all the grids was produced and analysed.

Results and Interpretation

The results, shown in Figure 6, identify three main groups of anomalies.

1. Small areas of higher resistance bounded by a rectilinear network of lower resistance. These form a possible interlinked network of enclosures. The density of the elements makes it difficult to identify if they are man made or not.

2. Longer curvilinear and linear lines of low resistance, in some instances possibly aligned in pairs, and are suggestive of ditches, possibly marking routes.

3. An area enclosed within a boundary of higher and low resistance suggestive of a circular feature some 35 - 40m in diameter. Two interpretations are possible. Either the visible pattern is due to a single feature or it is made up of unrelated elements with similar readings giving the illusion of homogeneity.

A full report on this work is available on the UBSS website at www.ubss.org.uk.

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