

FIELDWALKING AT  
PETER'S FARM,  
MIDDLEHILL,  
BROADWAY,  
WORCESTERSHIRE

Alan Jacobs

With contributions by Andrew Mann and Alvaro Mora-Ottomano

Illustrated by Carolyn Hunt and Laura Templeton

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INVESTOR IN PEOPLE

Project P2727  
Report 1465  
WSM 34400



## Archaeological fieldwalking at Peter's Farm, Middlehill, Broadway, Worcestershire

Alan Jacobs

With contributions from Andrew Mann, Alvaro Mora-Ottomanno

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### Background information

<i>Client</i>	Worcestershire Young Archaeologists
<i>Site address</i>	WHEAS
<i>National Grid reference</i>	408700/237700
<i>Sites and Monuments Record reference</i>	WSM 34400
<i>Brief</i>	HEAS 2005a
<i>Project design</i>	HEAS 2005b
<i>Project parameters</i>	IFA 1999

#### *Previous archaeological work on the site*

There has been no previous archaeological work undertaken on site.

#### *Previous archaeological work on associated sites*

A considerable amount of Roman activity has been recorded in the vicinity of Peter's Farm Broadway, including both find spot material and cropmark evidence. In the immediate area of the fieldwalking (WSM10943 and WSM10945), here excavation in 1946 uncovered Iron Age pottery, Roman brooches of 1<sup>st</sup>-2<sup>nd</sup> century date as well as substantial amounts of pottery and a limestone carving. A single sherd of Saxon pottery was also recovered, this would appear to date from the 6<sup>th</sup>-7<sup>th</sup> century. In addition a large number of cropmarks have been identified in the area immediately around Broadway. A number of aerial photographs have been recorded along the area of gravel terraces below Broadway Hill, those specifically identifiable from the HER records as (WSM09986, WSM09987, WSM09990, WSM09991, WSM09992, WSM09993, WSM09994, WSM09995, WSM09996, WSM10069, WSM10070, WSM10071, WSM10072, WSM10073, WSM10076, WSM10077, WSM12111, WSM10093, WSM01862, WSM04138 and WSM26889. In addition a watching brief was carried out at Sands Meadow to the east of the site (Topping *et al* 1997).

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### Topography archaeology and historical background

Broadway is located in the Vale of Evesham, within the Wychavon region of Worcestershire. The village itself lies between 80 and 100 metres OD on the west-facing scarp slope at the foot of the Cotswold escarpment. The area around the village is used extensively for agriculture, especially the lower slopes of the escarpment. The local soils are of the Badsey series (Beard *et al* 1984), which are typical brown calcareous earths with limestone's river terrace gravel at shallow depth. The underlying geology consists of Jurassic Marlstone Rock Bed (British Geological Survey 1:250,000 52°N-0.4°W). The geology of the study area has long been recognised as predisposed to slope instability (Whitworth *et al* 2000: 139-155). Relict rotational landslides are common on the upper slopes of the Cotswold within the Upper Lias. Other relict features are located on the lower gradient slopes at the base of the escarpment and are likely to be the remains of mass movements associated with previous climatic regimes (*ibid* 153). Furthermore, the Jurassic Marlstone Rock Bed stratum is an aquifer, which produces mass movement by sustaining high pore water pressures (*ibid* 193). The land instability of Broadway has been recorded from the Devensian glacial stage to more recent periods. Indeed, landslides have occurred in Broadway since Parliamentary Acts from the 17<sup>th</sup> century in areas of open field cultivation systems (Roberts 1973). This suggests that tillage drag and solifluction may be partially responsible for the distribution of the artefacts. If some materials have been displaced down slope, the nearby hill might have been one of the foci of activity.

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The site of the fieldwalking was located to the south of Peter's Farm, south of the Broadway bypass road and south-east of the abandoned railway line (WSM26889), and to the west of Broadway. The ground slopes away by some five metres towards the north, with underlying geology comprising of a yellowish brown sandy clay overlying gravel. The area has been extensively cultivated, with areas of ridge and furrow (WSM09986, 10069, 10070, 10071, 10072, 10073, 12111, 12239, 12230, 12332, 12333) facing degradation through agricultural activity, which has gradually uncovered a series of enclosures (WSM09989, 9990, 9991, 9992, 9993 and 9995). This is an unusual group (Topping *et al* 1997).

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## **Methods**

### *Artefact recovery policy*

All artefacts from the area were recovered as part of a field walking exercise undertaken by the Worcestershire Young Archaeologist Club, supervised by Mrs Deborah Overton. The site was sampled by grid walking, the field being divided into 55 sampling squares.

### *Method of analysis*

All hand-retrieved finds were examined and a primary record was made on a Microsoft Access 2000 database. Artefacts were identified, quantified and dated and a *terminus post quem* date produced for each stratified context. The pottery was examined under x20 magnification and recorded by fabric type and form according to the fabric reference series maintained by the service (Hurst and Rees 1992; Hurst 1992).

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## **Artefactual analysis**

The pottery assemblage retrieved from the fieldwalked area consisted of 1541 sherds of pottery weighing 9.266kg. The group could be dated possibly from the Middle Iron Age/Roman period onwards (see Table 1). No clearly prehistoric material was present in the assemblage. The level of preservation was generally poor with the majority of sherds displaying high levels of abrasion.

Material	Type	Total	Weight
Pottery	Roman/Prehistoric	2	13
Pottery	Roman	902	6144
Pottery	Medieval	24	209
Pottery	Post-medieval	142	1297
Pottery	Modern	471	1603
Bone	Mammal	217	1961
Brick	Modern	21	808
Button	Silver	1	1
Coal	Modern	6	5
Flint	Burnt	6	13
Flint	Worked	3	2
Glass	Modern	142	1062
Land drain	Modern	7	121
Metal	Copper alloy	10	54
Metal	Iron	50	1501
Metal	Lead	1	80
Pipe	Tobacco	38	56
Plastic	Yellow	3	3
Shell	Mollusc	22	28
Slag	Iron	15	128
Slag	Modern	2	5
Stone	Burnt	109	2359
Stone	Slate/tile	24	438
Tile	Medieval-post-medieval	18	496
Tile	Modern	11	368
Tile	Post-medieval	1	100
Tile	Roman	46	1254
Tile/brick	Modern	9	129
Wood	Burnt	1	1
Total		2304	20239

**Table 1 Quantification of the assemblage**

### Discussion of the pottery

A total of 95 diagnostic form sherds were present and could be dated accordingly, the remaining sherds were datable by fabric type to the general period or production span. The discussion below is a summary of the finds and associated location or contexts by period. Where possible, *terminus post quem* dates have been allocated and the importance of individual finds commented upon as necessary.

*Roman*

Name	Fabric	Total	Weight
Palaeozoic Limestone	4.1	1	9
Sand tempered ware	5.1	1	4
Severn Valley ware	12	801	5362
Severn Valley ware reduced	12.1	9	123
Severn Valley ware organic	12.2	26	315
Severn Valley ware organic reduced	12.3	4	21
Fine sandy grey ware	14	3	14
Coarse sandy grey ware	15	1	5
Roman Grog tempered ware	16	3	34
Handmade grog tempered ware	16.2	1	11
Wheelthrown Malvernian ware	19	1	76
White slipped ware	20	1	1
Black Burnished ware	22	6	35
Nene Valley ware	28	2	2
Oxford red/brown colour coat	29	22	66
Oxford white ware	38	1	11
Dressel 20 amphora	42.1	1	17
South Gaulish Samian	43.1	2	3
Central Gaulish Samian	43.2	14	37
Miscellaneous Roman ware	98	1	1
Total		904	6157

**Table 2 Quantification of the Roman pottery**

The Roman material formed the largest part of the pottery assemblage, comprising just 61% by sherd count and 62% by weight and distributed right across the site (Fig 1). The average sherd size was just 6.81 grams compared to 8.31 grams at nearby Smallbrook Farm (Jacobs 2005), which would appear to indicate that this area is being less severely degraded through agricultural activity. The only pieces of possible prehistoric pottery came from square B2 (Fig 2). These comprised of single abraded sherds of Palaeozoic limestone ware (fabric 4.1) and Sand tempered ware (fabric 5.1), both of these fabrics date from the 6<sup>th</sup> century BC to the 2<sup>nd</sup> century AD. These are clearly very residual most probably early Roman.

The assemblage was dominated by Severn Valley Ware fabrics (Fabric 12 to 12.3), which normally comprise in excess of 70% of the pottery recovered on rural Romano-British sites in Worcestershire. There was a discernable lack of Webster type 1 and 2 Storage jars (Webster 1976) and a comparatively lower proportion of Samian ware in comparison to Smallbrook Farm. The few early forms of Severn Valley ware are dominated by bowls of Webster type 66, 71 and 73 of first and 1<sup>st</sup>-2<sup>nd</sup> century date. A single example of a carinated bowl (Webster 1971, 111 fig14, H1 or 2), these are considered to be a continuation of an Iron Age tradition and most probably date to the 1<sup>st</sup> to 2<sup>nd</sup> centuries. The overall balance of the Roman pottery gives a predominantly 2<sup>nd</sup> to 3<sup>rd</sup> century date range for the enclosures across the centre of the site with examples of wide mouthed jars dominated by Webster types 22 and 23 with smaller amounts of types 21, 25 and 26, of 2<sup>nd</sup> or late 2<sup>nd</sup> to 3<sup>rd</sup> century dating, three examples of later types 27, 29 and 37, of 3<sup>rd</sup> to 4<sup>th</sup> century dating were present. Examples of narrow mouthed storage jars primarily of Webster type 3-8 with a single example of a type 14 were also recovered. Several examples of tankards were present, these were dominated by Webster type 43, with single examples of type 42 and 41, and these were predominantly of late 2<sup>nd</sup>-3<sup>rd</sup> century dating, and flanged bowls, Webster type 40, 46, 48 again of 2<sup>nd</sup> to 3<sup>rd</sup> century dating.

Small amounts of other locally produced pottery including grey wares (Fabrics 14 and 15). Grog tempered ware (Fabric 16) wheel thrown Malvernian Ware (Fabric 19) and some white slipped ware

(Fabric 20) were recovered. Several examples of Black Burnished Ware cooking pots (Fabric 22) were present but were not closely dateable, however, a flange rim bowl (Seager Smith type 23) was also present and dated to the late 2<sup>nd</sup> to 3<sup>rd</sup> century. Extra regional wares were present in the form of two small sherds of Nene Valley Ware of 2<sup>nd</sup> to 4<sup>th</sup> century date and a small assemblage of Oxford Colour Coat (Fabric 29) this fabric included a fragment of a mortarium and a imitation Dressel 31 bowl (Young 1977, 159, C45), dating from 270-350 AD. Only a single fragment of Oxford White Ware was recovered (Fabric 38). Imported wares consisted of a single sherd of Dressel 20 amphora (Fabric 42.1) and a Samian Ware group dominated by Central Gaulish Samian (Fabric 43.2) this in comparison to the Oxford ware would support a predominantly 2<sup>nd</sup> to 3<sup>rd</sup> century date for much of the site.

The overall range of forms and fabrics indicates domestic activity in a Romano-British rural context. In this, it conforms to the general pattern of Roman ceramic assemblages from other sites in rural Worcestershire. These assemblages are dominated by Severn Valley Ware, including both oxidised and reduced fabrics (fabrics 12-12.3) in both the organic and clear versions. Taken together with the cropmark evidence, the pottery assemblage suggests that the site represents a farmstead that was re-founded several times, with new enclosures being laid above old ones to create a palimpsest of interlaced cropmarks. The complicated interlacing of enclosure ditches would appear to indicate a re-use of the same area, and the overlapping of enclosures, makes it extremely unlikely that they were contemporary. The phenomenon of settlement "drift" is also well evidenced by excavation (eg at Wyre Piddle, Robin Jackson pers comm.). However, it is worth noting that the overall distribution of datable forms (Fig 2) indicates there is evidence of settlement drift. The concentrations of pottery give clearer dating evidence with the broad spread of 2<sup>nd</sup> to 3<sup>rd</sup> century material indicating mid Roman activity primarily from the second century to the late 3<sup>rd</sup>, with greatest activity in the later 2<sup>nd</sup> century). It is significant that no specifically 4<sup>th</sup> century forms were recovered, possibly indicating that activity here only continues into the early 4<sup>th</sup> century.

Context	Total	Weight (g)
a1	14	105
a2	27	95
a3	14	62
a4	1	5
a5	1	5
b1	34	177
b2	23	179
b3	13	243
b4	3	26
b5	3	17
b6	6	31
b7	1	5
c1	25	200
c2	17	87
c4	38	240
c5	6	39
c6	6	42
c7	1	15
d1	22	108
d2	45	252
d3	43	200
d4	19	151
d6	4	37
d7	7	27
e1	31	250

Context	Total	Weight (g)
e2	13	151
e3	18	113
e4	31	226
e5	4	53
e6	3	28
e7	4	10
f1	84	626
f2	17	173
f3	24	196
f4	18	77
f5	14	86
f7	2	9
g0	20	198
g1	47	285
g2	60	298
g3	12	136
g4	15	110
g5	10	52
g6	2	17
g7	19	271
h1	40	155
h3	21	204
h6	2	11
h7	18	61

**Table 6: Roman pottery concentrations***Medieval*

Name	Fabric	Total	Weight
Worcester type ware	55	1	4
Oxidised glazed Malvernian ware	69	7	95
Malvernian glazed/unglazed oxidised ware	69/56	16	110
Total		24	209

**Table 3 Quantification of the medieval pottery**

The medieval material formed the smallest part of the pottery assemblage, comprising just 1% by sherd count and 1% by weight. The sherds were considerably abraded with few definable rims, a single sherd of a cooking pot in Worcester type ware (fabric 55) was recovered but was not closely dateable and as such must date from the late 11<sup>th</sup> to 14<sup>th</sup> century. In the Oxidised glazed Malvernian ware (fabric 69) a total of two examples of flared bowls similar to those from Deansway (Bryant 2005, 303 fig 187 no 14) were recovered. Finally a single example of a cauldron lid with a parallel from Deansway (Bryant 305 fig 188 no 2) was identified. The lack of definable early fabrics and forms indicates fairly late medieval activity in this area, the pottery is also evenly scattered across the whole area of the survey area (Fig 3) as would be consistent with agricultural manuring using midden material.



*Post-medieval pottery*

Name	Fabric	Total	Weight
Post-medieval red sandy ware	78	96	834
Stoneware	81	3	86
Nottingham stoneware	81.3	4	41
White salt glazed stoneware	81.5	2	11
Staffordshire stoneware	81.7	2	10
Tin glazed ware	82	6	21
Creamware	84	8	15
Post-medieval orange ware	90	4	59
Post-medieval buff ware	91	15	153
Total		140	1297

**Table 4 Quantification of the post-medieval pottery**

The post-medieval material formed the third largest part of the pottery assemblage, comprising just 9% by sherd count and 14% by weight. The assemblage was dominated by Post-medieval red sandy ware (fabric 78) primarily in the form of pancheons or large storage jars, and a number of small hollow ware vessels. In addition small amounts of Stoneware sherds were recovered, including examples of Nottingham and Staffordshire tankards (fabric 81.3 and 81.7), and two small fragments of tea ware in White salt-glazed stoneware (fabric 81.5), one a small tea bowl and the other a lid. A number of fragments of tin-glazed ware were also recovered (fabric 82), these date from the late 17<sup>th</sup> to 18<sup>th</sup> centuries, and were all in the form of small hollow ware vessels. Also present were examples of creamware (fabric 84) plates of late 18<sup>th</sup> century date, and examples of small hollow ware vessels. Post-medieval orange ware (fabric 90) was present in flat ware forms, large storage jars or pancheons. Finally a number of sherds of post-medieval buff ware (fabric 91) were recovered, these were predominantly in the form of pancheons and some examples of slip glazed ware dishes and small hollow ware vessels.

The over all assemblage indicates deposition throughout the 17<sup>th</sup> and 18<sup>th</sup> centuries, of a domestic nature. This could well be indicative of manuring of the fields from midden material on site with the predominance of the pancheons indicative of dairying activity. This would largely comply with evidence from other field walked rural sites in Worcestershire.

*Modern*

Name	Fabric	Total	Weight
Miscellaneous modern stoneware	81.4	27	309
Porcelain	83	100	250
Modern stone china	85	336	836
Miscellaneous modern	100	7	78
Total		471	1603

**Table 5 Quantification of the modern pottery**

The modern material formed the second largest part of the pottery assemblage, comprising % by sherd count and 14% by weight. The assemblage was dominated by modern stone china (Fabric 85) in a variety of table ware forms including a few definable 19<sup>th</sup> century examples of pearl-wares and Flow Blue transfer patterns. Most of the material appears to be more modern in date. Smaller amounts of Porcelain were also recovered (Fabric 83), in a range of table wares, teacups, eggcups and small saucers. A much smaller amount of modern stoneware (Fabric 81.4) was recovered in the form of modern kitchen wares. This material most likely represents rubbish disposal from the nearby farm.

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### *Other finds*

A total of 46 fragments of Roman tile was recovered including examples of Tegula and Imbrex although the distribution indicates a concentration on the western side of the settlement however the small amount of material makes any interpretation difficult. A fragment of a Roman brooch was also recovered, dating to the 1<sup>st</sup> to 2<sup>nd</sup> century. Substantial amounts of medieval to post-medieval tile and modern brick and tile were also recovered, as well as modern glass and metal objects.

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### **Conclusions**

The distribution of Romano-British pottery allows some limited inferences to be made regarding the chronology and extent of the settlement pattern (Fig 3). This can then be compared to other regional sites in Worcestershire (Darch and Jackson 2003; Jacobs 2005; Jacobs forthcoming 2006). This has seen a distinct pattern of expansion in the 2<sup>nd</sup> to 3<sup>rd</sup> century followed by retraction in the later 3<sup>rd</sup> to 4<sup>th</sup> century. Chronological change across the site, with a distinct shift southwards, is clearly displayed. The settlement pattern would seem to indicate a very limited early Roman settlement in the later half of the 1st century, possibly along the southern borders of the area fieldwalking. The earliest enclosure would appear to be that underlying D1-E1 where there is a concentration of the Samian as well as a few early forms of Severn Valley ware. The balance of forms from the northernmost part of the palimpsest of enclosures appears of a 2<sup>nd</sup> century date with a gradual shift southwards with a later 2<sup>nd</sup> to 3<sup>rd</sup> century date range.

The latest dated material again concentrates in the southern most area of the enclosures. The prehistoric pottery was recovered from square b2 and was very abraded and indefinable appearing to come from the pits to the west of the enclosures. It is possible that the earlier material is more deeply buried and as such are not facing degradation by agricultural activity or located to the north in the area of earlier excavation (*WSM10943 and WSM10945*). The distribution of both the medieval and post-medieval pottery would appear to indicate the use of midden material for manuring.

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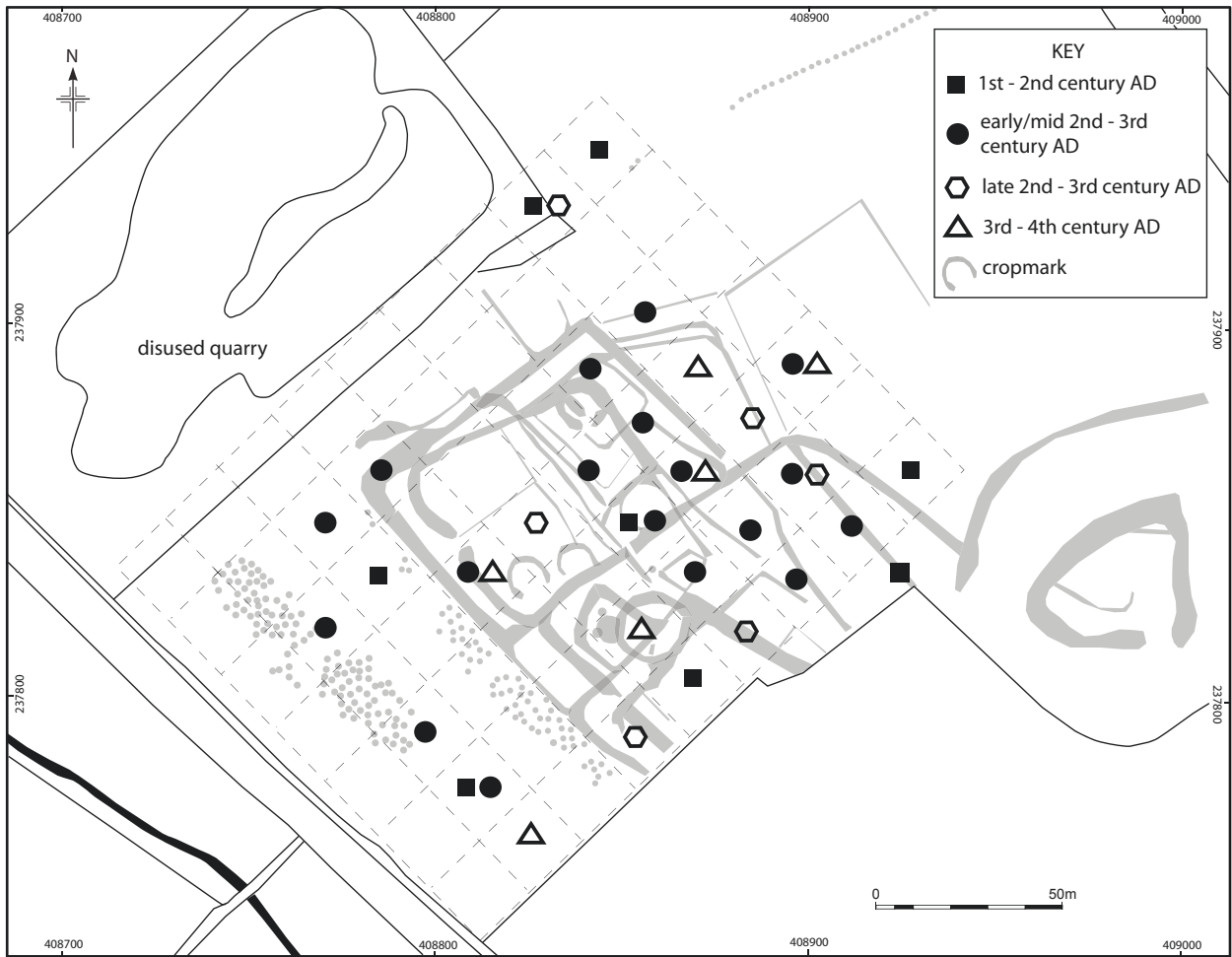
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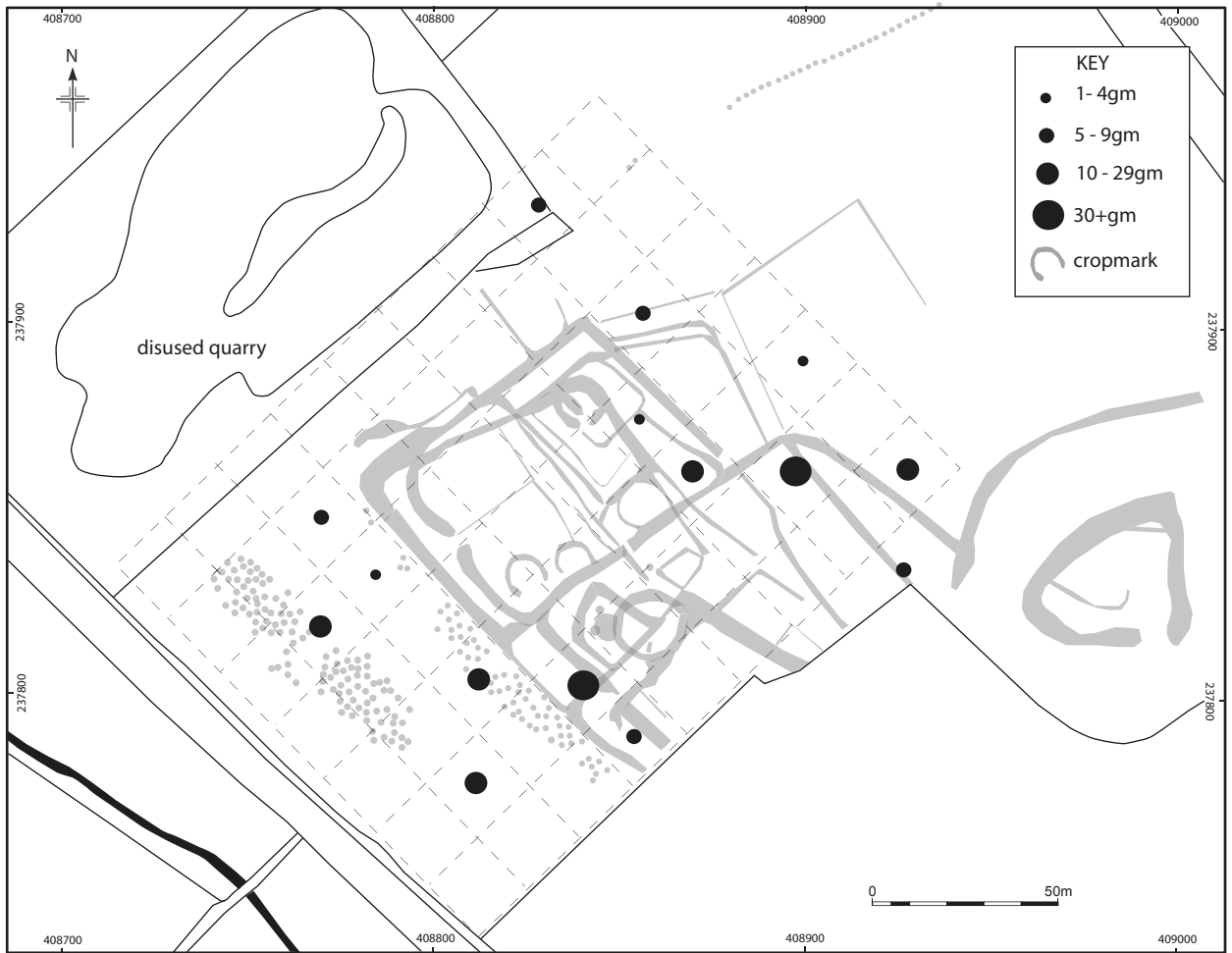
*Romano-British pottery by weight*

*Figure 1*



*Romano-British pottery by date*

*Figure 2*



*Medieval pottery by weight*

*Figure 3*

## Appendix 1

### Hand collected animal bone, Andrew Mann

#### Method of analysis

All bones from the area were recovered as part of a field walking exercise undertaken by the Worcestershire Young Archaeologist Club, supervised by Debora Overton. The site was sampled by grid walking, the field being divided into 55 sampling squares. All bone was collected by hand, this has resulted in a bias towards larger more obvious bone remains that may affect the species diversity and characteristics of the assemblage. The exposed nature of the assemblages within the plough soil may have also reduced the survival rate of smaller and juvenile bones that are less robust.

Animal bone was identified by the members of the Worcestershire Young Archaeologist Club under the supervision of Andrew Mann. Identification was undertaken with the aid of modern bone reference collections housed at the Historic Environment and Archaeology Service and identification guides (Schmid 1972 and Hillson 1992).

#### Results

The animal bone assemblage consisted of 217 fragments of bone weighing a total of 1961g. The bone was very fragmentary in nature across the site and included a high proportion of unidentifiable bones and loose teeth. The highly fragmentary nature of the assemblage meant that only 78 of the 217 bones (40%) could be identified to species (Table 1). The abraded condition of the assemblage presumably results from their exposure within the plough soil, which is supported by the high frequencies of fresh breaks on the bones. However the larger more robust bones appeared to be well preserved and numerous bones had evidence of butchery. The bones were dominated by the three main domesticates of cattle, sheep and pig respectively (Table 2). Occasional horse teeth and large unidentified bird bones were also recovered although in much lower numbers. All bone appeared to be from adult livestock as no unfused epiphyses were identified, although this may have resulted from poor attrition rates for this less robust bone. For cattle and sheep remains most parts of the skeleton have been recovered suggesting that they are from a mixed rubbish deposit. There was no obvious evidence that selective butchery had taken place, as no over-representation of specific bones was evident.

	Cattle	Sheep/goat	Pig	Horse	Bird
Teeth	9	15	3	3	
Scapula	2		1		
Rib	10				
Humerus		2	2		2
Radius	3	1	1		1
Ulna	2	1			
Metacarpal	3				
Femur	3	3	1		
Tibia	1	3	1	2	
Metatarsal		1			
Total	33	28	9	5	3

Table 1: Anatomical representation (total fragments)

Cattle	Sheep/Goat	Pig	Horse	Bird
42.3	36.9	11.5	6.5	3.8

Table 2: Proportion of species as percentage of total fragment count

#### Synthesis

The animal bone is indicative of general mixed rubbish including butchery waste, which suggests that most of the processing practices (slaughter, butchery and cooking preparation) were undertaken locally. It seems that cattle and sheep/goat were the dominant species with pig supplementing the meat

diet, a common pattern throughout the Roman period. The inherent limitations with the assemblage discussed above limits the overall usefulness of the data. However the good preservation of the recently exposed bone was good, suggesting that any further invasive investigations on the site are likely to yield good animal bone assemblages.

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## Appendix 2

### Lithic analysis, Alvaro Mora-Ottomano

#### Introduction

An archaeological prospection carried out by the Worcestershire Young Archaeologist's Club (WYAC) in 2004, consisting of a systematic field walking surface collection, recovered 68 worked stones from Peter's Farm, Middlehill, at the north of Childwickham Road in Broadway, Worcestershire (Fig. 1, NGR: SP 08821 37832). Although the assemblage contains few diagnostic dateable artefacts, a substantial number of the analysed lithics exhibit manufacture characteristics associated with Mesolithic stone tools typology. The assemblage is generally in a moderate state. Because the lithic scatters are unstratified, it is assumed that they represent only a portion of some prehistoric activities. Post-depositional movement may have had an effect on its wider redistribution. This suggests that the lithic implements might have been disturbed from their original position. It is difficult to recognise whether multiple occupations occurred, but the assemblage seems to represent a fairly homogeneous industry. Indeed, the industry seems to be primarily based on bladelets and other possible predetermined tool blank forms, which are associated with activities conducted in Mesolithic sites.

#### Aims

This study attempts to establish the chaîne opératoire (operational sequences), concept first formulated by Leroi-Gourhan (1943). This approach examines the different stages of lithic exploitation. The sequence begins with the acquisition of raw material, followed by the reduction of nodules and cores, the removal of blanks from cores, and the manufacture and use of tools and finally, the discard of the artefacts (Bar-Yosef et al. 1992). An addition to these sequences is the post-depositional disturbance of the site and even excavation strategy, as these will have an effect on our understanding of the chaîne opératoire. This lithic analysis also hopes to characterise the type of site, and to determine the lithic technocomplexes, functionality and chronology.

#### Method

The field walking was conducted in an area of 160 x 140 m, divided in squares of 20 m<sup>2</sup> (Fig. 1). Some members of WYAC helped with the classification and illustration of the worked stones recovered during field walking. A range of attributes was recorded following standard systems (eg Inizan *et al* 1992), which explore knapping technology. These relate to the characteristics of technological category, tool type, portion, reduction sequence, raw material, colour, condition and type of butt. Dimensions were measured in millimetres, and were divided into L (length): the distance between the proximal and distal ends; W (width): the maximum distance between the two sides of the artefact measured perpendicular to the length; and T (thickness): the maximum thickness of the artefact perpendicular to the length. The comments category was used to record various attributes such as thermal alteration, post-depositional breakage, retouch, wear, scar direction, type of bulb, and blank termination failures i.e. non-feather termination.

#### Archaeological background

There is little archaeological evidence for settlement in the Broadway area assigned to prehistoric periods. The earliest evidence originates from a find spot dating to the Lower Palaeolithic SP 105380 (WSM 29555). A Site and Monuments Record search identified previous archaeological fieldwork in the vicinity of the site has been conducted. This revealed evidence for prehistoric lithic artefacts, which could be related to the site concerned. These sites and a brief description of the lithic component are summarised below:

- Broadway Bypass SP 1023 3842 (WSM 12454): 8 prehistoric flints recovered from field walking.

- Broadway Bypass SP 1031 3815 (WSM 12455): 6 prehistoric flints recovered from an evaluation.
- Broadway, Hill Farm SP 105 380 (HWCM 24439): 1 round scraper, 1 miscellaneous retouch, 3 flakes and 3 lumps.
- Broadway, Sands Meadow SP 09438 37747 (WSM 24810): a small assemblage of lithics, interpreted as Mesolithic/Neolithic, was recovered during a watching brief.
- Broadway, Gordon Russell factory SP 0952 3750: 8 worked flint were recovered from an evaluation on the western side of this site, which were interpreted as late Mesolithic or early Neolithic, but no chronologically diagnostic pieces were amongst the assemblage.
- Broadway, Gordon Russell factory SP 0952 3759 (WSM 30074): the northern area of the same site was also studied and produced 8 worked flint during an evaluation, which were dated to the Late Neolithic/Early Bronze Age.
- Broadway SP 09 38 (HWCM 10944): Neolithic and Bronze Age finds.
- Broadway SP 0865 3888 (WSM 12331): 1 prehistoric flint scraper recovered through field walking.

A further search was conducted aiming to find sites with late prehistoric lithics within a c. 10 km radius from the site and within the county of Worcestershire. This data would enable to understand prehistoric activity and movement in a wider landscape. They are as follows:

- Bredon SO 9230 3600 (WSM 33819): 2 worked flint flake of possible Late Neolithic/Bronze Age.
- Honeybourne, Bretforton and Pebworth pipe line from SP 0310 4750 to SP 0760 4620 (WSM 30180): 3 residual flint flakes.
- Pershore SO 9762 4785 (WSM 32078): 2 undiagnostic flint flakes.
- Childswickham pipeline from SO 8932 3149 to SP 0815 3938 (various): 20 residual and unstratified worked flint interpreted as Early Neolithic date.
- Evesham SP 0403 4351(HWCM 23986): 3 blades and 3 flakes in alluvial deposit and some residual flakes indicative of Mesolithic date.
- Evesham SP 040 434 (WSM 23986): evaluation identified flint scatter of Mesolithic date.
- Evesham SP 045 416 (HWCM 7852): systematic field walking identified a concentration of 30 worked flint of Mesolithic date.
- Evesham SP 0383 4404 (HWCM 5244): 3 pieces of residual worked flint, of which one was identified as a scraper of possible Neolithic date.
- Evesham SP 0368 4415 (WSM 26358, 27191, 28764): a small quantity of worked flint of Mesolithic and Neolithic dates.
- Evesham SP 0300 4312 (WSM 33906): 14 pieces (11 worked), with bladelets and 1 micro-core assigned to the Mesolithic or Early Neolithic.

Because Broadway lies very close to the Gloucestershire county boundary, further information regarding prehistoric lithic artefacts in Gloucestershire within the vicinity of Broadway, was also obtained through archaeological reports available in the Worcestershire County Council Historic

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Environment Record (HER), and the Gazetteer of Mesolithic sites in England and Wales (Wymer 1977). The latter also identified sites in Worcestershire that are not in the HER archives. These are listed below:

- Wormington Compression Station SP 0390 3702 (WCS00): 32 pieces of worked flint of which some are Mesolithic. Neolithic and Bronze Age artefacts were also identified.
- Wormington, College Farm SP 0310 3695 (CFW00): 1 blade of possible Mesolithic or Neolithic date.
- Temple Guiting SP 072 265 (Gloucestershire): 1 microlith.
- Temple Guiting SP 058 264 (Gloucestershire): 1 microlith.
- Bredon SO 930 360 (Worcestershire): 1 microlith.
- Bredon district (no grid reference provided) (Worcestershire): 7 cores.

This data recognises significant amount of prehistoric stone tools and their by-products in the study area. However, the identification of such worked stones is often ambiguous in terms of chronology and typology. This is partly due to the limited amount of worked stones and the character of the finds themselves, but the finds are often assigned to the later prehistory.

### Lithic assemblage

The lithic assemblage consists of 68 worked stones, which can be regarded as a substantial collection as compared with the existing data outlined above. They are divided into 38 flakes, 2 blades, 10 bladelets and 18 cores. (Tables 1-3 and Appendix 1). Unfortunately plotting of the flints shows little evidence to suggest any marked zoning of different forms or general artefact clusters. The worked stone is mainly flint, which can be divided into two major categories: translucent mottled grey and mid brown; and is generally in moderate condition with heavy patination. There are only 22 intact pieces (including tools), and the rest of the assemblage consists of 12 distal ends, 8 proximal ends and 8 medial fragments (Table 2). A large number of the worked flint seems to come from local secondary geological drift deposits, as cortical pieces have a rolled and washed appearance, which are present a little to the west of Broadway (Smith 1946: 72). Dorsal coverage of cortex is found amongst 25 pieces, which relates mainly to secondary reduction sequence (36%). The amount of secondary pieces may be a result of the nature of the raw materials. Indeed, the small size of the nodules would yield a high frequency of secondary removals retaining at least some cortex on the dorsal surfaces. This frequency suggests that the initial preparation of cores was undertaken elsewhere. The use of flint pebbles for prehistoric artefact production has been documented in several Mesolithic sites in the West Midlands (Jackson *et al* 1996: 97-106). Such pebbles would have determined the dimensions of the cores and subsequently the knapped blanks.

It is suggested that the assemblage is predominantly a micro-blade industry. Although blades/lets form only 17.6%, the high frequency of micro-blade cores (26.4%) indicates that the majority of the blanks were used elsewhere.

	Flake	Blade	Bladelet	Core	Total
Primary	1				1
Secondary	14		3	7	24
Tertiary	23	2	7	11	43
Total	38	2	10	18	68

Table 1. Reduction sequence

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	Flake	Blade	Bladelet	Total
Proximal	5		3	8
Medial	6		2	8
Distal	10	1	1	12
Whole	17	1	4	22
Total	38	2	10	50

Table 2. Portion of artefacts (excluding cores)

	Flake	Blade	Bladelet	Total
Flat	3	1	1	5
Facetted	15		3	18
Trimmed	4		2	6
Punctiform			1	1
Total	22	1	7	30

Table 3. Type of butt (when present)

### Scraper

One single side scraper was identified (artefact no. 53), which is illustrated in Figure 1, 53.

### Notch

There is a notch on a flake, which was executed employing careful retouch, rather than creating it using Quina or Clactonian methods (Fig 1, 24). Often the carefully trimmed notches are early stages of the microburin technique to produce microliths, but this specimen is clearly a different type.

### Core

A total of 18 cores have been identified. The cores include some exhausted examples and those from which control has been lost. There are also some fragments. All, with the possible exception of two, are micro-blade cores. These cores are characteristic of Mesolithic assemblages (Wymer 1977), and they are predominantly prismatic and conical, of which twelve have single platform, two have two opposed platforms and four multi-platform examples are also present. The cores produce a mean of 26 mm. long. Although the cores could have been larger and thus enabling greater dimensions for the blanks, most of them seem to originate from pebbles whose maximum lengths are clearly exhibited from their cortical coverage and roughly matches the average length of the cores themselves. The production of large core tools as well as long/broad blades would not have been possible from this raw material.

The cores provide very reliable technological evidence. The platforms were carefully prepared by removal of flakes. The exploitation of ridges combined with narrow butts, made possible by platform abrasion, which removes overhang and strengthens the edges of the striking platform, was used to produce bladelets. A micro-blade core is a 'bullet' type and is illustrated in Figure 1, 33.

The debitage also contributes to assess the arrangement of core platforms as the prepared butts represent 83% of a total of 30 whole and proximal pieces (Table 3). Narrow butts are also consistent and are often abraded. The number of cores with two or more platforms suggests that the rejuvenation technique involved rotating the core and recommencing blade production from the opposed platform, rather than employing the cresting technique. The number of cores compared with micro blades suggests that the majority of the blades/bladelets were utilised elsewhere.

### Miscellaneous retouched

A total of three retouched artefacts have also been identified. This classification corresponds to the debitage, which shows signs of having been deliberately retouched by percussion or pressure flaking along one or more edges or part of edges, but no specific purpose can be defined from the nature of the retouch. Amongst them, there is one bladelet and two flakes. Some of these trimmed pieces were

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considerably modified from their original blank forms as abrupt and semi-abrupt retouch technique constitutes the majority of this group.

### Utilised waste

Flint is an ideal stone for cutting activities without any further retouch to the sharp edges created by knapping, and it is estimated that at least two blanks were used or damaged by utilisation. This utilisation is indicated by a series of small irregular spalls, which have flaked off the edges of the flakes/blades. Because the majority of the assemblage is in fairly moderate condition, some of the edge wear could have been the result of accidents, eg a flake being stood on. However, the wear produced by the utilisation of these artefacts' edge is more consistent than the completely irregular unsystematic removal of a number of spalls resulting from an accident.

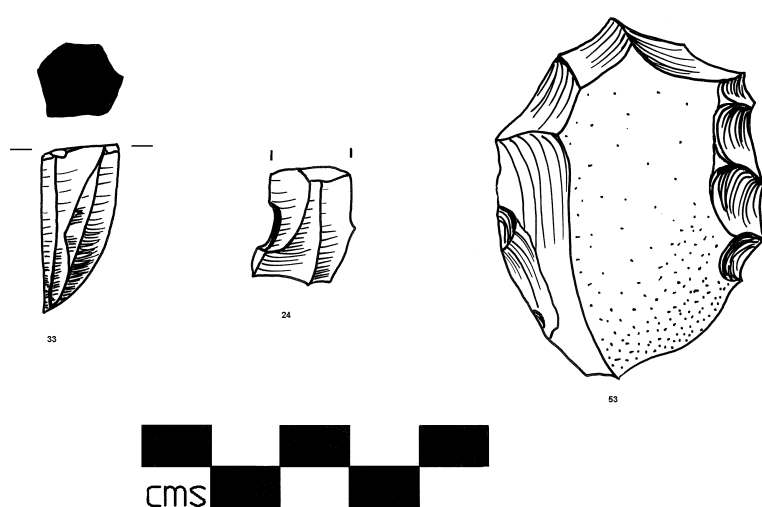


Figure 1. Artefacts from Broadway: 'bullet' core no. 33, notch no. 24 and scraper no. 53.

### Debitage

The rest of the assemblage consists of nine bladelets (with a mean of 9mm wide). There are four whole blanks whose lengths are 21, 25, 30 and 17mm and provide a mean of 23mm long. There are two narrow blades with a mean of 15mm. There are also 37 flakes of which sixteen are whole pieces and provide a mean length of 16.8mm and the overall width yields a mean of 14.8mm. These flakes are fairly small and narrow, and unsuitable for larger tools. A large proportion of them correspond to general trimming with no ridge presence. The majority were probably produced as by-products of flake and blade production or during core preparation, thus they can be considered as waste. Most flakes show that they have been struck from cores worked in a single direction. Butt preparation is highly represented; and diffuse bulb of percussion, lipped butts and a low incidence of hinge fracture are also a common characteristic of them. Such knapping features are the result of careful production of blanks for conversion into tools, which is entirely in keeping with the Mesolithic (Pitts 1978: 179-197).

Amongst the flakes there are eight pieces, which exhibit that a laminar knapping technique was employed, creating straight edges and parallel ridges. These blanks may have been blades instead, but after breakage they became 'flakes'. Indeed, a blade is generally regarded to be an artefact whose length is twice its width, whereas a flake has a lesser length to width ratio. These possible blades vary

in width from 13 to 7mm with a mean of 9.3mm, which may be interpreted as broken bladelets. Certainly, a bladelet is essentially a small blade whose maximum width is of 12mm (Owen 1982: 2). These broken portions could have been the result of a deliberate technique rather than being the consequence of post-depositional accidents, as the typical microlith manufacture requires snapping bladelets. This possibility might also be indicated from the fact that the patination of most of such artefacts occurred after breakage. Whether these laminar 'flakes' are the by-product of microliths will remain uncertain, but that they in effect were bladelets is indicative of a technique widely employed in the Mesolithic.

### **Knapping technology**

The majority of the blanks were removed by indirect percussion. This method involves striking a punch-like object, often made of antler or wood, with a hammer. This technique requires a carefully prepared core with an even platform and regular ridges (Whittaker 1994: 33). The indirect percussion is also perceivable from the type of butts that the blades/bladelets have. The butts are mainly faceted, which indicates that the core platforms were prepared to prevent the punch from slipping. Alternatively they may have been struck with a pressure flaking pectoral crutch, which also necessitates such meticulous arrangements. Deliberate retouch was probably done by direct percussion. Soft hammers seem to have been largely employed; as lipped butts, vague point of percussion and diffuse bulbs predominate amongst the debitage. Scraper edges were achieved by low angle direct percussion using a hard hammer stone. The core platforms allow us to further understand the striking techniques employed. Most blanks were struck from cores worked in a single direction. Butt preparation dominates with 83% of the total assemblage (from a total of 30 whole and proximal pieces). There is only one piece with opposed scar orientation, which suggests that accidents of debitage, like hinge fracture, may have been corrected from an opposed platform core which was created later in the knapping sequence. Two of such cores have been identified in the assemblage.

### **Discussion**

Despite the unexpected density of artefacts, the general absence of tools and restricted diagnostic forms makes difficult to establish whether the assemblage represents evidence for a continually occupied settlement, a place visited periodically or one single event. It has been difficult to determine any distinct patterns, to such as distribution of specific tools, selectivity in the disposal of debitage etc, from the scattergram. Moreover, post-depositional disturbance, such as plough damage, is evident in a number of artefacts; and recognised land movement indicates that the lithic artefacts might have moved from their original position.

Although the overall frequency of tools, retouched flakes/blades, and utilised blanks is low, the assemblage contains a little amount of evidence for industrial activities. The presence of scrapers, notches, etc. indicates that some specialised domestic crafts, such as engraving, cutting, etc. were carried out on site. The repairing and re-sharpening of artefacts may have also occurred. In addition to this, some of the general debitage shows signs of having been utilised. These blanks might have been employed in several occasions for the execution of some particular tasks. Furthermore, due to the low frequency of flakes from primary reduction sequence, it is believed that the roughing-out of the cores took place elsewhere.

The information discussed in the preceding sections may indicate that the site was occupied by small a group of people in the Mesolithic period. Some of the activities employed may be connected with specialised domestic activities. The absence of projectile points, and the location where the lithic scatters were retrieved from, may shed light into the type of site, as Mesolithic short-term hunting camps were often situated on higher grounds and base camps generally in river valley locations (Barton 1992). However, this particular assemblage cannot be taken as a strong indicator of site functionality due to the lack of stone tools. Moreover, the exact original location of the lithics is doubtful, as it is possible that some material could have come from the nearby hill.

The interpretation of such a collection is indeed difficult, but the date of at least most of the artefacts is likely to be of the Mesolithic period. Although no typically Mesolithic tools, such as microliths, have been found, some of the artefacts fall into the leptolithic category representative of the later Upper

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Palaeolithic industries of the continent (Magdalenian and Azilian), and the Mesolithic technocomplexes in general (Laplace 1966).

It is assumed that this assemblage only constitutes a small fraction of the tools and debitage used and discarded by prehistoric people in Broadway. Nonetheless, this assemblage enhances the poor lithic record of the county and may encourage other professionals and amateurs to conduct further research and fieldwork; and it allows scholars to integrate the data within a broader archaeological framework. Indeed, however detailed our descriptions may be, they contribute little to our understanding of how societies in the past were reproduced under particular conditions, so long as they are studied in isolation.

### Conclusion

This study has attempted to characterise the site of Broadway based on a limited lithic assemblage recovered from its surface. A standard analytical approach has been employed and it has been established that some stone artefacts may have been utilised to execute specialised domestic tasks. Some retouched pieces may have been utilised to carry out further work. Even unretouched blanks were also of considerable value as they have distinctive use wear patterns. Some knapping, such as retouching and re-sharpening was also conducted on site, and moreover the roughing-out of the cores was undertaken elsewhere. The artefacts were manufactured employing skilful techniques, such as indirect percussion, and prismatic cores were used to obtain small blades. The assemblage seems to be fairly homogeneous and its typology is generally in keeping with Mesolithic technocomplexes. The nature of the assemblage and its unstratified state has made it difficult to interpret the site, but it is discernible it was occupied and perhaps used as a base camp by people in the later Mesolithic period (c. 8,500 to 5,400 B.P.). This voluntary systematic prospection has proved to be very successful, which has yielded important prehistoric data for the County.

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## Lithic record from Broadway WSM 34400.

No.	Context	Tech. Category	Tool type	Portion	Reduction sequence	Raw material	Colour	State	Butt	Dimensions (mm)			Comments
										L	W	T	
1	G1	Flake		Whole	Secondary	Flint	White	Good	Facetted	15	13	2	Small lip.
2	H1	Flake		Whole	Secondary	Flint	Grey	Good	Trimmed	16	12	3	
3	H6	Flake		Proximal	Secondary	Flint	Brownish grey	Good	Trimmed	13	10	4	Diffused bulb.
4	H6	Flake		Distal	Tertiary	Flint	Greyish white	Patina		9	9	1.5	
5	F1	Flake		Whole	Secondary	Flint	Blackish grey	Moderate	Flat	8	13	2	
6	F1	Bladelet		Medial	Tertiary	Flint	White	Moderate		26	12	5	Opposed scar orientation and parallel ridge.
7	G3	Flake		Whole	Secondary	Flint	Light brown	Good	Facetted	20	14	4	
8	B5	Flake		Distal	Secondary	Flint	Greyish white	Patina		27	18	5	Partial edge wear.
9	E4	Bladelet		Proximal	Tertiary	Flint	Light grey	Patina		19	9	2.5	
10	H3	Bladelet		Distal	Secondary	Flint	Light grey	Patina/moderate		28	8	6	Ridge damage.
11	C7	Flake		Medial	Tertiary	Flint	Whiteish grey	Patina/moderate		24	15	4	
12	D1	Flake		Distal	Tertiary	Flint	Whiteish grey	Good		10	9	3	
13	E2	Flake		Whole	Tertiary	Flint	Whiteish brown	Good	Facetted	8	11	2	

No.	Context	Tech. Category	Tool type	Portion	Reduction sequence	Raw material	Colour	State	Butt	Dimensions (mm)			Comments
										L	W	T	
14	A2	Bladélet		Proximal	Tertiary	Flint	Whiteish grey	Patina	Punctiform	15	7.5	2	
15	A2	Flake		Medial	Tertiary	Flint	Brownish black	Patina		12	9	3	Laminar technique, broken bladélet.
16	B7	Flake		Whole	Tertiary	Flint	White	Good	Facetted	11	14	3	
17	B2	Flake		Distal	Tertiary	Flint	White	Moderate		26	13	5	Broken blade.
18	B2	Flake		Whole	Tertiary	Flint	Light grey	Moderate	Facetted	14	19	3	
19	B4	Bladélet		Medial	Tertiary	Flint	White	Good		16	8	2	
20	B4	Flake		Proximal	Tertiary	Flint	Light grey	Good	Facetted	12	8	2.5	Laminar technique, broken bladélet.
21	C6	Flake		Whole	Secondary	Flint	Light grey	Poor	Trimmed	14	23	5	
22	C6	Flake		Whole	Tertiary	Flint	Whiteish grey	Patina/moderate	Facetted	14	19	3	
23	C6	Flake		Whole	Secondary	Flint	Brown	Patina	Facetted	16	16	6	
24	B3	Flake	Note h	Distal	Tertiary	Flint	Grey	Good		17	15	3.5	Medial direct semi-abrupt retouch.
25	B3	Core		Whole	Secondary	Flint	White	Patina		29	25	25	Multiple platform flake and blade/let core, exhausted, orangey cortex.
26	C5	Core		Medial	Secondary	Flint	Blueish grey	Moderate		33	33	29	Severe post-depositional damage.
27	C5	Flake		Distal	Tertiary	Flint	Light grey	Good		27	25	10	Severe post-depositional damage.

No.	Context	Tech. Category	Tool type	Portion	Reduction sequence	Raw material	Colour	State	Butt	Dimensions (mm)			Comments
										L	W	T	
28	F2	Core		Whole	Tertiary	Flint	Grey	Patina		29	25	17	Opposed platform blade core with some abrasion, burnt after discard.
29	D3	Flake		Medial	Tertiary	Flint	Grey	Patina		21	15	3	
30	D3	Bladelet		Proximal	Tertiary	Flint	Pinkish white	Patina	Facetted	15	7	2.5	
31	D7	Flake		Distal	Tertiary	Flint	Greyish white	Moderate		18	10	3	Abrupt direct total left retouch, broken bladelet.
32	D7	Flake		Medial	Tertiary	Flint	White	Patina		13	13	2.5	
33	D7	Core		Whole	Tertiary	Flint	Whiteish grey	Patina		23	12	12	'Bullet' bladelet core with platform abrasions and overhangs. Mesolithic.
34	D5	Flake		Proximal	Secondary	Flint	Grey	Patina	Flat	14	11	3	Laminar technique, possible bladelet.
35	D5	Flake		Proximal	Secondary	Flint	Whiteish grey	Good	Facetted	13	9	2	Portion from a broken bladelet.
36	D5	Core		Whole	Secondary	Flint	Greyish white	Patina		26	28	12	Exhausted single platform core.
37	E5	Blade		Distal	Tertiary	Flint	White	Moderate		36	17	5	
38	E6	Flake		Distal	Secondary	Flint	Greyish white	Patina		31	23	5	
39	E6	Flake		Distal	Tertiary	Flint	Greyish white	Patina		27	20	6	Obliquely blunted right direct retouch, use wear on left edge.
40	E6	Bladelet		Whole	Tertiary	Flint	Dark grey	Moderate	Facetted	21	10	5	Rolled appearance.
41	F3	Flake		Whole	Tertiary	Flint	Light grey	Patina	Facetted	15	12	3	

No.	Context	Tech. Category	Tool type	Portion	Reduction sequence	Raw material	Colour	State	Butt	Dimensions (mm)			Comments
										L	W	T	
42	F3	Core		Medial	Tertiary	Flint	Light grey	Patina		30	22	10	Core fragment.
43	D2	Flake		Medial	Tertiary	Flint	Light grey	Patina		15	17	4	
44	D2	Flake		Medial	Secondary	Flint	Bluish grey	Good		8	8	2	Portion from a bladelet, fresh break.
45	D2	Flake		Whole	Secondary	Flint	Light beige	Moderate	Flat	11	10	3	
46	D2	Bladelet		Whole	Secondary	Flint	Greyish brown	Good	Trimmed	25	10	5	Semi-abrupt total direct left retouch, light brown cortex.
47	D2	Bladelet		Whole	Secondary	Flint	Light grey	Patina	Facetted	30	11	3.5	Light brown cortex.
48	F4	Flake		Whole	Tertiary	Flint	Light brown	Patina	Facetted	22	16	3	Post-depositional breaks.
49	F4	Flake		Distal	Secondary	Flint	Brown	Patina		25	17	5	
50	F4	Core		Whole	Secondary	Flint	White	Patina/moderate		22	20	10	Exhausted single platform bladelet core.
51	E4	Flake		Whole	Tertiary	Flint	Brown	Patina	Facetted	19	12	4	
52	E4	Bladelet		Whole	Tertiary	Flint	Greyish white	Patina	Trimmed	17	8	3	
53	E4	Flake	Scraper	Whole	Primary	Flint	Dark grey	Patina/moderate	Facetted	50	38	17	Side scraper with direct retouch, rolled, beige thin cortex.
54	A4	Blade		Whole	Tertiary	Flint	Beige	Moderate	Flat	35	14	4	Rooled appearance.
55	A4	Core		Medial	Tertiary	Flint	Brown	Patina		22	25	14	Core fragment.

No.	Context	Tech. Category	Tool type	Portion	Reduction sequence	Raw material	Colour	State	Butt	Dimensions (mm)			Comments
										L	W	T	
56	A4	Core		Whole	Secondary	Flint	Black	Patina		41	25	10	Exhausted opposed platform flake/blade core.
57	A4	Core		Whole	Tertiary	Cherty flint	White	Moderate		17	38	26	Multi-platform micro-core with some abrasions and overhangs.
58	D2	Core		Whole	Tertiary	Flint	Mottled light grey	Patina		25	26	16	Multi-platform exhausted bladelet core.
59	C2	Core		Whole	Secondary	Flint	Mottled light grey	Patina		31	26	18	Single platform micro-blade core.
60	E4	Core		Whole	Tertiary	Flint	Mottled light grey	Poor		28	20	11	Exhausted, post-depositional burn.
61	C1	Core		Whole	Tertiary	Flint	Grey	Patina		25	15	12	Opposed platform exhausted micro-core.
62	D1	Core		Whole	Secondary	Flint	Grey	Patina		23	22	16	Multiplatform exhausted micro-core.
63	D5	Core		Whole	Tertiary	Flint	White	Patina		22	26	15	Single platform exhausted micro-core, very prepared platform.
64	D1	Core		Whole	Tertiary	Flint	Whiteish grey	Patina/moderate		13	26	20	Single platform micro-blade, broken.
65	D2	Core		Whole	Tertiary	Flint	Light grey	Moderate		26	24	18	Single platform micro-flake/blade core.
66	D2	Flake		Proximal	Tertiary	Flint	Whitish grey	Patina	Trimmed	9	7	2	Broken bladelet.
67	G5	Flake		Whole	Tertiary	Flint	Grey	Good	Faceted	16	12	4	
68	F3	Flake		Whole	Tertiary	Flint	Whiteish grey	Patina	Faceted	14	12	3	Hinge terminal.