

A LATE MESOLITHIC OR EARLY NEOLITHIC FINDSPOT ON BARNINGHAM MOOR, COUNTY DURHAM, UK

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ABSTRACT

Archaeological monitoring, undertaken as part of the upgrading of access tracks on Barningham Moor, identified a concentration of lithics within a thin palaeosol close to the scheduled Badger Way Stoop cairnfield. Due to the extent of this soil remnant, and its association with the cairnfield, which lies immediately to the south, 11 1 m by 1 m test-pits were hand-excavated along the development route to obtain a sample of the artefacts. Twenty-three lithic artefacts were recovered, five of which could be assigned to the Late Mesolithic or Early Neolithic periods. As a result, the assemblage predates the presumed age of the cairnfield, which is suggested to date to the Bronze Age, suggesting that the area may have been a focus for an extended period of prehistoric activity.

Full reference: Robinson, G. & Foulds F.W.F. 2017. A Late Mesolithic or Early Neolithic findspot on Barningham Moor, County Durham, UK. *Lithics: the Journal of the Lithic Studies Society* 38: 32–39.

Keywords: cairnfield, Mesolithic, Neolithic, flint, chert, quartzite

INTRODUCTION

Northern Archaeological Associates Ltd (NAA) carried out monitoring during the Barningham Moor Access Tracks project for Archaeo-Environment, on behalf of Barningham Estate. The work was undertaken as defined within an agreed Written Scheme of Investigation (Archaeo-Environment 2015), which was prepared in support of the planning application for the development.

The groundworks, comprising the upgrading of an access track from Barningham Village (NZ 0756 0988) to an existing track on Newsham Moor (NZ 06469 07063) (Figure 1), were located in southwest County Durham along its boundary with North Yorkshire. A branch of this track also led to Byres Hill Farm track (NZ 07207 07496). The upgrading work involved the stripping of turf from an existing trackway (ca. 2.5 m wide) followed by the stripping of an adjacent 5 m width for the excavation of a drainage ditch. The digging of this ditch also provided material for the track construction and was in line with ecological restrictions (see Hack 2014). This methodology was modified along the western edge of Site 3, where only the track was stripped to limit the impact of the development on the archaeology.

An archaeological watching brief was

undertaken along a short section of the track, where it ran close to a scheduled cairnfield that sits on a small knoll at Badger Way Stoop (National Heritage List for England number 1017445), centred on NZ 06396 07729. The area of the works occupied a north-facing slope on the high ground of the watershed that separates the valley of the River Greta and the River Swale to the south.

The route of the development was subject to an Historic Environment Appraisal and walkover-survey (Archaeo-Environment 2014), which highlighted the archaeological importance of the area. The groundworks were undertaken in an area close to seven prehistoric scheduled monuments (Figure 1; Historic England 2016). The initial route of the upgraded trackway was redesigned to avoid Site 3, and the groundworks across Site 5 were carried out without impacting the scheduled remains.

During the watching brief (NAA 2017) no negative-cut features or upstanding remains were encountered within the development area. A thin layer of soil containing lithic artefacts was encountered in the immediate vicinity of the Badger Way Stoop cairnfield (Site 3). This layer varied in depth between 0.02 and 0.1 m and probably represents a remnant of a soil formerly associated with the cairnfield that had

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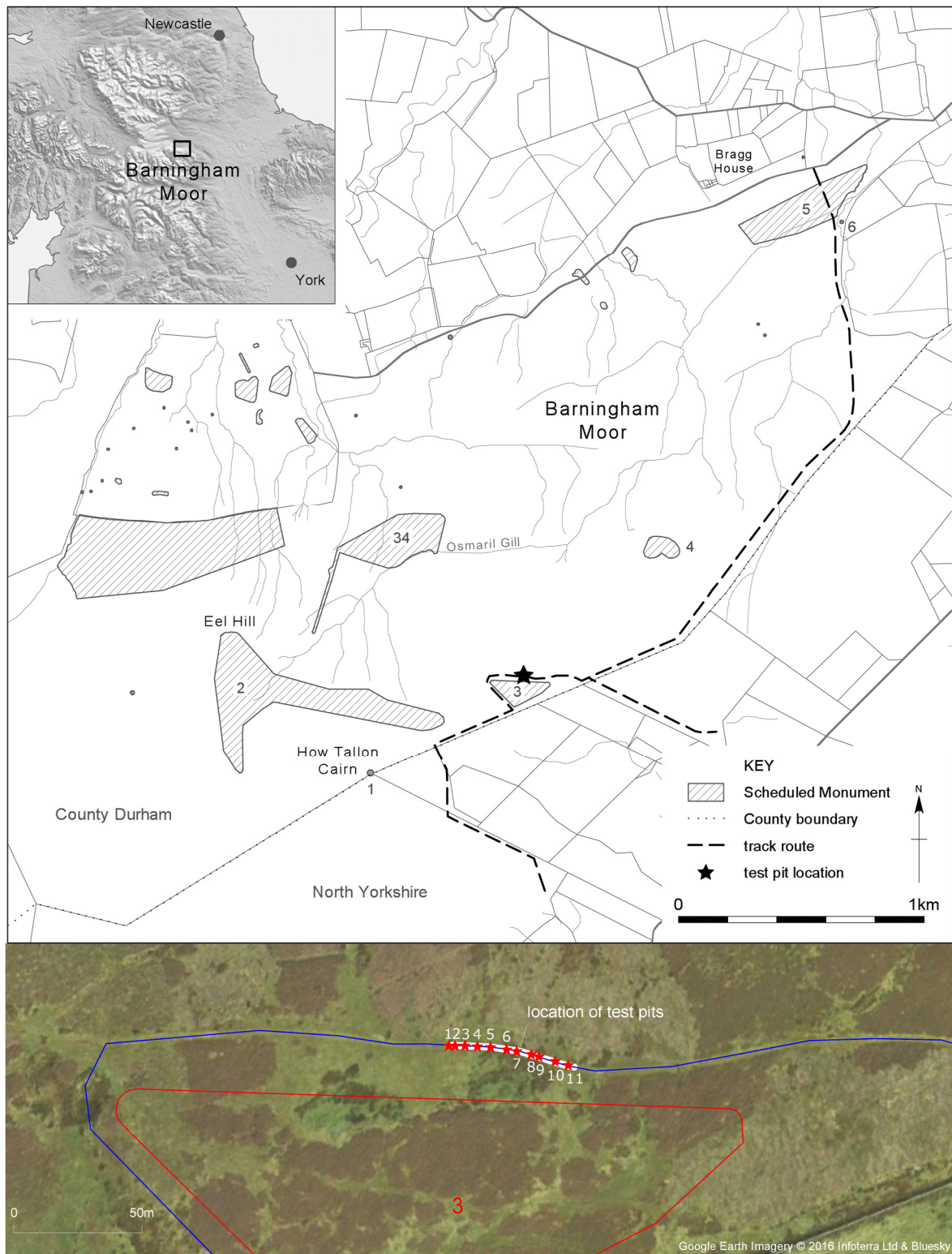


Figure 1: Location of test-pits in relation to known sites of archaeological interest. Site 1: How Tallon burial mound; Site 2: a dense area of monuments including cup and ring marked stones, a stone circle, burnt mounds and enclosures; Site 3: Badger Way Stoop cairnfield; Site 4: a carved rock and enclosure; Site 5: a cairnfield; Site 6: a burial mound; Site 34: carved rocks and associated cairns and field system. Images © NAA/Google Earth Imagery 2016.



Figure 2: Excavating test-pits through soil layer 2 (test-pit 5, context 12). Photo © NAA.

Table 1: Results from the test-pits.

<i>Test-pit</i>	<i>Context</i>	<i>GPS location (NZ)</i>	<i>GPS accuracy ($\pm m$)</i>	<i>Maximum depth of soil layer (m)</i>	<i>Finds</i>
1	07	06355 07806	3	0.02	1 chert blade, 1 chert flake, 1 chert piercer, 1 chert debitage, 1 flint flake, 2 flint debitage
2	08	06356 07806	5	0.02	1 quartzite hammerstone, 1 flint flake, 3 flint debitage
3	11	06362 07808	3	0.07	
4	14	06365 07809	3	0.03	
5	12	06370 07815	3	0.07	
6	18	06380 07813	3	0.03	1 flint flake, 1 chert flake, 1 burnt natural flint
7	15	06383 07811	3	0.05	1 flint blade, 1 chert flake, 1 chert side scraper
8	19	06391 07809	3	0.07	1 flint core, 1 flint debitage, 2 flint flakes, 1 burnt natural flint, 1 chert flake
9	17	06394 07807	3	0.12	1 flint debitage
10	16	06399 07807	3	0.04	
11	13	06402 07805	3	0.1	

been washed downslope. A 1 m² test-pit was dug through this layer every 5 m laterally until the soil petered out after the route had passed the cairnfield to the east (Figure 2). The resultant 11 test-pits produced a total of

twenty-three lithics artefacts (see Figure 1 & Table 1).

The geology of the monitored section of track comprises till overlying sedimentary bedrock

of the Carboniferous period. This comprises limestone of the Four Fathom Limestone Member, as well as an area of sandstone of the Alston Formation immediately to the south and, to the north, an area of limestone with subordinate sandstone and argillaceous rocks of the Alston Formation (British Geological Society 2017). The soils are poorly drained, wet, and very acid upland, with a peaty surface, and are associated with the Wilcocks 1 Association (Soil Survey of England and Wales 1983; Jarvis *et al.* 1984: 307-10).

THE LITHICS

A total of 224 lithics were recovered and analysed; only 23 displayed signs of modification, while the remainder represented natural pieces.

Methodology

All the material was closely examined, and all data were logged in a catalogue using Excel. Raw-material type was recorded, and a description of the colour was provided, alongside details of the amount of residual cortex and patination (expressed as percentages) and their coloration, where present. Knapped artefacts were classified by type following Butler (2005) and referring to additional typological references where appropriate. The maximum dimensions of all pieces were recorded at assessment stage, as well as the reduction stage (primary, secondary or tertiary) based on presence of residual cortex. Platform and bulb type was determined using Andrefsky's (2005: 96) terminology and fracture type using Cotterell and Kamminga's (1987) definitions. An indication of thermal (heat) damage was provided using an ordinal scale (0 = unburnt; 1 = lightly fired; 2 = fired; 3 = heavily fired) and a description of any other damage (e.g. edge damage/abrasion) was also included. Where artefacts were chronologically distinctive, the suggested period was provided as appropriate.

Raw material

The knapped material was primarily produced using flint (14 pieces; 60.9%). The majority of this was light brown in colour, with a milky-white or white patination. Often the patination resulted in the surface colour appearing grey.

Two of the pieces, however, were so heavily patinated that the original colour could not be determined. A single piece displayed evidence of burning

The provenance of flint recovered in Country Durham is a complex question. It does not occur within the area except in derived deposits, such as the boulder clays exposed on the northeast coast, which have been attributed a Scandinavian origin (Bisat 1939; Young 1984, 1987). Flint from nearby northeast Yorkshire is also usually light grey-brown in colour, although there are many hues within drift and beach deposits. As a result, Yorkshire cannot be ruled out as a source of some of the flint. However, given the presence of till deposits in the Barningham Moor area, most especially in the Vale of Mowbray, it is likely that they might have provided the source for the raw material. This theory appears to be supported by the large number of pieces of naturally occurring shatter recovered during the test-pit excavations. It is also likely that the material available was small in size, thus constraining knapping to some extent. Evidence, such as the small core that was recovered (see below) and the size distribution of the flint flakes, supports this assessment.

The remaining modified material was produced using chert (eight pieces; 34.8%), with a single quartzite pebble (4.3%) displaying possible percussion damage that may indicate its use as a hammerstone. The chert was a mixture of brown, grey and black, with some pieces displaying banding. Based on the assessment of the knapped and natural pieces recovered, it was clear that there was a large quartz/quartzite component associated with this chert, with many pieces displaying quartz inclusions. Also, given the presence of some pieces with limestone adhering to the chert surface, it is likely that this raw material was sourced from local limestone formations. Chert outcrops exist within nearby Nidderdale and Swaledale (Chatterton 2005), which may have provided a source for this material.

Technology

Table 2 presents the technological and raw material composition of the lithic artefacts. Given the limited size of the knapped

Table 2: Composition of assemblage.

Knapped form	Test-pits	No.	Percentage	Flint	Chert	Quartzite
Cores	8	1	4.3	1	0	0
Flakes	1, 2, 6, 7 & 8	9	39.1	5	4	0
Blades	1 & 7	2	8.7	1	1	0
Debitage	1, 2, 8 & 9	8	34.8	7	1	0
Hammerstones	2	1	4.3	0	0	1
Piercers	1	1	4.3	0	1	0
Scrapers	7	1	4.3	0	1	0
Totals		23	100	14	8	1

assemblage, each type is discussed individually, rather than by test-pit.

Cores

A single, small, multiplatform core produced on flint was recovered from test-pit 8 (Figure 3, no. 1). It was probably manufactured from a small pebble, given the remaining cortex present on one side, and was used to create small, thin flakes. Although only a small number of removals can be identified, it appears that the core was reduced until it was fully exhausted. It is composed of two opposing platforms on one face, while the other face has been worked circumferentially, possibly with the intention of rejuvenating the platforms. Given the size of the core, the quality of working and the small size of the flakes produced, it is suggested to be Late Mesolithic or Early Neolithic in date.

Flakes

Nine flakes were recovered from test-pits 1, 2 and 6–8. These consisted of a mixture of flint (five pieces) and chert (four pieces). The majority were less than 20 mm in maximum dimension and represented small flake removals with diffuse bulbs of percussion, suggesting soft-hammer working. However, three of these flakes, two being manufactured on chert and one on flint, were larger. Cortex was generally absent. Only two pieces displayed any residual cortex, which covered no more than 10% of the dorsal surface. Abrasion and edge damage were limited, and most pieces appeared fresh.

Bladelets

Two bladelets (blades with widths less than 12 mm; *sensu* Butler 2005) were recovered

from test-pits 2 and 7, although in both cases only fragments remained. One of these was a proximal end produced from chert. It displayed a diffuse bulb of percussion and an abraded platform, with parallel sides and a single arris (ridge). It also displayed evidence of a possible notch and was snapped, which may indicate microlith production. However, the lack of accompanying evidence, such as additional blades displaying notching and/or deliberate breakage, as well as an absence of microburins and diagnostic microliths, makes this hypothesis tentative. That said, lithic assemblages previously recovered in the Barningham Moor area indicate Mesolithic activity in the vicinity (Laurie 2003: 231). The other was a distal end fragment. It was produced from flint and displayed evidence of burning, namely crazing and discoloration of the surface, resulting in a white patina. It also displayed parallel sides and a single arris, but was thicker in profile than the other bladelet recovered.

Debitage

Eight of the worked artefacts represent debitage or angular waste that displays evidence of knapping. These were recovered from test-pits 1, 2, 8 and 9 and included small spalls and chips, as well as broken pieces that could not be readily identified as flakes. The majority were flint, only one piece being of chert.

Formal (retouched) and non-formal tools

Three artefacts were classified as formal or non-formal tools. A single, potentially locally sourced, quartzite pebble was recovered from test-pit 8. It displayed a small amount of highly localised abrasion, pitting and potential percussion damage not seen elsewhere on its

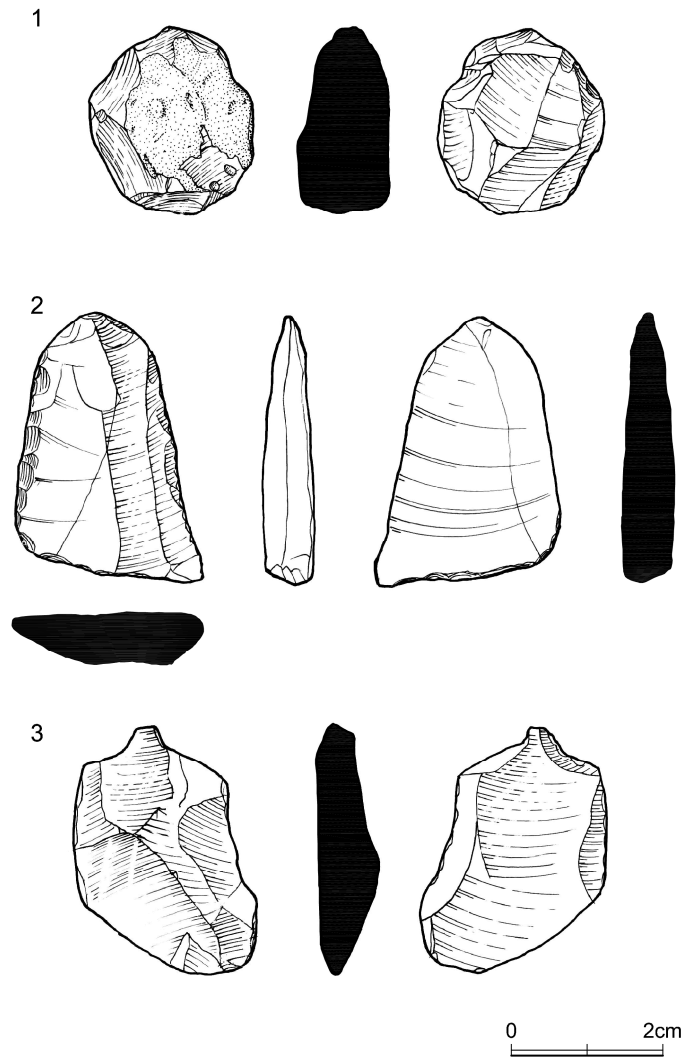


Figure 3: Diagnostic lithics recovered from Barningham Moor:
1: small multiplatform core; 2: side scraper; 3: piercer. Drawing by Mark Hoyle.

surface, which may signify its potential use as a hammerstone. However, given the possible origin of the material from till, a natural origin for this damage cannot be ruled out.

The remaining two artefacts consisted of a blade and a flake, both produced on chert (Figure 3, nos 2 and 3). The blade was a proximal fragment that was retouched along its lateral edge, while the flake was small with retouch around the proximal end to form a short point. The retouched blade is regarded as a side scraper and tentatively assigned to the Early Neolithic. Scrapers of this period are usually produced on flakes, rather than blades. However, side scrapers manufactured on long flakes or blades were also quite common in

this period (Butler 2005). The thickness and size of the blade used to manufacture this scraper also suggests an Early Neolithic date, as Mesolithic examples are usually smaller. The retouched flake artefact was tentatively interpreted as a piercer. It was unclear whether the point was originally longer and had broken, or presents a short example with a thick profile. It could date to either the Late Mesolithic or Early Neolithic period where blade/bladelet-based technology persisted.

DISCUSSION

The vast majority of the material recovered during the project was a mixture of naturally occurring lithic material, or angular waste displaying little evidence of working. The

lithic artefacts were generally undiagnostic, with the majority being flakes or debitage that cannot be assigned to any particular period. The diagnostic artefacts, however, indicate activity during the Late Mesolithic and Early Neolithic periods.

Flint and chert are the most commonly utilised raw materials in the recovered assemblage. The flint was potentially sourced from till, most probably that within the Vale of Mowbray, while the chert was likely sourced from local limestone formations. Based on the dimensions and cortical retention of the lithic artefacts, flint pebbles within the local till would have been small, which would have limited knappers to the production of smaller flakes and blades. Pennine chert sources, on the other hand, appeared to have presented fewer constraints, by virtue of greater local and convenient availability, allowing for slightly larger removals. That said, the size of artefacts across the assemblage was small, with few measuring over 25 mm along their maximum dimensions.

The lithics within the excavated test-pits indicated an uneven distribution, with 12 items being recovered from the vicinity of the initial discovery (test-pits 1 and 2). A second concentration of material (11 worked lithics) was focused within an 18 m-long section of the track encompassing test-pits 6 to 9.

The discovery of these artefacts suggests that the knoll to the south of the track may have been a focus of early activity. Such prominent upland outcrops have often been favoured locations for occupation during the Mesolithic (Buckley 1924; Spikins 1999: 13; Chatterton 2007: 75), especially if they were located close to water sources and overlooked the surrounding landscape (Spikins 1999: 13; Petts and Gerrard 2006: 18–19). The Badger Way Stoop promontory was located between two streams that drained northwards. It also overlooked a broad valley to the north running northeast towards Nor Beck and the lower-lying landscape of the Greta and Tees valleys. Hence, it is considered that the assemblage of lithics, although small, may indicate the presence of Late Mesolithic and Early Neolithic activity within the area of the cairnfield.

The transition between the Late Mesolithic and Early Neolithic of north Britain is complex and still not fully understood, at least in terms of lithic technology. While the Barningham Moor finds are, to some extent, ambiguous and of insufficient volume to allow an extended debate, they do contribute to our understanding of the dynamics of this transitional period, which remains a research focus that requires further attention (Waughman 2017).

Furthermore, the presence and extent of the soil layer just beneath the thin turf surface suggests that associated evidence has potentially been distributed beyond the scheduled area. Intermittent areas of similar soil noted throughout the monitored section of the groundworks suggest that areas of reworked palaeosol, also potentially containing prehistoric evidence, may exist across the wider extent of Barningham Moor (see Laurie also 2003: 231).

Interestingly, no later lithics, such as artefacts contemporary with the Badger Way Stoop cairnfield, were found. Reasons for this absence are unclear, and could only be ascertained through future survey and/or excavation.

ACKNOWLEDGEMENTS

The authors wish to thank Clark Clay Industries (CCI) who funded the mitigation works, as well as Nick Baikie and Craig Barnett of BH Sporting Ltd. Recognition should also be given to Niall Hammond of Archaeo-Environment for his guidance. Thanks go to the anonymous peer reviewers, whose comments have greatly improved this article. Recognition should also be given to Richard Fraser, Andy Crowson, Dr Hannah Russ, Dawn Knowles, Mark Hoyle, Ben Turner, Ian Dixon, Freddie Sisson and Dr Elizabeth Foulds of NAA whose contributions made this article possible.

EDITORIAL NOTE

Editorial duties, including the arrangement of anonymous peer review for this article, were undertaken by Peter Hoare.

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